The European Digital Cinema Report

Understanding digital cinema roll-out

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December 2011

CINEMA D'EUROPA
MEDIA SALLES

OBSERVATOIRE EUROPÉEN DE L'AUDIOVISUEL
EUROPEAN AUDIOVISUAL OBSERVATORY
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Acknowledgements
The European Audiovisual Observatory and MEDIA Salles would like to thank:
All of our contacts in organisations across Europe as well as individual exhibition companies who filled out questionnaires, responded to questions and provided the data necessary for this report. Without their invaluable assistance our work on digital cinema would not be possible.
We would like to thank in particular the following organisations and networks for their exceptional level of support:
• Antrakt Sinema Gazetesi, trade press and research company serving the Turkish market, and in particular Deniz Yavuz
• EFARN - all members of the European Film Agency Research Network
• Eurimages, the Council of Europe fund for the co-production, distribution and exhibition of European cinematographic works, and in particular Thierry Hugot
• Europa Cinémas, the European cinema network focusing on European films, and in particular Jean-Baptiste Selliez
• Nevafilm Research, a part of the Nevafilm Group providing market research on Russian theatrical markets, and in particular Ksenya Leontyeva
• UNIC, the European grouping of cinema trade associations, and in particular Jan Runge

ISBN
978-92-871-7282-2 Print version
978-92-871-7285-3 PDF version
978-92-871-7288-4 Print and PDF versions

Price
Print edition: 200 Euros
Electronic edition (PDF): 260 Euros
Both editions: 270 Euros

Cover-Layout
ACOM Europe, Paris, France

Printed in France

The European Digital Cinema Report

Addendum: Full digital screen data 2011

May 2012

Digital screens by country - 2011

France leads European digital cinema market

Boosted by a unique legislative approach **France** made the largest progress in advancing the digitisation of its screen base and further strengthened its position as Europe's largest digital cinema market. The digital cinema law, which became effective in late 2010, made distributor contributions, either directly or via a third party, mandatory and prohibited any linking of programming choices to the level or payment of distributor contributions. 1 769 new digital screens, the largest number in Europe, were consequently installed throughout 2011, bringing the total number of digital screens to 3 656 by the end of 2011, by far the highest digital screen base in all of Europe.

The UK and Germany follow at a distance with 2 724 and 2 303 digital screens while there were around 1 500 digital screens in the remaining three major European theatrical markets of Spain, Italy and the Russian Federation. Roll-out in the **UK** was primarily driven by commercial VPF deals as no direct public support has been granted since the expiration of the pioneering Digital Screen Network run by the UK Film Council between 2005 and 2007. Several major cinema chains signed roll-out deals with third party service providers in the second half of 2010 or 2011, significantly contributing to the country's 1 316 new digital screens in 2011. Direct public support, however, played a more important role as a complementary source of financing in **Germany**, where no less than 13 dedicated support schemes have been launched since 2010 and 1 055 new screens were converted to digital during 2011.

Norway and Luxembourg fully digitised

In 2011 Norway and Luxembourg became the first two European theatrical markets to become fully digital, closely followed by Belgium which was the only other country to pass the critical 80% penetration benchmark.

With 72% of its total screens converted to digital, the UK had the highest digital screen penetration among the six major European markets, ahead of France (67%). With 50% and 54%, Germany and Russia follow at a distance but are well ahead of Spain and Italy where roll-out did not grow at comparable speed with only 39% and 38% of the total screen based digitised by the end of 2011.

With major markets like the UK and France expected to pass the 80% benchmark in early 2012, the end of 35mm distribution in Europe is approaching rapidly. This increases the pressure on countries with low penetration rates.

Table 1 Top 10 European countries by number of digital screens as of December 2011

Rank	Country	Digital screens 2011
1	France	3 656
2	United Kingdom	2 724
3	Germany	2 303
4	Spain	1 545
5	Italy	1 485
6	Russian Federation	1 473
7	Poland	592
8	Netherlands	540
9	Belgium	434
10	Austria	423

Source: MEDIA Salles

Table 2 Top 10 European countries by number of new digital screens in 2011

Rank	Country	New digital screens 2011
1	France	1 769
2	United Kingdom	1 316
3	Germany	1 055
4	Spain	787
5	Italy	573
6	Russian Federation	532
7	Netherlands	288
8	Poland	268
9	Switzerland	182
10	Czech Republic	166

Source: European Audiovisual Observatory after MEDIA Salles

Table 3 Top 10 European countries by digital screen penetration as of December 2011 [e]

Rank	Country	Digital screen penetration 2011 [e]
1	Norway	100%
2	Luxembourg	100%
3	Belgium	84%
4	United Kingdom	72%
5	Denmark	72%
6	Portugal	70%
7	Netherlands	69%
8	Iceland	69%
9	Austria	68%
10	France	67%

Source: European Audiovisual Observatory after MEDIA Salles

Table 4 Digital screens by country – 2003 to 2011
In units. As of December.

Country		2003	2004	2005	2006	2007	2008	2009	2010	2011	Digital screen penetration 2011[e]
AT	Austria	1	1	16	18	35	84	239	306	393	68%
BA	Bosnia-Herzegovina									3	8%
BE	Belgium	10	14	20	35	76	98	144	334	434	84%
BG	Bulgaria				4	4	17	23	57	77	56%
CH	Switzerland			12	14	16	28	60	133	315	58%
CY	Cyprus							6	15	18	50%
CZ	Czech Republic	1	1	1	1	1	2	50	133	299	45%
DE	Germany	2	2	31	96	151	162	566	1 248	2 303	50%
DK	Denmark		4	5	5	6	10	25	136	286	72%
EE	Estonia						2	5	14	18	53%
ES	Spain	2	1	7	21	33	50	252	758	1 545	38%
FI	Finland				1	1	12	48	88	180	62%
FR	France	3	6	21	34	66	253	904	1 887	3 656	67%
GB	United Kingdom	7	10	33	159	284	303	667	1 408	2 724	72%
GR	Greece					2	8	31	59	75	20%
HR	Croatia						7	8	9	90	66%
HU	Hungary	1	1	1	1	2	7	31	56	159	40%
IE	Ireland			1	23	36	38	112	142	192	43%
IS	Iceland				3	3	7	7	14	29	69%
IT	Italy	1	4	25	31	38	80	434	912	1 485	39%
LT	Lithuania							5	13	18	19%
LU	Luxembourg		3	3	13	13	21	22	24	33	100%
LV	Latvia						2	3	11	15	24%
MT	Malta						2	2	6	6	16%
NL	Netherlands		3	18	30	34	56	105	252	540	69%
NO	Norway	1	2	3	23	35	48	61	268	423	100%
PL	Poland					8	53	177	324	592	56%
PT	Portugal		1	1	5	14	44	181	317	387	70%
RO	Romania						14	40	61	111	46%
RU	Russian Federation	1	1	1	3	31	90	351	941	1 473	54%
SE	Sweden		1	6	5	5	8	38	155	273	33%
SI	Slovenia				2	2	9	9	16	18	16%
SK	Slovakia							10	36	76	33%
TR	Turkey					1	20	62	205	266	13%
Total Europe		**30**	**55**	**205**	**527**	**897**	**1 535**	**4 678**	**10 338**	**18 506**	**52%**

Source: European Audiovisual Observatory after MEDIA Salles

Table 5 **Screens by country – 2007 to 2011**
In units. According to national sources.

Country		2007	2008	2009	2010	2011	Source
AT	Austria	570	579	577	584	577	FMA
BA	Bosnia-Herzegovina	n.c.	n.c.	40	40	40	SFF
BE	Belgium	513	491	491	515	~	INS/MEDIA Salles
BG	Bulgaria	114	95	105	141	138	NFC
CH	Switzerland	550	564	559	558	547	OFS
CY	Cyprus	33	31	36	36	35	Min. Cult./SFF
CZ	Czech Republic	681	689	695	688	668	Min.Cult
DE	Germany	4 832	4 810	4 734	4 699	4 640	FFA
DK	Denmark	398	397	400	396	~	DFI
EE	Estonia	20	25	34	34	34	EFSA
ES	Spain	4 296	4 140	4 082	4 080	4 040	ICAA
FI	Finland	316	320	306	289	~	FFF
FR	France	5 332	5 424	5 470	5 478	5 464	CNC
GB	United Kingdom	3 514	3 610	3 651	3 671	3 767	BFI
GR	Greece	540	500	380	370	~	MEDIA Salles
HR	Croatia	114	112	107	118	136	MEDIA Salles/CBS
HU	Hungary	400	407	417	396	395	Min. Cult./HFO
IE	Ireland	426	435	453	446	444	CSA
IS	Iceland	43	41	n.c.	42	~	HI
IT	Italy	3 819	3 847	3 879	3 873	~	MEDIA Salles/OBS
LT	Lithuania	78	80	84	81	95	SL
LU	Luxembourg	26	33	33	33	33	MEDIA Salles
LV	Latvia	46	50	55	63	63	NFC
MT	Malta	41	38	38	37	~	MEDIA Salles/OBS
NL	Netherlands	696	717	751	777	~	NVB/NFC/NFF
NO	Norway	417	424	422	429	423	F&K/MEDIA Salles
PL	Poland	1 008	1 043	1 061	1 048	1 048	MS/CSO
PT	Portugal	546	572	577	564	554	ICA
RO	Romania	117	136	182	194	241	CNC
RU	Russian Federation	1 564	1 896	2 124	2 424	2 726	Nevafilm
SE	Sweden	933	848	848	830	830	SFI
SI	Slovenia	108	110	103	108	111	SFC
SK	Slovakia	254	257	258	248	~	SKFI/AIC
TR	Turkey	1 532	1 678	1 780	1 874	2 093	Antrakt
Total Europe [e]		**34 001**	**34 520**	**34 840**	**35 230**	**~**	**OBS**

Source: European Audiovisual Observatory

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Executive Summary

18 500 screens, i.e. 52% of the total European screen base, digitised by end 2011

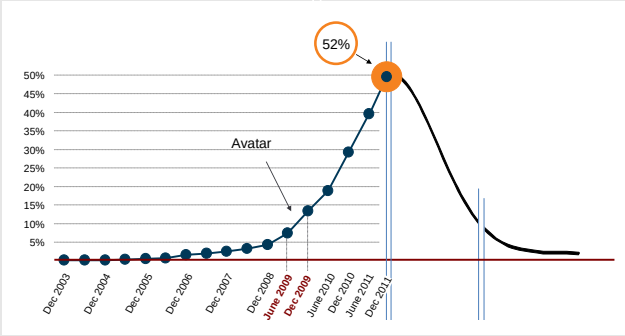
According to estimates by MEDIA Salles there were about **18 500 digital screens** installed in Europe* by the end of 2011, up from 10 338 in 2010. This means that over **52%** of European screens have been converted to digital projection and that digital cinema has reached the tipping point of mainstream roll-out (see p. 6).

Boosted by a law on digitisation, **France** further strengthened its **leading** position in terms of digital screen installations, with over 2 700 digital screens operational as of June 2011. France was followed by the other five major territories, all of which had between 1 000 and 2 000 digital screens by mid-2011 (see p. 9).

*In the context of this report Europe refers to the 35 European countries covered in the report (see p. 92)

Development of digital screen penetration

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

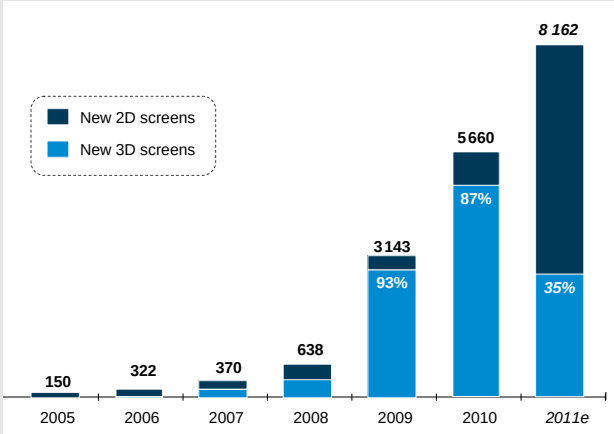
Paradigm shift: 2D full circuit conversion replaces 3D as main growth driver

While the **initial phase of large-scale digital conversion during 2009 and 2010** had been more or less entirely **driven by 3D screens**, roll-out in 2011 was – for the first time – driven by 2D screens. The number of **new 2D** installations is estimated to have jumped from 710 in 2010 to just under 5 300 in 2011. This suggests that roll-out has entered its **second major phase** and is now driven primarily by **full conversions of larger circuits** under VPF schemes, particularly third party schemes. As many of the larger circuits seem to have built up near to sufficient 3D capacities (generally about 50% of screens per site) the focus appears to have shifted to converting their remaining screens to 2D (see pp. 7, 61)

In some countries roll-out has also been significantly driven by **public initiatives** ranging from legislation (France), publicly funded industry-wide conversion schemes (Norway and the Netherlands) to an increasing number of direct public funding schemes in other European markets (see pp. 8, 76ff)

Development of net digital installations

in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles

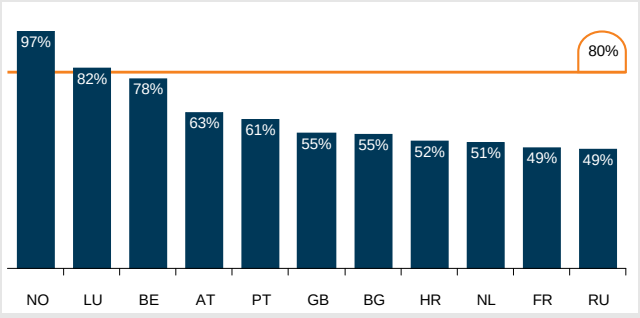
End of 35mm distribution is approaching

Given the high penetration rates in various European markets, the **end of 35mm distribution is getting closer**. Distributors in **Belgium, Luxembourg and Norway**, which became the first country worldwide to become fully digital in mid-2011, are expected to end 35mm distribution as early as 2011/2012 (see p. 10).

A total of 11 territories had converted at least 50% of their total screens by mid-2011, including major markets like the UK and France. Once large distributors switch to digital distribution in such major markets, **demand for film** stock will **drop significantly**, putting **pressure on 35mm economics** on a pan-European level. This could cause financial strain for those distributors and exhibitors still depending on it (see p. 9).

Markets with high digital screen penetration – H1 2011

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Small cinemas have major problems converting to digital

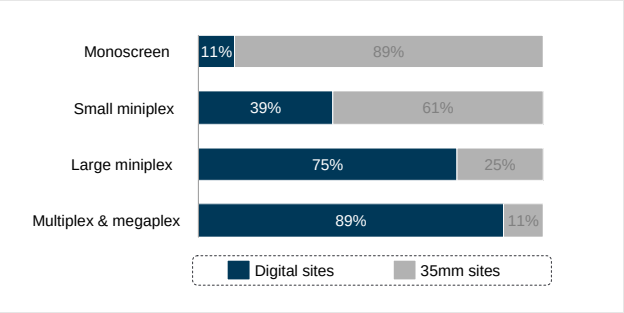
An in-depth structural analysis of the European theatrical landscape in 2010 clearly shows that **small cinemas** and exhibitors have **significant problems converting** to digital. By the end of 2010 only 11% of monoscreens had installed a digital screen, compared to 89% of multi- and megaplexes (see pp. 49, 53)

Small cinemas, however, form a characteristic part of the European cinema landscape, with **monoscreens** alone accounting for **almost 60% of all European cinemas**. Though presumably not vital for overall box office results these smaller cinemas may play an important **social and cultural role** in many communities (see p. 51).

This highlights the fact that commercial financing models cannot cover all European cinemas causing a **funding gap for between 15% and 20%** of European screens (see p. 26).

Digital site penetration by site type - 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

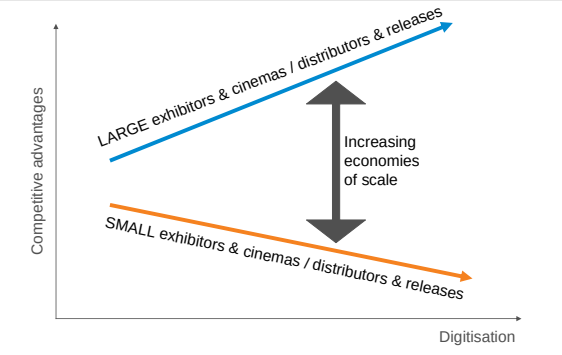
Outlook: Increasing economies of scale will reshape European cinema markets

Digital cinema **increases the economies of scale** related to both **film exhibition** as well as **distribution**. Bigger companies stand to benefit more than smaller players from the transition to digital, both in terms of cost savings as well as in increased revenue potentials (see pp. 70ff)

This economic reality will ultimately lead to fundamental change in the fragmented European theatrical landscape, possibly including:

- increasing consolidation;
- a widening gap between the commercial and a publicly funded social / cultural sector;
- an increasing fight for screen space, possibly crowding out smaller independent film releases.

Digital cinema increases economies of scale



Source: European Audiovisual Observatory

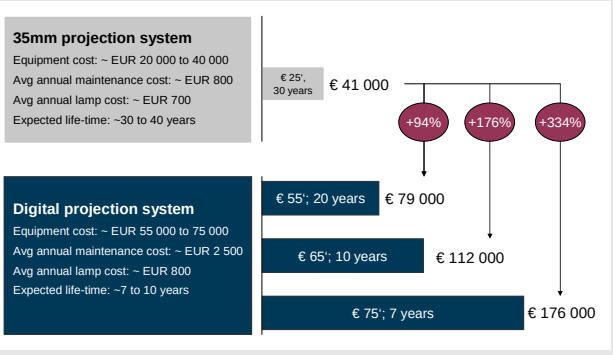
Outlook: Increasing cost of ownership requires change in business models in the long term

Taking into consideration the comparatively higher equipment maintenance costs as well as the lower life expectancy of digital projection systems, the Observatory estimates that exhibitor **capital expenditures** will **increase by up to 100% to 300%** over 30 years (see p. 21)

For the time being most stakeholders are actually trying to maintain 35mm business models, for example via VPF schemes, in a digital world. Some exhibitors will be able to partly compensate this increase in cost of ownership with operational cost savings and increased revenues e.g. from 'premium-priced content'. But in the mid- to long-term the changes in the underlying economics will inevitably **lead to more fundamental changes in the relationship between exhibitors and distributors**, who stand to gain most from digital distribution, once the transition period is over and VPF payments have come to an end.

Net present value of capital expenditures

in EUR, estimated



Source: European Audiovisual Observatory

PART 1 – THE BIG PICTURE

1 Latest figures on digital cinema roll-out

IN BRIEF:

- An estimated 18 500 screens, i.e. 52% of European screens, had been converted to digital as of 23 December 2011, bringing roll-out right to the central point of the mainstream adoption phase.
- Digital cinema roll-out seems to have entered a second major growth phase, with full circuit 2D conversion superseding 3D as the main growth driver.
- Available data for 2010 suggests a scarcity of European feature films in digital format in many European countries. According to distributors and exhibitors, however, the situation in many countries changed dramatically during 2011, as digital screen penetration increased and availability of digital prints became less of an issue.

1.1 State of digital cinema roll-out

About 18 500 digital screens by December 2011

According to estimates by MEDIA Salles there were about 18 500 digital screens installed by the end of 2011. Figure 1 illustrates how rapidly digital cinema has been growing in Europe since the beginning of 2009, when just over 1 500 digital screens had been installed.

52% of total European screen base converted

This means that over 52% of European screens have been converted to digital and that digital cinema has indeed passed the tipping point of mainstream roll-out (see Figure 2).

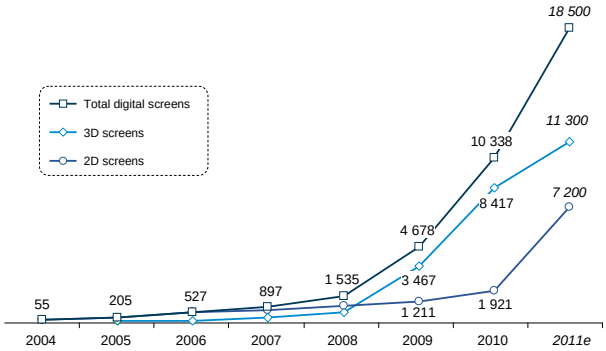
Digital cinema roll-out enters new phase with 2D replacing 3D as main growth driver

While the initial phase of large-scale digital conversion during 2009 and 2010 had been more or less entirely driven by 3D screens, digital cinema roll-out seems to have entered into its second major phase with full circuit conversion superseding 3D as the primary growth driver.

This is clearly illustrated by a breakdown of net new digital installations shown in Figure 3. While 3D screens accounted for around 90% of net installations in 2009 and 2010, their share fell to around 35% of new screens in 2011, according to MEDIA Salles estimates. 'Only' a little more than 2 880 3D screens are believed to have been installed in 2011. This compares to almost 5 000 in 2010 and implies a significant drop in demand for 3D-capable screens during 2011.

Figure 1 Development of digital screens in Europe

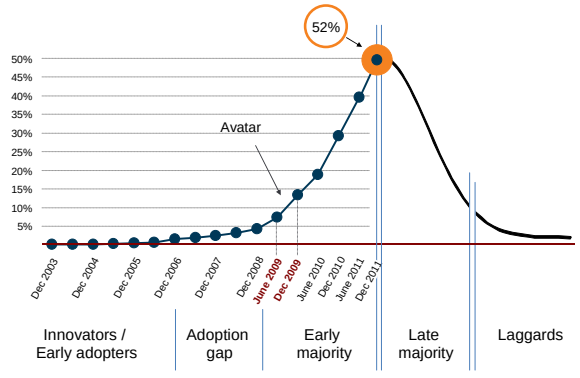
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 2 Development of digital screen penetration in Europe

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Digital roll-out in 2011 was – for the first time – driven by the installation of 2D screens, suggesting a paradigm shift in the digitisation process. The number of new 2D installations is estimated to have jumped from 710 in 2010 to just under 5 300 in 2011. As a result, the share of 3D screens as a percentage of total digital screens decreased. While at the end of 2010 81% of all European digital screens had been 3D screens, the share of 3D is estimated at only 61% by the end of 2011.

3D is therefore no longer driving digital roll-out. What then are the factors underlying this shift towards 2D?

Full circuit conversion under VPF schemes as key growth driver in 2011

Preliminary data communicated by Third Party Integrators and major circuits on the number of new digital screen installations suggest that full circuit conversions under VPF schemes, particularly third party schemes, have become a major growth driver for pan-European roll-out in 2011.

In the first half of 2011 – and in fact for the first time since their launch - the number of digital screens installed under third party VPF schemes grew faster than the number of screens using other routes-to-market (see Figure 5). Given the number of recently signed major roll-out deals (see Chapter 2.5.2) one could assume that third party roll-out continued at comparable speed in the second half of the year, confirming its role as the single most important route to market in 2011.

This hypothesis is also supported by Q3 data for nine major European circuits (see Table 1). These nine circuits alone accounted for over 34% of total net installations in the corresponding time period and all of them either had negotiated direct VPF deals or signed full circuit conversion deals with Third Party Integrators. According to *Screen Digest* a total of 31 major exhibition circuits had reached 70% digital screen penetration by Q3 2011.

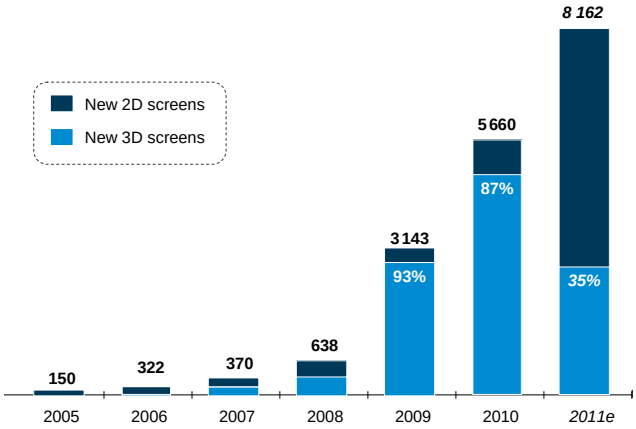
Many circuits have reached sufficient 3D capacity

Though no specific data are available for the number of 3D screens within these circuits, the soaring demand for 2D screens suggests that many of the larger circuits have reached a sufficient level of 3D capacity for the time being and are converting their remaining screens to digital 2D.

Analysis of detailed 2010 data suggests that the majority of larger circuits upgrade about 50% of their screens per site to 3D, while only very few circuits such as Yelmo (ES) pursue a 100% 3D strategy (see Chapter 6.1).

Figure 3 Development net digital installations

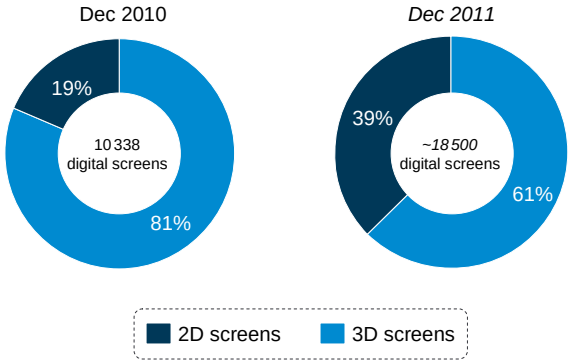
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 4 3D vs 2D screens – 2010 vs 2011e

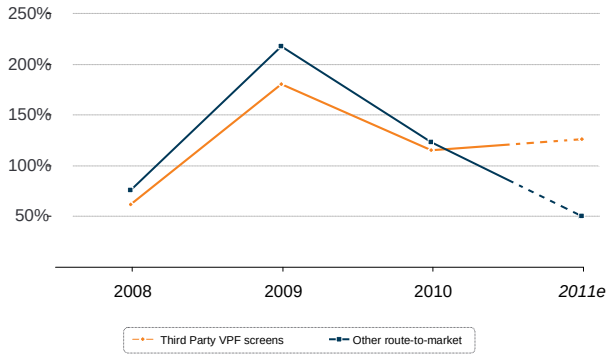
in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 5 Annual growth rate of screens installed under Third Party schemes and other routes to market

in %, estimated



Note: These figures have to be considered as very rough estimations based on half year data 2011 as communicated by Third Parties or estimated by the Observatory as well as the assumption that the growth trends of the first six months apply consistently to the second half of the year.

Source: European Audiovisual Observatory after AAM, XDC, Ymagis, MEDIA Salles

Growing impact of public intervention

As shown in Table 2 almost 80% of the new digital screens in the first half of 2011 had been installed in only seven markets. In four out of these public intervention has to be considered a major growth factor. France alone accounted for 22% of total net installations, driven by both major circuits working their way towards full digitisation as well as legislation which became effective in late 2010 and stipulates VPF payments from all French distributors. A total of 16 direct public funding schemes had been launched in Germany during 2010 and 2011 and it can be assumed that they contributed to making Germany the country with the second largest number of digital screen installations in the first six months of 2011. In Norway and the Netherlands publicly co-ordinated and co-financed conversion schemes cover all or the vast majority of screens in the country, making sure that no theatre is 'left behind'.

France, UK and Germany clearly lead the market

Boosted by a law on digitisation France further strengthened its leading position in terms of digital screen installations with over 2 700 digital sceens operational as of June 2011, almost 50% of the country's total screen base (see Table 3). France is followed by the other five major territorities, all of which had between 1 000 and 2 000 digital screens. The big territories are followed by a number of mid-sized markets where roll-out has been driven either by the leading commercial circuits, such as Belgium, Poland or Portugal, or by publicly co-ordinated collective schemes, such as in Norway or the Netherlands.

Norway first country to become fully digital

By mid-2011 Norway has become the first country worldwide to become fully digital thanks to a centrally initiated and administered collective scheme covering practically all of the country's screens, most of which are owned by municipalities.

A total of 11 territories had converted at least 50% of their total screens (see Table 3), including major markets like the UK and France. On the other hand a total of 15 European countries still had less than 30% of their screens digitised, including many smaller Central and Eastern European markets as well as Italy and Spain.

33% digital site penetration by end 2010

The Observatory and MEDIA Salles estimate that by the end of 2010 about 33% of all European cinemas had installed at least one digital projector (see Figure 6). The current trend towards full conversion of larger circuits raises questions as to the extent to which the remaining 67% of analogue cinemas have been able to convert to digital during 2011. Unfortunately it is too early to answer this question as the required site-by-site data are not yet available, but the available data on circuit conversion suggests that roll-out is currently driven by the full conversion of existing digital sites rather then by the digitisation of analogue sites in the many European countries which are not converting under nationwide public schemes and/or legislation.

Table 1 Digital screen growth by circuit - Q3 2011

in units, ranked by net installations in Q1 to 3 2011

Circuit	New digital screens Q1 to Q3	Digital screens Q3	Total screens	VPF scheme
Odeon / UCI	636	1 480	2 115	Own
Pathé[1)]	330	829	982	Own
Cineworld	157	557	801	AAM (6/2010)
Cinema City	219	461	853	Own
Yelmo	193	402	402	AAM (8/2010)
Vue	166	296	643	Sony (3/2011)
Multikino	76	213	217	Own
Utopolis	34	71	99	Ymagis (2010)
Showcase [2)]	130	*>196*	274	Sony (6/2010)
Cumulative	**>1 941**	***>4 907***	**6 788**	**-**

[1)] Les Cinémas Gaumont Pathé [2)] National Amusements (Showcase)

Source: European Audiovisual Observatory after Screen Digest

Table 2 Digital screen growth by market – H1 2011

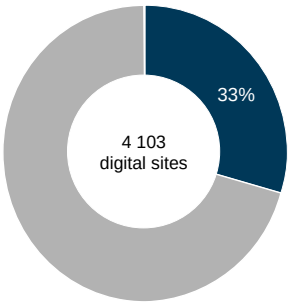
ranked by net installations in H1 2011

#	Country	New digital screens	Digital screens	Cumulative share of new screens
1	FR	822	2 709	22%
2	DE	652	1 900	39%
3	GB	625	2 033	56%
4	ES	264	1 022	63%
5	RU	238	1 179	70%
6	NL	148	400	74%
7	NO	147	415	78%
8	IT	128	1 040	81%
9	CH	115	248	84%
10	BE	66	400	86%

Sources: MEDIA Salles, European Audiovisual Observatory

Figure 6 Digital site penetration – 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Table 3 Digital screens - June 2011

in units and %, estimated

#	Country	Digital screens	Digital screen penetration	Funding models
1	FR	2 709	49%	Law, PF, 3PF, DCVPF
2	GB	2 033	55%	3PF, DCVPF, PrBG, PF
3	DE	1 900	40%	3PF, DCVPF, PF
4	RU	1 179	49%	DCVPF, PF
5	IT	1 040	27%	Tax, 3PF, DCVPF, PF
6	ES	1 022	25%	3PF, PF
7	NO	415	97%	PuBG (PF, DCVPF)
8	BE	400	78%	3PF, DCVPF
9	NL	400	51%	PuBG (PF), PrBG
10	PL	390	37%	3PF, DCVPF, PF
11	AT	370	63%	3PF
12	PT	343	61%	3PF
13	CH	248	44%	3PF, PF
14	TR	240	13%	PF
15	SE	201	24%	PF, PuBG
16	DK	176	44%	3PF, PF, PrBG
17	CZ	175	25%	3PF, PF
18	IE	162	36%	3PF, PF
19	FI	123	43%	3PF, PF
20	HU	100	25%	3PF
21	BG	77	55%	-
22	RO	77	40%	-
23	GR	63	17%	-
24	HR	61	52%	-
25	SK	45	18%	3PF, PF
26	LU	27	82%	3PF
27	IS	17	41%	-
28	SI	17	16%	-
29	CY	15	42%	-
30	EE	15	20%	3PF, PF
31	LT	14	17%	-
32	LV	14	22%	-
33	MT	6	16%	3PF
34	BA	0	0%	PF
35	MK	0	0%	PF
	EUR	**14 074**	**40%**	**-**

Legend: 3PF = Third Party Facilitator; PF = Public Funding; Tax = Tax Credits; Law = Legislation; PuBG = Public Buying Group; PrBG = Private Buying Group; DCVPF = Direct or Collective VPF schemes

Source: European Audiovisual Observatory after MEDIA Salles

Table 4 Selected country rankings – 2010

in units and %, estimated

#	ISO	Share top 5*		ISO	Avg GBO in MEUR*		ISO	Screen share Multiplex
1	HR	100%		FR	1 227		GB	66%
2	EE	100%		GB	1 092		ES	66%
3	LU	94%		DE	897		GR	65%
4	BG	91%		IT	706		TR	65%
5	IS	88%		ES	651		BG	64%
6	MT	84%		RU	629		BE	60%
7	LV	81%		NL	195		RO	53%
8	RO	79%		BE	178		PL	49%
9	LT	75%		PL	163		IE	49%
10	GB	75%		TR	162		LV	48%
11	PT	73%		CH	161		MT	46%
12	IE	68%		SE	144		AT	41%
13	CY	66%		DK	131		HU	40%
14	SI	65%		IE	122		FR	37%
15	PL	63%		AT	122		SI	36%
16	SE	63%		NO	118		HR	33%
17	BE	61%		GR	98		PT	32%
18	HU	61%		PT	75		IT	32%
19	AT	57%		FI	59		LU	30%
20	CH	56%		CZ	52		DE	29%
21	FI	47%		HU	42		RU	25%
22	NL	41%		RO	20		CZ	24%
23	DK	38%		SK	16		LT	23%
24	ES	38%		BG	13		CH	21%
25	SK	38%		SI	11		NL	20%
26	NO	35%		HR	11		SE	20%
27	TR	34%		LT	11		DK	19%
28	DE	33%		IS	9		FI	18%
29	FR	32%		LV	9		NO	15%
30	CZ	31%		LU	9		EE	15%
31	RU	27%		EE	8		SK	12%
32	MK	25%		CY	7		IS	-
33	IT	25%		MT	2		CY	-
34	BA	-		BA	1		BA	-
35	MK	-		MK	0		MK	-
EUR		**17%**			**204**			**33%**

*Share top 5 = Share of the number of screens operated by the top 5 exhibitors of total screens in a market

*Avg GBO = Average gross box office in MEUR 2008 to 2010

Source: European Audiovisual Observatory after MEDIA Salles

1.2 The state of digital releasing

The lack of digital content, i.e. the low number of feature films, particularly European films, distributed digitally, has often been quoted as a reason for exhibitors' reluctance to invest in digital cinema. Chapter 2.3 will take a closer look at the correlation between the development of digital screens and digital film releases. The aim of this chapter is rather to illustrate the current state of the availability of feature films in digital format. However, there is hardly any reliable and up-to-date data publicly available on digital distribution.

Lack of available data a fact,
limited availability of digital releases by end 2010 likely

Only 12 out of 35 film agencies were able to provide data on the number of films which received a digital release in 2010. The data available (see Table 5) – or rather not available – suggest that by the end of 2010 the majority of releases, particularly of non-US films, had not been available in digital format in a large number of territories. Against the background of a fast changing market, the analysis of 2010 figures, can however only provide limited insights and has to be interpreted accordingly.

Independent content follows 'interested' 2D screens

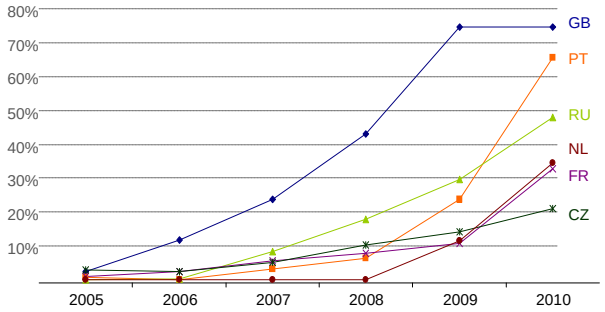
As will be shown in Chapter 2.3, the past years have shown that digital content generally follows digital screens, or rather 'interested' screens. The vast majority of digital screens operational in 2009 and 2010 were 3D screens. It can be assumed that these screens were primarily used to screen the strong line-up of US 3D blockbusters rather than independent European films. Considering that the vast majority of films are not stereoscopic, the Observatory believes that the number of films receiving a digital release is closely linked to a sufficiently large number of digital 2D screens as well as the overall digital screen penetration rate. Given the rapid increase of 2D installations in many European markets during 2011, it can be assumed that the majority of films are now being released digitally, at least in those countries with a high digital screen penetration rate.

The end of 35mm distribution is getting closer

According to Screen Digest 80% digital screen penetration is a critical benchmark for major distributors to end 35mm distribution. Given the high penetration in various European markets (see Figure 8) the end of 35mm distribution is getting closer. Distributors in Belgium, Luxembourg and Norway are expected to end 35mm distribution as early as 2011/2012. Even major markets like the UK or France could follow quickly, causing demand for film stock to drop significantly and thereby putting pressure on 35mm economics for those distributors and exhibitors still depending on it.

Figure 7 Digital release penetration in selected European markets

in %, estimated



Source: European Audiovisual Observatory after CNC and Screen Digest

Table 5 Digital releases in selected countries 2010

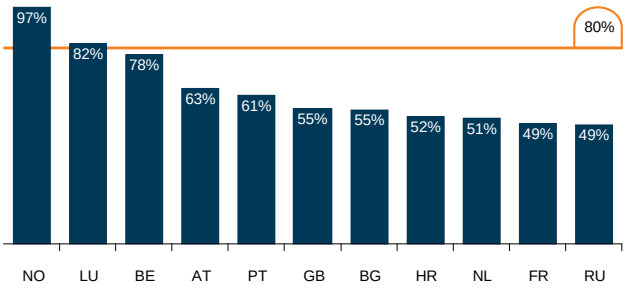
in units and % share of total releases

Market	No. of digital releases	No. of total releases	% share digital releases	Digital screen penetration
GB	416	557	75%	38%
PT	173	264	66%	56%
RU	162	338	48%	39%
NL	123	375	33%	32%
FR	121	575	21%	34%
SE	105	238	44%	19%
FI	87	186	47%	30%
CZ	84	243	35%	19%
SK	61	192	32%	15%
PL	36	277	13%	31%
SI	19	173	11%	15%
LV	13	170	8%	17%

Source: European Audiovisual Observatory after MEDIA Salles

Figure 8 Markets with high digital screen penetration – H1 2011

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

2 Understanding the historical development

IN BRIEF

- **In 2009**, after eleven years, digital cinema finally **entered the mainstream adoption phase** in Europe.
- Over the years it has **transformed from a technology-led transformation to one led by US studios,** who drove the standardisation process, developed the VPF financing mechanism and were the first to release their films in digital format.
- The **lack of a business mod**el for exhibitors to recoup the high up-front investment costs and the permanent increase in capital expenditures proved probably **the most fundamental obstacle** to digital cinema roll-out.
- Distributors ultimately agreed to co-finance the first round of digital equipment. Under **VPF financing** schemes the US studios would cover around 80% of the initial investment cost. But neither the development of standards nor of the VPF financing model was sufficient to actually kick-off large scale digitisation in Europe.
- **3D drove digital cinema roll-out in Europe**. It provided the **first proven business model** for digital cinema to increase per-screen-revenues through premium ticket prices and higher occupancy rates.
- Driven by 3D, digital screen penetration jumped within two years from just 4% to 30% by the end of 2010, bringing Europe into the middle of the costly mainstream transition phase despite the credit crunch during 2009.
- Roll-out in Europe was clearly driven by the **large commercial circuits** which stood to benefit most from the increased economies of scale offered by d-cinema and financed the conversion either themselves or via VPF schemes.
- As major distributors are expected to stop 35mm distribution in many markets in the foreseeable future, **digitisation no longer is an optional investment decision but has become a necessity** for commercial cinemas, threatening the existence of many smaller exhibitors, who are unable to finance the conversion.

Conventionally the beginning of digital or electronic cinema - as it was referred to at the time – dates back to the summer of 1999 when George Lucas' *Star Wars: Episode 1* was screened on electronic projectors from Texas Instruments and Hughes-JVC in just four regular cinemas in the US.[1]

Looking at how digital cinema roll-out developed since then helps to better understand current and future impacts of digital cinema as well as the opportunities and challenges it will pose to the different stakeholders in the European film landscape.

This chapter will illustrate the **main developments** which led to digital cinema replacing a universal industry system based on 35mm film which has been in place for over 100 years.

The analysis will primarily **focus on** the digitisation process in **Europe**, where fragmented national market structures pose specific challenges to a commercially viable conversion process. The digital roll-out in Europe cannot however be understood without looking at key developments in **North America** as the US majors have to be regarded as the key drivers of the digitisation process in most major markets worldwide, though it should be noted that Asia played an important role during the early pioneering years of digital cinema.

Broadly speaking this chapter aims to answer the following two questions:

- What drove digital cinema? What were the expected **benefits and costs** of digital cinema?
- What have been the **main obstacles** for roll-out and how were they overcome?

The following aspects will be looked at in further detail:

- Development of **global standards**: digital cinema vs electronic cinema;
- **Lack of digital content** vs lack of digital screens: the chicken or egg dilemma;
- Lack of a business model for exhibitors, partly caused by **high investment costs** and **increasing cost of ownership**;
- **Financing solutions** and the role of Third Party Facilitators, buying groups and public funding schemes;
- The **role of 3D** as the single most important driver of digital cinema roll-out.

The interpretation and appreciation of causalities is evidently a subjective matter. The following attempt to summarise in broad strokes the development of digital cinema roll-out over the past 10 years hence reflects the author's interpretation.

[1] MKPE Consulting, see e.g. www.mkpe.com/digital_cinema/history/

2.1 Initial case for digital cinema & main obstacles

Table 1 Benefits and costs of digital cinema to exhibitors and distributors

	Exhibitors	Studios / distributors
Benefits / Opportunities	• No deterioration in image quality over time • Increased programming flexibility • Potential for new revenue streams, particularly through alternative content and digital advertising	• Significant reduction in print costs & duplication • Significant reduction in delivery, storage and disposal costs • Increased flexibility of delivery • No deterioration in image quality over time • Optimisation of release strategies due to low marginal cost of an extra print
Costs / Threats	• Significantly higher investment costs • Permanent increase in capital expenditures	• Potentially increasing competition for screen space from alternative content • Potentially increased risk from piracy
Bottom line	**Global industry cost savings of USD 1 to 5 billion per year** (estimated as of 2000)	
	Main Issue = Relative gains	
	No viable business model due to significantly higher investment costs in the short term, permanently higher total cost of ownership and uncertain future potential to increase revenues and/or operational cost savings.	Distributors stand to benefit from significant and certain cost savings from the switch to digital distribution. Risks could potentially be controlled through contract and technology specifications.

Source: European Audiovisual Observatory

For over 100 years the film industry had worked on a universal and proven business model based on 35mm film technology. So what were the reasons for developing digital solutions to replace 35mm film as the standard technology for theatrical exploitation of feature films? What was the sales pitch of a technology-led market to the stakeholders of the film industry?

The (initial) case for digital cinema

In the initial hype surrounding digital cinema a variety of advantages for both exhibitors as well as distributors were brought forward. Table 1 lists the most frequently quoted potential costs and benefits for each of these two main stakeholder groups.

Many market observers and analysts, however, held the view that what it ultimately came down to was expected industry cost savings from digital distribution.

[While] 'digital sound ... indeed attracted the audience to the theatres … Digital cinema is more about cost savings for the industry as a whole.'
(Delta Lloyd Securities, July 2003)[2]

It was argued that the industry could generate substantial cost savings by switching from the production and distribution of 35mm film prints to digital distribution.

Estimates as to the global amount of these industry cost savings varied widely at the time. *Screen Digest*[3] put industry-wide savings at over USD 1.1 billion per year within 10 years of the introduction of digital cinema, while also quoting other proponents who believed in cost savings of up to USD 4.5 billion. The latter estimate is derived from quantifying annual global cost related to the manufacture, transport, storage, replacement, insurance and disposal of film prints at USD 5 billion and the assumption that digital distribution could reduce these costs by 90%.

While opinions differed with regard to the amount of cost savings, there was widespread agreement on the fact that the full benefits of digital cinema would only be felt in an entirely digitised world and that the transition period would be costly for all stakeholders involved: it should thus be kept as short as possible.

But despite a common interest in making the transition as fast as possible, it took digital cinema over 10 years to actually take off. Why?

[2] Delta Lloyd Securities was liquidity provider of EVS Broadcast Equipment and Kinepolis as of July 2003; quote taken from sector report 'Digital Cinema: It's here, it's now!', July 2003

[3] 'E-cinema to save world film industry $1 bn a year', October 2000

Major obstacles

Retrospectively, **two main stumbling blocks** which impeded a fast adoption of digital cinema can be identified. **Technical issues**, particularly the lack of standards**,** were at the heart of the first set of factors, while the second set of issues concerned the **economic viability of digital cinema**.

Technical issues, notably lack of standards

The **absence of** national, not to speak of **global standards**, entailed a wide range of issues such as lack of interoperability, prohibitive equipment prices due to limited production scales and lack of investment security as to equipment meeting future technical requirements and providing sufficient protection against piracy.

These were major issues discouraging exhibitors and distributors alike from adopting digital cinema technology at the time. However, they are typical for the early phases of any kind of technological development and could hence be considered as temporary issues which would be resolved within a certain period of time.

Relative gains result in
lack of business model for exhibitors

The **second set of issues** was a more fundamental one and concerned the **economic viability of digital cinema** as such. Some analysts even questioned the economic rationale of the conversion altogether:

'All of the talk about the ability to save print costs never seems to mention the capital cost associated with deploying digital cinema...essentially digital cinema provides no net savings to the (US) industry until the cost of a projection system including related hardware is less than USD 50 000 [~EUR 37 000].'
(Credit Suisse First Boston, June 2002)[4]

But even assuming that equipment prices would drop quickly enough to a level which would allow the film industry to generate significant cost savings, digital cinema economics would not work for all of the key stakeholders. **Relative gains from digital cinema,** namely exhibitors bearing the investment cost and distributors benefitting from the cost savings from digital distribution, formed the basis of probably the most fundamental obstacle to digital cinema roll-out.

At the early stages of digital cinema exhibitors were faced with a number of issues which effectively left them **without a viable business model** for digital conversion.

- The **lack of digital content** was often quoted as a serious discouragement for exhibitors to convert their screens.
- But probably the biggest issue in the short term concerned the **extremely high up-front conversion costs**, which were up to five times as high as the replacement costs of a new film projector according to Credit Suisse First Boston. Most exhibitors were neither able nor willing to bear this investment on their own, but demanded that distributors, who stood to gain most, should contribute to the investment costs. The issue of who should pay and how to finance the digital conversion of cinemas was arguably the most important impediment to digital cinema roll-out.
- Apart from the higher initial investment costs, digital cinema would **increase capital expenditures, that is, total cost of ownership**, for exhibitors on a permanent basis. Digital projection systems cost more than film projectors as well as having higher maintenance costs and a lower expected lifetime.
- While the cost side of digital cinema was comparatively obvious and affected exhibitors immediately, their ability to offset their increasing capital expenditures was linked to **uncertain new revenue streams** and / or operational cost savings in the medium-term. At the time, digital advertising, alternative content and increased programming flexibility were quoted as the mains sources for additional revenue streams.

All these economic issues were aggravated by the lack of investment security due to the absence of standards as well as of compliance certification processes.

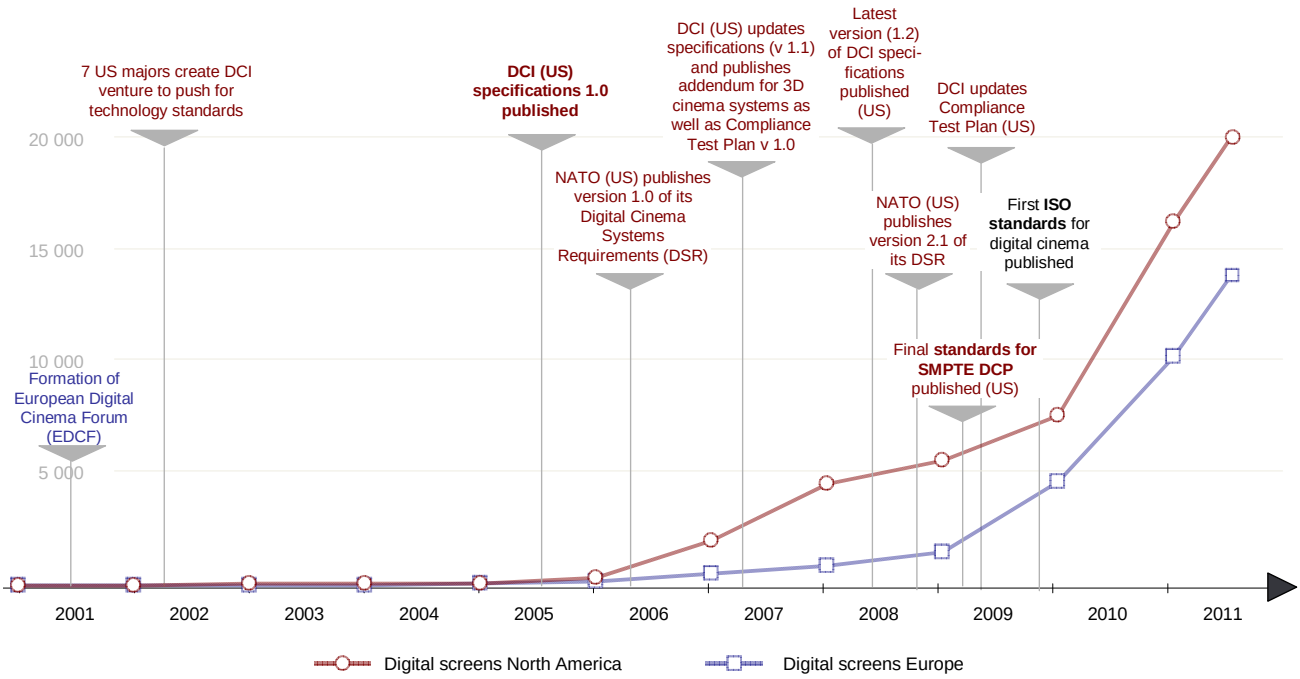
In addition, when the time value of money and the risk related to an uncertain increase in free cash flows were taken into consideration, converting to digital projection systems was simply a bad investment decision for most exhibitors at that time.

Yet in spite of all these issues, by 2011 digital cinema has become a reality and the end of 35mm projection is imminent. The following chapters take a closer look at how these crucial issues evolved over the years and what pushed digital cinema over the tipping point.

[4] Credit Suisse First Boston Equity Research, 'Digital Cinema: Episode II', June 2002: The report estimated total projection system cost between USD 150 000 and 200 000 at the time.

2.2 Development of standards

Figure 1 Timeline: Milestones in the development of digital cinema standards



Source: European Audiovisual Observatory

The lack of technological standards at the advent of d-cinema was the first major hurdle to be overcome before wider roll-out could commence.

Standards - a condition sine qua non

Common standards were required for a variety of aspects such as image quality, security and file formats. Without them manufacturers could not ensure the interoperability of systems and lack of economies of scale as well as competition would keep equipment prices from falling to viable levels. Distributors and exhibitors needed them for investment security.

And as Figure 1 quite clearly shows, there was practically no take-up of digital cinema before the publication of the DCI specifications in July 2005[5], but roll-out commenced shortly afterwards.

'D-cinema' vs 'e-cinema'

DCI specifications have also become the dividing line between the terms 'digital cinema' and electronic or 'e-cinema', the latter term referring to non-DCI/ISO compliant projection systems.

[5] In fact the announcement of US majors in early 2002 that they would develop d-cinema standards through the Digital Cinema Initiatives (DCI) joint venture practically brought US digital cinema roll-out to a halt, with early deployment entities such as Thomson Digital Cinema and Boeing subsequently either freezing their roll-out efforts altogether or selling their digital cinema divisions outright.

Development of standards

Despite early concern from European film communities about d-cinema standards dictated to them by Hollywood[6] and the setting up of the European Digital Cinema Forum as an umbrella organisation for European d-cinema interests in mid 2001, the standardisation process has been clearly driven by the US majors. Given their economic and strategic weight in the global film industry, it had to be expected that their specifications were to become the *de facto* industry standard and a prerequisite for digital cinema roll-out on a commercial scale.

US studios driving standardisation process

In March 2002 seven MPAA studios created the Digital Cinema Initiatives (DCI) joint venture to develop common technical specifications and requirements for the mastering, distribution and theatrical playback of digital cinema content. It took DCI over three years to publish version 1.0 of its Digital Cinema System Specifications in July 2005, which has since been updated twice. The DCI specifications in its current format (version 1.2, published in March 2008[7]) comprise 156 pages defining technical specifications for seven sections[8] with the majority of pages dedi-

[6] *Screen Digest*, 'European e-cinema trials get under way', September 2000

[7] http://www.dcimovies.com/DCIDigitalCinemaSystemSpecv1_2.pdf

[8] Digital Cinema Distribution Master (DCDM), Compression (Image),

cated to defining security requirements. A Stereoscopic Digital Cinema Addendum was published in July 2007.[9]

The system requirements of the US exhibition industry are reflected in NATO's[10] Digital Cinema System Requirements, the latest version (2.1) of which was published in December 2008.[11] Combined with the DCI specifications, this provided a complete set of digital cinema requirements to guide standards committees, service providers and equipment manufacturers.

DCI specifications turn into international standards

DCI specifications were subsequently turned into standards by the Society of Motion Picture & Television Engineers (SMPTE), a US standard-setting body for the motion imaging industry with members from 64 countries worldwide. Final SMPTE DCP[12] standards were published in March 2009.

SMPTE standards in turn formed the basis for the ISO standard development process. Standards for several aspects of digital cinema distribution and operations were published in December 2009. International high-end digital cinema standards have hence been effectively and primarily shaped by the US industry, though international trade and standards bodies were certainly involved in fine-tuning during the standardisation process. For instance, ISO standards include several specifically European requirements for multi-language subtitling and frame-rates.

Ongoing development

Though a first set of standards now exists, standards development has to be considered as an ongoing process which will see further development and updates both at national as well as international levels.

Compliance - work in progress

DCI published the first version of its Compliance Test Plan (CTP) in March 2007 and an updated version in May 2009 as well as an addendum in July 2011. At the time of writing only two testing facilities, one in Japan and one in the US, have been licensed to administer the CTP and report DCI compliant equipment to DCI for display on its DCI compliance web site.

The various updates of the DCI specifications and its Compliance Test Plan required manufacturers to further engineer many of their products and finds the industry still working its way towards achieving compliance with DCI specifications and SMPTE / ISO standards as of the time of writing. According to MKPE Consulting US studios have been imposing on manufacturers deadlines for full compliance by the end of 2011. Also, digital distribution currently still uses 'Interop DCP', developed as a temporary distribution format while standards were being finalised, despite the fact that the SMPTE DCP distribution standard was published in early 2009. The transition to SMPTE is expected to happen in 2012.[13] However, there is currently no testing organisation or mechanism in place to certify compliancy neither with SMPTE or ISO standards nor with NATO's Digital Cinema System Requirements.

A universal standard for digital cinema?

There seems to be no doubt for US consultant Michael Karagosian that DCI specifications will become the global digital cinema standard. In December 2010 he wrote *'if there were ever doubts that Hollywood-driven digital cinema would succeed in expanding around the world, they were vanquished in 2010. Fundamentally, there is no challenger to the DCI format …'*[14].

D-cinema poses economic challenges to exhibitors

In Europe, however, where many exhibitors depend on public funding to digitise their screens, the standards issue is a more controversial one and does not seem to have been solved for good.

The European Commission states in its Digital Cinema Communication[15] from September 2010 that DCI specifications drive equipment prices to a level which render digital conversion unviable in economic terms for many exhibitors. Non-DCI compliant projection systems with an image resolution just below DCI's 2K requirements are reported to come at significantly cheaper prices and are believed to provide more than satisfactory projection quality for most European screens, over 80% of which are less than 10 metres wide.

E-cinema as an alternative?

Such projection systems were regarded as a viable alternative to DCI compliant equipment, provided that distributors would accept the screening of their films on them. This, however, does not seem to be the case. In particular the US studios have confirmed their intention to release their films only on DCI compliant systems. Other distributors will probably also be wary of releasing their films on what could be perceived as 'second class' screens. This could deny non-DCI compliant exhibitors access to main-

Packaging, Transport, Theater Systems, Projection systems and Security

9 http://www.dcimovies.com/DCI_Stereoscopic_DC_Addendum.pdf

10 National Association of Theatre Owners (US)

11 Available on NATO's site at http://www.natoonline.org/Digital.htm

12 DCP stands for Digital Cinema Package and represents the collection of files which are sent to exhibitors and contain the content, for example trailers or feature films, to be screened by the exhibitor.

13 MKPE Consulting, 'Digital Cinema in 2011: Trends in Rollout, Financing, and Technology', July 2011

14 MKPE Report, 'State of the Industry' posted December 2010

15 'Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Opportunities and Challenges for European Cinema in the Digital Era', 24 September 2010

stream as well as high-profile independent films and would effectively create a two-tier market separated by technological standards. The vast majority of exhibitors depend commercially on screening such films and without access to them many would either have to close down or become increasingly dependent on public funding.

Technology neutrality in Europe

Against a background of these concerns, the European Parliament recently published a resolution on European cinema in the digital era, recommending '*the standardisation of systems based on ISO standards in the areas of production, distribution and film screening; considering however that in the particular case of digital screening the digitisation of cinemas must not under any circumstances result in the establishment of a single standard.*[16] While underlining the importance of standardising the 2K resolution system, the European Parliament stresses the need to ensure the utmost possible technological neutrality and allows for the further possibility of funding less expensive projectors.

In line with this resolution and the concept of technological neutrality, several European funding schemes, including the recently launched MEDIA Programme digitisation support scheme or the German national support schemes administered through the FFA and BKM, do – in principle - support the installation of non fully DCI compliant equipment[17]. Given these different approaches, which are rooted in differing economic realities of the individual cinema landscapes, it remains to be seen whether digital cinema will ever be able to achieve the universality and global interoperability of 35mm film projection or indeed provide the technologically level playing field that has characterised the global film industry for such a long time.

Conclusions

- Lack of standards was a key obstacle for the adoption of digital cinema.
- The publication of the US studio DCI specifications in mid-2005, proved to be a major milestone for commercial digital cinema roll-out.
- US studios have driven the standardisation process, with their DCI specifications forming the basis for SMPTE and ISO standards.
- E-cinema solutions, that is, not meeting ISO standards, may be used by a segment of the market for which d-cinema solutions are not economically feasible.
- D-cinema may thus bring an end to the universality and global interoperability of 35mm film projection.

E-cinema networks

E-cinema generally refers to digital projection systems which are not compliant with DCI specifications and / or ISO standards, such as not having a minimum image resolution of 2K (2048x1080).

DCI compliant equipment currently comes at such high prices that it is beyond the reach of certain second and third run exhibitors who operate on narrow margins even with 35mm projection. The advantage of e-cinema would be lower investment cost enabling more small cinemas to convert to digital. Furthermore it is argued that in small cinema halls the consumer experience is perceived as equivalent.

E-cinema networks have been operating successfully in certain Asian and Latin American markets such as India and Brazil (RAIN network). In Europe and North America they have generally been less successful. Some examples include:

CinemaNet Europe

CinemaNet Europe went live in 2004 and focused on bringing feature documentaries and other specialist films to the big screen by transforming independent cinemas across several countries into digital cinemas. More than 180 cinemas were equipped with e-cinema technology through this project. The project came to an end in 2007, while the participating partners Digital Cinema Services (Germany), Docuzone (Austria), Parallel40 (Spain), Docspace (UK), Cinemanet Nederland and Cinema Delicatessen (NL) continued their digital operations.

http://cinemanet.vbvb.nl/apache2-default/index.html

Folkets Hus och Parker (FHP - Sweden)

FHP is a non-profit organisation covering 220 cinemas in rural areas. The rationale for digitisation was the desire to allow rural areas to benefit from first-run releases of feature films, to bring live events to the community and to enable interactive meetings. FHP became Europe's first 'digital circuit' in 2002 with the installation of seven 1.4K projectors. As of 2010, FHP operated 14 DCI compliant and 80 e-cinema screens (33 1.4K and 47 HD projectors).

http://www.fhp.nu/

Emerging Pictures (US)

Emerging Pictures is the largest all-digital specialty film and alternative content theatre network in the US. It started out in 2002 by connecting 82 venues via broadband internet and currently consists of 95 venues. The network has published an alternative to the DCI / ISO standards called I-Cinema.

http://www.emergingpictures.com/about/the-i-cinema-standard/

[16] European Parliament resolution of 16 November 2011 on European cinema in the digital era (2010/2306INI)

[17] See Chapter 11 for further information on these requirements.

2.3 Lack of content

Development up to 2010

The lack of content in digital format has often been quoted as a major obstacle to wide scale digital roll-out. In fact the industry has been faced with a classic chicken or egg dilemma.

Chicken or egg dilemma:
What comes first – the content or the screens?

Exhibitors were reluctant to go forward with the costly conversion of screens without having enough digital content with which to fill them, while on the other hand distributors held back with digitally releasing their films as long as there were not enough digital screens on which to book them.

So, what came first, digital film releases or digital screens? The answer to this question is of necessity nuanced. A basic difficulty is the lack of publicly available data measuring digital releases and putting them into context. The small amount of data which is available suggests that the situation differs from territory to territory, as illustrated by the six examples shown in Figures 2 to 7.

Broadly speaking, it seems there have been two approaches to overcoming the content/screen stand-off: on the one hand, public intervention, and on the other – in the vast majority of markets - US studios pledging to release their films digitally.

Public funding (quotas) → screens → content

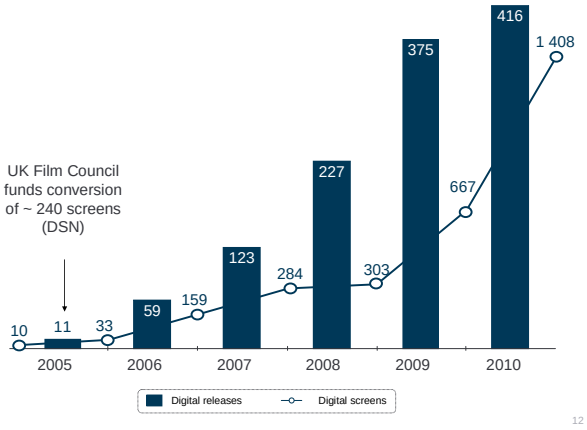
The UK is possibly the most advanced market in the world when it comes to the digital availability of theatrical films. In 2010 416 films were released fully or partially in digital format, representing over 75% of total releases. Some observers linked the UK's leading position in digital film releasing to the UK Film Council's Digital Screen Network (DSN). As the first and only major public funding initiative at the time, the UK Film Council provided public finance for the conversion of around 240 screens between mid-2005 and 2007. Participating cinemas were required to screen a certain percentage of arthouse and foreign language films, thereby providing a sufficiently large digital screen base for independent films.

This provided an early incentive for major as well as independent distributors to release their films digitally and can be used as a case study to test the scenario of digital content following quickly once a critical mass of screens has become digital.

However, developments in the other European markets for which data were available suggest that it is not the number of digital screens as such but the number of 'interested screens' which drives the digital release of European and independent films.

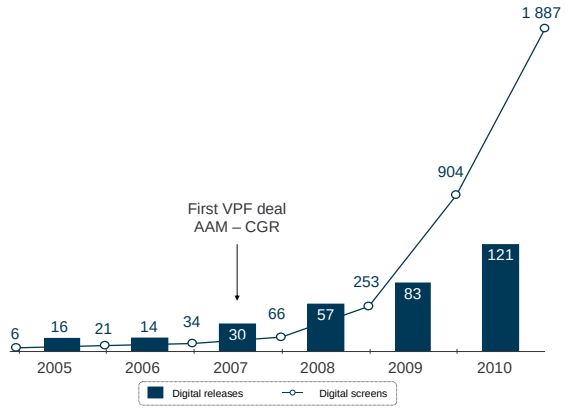
France, for instance, boasted a comparable number of digital screens in 2008 and even overtook the UK in terms of digital screens thereafter. The strong increase in digital screens did not however lead to a proportional increase in digital releases, with only 121 films released digitally in 2010 (21% of total releases) according to figures published by the CNC in its *Bilan 2010*. In France, as in most other countries for which data were available, VPF deals and the digital release of US blockbusters seem to have broken the stalemate.

Figure 2 GB – Digital releases & screens
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles, BFI

Figure 3 FR – Digital releases & screens
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles, CNC

VPF deals (US content) → screens →… → other content

In this case content providers, namely the US studios, were the ones to take the first step by addressing two of the major issues at the same time: not only did they provide a financing solution to exhibitors but they also guaranteed the digital availability of US studio content. This was agreed in so called Virtual Print Fee (VPF) agreements which the US studios signed with Third Party Facilitators like Cinedigm (former AccessIT) in the US and Arts Alliance Media or XDC in Europe.

As illustrated in Figure 4, the impact on the increase in both available titles as well as screens is fairly obvious in the US where since 2007 more or less all major studio films have been released partially in digital format.

Some European countries, like France, Portugal or the Czech Republic, show a similar pattern. Digital screens grew rapidly once large VPF deals had been signed. But despite a rapid increase in screens, the number of digital releases remained fairly moderate in some countries, at least compared to the levels seen in the UK. CGR, a leading French circuit, was the first European exhibitor to sign a full roll-out deal with a Third Party Integrator in late 2007 and the number of digital releases almost doubled from just 30 in 2007 to 57 in 2008 and rose further to 83 the year after. However, in 2010 the 121 digital releases only accounted for 21% of total releases, suggesting that up until 2010 digital screens were primarily used for 3D blockbusters and US studio titles on wide release. Similarly, practically no digital films were available either in Portugal nor the Czech Republic before the countries' leading circuits Cinema City and Zon Lusomundo signed VPF backed roll-out deals in 2008 and 2009.

Though no breakdown of digital releases by country of origin is available for the vast majority of countries, it can be assumed that US studio content was widely available in digital format while European and specialised films were still largely distributed in analogue format only.

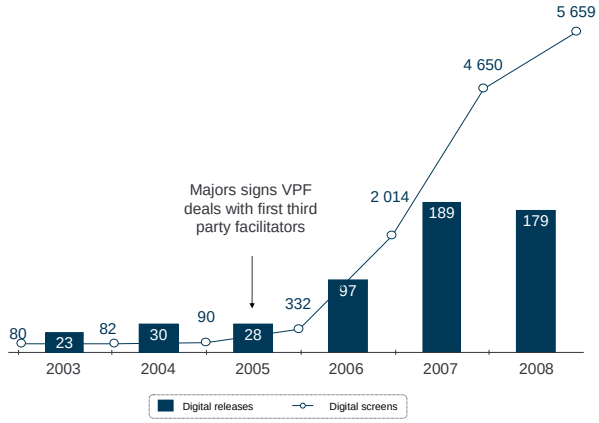
Limited European content in digital format

A case study of France, the only country for which such data were available in 2010, suggests that there was a limited availability of European films in digital format (see Table 2 and Figure 7). While 44% of US film releases were released digitally, accounting for 53% of all digital releases, only 15% of French films (41 films) were released in digital format, compared to 15 other European films and only one non-European / US film.

Though no data on the programming of digital screens is publicly available, the Observatory believes that this can be explained by the fact that a vast majority of digital screens in 2009 and 2010 were used to screen US content, particularly 3D blockbusters. This left limited space for wide digital releases of European films.

Figure 4 US – Digital releases & screens

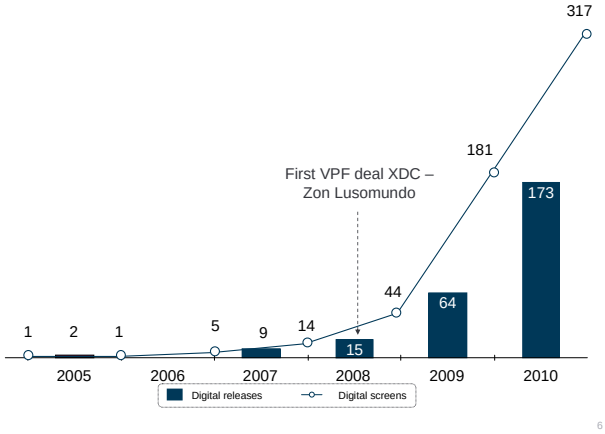
in units, estimated



Source: European Audiovisual Observatory after Screen Digest

Figure 5 PT – Digital releases & screens

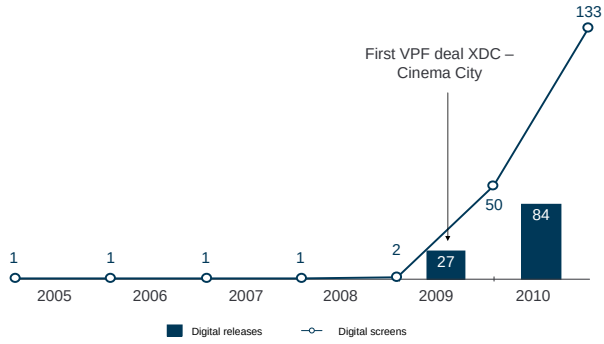
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles, ICA

Figure 6 CZ – Digital releases & screens

in units, estimated



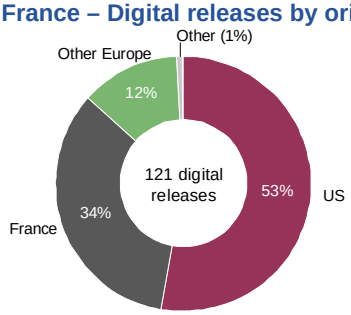
Source: European Audiovisual Observatory after MEDIA Salles, Czech Ministry of Culture

Table 2 France - Digital releases by origin - 2010

Origin	No. of digital releases	No. of total releases	% share digital releases
US	64	144	44%
France	41	270	15%
Other EUR	15	120	13%
Other	1	41	2%
Total	**121**	**575**	**21%**

Source: CNC

Figure 7 France – Digital releases by origin - 2010



Source: European Audiovisual Observatory after CNC

Cost barrier for limited digital releases

French 2010 data also suggested the existence of a barrier for small scale digital releases during the current stage of the transition phase, with only 9 out of the total 121 films being released on fewer than 100 prints in 2010 and only 4 out of 83 in 2009[18]. This was also observed for Russia where principally films going on wide release were released in digital: out of the 162 digital releases only 33 films were released on less than 300 prints[19].

Though ultimately cheaper, digital releases for small scale releases can actually be more expensive during the transition period due to required VPF payments, costly access to digital material and temporary price reductions for film prints in some markets like the UK. In addition many independent distributors may have been reluctant to opt for a costly release in dual formats, given the sufficiently large number of analogue screens and the presumably limited number of interested digital screens in many markets.There is no question that this will eventually change. The question is only how quickly this will happen, as European and independent content seems to follow interested screens, many of which yet have to convert.

But once the majority of screens are digitised in a territory, it can be assumed that the majority of independent distributors will be forced to release their films digitally, even for very limited releases.

[18] CNC, *Bilan 2010.*

[19] Nevafilm & Russian Film Business Today, 'The Film Distribution Market in Russia', December 2010.

Public funding to support digital distribution

In order to speed up the transition towards digital distribution some film agencies provide public support specifically for the digital distribution of films and in at least two cases assist distributors with VPF payments. In parallel many agencies now require the delivery of a digital master as a condition for production funding while other public bodies intervene to support the digitisation of older films.

The situation today

It is difficult to evaluate the extent to which the availability of European and international independent films in digital still poses a problem at end 2011 as there is practically no data available on the recent developments. On an anecdotal basis, the situation seems to have evolved significantly in France and Belgium, where supposedly more-or-less all feature films now get a digital release. This would seem plausible in those markets which saw their digital screen penetration rise to around and above 50%. As shown in Chapter 1 digital screen growth in 2011 was primarily driven by 2D screens. It is likely that this significantly improved the access to digital screens for independent films as the vast majority of (3D) digital screens installed by 2010 had presumably been reserved for the strong US 3D titles released in 2009 and 2010.

However, in those markets with lower digital screen penetration (including some larger markets such as Italy[20], and mid-sized markets such as the Czech Republic or Greece) the situation for European and independent films may still be problematic and probably bears a resemblance to the situation in France in 2010. The problem faced by many independent distributors with regard to the high cost of limited releases seems nonetheless to persist, even in digitally more advanced markets.

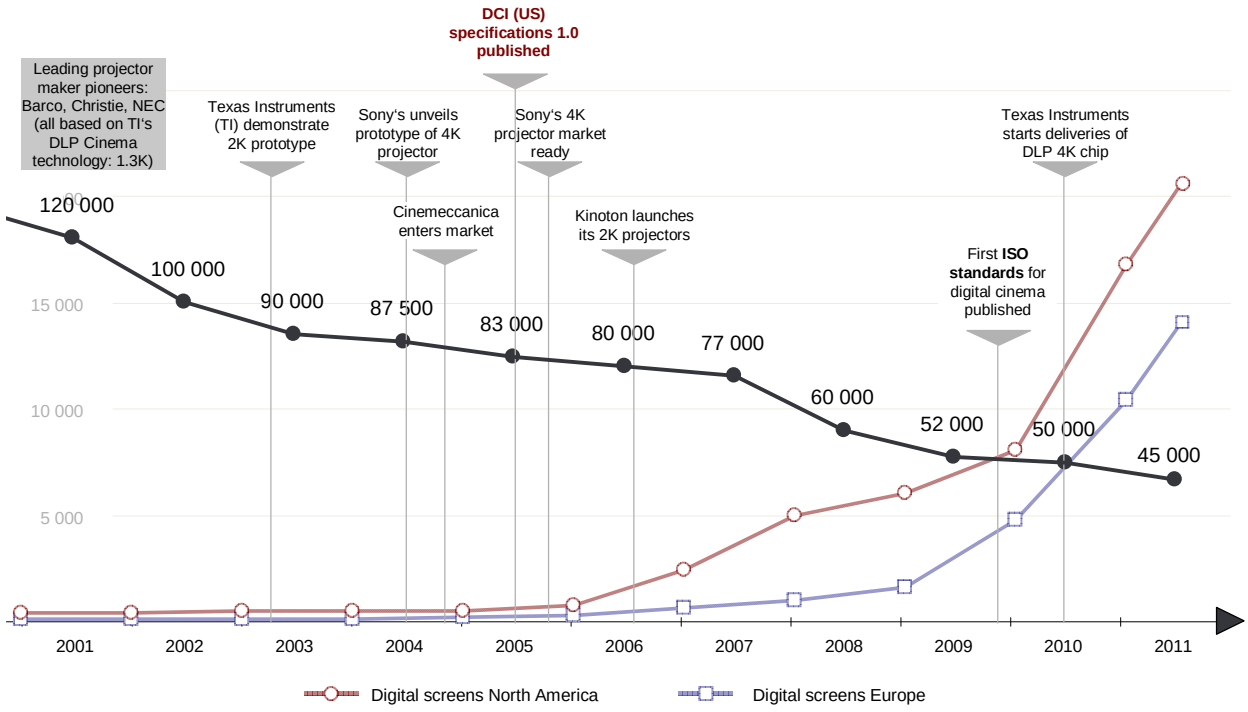
Conclusions

- There is a lack of available data on digital film releases which makes analysis difficult.
- The digital content vs screen stand-off has been overcome in most European markets, either by US studios pledging to release their films digitally or by publicly funded roll-out based on programming requirements.
- Non-US content, however, generally seems to follow 'interested' screens rather than the other way round.
- 2010 data suggested a limited availability of European and independent films in digital format.
- Based on anecdotal evidence this seems to have changed during 2011 - at least in those markets where digital screen penetration reached 50% or more.

[20] In Italy, for instance, arthouse circuit Circuito Cinema (130 screens), set up by leading speciality distributors like BIM Distribuzione or Mikado Film, only announced in the second half of 2011 the decision to digitise their screens (see Box Office no 18/19 2011). This implies that up til then even these leading independent distributors had been distributing chiefly in 35mm.

2.4 Equipment cost & increased cost of ownership

Figure 8 Timeline: Development of average list prices of digital cinema projectors
in EUR, estimated



Sources: European Audiovisual Observatory after Barco, Delta Lloyd, CSFB, MANICE, Cinéma Scop

For a variety of reasons which are typical for a new technology targeting a comparatively small market, digital projection systems remained at prohibitively high levels for the better part of a decade.

Prohibitively high equipment prices in the early years

Projector technology – the largest cost element – had to evolve from its prototype phase to commercial scale production. The **lengthy development of standards**, as described in Chapter 2.2, posed a significant challenge in this process. In the early days of digital cinema **prices** for digital projectors were reported to be **well above EUR 100 000**[21] and up to five times as high as a film projector. With perfectly functional 35mm equipment in place and a high **technological risk** of digital projectors not meeting future standards, the vast majority of exhibitors decided to wait until the economic terms of digital cinema would improve.

Projector prices declined to a certain extent once Sony and other projector manufacturers entered the market between 2004 and 2006.[22] Sony's SXRD 4K technology became the first **competitor** to Texas Instrument's DLP Cinema technology which had effectively held a monopoly position until late 2005. But **limited demand** – only 100 digital projectors were sold on average per year worldwide up until 2005 – likely contributed to keeping prices at high levels, impeding even limited economies of scale in the production process. Indeed, the more serious drop in prices coincided with a significant increase in volume demand from the US, where roll-out took off in earnest in 2007.

As can be seen in Figure 8 digital **roll-out** gained serious traction **in Europe** only from 2009 onwards when average projector (list) **prices had more than halved to around EUR 50 000.**

Significant discounts for bulk purchases

The comparatively early roll-out in the US was driven by VPF schemes offered by Third Party Facilitators. The volumes of finance reportedly raised by these companies suggest that manufacturers granted significant discounts for these large-scale initiatives.

[21] In June 2003 Nicolas Hamon (Barco) mentioned digitisation costs of about EUR 120 000, see www.mediasalles.it/training/ebeltoft03_rep.pdf

[22] According to Glenn Wastyn of Barco average selling prices for d-cinema projectors had come down to EUR 75 000 in 2006; see http://www.mediasalles.it/training/pdf06/GlennWastyn_5.pdf

In April 2006, when average projector cost alone was estimated to amount to EUR 80 000, Screen Digest reported that Christie / AIX (now Cinedigm) had secured the necessary funding for its targeted 4 000 screens, implying conversion costs of approximately USD 79 000 (EUR 60 000).[23] And in September 2009, DCIP, the grouping of the three largest US exhibition chains, was reported to be seeking funding for the conversion of its 15 000 screens which implied a financing need of only USD 35 000 (EUR 26 000) per screen.[24]

Obviously such estimates have to be treated with caution, but taking into consideration that the projector only accounts for about 50% of average conversion costs in Europe today, they nevertheless clearly demonstrate that significant discounts seem to be given for bulk purchases. As discounts presumably are negotiated on a case-by-case basis and are strictly confidential in nature, it is difficult to estimate the actual conversion costs for European exhibitors as of today. A task which is further complicated by the very limited availability of reliable and comparable data on costs related to digital conversion.

Average conversion cost to range from EUR 75 000 to EUR 170 000

Detailed Observatory research on the various cost elements and price ranges is presented in Tables 1 to 3 on the following two pages. In a nutshell, it shows that average conversion costs (as of 2010) can vary widely, ranging from EUR 75 000 to EUR 170 000.

Roughly speaking, the basic equipment, i.e. projector and server including 10 year warranties, account for around 60% of total conversion costs. Projectors for small screens seem to come from EUR 35 000 onwards and up to EUR 70 000 for high-end projectors. Server costs seem to come in between EUR 12 000 to EUR 25 000. Additional equipment, like 3D add-ons, library servers or Theatre Management Systems accounts for about 30% with labour costs related to installation and adaptation works making up for the remaining 10%.

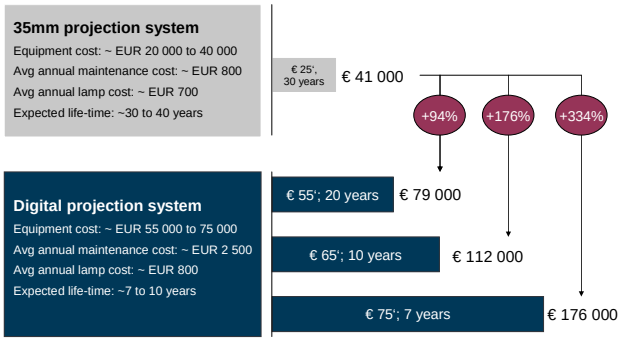
Purchase volume the single most important cost factor

Cost depends on a variety of factors including screen size, cinema size, technology choices and booth adaptation needs. The single most important factor however, seems to be purchase quantity, with significant discounts given for bulk purchases. This is also reflected by the increasing number of buying groups which in turn sign deals with leading Third Party Facilitators capable of generating the economies of scale implied by the US deals. But even with equipment prices continuing to fall to a certain extent, digital cinema will significantly increase the cost of ownership for exhibitors on a permanent basis.

Permanent increase in capital expenditures

Taking into consideration the comparatively higher equipment and maintenance costs and the lower life expectancy of digital projection systems, the Observatory estimates that capital expenditures of exhibitors will increase by 100% to 300% over 30 years (see Figure 9).

Figure 9 Net present value of capital expenditures
in EUR, estimated



Source: European Audiovisual Observatory

This is in line with other estimates such as those by MKPE Consulting which in 2008 saw cost of ownership increasing by 200% to 300% over 25 years. According to MKPE, total d-cinema system prices would have to fall to USD 14 600 (EUR 11 000) to generate equivalent capital expenditure compared to 35mm projection systems.[25] This is clearly not realistic given the economics linked to the fairly limited size of the digital cinema market[26] and will eventually force the industry to change its business model along the value chain.

Conclusions

- Equipment prices have been falling over the past years, with projectors currently coming at EUR 35 000 to EUR 70 000.
- Even if they continue to fall, prices cannot be expected to reach the levels of 35mm projectors, effectively increasing cost of ownership for exhibitors by 100% to 300% depending on long-term equipment prices and the lifetime of projection systems.
- This can pose a significant financial challenge for some exhibitors and will eventually lead to changes in business models.
- Significant discounts seem to be given for bulk purchases, which has been and still is an important factor driving roll-out.

[23] Screen Digest, 'Chrstie /AIX gets roll-out funding in place', April 2006.
[24] Screen Digest, 'JP Morgan seeks partners for DCIP financing', September 2009.
[25] MKPE Consulting, 2008 Digital Cinema Status Report, http://www.mkpe.com/publications/d-cinema/reports/2008-january-cinema-report.php
[26] According to Screen Digest estimates, there were only around 123 000 modern screens worldwide. MEDIA Salles estimates that by the end of 2011 about 63 500 screens had been converted to digital, with an increase of 75% compared to end 2010 (36 185). However it remains to be seen how many of the remaining analogue screens will actually convert to digital cinema or opt for e-cinema and how many will close.

What does the conversion of a screen cost?

There are hardly any reliable data publicly available on the cost of digital cinema equipment and the conversion of digital screens. Quoted prices are often not comparable as they refer to different ranges of equipment and services. The following three tables present a breakdown of the individual cost items and estimated price ranges related to converting a screen to digital.

Table 1 Digitisation cost elements for exhibitors

Cost elements		Comment
1) Basic equipment cost		
	Digital projector	Main cost block. Price depends on screen size and resolution. Currently only two technologies available: Texas Instruments' DLP Cinema technology (2K and since 2011 4K) and Sony's SXRD 4K technology.
	Projector warranty	Practical necessity. 10 years seems to be standard - often a percentage of purchase price.
	Server	Price decline expected to be more limited compared to projectors.
	Server warranty	Practical necessity. 10 years seems standard. Often linked to purchase price.
	Audio processor	Minimum investment required for upgrading the sound system to digital (given that the sound system meets required standards). Warranty recommended.
	Media scaler	Required to play alternative content or other image sources (such as TV).
	Automation interface	Enables interlinking of digital cinema playback equipment with cinema control systems for fully automated presentations.
	Pedestal	Sometimes included in the projector price.
	Switches & cabling	Sometimes included in equipment / service quotes.
2) Additional equipment cost		
	Library storage	Required for cinemas with three screens or more or cinemas with very diverse programming such as film festival venues.
	Theatre management system (TMS)	Recommended for cinemas with three screens or more. May become a requirement for satellite reception.
	Rack	Required once TMS and associated equipment is acquired.
	3D add-on system	3D systems can be acquired through outright purchase (e.g. XpanD or Dolby) or licensed (RealD) against a royalty charge on ticket sales (no upfront investment).
	Silver screen	Certain passive 3D systems require a silver screen (e.g. RealD).
	Satellite reception	Different payment models available including 'pay-per-event' model.
	Upgrading of entire sound system	Depends on cinema. Necessary where the sound system does not meet required standards. May be substantial.
3) Labour costs		
	Installation	Installation by professional integrator recommended. Usually includes pre-installation visits and project management.
	Training	Usually basic training for projectionists is provided by equipment suppliers. Does not however include training on digital cinema management and programming.
	Adaptation of projector booth	Depends on cinema and screen. Lower cost when restricted to extra cabling and air conditioning systems. Significant costs when more substantial modifications are required, e.g. a new porthole to keep 35mm projector in the booth.
	Adaptation of sound system	Labour cost related to upgrading sound system. Depends on cinema
4) Ongoing costs		
	Maintenance costs	Maintenance is offered in a variety of packages, ranging from standard to premium, from annual to monthly, from circuit-wide to screen packages, etc. VPF contracts supposedly require a minimum level of maintenance.
	Lamp replacements	Prices depend on wattage. Running time depends on wattage and programming intensity. Currently more expensive than for film projectors. Required replacement frequency uncertain. Trade-off between higher gain screens and lower wattage.

Source: European Audiovisual Observatory after MANICE, CNC

Table 2 Digital 2K conversion cost – average price ranges 2010

net prices in EUR, estimated

Cost blocks	Average price ranges 2010 in EUR	% share of total standard conversion cost
1) **Basic equipment per screen**	**50 000 – 100 000**	**60% - 65%**
2K Projector (including 10 year warranty)	35 000 – 70 000	40% - 50%
Server (including 10 year warranty)	12 000 – 25 000	~15%
Ancillaries (pedestal, rack, automation interface)	2 000 – 3 000	~2%
Sound processor	1 000 – 4 000	~2%
2) Additional equipment	**22 000 – 52 000**	**~ 30%**
3D system (per screen)	10 000 - 30 000	10% - 20%
Library server, Theatre Management System and ancillaries (e.g. rack, cabling, switches) (per site)	10 000 - 20 000	~12%, estim
Satellite reception (per site)	~ 2 000 or "pay per event"	~2%
3) Labour cost	**4 500 – 14 000**	**6% - 8%**
Installation & Training (per screen / site)	2 000 – 4 000	~3%
Standard booth modifications (per screen)	2 500 – 10 000	3%-6%
TOTAL standard conversion cost	75 000 – 170 000	100%
+ non-standard conversion costs		
Complete replacement of sound system	~ 20 000	
Major modifications to booth	Different for every booth	
+ ongoing cost		
Annual maintenance fee per screen	700 – 2 500	
Lamps – estimated price per "digital" lamp	500 – 2 000	

Remarks: Equipment prices vary significantly depending on screen size and depend heavily on purchasing volume as discounts for bulk purchase of equipment can supposedly be significant. Comparatively highest prices charged for digitisation of a stand-alone monoscreen cinema as no volume discounts applicable.

Source: European Audiovisual Observatory after own research, Manice, Cinéma Scop

Table 3 Average digital conversion costs for independent exhibitors

in EUR, estimated

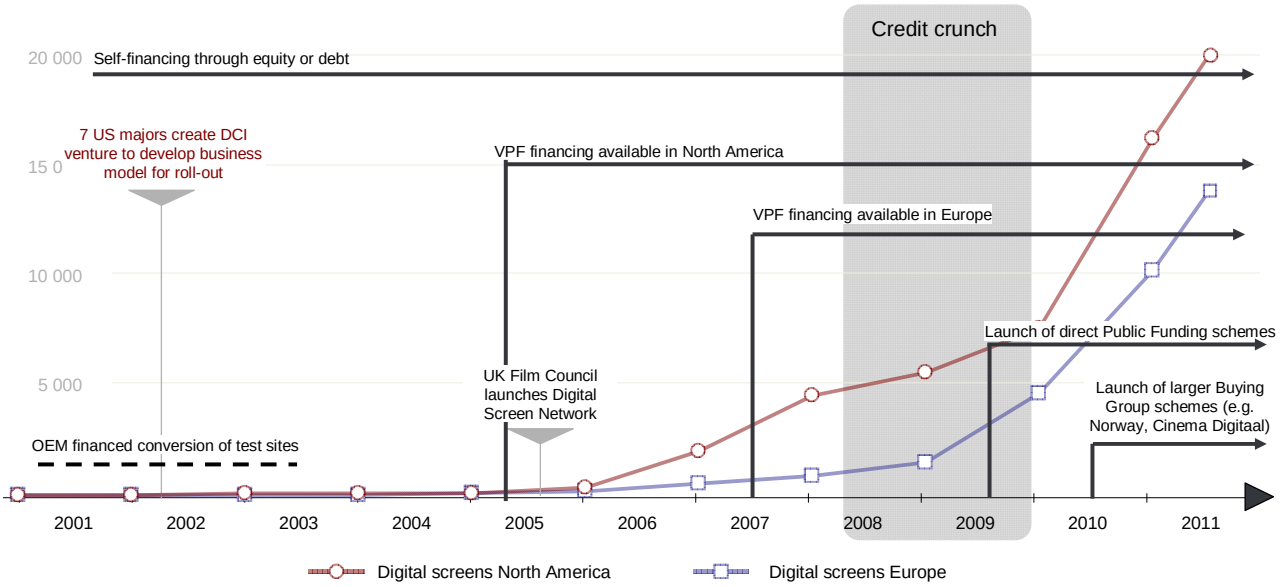
Cost block	Average prices 2010 in EUR	% share of total cost
1) Equipment cost	**60 000**	**47% - 64%**
2K digital projector & server	60 000	47% - 64%
2) Optional equipment cost	**26 000 to 45 000**	**28% - 35%**
Media scaler	3 000	~3%
Library server, TMS and cabling	10 000	8% - 11%
Satellite reception	2 000	~2%
3D add-on (depending on technology provider)	11 000 to 30 000	12% - 23%
3) Upgrading of sound system	**1 000 to 17 000**	**1% - 13%**
Simple replacement of sound processor	1 000	~1%
Partial replacement of sound system: amplifiers, speakers	10 000	8% - 11%
Complete replacement of sound system	17 000	13% - 18%
3) Labour costs	**> 7 000**	**5% - 7%**
Standard minor modifications to booth	7 000	5% - 7%
Installation	Included in Equipment cost	
Average total conversion cost	**94 000 to130 000**	**100%**
4) Ongoing costs		
Warranty extension for server and projector	1 000 per year	
5) Exception costs		
Major adaptations	Depend on screens	

Remarks: Average costs derived from an analysis of the costs incurred by about twenty independent exhibitors who digitised screens in the second half of 2010 and early 2011. Digital projection systems were primarily purchased for small screens, which lowers average projector cost.

Source: European Audiovisual Observatory after Manice

2.5 The financing issue - VPF to solve the dilemma of sharing investment costs

Figure 10 Timeline: Development of financing models



Source: European Audiovisual Observatory

2.5.1 Overview

It was clear from the beginning that the conversion to digital projection would be a very costly one and the question of who should pay for it proved to be probably the most fundamental obstacle to digital cinema roll-out.

Investment volume of more than EUR 2.5 billion

Estimates for total investment volume differ widely, depending obviously on the assumed average conversion cost and the number of screens it is applied to. The European Investment Bank for instance put the number at EUR 2.1 billion for the European Union alone, assuming an average screen conversion cost of EUR 70 000.[1]

Applying the same conversion cost to the 35 500 screens in the 35 European countries covered in this report would result in a total investment volume of EUR 2.5 billion. Taking into consideration that actual conversion costs can amount to well above EUR 100 000, this benchmark can be considered as the minimum investment volume required.

Major obstacle: who pays?

Though falling within the realm of exhibitors' operations, cinema owners understandably refused to foot the bill for an investment that did not provide them with any immediate financial advantage, but was expected to primarily benefit distributors who would generate significant cost savings from digital distribution. Most observers, hence, agreed that the cost of digital cinema roll-out would have to be shared by the various stakeholders in general and distributors in particular.

But it took over six years for the market to find a working business model for digital cinema roll-out. As with most aspects of digital cinema, the process was driven by the US industry and later adopted in Europe.

The first US installations were financed by equipment manufacturers or technology service providers such as Boeing Digital Cinema. Their business models were based on financing the installation of digital equipment and charging exhibitors a percentage share of the revenues from tickets sold to digital screenings or charging distributors per digital copy. They were however not backed by the US studios which were reluctant to accept a third party interrupting their direct link to exhibitors. Consequently neither digital projector installations nor digital releases came close to reaching a critical mass.

[1] European Investment Bank, presentation by Dr. Patrick Vanhoudt, 'Financing the digital roll-out: where do we stand?', Barcelona 2010.

Development of the US VPF model

In early 2002 the US majors announced that they would develop – through their DCI joint venture - digital cinema specifications as well as a business model for commercial roll-out. This in practice brought the tentative roll-out process to a halt and caused the first generation of deployment entities to end or put on hold their roll-out efforts. The DCI venture however had to drop its work on a common business model for digital cinema roll-out due to concerns about violations of anti-trust regulations in the second half of 2004.[2] Only a couple of months later, in May 2005, Technicolor Digital Cinema and Warner Bros., Disney and Sony signed the first Virtual Print Fee (VPF) agreement worldwide. This marked the first time that studios officially accepted to contribute to the investment costs incurred by exhibitors and provided a blueprint scheme which ultimately emerged as the leading commercial model for digital conversion worldwide.

Broadly speaking the model was based on up-front financing and installation of the digital equipment in theatres by a Third Party Integrator, while studios committed to providing their films in digital format and paying financial contributions called Virtual Print Fees to the integrator for every digital booking. According to some observers the VPF concept was developed mainly because studios were not willing to consider a change in the film hire terms.[3] This is explained in further detail in the box at right.

By addressing two major obstacles – the provision of digital content and financing – at the same time, VPF schemes offered by Third Party Facilitators effectively kicked-off digital cinema roll-out in North America and consequently worldwide.

Roll-out was however visibly affected by the financial crisis in the second half of 2008 and 2009, which kept deployment entities from raising the funds required to implement their roll-out plans. Though in principle favouring consolidation of VPF programmes through third parties, some studios, becoming increasingly concerned about insufficient numbers of digital 3D screens to accommodate the high-profile 3D titles scheduled for 2009, started direct-to-exhibitor VPF payments.

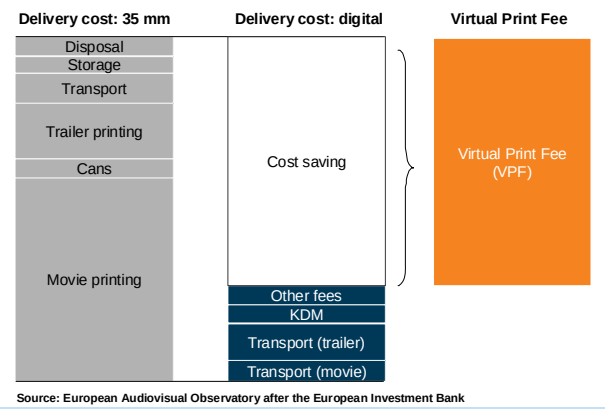
Digital cinema roll-out picked up speed quickly once financing became available again in early 2010 when DCIP, the grouping of the three largest circuits finally raised the funding to convert 15 000 screens. With the two leading integrators Cinedigm and DCIP alone targeting the conversion of a cumulative 34 000 screens or 80% of North America's screen base, it can be assumed that more or less all digital screens installed in the US and Canada by 2010 had been converted under VPF schemes.

[2] Screen Digest, 'Studios renew term of digital cinema body', Sept 2004.
[3] Think Tank on European Film and Film Policy, 'Background and Position Paper on d-Cinema' prepared for 'The Independent Exhibition Sector and the Challenges of Digitisation' Conference, Barcelona 2010.

Virtual Print Fee (VPF) model

The Virtual Print Fee (VPF) is a financing mechanism for funding the first purchase of digital cinema equipment. It is based on content suppliers paying a fee every time a digital copy of their content is booked.

The original principle was based on the idea of directly linking distributor fees to the savings they would generate from the digital distribution of their films, hence keeping digital distribution 'cost neutral'. The amount of the VPF was calculated as the difference between the delivery cost of a 35mm print and a digital copy:



Source: European Audiovisual Observatory after the European Investment Bank

The amount of the VPF is negotiated on a case by case basis. Generally it has fallen to a level which is below 'cost neutrality', i.e. allows distributors to actually generate savings. There are different models as to the amount and the frequency of VPF payments ranging from 'one-off' payments to weekly payments of digressing fees over time. The actual amount of VPF payments can vary significantly with ranges reported from EUR 70 to EUR 650 – 750, the latter communicated by Third Party Facilitators.

VPF payments generally are supposed to cover 75% to 80% of total conversion cost. They will terminate once the equipment expense is fully recouped, or when the VPF term (generally between 5 and 10 years) expires.

Conditions for receiving a VPF generally require a minimum annual turn rate (i.e. number of first releases), a minimum percentage of exhibitor contribution, the collection of similar fees from all content providers, the use of DCI compliant or near-DCI compliant equipment and access to equipment security certificates and security logs.

Though primarily administered through commercial Third Party Integrators like XDC, AAM or Ymagis, this VPF concept can be applied in other, very different contexts such as direct VPF deals between exhibitors and distributors, publicly funded national roll-out schemes as in Norway or legal obligations of distributors to contribute to financing such as that in France.

Source: European Audiovisual Observatory after MKPE Consulting, CNC, XDC, DFP

Lack of European model leads to adoption of VPF

The European market, in contrast to the US, is characterised by rather fragmented national theatrical landscapes (see Chapter 4) which can differ significantly. This poses quite specific challenges to digital conversion. Europe has however made limited progress in finding alternative financing models suitable for wide scale roll-out.

By the end of 2006 just over 500 digital screens had been installed throughout Europe. Most of these digital screens had been financed either by the UK Film Council's publicly funded Digital Screen Network or by XDC, a private integrator. Given the enormous financing volume required to digitise Europe's screen base, it was clear that public funding could only fund a limited portion of the total cost and, indeed, the UK Film Council's initiative remained the only one of its kind for a long period.

Digital cinema was to be driven by the industry itself. Some pioneers like Kinepolis (BE) converted a few screens at their own expense but there were not many commercial propositions available to those exhibitors which were not willing to finance the digital equipment themselves. XDC (BE) offered exhibitors a leasing scheme and had installed about 200 digital screens by the end of 2006 across Europe. Server manufacturer Avica tried to convert all Irish screens as a showcase for its digital cinema distribution network, but without the support of US majors this project never really got off the ground.

In the end no scalable European model evolved and the VPF concept was adopted from the US with Arts Alliance Media (AAM) signing the first European VPF deal in mid-2007. As in the US, VPF schemes were generally run by Third Party Integrators while only a few of the largest circuits negotiated direct VPF deals. The original VPF models had however been designed to fit the requirements of the US market, which is very different from the European market. As a consequence the availability of VPF financing alone did not stimulate roll-out the same way as it did in the US. Few circuits signed full conversion deals prior to 2009 / 2010, by which time VPF schemes had also been adjusted to better cater to the more fragmented European markets and ultimately even became an integral element of a number of public initiatives such as that in Norway or France's digitisation law.

As in the US, the financial crisis probably also slowed down roll-out in the second half of 2008 and early 2009, but was comparatively quickly overcome by the arrival of major 3D blockbusters which provided an almost unprecedented opportunity for exhibitors and US studios alike to generate significant returns, and became the first proven digital cinema business model for exhibitors. On the strength of this, deployment entities managed to close financing rounds and many exhibitors decided to self-finance the installation of 3D screens.

VPF leaves financing gap for 15% to 20% of European screens

The first wave of large scale commercial roll-out was clearly driven by the installation of 3D screens, particularly in those larger circuits / cinemas which either had access to VPF schemes or sufficient funds to finance the conversion themselves. But it quickly became clear that these two financing options could not provide for the conversion of all European screens, as they were not accessible to a significant number of smaller exhibitors.

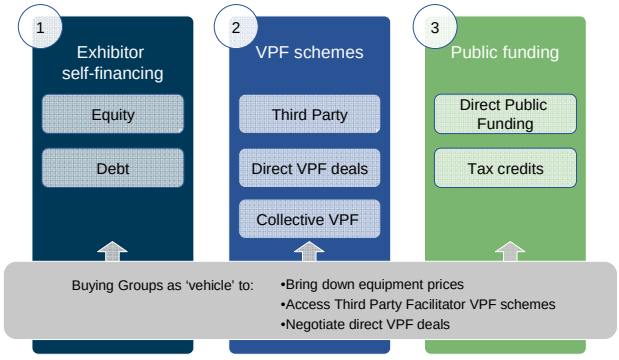
According to estimates made by the European Investment Bank, 5 000 or about 15% of screens in the EU would not have access to VPF financing.[4] In mid 2010 Screen Digest estimated the digital cinema funding shortfall for Europe (excluding Russia) at EUR 450 million, about 20% of estimated total investment costs for the continent.[5] Based on the underlying assumption that average conversion cost amounted to EUR 75 000, this would imply an estimated 6 000 or about 18% of European screens having to convert without VPF contributions.

Public initiatives to correct market failures

These alarming figures and a growing urgency to act as commercial roll-out was gaining pace led to the launch of a large number of public initiatives, ranging from direct public funding or nationwide roll-out schemes to tax credits or legislation from 2009 / 2010 onwards. Also, private as well as publicly funded buying groups have emerged in response to the difficulties faced by individual smaller exhibitors in accessing VPF schemes. Rather than being a financing source in itself, buying groups can be considered as a 'vehicle' to access VPF schemes or enable self-financed or publicly funded conversion.

Figure 11 shows an overview of the basic financing options which were in principle available to European exhibitors from late 2007 onwards.

Figure 11 Overview financing sources



Source: European Audiovisual Observatory

4 'Financing the digital roll-out: where do we stand?', Dr. Patrick Vanhoudt, The European Investment Bank, Barcelona 2010.

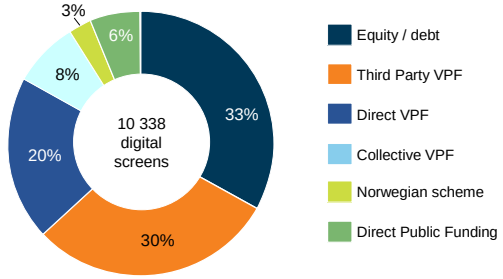
5 http://celluloidjunkie.com/2010/07/07/david-hancock-discusses-europes-d-cinema-funding-shortfall/

Summary - How were European digital screens financed up until 2010?

It is very difficult to evaluate how digital screens are actually financed in Europe. Firstly these data are confidential and therefore not readily available. Secondly the vast majority of exhibitors use a mix of financing sources as they are generally not mutually exclusive. Despite these obvious limitations the Observatory has tried to make a very rough estimate of how many digital screens had been 'primarily' financed by the different financing sources up to end 2010 (see Figure 12). Please note that Italian screens benefitting from a tax credit (7% of total European digital screens) will either fall into the self-financed or VPF financed categories as no split between them is available.

Figure 12 Digital screens by primary financing source – 2010

in %, estimated



Note: The 760 Italian screens benefitting from a tax credit either fall into the self-financed or VPF financed categories as no split between these sources is possible.

Source: European Audiovisual Observatory

VPF financing covered ~58% of digital screens

Around 61% of digital screens are estimated to have been primarily financed through VPF schemes. Though this makes VPF the single most important financing model, it left almost 40% of digital screens to be financed by other sources. This clearly shows that, in contrast to the US, the availability of VPF schemes alone has not been driving large scale d-cinema roll-out in Europe.

VPF schemes were primarily administered through independent Third Party Facilitators which generally also provide up-front equipment financing. An estimated 30% of digital screens had been converted under such Third Party schemes making them the most important route-to-market for larger circuits and their role seems to have increased in 2011. Smaller exhibitors however seem to have had limited access to such schemes.

Due to high administrative and legal cost studios generally accept direct VPF negotiations only with the largest circuits. The Observatory could identify six major circuits which were reported to have closed such direct long-term VPF deals. Their digital screens cumulatively accounted for about 20% of total digital screens in 2010. It is considered unlikely that many additional individual direct VPF deals will be closed. Instead collectively negotiated VPF payments either administered thrhough nationwide initiatives (as in Norway or the Netherlands) or imposed by legislation (as in France) or negotiated between distributor and exhibitors associations (as in Italy), are expected to play an increasingly important role as a financing source from 2011 onwards. By 2010 the Norwegian scheme accounted for about 3% of total digital screens and other collectively negotiated VPF arrangements are estimated to have contributed to around 8% of digital screens.

3D enables self-financed conversion on large scale

Equity and/or debt financing of digital equipment seems to have been a key financing source for the first major wave of 3D digital cinema roll-out. An estimated 33% of the digital screens installed by the end of 2010 are believed to have been primarily self-financed by exhibitors. The feasibility of self-financing on such a large scale could be closely linked to the 3D phenomenon in 2009 and 2010. Many exhibitors needed to get fast access to 3D in order to screen the strong line-up of 3D titles such as *Avatar* and may not have had the time to negotiate full VPF roll-out deals. 3D actually provided them with a business model to recoup their investment costs and presumably also helped to get access to bank loans.

Apart from 3D, the VPF concept seems to be the only viable business model for many exhibitors as 2D digital cinema has so far not been able to provide the financial stimulus to recoup the high investment costs. 2011 roll-out figures suggest that many of those circuits which had the financial means to do so have built up near to sufficient 3D capacities by now and it remains to be seen to what extent they are willing to self-finance the 2D conversion of their remaining screens. It is possible that exhibitors converting on their own subsequently charge distributors 'access fees' for the screening of individual films.

Generally speaking self-financing will not be feasible for many smaller exhibitors, who are operating on very narrow margins. If at all, they would presumably depend on premium margins generated by 3D and it remains to be seen whether 3D continues to generate these in the medium-term. Self-financing the conversion of a limited number of screens presumably does not allow exhibitors to negotiate significant discounts and hence is not a scalable route to market. It can thus be expected that the role of self-financing will decrease over time.

Role of direct public funding to increase

By 2010 only about 6% of digital screens are believed to have been converted using direct public funding. With the exception of a few countries, public funding hence cannot be considered as a driving force of the first roll-out phase. Its importance, however, will inevitably grow from 2011 onwards as a large number of the remaining 'analogue' cinemas may face difficulties accessing VPF schemes or financing the conversion themselves.

2.5.2 Role of Integrators

Integrators (or Third Party Facilitators) played an important role in addressing the financing dilemma of digital cinema in Europe. They have emerged as service providers around the VPF financing model, as US studios encouraged the consolidation of VPF deals through third parties in order to minimise the related heavy administrative, legal and technological workload and cost.

Third Party Facilitators **fulfil a variety of functions** including the provision of up-front financing of the digital equipment, contract management and handling of VPF payments, providing accountability to the studios / distributors by verifying digital screenings so the appropriate VPF amounts are disbursed. Furthermore they provide sourcing and installation services, maintenance and upgrades as well as digital content delivery services.

The three leading Third Party Integrators, XDC, Arts Alliance Media (AAM) and Ymagis grew their businesses from start-ups backed by financial investors with only Sony DCSS emerging from a large technology company. Table 3 illustrates selected milestones in the development of third party schemes in Europe while Table 4 lists announced roll-out deals.

Third Party financing models

Deployment entities offer two basic financing models which can be referred to as the 'integrator model' and the 'collector model'.

In the **'integrator model'** the Third Party Facilitator finances and sources the digital equipment up-front. Exhibitors pay a certain installation fee as well as annual maintenance fees which cumulatively generally account for up to 20% of total investment cost. The remaining 80% are recouped via the VPF payments of distributors to the Third Party Facilitator. The ownership of the equipment remains with the integrator until investment costs are completely recouped. Distributors who do not participate in the VPF scheme are charged a 'screen fee' or 'access fee' by the integrator when they want to book one of their films on a screen financed under the integrator scheme.

Conversely, in the **'collector'** or **'exhibitor-financing' model**, the financing and sourcing of the equipment is left to the exhibitor and the Third Party Facilitator acts only as an intermediary collecting VPFs from the distributors participating in its scheme and forwarding them to the exhibitor, after deducting a commission fee.

In contrast to the US, where the collector model has become the standard proposition of third party schemes, all European deployment entities with the exception of Ymagis offer up-front financing.

Table 3 Timeline – European Integrators

Year	Selected key developments
2011 – H2	• Independent distributors: ES: Ymagis signs 18 Spanish distributors (99% of prints) to its VPF scheme → practically the **first industry-wide deal on a commercial VPF basis** in Europe • Important deals: Ymagis / Cineplex grouping (DE); XDC / Nordisk Film Cinemas (DK); AAM / Finnkino (FI); Sony / Everyman Cinemas (GB)
H1	• 2 major **buying groups** sign with integrators: DFP (GB) / XDC for roll-out of over 400 screens based on a specially constructed VPF model; Cinema Digitaal (NL) / AAM for VPF backed roll-out of over 500 screens.
2010 – H2	• **FR: First long-term VPF deal** with **independent distributors**: AAM / MK2 Distribution, DistriB Films • Denmark Digital, a **buying group** of **independent** exhibitors signs VPF deal with AAM for 60 screens • XDC wins **non-VPF deployment contract** for Eurimages support scheme • Important deals: AAM/ Yelmo Cines (ES); XDC / Reel Cinemas (GB), Cineplex (DE); Kinopolis (DE)
H1	• Several **integrators secure financing deals**: AAM secures MEUR 50 from Sankaty Advisors and Bain Capital (March); XDC secures MEUR 100 credit line through European Investment Bank-led consortium and raises MEUR 15.3 equity from EVS and investment companies; Ymagis secures credit deal to bankroll its digital upgrade agreement with UGC • Important deals: Ymagis / UGC (FR), Ocine (ES); Utopia (BE); XDC / Cineplex (DE), Kieft Group (DE); AAM / Cineworld (GB)
2009 – H2	• **Digital Finance Ltd (DFL - IE)**, announces VPF agreements with 4 US studios to continue the Irish-UK roll-out initiative begun by DCL in 2005 • XDC signs **first VPF agreement with independent distributors in Europe**: Polyfilm Verleih and Valentim de Carvalho Multimedia • Important deals: XDC / Helios (PL); AAM / The Space Cinema (IT)
H1	• Despite credit crunch: **AAM raises MEUR 43** from IT services company Econocom and private investors. • **First VPF deal with buying group**: AAM / ABC (NL) • Important deals: XDC / Palace Cinemas (CZ, HU) [**first VPF deal in Central Europe**], Euroscoop (NL); Sony / Apollo Cinemas (GB) [**Sony's first VPF deal**]
2008 –H2	• **Two new deployment entities** sign VPF deals with US studios: **Sony DCSS** and **Ymagis** • Important deals: XDC / Zon Lusomundo (PT)
H1	• Important deals: XDC / CineplexX (AT) [**XDC's first VPF roll-out deal**] • **XDC signs four US studios** to European VPF deployment scheme **for up to 8 000 screens**
2007	• **First European VPF roll-out deal**: AAM / CGR (FR) • After 18 months of negotiation AAM **signs first European VPF deals** with 4 US studios • **Ymagis founded**
2006	• XDC signs leasing deal with Utopia Group (BE)
2005	• GB: UK Film Council chooses Arts Alliance Media to implement its Digital Screen Network • IE: DCL industry-wide scheme launched
2004	• **XDC founded** (offering leasing model)
2003	• **AAM founded** (digital distribution service provider)

Source: European Audiovisual Observatory after Screen Digest, MEDIA Salles, Europa Cinemas, Cineuropa

Table 4 List of publicly announced Third Party roll-out deals – up to November 2011

#	Integrator	Company	Country	Screens covered	Sites covered	Month	Year
1	AAM	ABC (Amsterdam Booking Group)	NL	68	20	February	2009
2	AAM	CGR Cinemas	FR	400	32	November	2007
3	AAM	Cinema Digitaal	NL	500	180	April	2011
4	AAM	Cineworld	GB	790	77	June	2010
5	AAM	Denmark Digital	DK	60	31	February	2010
6	AAM	Finnkino Cinemas	FI	88	14	June	2011
7	AAM	Kieft Group (Cinestar)	DE	450	n/a	November	2011
8	AAM	The Space Cinema	IT	74	24	November	2009
9	AAM	Yelmo Cines	ES	370	31	August	2010
10	AAM	Yelmo Cines	ES	18	18	March	2009
11	AAM	Yelmo Cines	ES	5	1	June	2008
1	Sony	AMC Entertainment	GB	28	2	June	2010
2	Sony	Apollo	GB	83	n/a	June	2009
3	Sony	CinemaxX	DE, DK	292	34	June	2011
4	Sony	Everyman Cinemas	GB	13	8	June	2011
5	Sony	National Amusements (Showcase)	GB	276	n/a	June	2010
6	Sony	Vue	GB	657	68	March	2011
1	XDC	CineCitta Nürnberg	DE	21	1	February	2008
2	XDC	Cineplex	DE	451	n/a	July	2010
3	XDC	Cineplexx	AT	193	n/a	June	2008
4	XDC	*Digital Funding Partnership*	GB	400	130	March	2011
5	XDC	Eden Cinema	MT	17	1	July	2010
6	XDC	Euroscoop (Ciné-Invest)	BE, NL	61	6	June	2009
7	XDC	Helios	PL	100	n/a	December	2009
8	XDC	Hollywood Megaplex	AT	40	4	March	2010
9	XDC	JT Bioscopen	NL	60	13	February	2010
10	XDC	Kieft Group (Cinestar)	DE, CH, CZ	150	n/a	April	2010
11	XDC	Kinopolis	DE	123	15	July	2010
12	XDC	Manuel Salvador S.A.	ES	7	1	July	2011
13	XDC	Matias Villegas	ES	7	1	July	2011
14	XDC	Nordisk Film Cinemas	DK	117	17	June	2011
15	XDC	Odeon/UCI	PT	45	3	April	2011
16	XDC	Palace Cinemas	CZ, SK, HU	170	20	June	2009
17	XDC	Pere Sallent	ES	21	3	July	2011
18	XDC	Reel Cinemas	GB	57	15	November	2010
19	XDC	S&B Cinemas	GB	2	1	February	2011
20	XDC	UFA (FSF GmbH & Co KG)	DE	26	4	April	2011
21	XDC	Utopia Group*	LU, BE, …	30	n/a	April	2006
22	XDC	Ward Anderson (Empire Cinemas)	GB	150	17	June	2011
23	XDC	Zon Lusomundo	PT	180	23	November	2008
24	XDC	Zon Lusomundo	PT	22	n/a	July	2009
1	Ymagis	Cap Cinéma	FR, CH	90	n/a	May	2009
2	Ymagis	Cineplex	DE	423	73	October	2011
3	Ymagis	Cinéville	FR	103	13	March	2009
4	Ymagis	Grup Balaña	ES	50	n/a	June	2011
5	Ymagis	MK2	FR	58	10	September	2009
6	Ymagis	Nord Ouest Exploitation Cinémas	FR	17	n/a	June	2010
7	Ymagis	Ocine	ES	134	15	June	2010
8	Ymagis	UGC	FR, ES, ...	605	90	February	2010
9	Ymagis	Utopia Group*	LU, BE, ...	90	13	June	2010
10	Ymagis	Verdi	ES	15	n/a	July	2011

* Utopia switched from XDC lease to an Ymagis VPF scheme and planned to achieve 100% conversion by July 2011.

Source: European Audiovisual Observatory after AAM, Sony, Ymagis, XDC, MEDIA Salles, Europa Cinemas, Screen Digest, Digital Cinema Report

Impact on roll-out in Europe

Third party schemes have by now probably become the most common route to market for larger circuits, though their overall impact as a growth driver for digital cinema roll-out in Europe has been somewhat limited compared to the US.

About 30% of digital screens converted by integrators by 2010

The Observatory estimates that Third Party Facilitators had deployed about 30% of European digital screens by the end of 2010 (see Figure 13). This share should be treated as a rough estimate as no data on the screens installed by Sony DCSS were made publicly available. Up to end 2010 third party schemes hence would only have represented the second most important route to market after self-financed conversion (see 2.5.1).

But the impact of Third Party Facilitators on European roll-out probably goes beyond the actual number of digital screen installations. Through signing VPF deals with the US studios, deployment entities effectively guaranteed the availability of US studio releases in digital format, solving the 'chicken or egg' problem for mainstream cinemas to a significant extent. It can also be assumed that they made a significant contribution to reducing equipment prices through bulk purchases.

Growing impact from 2011 onwards expected

As can be seen in Figure 14 both the number of full circuit conversion deals as well as the number of screens signed seems to have increased significantly throughout 2010 and 2011. It can hence be assumed that the share of digital screens converted under third party schemes will increase significantly in 2011 and 2012 as the more recently signed roll-out deals are implemented.

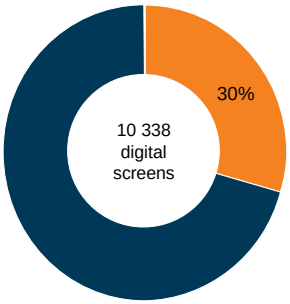
This would also be confirmed by the number of digital screen conversions through itegrators growing faster in the first half of 2011 than all other routes to market combined.

Integrators could potentially cover up to 70% of European screens

Summing up the maximum number of screens which could be converted under current schemes, deployment entities have the potential to convert up to just over 24 000 European screens, or around 70% of Europe's total screen base (see Table 5).

Figure 13 Share of third party digital screen installations – 2010

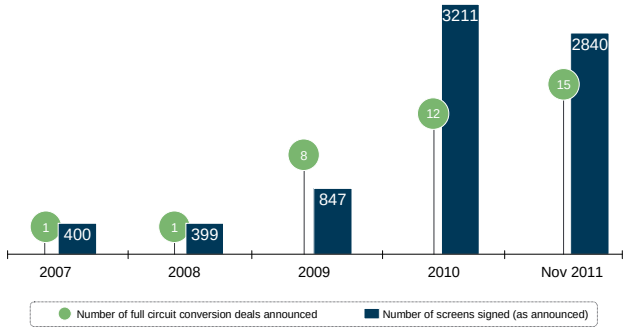
in % of total digital screens, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 14 No. of third party full circuit conversion deals and new screen signings announced

in units, estimated



Source: European Audiovisual Observatory

Table 5 Screens by Third Party Facilitator

in units, estimated

Integrator	Studio agreements	Screens signed	Screens installed as of	
AAM	7 000	3 100	1 200	Jun 2011
XDC	8 000	4 900	2 250	Aug 2011
Ymagis	5 500	2 250	1 499	Nov 2011
Sony	9 000*	1 349**	n/a	Nov 2011
DFL/DCL	500	> 154	154	Dec 2010
Total	**> 24 200**	**~11 600**	**-**	**-**
EUR	~ 35 500	~ 35 500	-	-
% share	~ 68%	~ 32%	-	-

* Worldwide ** Estimate based on press announcements of deal signings

Source: European Audiovisual Observatory after AAM, XDC, Ymagis, Sony, Screen Digest

Limitations of Third Party VPF schemes

An analysis of third party deployment deals indicates that this route to market was primarily used by larger and mid-sized circuits. Though obviously confidential in nature, VPF agreements have been argued to include certain terms which make them inaccessible for smaller exhibitors as well as distributors.

Some of the terms of and access requirements to VPF agreements communicated include a minimum turn rate per screen (XDC mentions 16 to 20 first releases per screen) as well as a minimum annual recoupment per screen. There is also a requirement to convert the entire circuit within a certain period of time (generally between one to five years) while the recoupment period is fixed (generally between seven to ten years). Finally a minimum number of VPF screens in a country is required for VPF schemes to be offered at all (XDC mentions 50 to 100 screens). As mentioned before, integrator financed projectors remain under the integrator's ownership until fully recouped and hence reduce an exhibitor's programming control to a certain extent. For some exhibitors these conditions are less attractive than to others: in addition many small cinemas / exhibitors simply do not meet the requirements.

Limited access for small exhibitors

High turn rates for instance are considered as incompatible with certain independent business models which are based on second or long runs. In the original model only cinemas playing a sufficient number of US studio films – in order to reach the target VPF amount - could participate in VPF schemes. Smaller cinemas showing less mainstream content at varying turn rates hence found it difficult to impossible to gain access to these VPF schemes.

On a more general basis, access to these VPF schemes can also be limited by the fact that some exhibitors cannot or do not want to give the guarantees which are often required by banks and suppliers should the VPF scheme fail.

Limited access for independent distributors

A preliminary antitrust investigation[6] by the European Commission's competition authorities suggests some of the concerns about certain terms which hindered independent distributors from getting access to VPF schemes.

Though no details were published, there seems to have been particular concern with regard to the so-called "most favoured nation" clause. This clause allows each distributor to benefit from the most favourable terms offered by a deployment entity to other distributors. It was meant to ensure that all major studios had to pay the same VPF amount while getting equal access to the digital screens.

The Commission found that such provisions could hinder integrators from signing contracts with European distributors, which due to different business models are unlikely to be able to pay VPF amounts as high as the US majors. Under the original contract terms US majors however would have been able to reduce their VPF fees to the lowest amount offered to any independent distributor, which would potentially destroy an integrator's business model. The investigation was closed in March 2011 upon several major Hollywood film studios agreeing to changes in the contract terms which should facilitate independent distributors' access to digital screens.

Indeed, up to 2011 very few independent distributors had signed long-term VPF agreements. While some agreed to short-term agreements, only a small number of long-term VPF deals with European distributors could be identified prior to December 2010.[7] In 2011 Ymagis managed to sign a long-term VPF agreement with practically all Spanish distributors, including smaller independent ones. This is a European first and it remains to be seen whether independent distributors in other countries will follow their Spanish colleagues, agreeing that after several years of modifications and negotiation the proposed VPF structures are now adapted to the independent distribution sector.

Costly limited releases for smaller distributors

But even when gaining access to third party schemes, the VPF model seems to cause serious financial strain for smaller distributors and their limited releases. VPF payments, not to speak of the even higher 'screen access fees' charged to those distributors which have not signed long-term agreements, can be prohibitively high and could prevent some distributors from releasing a film in digital at all. The sparse data available suggest that digital had indeed been primarily reserved for wide releases up until end 2010, as shown in Chapter 2.3.

Conclusions

- About 30% of digital screens by 2010 are estimated to have been deployed by a Third Party Integrator.
- Third party schemes seem to have become the most common route to market for large and mid-sized circuits but exclude certain types of smaller exhibitors.
- Impact of Third Party roll-out schemes is expected to grow further in 2011 and 2012.
- The business model of Third Party Integrators could potentially cover up to 70% of European screens.

[6] http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/257&type=HTML

[7] A group of Austrian and Portuguese distributors including Polyfilm Verleih (AT) and Valentim de Carvalho (PT) signed with XDC. MK2 (FR) and DistriBFilms (FR) signed with AAM in late 2010. The latter deal followed the recent French legislation laying down a framework for an obligatory market-wide distributor contribution.

Short profiles of the leading European Third Party Integrators

XDC (BE)

Headquarters	Liège, Belgium	
Employees	150	
Owners	EVS, Finc Inv.	
Screens under scheme (as of)		
Target	8 000	Aug 2011
Signed	4 900	Aug 2011
Installed	2 250	Aug 2011

Milestones
- Founded in 2004
- First studio VPF deal signed in May 2008
- First exhibitor deal: CineplexX (AT) 2008

Financing models proposed:
- Integrator model (integrator – financing)
- Collector model (exhibitor – financing)
- Leasing model

VPF deals in 16 European markets
Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, Luxembourg, Netherlands, Malta, Poland, Portugal, Slovakia, Spain, Switzerland, UK

Long term VPF deals signed with:
- 6 US Studios:
  Warner Bros., Sony, Paramount, 20th Century Fox, Walt Disney, Universal
- Independent distributors: e.g.
  Polyfilm, Valentim de Carvalho

Top 3 clients (screens signed)

DFP (GB)	400
CineplexX (AT)	193
Zon Lusomundo (PT)	180

Arts Alliance Media AAM (GB)

Headquarters	London, UK	
Employees	65	
Owners	Finc. Inv.	
Screens under scheme (as of)		
Target	7 000	Nov 2011
Signed	3 100	Jun 2011
Installed	1 200	Jun 2011

Milestones
- Founded in 2003
- Implementation of DSN (GB) 2005 to 2007
- First studio VPF deal signed in July 2007
- First exhibitor deal: CGR (FR) Nov 2007
- Strategic partnership with Arqiva

Financing models proposed:
- Integrator model (integrator – financing)
- Collector model (exhibitor – financing)

VPF deals in 9 European markets
UK, Netherlands, Germany, France, Spain, Finland, Italy, Denmark, Norway

Long term VPF deals signed with:
- 5 US Studios:
  Sony, Paramount, 20th Century Fox, Walt Disney, Universal
- Independent distributors: e.g.
  MK2, DistriB Films (FR, Dec 2010)

Top 3 clients (screens signed)

Cineworld (GB)	790
Cinema Digitaal (NL)	500
Cinestar (DE)	450

Ymagis (FR)

Headquarters	Paris, France	
Employees	n/a	
Owners	Mgt., Finc. Inv.	
Screens under scheme (as of)		
Target	5 500	Nov 2011
Signed	2 250	Nov 2011
Installed	1 499	Nov 2011

Milestones
- Founded in 2007
- First studio VPF deal signed in July 2008
- First exhibitor deal: Cap Cinéma (FR) 2009

Financing models proposed:
- Collector model (exhibitor – financing)

VPF deals in 8 European markets
France, Belgium, Italy, Germany, Spain, Netherlands, Luxembourg, Switzerland

Long term VPF deals signed with:
- 5 US Studios:
  Paramount, 20th Century Fox, Walt Disney, Sony, Universal
- Independent distributors: e.g.
  18 Spanish distributors

Top 3 clients (screens signed)

UGC (FR)	605
Cineplex (DE)	423
Ocine (ES)	134

Sony DCSS (GB)

Headquarters	London, UK	
Employees	n/a	
Owners	Sony Corp	
Screens under scheme (as of)		
Target	9 000	worldwide
Signed	n/a	-
Installed	n/a	-

Milestones
- Founded in 2008
- First studio VPF deal signed in Oct 2008
- First exhibitor deal: Apollo Cinemas (GB)

Financing models proposed:
- Integrator model (integrator – financing)

VPF deals in 3 European markets
UK, Germany, Denmark

Long term VPF deals signed with:
- 5 US Studios:
  Paramount, Sony, 20th Century Fox Universal, Walt Disney,
- Independent distributors:
  n/a

Top 3 clients (screens signed)

VUE (GB)	657
Cinemaxx (DE, DK)	292
Showcase (GB)	276

Sources: European Audiovisual Observatory after AAM, XDC, Ymagis, Sony, Screen Digest

2.5.3 Role of direct VPF deals

Some exhibition circuits preferred to negotiate direct VPF deals with major individual distributors, particularly US studios, without going through a third party as an intermediary. Though at one stage offered by some studios to overcome the funding difficulties of integrators during the credit crunch, US studios generally avoided costly direct VPF deals with individual circuits / initiatives as the negotiations are time consuming and the operational management costly. Hence, this option generally is open only to very large circuits.

With the exception of the Odeon & UCI example, there is hardly any information publicly available on VPF deals negotiated directly between exhibitors and US studios or other distributors. In March 2010 the European Investment Bank mentioned six major European circuits said to be pursuing this route to market, with some of them having closed deals and others still in negotiations.[8] Four of them ultimately signed up with Third Party Facilitators: Cineworld (GB) signed with AAM in mid-2010, while Cinestar (DE) signed with XDC for a partial roll-out in April 2010 before signing a full conversion deal with AAM in November 2011. VUE (GB) and Cinemaxx (DE, DK) signed with Sony in the first half of 2011.

Six circuits reported to have closed direct VPF deals

Table 6 lists the European circuits which have been reported to have put in place their own VPF schemes. It is unclear however to what extent these schemes refer to long-term VPF agreements with distributors and to what extent they are based on 'screen access fee' payments that are applicable for all distributors interested in releasing a film on a digital screen operated by these circuits.

Table 6 List of reported direct VPF deals

in units, estimated

Circuits	Screens 2010	Digital screens 2010
Odeon & UCI (GB, AT, ES, IT, DE,...)	2 103	844
Europalaces[1)] (FR, CH, NL)	994	499
Cinema City (PL, BG, CZ, HU, RO,...)	753	242
Kinepolis (BE, FR, CH, ES)	300	239
Multikino (PL, LT, LV)	212	137
Cinema Park (RU)	140	74
Total direct circuit VPF	**4 502**	**2 035**
Buying Groups		
Norway – Public Buying Group	415	268
Total direct VPF	**4 917**	**2 321**

[1)] Les Cinémas Gaumont Pathé (Europalaces)

Source: European Audiovisual Observatory after European Investment Bank, Film Journal, Nevafilm, Kinepolis, The Warsaw Voice, Europa Distribution

[8] The European Investment Bank, 'Financing the digital roll-out: where do we stand?', Dr. Patrick Vanhoudt, Barcelona March 2010.

In October 2009 Odeon & UCI, by far the largest European cinema circuit, announced VPF deals with Walt Disney, Paramount and Fox[9] and set up Digital Deployment Associates Ltd. (DDA) to handle the conversion and VPF management for the Odeon circuit. At the time of signing Odeon & UCI operated 1 800 screens across Europe, 187 of which had already been converted.

Though none of the other circuits officially published any deal information, Europalaces (Les Cinémas Gaumont Pathé)[10] as well as Kinepolis[11] have been reported to have set in place their own VPF schemes since 2008/2009. This would be supported by the fact that they never signed a roll-out deal with a Third Party Integrator but were among the leading digital circuits with 499 and 239 digital screens as of December 2010 (see list of top 50 digital exhibitors in Chapter 4.3).

More recently the two leading cinema chains in Central and Eastern Europe, Cinema City (PL)[12] and Multikino (PL)[13] were reported to have signed direct VPF deals with US studios. According to a report published by Nevafilm Cinema Park was the first (and up to then the only) Russian circuit to sign a long-term VPF agreement with a distributor (Central Partnership).[14] In this context it is interesting to note that no third party deals have been signed in several of the countries in which these three companies are operating, including Russia, Bulgaria, Hungary, Romania, Slovakia, Lithuania and Latvia.

Significant impact by 2010,
but potential for new deals probably limited

Due to the lack of publicly available information on direct VPF deals, it is hard to estimate the impact of this route-to-market. Assuming that the VPF schemes put in place by the six circuits reported can be considered long-term VPF agreements, summing up their digital screens at end 2010 would suggest that about 20% of digital screens had chosen this route to market (see Figure 15). This represents a significant portion of digital screens and is due to the large size of the few circuits assumingly having closed direct deals.

It can however be expected that not many direct long-term VPF deals will be closed from 2011 onwards. Firstly most large European circuits now have a financing system in place and secondly US studios are trying to wind down their VPF engagements. The share of digital screen installations primarily financed by long-term direct VPF payments consequently is expected to decrease over time. Taking into account the cumulative number of screens

[9] http://www.ddal.co.uk/news-article/pan-european-digital-cinema-deals

[10] E.g. Europa Distribution, 'Digital Roll Out- Some Issues', March 2008.

[11] For example, Kinepolis Group Business Update Q3 2011 reporting on their VPF income.

[12] Film Journal, 'Building a Cinema City: Mooky Greidinger honored as 'exhibition force', June 2011.

[13] The Warsaw Voice, 'Movie Theaters Go Digital', October 2011.

[14] Nevafilm, 'The Film Distribution Market in Russia', December 2010.

operated by the six circuits mentioned and Norway, direct long-term VPF deals could potentially contribute to financing about 14% of total European screens.

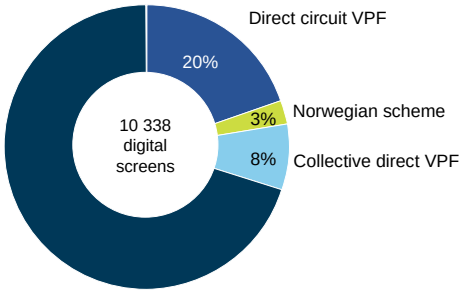
'Collective VPF schemes' to gain importance

However, instead of individually negotiated direct VPF schemes, collectively negotiated VPF payments are expected to play a more important role as a financing source from 2011 onwards. In a way pioneering this collective form of direct VPF payments, the **Norwegian** umbrella organisation Film & Kino succeeded in negotiating direct long term VPF payments with the US majors on behalf of all Norwegian cinemas for a nationwide roll-out scheme financed by VPF payments, exhibitor contributions and drawing upon a pre-constituted mutual fund (see Chapter 10 for further details).

More recently other collective schemes foreseeing direct VPF payments of distributors to exhibitors have emerged, either imposed by national legislation (as in France) or negotiated between distributor and exhibitor associations (as in Italy or Switzerland): In **France** a law on digitisation was adopted in late 2010 making VPF-style distributor payments mandatory, either directly or via Third Party Facilitators (see Chapter 10 for further details). In **Italy** the distributor and exhibitor associations agreed in December 2009 to create a VPF agreement for the entire Italian market.* In Switzerland an agreement between local distributors and mid-sized exhibitors was reported at the Europa Distribution conference in October 2011. It is estimated that these collective VPF schemes financed about 8% of digital screens up until end 2010.

*According to a presentation given by Nicola Grispello (AGIS, ANEC) in June 2011, a VPF of EUR 480 per digital print was set for the months March to December 2011 and 782 screens had joined the programme by then.
(see http://www.mediasalles.it/digitalk2011/ for further details).

Figure 15 Share of direct VPF screens – 2010
in %, estimated



Source: European Audiovisual Observatory

Conclusions

- Direct long-term VPF deals with individual distributors have been only accessible to very large circuits.
- Hardly any deal information is publicly available, but six European circuits were reported to have closed direct VPF deals with major distributors.
- Based on the assumption that these were long-term deals, direct VPF deals seem to have had a significant impact on co-financing digital cinema roll-out up until 2010 accounting for about 20% of total digital screens. Long term impact however is estimated to cover a maximum of 14% of European screens.
- New 'collective' direct VPF contributions imposed by national legislation or negotiated between associations will play a more important role as a financing source from 2011 onwards.

2.5.4 Role of Direct Public Funding

Direct public funding schemes form an important element of public intervention to support and speed up the digitisation process in Europe. Chapter 10 gives a more detailed overview of the various forms of public intervention in digital cinema roll-out but in the context of this chapter, analysis will focus on the question of the impact that funding programmes have had on driving digital cinema roll-out up to end 2010.

Public funding schemes launched from 2009 onwards

While early public interventions generally focused on evaluating the impact of digital cinema and / or the preparation of nationwide roll-out schemes, direct public funding programmes became increasingly important from 2009 onwards. As shown in Table 7, there was only 1 public funding scheme in operation at the end of 2008, after the completion of the UK Film Council's Digital Screen Network in 2007. Broadly speaking public support programmes only became operational from 2009 onwards with the vast majority getting launched in 2010 and 2011, bringing the total number of operational schemes to an estimated 60 schemes by late 2011.

Table 7 Number of Direct Public Funding schemes

Year	Launched	In operation*	Completed
2005	1	1	-
2006	-	1	-
2007	-	1	1
2008	1	1	-
2009	9	10	-
2010	16	26	2
2011	36	60	3

Note: Data as identified and may not be exhaustive. Programmes are considered in operation during their year of launch and during their year of completion.

Source: European Audiovisual Observatory

Public funding has not driven first wave of roll-out

The number of digital screens which had been converted by end 2010 and had benefitted from either direct public support or indirect support via tax breaks is shown in Table 8. It shows that cinemas in only nine out of the 35 European countries covered in this report were able to benefit from direct public funding programmes by the end of 2010, while Norway had implemented a nationwide collective scheme and Italy had introduced a tax credit.

Apart from Finland and the Czech Republic, where 61% and 46% of digital screens had received public funding, direct public support seems to have played a minor role in driving conversion with only an estimated 6% of digital screens converted using primarily this source.

In Italy digitisation has also been supported via a tax credit which was introduced in 2009. The tax break was available to both self-financed as well as VPF-financed screens and about 73% of the digital screen installations had by end 2010 applied and been considered eligible. On a cumulative basis about 16% of European screens digitised by the end of 2010 had received some sort of public support, either as direct support (6%), through a collective scheme (Norway, 3%) or as tax breaks (Italy, 7%). This clearly shows that – with the exception of a few countries – public funding cannot be considered a key driver of the first phase of mainstream roll-out.

Indirect impact of UK's pioneering DSN scheme (2005)

Though only accounting for 17% of digital screens in the UK by 2010, it can be argued that the UK Film Council's Digital Screen Network (DSN) initiative had a certain impact on stimulating digital cinema roll-out, not only in the UK but in Europe as a whole. It was the first public funding scheme to test the waters of digital cinema as early as 2005 and converted 238 screens in the UK by 2007. Not only did that provide the first major stimulus for digital cinema roll-out in Europe before the arrival of the VPF financing model, but it also contributed to the UK becoming the most advanced country worldwide with regard to digital film releasing and gave AAM the possibility to gain the installation experience which turned it into one of the two leading Third Party Integrators.

Importance of public funding to increase significantly

The importance of public support however will grow significantly from 2011 onwards as the number of public funding programmes has been increasing and large scale initiatives like Cinema Digitaal (NL) have become operational in 2011. Also, it can be assumed that it will primarily be up to public initiatives to cover the digital funding gap (as discussed above) and to support smaller cinemas, particularly monoscreens, in gaining access to digital. As will be shown in Chapter 4, these smaller exhibitors form an important part of the European theatrical landscape but have major difficulties in converting their screens.

Table 8 Number of digital screens with support of direct public funding and tax credit - 2010

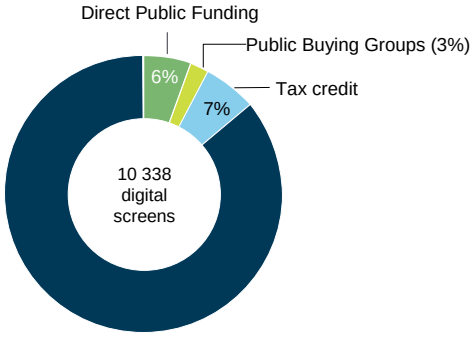
in units and % of total digital screens, estimated

Country	Publicly funded digital screens	Share of total digital screens
FI - Finland	54	61%
CZ - Czech Republic	61	46%
GB - UK	238	17%
SE - Sweden	28	18%
DE - Germany	*200*	6%
IE – Ireland	9	6%
PL – Poland	12	3%
FR – France	57	3%
IT – Italy (direct funding)	*22*	0%
NO - Norway	268	100%
IT – Italy (tax credit)	760	73%

Source: European Audiovisual Observatory

Figure 16 Share of digital screens receiving public funding – 2010

in %, estimated



Source: European Audiovisual Observatory

Conclusions:

- Only 6% of digital screens are believed to have received direct public funding by 2010.
- With the exception of a few countries public funding cannot therefore be considered a key driver of the first phase of mainstream roll-out.
- The number of public funding schemes has increased significantly in 2010 and 2011, often aiming to support smaller cinemas which have converted on their own.
- Given a substantial digital funding gap arising from the limited availability of VPF financing, it is expected that the role of public intervention and direct public funding will increase significantly during the second and final phases of digital cinema roll-out in Europe.

2.5.5 Role of Buying Groups

Buying Groups have emerged as an attempt to overcome the financing difficulties faced by smaller exhibitors which could not access Third Party VPF schemes and who were left alone negotiate direct VPF deals with the studios or distributors in general.

Buying Groups can be defined simply as groupings of exhibitors which negotiate collective conversion deals on behalf of their members. Their main purpose is to achieve one or all of the following aims:

- To bring down the cost of equipment through volume discounts, which can bring down prices significantly (see Chapter 2.5.2);
- To enable smaller exhibitors to gain access to Third Party schemes by meeting their scheme requirements as a group (mutualisation) (e.g. DFP);
- To achieve a critical size of screens that make the group worth dealing with, either for Third Party Integrators or even for the studios (e.g. Cinema Digitaal)

Buying Groups as an 'enabling vehicle' rather than a primary form of financing the conversion

Rather than forming a separate funding source, Buying Groups have hence to be considered as a 'vehicle' to access VPF schemes or enable self-financed or publicly-funded conversion. The term 'Buying Group' as such is very broad and can refer to a variety of initiatives which are very different in character depending on their size, scope of action and financing models. Also, some of them are initiated and co-ordinated by exhibitors themselves (Private Buying Groups) while others are coordinated and co-financed by public bodies (Public Buying Groups).

PRIVATE BUYING GROUPS

Like direct VPF deals, Private Buying Groups are hard to identify unless reported in the context of publicly supported initiatives or Third Party schemes. Table 9 shows those which could be identified by the Observatory.

Table 9 List of Private Buying Groups to date

as identifiable

Private Buying Group	Screens / Sites	Integrator	Date
ABC (NL)	68 / 20	AAM	Feb 2009
Denmark Digital (DK)	60 / 31	AAM	Feb 2010
DFP (GB)	400 / 130	XDC	Mar 2011

Source: European Audiovisual Observatory after AAM, XDC, DFP, Screen Digest

Though the three initiatives are different in character and background, they all have one thing in common. They all ultimately signed up to VPF schemes offered by Third Party Facilitators, suggesting that they could not find any better deals on their own.

Booking group turned Buying Group

The Dutch cinema buying group Amsterdam Booking Company (ABC) was the first (identified) grouping of exhibitors searching for a collective solution for the conversion of their member screens. ABC signed a VPF-backed roll-out deal with AAM for its 68 member screens as early as February 2009, before mainstream roll-out had begun in Europe. ABC however was not created specially for the purpose of enabling its members to digitise their screens, but had previously been operating as a programming and marketing group. In a way it can considered as a logical extension of a booking group into a digital cinema buying group, leveraging an already existing network infrastructure. ABC ultimately joined the Cinema Digitaal scheme.

First 'special purpose' Private Buying Group

The second VPF deal between a Private Buying Group and an integrator was signed between Denmark Digital, a group of 31 Danish independent cinemas, and AAM in February 2010. The deal covered all 60 screens of the network and was meant to install 3D-capable projection systems and give exhibitors the possibility to install satellite equipment to play various kinds of alternative live content. The deal marked the first time that small cinemas grouped together exclusively to enable digitisation of their screens and came against the background of the lack of public funding in Denmark at that time.

DFP – the largest private buying group to date

Digital Funding Partnership (DFP) has become by far the biggest operational Private Buying Group to date. It was launched in mid-2009 as an initiative of the Cinema Exhibitors' Association with the (non-financial) support of the UK Film Council to secure finance to allow small and medium-sized UK cinema operators to purchase digital equipment. For almost two years the DFP analysed the economic feasibility of different financing models, including a direct to studio VPF route, before signing a VPF deal with XDC in March 2011. The deal covers the conversion of 400 screens in 130 cinemas with main roll-out scheduled to commence in Q3 2011.[15] The DFP developed a business model under which all turn rates are shared across the group simulating a 'circuit' and thereby enabling its members to collectively meet the requirements of a Third Party scheme.

Large buying groups are difficult to set up, involving a high degree of legal and political complexity. It took DFP over two years of intensive work before starting roll-out. They will generally also require a certain degree of mutualisation, i.e. the willingness of larger exhibitors to support smaller exhibitors. Against this background it is not surprising that the creation of a large-scale buying group

[15] See presentation by Steve Perrin, CEO of DFP at: http://www.mediasalles.it/training/dgt11/presentation/speaker/steve_perrin_Harnessing.pdf

often requires public support and/or coordination which consequently becomes an integral part of a country's digital cinema strategy.

PUBLIC BUYING GROUPS

Table 10 lists public initiatives based on a buying group approach of combining a number of cinemas into one strategic group and negotiating as one single entity. Total investment cost is split among distributors, exhibitors and the state. Public money generally brings down distributors' share, thereby lowering the financial barriers for national distributors to join the scheme. As of today two of these initiatives have been very ambitious in their scope, aiming to broker industry-wide conversion schemes that would leave no cinema behind, while the Swedish scheme is a simpler centralised procurement initiative. More detailed information on these is given in Chapter 10 while the analysis here focuses on the extent to which Public Buying Groups contributed to driving digital cinema roll-out up to end 2010.

Table 10 List of Public Buying Groups to date
as identifiable

Public Buying Group	Screens	Comment
Norway (Film & Kino)	415	Negotiated direct
Cinema Digitaal (NL)	500	Signed VPF deal with AAM in Apr 2011
SKL (SE)	n/a	Equipment purchase

Source: European Audiovisual Observatory after Film & Kino, AAM, Eye, SKL

After years of preparation and negotiations the Norwegian scheme administered by Film & Kino managed to negotiate VPF agreements with six US studios and began roll-out in July 2010. By July 2011 all 415 screens had been converted, making Norway the first country worldwide to become fully digital. In the Netherlands, Cinema Digitaal, administered jointly by the National Eye Film Institute and exhibitors' and distributors' associations, signed a VPF backed roll-out deal with AAM in April 2011. The deal provides a blueprint solution for the conversion of up to 500 screens. In Sweden the Association of Local Authorities and Regions (SKL) is proposing to provide a group procurement service for all interested exhibitors.

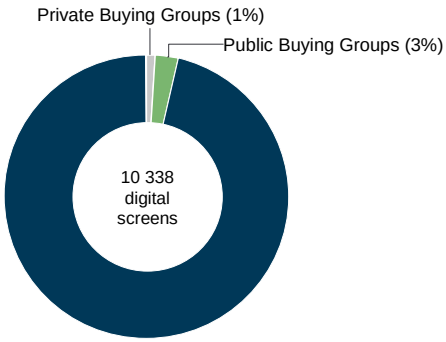
IMPACT OF BUYING GROUPS

Limited impact up until 2010

As mentioned before, Buying Groups cannot be considered as a funding source as such, but rather serve as a 'vehicle' either to enable access to other means of funding such as VPF payments, either through Third Party Integrators, as in the case of DFP or Cinema Digitaal, or directly negotiated as in Norway, or to reduce purchase costs.

Assuming that all of ABC's and Denmark Digital's screens had been converted by 2010 and adding all of Norway's digital screens at the time, less than 4% of digital screens had gained access to digital projection systems through either private or public buying groups.

Figure 17 Share of digital screens facilitated by Buying Groups – 2010
in %, estimated



Source: European Audiovisual Observatory

This clearly shows that, with the evident exception of Norway, Buying Groups have not been a driving force for the first phase of digital cinema roll-out in 2009 and 2010. The analysis also suggests that the pioneering concept of 'small scale' buying groups such as ABC or Denmark Digital has so far not been adopted by exhibitors in other markets. Three of the other buying groups which have become operational since then have all covered between 400 and 500 screens and were developed by a larger number of stakeholders, aiming at more comprehensive coverage.

Growing impact in 2011 and 2012

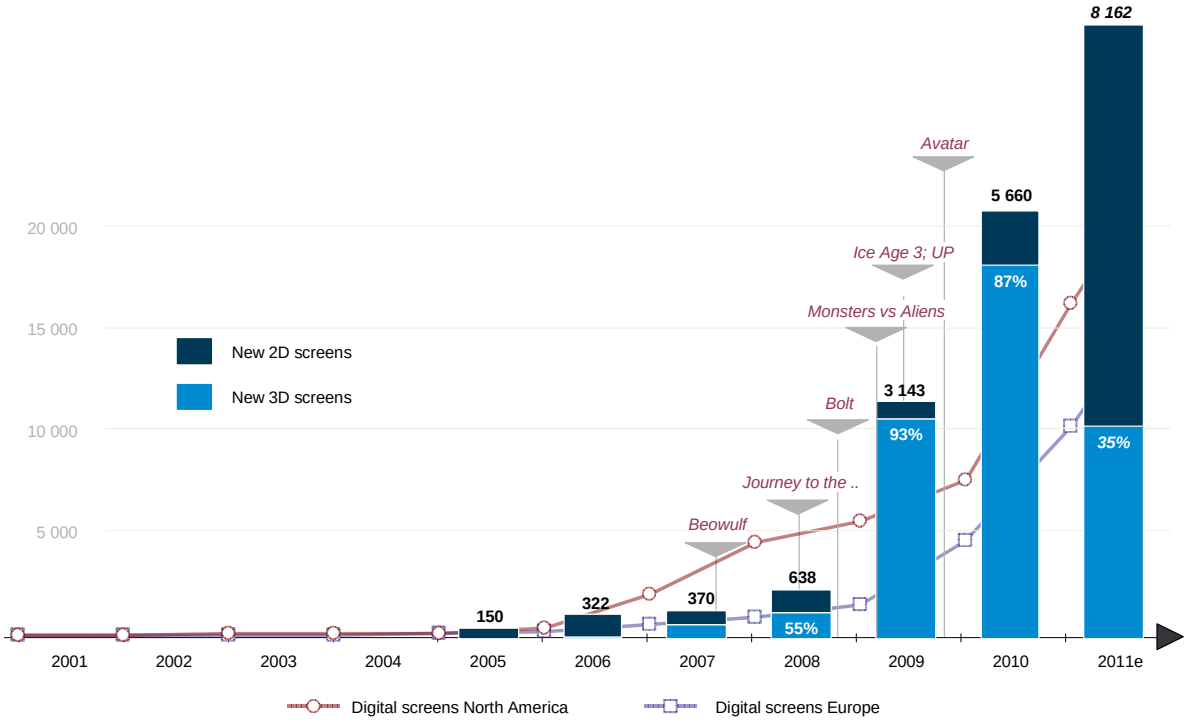
With Norway having completed its roll-out and DFP and Cinema Digitaal starting their roll-out in 2011, the number of screens being converted through buying groups will probably increase significantly in 2011 and 2012 and become a driving force for the second roll-out phase in the UK and the Netherlands.

Conclusions

- Buying Groups are not a financing source as such, but rather a 'vehicle' to access other forms of financing.
- The impact of buying groups as a driver of digital cinema roll-out has been limited to end 2010, covering less than 4% of total screens.
- Impact will increase in 2011/2012, with three major initiatives starting or finalising deployment in Norway, the Netherlands and the UK.
- The complexity, time and cost involved in set-up may be a barrier to widespread adoption and require public involvement, but simpler solutions exist (Sweden).

2.6 3D provides business model

Figure 18 Timeline: Annual installation of 2D and 3D screens
in units and % share of 3D screens, estimated



Sources: European Audiovisual Observatory after MEDIA Salles, Screen Digest, Screen International

All the previous problems associated with digital cinema, but particularly the high investment costs and the associated permanent increase in capital expenditures, result in what has to be considered the most fundamental and biggest obstacle for digital cinema roll-out: the lack of a viable business model for most exhibitors.

Financial benefit for exhibitors was lacking

And indeed, neither the development of standards nor distributors' contribution to the investment cost got roll-out going in Europe. What was missing was the financial benefit linked to digital conversion which would outweigh the related costs.

Alternative Content has not yet provided a business model and is marginal

In the early years of digital cinema the most frequent pitch to exhibitors was focused on the exploitation of new revenue streams from Alternative Content and digital advertising. From today's perspective neither of these has lived up to expectations. There have been regular screenings of music or sports events from as early as 2002. Opera seems to be the most successful format, with shows said to sell out at premium ticket prices of EUR 20 to 30 on a regular basis. But the rare data available on revenues from Alternative Content clearly suggest that it has remained a marginal business up to now. In the UK, which seems to be one of the biggest European markets for Alternative Content, revenues from Alternative Content events amounted to about MGBP 7.9 (MEUR 9), just 0.8% of total theatrical box office (see Table 11). Screen Digest estimates the global market for Alternative Content to amount to MEUR 83 with the US taking almost 60%. Even assuming that the remaining 40% would be generated in the European Union, this would only account for less than 0.5% of estimated total European box office. Though possibly relevant for the conversion of individual theatres, Alternative Content can thus not be considered as a relevant growth driver for overall mainstream roll-out in Europe up to end 2010.

3D makes economics work for exhibitors

Digital cinema would not have taken off the way it did without the arrival of 3D which turned out to be the single most important growth driver for digital cinema in Europe. 3D managed what no other element in the equation was able to do: it turned digital cinema into a profitable investment decision for the majority of the exhibition sector.

The wave of 3D films starting in 2009 generated significant consumer interest, increasing screen occupancy rates as well as giving exhibitors the possibility to charge premium prices for 3D screenings, thereby increasing per screen takings significantly. This finally allowed exhibitors to generate a return on their investment within a comparatively short period of time and with relative certainty. Though a few individual exhibitors certainly did develop viable business models without it, 3D became the only 'proven' digital cinema business model for the vast majority of operators.

The success of 3D did not come overnight. As illustrated in Tables 12 and 13 the potential of 3D films to generate superior box office results has been successfully tested over several years. Disney's *Chicken Little* released in November 2005 was the first major test, generating in the US and Germany 3D screen averages 2.5 to 3.0 times higher than the screen averages of 2D screenings. This ratio was confirmed by other releases like *Monster House* or *Beowulf*, even with increasing numbers of 3D prints, between 2006 and 2007.

3D single most important driver for digital cinema

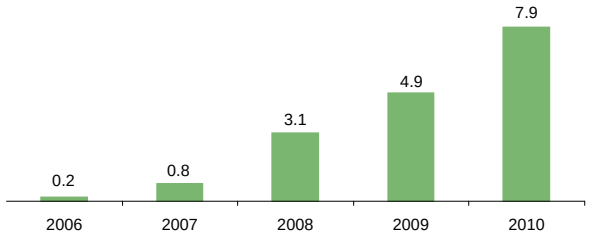
Based on these encouraging results the US majors ramped up their 3D release schedule. As shown in Table 13 the number of 3D releases rose from 6 releases in 2008, to 12 in 2009 and 28 in 2010. But the high-profile nature of most leading titles was equally if not more important than the pure number of 3D releases. While the number of digital and 3D screens was still limited at end 2008, 3D and with it digital cinema really took off in 2009 (see Figure 19). The number of net new installations jumped from 638 in 2008 to 3 143 in 2009. Almost all of these new digital screens (93%) were 3D-capable and installed to screen major blockbusters like *Ice Age 3*, *Up* and of course *Avatar*, which became probably the biggest boost for mainstream digital cinema adoption in Europe. A strong line-up of 3D films in 2010 continued to drive digital conversion with another 5 660 new digital screens being installed across Europe, with 3D screens accounting for 87% of these. Only in 2011 were net digital installations driven for the first time primarily by 'regular' 2D digital screens, as analysed in Chapter 1.

Conclusions

- 3D became the single most important driver for digital cinema roll-out in Europe.
- As of 2010, 3D had evolved as the only viable digital cinema business model for exhibitors.
- Alternative Content, though possibly an important factor for selected individual cinemas, remains marginal and cannot be considered as a driving factor for digital cinema roll-out at large.

Table 11 Revenues from Alternative Content events screened in UK cinemas 2006 – 2010

In MGBP



Source: BFI after Screen Digest

Table 12 Early 3D 'case studies'

Release date	3D film	Screen average multiple*
Nov 2005	Chicken Little (Disney)	2.5x to 3x
Aug 2006	Monster House (Sony)	2.4x
Nov 2006	Nightmare before Christmas (Disney)	3.0x
Dec 2007	Beowulf (Paramount)	3.4x
Jul 2008	Journey to the Center of the Earth	3.0x
Jan 2009	My Bloody Valentine	6.0x

** Equals average GBO per 3D screen / average GBO per 2D screen.*

Source: European Audiovisual Observatory after Screen Digest

Table 13 Number of 3D feature film releases by year

in units, estimated

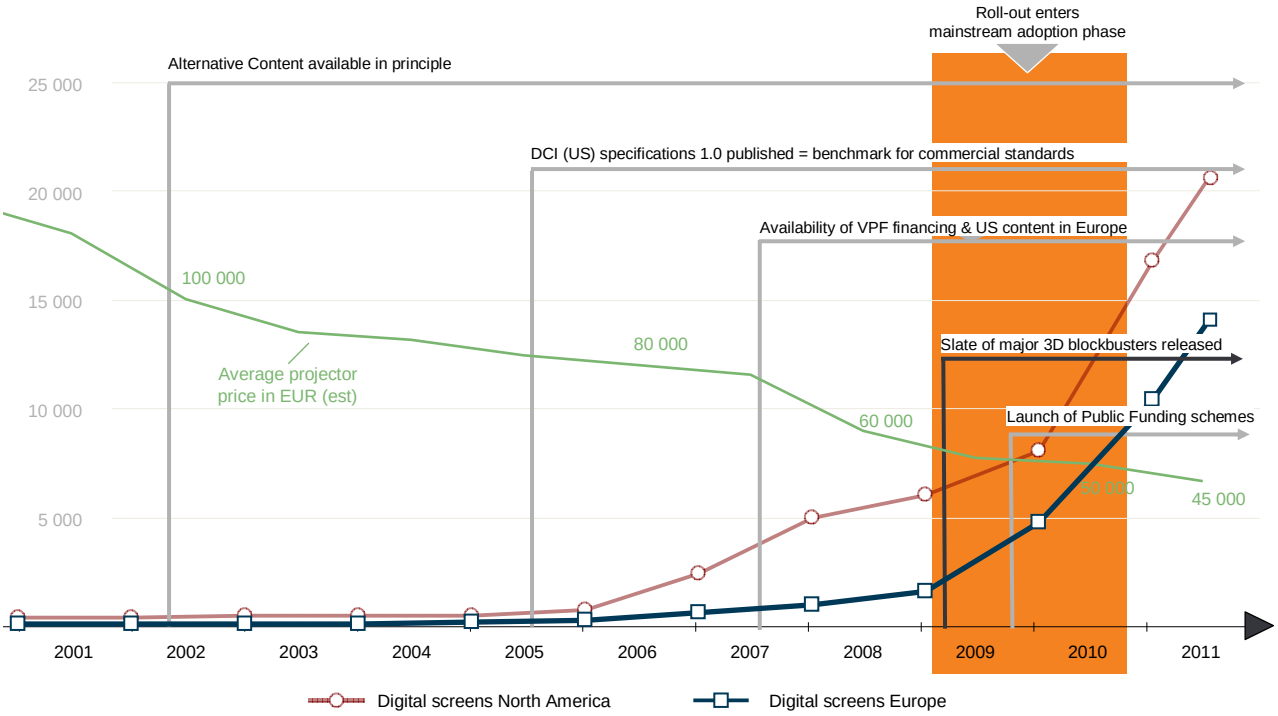
Year	No. of 3D releases	Top titles	Cumulative admissions in million
2005	1	*Chicken Little*	14.4
2006	2	*Monster House*	3.5
2007	2	*Beowulf*	5.5
2008	6	*Bolt*	14.0
		Journey to the Center…	5.8
2009	12	*Avatar*	70.6
		Ice Age: Dawn of …	43.7
		Up	25.0
		Monsters vs Aliens	11.4
		G-Force	10.3
2010	28	*Alice in Wonderland*	27.7
		Toy Story 3	28.2
		Shrek Forever After	26.3
		Despicable Me	15.4
		How to Train your Dragon	13.0
		Clash of the Titans	12.6

Note: Cumulative admissions refer to both 2D and 3D screenings in all European countries for all years up until 2010.

Source: European Audiovisual Observatory after LUMIERE database

2.7 Summary - Digital roll-out in broad strokes: from bad investment decision to necessity

Figure 19 Timeline: Drivers for digital cinema roll-out in Europe



Source: European Audiovisual Observatory

In 2009, after eleven years, digital cinema finally entered the mainstream adoption phase in Europe. Over the years it had **transformed from a technology-led to a US studio-led market**. US studios drove the standardisation process by publishing joint technology specifications in mid-2005 which became the basis for the global standardisation process. They also developed the VPF mechanism which ultimately evolved as the only functional financing model for large scale conversion and guaranteed the availability of US content in digital format.

The **development of standards and the VPF financing model** were certainly **necessary** milestones to enable digital roll-out in Europe, but as illustrated in Figure 18, they were **not sufficient** to actually drive digitisation.

From an economic point of view, digital cinema still did not make sense for most exhibitors. There was no proven business model to compensate them for high up-front investment costs and the permanent increase in capital expenditures. Despite the credit crunch, digital roll-out ultimately took off once a promising slate of 3D blockbusters was scheduled for release in 2009 and 2010 and equipment prices had come down. Premium ticket prices and increased audience interest allowed exhibitors to increase per screen revenues significantly and actually generate a positive return on investment. **Driven by 3D**, **digital screen penetration jumped** within two years from just 4% to 29% by end 2010, bringing Europe into the middle of the costly mainstream transition phase.

Mainstream roll-out in Europe was clearly **driven by the large commercial circuits** which stood to benefit most from the increased economies of scale offered by digital cinema and financed the conversion either themselves (recouping through 3D premium revenues) or via VPF schemes.

The conversion of the large circuits will enable major distributors **to stop 35mm distribution** in many markets in the foreseeable future. Consequently **digitisation** is no longer is an optional investment decision but has become a **necessity for any commercial cinema**, threatening the existence of many smaller exhibitors, which are unable to finance the conversion. A series of public funding schemes launched during 2010 and 2011 aim to support these small exhibitors. But given the fact that the economics of digital cinema are unlikely to work for many very small cinemas, a certain segment of the market may be forced to convert to cheaper e-cinema solutions, effectively putting an end to the universal interoperability of 35mm film.

Table 14 Overview digital cinema development 1999 - 2011

Year	Summary of key developments throughout the year	Selected key events	EUR: Digital Screens
2011	Roll-out continues at high speed driven by pan-European circuits as they are completing the digitisation of their screens. New 2D screens overtake 3D screens for the first time since roll-out started. Public support continues to increase with 36 new schemes being launched. More independent distributors are signing VPF deals. End of 35mm distribution is forecast in NO and BE for 2011 / 2012 with major countries like FR and GB to follow by 2014.	• Norway becomes first country worldwide to become fully digital • European Commission stops anti-trust investigation upon US majors changing terms of VPF contracts. • Ymagis signs with practically all local distributors in Spain • NL:Cinema Digitaal signs with AAM	~18 500 (>50%)
2010	3D continues to be the major growth driver. New net installations reach record high (5 660), of which 87% were 3D screens. While many of the larger circuits sign VPF deals with Third Party Facilitators which can secure various fund raising deals, 16 public funding programs are launched to support smaller exhibitors.	• French digitisation law in effect • NO: industry-wide conversion starts • European Commission publishes communication on digital cinema	10 338 (29%)
2009	Driven by a slate of 3D releases, digital cinema roll-out kicks off despite credit crunch. First wave of larger circuits signs up to Third Party VPF schemes. However lack of European content due to reluctance of independent distributors to sign VPF deals with integrators. Buying group concept gets more attention: DFP (GB), Denmark Digital (DK), Cinema Digitaal (NL).	• Odeon & UCI signs direct VPF deal with US majors • First set of SMPTE and ISO standards published • First VPF deals in Central Eastern Europe	4 678 (13%)
2008	Overall progress limited in Europe. Competition in Third Party deployment market increases with XDC signing its first two full conversion deals and Sony as well as Ymagis signing VPF deals with US studios. In the US roll-out slows down due to credit crunch which causes DCIP, the grouping of the three largest circuits, to postpone roll-out. Projector prices start to decline more substantially.	• XDC signs full conversion deals with CineplexX and Zon Lusomundo • Latest version of DCI specifications published • XDC, Sony and Ymagis sign VPF deals with US studios	1 535 (4%)
2007	In the UK the roll-out of the publicly-funded Digital Screen Network (DSN) is completed but very limited progress elsewhere in Europe. The US VPF financing model arrives in Europe with AAM becoming the first Third Party Facilitator to offer VPF backed roll-out schemes. In the US the first phase of digital cinema roll-out is well under way, driven primarily by Third Party VPF schemes.	• Studios sign first European VPF deals with AAM • First European VPF exhibitor deal signed: CGR (FR) / AAM • US studios announce strong 3D line-up for 2009 • GB: DSN roll-out completed	897 (2.5%)
2006	In Europe only the UK Film Council's DSN is driving digital conversion on a wider scale. Apart from that digital conversion is limited to individual pioneering circuits converting a limited number of screens. In the US commercial roll-out is starting with the circuits signing up to Third Party VPF schemes which become a key growth driver for digital growth in the US in 2006.	• GB: DSN roll-out under way • First US exhibitors sign up to Third Party VPF schemes • US: NATO publishes its Digital Cinema System Requirements	527 (1.5%)
2005	After more than three years the Digital Cinema Initiative (DCI) publishes the US studios specification. US studios sign first VPF deals with Third Party Facilitators, effectively committing for the first time to contribute to conversion costs. Digital conversion activity in Europe limited to a few pioneering cinemas.	• Publication of DCI specifications • Launch of first commercial VPF models in the US • GB: UK Film Council selects AAM to install its DSN	205 (0.6%)
2004	Increasing competition in projector market with Sony developing only alternative to Texas Instruments' DLP cinema technology	• Sony unveils 4K projector	55 (0.2%)
2003	Early integrators like Boeing halt or pull out of roll-out.	• Prototype for 2K DLP technology	30
2002	US – and hence global roll-out - comes to a complete halt after the US majors create the DCI joint venture to develop technology specifications and a business model for digital conversion	• US majors found DCI joint venture	22
2001	Selected test installations financed by technology providers		8
2000	Selected test installations financed by technology providers	• Founding of first integrators	11
1999	First commercial e-cinema screenings: *Star Wars Episode 1*	• First e-cinema screenings in the US	0

Source: European Audiovisual Observatory after MEDIA Salles, Screen Digest, Europa Cinemas, MKPE Consulting, *Digital Cinema Report*

3 Impact of 3D on European Box Office

IN BRIEF

- It is too early to analyse the impact of digital cinema on programming and box office.
- The impact of 3D is however clearly visisble: 3D drove growth in average ticket prices and swelled admissions levels consequently pushing GBO to unprecedented heights, both in 2009 and 2010.
- 3D also caused US market share to increase from 65% to 68%, at the expense of European films.

It is too early to reliably analyse the impact of digital cinema generally on European box office results, as this can only be measured once the vast majority of screens in a territory have been converted. At the time of writing box office data are only available up to end 2010 and cannot be split into tickets sold to digital vs analogue screenings. Also digital screen penetration had only reached 29% and films were released in parallel as digital and 35mm prints.

The impact of 3D during 2009 and 2010 can however be illustrated quite clearly by the data available. 3D not only drove digitisation but also became the single most important growth factor for European theatrical markets during those two years.

3D films take major share in box office

As shown in the previous chapters, the number of 3D screens increased strongly during 2009 and 2010 as exhibitors rushed to equip their sites with at least one 3D capable screen in order to benefit from the strong 3D film line-up in 2009 and 2010. This enabled blockbusters like *Avatar* or *Alice in Wonderland* to be screened on a sufficiently large number of 3D screens to exploit their potential to generate superior per screen revenues and become key drivers for overall box office takings.

For instance, admissions to 3D screenings accounted for almost a quarter of total GBO in the UK and for 16% and 17% of total admissions in major markets like France or Germany (see Figure 1).

3D drives average ticket prices …

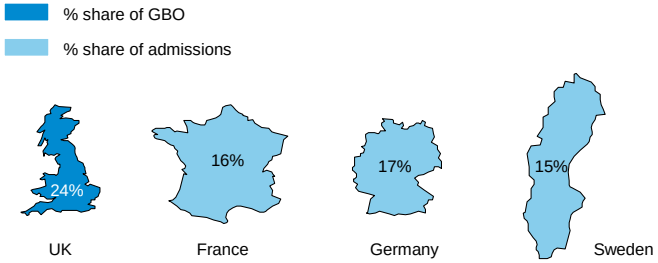
As suggested by previous 3D releases between 2005 and 2008, audiences were willing to pay premium prices for stereoscopic screenings. Figure 2 shows the impact the larger number of 3D screenings had on average ticket prices. Average ticket price growth between 2001 and 2008 was 2.1% per year, but the average ticket price in the Eurozone increased by an estimated 6.6% and 5.5% in 2009 and 2010 respectively.

… and ticket sales

But 3D films not only allowed exhibitors to charge higher ticket prices, they also increased screen occupancy rates by driving ticket sales.

Figure 1 3D share of box office - 2010

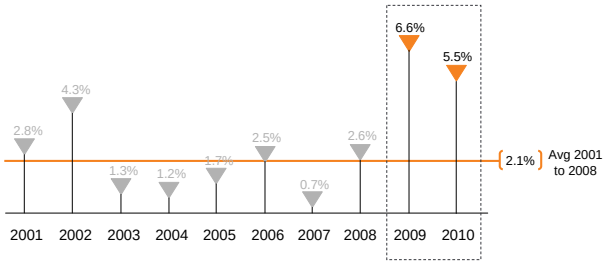
in % of total GBO / admissions, estimated



Source: European Audiovisual Observatory after BFI, CNC, FFA, SFI, Blickpunkt Film

Figure 2 Average annual ticket price growth (Eurozone as of 2000)

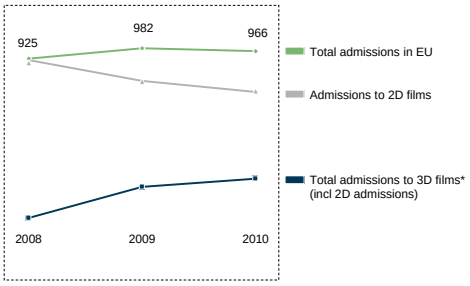
in %, estimated



Source: European Audiovisual Observatory

Figure 3 Admissions to 2D vs 3D films in the EU 2008 – 2010

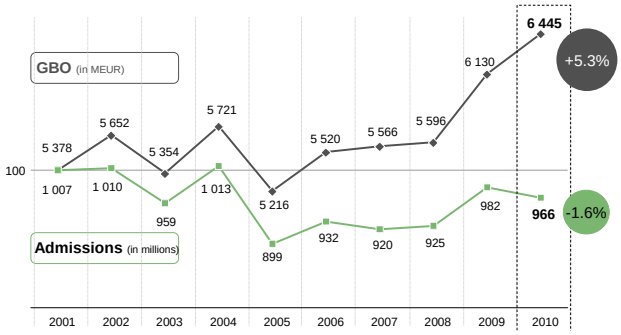
in million, estimated



Source: European Audiovisual Observatory

Figure 4 GBO and admissions development in the EU 2001 to 2010

index base year = 2001



Source: European Audiovisual Observatory

Table 2 Europe: top 3D films – 2009 & 2010

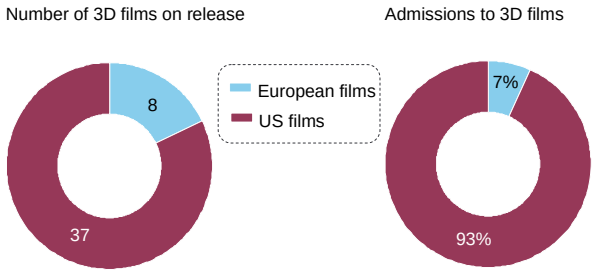
admissions in millions, provisional, estimated

Rank	Title	Release year	Adm
1	*Avatar ((US)*	2009	70.6
2	*Ice Age: Dawn of …(US)*	2009	43.7
3	*Toy Story 3 (US)*	2010	28.2
4	*Alice in Wonderland (US)*	2010	27.7
5	*Shrek Forever After (US)*	2010	26,3
6	*Up (US)*	2009	24.9
7	*Despicable Me (US)*	2010	15.4
8	*How to Train Your …(US)*	2010	13.0
9	*Clash of the Titans (US)*	2010	12.6
10	*Monsters vs Aliens (US)*	2009	11.4

Source: European Audiovisual Observatory after LUMIERE database

Figure 5 3D films on release in the EU in 2010

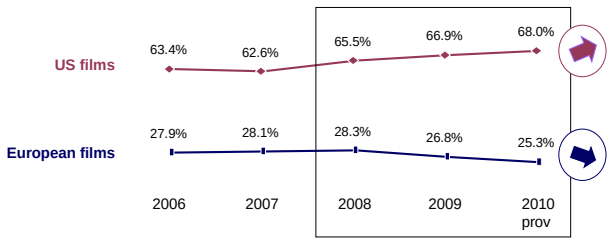
data provisional and estimated



Source: European Audiovisual Observatory

Figure 6 EU market shares 2006 to 2010

based on admissions, provisional, estimated



Source: European Audiovisual Observatory

GBO reaches record heights

Figure 3 illustrates the increase in admissions to films released in 3D format. Unfortunately it is not possible to separate admissions to 3D screenings from admissions to 2D screenings of these films, but the data clearly suggests that it was the limited number of 3D titles that drove total admissions levels in the EU from around 920 million in 2007 to 982 and 966 million respectively in 2009 and 2010.

Driven by the increase in admissions and particularly the premium ticket prices, gross box office jumped to EUR 6.1 and EUR 6.5 billion, the two highest levels ever achieved in the European Union.

Widening gap between GBO and admissions

Due to its premium prices 3D has caused the gap between GBO growth and admissions growth to widen significantly as shown in Figure 4. Though still at a comparatively high level, admissions actually declined by 1.6% in 2010 year-on-year, while GBO increased by 5.3%.

US market share increases at the expense of European films

Another consequence of the success of 3D films, was a shift in market shares from European films to US films. As indicated in Figure 5, US films accounted for the vast majority of 3D films on release in the EU and for 93% of total admissions for these films in 2010.

Led by *Avatar*, which sold over 70 million tickets in 2009 and 2010, US films accounted for 19 out of the top 20 3D films in Europe. Other successful titles included *Ice Age: Dawn of the Dinosaurs*, *Toy Story 3*, *Alice in Wonderland*, *Shrek Forever After* and *Up*, all which generated well over than 20 million admissions across Europe.

Not surprisingly this boosted the market share of US films, which increased from an estimated 65.5% in 2008 to 68.0% in 2010. As shown in Figure 6 the increase in US market share came at the expense of European films whose market share decreased from 28.3 % to 25.3% in the same period.

Mid- and long-term impact of 3D unclear

These developments are likely to be a temporary phenomenon as it remains to be seen to what extent 3D can maintain the momentum beyond an initial success possibly linked to a combination of novelty factor and the release of a few very strong titles. The gap between box office and underlying admissions cannot continue to widen at the same rate for an extended period of time.

In addition, the US dominance in the 3D sector will be challenged by a growing number of high-end European 3D productions.

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PART 2 – Understanding market structures

This part of the report provides an in-depth structural analysis of the European theatrical market - in the context of digital cinema - as a whole. It aims to contribute to a better understanding of the 'macro-context' of digital cinema in Europe by looking at the following questions:

- **Who has access to digital cinema?** To what extent are there differences between bigger and smaller exhibitors and cinemas? Which are the leading 'digital' circuits? (Chapter 4)
- **Where are digital screens located?** (Chapter 5)
- **What types of digital equipment are installed?** What are the shares of 3D vs 2D and 2K vs 4K? (Chapter 6)
- **Who are the leading equipment manufacturers?** What are market shares of projector, server and 3D technology manufacturers? (Chapter 7)

Focus on the big picture: pan-European perspective

The analysis presented primarily focuses on the pan-European situation which sheds light on the big picture aspects of digital cinema roll-out in Europe.

It is understood that theatrical distribution of feature films is primarily a national, rather than a pan-European business, and market structures can differ significantly between individual territories. But taking a step back from the national level helps to better understand the main underlying trends and dynamics and to put national developments into a wider context.

The discussion of the situation in individual countries is generally beyond the scope of this report. However, in order to allow the reader to compare individual markets, all key data is presented on a country-by-country basis in the Reference Section, which also features alphabetically ranked overview tables for selected key indicators.

Based on comprehensive site-by-site 2010 data

Given the time required to collect and analyse such vast amounts of data, an in-depth structural analysis of this kind can only be published with a certain time lag. It has been shown in Chapter 1 that digital cinema roll-out has made rapid progress in 2011 and the current situation with regard to certain indicators may already look very different from that prevailing at the end of 2010. Nevertheless, it is believed that such a structural analysis carves out the underlying market structures which can contribute to explain the different market realities of digital cinema roll-out across Europe as well as the different challenges faced by different players. It also provides a reference point for measuring the future impact of digital cinema on the European theatrical landscapes.

Methodology

The data presented in Part 2 are **estimated** on the basis of comprehensive site-by-site data for all cinemas operational in 2010 in 33 countries and estimated data for Greece and Turkey. These data were matched with comprehensive site-by-site data for all 'digital cinemas', i.e. cinemas which had installed at least one digital screen by the end of 2010.

The **cumulative totals** presented in Part 2 **slightly differ** from the totals presented in Part 1 and certain tables in the Reference Section. This is due to a more recent update of cumulative totals which could not be integrated in the site-by-site data sample. However, the differences are **marginal** and do not limit the validity of the analysis in any way.

For the purposes of the analysis, exhibitors, cinema sites and countries have been grouped according to their size.

Exhibitors

Due to lack of availability of financial indicators such as profit margins or even revenues, this study clusters exhibition companies by the number of screens they operate:

Small exhibitors	operating up to 3 screens
Medium-sized exhibitors	operating 4 - 16 screens
Large exhibitors	operating 17 - 199 screens
Major exhibitors	operating over 199 screens

Cinema sites

Cinemas are categorised by the number of screens operated on a single cinema site:

Monoscreen	1 screen
Small miniplex	2 to 3 screens
Large miniplex	4 to 7 screens
Multiplex*	8 to 15 screens
Megaplex*	16 or more screens

* The definition of a multiplex as a cinema with at least 8 screens corresponds to both the MEDIA Salles definition (as laid out in the White Book of the European Exhibition Industry (1994)) and the definitions of the European Film Agency Research Network. The definition of a megaplex is specific to this report and may be defined differently by other organisations or in other contexts.

Countries

National markets are grouped based on the average GBO generated between 2008 and 2010:

XL markets	> 200 MEUR
Large markets	100 to 200 MEUR
Medium markets	15 to 100 MEUR
Small markets	< 15 MEUR

4 Who operates digital screens?

IN BRIEF

- The European cinema market is very fragmented with 64% of cinemas run by small exhibitors, i.e. exhibitors operating up to three screens, and the largest 20 circuits accounting for only 31% of total screens.
- Almost 60% of European cinemas are monoscreens which have significantly lower access to digital: only 11% of monoscreens had a digital screen installed by the end of 2010, compared to 89% of multi- and megaplexes.
- Up to end 2010 exhibitors pursued a partial roll-out with 81% of cinemas converting only up to three screens to digital

4.1 Digital sites & screens by exhibitor types

Overview

This chapter serves two purposes. Firstly it aims to measure concentration levels by exhibitor size, both of the overall as well as of the 'digital cinema market'. Secondly it will try to analyse the extent to which the size of an exhibitor affects access to digital cinema. Questions analysed include:

- **Concentration levels by exhibitor size**: How many exhibition companies are there within each size group and how many digital sites and screens did they control?
- **Conversion strategies**: How many digital screens did the different types of exhibitors convert on average per site?
- **Access to digital cinema**: As of 2010, which types of exhibition companies had access to digital projection systems and which did not?

Overall market concentration

Market concentration can be measured in terms of the number of exhibition companies falling into each exhibitor category as well as in terms of the number of cinemas and screens controlled by each exhibitor group.

Estimating the number of exhibitors operating a cinema in Europe is an inexact science. The first problem faced is a methodological one. There is no common definition of who or what should be counted as an 'exhibitor'. Should operators of open-air cinemas be included? What about cinema clubs, cultural centres screening films once or twice a week, non-profit associations, itinerant screens? The way how 'pecial forms' of cinema are statistically treated differ across countries as well as organisations. The second problem is that most European countries do not publish official figures as to how many exhibitors are active on their market. Hence – even leaving methodological problems aside - it is impossible to simply sum official national figures to arrive at a pan-European total, let alone to publish such numbers by exhibitor types.

Against this background the only pragmatic approach was to follow the definition applied by each data provider for his data set. The term 'exhibitor' has hence not been harmonised across countries and may include, for example, cultural centres in some countries while they have been excluded in others.

Large number of small exhibition companies in a very fragmented market

The data collected by the Observatory suggest that there were up to 9 000[1] active exhibition companies throughout Europe in 2010. This figure includes exhibitors of all sorts, ranging from private commercial companies, municipality cinemas to cultural centres. About 90% of these exhibitors are estimated to fall into the small exhibitor category, around 8% were considered medium-sized exhibitors and less than 2% were large or major exhibitors.

About 12 400 cinemas in Europe, 64% of which are operated by small exhibitors

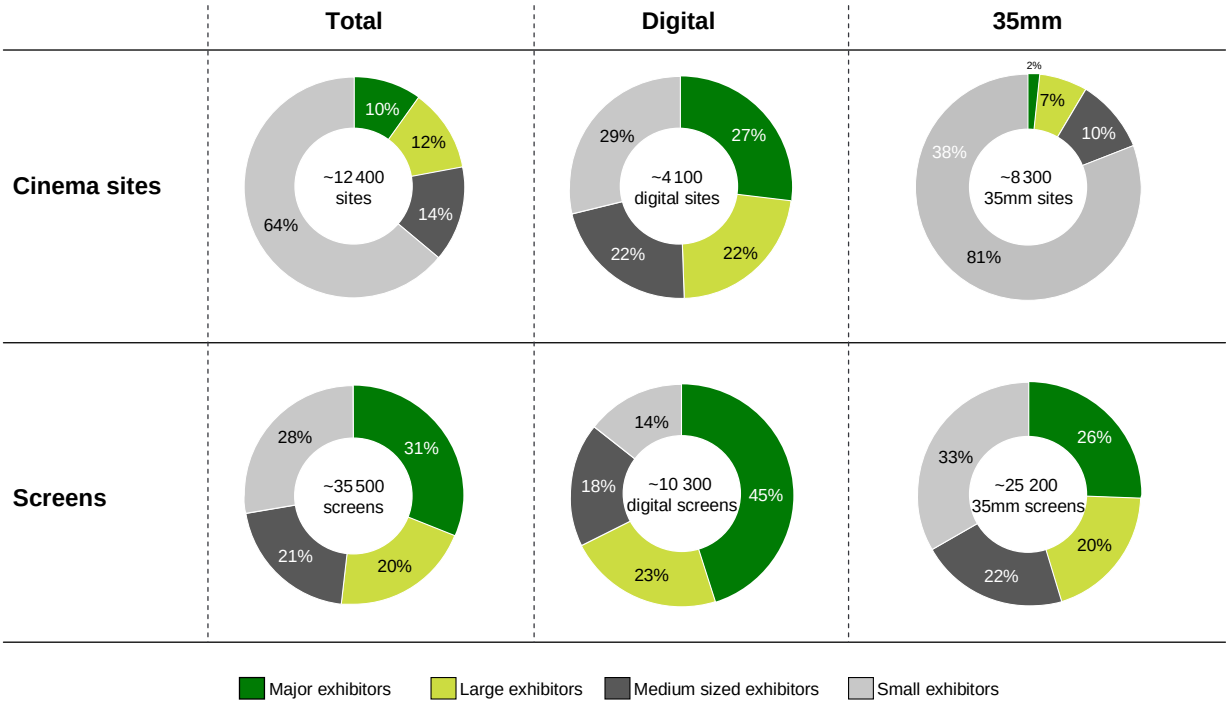
The Observatory estimates that in 2010 a total of about 12 400 operational cinema sites were screening films in the 35 European countries covered in this report.

As shown in Figure 1, it is estimated that small exhibitors operated about 64% of total cinema sites, i.e. almost 7 900 cinemas throughout Europe. In contrast about 1 200 cinemas (10%) were operated by the 20 major exhibition companies.

[1] These figures have to be regarded as very, very rough estimates and probably overestimate the total number of small exhibitors, and consequently the total number of exhibition companies. This is because all cinemas for which no information on the operating company was available were assumed to be operated by monosite (and therefore small) exhibitors. In addition most special forms of exhibition fall into the small exhibitor category. This bias towards small exhibitors is likely to be at the expense of medium-sized exhibitors, whose data is therefore probably underestimated.

Figure 1 Cinema site and screen concentration by exhibitor type – Europe 2010

in units and %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Medium-sized and large exhibitors operated roughly 1 500 and 1 750 sites respectively, accounting for 10% to 14% of the overall number of operational cinemas. The market structure naturally is quite different when looking at the number of screens. Major exhibitors obviously play a much more important role due the generally larger number of screens they operate per site.

Over 11 000 of the total 35 500 European cinema screens belonged to a major exhibitor group. This represents about 31% of all European screens. The second largest number of cinema screens, was, however, operated by small exhibitors which operated almost 10 000 screens (28%). Medium-sized and large exhibitors controlled over 7 200 screens each (~20%).

20 largest circuits controlled about 31% of total European screen base and 10% of cinemas

The 20 largest European circuits hence controlled about 31% of the total European screen base and about 10% of all cinemas. The three leading US circuits, in contrast, accounted for over 33% of all North American screens. This clearly illustrates the highly fragmented structure of the theatrical market in Europe and the challenge this poses in the search for fast solutions for digital cinema roll-out.

How does this compare with concentration levels among digital cinemas?

Digital market concentration

Figure 1 clearly shows that the concentration levels by exhibitor types vary significantly when it comes to digital and non-digital cinema sites and screens.

About 4 100 cinemas had at least one digital projection system installed on their premises by the end of 2010. This represents about 33% of total European cinemas and left about 67% of European sites yet to be converted.

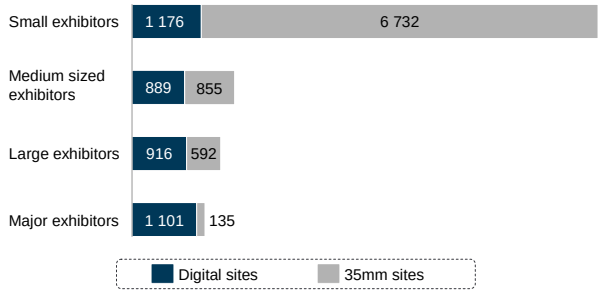
Despite the lowest digital site penetration rate of all exhibitor types, small exhibitors operated the largest number of digital sites as of 2010. This is due to their overwhelming majority share of total sites. On a cumulative basis small exhibitors ran less than 1 200 digital sites, accounting for 29% of total digital sites. They were closely followed by major exhibitors with about 1 100 digital sites (37%) who had installed at least one digital screen in over 89% of their cinemas (see Figure 7).

Major exhibitors control 45% of digital screens

Concentration however increases significantly when one looks at digital screens only. The major circuits accounted for 45% of all digital screens installed by the end of 2010. Figure 1 clearly shows the share of digital screens increases with the size of the exhibitor type. Small exhibitors, while accounting for 28% of total screens, only accounted for 14% of digital screens.

Figure 2 Sites by exhibitor type – 2010

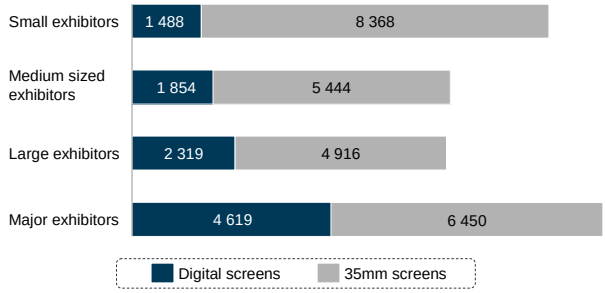
in units, estimated



Source: European Audiovisual Observatory

Figure 3 Screens by exhibitor type – 2010

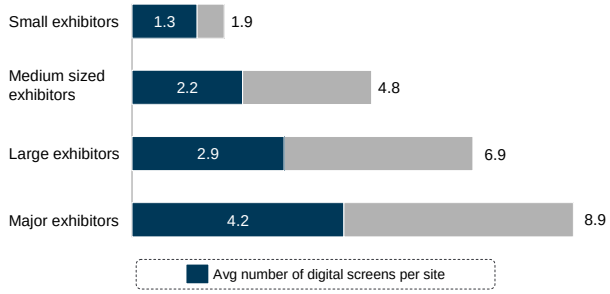
in units, estimated



Source: European Audiovisual Observatory

Figure 4 Avg number of total & digital screens per site by exhibitor type – 2010

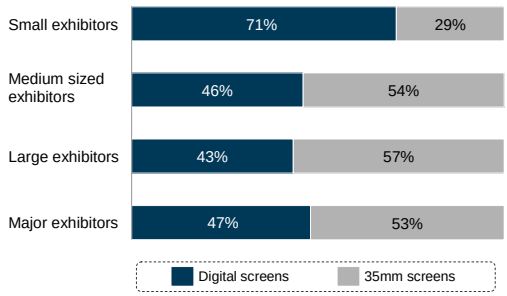
in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 5 Avg 'conversion rate per site' by exhibitor type – 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Another interesting aspect in this context is the distribution of the non-digital screens.

81% of analogue sites belong to small exhibitors

When looking at the remaining analogue sites, one clearly sees that it is primarily small exhibitors which yet have to gain access to digital projection. About 7 900 (81%) out of the total 8 300 cinemas, which had yet to digitise at least one of their screens, were operated by small exhibitors.

The number of analogue screens is spread more evenly across all exhibitor types. Again, small exhibitors account for the largest share (~8 400 screens, 33%) of over 25 000 screens which remained to be digitised by the end of 2010. However, medium-sized, large and major exhibitors also had between 5 000 and 6 500 screens yet to be converted.

However there is a significant difference between the remaining analogue screens depending on the type of company operating them. Analogue screens in sites operated by major exhibitors can be expected to be converted in the near future as practically all sites owned by major exhibitors seem to have access to digital cinema and just need to convert the remaining screens.

On the other hand, many of those small exhibitors who had already installed digital screens already converted practically all of their available screens. A large portion of the remaining analogue screens seem to belong to small exhibitors which – by the end of 2010 - did not have access to digital projection systems at all. To what extent they will have access in the near future remains to be seen and poses a challenge in many European markets.

It can therefore be assumed that the percentage share of digital screens controlled by major exhibitors will increase at the expense of small exhibitors in 2011 and 2012. In this context it is interesting to look at the conversion rates of each of the exhibitor types.

Conversion strategies

How many screens did the individual exhibitor types operate per site on average and how many of those screens had been converted to digital? The average number of total as well as the average number of digital screens per digital site is illustrated in Figure 4. It shows, for example that the average digital cinema operated by major exhibitors had 8.9 screens, out of which 4.2 had been converted to digital. The average site size decreases with the size of the exhibitor: digital sites operated by large exhibitors had on average 6.9 screens, medium-sized exhibitors' 4.8 screens and small exhibitors' 1.9 screens.

Exhibitors converted on average 2 to 4 screens per site rather than pursuing full conversion strategies

Figure 4 also shows that depending on their size, exhibitors had generally installed 2 to 4 digital screens per site. This means that on average all exhibitor types – with the exception of small exhibitors - had converted around 45% of each digital site rather than pursuing a full conversion strategy during the first major phase of digital cinema roll-out (see Figure 5).

Two remarks can be made with regard to small exhibitors. For one, the average number of 1.9 screens per digital site indicates that the majority of digital cinemas operated by small exhibitors were small miniplexes rather than monoscreens. Out of these 1.9 screens, on average 1.4 screens had been converted to digital which gives small exhibitors the highest site conversion rate.

This partial roll-out strategy is also clearly reflected in the overall screen penetration rates as depicted in Figure 6. No exhibitor group had converted more than 42% of their screen base and the ratio decreases the smaller the exhibitors get down to 15% for small exhibitors.

Access to digital

Probably the most interesting question to look at in this context is the question of access to digital cinema and to what extent it is linked to the size of an exhibitor. One measure of access is 'digital site penetration', that is the share of digital cinemas which had at least one digital screen installed compared to the total number of cinemas operated by an exhibitor type.

Figure 7 clearly shows that as of 2010 there were significant differences in digital site penetration among exhibitor types of different sizes: the larger the exhibitor, the better the access to digital cinema.

Small exhibitors have limited access to digital cinema

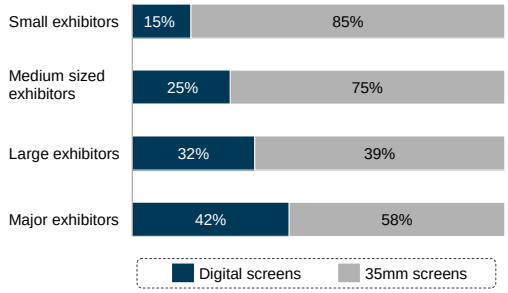
The difference was particularly striking between major and small exhibitors with the former having installed at least one digital projector in over 89% of their sites while only 15% of cinemas operated by small exhibitors had done so.

Though less pronounced, differences in digital screen penetration confirm the conclusions that small exhibitors had significantly lower access to digital equipment than larger exhibitors and that as a rule of thumb, the larger an exhibition company, the higher its digital conversion rate.

Probable reasons for this could include comparatively high equipment costs combined with insufficient funding sources, as many of them did not have access to VPF schemes and the majority of dedicated public funding schemes only became operational during 2010 and 2011.

Figure 6 Digital screen penetration by exhibitor type - 2010

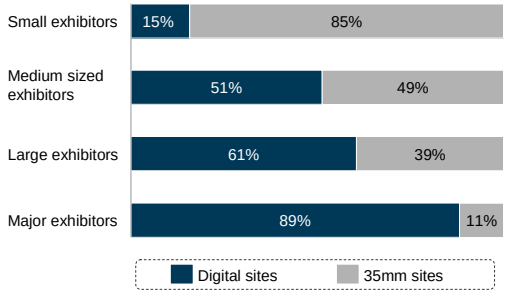
in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 7 Digital site penetration by exhibitor type - 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Large number of European cinemas at risk?

Setting the apparent difficulties of small exhibitors in context with the large number of their sites which they would still have to convert, the dimension of possible site closures becomes evident. Over 6 700 sites operated by small exhibitors had no digital screens by the end of 2010 – that it is more than half of all European cinemas. Though these cinemas are likely to have a comparatively low impact on overall box office, they often play an important role in their communities which goes beyond the purely economic aspects of cinema.

Conclusions

- The European theatrical market is very fragmented, with the 20 largest circuits accounting for only 10% of cinemas and 31% of European screens.
- 64% of all cinemas and 28% of all screens are operated by thousands of small exhibitors.
- Up to end 2010 small exhibitors had limited access to digital cinema, with only 15% of their cinemas having at least one digital screen, compared to 89% of cinemas operated by major exhibitors.

4.2 Digital sites & screens by site types

Overview

A second interesting parameter to better understand the European situation with regard to digital cinema roll-out is to look at the concentration of sites and screens among different types of cinemas.

As the previous chapter did for exhibitor types, this chapter estimates concentration levels by cinema size for overall as well as for the digital cinema market and illustrates to what extent the size of a cinema affects its access to digital projection. It will answer questions such as:

- **Concentration levels by cinema size**: How many monoscreens, how many multiplexes are there in Europe? How many digital sites and screens were operated by the individual site types?
- **Conversion patterns**: How many digital screens did the different site types convert per site?
- **Access to digital cinema**: As of 2010, did larger cinemas have better access than smaller cinemas? To what extent could monoscreens convert their screens?

Overall market concentration by site types

The breakdown of approximately 12 400 cinema sites operational in 2010 by site type is shown in Table 1 and Figure 8.

Table 1 Number of cinema sites in Europe by type – 2010

in units, estimated

Site type	2010
Monoscreens	7 166
Small miniplexes	2 186
Large miniplexes	1 645
Multiplexes	1 306
Megaplexes	89
Total	**12 394**

Note: Due to the comparatively low number of megaplexes and assumed similar characteristics with regard to digital conversion, multiplexes and megaplexes will be treated as one group for most parts of the analysis in this chapter.

Source: European Audiovisual Observatory

58% of European cinema sites are monoscreens, which makes them the most common form of cinema in Europe

The data clearly illustrate that the European cinema landscape is characterised by a large number of small cinemas. Indeed monoscreens are by far most common form of cinemas in terms of site size, accounting for almost 7 200 or 58% of the estimated total of over 12 400 cinemas in Europe.

Unfortunately no additional data such as the number of screenings, ticket sales or box office can be linked to the individual cinema sites on a pan-European level. Hence one can only take an educated guess that most of these monoscreens probably play a minor role in terms of generating gross box office, but can be an important aspect of the social and cultural life of their communities.

Also when interpreting this high share, it should be kept in mind that the definition of what is considered a cinema varies from country to country. Hence the cinema lists the Observatory has been provided with may include cinema forms like itinerant screens, part-time cinemas, cultural centres or open-air cinemas for some countries while other countries may have excluded them. Most of these 'special' forms of cinema will fall into the monoscreen category, whose share would probably be somewhat lower when only dedicated full-time in-house cinemas were taken into consideration.

Small miniplexes, i.e. cinemas with two or three screens, represented the second most common type of cinema, accounting for 18% of total screens (~ 2 200 cinemas). There were over 1 600 large miniplexes, i.e. cinemas with four to seven screens (13%) and almost 1 400 multi- and megaplexes (11%), i.e. cinemas with 8 screens or more.

In terms of screens, the concentration levels are inversed as illustrated in Figure 8.

About two thirds of all European screens are in multiplexes and large miniplexes

About 41% of the total 35 500 screens were operated in multi- or megaplexes, which illustrates the leading role played by this largest form of cinema. Large miniplexes accounted for about a quarter of all screens, so that cumulatively the two groups accounted for almost two thirds of all European screens.

Smaller cinemas however also operate a significant number of screens, with monoscreens accounting for around 20% and small miniplexes for 15% of cinema screens.

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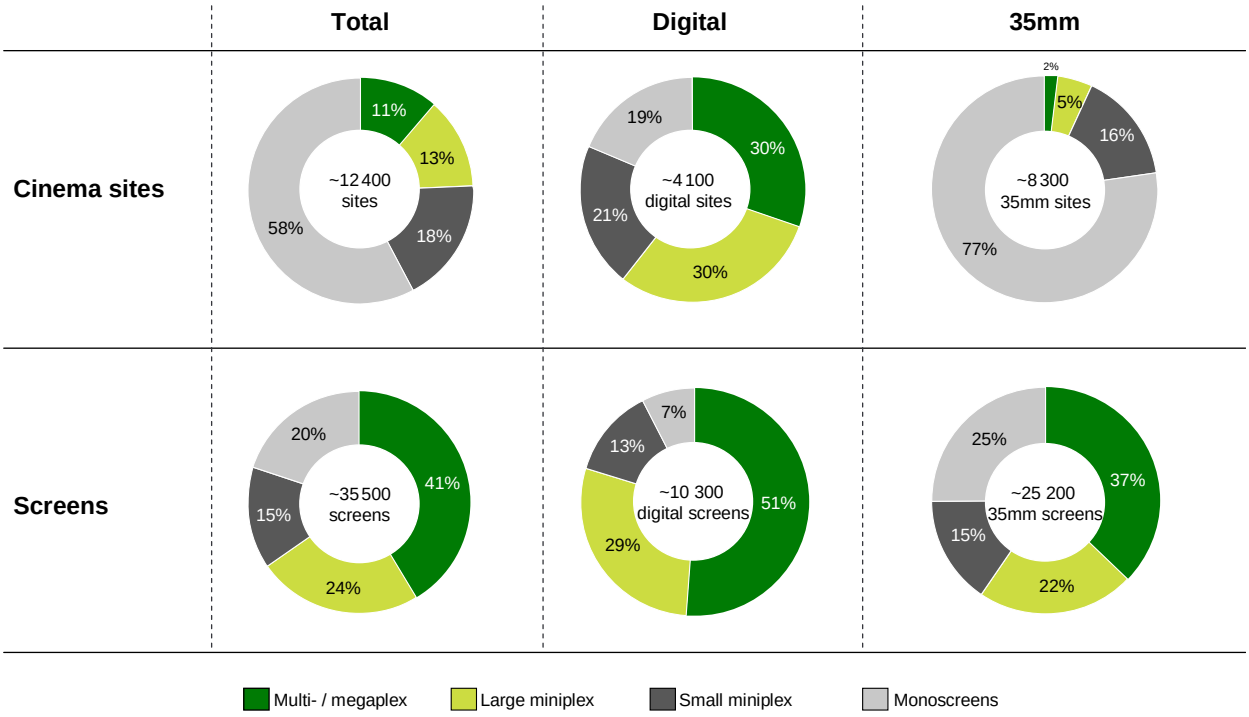
Figure 8 Cinema site & screen concentration by site type – Europe 2010

in units and %, estimated



Sources: European Audiovisual Observatory after MEDIA Salles

Digital concentration by site types

Figure 8 shows that site and screen concentration increases significantly to the benefit of larger cinemas, when it comes to the distribution of digital sites and screens.

While only accounting for a cumulative 24% of total sites, multi- and megaplexes and large miniplexes cumulatively accounted for 60% of all **digital** sites. Monoscreens on the other hand accounted for only 19% of digital sites, small miniplexes for 21% and 80% of digital screens were installed in multiplexes or large miniplexes

Concentration levels further increase in terms of digital screens. As shown in Figure 8, the percentage share of digital screens increases the larger the cinema. 51% of the 10 300 digital screens had been installed in multi- or megaplexes, 29% of digital screens were in large miniplexes, 13% in small miniplexes and only 7% were located in monoscreens.

The differences between cinema types were however more pronounced when measured in terms of the analogue sites, i.e. sites which did not have any digital projection equipment at all installed at the end of 2010.

77% of analogue sites are monoscreens

It is evident from Figure 8 that a large number of monoscreens and small miniplexes find it difficult to convert to digital, with a cumulative 93% of analogue cinemas falling into these two categories. The vast majority of these are obviously monoscreens, accounting for over 6 400 or 77% of the remaining 8 300 cinema sites which had yet to digitise at least one of their screens.

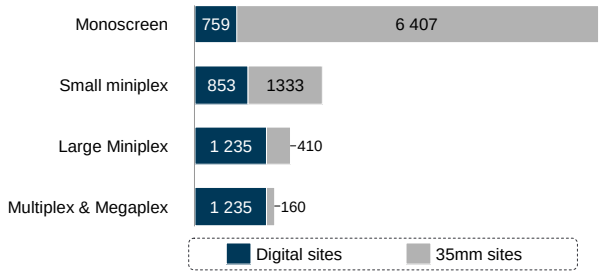
35mm more evenly spread across cinema types

As illustrated in Figure 13, total digital screen penetration did not vary significantly between the different site types up to the end of 2010. With the exception of monoscreens, digital screen penetration ranged between 26% and 36%. This left the number of analogue screens which remain to be digitised more evenly distributed among all cinema types. In fact multiplexes owned the largest number of analogue screens (37% of total non-digital screens), followed by monoscreens (25%) and large miniplexes (22%).

However, bearing in mind that almost 89% of multiplexes had already converted at least one screen by the end of 2010, one can assume that at least this group will quickly continue to digitise their remaining screens. On the other hand it remains to be seen how quickly the remaining monoscreens, most of which are operated by small exhibitors, will find a solution to finance their conversion to digital.

Figure 9 Sites by site type – 2010

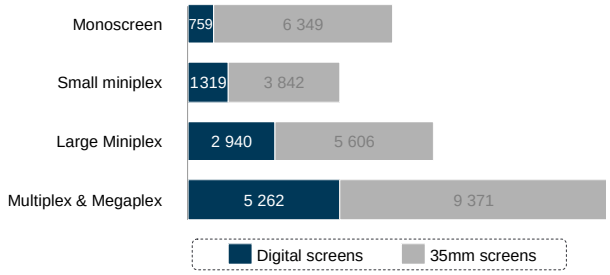
in units, estimated



Source: European Audiovisual Observatory

Figure 10 Screens by exhibitor type – 2010

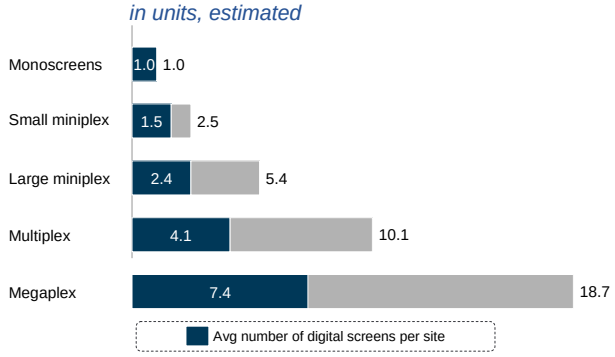
in units, estimated



Source: European Audiovisual Observatory

Figure 11 Avg number of total & digital screens per site by site type – 2010

in units, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Table 2 Number of sites by number of installed digital screens by site type – 2010

in % of total sites by site type

	Cinema site types				
Digital screens	Mono-screen	Small miniplex	Large miniplex	Multi-plex	Total
1	100%	55%	30%	14%	44%
2		34%	36%	21%	24%
3		10%	16%	20%	13%
4 to 5			12%	22%	10%
6 to 10			5%	16%	6%
> 10				7%	2%
Total	**761**	**857**	**1 228**	**1 235**	**4 081**

Source: European Audiovisual Observatory after MEDIA Salles

It can therefore be assumed that the percentage share of digital screens installed in multiplexes and large miniplexes will further increase at the expense of monoscreens and small miniplexes in 2011 and 2012.

Conversion patterns by site type

Figure 11 shows the average number of digital and total screens per site type. The data suggest that as a rule of thumb, larger cinema sites had installed more digital screens than smaller cinemas. This would be obvious for monoscreens and small miniplexes, but also holds true for the larger structures. Megaplexes, for instance had on average installed 7.4 digital screens out of their average 18.7 screens per site. Multiplexes had converted 4.1 out of an average of 10.1 screens and large miniplexes 2.4 out of 5.4.

Looking at it from a slightly different angle, namely the number of sites which had installed one, two, three or more digital screens, one sees that about 44% of all digital sites had converted only one of their screens to digital by the end of 2010 (see Table 2). About a quarter of digital sites had two digital screens and 13% had three.

81% of digital cinemas had converted only up to three digital screens per site

On a cumulative level, this means that 81% of digital cinemas had converted only three or less screens per site to digital. Only large miniplexes and multi-/megaplexes had four or more digital screens per site. But only 8% of digital cinemas had converted six or more of their screens, clearly illustrating that very few circuits actually went for full site conversion up until end 2010.

Expressed as percentage share of total average screens per site, i.e. digital site conversion rate (see Figure 12), multi-/ megaplexes and large miniplexes show a comparable pattern. On average all three groups had converted about 40% of their site screens to digital. Average site conversion of digital monoscreens obviously equaled 100% and small miniplexes had converted on average 63% of their screens.

In terms of total screen penetration multiplexes and large miniplexes had converted 36% and 34% of their total screens by the end of 2010. This compared to a conversion rate of 26% of screens operated by small miniplexes and only 11% of all monoscreens.

Again, it can be expected that the conversion rates of large miniplexes and multiplexes will increase significantly in 2011/2012 and the large circuits shift to full conversion strategies. It remains to be seen to what extent small miniplexes and particularly monoscreens will be able to speed up the conversion of their screens.

Access to digital by site types

The question of access to digital cinema is not only linked to the size of an exhibition company. Given the possibility to benefit from increased programming flexibility as well as the potential to cut operational costs, larger cinema sites stand to gain more from converting to digital than smaller sites. In this context it is interesting to compare digital site penetration between different types of cinemas as it can provide complementary insight into whether certain cinema types had better access to digital cinema than others.

The larger the cinema,
the better the access to digital cinema

Figure 14 clearly shows that as of 2010 there were indeed significant differences between cinemas of different sizes: the larger the cinema, the better the access to digital cinema. Practically all (89%) of multi- & megaplexes had converted at least one of their screens to digital by the end of 2010. Large miniplexes also seem to have good access to digital cinema with around 75% of them having installed a digital screen on their premises.

Only 11% of monoscreens had converted to digital

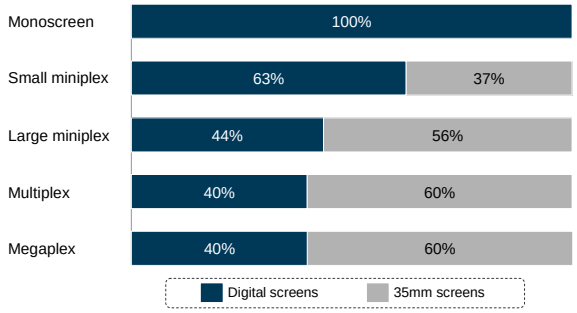
The ratio however drops significantly when it comes to the smaller forms of cinemas. While 39% of small miniplexes had installed a digital screen, only 11% of monoscreens had been able to do so. This is probably partially linked to the fact that these smaller cinema forms are primarily operated by small exhibitors who presumably have more limited financial means to convert, but it also suggests that monoscreens may have a more fundamental problem in converting to digital cinema, as the digital business model favours economies of scale, even on the level of individual cinema sites.

Conclusions

- Small cinemas form a characteristic part of the European cinema landscape with monoscreens accounting for almost 60% of all European cinemas.
- Though presumably not vital for overall box office results these smaller cinemas may play an important social / cultural role in many communities.
- The larger a cinema, the better the access to digital cinema: by the end of 2010 only 11% of monoscreens had installed a digital screen, compared to 89% of multi- and megaplexes.
- Up to end 2010 digital cinema roll-out was driven by partial roll-out across sites, as 81% of all digital cinemas had converted only up to three of their screens per site.

Figure 12 Avg 'conversion rate per site' by site type – 2010

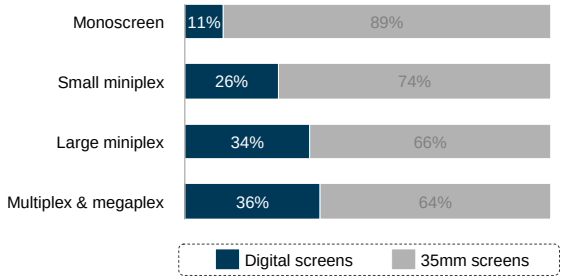
in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 13 Digital screen penetration by site type - 2010

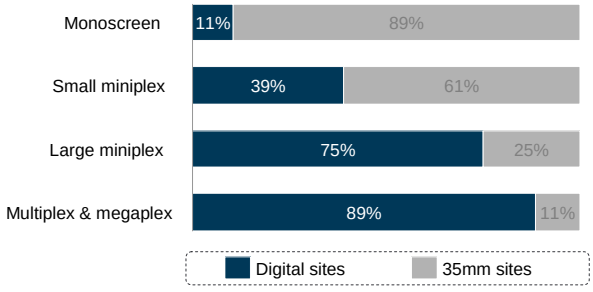
in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Figure 14 Digital site penetration by site type - 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

4.3 The top 50 digital exhibitors - 2010

With 844 digital screens converted by December 2010, pan-European circuit Odeon & UCI was the clear market leader in terms of digital screens, as shown in Table 7. The French circuits Les Cinémas Gaumont Pathé (Europalaces) and CGR, as well as UK's Cineworld, followed at distance. After those four leading circuits there was a larger gap.

Top 50 circuits account for 57% of total digital screens

On a cumulative basis the top 50 leading circuits accounted for 57% of digital screens and 39% of total European screens. Though this is comparatively low compared to concentration levels in North America, the figures show that these larger circuits had been a significant driving force for digital cinema roll-out up until 2010.

VPF was the preferred route to market

As can be seen from Table 7 the vast majority of these large and major exhibitors have signed VPF agreements to finance their roll-out. Some of the largest of them opted for negotiating direct VPF deals with US majors, while the majority chose to sign VPF roll-out deals with one of the four major Third Party Facilitators (also see Chapter 2.5)

Few circuits have pursued a full conversion strategy

By 2010 only 10 of the leading circuits had reached a digital screen penetration of 80% or more (see Table 3). In fact 30 out of the top 50 had less than 50% of their screens converted. Some of the larger circuits with low screen penetration rates are listed in Table 4.

3D as key driver for most circuits until 2010, but different strategies for mid-term

29 of the top 50 exhibitors had upgraded more than 90% of their digital screens to 3D, 18 of them were practically only running digital 3D screens. Table 5 lists some of the larger circuits which have been pursuing an aggressive 3D strategy, while Table 6 lists some larger exhibitors which had converted only partly to 3D and were operating a significant number of 2D screens. This suggests that circuits are pursuing different strategies as regards the extent to which they convert their screen base to 3D.

Given the comparatively low digital screen penetration of several larger circuits, and taking into consideration that many of them have signed a VPF deal for full roll-out, it was to be expected that they would continue to rapidly digitise their remaining screens in 2011 and 2012.

This also explains the paradigm shift of digital cinema roll-out in 2011, which saw full circuit conversion emerging as the new main growth driver, replacing partial 3D conversion, as described in Chapter 1.

Table 3 Top 10 circuits by digital screen penetration – 2010 estimated

#	Exhibitor	Screen penetration	Total screens	VPF deal	Year
1	Oslo kinodrift (NO)	100%	34	F&K	2010
2	Zon Lusomun..(PT)	97%	213	XDC	2009
3	Norsk kinodr..(NO)	97%	31	F&K	n/a
4	CGR (FR)	96%	399	AAM	2007
5	Apollo (GB)	94%	83	Sony	2009
6	City Screen (GB)	91%	57	-	-
7	Euroscoop (FR)	86%	74	XDC	2009
8	Cineville (FR)	82%	88	Ymagis	2009
9	Cineplexx (AT)	82%	219	XDC	2008
10	Kinepolis (BE)	80%	300	Own	n/a

Countries here and in tables below refer to the location of the company head offices.

Source: European Audiovisual Observatory after MEDIA Salles

Table 4 Selected circuits with low digital screen penetration – 2010 estimated

Exhibitor	Screen penetration	Total screens	VPF deal	Year
Abaco-Cinebox (ES)	8%	309	-	-
VUE (GB)	20%	665	Sony	2011
Mars Entert. (TR)	22%	433	-	-
Cinestar (DE)	23%	680	AAM	2011
National Amuse.. (GB)	24%	274	Sony	2010
SF Group (SE)	29%	291	-	-

Source: European Audiovisual Observatory after MEDIA Salles

Table 5 Selected circuits with high 3D penetration of digital screens – 2010 estimated

Exhibitor	3D penetration	Digital screens	VPF deal	Year
Cinestar (DE)	100%	156	AAM	2011
CinemaxX (DE)	100%	103	Sony	2011
Cineplex (DE)	97%	140	Ymagis	2011
Odeon & UCI (GB)	94%	844	Own	2009
Cinema City (PL)	93%	242	Own	n/a
Multikino (PL)	92%	137	Own	n/a

Source: European Audiovisual Observatory after MEDIA Salles

Table 6 Circuits with low 3D penetration – 2010 est

Exhibitor	3D penetration	Digital screens	VPF deal	Year
Kinepolis (BE)	36%	239	Own	n/a
Zon Lusomun..(PT)	40%	207	XDC	2009
UGC (FR)	46%	186	Ymagis	2010
Cineplexx (AT)	54%	179	XDC	2008
Ward Anderson (IE)	63%	142	XDC	2011

Source: European Audiovisual Observatory after MEDIA Salles

Table 7 Europe: Top 50 digital exhibitors ranked by number of digital screens – 2010

For companies indicated with '' 2010 data have been adjusted to take into consideration acquisitions up until early 2011. These adjustments are based on publicly available information as identified by the Observatory and do not claim to be complete. The data may hence deviate from 2010 data communicated by the exhibitors or MEDIA Salles.*

	Company Name	Country	Total screens	Digital screens	3D share	Facilitator	Date of deal
1	Odeon & UCI Cinemas*	GB, AT, DE, ES, IT, IE, PT	2103	844	94%	Own	n/a
2	Les Cinémas Gaumont Pathé (Europ..)	FR, CH, NL	994	499	75%	Own	n/a
3	Cineworld	GB, IE	801	400	85%	AAM	6/2010
4	CGR	FR	399	385	86%	AAM	12/2007
5	Cinema City*	PL, BG, CZ, HU, RO, SK	753	242	93%	Own	n/a
6	Kinepolis	BE, CH, ES, FR	300	239	36%	Own	n/a
7	Yelmo Cines	ES	423	209	67%	AAM	8/2010
8	Zon Lusomundo	PT	213	207	40%	XDC	7/2009
9	UGC*	FR, BE	410	186	46%	Ymagis	1/2010
10	Constantin Film Holding)	AT, HR, IT	219	179	54%	XDC	6/2008
11	Cinestar (Kieft Group)	DE, CH, CZ, HR	680	156	100%	XDC	4/2010
12	The Space Cinema	IT	354	147	86%	AAM	11/2009
13	Ward Anderson	IE, GB	387	142	63%	XDC	6/2010
14	Cineplex	DE	430	140	97%	XDC	7/2010
15	Multikino	PL, LT, LV	212	137	92%	XDC	6/2009
16	VUE	GB, IE	665	130	80%	Sony	3/2011
17	CinemaxX	DE, DK	302	103	100%	Sony	6/2011
18	Mars Entertainment*	TR	433	97	100%	-	-
19	SF Group	NO, SE	291	85	82%	-	-
20	Apollo	GB	83	78	71%	Sony	6/2009
21	Cinema Park	RU	140	74	100%	Own	n/a
22	Cineville (SOREDIC)	FR	88	72	94%	Ymagis	3/2009
23	National Amusements (Showcase)	GB	274	66	97%	Sony	6/2010
24	Groupe Ciné-Invest (Euroscoop)	BE, NL	74	64	25%	XDC	6/2009
25	OCINE	ES, FR	134	64	55%	Ymagis	6/2010
26	KARO Film	RU	170	60	100%	-	-
27	Rising Star Media	RU	75	57	100%	-	-
28	SOCORAMA (Castello Lopes)	PT	102	55	75%	XDC	2011
29	City Screen (Picturehouse)	GB	57	52	50%	-	-
30	Finnkino	FI, EE, LV, LT	146	51	92	AAM	6/2011
31	Helios	PL	140	51	98%	XDC	12/009
32	Luxor	RU	91	44	100%	-	-
33	Formula Kino	RU	71	41	100%	-	-
34	MK2	FR	58	41	100%	Ymagis	9/2009
35	CinéAlpes	FR	143	39	49%	-	-
36	Giometti Cinema	IT	100	38	100%	-	-
37	Kinopolis	DE	125	37	68%	XDC	6/2010
38	Utopia Group	BE, FR, LU, NL	97	37	100%	XDC	4/2006
39	Oslo Kinodrift	NO	34	34	53%	National	4/2010
40	Cap'Cinéma	FR	79	34	94%	Ymagis	5/2009
41	KINO ARENA VT	BG	70	31	94%	-	-
42	SNES (Cinemovida)	FR	56	31	100%	Ymagis	n/a
43	Norsk kinodrift	NO	31	30	93%	National	4/2010
44	Nordisk Film Biografer	DK	117	30	100%	XDC	6/2011
45	Kronverk Cinema	RU	112	28	100%	-	-
46	Abaco - Cinebox	ES	309	26	96%	-	-
47	Hueber (Hollywood Megaplex)	AT	48	25	64%	XDC	3/2010
48	JT Bioscopen	NL	65	23	96%	XDC	2/2010
49	Folkets Hus och Parker	SE	162	22	100%	-	-
50	Kinomax	RU	112	22	95%	-	-
	Total	**-**	**13 732**	**5 884**	**83%**	**-**	**-**

Source: European Audiovisual Observatory after MEDIA Salles

5 Where are digital screens located?

IN BRIEF

- Up until 2010 market size seems to have had limited impact on access to digital – with one exception: small cinemas, particularly monoscreens in smaller markets, had significantly lower access to digital than in their counterparts in larger markets.
- The six largest markets accounted for 69% of digital sites and screens, in line with their share in the overall market.
- The impact of town size on access to digital cannot be assessed without comparing concentration levels of digital cinemas with those of the entire cinema population as a whole. Up to end 2010 the town size as such does not seem to form a significant access barrier to digital.

5.1 Does market size matter?

This chapter looks at the concentration of digital screens by market size and the impact of structural differences. As described in the introduction to Part 2, the 35 European markets covered in this report have been grouped in market clusters based on the average GBO generated between 2008 and 2010. Table 1 shows the four market clusters and their corresponding markets.

6 largest markets account for
69% of digital sites and screens

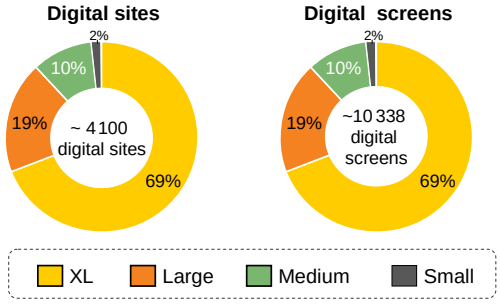
The six largest markets account for 69% of both digital sites as well as digital screens. This proportion corresponds to their share in overall cinemas and screens. 19% of digital sites and screens were located in the 9 large markets, 10% in the 8 medium sized markets and only 2% in the twelve small markets.

The fact that the shares of digital sites and digital screens match exactly and are more or less identical with the corresponding shares of overall cinemas and screens is another indicator illustrating the fact that it was the leading exhibitors in markets of all sizes converting a certain number of their screens to digital 3D driving digital cinema roll-out up to end 2010 rather than full circuit conversions.

Table 2 suggests that in small and medium markets it was the larger cinemas which installed digital screens as the average number of digital screens per digital site is actually higher than the overall average number of screens per site.

It also shows that digital site and screen penetration has been significantly lower in small markets. Average digital site penetration increased with the size of the market while digital screen penetration actually was higher among medium markets, probably driven by the above average digital penetration in Norway and Portugal.

Figure 1 Sites & screens by market size – 2010
in % of total sites and digital sites



Source: European Audiovisual Observatory after MEDIA Salles

Table 1 Countries by market size

Market cluster	#	Countries
XL	6	France,Germany, Italy, Russia, Spain, UK
Large	9	Austria, Belgium, Denmark, Ireland, Netherlands, Poland, Sweden, Switzerland, Turkey
Medium	8	Czech Republic, Finland, Greece, Hungary, Norway, Portugal, Romania, Slovakia
Small	12	Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Estonia, Iceland, Latvia, Lithuania, Luxembourg, 'The former Yugoslav Republic of Macedonia', Malta, Slovenia

Source: European Audiovisual Observatory

Table 2 Selected indicators by market size – 2010
in units and %, estimated

Market size	Avg screens per site	Avg digital screens per digital site	Digital site penetration	Digital sceen penetration
XL	3.0	2.5	35%	30%
L	2.9	2.6	31%	28%
M	2.0	2.4	26%	32%
S	2.5	2.6	22%	23%
Total	**2.8**	**2.5**	**33%**	**29%**

Source: European Audiovisual Observatory after MEDIA Salles

To what extent do concentration levels by exhibitor or site types differ between markets of different sizes?

Limited impact of market size – with the exception of smaller markets

Tables 3 and 4 clearly show that monoscreens account for a comparatively larger share of the total site and screen base in small and particularly medium-sized markets, where 76% of cinemas and 37% of screens were monoscreens. The screen share of multi- and megaplexes on the other hand is clearly lower in small- and medium-sized markets (33% and 31% of screens) compared to larger markets (42%).

Monoscreens in small markets had the lowest access to digital

Even more striking however seems to be the difference in access to digital. Only 3% of monoscreens based in small countries had been digitised by the end of 2010 compared to 10% to 12% in larger markets (see Table 5).

Small miniplexes in small markets seem to face comparable challenges in getting access to digital as both their digital site and screen penetration is far below the European average.

The data further suggest that on average small and large miniplexes based in medium-sized countries had better access to digital than their counterparts in larger markets. Otherwise the patterns for the different cinema types were more or less in line with the pan-European average across the different market clusters.

The analysis by exhibitor types produces comparable insights, highlighting the difficulties of small exhibitors in small markets: while in all other markets small exhibitors had converted on average 15% of their screens, only 4% of screens operated by small exhibitors in small markets were covered.

CONCLUSIONS

- By the end of 2010 almost 90% of digital cinemas and digital screens were based in the 15 largest European markets. This, however, corresponds with their share in overall cinemas and screens.
- Market size generally seems to have had a limited impact on digital cinema roll-out patterns by cinema and exhibitor types up until now – with the exception of small markets.
- Monoscreens / small exhibitors in small countries seem to have lower access to digital than their counterparts in medium and larger markets.

Table 3 Sites by site & market size - 2010

in % of total sites by market size

	Markets by size				
Site Type	S	M	L	XL	Total
Monoscreen	62%	76%	59%	54%	7 166
Small miniplex	16%	9%	16%	20%	2 186
Large miniplex	14%	9%	13%	14%	1 645
Multiplex*	8%	7%	12%	12%	1 395
Total	291	1 576	2 527	8 000	12 394

* Here and after: Cumulative data for multi- and megaplexes

Source: European Audiovisual Observatory

Table 4 Screens by site & market size - 2010

in % of total screens by market size

	Markets by size				
Site Type	S	M	L	XL	Total
Monoscreen	24%	37%	20%	18%	7 108
Small miniplex	14%	10%	13%	16%	5 161
Large miniplex	29%	22%	24%	24%	8 546
Multiplex*	33%	31%	42%	43%	14 633
Total	762	3 176	7 167	24 354	35 459

Source: European Audiovisual Observatory

Table 5 Digital site penetration market size - 2010

in % for each market cluster

	Markets by size				
SiteType	S	M	L	XL	Total
Monoscreen	3%	12%	10%	11%	11%
Small miniplex	28%	50%	35%	40%	39%
Large miniplex	73%	86%	77%	73%	75%
Multiplex*	92%	77%	74%	94%	89%
Total	24%	26%	30%	35%	33%

Source: European Audiovisual Observatory after MEDIA Salles

Table 6 Digital screen penetration by market size - 2010

in % for each market cluster

	Markets by size				
Site Type	S	M	L	XL	Total
Monoscreen	3%	12%	10%	11%	11%
Small miniplex	16%	40%	25%	25%	26%
Large miniplex	35%	54%	34%	32%	34%
Multiplex*	32%	36%	33%	37%	36%
Total	23%	32%	28%	29%	29%

Source: European Audiovisual Observatory after MEDIA Salles

5.2 Digital cinemas: an urban phenomenon?

Methodology

The data shown in this chapter are derived from a comprehensive list of digital cinemas as of 2010 which is also published on the MEDIA Salles website (www.mediasalles.it).

Town population data were collected from variety of national and pan-European statistical sources. It should be noted that these population figures have to be considered rough estimates and cannot be treated with the same statistical accuracy as would normally be the case in specialised demographical analysis.

Hence, the data are to be interpreted as an indicative approach to analysing the big picture with regard to the presence of digital cinemas in towns which have been grouped by the following bandwidths of inhabitants:

- Small town / rural area: less than 30 000 inhabitants
- Medium sized town: 30 000 to 100 000
- Large city: 100 000 to 1 million
- Metropolis: over 1 million

Digital cinema by town size

This chapter investigates whether as of 2010 there are significant differences between rural areas / small towns and larger cities with regard to the location of digital cinemas as of 2010.

Unfortunately, due to time constraints, the collection of population figures was only feasible for towns in which digital cinemas were located. Hence concentration levels of digital cinemas by town size cannot be compared to concentration levels of the total number of cinemas. This makes it practically impossible to answer the ultimate question as to whether or not cinemas in smaller towns do have lower access to digital than in larger cities.

On a pan-European level digital cinemas are spread more or less equally across town size

Tables 7 shows the number of digital cinema sites by different town sizes. The data suggest that on the pan-European scale digital cinemas are spread more or less equally across all of the four town size groups.

Cities with 100 000 to one million inhabitants account for the highest number of digital cinemas, hosting an estimated 31% of all digital cinema sites. Over half of all digital cinemas were located in small- or medium-sized towns. This shows that cinemas in smaller towns are not *per se* cut off from digitising their screens.

Table 7 Digital sites by town size – 2010

in units and %, estimated

Inhabitants	2010	Share of total
< 30.000	1 162	28%
30 000 – 100 000	1 041	26%
100 000 - 1 M	1 247	31%
> 1 M	631	15%
Total Europe	**4 081**	**100%**

Source: European Audiovisual Observatory after MEDIA Salles

Table 8 Digital screens by town size – 2010

in units and %, estimated

Inhabitants	2010	Share of total
< 30.000	2 291	22%
30 000 – 100 000	2 589	25%
100 000 - 1 M	3 578	35%
> 1 M	1 818	18%
Total Europe	**10 276**	**100%**

Source: European Audiovisual Observatory after MEDIA Salles

However, whether or not they face more difficulties in doing so compared to larger cities would require a comparison with the overall concentration levels by town size. This observation also held true in principle when looking at digital screens (see Table 8) rather than digital sites.

Comparison by site size

Table 9 shows the percentage share of digital cinemas by town size according to their site size. The data shows that the concentration of digital monoscreens and small miniplexes was significantly higher in small towns with less than 30 000 inhabitants than in larger cities. 57% of digital monoscreens and 37% of digital small miniplexes were located in small towns.

This could be explained by the fact that the majority of monoscreens and small miniplexes are located in rural areas. Or it could suggest that small cinemas located in small towns had better access to digital cinema than their counterparts in larger cities. The data sample which refers only to those 11% of monoscreens which had been able to digitise their screen is simply too small to draw reliable conclusions. The fact is that 57% of the over 760 digital monoscreens converted to digital by end 2010 were located in rural areas or small towns.

Large digital miniplexes were more equally spread among town sizes, with the majority (33%) located in medium-sized towns. Digital multi- & megaplexes were less common in small towns and mostly found in large cities.

Comparison by exhibitor size

The concentration of digital cinemas by exhibitor types is depicted in Table 10 and showed a comparable pattern. About 82% of small and 67% medium sized exhibitors operated digital cinemas in towns with less than 100 000 inhabitants. On the other hand, large and major exhibitors operated the majority of their digital cinemas in cities with 100 000 to one million inhabitants.

Comparison by market size

The data in Table 11 shows that – with the exception of small markets – over 50% of digital cinemas had been installed in small or medium-sized towns in markets of all sizes. But they played a more important role with regard to hosting digital cinemas in medium-sized markets than they do in other markets, accounting for a cumulative 66% of digital cinemas, as compared to around 55% in large and major markets and only 35% in small markets.

In small markets 58% of digital cinemas were located in cities with 100 000 to one million inhabitants. However, given the small number of digital cinemas, not much can be concluded from this but it does hint at rural areas / small towns in small countries being at the highest risk of being left behind in the digitisation process.

Conclusions

- It is difficult to assess the impact of the location of a cinema with regard to its access to digital cinema without comparing concentration levels to the total number of cinemas.
- As of 2010 digital cinemas – on a pan-European level - could be found in towns of all sizes, indicating that the town size as such and on its own does not form a significant barrier to digital conversion.
- However, the data suggest that cinemas located in small towns / rural areas in small markets might face the most difficulty at converting their screens. The data sample however is too small to be conclusive.
- Though perhaps rather counterintuitive, the data also suggest that smaller cinemas / exhibitors based in smaller towns seem to have had better access than their counterparts in larger cities.

Table 9 **Digital sites by town size & site type - 2010**
in % of total number of sites by site type, estimated

	Cinema site types				
Inhabitants	Mono-screen	Small miniplex	Large mi-niplex	Multip-lex[1]	Total
< 30.000	57%	37%	22%	12%	**1 162**
30.000 - 100.000	19%	25%	33%	22%	**1 041**
100.000 - 1 Mio	17%	28%	27%	43%	**1 235**
> 1 Mio.	7%	11%	18%	23%	**643**
Europe	**761**	**857**	**1 228**	**1 235**	**4 081**

Source: European Audiovisual Observatory after MEDIA Salles

Table 10 **Digital sites by town size & exhibitor type – 2010**
in % of total number of sites by exhibitor type, est

	Exhibitor types				
Inhabitants	Small	Medium	Large	Major	Total
< 30.000	62%	32%	19%	10%	**1 158**
30.000 - 100.000	20%	36%	28%	23%	**998**
100.000 - 1 Mio	12%	21%	33%	44%	**1 075**
> 1 Mio.	6%	12%	21%	23%	**601**
Europe	**992**	**848**	**891**	**1 101**	**3 832**

Source: European Audiovisual Observatory after MEDIA Salles

Table 11 **Digital sites by town & market size - 2010**
in % of total number of sites by market size, est

	Markets clustered by GBO				
Inhabitants	Small	Medium	Large	XL	Total
< 30.000	14%	37%	32%	27%	**1 162**
30.000 - 100.000	20%	29%	23%	26%	**1 041**
100.000 - 1 Mio	58%	26%	29%	31%	**1 235**
> 1 Mio.	7%	8%	17%	17%	**643**
Europe	**69**	**416**	**768**	**2 828**	**4 081**

Source: European Audiovisual Observatory after MEDIA Salles

[1] Cumulative data for multi- and megaplexes.

6 What types of digital screens / sites?

IN BRIEF

- 80% of all digital cinemas had installed only 3D screens and a mere 5% were 2D only by the end of 2010.
- In general exhibitors only install 2D screens once sufficient 3D capacities have been secured. In most cinemas this seems to be the case with 3 to 5 3D screens.
- 2K resolution is accepted by the commercial sector. No data is available on the number of 'e-cinema' screens.
- 2K projectors dominated the market to end 2010, with 4K screens only taking a niche market of 3%. 4K screens are however expected to increase considerably from 2011 onwards.

6.1 Does digital cinema equal 3D?

As shown in Chapter 2 3D has been the single most important growth driver for the first major wave of digital installations in Europe in 2009 and 2010. In 2011 roll-out has entered into its second phase with the number of 2D installations significantly outweighing new 3D screens, causing the share of 3D screens to drop from 81% in 2010 to an estimated 61% by year end 2011 (see Chapter 1).

Despites this rapidly changing situation, there are still some valuable insights to be gained from a more detailed analysis of 2010 figures, as they show the extent to which 3D has driven roll-out across all cinema types and they allow conclusions with regard to what exhibitors consider to be a sufficient 3D capacity per site.

80% of digital cinemas operated only 3D screens

The overwhelming importance of 3D as the key driver of the first major phase of digital cinema roll-out is clearly illustrated in Figure 1: 80% of cinema sites which had installed at least one digital projector by the end of 2010 had installed only 3D screens. Only 5% of digital cinemas did not have a 3D capable projection system. The remaining 15% operated both 3D as well as 2D projectors.

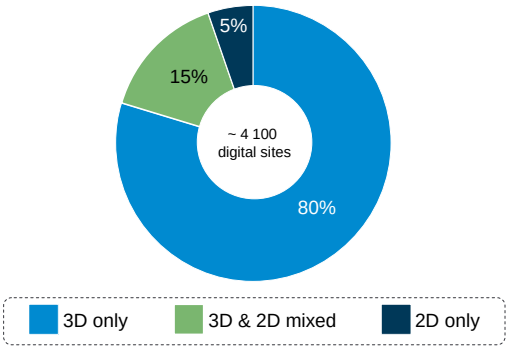
The 80% percentage for '3D only' digital cinemas holds more or less true for all cinema types as can be seen from Table 1. There are only two significant differences between small and large cinemas: '2D only' sites were concentrated among small cinemas while only larger cinemas could afford to mix 2D and 3D projectors.

86% of monoscreens opted for 3D

It is interesting to note that the dominance of 3D sites / screens was actually most pronounced among digital monoscreens. As the majority of monoscreens are operated by small or medium-sized exhibitors which presumably have more limited financial means one might assume that they would opt for the cheaper 2D option. The fact that 86% of monoscreens however converted to 3D suggests that 'premium content' such as 3D is a necessity for most small cinemas to make the economics work.

Figure 1 Digital site split: 3D vs 2D – 2010

in units and % of total digital screens



Source: European Audiovisual Observatory after MEDIA Salles

Table 1 Digital site split by site type - 2010

in % of total number of sites by site type

	Cinema site types				
Site type	Mono-screen	Small miniplex	Large miniplex	Multip-lex[1]	Total
3D only	86%	80%	81%	75%	**80%**
Mixed	0%	12%	17%	25%	**15%**
2D only	14%	9%	2%	1%	**5%**
Total EUR	**761**	**857**	**1 228**	**1 235**	**4 081**

Source: European Audiovisual Observatory after MEDIA Salles

Table 2 Digital screen split by site type - 2010

in % of total number of screens by site type

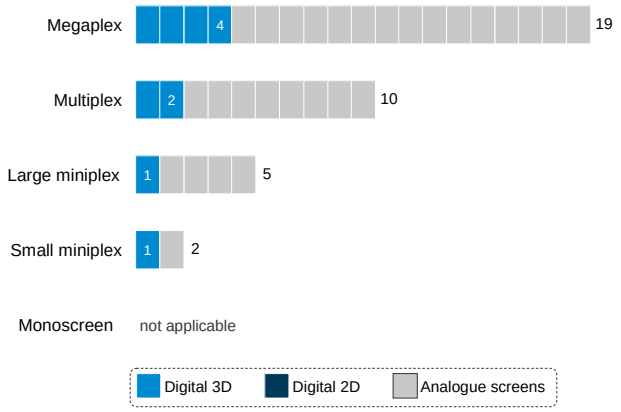
	Cinema site types				
Screen type	Mono-screen	Small mini-plex	Large miniplex	Multip-lex[1]	Total
3D	86%	83%	84%	79%	**81%**
2D	14%	17%	16%	21%	**19%**
Total EUR	**761**	**1 328**	**2 926**	**5 262**	**10 277**

Source: European Audiovisual Observatory after MEDIA Salles

[1] Cumulative data for multi- and megaplexes.

Figure 2 Avg 3D and 2D screens per site for sites with less than 40% conversion - 2010

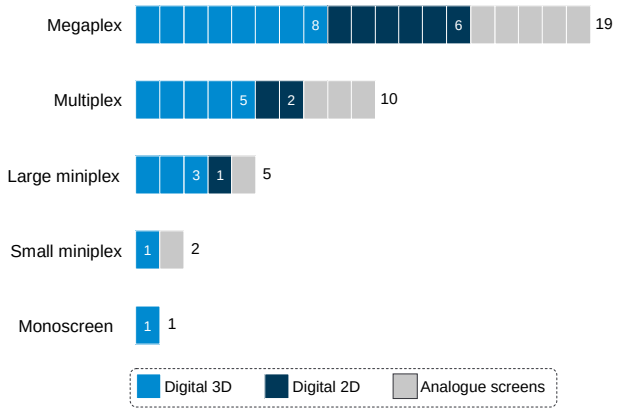
in units



Source: European Audiovisual Observatory after MEDIA Salles

Figure 3 Avg 3D and 2D screens per site for sites with more than 40% conversion - 2010

in units



Source: European Audiovisual Observatory after MEDIA Salles

At the same time it can be assumed that limited financial possibilties and the exclusion of 3D screens from the majority of public funding schemes were the main reasons to explain the – comparatively – high share share of cinemas with 2D projection among monoscreens (14%) and small miniplexes (9%). Practically all larger cinemas (i.e. with more than 3 screens) had at least one 3D screen.

2D only becomes relevant once sufficient 3D screening capacities have been secured

As depicted in Figure 2 the vast majority of cinemas which had converted less than 40% of their screens had installed only 3D screens and no 2D screens at all. Depending on the size of the cinema the average number of 3D screens per site ranged from 1 (small and large miniplexes) to 2 (multiplex) or 4 (megaplex).

Once site conversion increases exhibitors started to install 2D screens as well. Figure 3 shows the average number of 3D and 2D screens for those sites which had converted more than 40% of their screens. Two observations can be made from Figure 3: 2D screens were on average only installed in the larger cinemas but not in small miniplexes or monoscreens. The larger the cinema gets, the bigger the demand for 2D screens. Large miniplexes on average had added one 2D digital screen after having installed three 3D screens, multiplexes two 2D screens (five 3D screens) and the average megaplex converted six screens to 2D after having installed eight 3D screens.

This clearly illustrates that the vast majority of exhibitors had started the conversion of their sites by installing 3D projectors and only once they had built up sufficient 3D capacities, will they opt for the cheaper digital 2D projection solution.

Three to five 3D screens per site seem to be sufficient

How many 3D screens per site are considered as sufficient obviously depends on the site size and the strategy of individual circuits. Figure 3 would suggest that on average three to five 3D screens are considered sufficient in large miniplexes and multiplexes, which account for the vast majority of cinemas actually having the possibility to mix 2D and 3D screens in a meaningful manner. More generally one could conclude that cinemas with five or more screens on average converted about 50% of their screens to 3D.

2D as a market driver for 2011 / 2012

This would also explain the significant increase of 2D installations throughout 2011 which suggests that by the end of 2010 and in early 2011 many circuits had reached a level of 3D capacity which they consider sufficient, at least for the time being. Against this background it can certainly be expected that the number and consequently the share of 2D screens will continue to increase in 2011 and 2012 as many larger circuits pursue the full conversion of their (larger) cinemas sites with 2D screens.

3D may receive another boost from the conversion of the large number of small miniplexes and monoscreens which remain to convert their screens, as they – given their financial capability and programming policy– tend to only install 3D screens.

Conclusions:

- The fact that by 2010 80% of all digital cinemas had installed only 3D screens and a mere 5% had no 3D screen shows the key role of 3D in driving digitisation.
- In general exhibitors only install 2D screens once sufficient 3D capacities have been secured. In most cinemas this seems to be the case with three to five 3D screens or around 50% of screens per site.
- 2D is likely to be the main growth driver throughout 2011 and 2012.

6.2 The resolution question: 2K vs 4K

The ongoing development of digital cinema standards has been discussed in Chapter 2.2. Projector resolution is one important aspect of digital cinema standards. 2K (2048 x 1080 pixels per image) is the minimum resolution requried by ISO standards and is hence generally acknowledged as a dividing line between 'digital' and 'electronic' cinema projection systems.

The question of whether a minimum resolution of 2K is really required for the European theatrical landscape or whether lower resolutions would be sufficient has been raised. It is argued that consumer experience would be equivalent on small screens and that the cheaper prices of projection systems with lower resolutions would bring down investment costs, enabling more small cinemas to convert to digital (see Chapter 2.2).

Unfortunately it is impossible to quantify the relevance of e-cinema solutions in Europe today due to the lack of availability of reliable data on the number of operational e-cinema screens in Europe. In line with common practice, the data collected by MEDIA Salles only include digital screens using DLP technology or Sony's 4K SXRD technology.

However, assuming that the leading distributors, including the US majors, maintain their general policy of releasing their films only on DCI compliant screens (2K or 4K), the resolution question has been solved for the commercial sector: commercial exhibitors have to opt for 2K or 4K projection systems in order to be able to screen e.g. US blockbusters which generally are a *conditio sine qua non* for the survival of practically any commercial cinema.

4K projection remained niche market up to 2010

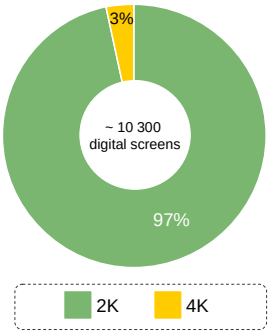
As can be seen from Figures 4 and 5, practically all digital projection systems deployed by the end of 2010 used 2K resolution. 4K projectors only accounted for a niche market of 3% of total digital screens and were primarily deployed by large and major exhibitors in larger cinemas.

Increase in 4K projectors to be expected

All 2K projectors are based on Texas Instruments' DLP Cinema technology while Sony had been the only manufacturer of 4K projectors up to end 2010. The number of 4K projectors however is expected to increase from 2011 onwards as Sony is supporting the installation of its projectors with a VPF-backed financing scheme as a Third Party Facilitator and has been able to close several roll-out deals in 2011 (see Chapter 2.5). Also Texas Instruments started shipping its 4K DLP Cinema chip to licensees in August 2010 and Barco was the first manufacturer to deliver a commercial 4K projection system based on DLP technology in July 2011.

Figure 4 Digital screen split: 2K vs 4K – 2010

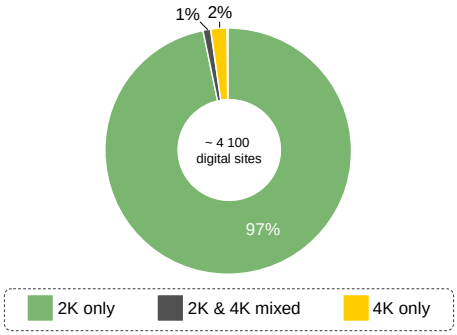
in units and % share of total digital screens, est



Source: European Audiovisual Observatory after MEDIA Salles

Figure 5 Digital site split: 2K vs 4K – 2010

in units and % share of total digital screens, est



Source: European Audiovisual Observatory after MEDIA Salles

Conclusions

- There are no reliable data available on the number of 'e-cinema' screens with below 2K resolution.
- The ISO standard on digital cinema has defined 2K resolution as the minimum resolution for digital cinema projection systems.
- Hence, the use of 'e-cinema' projectors with a resolution below 2K does not seem to be an option for commercial cinemas.
- As of 2010 projectors with 2K resolution dominated practically the entire digital market with 4K projectors filling a niche market of only 3%.
- Deployment of 4K projectors is however expected to increase from 2011 onwards as Sony won several roll-out deals and 4K projectors based on DLP Cinema technology are becoming available.

7 Equipment market share

IN BRIEF

- RealD leads the European market in 3D technology with an estimated 34% market share, closely followed by XpanD and Dolby.
- Christie projectors clearly dominate the European market with an estimated market share of almost 47%.
- Doremi servers are by far the most popular digital cinema servers with an estimated share of 58%.

7.1 3D technology

Description of data sample

2010 data on the projector brand used by exhibitors were available for 3 195 digital 3D sites (83% of total European digital 3D sites). Data were only available on site-by-site basis, but not on a screen-by-screen basis, which makes it impossible to estimate accurate market shares. Site adoption rates, i.e the percentage of sites having installed a certain 3D technology can, however, be used as a proxy. Percentage shares are calculated on the basis of the total digital sites sample for which relevant data were available. Absolute figures double-count sites which had installed more than one brand. Cumulative percentage shares may thus add up to over 100%.

MEDIA Salles research showed that digital 3D technologies from eight different brands had been installed in European cinemas by the end of 2010.

The European digital 3D market is dominated by technologies from RealD, XpanD and Dolby

The market for digital 3D technologies was however clearly **dominated by only three brands**: RealD, XpanD and Dolby. It is estimated that over 90% of the 3 195 European digital 3D sites had installed one of those three systems.

The data sample suggests that RealD was the most popular 3D technology among European cinemas – with 34% of digital 3D cinema sites having installed a RealD 3D system - closely followed by XpanD (30%) and Dolby (28%).

RealD

US-based RealD started in 2003 and exploited its first out advantage to take over 85% market share in its US home market.[2] In Europe, however, RealD has been facing much fiercer competition, capturing 'only' 34% of of those 3 195 European cinemas which had at least one 3D screen by the end of 2010.

RealD's 3D technology is based on passive, low-cost, polarised glasses which can be disposable. However it requires more sophisticated add-ons to the digital projector to enable polarized projection. Due to the heavy light loss in projection, exhibitors also need to have a silver screen to use the RealD system.

RealD proposes a unique license fee-based business model: instead of paying for the system upfront, exhibitors are charged a royalty on each ticket, which brings down investment costs for exhibitors.

As in the US, RealD seems to have been pursuing a strategy to gain market share by securing long-term deals with major theatre chains such as Odeon & UCI cinemas, Cineworld (GB) or Europalaces (FR). This is also reflected by the fact that 68% of the sites using RealD technology belonged to major exhibitors, as shown in Table 2. No other brand seemed to target major exhibitors and – closely linked through the types of cinemas they operate – multi- and megaplexes (see Table 1) as heavily as RealD. As can be seen from Table 3, RealD's market share was particularly strong in markets such as the UK (83% of 3D sites using it), Austria (84%) and Portugal (69%).

XpanD

An estimated 30% of European 3D sites had installed the 3D technology proposed by Slovenian-based XpanD. In contrast to its two bigger competitors, XpanD's 3D technology uses active shutter glasses which have electronics built into their frames. The requirements for the add-on to the digital projector are hence a bit lower. The XpanD system does not require a silver screen. With this active technology solution, XpanD has been positioning itself as a 3D premium solution which requires higher investment costs than passive technologies.

[2] http://www.variety.com/article/VR1118034654?refcatid=3764 '3D technology war' Variety, Mar 30 2011

In contrast to RealD, the XpanD 3D technology has been adopted more or less equally across cinema and exhibitor types of all sizes. Compared to its competitors XpanD seems to be slightly more popular with smaller cinemas and exhibitors. Xpand has captured a leading market share among others in Europe's largest cinema market, i.e. in France (63% of 3D sites using it), as well as in several Scandinavian and Baltic markets (see Table 3).

Dolby Labs

Building on its strong brand in theatrical audio solutions, Dolby Labs (US) entered the 3D technology market in 2004. The Dolby 3D system uses a colour-based interference filter system that requires passive but more expensive, reusable glasses. A silver screen is not required.

The Dolby 3D system is sold outright, without any annual licensing fee or revenue sharing model. In contrast to its competitors, Dolby doesn't sell directly to exhibitors but to third party service providers who put together digital cinema systems for cinemas.

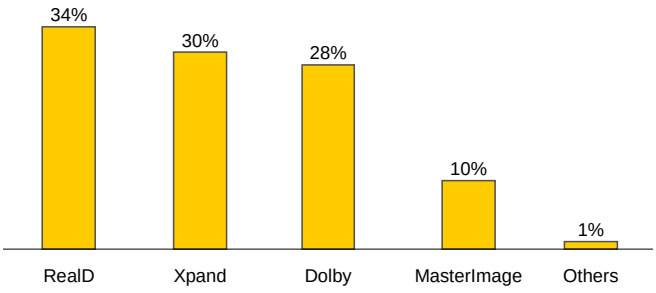
Like XpanD, Dolby 3D has been adopted more or less equally across cinema and exhibitor types of all sizes and caters to many smaller exhibitors as well as Cinema City. The adoption of Dolby 3D seems to be particularly high in many Central and Eastern European markets such as Poland (87% of 3D sites), Romania (72%), Russia (60%) or Hungary (65%) (see Table 3).

MasterImage

The only other company to have equipped a significant number of European digital 3D sites has been US-based start-up MasterImage 3D. About 10% of European 3D sites had installed this technology by the end of 2010. MasterImage 3D technology is similar to RealD's solution, i.e. uses passive, polarized, single-use glasses and requires a silver screen.

However, in contrast to RealD, MasterImage offers its 3D system without license fees or other long-term agreements. With this business proposition MasterImage has been able to win contracts for a dozen mid-sized theatre chains in the US. What is mid-sized in the US seems to fall into the categories of large and major exhibitors in Europe, who operated 77% of the sites which had purchased a MasterImage solution. Major clients include Cineplex (DE) and Ward Anderson (IE/GB). MasterImage took the lead only in two European countries, Luxembourg (67% of sites) and Sweden (42%). It recently signed a major deal with Pathé Gaumont's Europalaces which should strengthen its market position in France.

Figure 1 Digital 3D sites by 3D brand – 2010
in % of total digital 3D sites, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Table 1 Installed 3D brand by site size – 2010
in % of sample 3D sites by brand, estimated

	Cinema site types				
3D brand	Mono-screen	Small miniplex	Large miniplex	M-Plex[3]	**Total sample**
RealD	5%	11%	27%	56%	**1079**
Xpand	19%	26%	34%	21%	**955**
Dolby	22%	23%	32%	23%	**895**
Master-Image	9%	8%	44%	38%	**333**
Others	11%	3%	24%	63%	**38**
Total	**14%**	**18%**	**32%**	**35%**	**3300**

Source: European Audiovisual Observatory after MEDIA Salles

Table 2 Adoption of 3D brands by exhibitor type – 2010
in % of sample 3D sites by exhibitor type, estimated

	Exhibitor types				
3D brand	Small	Medium	Large	Major	Total
RealD	19%	16%	17%	69%	**1079**
Xpand	42%	43%	37%	4%	**846**
Dolby	34%	29%	36%	11%	**778**
MasterImage	4%	12%	10%	14%	**319**
Others	1%	0%	2%	2%	**36**
Total sample	**619**	**604**	**768**	**1067**	**3058**

Source: European Audiovisual Observatory after MEDIA Salles

[3] Cumulative data for multi- and megaplexes.

Other brands

3D systems from other smaller manufacturers, such as IMAX, Volfoni or Eyes3Shut, had been adopted by a cumulative 1% of digital 3D sites. It remains to be seen to what extent the digital 3D market will provide market opportunities for these smaller companies in the medium-run.

Technicolor's film-based 3D technology

Though strictly speaking not part of the digital 3D market, it is interesting to mention Technicolor's 3D technology. While digital cinema roll-out finally has been working its way to the tipping point, the most recent 3D technology to come to market is actually meant to upgrade 35mm rather than digital projectors to 3D. With its proclaimed low-cost solution, Technicolor targets smaller theaters and exhibitors who do not have the financial means to digitise their screens but want to benefit from the current boom in 3D projection. Technicolor uses polarized glasses modeled on RealD's technology and also requires a silver screen. Technicolor sees its solution as a bridge technology for some markets but believes it could be a long-term technology for certain customers and certain markets.[4]

TRENDS

According to a *Variety* article[5], 3D companies are no longer competing on the quality of their technology, as all three leading systems are highly rated by experts. A slight quality advantage is often given to XpanD's active glasses which exclude the possibility of "cross-talk", a double image when the left eye and right eye frames aren't fully separated, which is a problem sometimes faced by passive glasses.

Competition, however, focuses rather on economics. Besides up-front investment costs and license fees, economics are primarily driven by the cost of 3D glasses which are regarded as the heart of the competition between the competing technologies. Though re-usable glasses like XpanD are arguably cheaper over their life time than disposable glasses, exhibitors will not be much influenced as long as they are either subsidised by the technology provider – as RealD does in the US – or they can be sold on to their customers for approximately EUR 1 as done in Europe for RealD and MasterImage glasses.

Table 3 Sites by 3D brand by country – 2010

in % of digital site sample, estimated

Country	RealD	XpanD	Dolby	Master-Image	Oth-ers
AT	84%	9%	2%	-	4%
BE	12%	24%	55%	9%	-
BG	24%	-	76%	-	-
CH	39%	46%	4%	11%	-
CY	17%	-	83%	-	-
CZ	2%	30%	48%	18%	2%
DE	47%	16%	11%	24%	2%
DK	37%	1%	45%	17%	-
EE	-	67%	33%	-	-
ES	42%	23%	23%	13%	-
FI	-	77%	23%	-	-
FR	34%	63%	1%	2%	1%
GB	83%	6%	4%	8%	-
GR	47%	11%	42%	-	-
HR	-	25%	75%	-	-
HU	4%	-	65%	31%	-
IE	49%	9%	-	42%	-
IS	100%	-	-	-	-
IT	34%	27%	30%	9%	1%
LT	-	83%	17%	-	-
LU	-	33%	-	67%	-
LV	-	50%	50%	-	-
MT	-	67%	-	33%	-
NL	33%	36%	6%	22%	4%
NO	33%	8%	51%	8%	-
PL	-	13%	87%	-	-
PT	69%	31%	-	-	-
RO	17%	11%	72%	-	-
RU	1%	32%	60%	5%	3%
SE	9%	8%	41%	42%	-
SI	-	45%	55%	-	-
SK	-	73%	7%	20%	-
TR	23%	74%	1%	2%	-
Europe	**34%**	**30%**	**28%**	**10%**	**1%**

Source: European Audiovisual Observatory after MEDIA Salles

[4] http://www.technicolor.com/en/hi/cinema/3d-in-the-theatre/exhibitors-faq

[5] http://www.variety.com/article/VR1118034654?refcatid=3764 '3D technology war', Variety, Mar 30 2011

7.2 Projector brand

Description of data sample

2010 data on the projector brand used by exhibitors were available for 3 108 digital sites (76% of total European digital sites). Data were only available on site-by-site basis, but not on a screen-by-screen basis. Percentage shares are calculated on the basis of the total digital site sample for which relevant data were available. Absolute figures double count sites which had installed more than one brand. Cumulative percentage shares may thus add up to over 100%.

MEDIA Salles research showed that digital projectors from six different brands had been installed in European cinemas by the end of 2010.

Broadly speaking there are two types of digital cinema projectors. The vast majority of digital projectors use Texas Instruments' DLP cinema technology which has been licensed by all leading brands. Sony has developed an alternative projection technology called SXRD and has focused on the 4K projection segment.

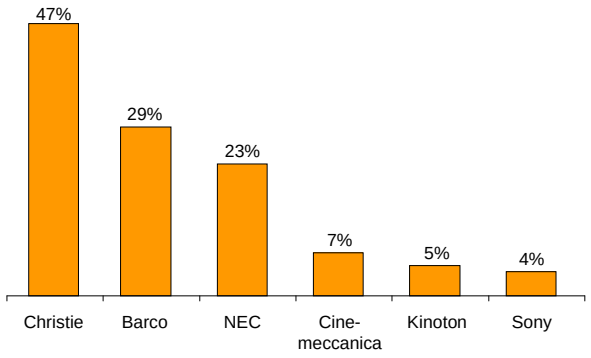
Like the market for 3D technologies, the market for digital cinema projectors was dominated by only three brands in 2010: Christie, Barco and NEC. Practically all of the sample sites had installed at least one projector of these three brands.

Christie market leader in Europe

US-based **Christie** has been producing digital cinema projectors since 1999. In July 2011 the company announced that it had crossed the benchmark of having shipped 20 000 digital cinema projectors to customers worldwide, making it the leading player worldwide.[6] As shown in Figure 2, the MEDIA Salles data sample suggests that almost every second digital cinema site in Europe (47%), had installed at least one Christie projector by the end of 2010, making it the clear market leader in Europe. Christie recently announced a major deal with Cinema City International[7], the largest multiplex theatre operator in Central and Eastern Europe.

Other major European clients included CGR (FR) or Cineplex (DE). The sample data suggest that Christie was the market leader in 18 out of the 35 European markets for which data were available, including major markets such as France (46% of sites using Christie projectors), Spain (51%), Italy (33%) and Russia (45%).

Figure 2 Digital sites by projector brand – 2010
in % of total digital sites, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Table 4 Installed projector brand by site size – 2010
in % of sample digital sites by site type, estimated

	Cinema site types				
Projector brand	Mono-screen	Small miniplex	Large miniplex	M-Plex[8]	**Total sample**
Christie	48%	46%	40%	36%	**1472**
Barco	25%	23%	27%	25%	**913**
NEC	19%	17%	16%	24%	**711**
Cine-meccanica	4%	5%	7%	7%	**232**
Others	5%	8%	10%	8%	**296**
Total	**520**	**615**	**1059**	**1430**	**3624**

Source: European Audiovisual Observatory after MEDIA Salles

Table 5 Exhibitor types targeted by projector brands – 2010
in % of sample digital sites by brand type, estimated

	Exhibitor types				
Projector brand	Small	Medium	Large	Major	Total sample
Christie	24%	19%	27%	30%	**1366**
Barco	17%	15%	27%	41%	**853**
NEC	16%	11%	16%	57%	**676**
Cine-meccanica	12%	25%	37%	25%	**222**
Others	14%	27%	21%	39%	**277**

Source: European Audiovisual Observatory after MEDIA Salles

6 http://www.christiedigital.co.uk/emea/news-room/press-releases/Pages/20k-digital-cinema-milestone.aspx

7 http://www.christiedigital.co.uk/emea/news-room/press-releases/pages/default.aspx#$g_bf1ebd40_95c5_46a7_9734_0068b8e82241;2;10

8 Cumulative data for multi- and megaplexes.

Barco

Belgian-based **Barco** projectors took second rank, with an estimated 36% of digital sites having installed at least one Barco digital projector by the end of 2010. In Europe Barco secured contracts with important clients such as the Belgian Kinepolis Group or Croatian-based Blitz-Cinestar. Barco projectors take the leading position in 11 out of the 35 European markets for which data were available, including several mid-sized markets like Belgium (81% of sites), Ireland (83%), Sweden (51%) or Denmark (50%).

NEC

The third largest digital cinema projector manufacturer on the European market was Japanese electronics giant **NEC**. As shown in Figure 2 about 23% of digital sites in Europe had installed at least one NEC projector. NEC counted Odeon & UCI and Cineworld as two of its major clients, helping the company to a market-leading position in the UK.

As shown in Table 4, Christie projectors were the leading brand across cinemas of all size groups. However, they seem to be particularly popular among monoscreen and smaller cinemas, where they accounted for an estimated 48% and 46% of the total digital sites falling into these two categories. NEC projectors accounted for a disproportionately large share among multi- and megaplexes, lowering Christie's overall dominance somewhat in this category of cinema. In contrast to its two competitors there was no difference in site adoption of Barco projectors among the different cinema types, where they were deployed by a quarter of cinemas across all cinemas of all size groups. While the three leading projector brands have been active on practically all or at least most of the European markets covered, other smaller projector manufacturers like Cinemeccanica and Kinoton have focused their activities on a more limited number of European markets.

Sony

By 2010 **Sony**'s 4K projectors had been installed in only 4% of digital sites. Apollo (GB) was the first circuit to move to Sony's VPF scheme in mid-2009. Since then Sony secured major roll-out deals with, for example, VUE cinemas (GB) and Cinemaxx (DE) in 2011 and it can be expected that their market share will increase over time. Sony had been the only provider of commercial 4K projectors up until mid-2011.

Table 6 Projector brands by country - 2010

in % of digital sites sample, estimated

Country	Christie	Barco	NEC	Cinemeccanica	Others
AT	69%	21%	8%	-	2%
BE	19%	81%	-	-	-
BG	65%	-	-	-	35%
CH	50%	36%	-	14%	-
CY	-	83%	-	-	17%
CZ	47%	27%	16%	-	10%
DE	35%	21%	20%	-	24%
DK	25%	50%	-	-	25%
EE	20%	60%	20%	-	-
ES	51%	22%	22%	2%	3%
FI	19%	54%	17%	4%	7%
FR	46%	29%	21%	2%	1%
GB	34%	14%	45%	-	7%
GR	50%	-	-	13%	38%
HR	14%	-	-	86%	-
HU	48%	31%	-	-	21%
IE	-	83%	17%	-	-
IS	-	50%	-	50%	-
IT	33%	23%	15%	26%	3%
LT	38%	63%	-	-	-
LU	20%	80%	-	-	-
LV	33%	67%	-	-	-
MT	50%	-	50%	-	-
NL	36%	32%	19%	2%	11%
NO	65%	13%	2%	-	21%
PL	44%	30%	13%	-	14%
PT	13%	38%	40%	1%	7%
RO	59%	6%	-	12%	24%
RU	45%	27%	16%	8%	5%
SE	33%	51%	16%	-	-
SI	27%	-	-	33%	40%
SK	65%	35%	-	-	-
TR	90%	6%	-	-	5%
Europe	**47**	**29%**	**23%**	**7%**	**9%**

Source: European Audiovisual Observatory after MEDIA Salles

7.3 Server brand

Description of data sample

2010 data on the server brand used by exhibitors were available for 3 113 digital sites (76% of total European digital sites). Data were only available on a site-by-site basis, but not on a screen-by-screen basis. Percentage shares are calculated on the basis of the total digital site sample for which relevant data were available. Absolute figures double count sites which had installed more than one brand. Cumulative percentage shares may thus add up to over 100%.

Digital cinema servers form an integral part of a digital cinema projection system. According to the MEDIA Salles data sample nine different server brands for digital cinema projection had been installed in European cinemas by the end of 2010

More competitors but higher market concentration

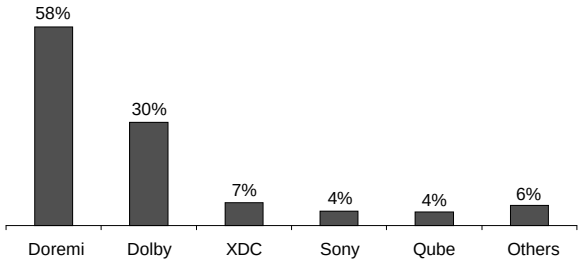
In terms of the number of active players the market for digital cinema servers is more competitive than the markets for digital projectors and 3D technologies. In terms of market concentration however, it seems to be more concentrated. Almost 90% of European digital cinemas had employed servers from only two companies: Doremi and Dolby.

Doremi clear market leader in Europe

The data suggests that Doremi Cinema (US) clearly dominates the European market with 58% of digital sites having used at least one Doremi server by the end of 2010. This high site share in pan-European terms is based on Doremi's leading market position in all the big five Western European markets. In total Doremi servers took the lead in 14 out of the 35 European markets which are covered in this report. Doremi seems to have been the server brand of choice for cinema of all size types but seemed to be particularly strong in multi- and megaplexes where 60% of sites opted for Doremi (see Table 7).

In contrast to other brands such as Dolby, Sony or XDC/Barco, Doremi specializes in stand-alone digital cinema server systems and does not provide digital projectors (like Sony), digital 3D technologies (like Dolby) or financing and deployment services (like XDC). The latters' market share hence was closely linked to the share of their 3D technology deployments (Dolby) or digital projector deployments (Sony; 4% of sites).

Figure 3 Digital sites by server brand – 2010
in % of total digital sites, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Table 7 Installed server brands by site size – 2010
in % of sample digital sites by site type, estimated

	Cinema site types				
Server brand	Mo-nosc-reen	Small miniplex	Large miniplex	M-Plex[9]	**Total sample**
Doremi	50%	49%	50%	60%	**1809**
Dolby	30%	31%	29%	24%	**937**
XDC	3%	6%	8%	6%	**209**
Sony	2%	3%	4%	5%	**131**
Qube	7%	4%	3%	3%	**122**
Others	8%	8%	5%	3%	**180**
Total	**520**	**599**	**1028**	**1241**	**3388**

Source: European Audiovisual Observatory after MEDIA Salles

Table 8 Exhibitor types targeted by server brands – 2010
in % of sample digital sites by brand type, estimated

	Exhibitor types				
Server brand	Small	Medium	Large	Major	Total sample
Doremi	20%	15%	22%	43%	**1 725**
Dolby	18%	21%	35%	26%	**833**
XDC	14%	23%	32%	31%	**209**
Sony	12%	15%	27%	46%	**131**
Qube	39%	18%	21%	23%	**120**
Others	34%	33%	13%	19%	**145**

Source: European Audiovisual Observatory after MEDIA Salles

[9] Cumulative data for multi- and megaplexes.

Dolby

Dolby's high market share in the server market is hence closely linked to the wider installation of Dolby digital cinema solutions. 30% of all digital sites are estimated to have installed at least one Dolby server. Dolby servers were actually most widely adopted among cinema sites in 16 European markets including Russia (49% of digital sites), Sweden (85%), Finland (92%) or Turkey (65%).

2011 saw some activitiy in the European digital server market which may further challenge the leading positions achieved by Doremi and Dolby by the end of 2010.

XDC (now Barco)

In March 2011 XDC announced the sale of its server business (CineStore) to Barco, which hence moved up from projector manufacturer to provider of total digital cinema solutions.[10] Given Barco's leading role in the digital projector market it can be expected that it will be able to increase the market share of XDC's Cinestore solution by creating synergies with its projector business. XDC's dual role as a major Third Party Facilitator offering VPF schemes with US majors on the one hand and as a server manufacturer on the other hand may have limited the market potential of its server business. In 2010 XDC servers held market leading positions in Austria (57% of sites), Switzerland (63%) and Portugal (51%). XDC's CineStore servers might be able to increase their international presence significantly under the new Barco ownership and its established international network.

GDC Technology

Competition on the European digital server market is likely to increase as digital cinema roll-out continues at high pace. For instance, Hong Kong based GDC Technology entered the European market with a major server deal from leading French exhibition chain Les Cinémas Gaumont Pathé[11] in early 2011. The contract covers the deployment of at least 300 servers in France, the Netherlands and Switzerland. This was first major order in Europe for GDC which claims to hold a 70% market share in Asia and to be number 2 worldwide.

Other brands

Apart from these bigger players, there were some smaller brands active on the Europe market including Qube, QuVis and Kodak but with a few exceptions they did not take a significant market share in most European markets as can be seen from Table 9.

Table 9 Server brands by country– 2010

in % of digital sites sample, estimated

Country	Doremi	Dolby	XDC	Sony	Others
AT	26%	17%	57%	-	-
BE	39%	39%	19%	-	3%
BG	24%	53%	-	24%	-
CH	23%	11%	63%	-	3%
CY	-	100%	-	-	-
CZ	50%	21%	6%	4%	18%
DE	60%	13%	18%	9%	-
DK	69%	-	17%	10%	3%
EE	33%	67%	-	-	-
ES	81%	13%	3%	3%	1%
FI	2%	92%	-	2%	4%
FR	91%	4%	2%	-	2%
GB	70%	9%	-	7%	13%
GR	27%	47%	-	-	27%
HR	-	100%	-	-	-
HU	14%	54%	32%	-	-
IE	44%	3%	-	-	53%
IS	-	100%	-	-	-
IT	48%	31%	-	1%	20%
LT	17%	83%	-	-	-
LU	80%	-	20%	-	-
LV	50%	50%	-	-	-
MT	-	-	100%	-	-
NL	72%	6%	12%	10%	-
NO	68%	11%	-	21%	-
PL	39%	59%	3%	-	-
PT	34%	-	51%	-	15%
RO	17%	61%	6%	17%	-
RU	39%	49%	-	-	12%
SE	6%	85%	7%	-	3%
SI	63%	31%	-	-	6%
SK	73%	-	20%	-	7%
TR	31%	65%	-	5%	-
Europe	**58%**	**30%**	**7%**	**4%**	**10%**

Source: European Audiovisual Observatory after MEDIA Salles

[10] http://cineserver.org/news-archives/877-xdc-sells-its-server-technology-to-barco.html

[11] http://www.gdc-tech.com/news/GDC_Les_Cinemas_Gaumont_Pathe_PR_110201_eng_Final.pdf

PART 3 – CHALLENGES FOR THE INDEPENDENT SECTOR

8 Challenges for independent exhibitors

IN BRIEF:

- Small exhibitors, particularly those operating monoscreens, have significantly lower access to digital cinema than larger exhibitors. They are faced on the one hand with comparatively high equipment costs and, on the other, they seem to have more limited access to financing.
- A certain number of small exhibitors thus depend on some sort of public intervention without which they may be unable to convert to digital. However, staying analogue in an increasingly digital world will ultimately become unviable, at least for commercial cinemas.
- In the medium- to long-term smaller exhibitors / cinemas will be faced with an increasing competitive disadvantage as digital cinema favours larger players. Their inability to exploit the economies of scale offered by digital cinema will make it hard for smaller exhibitors to compensate for the permanent increase in capital expenditures.

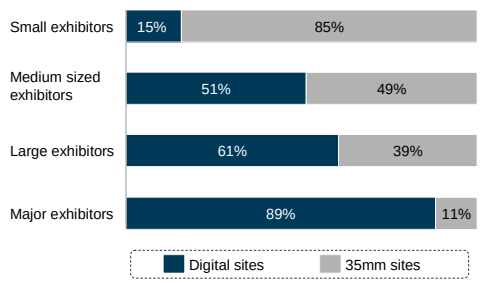
The European independent exhibition sector includes a high proportion of small and medium-sized exhibitors which often operate small cinemas. This chapter tries to identifiy in more detail what might be the specific problems encountered by these smaller exhibitors, both before and after conversion.

Access to digital is a key problem

Chapter 4.1 of this report shows clearly that there are significant differences in digital site penetration among exhibitors as well as cinemas of different sizes. Put simply, the data shows that larger exhibitors have better access to digital cinema, while small exhibitors (operating up to 3 screens) had, as of end 2010, a far lower rate of site conversion to digital projection than their larger counterparts. As shown in Figure 1, exhibitors in the major category (operating 200 screens or more) had installed at least one digital projector in just over 89% of their sites by end 2010, whilst this was the case for only 15% of the sites operated by small exhibitors.

Figure 1 Digital site conversion by exhibitor type - 2010

in %, estimated



Source: European Audiovisual Observatory after MEDIA Salles

Financial barriers to entry for independents

Numerous sources, including statements by industry representative bodies and submissions to public consultations, converge in identifying financial barriers to entry as one of the root causes for limited digital roll-out among smaller and medium-sized exhibitors. These barriers take two main forms, the first of which is the comparatively higher conversion costs for smaller operators acting alone, and the second of which is the unsuitability of prevailing VPF based financing models for conversion.

Comparatively higher conversion cost

Smaller, independent exhibitors face a challenge when it comes to the cost of conversion, as converting alone is certainly more expensive than conversion as part of a group (whether using an integrator or as part of a Buying Group). Though projector costs have declined significantly since the early days of digital cinema (see Chapter 2.4, Figure 9), the average cost range for a 2K screen conversion in 2010 was between EUR 75 000 and EUR 170 000, with the lower end of this price range probably accessible only through discounts for bulk purchase. This implies that small exhibitors converting alone will do so at a higher price than their larger counterparts, which will either delay an investment decision or quite simply render conversion impossible without an alternative financing model, generally involving public intervention of some sort, or through the constitution of a Buying Group.

Lack of access to VPF deals

As has been outlined in Chapter 2, the financing of digital conversion through the use of VPF payments, either negotiated independently or using a third party, is probably

the most prevalent financing model for digital conversion in Europe. Directly negotiated VPF payments apply only in the case of very large circuits or in the specific case of France where these have been regulated by law. In general, however, access for exhibitors to the Third Party Integrator-managed VPF models is usually conditioned on the achieving of a specified turn rate, or number of first-run films, for the screens converted using this method, thus ensuring that VPF contributions will enable the third party to recover its investment.

Until late 2010, this has, in practice, meant principally the rotation of US first-run content, as the Third Party Facilitators deploying VPF schemes have signed up in priority the US majors. Numerous commentators have observed that this puts VPF deals outside the reach of certain types of smaller European independent exhibitors whose screens either do not reach required turn rates (for example, in part-time cinemas, second and third-run and repertory venues and, very generally, in monoscreen cinemas) or who programme primarily European and other non-US independent films. It also appears that certain smaller European territories, such as the Baltic States, have had initial difficulties in attracting third party integrators, as is evidenced by the lower digital penetration rates for these countries.[1]

Insufficient funds to self-finance conversion

In theory, smaller exhibitors wishing to convert but unable to access a VPF deal could use either their own financial resources, or leasing deals and loans to finance their conversion. However, unpublished research by the European Audiovisual Observatory using the AMADEUS database of company financial reports, shows that the financial situation of the sample of European exhibition companies studied was fragile, with around 50% of all the companies with an operating turnover of less than EUR 1 million making a loss in 2008 and debt levels exceeding shareholders' funds in 40% of cases. This suggests that financing conversion drawing exclusively on own resources or by raising loan finance would only rarely be options in this segment. European Investment Bank analysis has also underlined the low creditworthiness of many of these smaller cinemas, and points out that *'virtually no loans are available for this 'complicated' sector'* during the current credit crunch.[2]

In addition many small cinemas in Europe are in municipal or local authority ownership, which again may limit access to commercial loan or leasing proposals, but which does position them closer to sources of public finance. For these, and for other privately-owned smaller sites, alternative methods of financing conversion are required. Typically these require independents to reach agreement on joint action, which can then take various forms. Examples are the Public and Private Buying Groups described in Chapter 2.5.4.

Cinemas at risk in the short term

As outlined in Chapter 2.5, VPF financing schemes have been estimated to leave a funding gap for 15% to 20% of European cinemas, which would thus be unable to finance the conversion to digital cinema. But staying analogue in an increasingly digital world will ultimately become unviable, at least for commercial cinemas. The major challenge is the closing off of access to US studio films as well as national mainstream films, as they may no longer be available on 35mm in the near future. For the many smaller independents, frequently operating in rural areas, whose commercial model depends on access to at least a certain percentage of popular US content, this will generally prove a severe problem. Ultimately this will also hold true for independent European films as once a certain percentage of screens are digitised in a territory, more and more independent distributors are forced to release their films digitally and thus will be increasingly reluctant to maintain dual format releases.

Which cinemas are at risk?

Discussions at the Barcelona conference on "The Independent Exhibition Sector and the Challenges of Digitisation", organised by the Spanish Presidency of the European Union in March 2010, identified with more precision certain types of cinemas which would probably not be of interest to integrators. These included certain monoscreens, cinemas in rural and remote areas which typically would programme mainstream films several weeks after national release as well as cinemas generating low box office returns due to their size or part-time functioning.

A further group of smaller exhibitors, typically operating arthouse screens in urban sites, may also have, up to relatively recently, been unable to participate in VPF deals as their programming was principally European and non-US and the distributors of these films were not generally signed up for VPF payments. As more European distributors sign up with Third Party Facilitators, this obstacle may be progressively removed, as was illustrated by the October 2011 statement by Ymagis concerning Spanish distributors.[3]

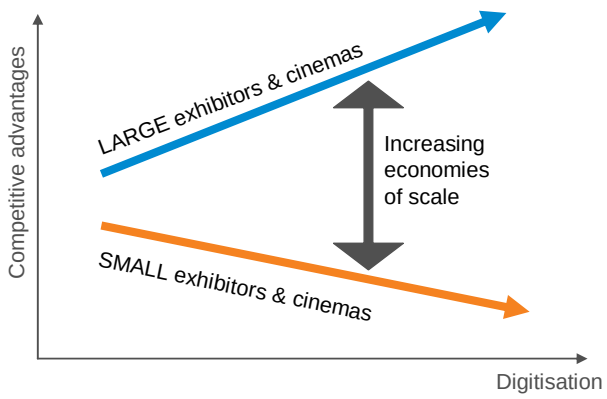
In France, where legislation has made distributor contributions obligatory, at least 1 500 screens out of the 5 500 total are considered as not being able to generate any or sufficient VPF to cover at least 75% of conversion cost, and 1 000 of these are to be the primary targets for direct public support.

[1] For details of individual national penetration rates, see the Country Profiles at the end of the volume.

[2] 'Financing the digital roll-out: where do we stand', presentation made by European Investment Bank analyst, Dr. Patrick Vanhoudt in Barcelona, March 2010.

[3] See page 31 for details.

Figure 2 Digital cinema increases economies of scale in the exhibition sector



Compared to large exhibitors, small exhibitors are likely be faced with :

- Comparatively higher equipment costs
- More limited financial means
- Limited access to Third Party VPF schemes
- Less possibilities to save operational costs
- Less possibilities to benefit from increased programming flexibility due to limited number of screens

Source: European Audiovisual Observatory

Challenges after conversion

Dual operations in the short term

In the short term, when smaller exhibitors do find the means to convert, an early difficulty will be the possible need for the arthouse cinemas to support dual 35mm and digital projection for a longer period than the larger companies, given the varied distributor base these exhibitors would usually work with. This might prevent them from fully exploiting the benefits of digital.

Increasing competitive disadvantage in the long term?

As demonstrated in Chapter 2.4, due to the expected shorter lifetime of equipment the conversion to digital results in higher permanent capital expenditures when compared to the 35mm model. Though this in principle concerns exhibitors of all sizes, small operators may find it more difficult to compensate this higher cost of ownership. Generally speaking they have fewer opportunities to cut costs and find new revenue sources than larger exhibitors / cinemas and are hence more exposed.

As discussed earlier, smaller exhibitors are unlikely to be able to access discounts for bulk purchase of equipment if they have not joined a group scheme of some sort. Hence they will pay relatively higher equipment prices.

Also, once equipment is installed, smaller exhibitors / cinemas will not be able to generate operational cost savings to the same extent as larger operators. For example the conversion of a multiplex would generally permit reductions in the number of projectionists employed, but the conversion of a monoscreen would, evidently, not allow that possibility. But even for multiscreen sites, it appears that the savings made by rationalising the work of projectionists do not make a sufficient contribution according to the operator of a seven-screen French arthouse site, quoted at the Europa Cinemas 2010 conference.

Limited ability to programme flexibly

In principle, digital projection can help smaller cinemas, notably in rural areas and mid-sized cities, to generate higher revenues, through increased access to popular US first runs and possibly 3D and alternative content. Despite this increased access, smaller cinemas have nonetheless significantly reduced opportunities to benefit from the programming flexibility brought by digital projection due to their limited number of screens.

In addition cinemas converted under VPF schemes run the risk of being penalised for not achieving sufficient turn rates. The associated penalties can wipe out the benefits of additional revenue. Finally, where conversion has been partially financed by public funding, either in rural or urban areas, associated programming requirements may possibly create rigidities that reduce opportunities to maximise revenue.

E-cinema as an alternative?

The cost of conversion is also heavily influenced by the decision to install ISO standard (and thus DCI compliant) equipment. Some independents argue that such high-end equipment is not required for their screens, and that cheaper e-cinema solutions would be perfectly acceptable. For example, the German association of arthouse cinemas, AG Kino, has called into question the applicability of the DCI specifications for all cinemas and believes that public support solutions should be technologically neutral.[4] Though non-ISO standard digital projection can be technically satisfactory in certain types of cinemas, the risk is that these cinemas will cut themselves off permanently from first-run programming of US films. In the wider context, the creation of a two-tier system of exhibition is perceived by many commentators as ultimately damaging to the European exhibition eco-system.

[4] "Frankfurter Erklärung: Förderung zur Digitalisierung des Kinos", AG Kino, June 2011.

9 Challenges for independent distributors

IN BRIEF:

- The challenges faced by many smaller distributors are broadly speaking of two types; firstly cost issues related to small scale releases, particularly during the transition period and secondly, issues related to access to screens.
- Current business models of digital cinema favour the wide and short run releases rather than the traditional 'independent business model' which often relies on a limited number of prints running for a longer period of time.
- Digital cinema increases the economies of scale related to distribution of theatrical films and hence puts smaller distributors focusing on limited releases at a competitive disadvantage.
- Changes in programming in favour of premium priced contents, as well as increasing numbers of prints and shorter runs may make it more difficult for independent distributors and limited releases to secure sufficient screen space.

This chapter looks at the principal challenges posed to Europe's dense network of independent distributors by the transition to digital, with an analysis focusing on the issues at stake for smaller independent companies. The main sources for this chapter are the views of members of independent distributor representative group, Europa Distribution, as well as the contributions made by distributors to discussions at the annual Europa Cinemas network conference and to the European Commission's public consultation on digital cinema.

A review of these sources suggests that the challenges faced by many smaller distributors are broadly speaking of two types; firstly cost issues related to small scale releases, particularly during the transition period and secondly, issues related to access to screens.

Cost issues

The central tenet of the case for digital cinema has always been that the use of digital prints will lead to significant cost savings for distributors when compared to the 35mm model. There is no doubt that this argument holds true for the US major distributors and probably also for the largest European-owned companies, at least once a critical mass of exhibitor conversion has been achieved and VPF payments have been switched off.

Costs savings less evident for small distributors

This is the logic that underpins the concept of distributors contributing to exhibitor conversion expenses via VPF and similar schemes. For large-scale distributors the increased cost of the VPF period is a necessary stage on the way to realising the full range of digital savings and efficiency gains. But for numerous small independent companies in the populous European distribution segment (in excess of 800 active distributors) the cost saving argument for digital is, at least in the medium-term, less than evident. For a number of reasons digital distribution costs related to small scale releases may well be equivalent or higher than 35mm when associated costs, for example for a DCP and versioning, and VPF payments and/or access fees are taken into account.

Small scale releases penalised

Broadly speaking, digital cinema seems to favour the business model of wide and short run releases, rather than the traditional 'independent business model' which often relies on limited number of prints running for a longer period of time (see Figure 1).

The VPF model was designed to make large scale releases substantially cheaper, but this is probably not the case for small releases. Research undertaken in the UK showed that for digital releases with less than 51 screens, all but one of the releases actually cost more than a corresponding 35mm release. Similarly in the Italian context, an arthouse distributor speaking at the 2010 Europa Cinemas conference confirmed that, for digital releases in smaller cinemas, at least 15 digital prints were required to avoid losses.

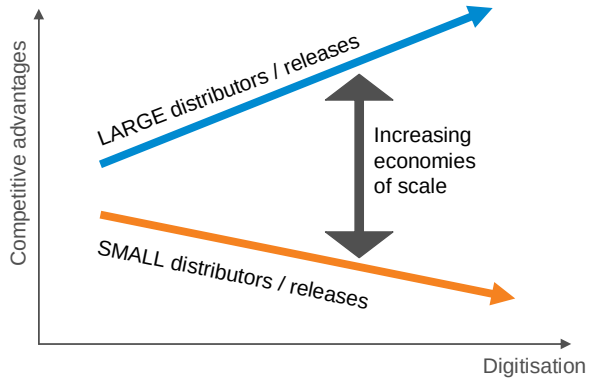
Costly access to digital material

This is partly due to the comparatively high fixed costs involved in versioning and the creation of DCPs in the context of small scale releases. Significant cost savings only come with an increasing number of prints as the marginal cost of creating an additional digital print (variable cost) is significantly lower than in the 35mm format. Small scale releases however do not stand to benefit from these economies of scale.

Furthermore some distributors have been reported to pay significantly more to access digital masters than others with Europa Distribution members discovering that they are being charged widely varying fees in differing territories for access to the digital master of the same film.[5] In other cases distributorshave been required to finance the production of a digital master by producers and/or sales agents, adding significantly to the cost of release.[6]

[5] See 'Digital difference', *Variety*, online edition of 24 September 2011.
[6] Mentioned by two different panel members at the Europa Cinemas conference in 2010. See conference documents online at http://www.europa-cinamas.org

Figure 1 Digital cinema increases economies of scale in the distribution sector



Digital cinema favours wide scale releases:

- VPF models are generally designed for large scale releases and are often prohibitively high for small scale releases
- Low marginal print costs allows blockbusters to be released even wider and will likely lead to an increasing number of prints
- VPF schemes favour higher turn rates i.e shorter runs which will lead to further concentration of box office around the opening
- Larger distributors stand to benefit more from this business model, as they have better resources to handle wide, short run releases.
- Independent releases – traditionally based on a limited, long run release - hence, might find it more difficult to find sufficient screen space.

Source: European Audiovisual Observatory

In some markets, notably the UK, there has even been an initial readjustment in 35mm duplication prices making a 35mm print was cheaper than a digital print. This appears to be the result of the rapid move towards digital by distributors operating in the high volume 35mm duplication segment which has prompted laboratories to reduce their prices, at least in the short term, in order to capture market share among remaining clients. In the medium- to longer-term, however, Screen Digest analysts predict that 35mm will become an increasingly expensive specialty item, thus putting increasing pressure on smaller distributors to move entirely to digital.[7]

VPF prohibitive for independent distributors?

As initially structured, VPF schemes put in place by Third Party Facilitators or by large exhibition circuits were perceived as a poor fit for Europe's independent distributors. Payments were set at rates that were prohibitive for smaller distributors and, where distributors were not signed up to a scheme, reportedly even higher access fees had to be paid in order to book titles on VPF-financed digital screens. In addition, the platform releases often used by these distributors were penalised under the usual VPF arrangements. Independent distributors did not, however reject outright the underlying concept of contributing to digital conversion, rather the threat to their already fragile equilibrium that the early VPF mechanisms proposed. As a French distributor / exhibitor pointed out at the 2010 Europa Cinemas conference, '*the problem isn't the VPFs themselves, but how to fix their cost*'. And when it comes to negotiating VPF levels the position of an individual independent distributor is, in general, rather weak.

Evolutions in the VPF scenario

As roll-out has picked up speed the VPF scenario has evolved. A contributing factor to this was no doubt a relaxing in the terms of the VPF agreements signed between Third Party Integrators and the US majors, allowing the integrators to propose lower payments to certain kinds of distributors without having to offer the same terms to the US studios.[8] Subsequently facilitators have been able to propose conditions better adapted to independent distribution practice, and have been able to sign up more varied groups of distributors, as has been the case in Spain. In parallel a series of collective initiatives has either made a difference to the terms achieved or permitted to bypass third parties altogether. This has been, for example, the case in Switzerland where a group of local distributors have negotiated a VPF agreement directly with a group of medium-sized exhibitors as well as in Italy, where an industry-wide VPF agreement is in place.

In France, legislation passed in 2010 set out the principle of obligatory distributor contributions and, though the level of the contributions was not set down by the law, transparency and lack of distorting effects in its fixing were required. Within this framework collective action seems to bring rewards; for example, 20 French independents have grouped together as DIRECT and have obtained a reported 10 to 15% off the initial VPF proposal.[9]

VPF contracts too long term?

Clearly the remaining challenge for independent distribution in other European territories will be to find a way to act together to negotiate VPF or distributor contributions that are appropriate for their activity. However, many inde-

[7] See 'Goodbye and thanks for all the memories – The end of 35mm', presentation made by Screen Digest Head of Film and Cinema, David Hancock, in October 2011.

[8] See Chapter 2.5.2 for further details of this.

[9] According to a French distributor, a member of DIRECT, quoted in 'The fee furore', *Screen International*, November 2011.

pendents feel reluctant to lock themselves into long-term agreements (between 6 and 10 years depending on the contract) on VPF payments. As a number of contributors to the 2011 Europa Distribution conference in Lyon remarked, ten years is a long time in independent distribution, and the shape of the market could have entirely changed while VPF remains a constant.

Longer dual distribution?

Chapters 4.1 and 4.2 of this report have already shown how certain types of smaller cinemas have been slow to convert to digital projection. This group almost certainly includes many of the arthouse, part-time and repertory cinemas and cultural centres typically served by independent distributors, who will therefore need to continue to provide 35mm prints for use on these screens, while also providing digital prints for use on converted screens in other venues. An additional issue is that some multiscreen venues may need both digital and 35mm, with the title opening on digital in a larger screen and then transferring to a smaller screen where a 35mm print is required.

Given the relatively slow rate of conversion among this type of cinema in many European countries, it appears probable that smaller distributors will therefore need to run dual formats for a comparatively longer period. Conversely, some smaller distributors may find this not feasible and will rapidly bring 35mm to an end, even when there remains a pool of cinemas who would book 35mm prints. As early as 2010, a lack of 35mm prints was remarked upon in Finland, though at that stage only 33% of cinemas had been equipped with digital projectors.[10] Europa Distribution members also point out that digital distribution means no more second-hand 35mm prints, so that distributors in smaller territories or those with late releases will no longer be able to rely on this method of reducing distribution costs.[11]

Increasing fight for screen space?

Exhibitors shifting to premium-priced content?

A key concern at many levels in Europe is the impact of digital cinema on exhibitor programming and fears that exhibitors may increasingly programme content allowing them to charge premium ticket prices such as 3D or Alternative Content. Though it is too early to analyse the impact of digital cinema on programming, 2009 and 2010 data clearly show the highest level of exhibitor interest in 3D during that period.

In addition, smaller exhibitors, particularly in rural areas, might take the opportunity provided by digital to programme lucrative US first-runs rather than national or European content.

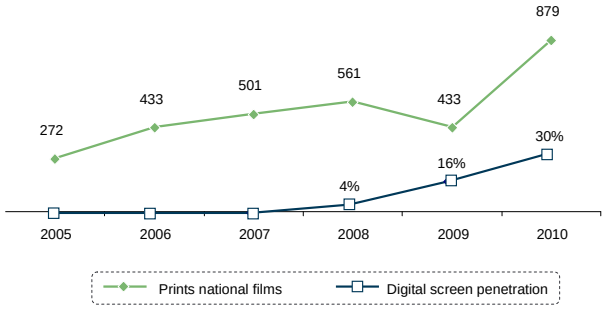
Increasing fight for screen space?

Some independent distributors fear that the structure of most integrator-managed VPF deals will give exhibitors strong incentives to aim for **high turn rates** of US content, probably at the expense of European and other independent films.

At the same time, initial research clearly indicates that digital cinema is likely to increase the number of prints, as indicated by a case study by the Finnish Film Foundation tracking the number of prints for national films between 2005 and 2010 (see Figure 2).

Figure 2 Case study Finland: development of digital screen penetration and prints of national film releases – 2005 to 2010

In units and %



Source: European Audiovisual Observatory after the Finnish Film Foundation

Lower distribution costs for major distributors will allow them to plan even **wider releases for international as well as national blockbusters**, possibly crowding smaller releases out of many cinemas, and reducing the time on screen of the independent films that are programmed.

A concrete example of the uncertainty that surrounds the impact of digital conversion on programming is provided by discussions in the Czech Republic, where public support for the conversion of monoscreen and small cinemas has been provided since 2009. In parallel most Czech multiplexes have converted using VPF systems. The public support programme imposes no requirements in terms of programming on the newly converted cinemas, which have been able to increase their ticket sales and revenues by programming popular US content, notably 3D titles. Some local distributors of Czech and European films interviewed in early 2011 felt that digitisation had thus had a negative effect for them, as cinemas now programmed fewer of their films. Others felt, on the contrary, that smaller cinemas attracting new audiences would, in the longer term, be beneficial, at least for locally-produced films.[12]

[10] Harri Ahokas, Head of Distribution at the Finnish Film Foundation, speaking at the Europa Cinemas network conference in 2010.

[11] In the Europa Distribution response to the European Commission Consultation on State Aids, September 30, 2011.

[12] Distributors quoted in 'No room for Czech film on digital screens', Czech Position, 22 February 2011, http://www.ceskapozice.cz/en

PART 4 – PUBLIC INTERVENTION

10 Forms of public intervention

IN BRIEF

Public intervention in support of digital roll-out takes four principal forms. These are:

1. Initiation and co-ordination of a **Public Buying Group** to improve access conditions for both exhibitors and distributors, with examples in Norway, the Netherlands and Sweden;
2. **Tax-based intervention**, with a unique example in Italy;
3. **Legislative** and regulatory intervention, as exemplified by the French system;
4. **Direct public funding**, with sixty different support schemes available across 13 European countries and on the pan-European level in 2011.

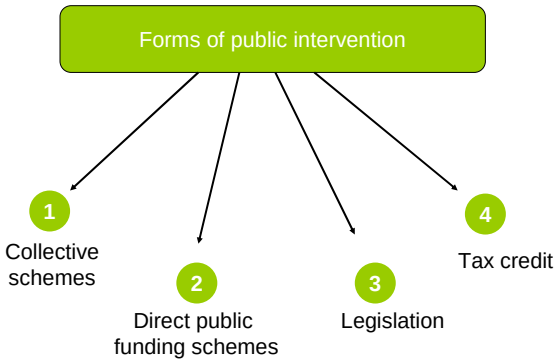
Chapters 2.5.4 and 2.5.5 of this report looked at the role of Public Buying Groups and direct public funding – two forms of public intervention in support of digital roll-out - and have made estimations as to their impact. This chapter looks in more detail at the different forms of public intervention in support of digital roll-out.

Why intervene?

As outlined in Chapter 8, financing the transition to digital projection represents a considerable challenge for many smaller European exhibitors. This financing gap and the threat it poses to the viability of certain segments of the exhibition sector has prompted intervention by European, national and regional public authorities, with four chief motivations: firstly to preserve cultural infrastructure; secondly to ensure access to screens in isolated regions; thirdly to shorten the conversion transition period and finally, to maintain diversity of offer.

Four principal modes of intervention by public authorities can be identified at the time of writing.

Figure 1 Forms of public intervention



Source: European Audiovisual Observatory

Collective schemes

Two large scale collective forms of public intervention are currently in place in Europe, one in Norway and the other a public-private partnership in the Netherlands. These schemes essentially take the form of Public Buying Groups, where a group of exhibitors negotiate as an entity, with total investment cost split between exhibitors, distributors and a public source of finance. In common with two earlier but abandoned collective schemes in France and Germany, these schemes are ambitious, aiming to include almost all cinemas in the territory and to ensure a rapid transition, thus reducing risks for certain kinds of exhibitors and distributors.

A third smaller collective public buying scheme is in preparation in Sweden, led by SKL, the Association of Local Authorities and Regions.

Norway – Film & Kino

Practically all of Norway's screens have already been digitised under this unique initiative, made possible by the specific characteristics of the Norwegian market. With the majority of cinemas in municipal ownership, a Cinema Fund financed by a 2.5% obligatory levy on cinema tickets and video/DVD sales and rentals and a visionary and highly representative industry umbrella organisation, Film & Kino, the Norwegian route to digital exhibition has been a much commented example.

As early as 2006 Film & Kino trialled digital installations and commenced approaches to US majors on both technical standards and business models, specifically VPFs. With the aim of leaving no cinema behind, Film & Kino's digitisation initiative became part of government policy based on the principle of equal access to cultural benefits, allowing mobilisation of the Cinema Fund for this purpose,

with the express condition that other stakeholders must contribute at a level commensurate with their savings from the change-over.

Film & Kino initially (mid-2009) signed agreements with five US distributors, then in April 2010 with Sony, followed rapidly by the other distributors operating on the Norwegian market. The roll-out is financed by using NOK 100 million (EUR 11.1 million) from the Cinema Fund to leverage a total investment package of NOK 400 million (EUR 45 million) and a tender process was used to select the equipment providers and system integrators. Cinemas are offered a basic DCI compliant technical package, with a series of optional extras, such as 3D capability.

Recoupment is through VPF payments from distributors, which are to provide 40% of the conversion costs, while individual cinemas, along with the monies allocated from the Cinema Fund, will cover 60% of the total. This system will run until costs are covered or for a maximum of eight years, though it is estimated that six years will be sufficient to achieve full recoupment. VPF payments are fixed, flat fees per engagement, with a cap in total VPF per film and per cinema, and are applicable to all contracting distributors. They are set at a level inferior to those practised in other territories. In parallel initially automatic, but now selective, screening support is offered for certain kinds of films (notably children's films).

The Netherlands – Cinema Digitaal

Inspired by the "100 Model", an earlier collective transition scheme proposed by the German Federal Film Board, the Dutch collective scheme takes the form of a public-private partnership and acts as a Buying Group for its members. Uniting exhibitor and distributor associations, and co-ordinated by the EYE Film Institute through the not-for-profit organisation, Cinema Digitaal, the scheme plans to convert 500 screens owned by 170 exhibitors as one cinema. The total cost of the scheme, EUR 39 million, is covered by exhibitor contributions, distributor VPF payments (a total of EUR 25 million), public funds (through an ICT implementation agenda project and a contribution by the Dutch Film Fund for a total of EUR 5.4 million) plus projected revenues from Alternative Content.

All Dutch exhibitors can enter the scheme, though three circuits under foreign control who already had other arrangements in place (Pathé, Euroscoop and Utopolis) have announced they will not do so. Cinema Digitaal has signed up Arts Alliance Media as deployment entity and AAM has in turn reached VPF agreements with the 14 distributors members of the Dutch Film Distributors' Association (NVF). After a number of hesitations, 175 screens, including larger circuits Jogchems Theaters and Wolff Cinema Group, were in the scheme in summer 2011 and the first VPFs were paid in July. A second phase in November 2011 targets arthouse cinemas, with approximately 30 cinemas signing up for collective negotiations with Cinema Digitaal.

Sweden – SKL / AffärsConcept

SKL, the Swedish Association of Local Authorities and Regions, has mandated its specialised procurement subsidiary, AffärsConcept, to organise a joint purchase of digital cinema equipment using public procurement procedures. The purchasing group is open to all Swedish cinemas and was notified to the Swedish Association of Cinema Owners. The packages available will include DCI-compliant projectors and servers, 3D add-ons and supplies, audio equipment, other peripherals including satellite receivers and scalers as well as support and maintenance. By August 2011, 65 expressions of interest had been registered, sufficient to procede with the plan, with the calls for tender for purchase due to go out in early January 2012.

Direct public funding

Sixty different support schemes for the conversion to digital projection were identified across 13 European countries and on the pan-European level in 2011. The majority (42) of these schemes were operating at the sub-national level, while 15 programmes were the responsibility of national funding bodies. A further three schemes functioned at the pan-European level. A complete list of these schemes together with budget and support information where available, can be found in Table 2 overleaf, and Table 1 below lists the three schemes which had already been completed prior to 2011.

New schemes which are in preparation for 2012 include a new national plan for digitisation developed by the ICAA and the Autonomous Communities in Spain, which launched with a scheme in the Basque Country in 2011 but which is expected to include further Spanish Autonomous Communities in 2012, and new sub-national support programmes in France (for example in the Nord Pas-de-Calais region and the Orne *département)*. In Slovakia, an special additional allocation from the Ministry of Culture will be distributed by the Slovak national film fund.

Table 2 Direct public funding: completed schemes

Country	Fund	Period	Spend in MEUR	Screens converted
GB	UK Film Council Digital Screen Network	2005 - 2007	12.8	238
IE	Cultural Cinema Consortium (Arts Council / IFB / Dept. Arts, Heritage, Gaeltacht)	2008-2010	1.25	16
PL	Fundacja Rozwoju Kina (Malopolska region)	2009-2010	n/a	14

Source: European Audiovisual Observatory

Table 3 List of schemes identified as in operation in 2011

Country	Funding Body	Start year	End year	Budget entire scheme in MEUR	Awarded to date in MEUR	No. of screens sup-ported	Comments / Date of award and screen data
National support programmes							
CH	BAK / OFC / UFC	2011	2015	8.00	0.55	62	Aug-11
CZ	Státní fond	2009	-	-	3.70	99	Aug-11
DE	BKM	2011	2015	20.00		308	Aug-11
DE	FFA	2011	2013	15.00			
DK	DFI	2011	2014	*4.41*	2.26	84	Sep-11
EE	Ministry of Culture	2009	-	-	*0.11*	*6*	General scheme. Aug-11
ES	Ministry of Culture	2010	-	-	0.91	*20*	General scheme. Oct-11
FI	Suomen Elokuvasäätiö	2009	2013	-	4.71	101	General scheme. Sept-11
FR	CNC	2010	2012		11.01	236	Aug-11
GB	British Film Institute: Rural Cinema Pilot Scheme	2010	2013	1.40	1.40	-	2010
PL	PISF	2011	-	3.60	1.75	38	Aug-11
SE	SFI	2009	2011	1.20	1.20	28	Pilot scheme. Apr-11
SE	SFI	2011	2012	-	0.97	34	General scheme Oct-2011
SE	SFI	2011	2012	1.60			New dedicated scheme. No decisions yet
SK	Audiovizuálny fond	2010	-	-	0.44	15	Dec-11
Sub-national support programmes							
DE	Filmfernsehfonds Bayern	2009	2013	5.00	*2.90*	164	Aug-11
DE	Film und Medien Stiftung NRW	2010	2013	2.00	0.70	28	Aug-11
DE	Filmförderung Hamburg Schleswig-Holstein (Hamburg)	2010	2014		0.35	2	Aug-11
DE	Filmförderung Hamburg Schleswig-Holstein (Schleswig-Holstein)	2011	2013	0.60			New scheme. No decisions yet
DE	Hessische Filmförderung / Wirt-schafts- und Infrastrukturbank Hessen	2011	2013	2.00		29	2 schemes, one ERDF funded. Aug-11
DE	Landesförderinstitut Mecklenburg-Vorpommern	2011	2013				
DE	Medienboard Berlin-Brandenburg	2010	2015	*1.50*	0.69	35	Aug-11
DE	MFG Filmförderung Baden Würt-temberg	2010	2014	2.80	*1.30*	61	Aug-11
DE	Nordmedia	2010	2013	1.40	*0.79*	46	ERDF funded. Aug-11
DE	Rheinland-Pfalz - Ministerium für Bildung, Wissenschaft, Jugend und Kultur / Wirtschaftsministerium	2010	2011	0.80	*0.46*	*20*	2 schemes Aug-11
DE	Saarland Staatskanzlei	2011	2012	0.40	*0.10*		Dec-11
DE	Sachsen	2011	2012	0.40			
DE	Sachsen-Anhalt	2011	2012	0.36			
DE	Thüringen - Ministerium für Wirt-schaft, Arbeit und Technologie	2011	2012	0.20			

Country	Funding Body	Start year	End year	Budget entire scheme in MEUR	Awarded to date in MEUR	No. of screens sup-ported	Comments / Date of award and screen data
ES	ICAA / Gobierno Vasco	2011	2012	0.44	-	-	New joint scheme. No decisions yet
FR	Collectivité Territoriale de Corse	2011	2013				
FR	Massif Central (Auvergne and Limousin regions)	2009	2010				
FR	Département Deux-Sèvres	2011	2013				
FR	Département Essonne	2010	2012				
FR	Département Mayenne	2011	2012				
FR	Région Alsace	2011		0.30	0.06	3	Jul-11
FR	Région Aquitaine	2009 /2010	2011	2.50	2.07	89	Pilot scheme 2009, main scheme 2010. Oct-11
FR	Région Basse-Normandie	2011	2012				
FR	Région Bourgogne	2011					
FR	Région Bretagne	2011		2.60			
FR	Région Centre	2011	2012				
FR	Région Champagne-Ardenne	2011					
FR	Région Franche-Comté	2011	2014		0.32	23	Aug-11
FR	Région Haute-Normandie	2011					
FR	Région Île-de-France	2010	2015	3.20		80	Budget is 2011 only. Aug-11
FR	Région Languedoc-Roussillon	2011					
FR	Région Limousin	2011		0.53			
FR	Région Midi-Pyrénées	2011	2015	2.00			
FR	Région Pays de la Loire	2011					
FR	Région Picardie	2011	2013	0.50			
FR	Région Poitou-Charentes	2010	2012				
FR	Région Provence-Alpes-Côte d'Azur	2011					
FR	Région Rhône-Alpes	2010			0.28		
FR	Ville de Paris	2010	2013	2.10			Budget is 2011 only
IT	Regione Lombardia	2011		2.00			First round closed Sept-11. No results yet
IT	Regione Puglia	2011	2013	1.30			ERDF funded
IT	Regione Toscana	2010	2013		*1.82*	*49*	ERDF funded. Dec-10
Supranational programmes							
S-E Europe	Eurimages	2011				6	6 cinemas supported as of Oct-11
MEDIA mem-bers	Europa Cinemas	2009	2013				Progamming bonus for digital screenings
MEDIA mem-bers	MEDIA 2007	2011	2013	2.00	*2.00*	*100*	Budget is 2011 only. Awards /screen numbers are expected as decisions not yet announced.

Note: figures in italics are estimates.

Source: European Audiovisual Observatory

It is important to note that Table 2 lists only schemes which provide support for the **installation** of digital projection equipment or for the costs associated with that installation. Other kinds of support activities can, however, also have an impact in the area of digital roll-out. These include:

- Production support which includes requirements for supported projects to produce a digital master;
- Distribution support which helps to meet the costs of digital distribution of films. This kind of support may take the form of assistance with VPF payments;
- Training support to enable exhibition and distribution professionals to upgrade their skills and adapt their strategies;
- General modernisation support which may cover some of the preparation costs for digital installations.

Legislation

The French legislative approach to the financing of the conversion to digital projection is unique in Europe. The French national film and moving image agency, the CNC, which also plays a regulatory and consultative role for the industry, had originally intended to create a mutual fund, allowing all cinemas to digitise together, while safeguarding both exhibitors' programming freedom and distributors' capacity to plan their releases. A negative opinion from the national competition authority in early 2010 led to the adoption of a different two-step solution. The first part of this was the passage of a bill rendering distributor contributions to the cost of exhibitor digital conversion obligatory, and the second a programme of specific direct support for those cinemas who would not be able to cover at least 75% of their digital conversion costs from distributor contributions.

The main points of the law voted on 30 September 2010[14] include:

- Distribution contributions, either directly or via a third party, are made obligatory;
- Payment is due for each screen during the first two weeks of the film's national release for the first release in the cinema or where the release corresponds to a widening of distribution. Payments are not required in cinemas considered as *de continuation*, in other words, starting exploitation more than four weeks after national release;
- Contributions will continue until exhibitors have recouped their investment or for a maximum period of 10 years after the initial installation of the equipment or at latest up to 31 December 2021;
- Payment levels are not fixed by the law, but a framework for exhibitor–distributor negotiations is established, which must take place on equitable, objective and transparent terms for both parties. An arbitrating authority is nominated and full transparency of the deals struck is required;
- Practices or contractual clauses aiming to make programming choices or rental fees dependant on the level or payment of the distributor contribution are prohibited. Such clauses in VPF agreements pre-dating the law are considered as non-written;
- An inter-branch consultation committee is established to provide recommendations for practical implementation and the existing industry mediator receives extended powers.

Tax-based intervention

A different form of public intervention exists in Italy, where during 2009 a package of tax measures concerning the film industry was introduced. One of these was a tax credit for exhibitors installing digital equipment. When the package was approved by European Commission competition authorities in 2009, the digital tax credit was excluded from the approval and the Commission launched an investigation into the proposed measure. Pending the outcome of this investigation the tax credit was nonetheless made available, but within limits acceptable under the Commission's *de minimis* regulations.

The system proposes a 30% tax credit within the limits of EUR 50 000 per screen up to a total of EUR 200 000 over three years (and EUR 500 000 if the application was made before end 2010 and the cost incurred after June 2009). The credit is available for all cinemas with less than 5 screens as well as complexes of 5 to 10 screens situated in towns with less than 50 000 inhabitants. However, if costs are incurred for the conversion of complexes of 5 to 10 screens in towns with more than 50 000 inhabitants or in multiplexes with more than 10 screens, Italian and European films must represent 50% of total screenings for the three following years. The package of tax measures, originally intended to end in 2010, has now been extended to end 2013.

Between the 2009 launch of the digital tax credit and the end of 2010, applications from 303 exhibition companies for the conversion of 760 screens in 514 cinemas were approved. 284 of these screens were in monoscreen and miniplexes (2 to 4 screens). 327 were in establisments of between 5 and 10 screens and 149 were in larger cinemas. A total of EUR 20.5 million in tax credits was granted, corresponding to eligible expenses of EUR 66.6 million.[15]

[14] Loi n° 2010-1149 du 30 septembre 2010 relative à l'équipement numérique des établissements de spectacles cinématographiques, published in the *Journal Officiel* on 1 October 2010.

[15] See 'La via italiana al tax credit e al tax shelter per il cinema', report available on the website of the MiBAC – DG Cinema.

11 The design of direct public funding schemes

IN BRIEF

- Direct public funding schemes generally target 'cinemas at risk'.
- These are defined by using criteria such as number of screens per site and admissions and box office thresholds.
- 6 out of 60 current schemes require an advance commitment to a specific kind of programming as a condition for support.
- 29 out of 60 schemes for which guidelines are available explicitly require ISO standard 2K equipment.
- 16 out of a total of 60 schemes explicitly support 3D installation.

All direct support schemes target certain kinds of cinemas, generally those considered as at risk in the relevant country or region. Eligibility conditions are the main filtering mechanism, with selection criteria used to prioritise among eligible cinemas, and support conditions (usually programming requirements) used in some cases to ensure the outcome corresponds to the policy imperatives underlying the support.

This section looks at the design of direct support schemes, in terms of both the **eligibility and support criteria** which are announced. Of particular interest in this context are the **programming requirements** which can be a condition of support. It also looks at the extent to which schemes are specific in relation to the **equipment requirements** and **3D** as well as their **combination with other sources of finance**, either public or private.

Eligibility criteria

Generally targeting 'cinemas at risk'

As funding programmes frequently target cinemas which are considered to be at risk, eligibility criteria are used to restrict access to the scheme to the relevant group of cinemas for the country or region in question. Access criteria retained include admissions, exhibitor turnover or box office, screen numbers, activity thresholds, population basins / catchment areas and programming requirements.

Screen number limits are the most frequently applied

Screen numbers, combined with population/catchment area requirements are the most frequent way of filtering access to public support. Only three of the national schemes currently operating apply no criteria in terms of screen numbers: these are the Czech State Fund programme, the Finnish Film Foundation programme and the Polish Film Institute scheme. However the Finnish scheme targets cinemas in small and medium-sized localities and the Polish scheme is for arthouse cinemas only. Pilot schemes, by their nature, tended to accept all sizes of cinema – this was the case for both the UK Film Council's Digital Screen Network and the Swedish pilot scheme run by the SFI. All of the French schemes, both at the national and the sub-national level, exclude cinemas which belong to circuits of more than 50 screens, even those which would individually be small enough to qualify. Most of the French programmes target cinemas with less than 3 or 4 screens, but larger cinemas are supported in some cases where they are officially recognised as 'art et essai' (arthouse). The Swiss programme also excludes larger cinemas and circuits, as do the three Italian sub-national programmes.

Admissions and box office thresholds applied mainly in Germany

Exhibitor admissions or box office thresholds are not widely applied, with the exception of the German schemes at both national and sub-national level.

The two national level schemes, which are financed respectively by the Beauftragter für Kultur und Medien (BKM) and the German Federal Film Board (FFA), launched in February 2011. These schemes are aimed at what are called 'Kriterienkinos', which includes repertory cinemas and arthouses but also more commercial cinemas serving smaller towns with lower levels of income and admissions. The principal access conditions are a combination of screen numbers and admissions and box office thresholds, both upper and lower:

- Cinemas with up to 6 screens and larger cinemas in areas of less than 50 000 inhabitants can be supported.
- A bonus is offered for cinemas in areas with less than 20 000 inhabitants.
- Cinemas must have, however, per screen and on average over the last three years, a minimum of EUR 40 000 in net box office (or total admissions of at least 8 000) and no more than a maximum net box office of EUR 260 000.

The schemes run at the sub-national level by the German *Länder* funds are intended to work in tandem with the national schemes. They thus without exception all apply the 8 000 admissions threshold. There are, however, some regional differences in terms of the minimum net box office which can be used as a alternative measure. It would appear from the design of these schemes that the financially weakest cinemas will be ineligible for support, and thus must either remain analogue or to move to cheaper non-ISO standard digital solutions.

Outside of Germany, admissions and box office constraints are less prevalent. Most of the sub-national programmes in **France**, including those in Corsica, Haute-Normandie and Paris, exclude cinemas with over 7 500 average admissions per week if not officially recognised as 'art et essai' (arthouse). A new scheme launched by the SFI in **Sweden** in 2011 targets cinemas with a box office of less than an annual average of SEK 2 million (EUR 220 000) per screen. At the pan-European level, the **MEDIA 2007** support programme for digital conversion requires applying cinemas to have had at least 20 000 admissions in the previous 12 months. In a more general way, many programmes require that the applying cinemas demonstrate that the business is viable and will continue to operate in the years following the support award.

Population limits used in combination with others

Population limits as ways of defining target localities are used in **Germany**, in combination with screen and box office / admission criteria, and support bonuses are provided to localities with very small populations (less than 20 000 inhabitants). Support programmes in the **French** Centre and Languedoc-Roussillon regions also limit access by population if the cinema is not recognised as an arthouse. The **Finnish** programme targets small and medium-sized localities and cinemas with general programming can apply to the **Swedish** digitisation scheme only if they are situated in areas of less than 250 000 inhabitants. 'Local cinemas' in population basins of less than 20 000 inhabitants are supported under the **Danish** Film Institute scheme. The ERDF-funded programme in the **Italian** Apulia region gives favourable weighting in the selection process to monoscreens, cinemas situated in historic city centres and to cinemas in towns with less than 60 000 inhabitants.

Programming requirements

These are applied either as an eligibility criterion or as a support requirement, but can also intervene in the calculation of the amount of support to be awarded.

Programming requirements as eligibility criteria

For some schemes, only screens with certain kinds of programming may apply for support. This type of condition applies in schemes in Denmark, France (sub-national), Germany (national and sub-national), Poland, Slovakia, Spain (sub-national) and Switzerland. This is also the case for cinemas applying to the pan-European MEDIA 2007 and Eurimages programmes.

Requirements concern in general 'quality' or arthouse programming and are often expressed in terms of the share of certain types of films in the cinema's programming.

A sophisticated use of this type of criteria is applied in **Switzerland**, where the initial eligibility of cinemas depends on the percentage of Swiss, European and films from smaller countries programmed. The amount of support paid annually to each cinema is calculated using a weighting system based on film origin, admissions and screenings over a three-year period.

In **Denmark**, cinemas considered as 'special repertoire', with at least 60% of programming of non-US films and local cinemas programming 25% of Danish films are specific categories eligible for support.

In **France**, the existing system of registration of cinemas as 'art et essai' based on their programming has been used as one of the entry criteria and the **Polish** Film Institute's scheme is exclusively for cinemas with arthouse programming. Similarly entry to the Cultural Cinema Consortium digital conversion scheme in **Ireland** was only for cinemas with 'diverse programming on a year-round basis'.

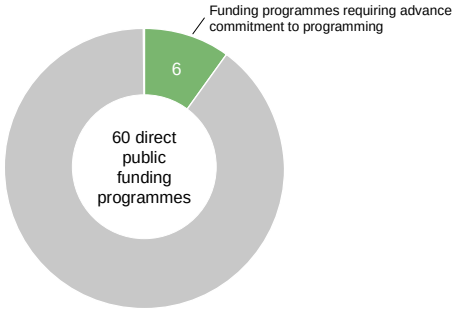
In a number of cases, higher levels of support are available for cinemas qualifying as arthouse or repertory. This is the case in **Switzerland** but also for many of the **German** schemes where receipt of one of the annual regional prizes for quality programming is often an important qualifying factor. A bonus for cultural programming and event organisation is available in the support scheme in the French region of Brittany. In **Slovaki**a, only cinemas which have an established programming of European and Slovak films will be considered eligible. Finally the **MEDIA 2007** support scheme requires that cinemas have screened a minimum of 50% of European films of which 30% are non-national – in addition these must be first-run cinemas.

Programming requirements as support criteria

The second type of programming requirement is where exhibitors receive support in exchange for a commitment to a certain kind of programming. These may be the same conditions that were required to access the programme (for example in Spain or Switzerland) or they may be **new programming commitments made in advance**. Conditions of this sort are currently attached to six schemes in Denmark, France (national selective scheme), Poland (national scheme), Slovakia, Spain (sub-national scheme in the Basque Country) and Switzerland (see Figure 1). Two now completed schemes also included stipulations of

this type – these were the UK Film Council's Digital Screen Network and the Swedish Film Institute's 2009 pilot project.

Figure 1 Number of funding schemes requiring advance commitment to certain kind of programming – 2011 estimated



Source: European Audiovisual Observatory

Requirements can concern attaining a certain percentage of national films (Poland), or European programming (Slovakia) or a mixture of European (including national) and non-US programming (Spain and Switzerland).

Programming requirements are defined on a case-by-case basis for the **French** national selective scheme while the **Danish** scheme takes a different approach. Two schemes exist in Denmark, the first a classic digital conversion scheme for cinemas in rural areas programming 25% of Danish films and for cinemas with a majority of non-US programming. All other cinemas can benefit from the second scheme, which provides special bonus payments for the digital screening of Danish films, thus incentivising larger cinemas to programme local production.

The pan-European **Europa Cinemas** scheme takes a similar approach, providing a bonus for the programming of European films on digital screens in the network.

The **Polish** support conditions include a slightly different approach to programming requirements by obliging supported cinemas to join the National Digital Cinema Network for a period of at least 10 years as well as programming at least 25% of locally-produced films.

The Basque Country scheme in **Spain** has relatively stringent requirements, ranging from 35% to 50% of European Union and Latin American programming depending on the number of screens. A variant is the requirement that cinemas undertake cultural and education activities, and sometimes specific initiatives for young people. These can be found in France (sub-national programmes) and Poland. A number of the **French** regions also encourage supported exhibitors to programme films supported by the region.

To a certain extent some other schemes contain an **implicit programming requirement** – for example, where art house cinemas qualify for support, they are presumed to continue to operate in this category after the new equipment has been installed.

The transparency and reporting clauses usually included in support agreements can be considered as contributing to monitoring such changes in programming post-digitisation.

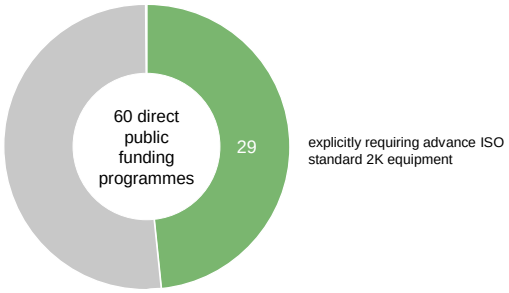
Some schemes are explicit in their treatment of non-compliance – equipment was withdrawn if programming requirements were not met in the UK DSN scheme and in Switzerland the annual support award is either reduced or not paid if diversity of programming and results fall below the required levels.

Technology requirements

10 of the national and 19 of the sub-national schemes for which guidelines are available, specifically require the installation of ISO standard equipment. This is described in the respective guidelines as either 'DCI compliant' or 'ISO standard' or occasionally as a local equivalent (in France, NF S.27.100).

A specific situation applies to 10 of the German schemes which require the installed equipment to be compatible with the 'economic and artistic sustainability of the cinema'. In general this is considered to be 2K equipment capable of complying with DCI standards. This clause is used in the two national level schemes (BKM and FFA) and for 8 of the sub-national programmes. The remaining 6 out of the 16 schemes require DCI compliant equipment.

Figure 2 Number of funding schemes explicitly requiring ISO standard 2K equipment – 2011 estimated



Source: European Audiovisual Observatory

At pan-European level, the Eurimages scheme requires DCI compliant installations, whereas the MEDIA digitisation scheme supports side costs associated with projectors meeting DCI or ISO **security** standards, thus implying that the side costs of installation of projectors which are not **fully DCI compliant** would be acceptable.

The **UK** Rural Cinema Pilot scheme provides specific DCI standard touring equipment and 3D equipment but also other standards in function of local needs. A similar situation prevailed in the **Irish** Cultural Consortium scheme (currently closed) where operators could be supported for DCI and non 2K equipment.

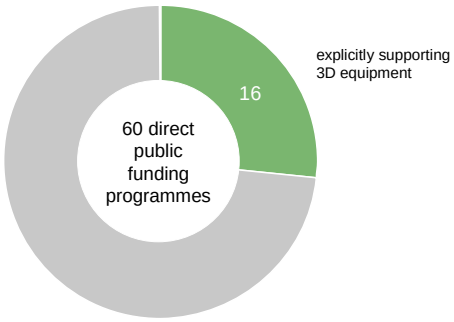
Naturally, no support programme makes any recommendation for makers or suppliers of equipment and the **Polish** Film Institute guidelines specify that equipment must be acquired via a tender drafted so as to ensure that no possible supplier be excluded.

The pan-European **Eurimages** scheme is somewhat different in this regard, as the scheme functions to some extent as a purchasing group and has contracted with XDC to supply all the cinemas supported. Choice of supplier of the equipment is left to the individual cinemas in consultation with XDC and VPFs are not used.

Support of 3D equipment

3D equipment is generally not supported, with only 16 programmes specifically providing for this, notably in F**rance** where the national scheme covers 3D, which incites many regional schemes to follow suit, though all of them do not mention this specifically in scheme guidelines.

Figure 3 Number of funding schemes explicitly supporting 3D equipment – 2011 estimated



Source: European Audiovisual Observatory

In **Germany** the schemes in Bavaria and Rheinland-Pfalz cover the costs of 3D but 3D add-ons are neither covered at the national level nor in the remaining 12 sub-national schemes. Schemes in **Slovakia** and **Sweden** specifically exclude 3D and the **Danish** scheme for conversion does not cover 3D costs but requires that installations be 3D ready. The **Swiss** scheme, which operates as a 'programming bonus' for use in conversion, does not mention 3D as presumably this is left to the discretion of the individual operators

Compatibility with other sources of finance

Most schemes require an own investment by the cinema operator, for example 10 or 20% of the total cost in the most of the French regional schemes. There may be however some restriction on the combination of other sources of finance.

Compatibility with other public funding

The vast majority of schemes are compatible with other types of public sources of financing and in cases where national and sub-national schemes exist, they are generally deliberately designed to be compatible. For example, in Germany BKM funding is available only in German *Länder* where there is a regional funding scheme. In France, a number of the regional schemes are conditional on having obtained support from the national selective scheme. Most of the schemes are operating under *de minimis* rules, so successful applicants must prove that their company has not received more than the threshold level of EUR 200 000 in public *de minimis* support during a period of three tax years.

Combinations with VPF

Only six schemes make very specific reference to integrators and VPF payments. In Switzerland the scheme specifically excludes cinemas with 'non-transparent' VPF contracts and which limit the access of other distributors; in France cinemas applying to the national scheme can use intermediaries but must make clear how the intermediary will treat public support (deduction or not, partial or complete). In the French regional scheme in the Essonne region, cinemas with VPF contributions were originally excluded. The Slovak scheme requires 50% of finance to come from other sources, including from third parties. In Spain, the Basque Country scheme is compatible with VPF payments under certain conditions, and at the pan-European level, the MEDIA 2007 programme specifically excludes support to cinemas which are signed with Third Party Integrators. All of the German schemes prohibit leasing arrangements and some of them also exclude funding where equipment is acquired through hire purchase.

Finally, some schemes will allow retrospective application for expenses already incurred. This is notably the case for the French regional schemes.

OUTLOOK

SHORT TERM

Roll-out trends

In 2011 large scale digital cinema roll-out seems to have entered into its second phase, with full circuit conversion and public funding schemes replacing 3D as the main drivers.

Full circuit conversion to drive 2D installations

The full conversion of all sites which had installed at least one digital screen by end 2010, i.e. 'digital sites', would take European screen penetration to 63%. Given that these cinemas had converted only about 40% of their screen base by the end of 2010 and that most of the larger circuits had signed up to VPF schemes obliging them to 100% conversion within a certain period of time, it seems obvious that full circuit conversion has been a major driver for the increase from 29% to an estimated 50% in European screen penetration during 2011 and that this will continue to be the case in 2012. 2010 data suggest that many larger circuits had built up near to sufficient 3D capacity and full circuit conversion consequently will focus on converting the remaining screens to digital 2D.

Public initiatives to create new 'digital sites'

Simultaneously, the increased implementation of public initiatives will enable many formerly 'analogue' sites to gain access to digital and provide another stimulus to increase the number of digital screens in order to keep the costly transition period as short as possible.

Analysis based on 2010 data would suggest that these smaller cinemas – depending on financial capability and programming policy – tend to install 3D capable screens. If the large number of small analogue cinemas find a solution to finance the digital conversion, this could drive a second wave of 3D installations.

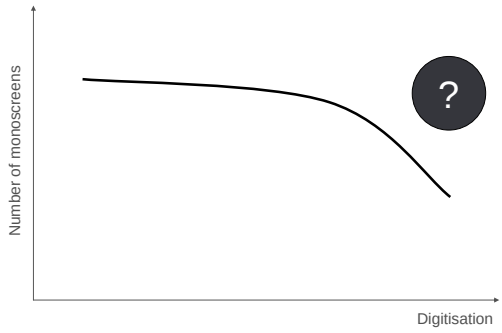
Challenging situation for monoscreens

While larger cinemas are pressing ahead with the conversion of their screens, small cinemas, particularly monoscreens, seem to have major difficulties in financing the conversion and making the economics of digital cinema work for them. As shown in Chapter 4.2 only 11% of the almost 7 200 monoscreens had digitised their screen by end 2010, compared to 89% of multiplexes. Given the fact that almost 60% of all European cinemas are monoscreens and consequently form a characteristic part of the cinema landscape in many European countries, this poses a serious challenge for European cinema. Though they presumably do not make a major contribution to overall box office levels, these cinemas may play an important social and / or cultural role.

Realistic risk of many monoscreen closures

As mainstream roll-out is progressing quickly and the end of 35mm distribution of feature films is approaching, there is a realistic risk that many of these monoscreens will close down. Numerous public initiatives have been launched since 2009 / 2010 to support smaller cinemas, but given the high cost of converting to digital cinema it is unlikely that public funding can support all or even most of these cinemas. Collective schemes based on a certain degrees of mutualisation seem to be most promising approach to maintaining the diverse European theatrical landscape.

Future of monoscreens at risk



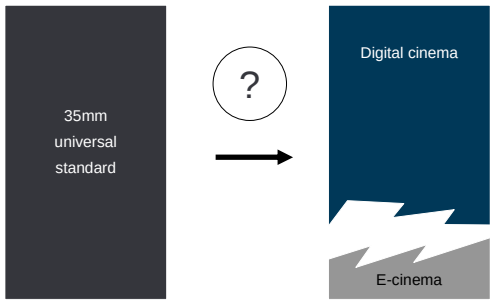
Source: European Audiovisual Observatory

E-cinema as a solution?

As many of these smaller, second-run cinemas are operating on very narrow margins even in the 35mm business model, which allowed them access to both equipment and content at low cost, it remains to be seen whether a further decrease in digital equipment cost combined with public funding could provide them with a viable business model or whether many of them simply may not be able to afford to run digital projection systems which are DCI compliant / conform to ISO standards in the medium term, and would therefore opt for e-cinema systems.

This would effectively end the universality and interoperability of theatrical film distribution and create a completely separate market for the distribution of films on other digital formats like BluRay Discs. However, this hypothetical trend is purely anecdotal as there are no reliable data available to test this hypothesis.

A technological two-tier market?



Source: European Audiovisual Observatory

Business models to adjust and to develop during costly transition period

The film industry is currently in the midst of the transition from an analogue to a digital value chain.

Public initiatives required to complete roll-out?

Most distributors but also some exhibitors are currently forced to support both 35mm as well as digital formats, which can be extremely costly and cause significant financial strain particularly on smaller players. The transition period is costly for most stakeholders and there seems to be general agreement that it should be kept as short as possible. However, conflicting interests between stakeholder groups continue to be obstacles to a full and rapid transition. It seems that it may require public initiatives such as industrywide roll-out schemes, as in the Netherlands, or legislation, as in France, to quickly conclude the digitisation process in certain markets.

Many current problems are transitory but could be around for a while

In addition to dual formats, business models and indeed the value chain as a whole have not adjusted to digital distribution yet and are in an ongoing development process. This seems to cause problems such as prohibitive VPF fees making small scale digital releases unprofitable or unpredictable and discriminative pricing for digital material. Most of these problems however are likely to be transitory and will be resolved as digital practices and business models evolve and VPF payments – possibly – end for good. This however may take some time and happen only once the transition has been completed in major markets and stakeholders have gained more experience in the day-to-day operations of theatrical film distribution in a fully digital world.

End of 35mm distribution

Screen Digest regards an 80% digital screen penetration as the critical benchmark to bring about the end of commercial 35mm film distribution. Norway, which has reached practically 100% penetration in 2011 and Belgium, as well as Luxembourg, are believed to the first markets which will switch to exclusively digital distribution. Generally the 'film switch off' will be likely to happen country-by-country and then region-by-region. However, it is argued that once major markets like the UK or France switch off, which Screen Digest believes to be the case by end of 2013 and mid-2014, the demand for 35mm stock will drop significantly and the economics of 35mm distribution will rapidly deterioriate for those exhibitors and distributors that still depend on it. Some consider this a threat scenario and expect the transition to last a bit longer with distributors deciding on a release-by-release basis whether or not to distribute a film only in digital or 35mm or in both formats in a certain territory. One way or the other, 35mm distribution will end and time seems to be running out.

MEDIUM TO LONG TERM

Increase in economies of scale

Digital cinema increases the economies of scale related to both film exhibition as well as distribution. Bigger companies therefore stand to benefit more from the transition to digital than smaller players. This economic reality will ultimately lead to fundamental change in the fragmented European theatrical landscape.

Increasing competitive advantage of large circuits and cinemas

In the context of exhibitors this holds true both on the cost as well as on the revenue side. As has been discussed in Chapter 2.4 discounts given for bulk purchases are the single most important factor in briniging down digital equipment cost. The largest circuits will thus have access to equipment at the lowest cost while small exhibitors purchasing equipment on their own are likely to pay the highest price. Furthermore it is multi- and megaplexes which will be able to generate the highest operational cost savings from the introduction of Theatre Management Systems. A monoscreen operator can hardly make 50% of his projectionist redundant. But larger cinemas also benefit more on the revenue side as it takes a certain number of screens to maximise the potential benefits of increased programming flexibility.

Increasing consolidation in the exhibition sector

This increase in economies of scale will most likely lead to increased consolidation within and across the fragmented national European markets. Concentration levels in markets could increase through merger and acquisitions on the one hand and a certain number of small exhibitors going out of business on the other hand.

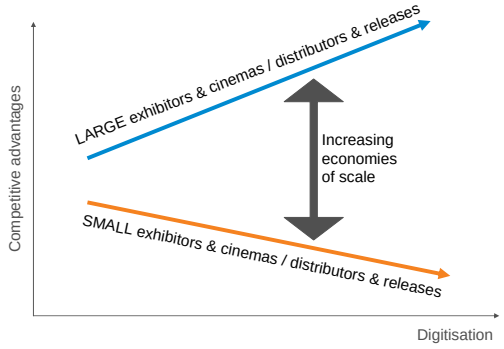
Increasing gap between commercial and publicly funded market segments

Given the comparatively high cost associated with digital projection, it is possible that the call for public support among many exhibitors will get louder and that the gap between the commercial mainstream market and the socio-cultural publicly-funded sector will widen over time.

Wider releases, shorter runs

Digital cinema also increases economies of scale related to film distribution. No longer will high marginal costs limit the number of film prints allowing distributors to go even wider with their releases. At the same time it can be expected that digital distribution will reinforce the current trend to shorter runs. Among other aspects, the advent of social networks and instant communication forms like Twitter or Facebook have transformed ‘word-of-mouth’ into quasi-instant communication leading to increased concentration of box office takings on the first days of screening. In addition VPF payments are linked to turn rates, i.e. the number of film releases per screen, which encourages – and requires – an increase in the number of new releases screened. Consequently run times tend to get shorter both for large blockbusters but also for independent films.

Digital cinema increases economies of scale



Source: European Audiovisual Observatory

Wide releases to be recouped in a shorter period of time however favours the business model of large distributors which have the experience and the means to run an appropriate marketing campaign to generate sufficient interest to recoup their investment. Given the higher cost of larger marketing campaigns, the releasing of films may become even more risky which again favours distributors with a larger portfolio of films which makes them less dependent on the success of one or two individual titles.

Increasing fight for screen time

The combination of a stagnating or possibly declining screen base on the one hand and an ever increasing number of films, wider releases of films, particularly of national and international blockbusters, as well as shorter runs, on the other, will likely lead to an increasing fight for screen space. Small independent titles could be the ones to struggle most.

However, there is possibly a more optimistic outlook for the arthouse and cultural cinema sector, where digital brings new flexibility of programming and opportunities for audience development. Where these cinemas have acquired equipment through public funding or suitably-adapted VPF schemes, they should be able to resist the temptation towards the mainstream and continue to offer diverse content, with a new breadth and depth of exposition.

Change in business models

The current business models of feature film distributions are based on the economics of 35mm distribution and have been developed in a market environment which has not seen major changes in the value chain over centuries. Digital cinema is going change this.

Permanent increase in capital expenditures for exhibitors

Due to comparatively higher equipment cost and lower life expectancy, digital projection will permanently increase capital expenditures for exhibitors. To what exact extent digital cinema will increase capital expenditures in the mid- to long-term is one of the key questions faced by the exhibition sector. It remains, however, one of the biggest uncertainties as it is unclear how often and at what prices exhibitors will have to replace key parts of their projection systems. But though the exact figures are not clear, it seems fairly certain that digital cinema increases capital expenditures for exhibitors as it is practically impossible for equipment prices to fall to a level which would bring total cost of ownership in line with 35mm projection. Some exhibitors will be able to partly compensate this with operational cost savings and increased revenues from for example 'premium-priced content'. For the time being most stakeholders are actually trying to maintain 35mm business models, for example via VPF schemes, in a digital world. But in the mid- to long-term the changes in the underlying economics will inevitably lead to more fundamental changes in the relationship between exhibitors and distributors, who stand to gain most from digital distribution, once the transition period is over and VPF payments have come to an end.

Changes in the value chain

Digital cinema obviously brings to an end all markets related to the physical production and distribution of film prints. They will be replaced by digital laboratories, satellite or possibly broadband providers and Third Party service providers who are already extending their business models to digital content delivery.

Increasing importance of non-theatrical distribution platforms for independent films

It is too early to assess the impact digital cinema will have on theatrical programming. However there is a possibility that many more commercially oriented exhibitors will increasingly shift their programming towards 'premium-priced content' such as 3D films, US blockbusters or Alternative Content in order to compensate for the incurred increase in capital expenditures. This would further aggravate the fight for screen time particularly for mid-budget and smaller European and independent films, which may find it even more difficult to recoup part of their production budgets from theatrical distribution and whose producers and distributors will need to think hard about how to increase revenues from non-theatrical distribution platforms such as VOD, home video or television.

Up until now the focus in many discussions has clearly been on theatrical exhibition and distribution segment and has taken place in somewhat of a vacuum, divorced from the wider impacts of digital on the content sector as a whole. This is partly due to the fact that the theatrical market is practically the only market for which there is a fair amount of data available, while the other market segments remain more or less opaque for the vast majority of stakeholders.

REFERENCE SECTION

- Country Profiles
- Reference Tables

Country Profiles

Introduction

The following country profiles for 35 European markets contain a collection of the principle indicators in the context of digital cinema roll-out.

The aim of these country profiles is to provide a 'big picture' overview of the market background to digitisation in the individual territories at one glance.

All data should be considered estimates and may differ from official statistics published by the national film agencies, Ministries or statistical institutes in the individual countries. All country profiles have however been submitted to members of the European Film Agency Research Network for plausibility checks.

In particular, all data related to the breakdown by type of exhibitor and site are based on the **site-by-site** data collected by the European Audiovisual Observatory and MEDIA Salles and hence are not directly linked to officially communicated data.

'Rank' refers to the rank a country holds with respect to a certain indicator among the number of countries for which data on this indicator are available. Rank is only shown for indicators which were available in at least 25 markets.

Definitions: a reminder

Exhibitors

Small exhibitors	operating up to 3 screens
Medium-sized exhibitors	operating 4 - 16 screens
Large exhibitors	operating 17 - 199 screens
Major exhibitors	operating over 199 screens

Cinema sites

Monoscreen	1 screen
Small miniplex	2 to 3 screens
Large miniplex	4 to 7 screens
Multiplex	8 to 15 screens
Megaplex	16 or more screens

Overview – Country profiles

AT - Austria

Basic market data	3Y Avg	Rank
Population in million	8.35	17
GDP / capita in EUR	33 567	9
GBO in MEUR	121.8	15
Admissions in million	17.1	12
Number of first releases	291	14
Number of digital first releases (2010)	n/a	-
National films produced	29	14
Market share - National films	5.3%	22
Market share - Other European films	17.6%	5
Total European market share	22.9%	23
US market share	76.5%	7

Exhibition landscape - 2010	2010	Rank
Cinema sites	160	19
Screens	584	12
Digital cinema sites	71	15
Digital screens	306	10
Digital 3D screens	208	9
Digital site penetration	44%	10
Digital screen penetration	52%	5
3D penetration of digital screens	68%	27
Avg no. of screens per site	3.7	10
Avg no. of screens per digital site	6.0	16
Avg no. of digital screens per digital site	4.3	5
Avg no. of 3D screens per digital site	2.9	6
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	33%	13
Screen share - top 5 exhibitors	57%	19

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 CineplexX	170	53%	88%
2 Hollywood Megaplex	25	64%	52%
3 Obermayr	22	73%	100%
4 Diesel Kino	17	100%	61%
5 Odeon & UCI Cinemas	14	100%	37%

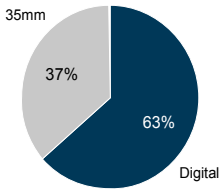
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	XDC
Buying groups:	-

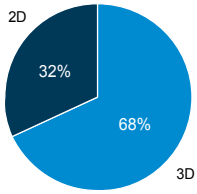
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	71	Dec 2010
Digital screens	370	June 2011
Digital 3D screens	208	Dec 2010

Digital screen penetration June 2011
- in %



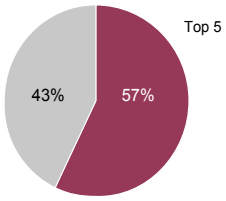
Digital 3D screen penetration Dec 2010
- in %



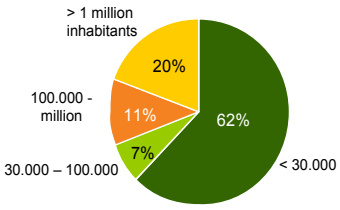
Site & screen concentration - 2010

- Top 5 exhibitors & town size

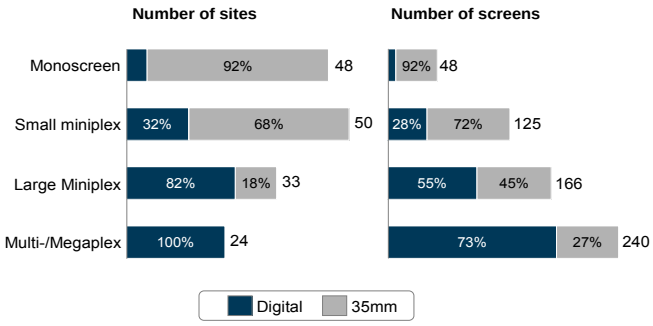
Market share top 5 exhibitors 2010
- in % of screens operated



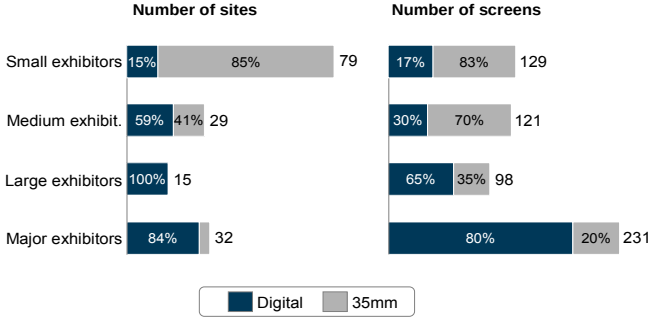
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



BA - Bosnia and Herzegovina

Basic market data	3Y Avg	Rank
Population in million	3.90	26
GDP / capita in EUR	3 201	35
GBO in MEUR	1.1	34
Admissions in million	0.5	34
Number of first releases	0	n/a
Number of digital first releases (2010)	n/a	-
National films produced	6	30
Market share - National films	6.7%	19
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Exhibition landscape - 2010	2010	Rank
Cinema sites	11	32
Screens	40	31
Digital cinema sites	0	-
Digital screens	0	-
Digital 3D screens	0	-
Digital site penetration	0%	-
Digital screen penetration	0%	-
3D penetration of digital screens	0%	-
Avg no. of screens per site	3.6	11
Avg no. of screens per digital site	-	-
Avg no. of digital screens per digital site	-	-
Avg no. of 3D screens per digital site	-s	-
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	n/a	-
Screen share - top 5 exhibitors	n/a	-

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conver-sion rate*
-			
-			
-			
-			
-			

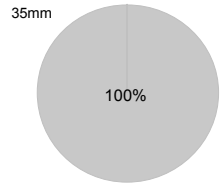
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Eurimages
Third Party Facilitators	-
Buying groups:	-

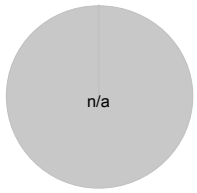
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	0	Dec 2010
Digital screens	0	Dec 2010
Digital 3D screens	n/a	-

Digital screen penetration Dec 2010
- in %



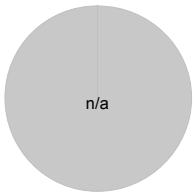
Digital 3D screen penetration (-)
- in %



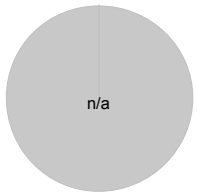
Site & screen concentration - 2010

- Top 5 exhibitors & town size

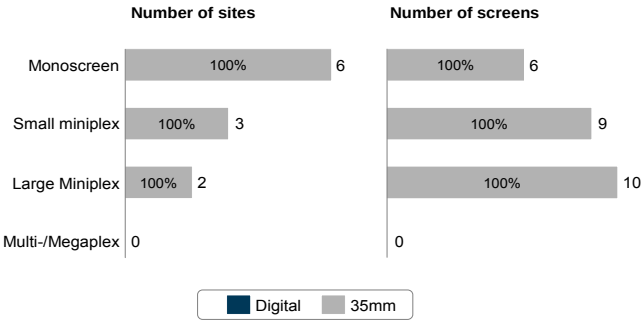
Market share top 5 exhibitors 2010
- in % of screens operated



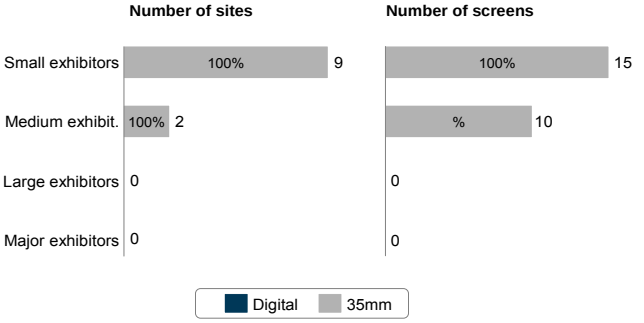
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



BE - Belgium

Basic market data	3Y Avg	Rank
Population in million	10.75	12
GDP / capita in EUR	32 000	10
GBO in MEUR	177.9	8
Admissions in million	22.7	10
Number of first releases	515	4
Number of digital first releases (2010)	n/a	-
National films produced	38	12
Market share - National films	6.3%	20
Market share - Other European films	25.7%	2
Total European market share	32.0%	32
US market share	66.4%	15

Exhibition landscape - 2010	2010	Rank
Cinema sites	101	21
Screens	515	15
Digital cinema sites	48	19
Digital screens	334	7
Digital 3D screens	102	17
Digital site penetration	48%	8
Digital screen penetration	65%	2
3D penetration of digital screens	31%	33
Avg no. of screens per site	5.1	4
Avg no. of screens per digital site	8.5	3
Avg no. of digital screens per digital site	7.2	1
Avg no. of 3D screens per digital site	2.2	12
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	28%	19
Screen share - top 5 exhibitors	61%	17

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Kinepolis	119	32%	84%
2 Groupe Ciné-Invest (Euroscoop)	60	22%	97%
3 UGC	43	23%	96%
4 Ecrans de Wallonie SA	18	28%	58%
5 Imagix	14	14%	58%

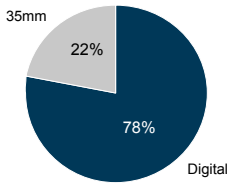
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	XDC, Ymagis
Buying groups:	-

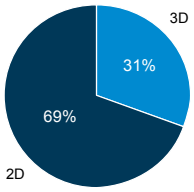
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	48	Dec 2010
Digital screens	400	June 2011
Digital 3D screens	102	Dec 2010

Digital screen penetration June 2011
- in %



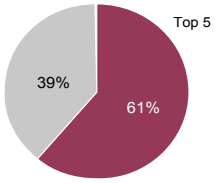
Digital 3D screen penetration Dec 2010
- in %



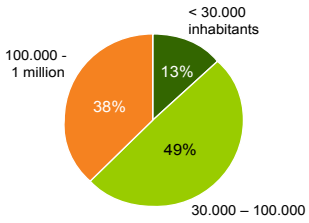
Site & screen concentration - 2010

- Top 5 exhibitors & town size

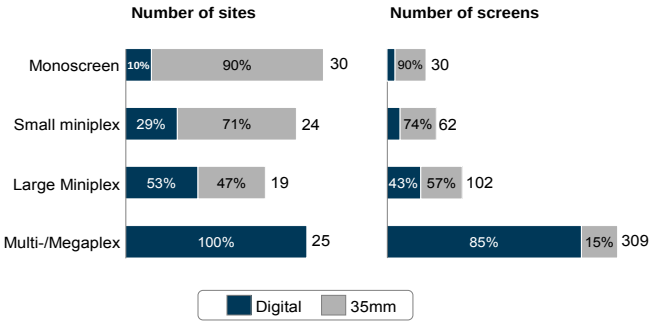
Market share top 5 exhibitors 2010
- in % of screens operated



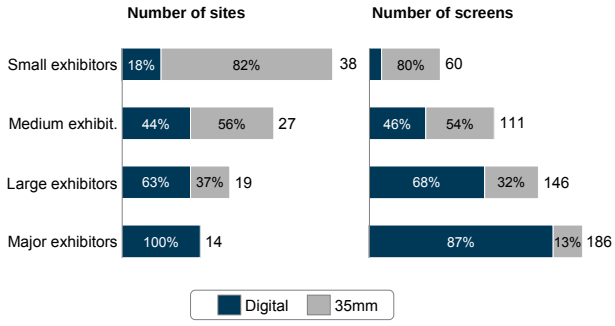
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

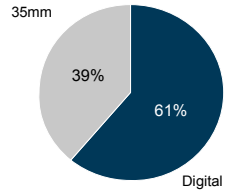


BG - Bulgaria

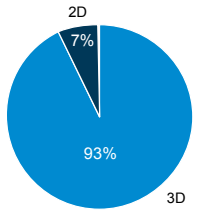
Basic market data	3Y Avg	Rank
Population in million	7.60	19
GDP / capita in EUR	4 650	33
GBO in MEUR	13.1	24
Admissions in million	3.3	25
Number of first releases	163	29
Number of digital first releases (2010)	n/a	-
National films produced	10	23
Market share - National films	5.2%	23
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Latest digital cinema data		Date
Digital sites	17	Dec 2011
Digital screens	85	Sept 2011
Digital 3D screens	53	Dec 2010

Digital screen penetration Sept 2011
- in %



Digital 3D screen penetration Dec 2010
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	32	27
Screens	140	24
Digital cinema sites	17	22
Digital screens	57	22
Digital 3D screens	53	23
Digital site penetration	53%	4
Digital screen penetration	41%	7
3D penetration of digital screens	93%	12
Avg no. of screens per site	4.4	7
Avg no. of screens per digital site	7.2	10
Avg no. of digital screens per digital site	3.4	9
Avg no. of 3D screens per digital site	3.1	5
Number of exhibition companies	58	-
Screen share - leading exhibitor	50%	5
Screen share - top 5 exhibitors	91%	4

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Kino Arena VT	31	100%	44%
2 Cinema City	21	81%	51%
3 Cineplex LTD	2	100%	33%
4 New Cinema Paradizo	1	100%	50%
4 IBV	1	100%	50%

* Percentage share of total screens which have been digitised

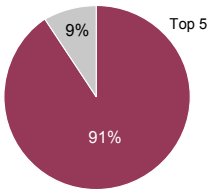
Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

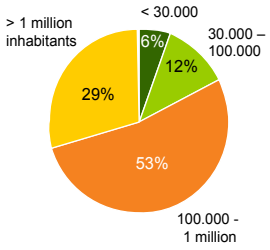
Site & screen concentration - 2010

- Top 5 exhibitors & town size

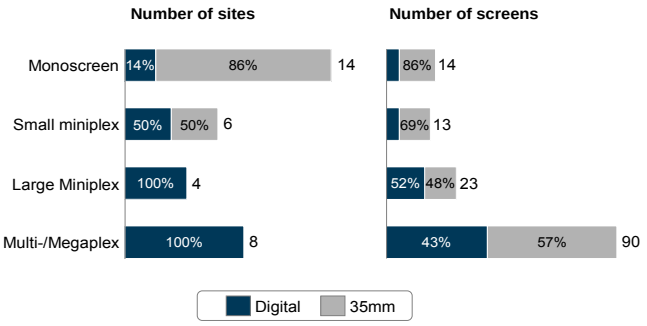
Market share top 5 exhibitors 2010
- in % of screens operated



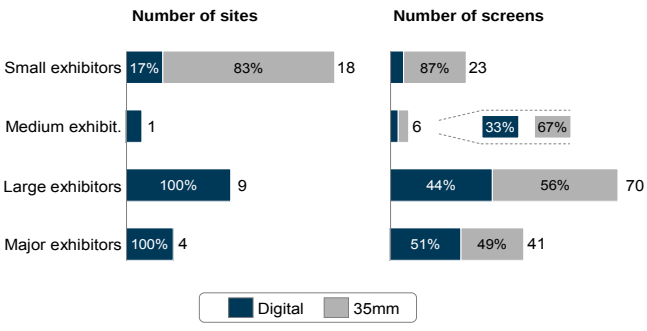
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



CH - Switzerland

Basic market data	3Y Avg	Rank
Population in million	7.69	18
GDP / capita in EUR	46 967	3
GBO in MEUR	160.9	11
Admissions in million	14.8	15
Number of first releases	410	7
Number of digital first releases (2010)	77	-
National films produced	82	6
Market share - National films	3.9%	25
Market share - Other European films	26.1%	1
Total European market share	30.0%	30
US market share	67.3%	14

Exhibition landscape - 2010	2010	Rank
Cinema sites	299	11
Screens	558	14
Digital cinema sites	91	13
Digital screens	133	17
Digital 3D screens	129	15
Digital site penetration	30%	18
Digital screen penetration	24%	18
3D penetration of digital screens	97%	8
Avg no. of screens per site	1.9	28
Avg no. of screens per digital site	3.0	31
Avg no. of digital screens per digital site	1.5	28
Avg no. of 3D screens per digital site	1.4	26
Number of exhibition companies	71	-
Screen share - leading exhibitor	21%	23
Screen share - top 5 exhibitors	56%	20

Top 5 exhibitors by digital screens 2010		Digital Screens	3D share	Conversion rate*
1	Gaumont Pathé	23	91%	33%
2	Kitag Kino-Theater AG	22	86%	24%
3	Cinépel SA	5	100%	38%
4	KinoKoni GmbH	4	75%	44%
5	Kinepolis	4	50%	50%

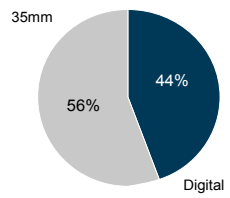
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Office fédéral de la culture - MEDIA
Third Party Facilitators	XDC, Ymagis
Buying groups:	-

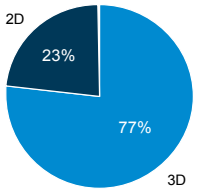
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	91	Dec 2010
Digital screens	248	June 2011
Digital 3D screens	191	June 2011

Digital screen penetration June 2011
- in %



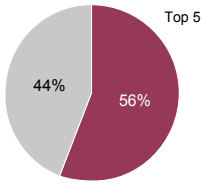
Digital 3D screen penetration June 2011
- in %



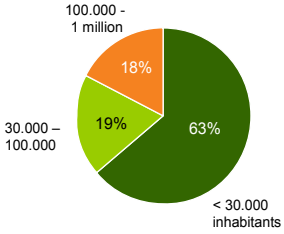
Site & screen concentration - 2010

- Top 5 exhibitors & town size

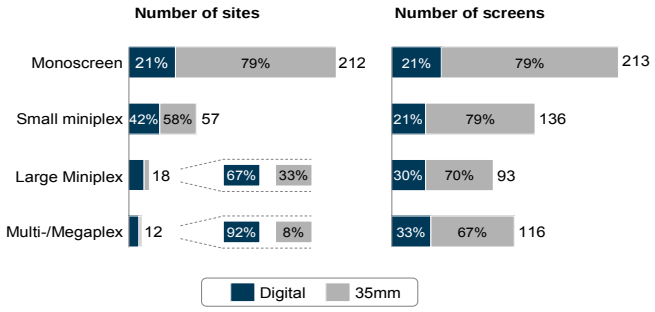
Market share top 5 exhibitors 2010
- in % of screens operated



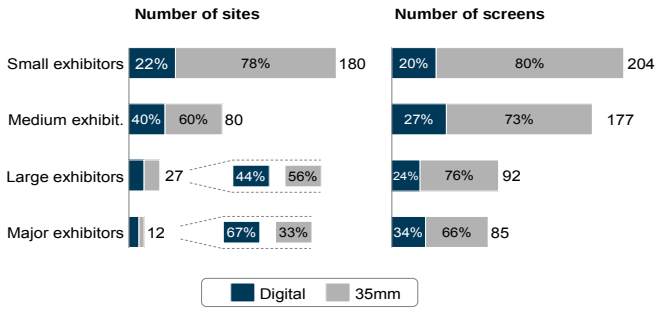
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



CY - Cyprus

Basic market data	3Y Avg	Rank
Population in million	0.80	32
GDP / capita in EUR	21 567	17
GBO in MEUR	6.5	32
Admissions in million	0.9	33
Number of first releases	n/a	-
Number of digital first releases (2010)	n/a	-
National films produced	0	35
Market share - National films	n/a	n/a
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Exhibition landscape - 2010	2010	Rank
Cinema sites	8	34
Screens	36	33
Digital cinema sites	6	29
Digital screens	15	27
Digital 3D screens	6	32
Digital site penetration	75%	9
Digital screen penetration	42%	6
3D penetration of digital screens	40%	32
Avg no. of screens per site	4.5	6
Avg no. of screens per digital site	4.8	24
Avg no. of digital screens per digital site	2.5	16
Avg no. of 3D screens per digital site	1.0	33
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	50%	5
Screen share - top 5 exhibitors	66%	13

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 D.J.Karapatakis & Sons	12	33%	55%
2 D.Herodotou & Sons	2	50%	67%
3 Zena	1	100%	25%
-			
-			

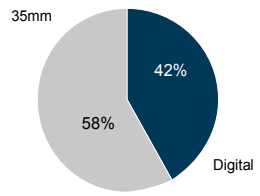
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

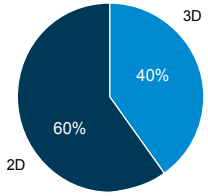
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	6	Dec 2010
Digital screens	15	June 2011
Digital 3D screens	6	Dec 2010

Digital screen penetration June 2011
- in %



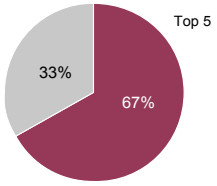
Digital 3D screen penetration Dec 2010
- in %



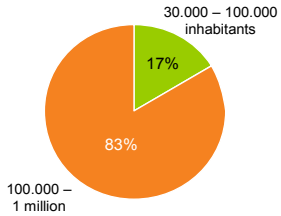
Site & screen concentration - 2010

- Top 5 exhibitors & town size

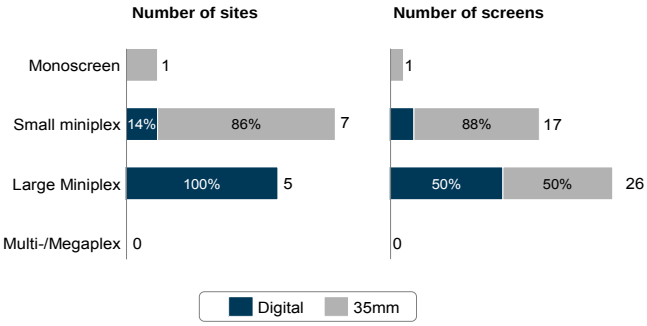
Market share top 5 exhibitors 2010
- in % of screens operated



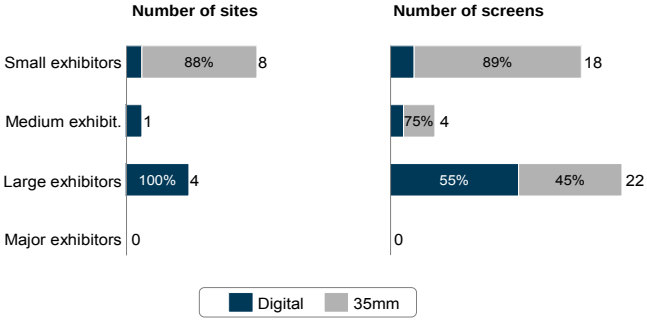
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



CZ - Czech Republic

Basic market data	3Y Avg	Rank
Population in million	10.45	14
GDP / capita in EUR	13 700	22
GBO in MEUR	51.7	20
Admissions in million	13.0	17
Number of first releases	226	19
Number of digital first releases (2010)	84	-
National films produced	37	13
Market share - National films	33.3%	3
Market share - Other European films	8.2%	23
Total European market share	41.5%	42
US market share	57.4%	23

Exhibition landscape - 2010	2010	Rank
Cinema sites	501	7
Screens	688	11
Digital cinema sites	94	12
Digital screens	133	17
Digital 3D screens	121	16
Digital site penetration	19%	28
Digital screen penetration	19%	20
3D penetration of digital screens	91%	16
Avg no. of screens per site	1.4	34
Avg no. of screens per digital site	3.0	30
Avg no. of digital screens per digital site	1.4	31
Avg no. of 3D screens per digital site	1.3	31
Number of exhibition companies	613	-
Screen share - leading exhibitor	16%	27
Screen share - top 5 exhibitors	31%	30

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinema City	35	86%	32%
2 Cinestar (Kieft Group)	26	100%	31%
3 Golden Apple Cinema a.s.	3	67%	38%
4 Hollywood C.E. s.r.o.	2	50%	100%
5 67 exhibitors	1	-	-

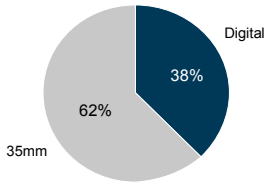
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Státní fond pro podporu a rozvoj české kinematografie - MEDIA
Third Party Facilitators	XDC
Buying groups:	-

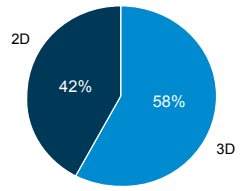
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	94	Dec 2010
Digital screens	259	Sept 2011
Digital 3D screens	149	Sept 2011

Digital screen penetration Sept 2011
- in %



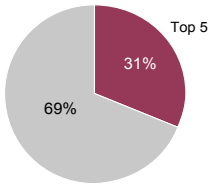
Digital 3D screen penetration Sept 2011
- in %



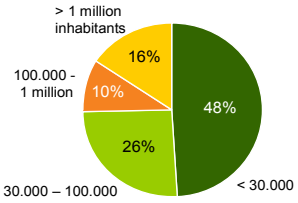
Site & screen concentration - 2010

- Top 5 exhibitors & town size

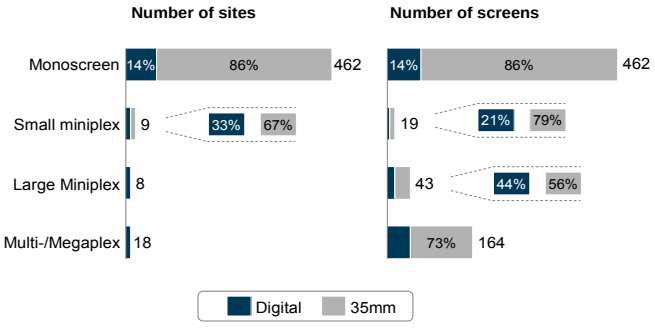
Market share top 5 exhibitors 2010
- in % of screens operated



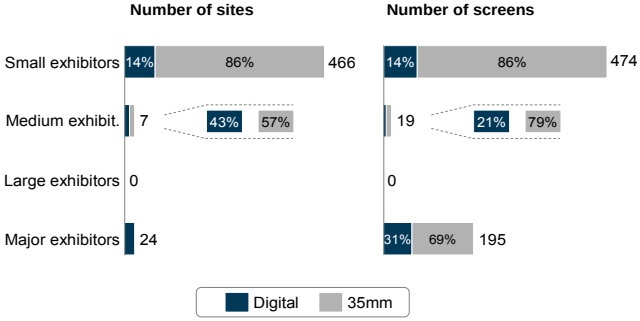
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



DE - Germany

Basic market data	3Y Avg	Rank
Population in million	82.01	2
GDP / capita in EUR	30 033	11
GBO in MEUR	897.1	3
Admissions in million	134.1	4
Number of first releases	502	5
Number of digital first releases (2010)	n/a	-
National films produced	167	2
Market share - National films	23.6%	8
Market share - Other European films	9.1%	20
Total European market share	32.7%	33
US market share	66.2%	16

Exhibition landscape - 2010	2010	Rank
Cinema sites	1 714	3
Screens	4 699	2
Digital cinema sites	560	1
Digital screens	1 248	3
Digital 3D screens	1 114	2
Digital site penetration	33%	16
Digital screen penetration	27%	17
3D penetration of digital screens	89%	19
Avg no. of screens per site	2.7	17
Avg no. of screens per digital site	5.3	20
Avg no. of digital screens per digital site	2.2	19
Avg no. of 3D screens per digital site	2.0	17
Number of exhibition companies	1 205	-
Screen share - leading exhibitor	11%	31
Screen share - top 5 exhibitors	33%	28

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cineplex	140	97%	33%
2 Cinestar (Kieft Group)	121	100%	23%
3 CinemaxX	95	100%	34%
4 Odeon & UCI Cinemas	92	99%	43%
5 Kinopolis	37	100%	30%

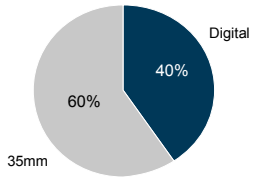
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- 16 funds, including: FFA, BKM, Filmförderung Hamburg Schleswig-Holstein, Medienboard Berlin-Brandenburg, MFG Filmförderung, Film und Medien Stiftung NRW, Nordmedia, Hessen, Mecklenburg-Vorpommern, Rheinland-Pfalz, Saarland, Sachsen, Sachsen-Anhalt - MEDIA
Third Party Facilitators	XDC, Ymagis, Sony, AAM
Buying groups:	-

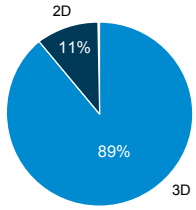
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	560	Dec 2010
Digital screens	1 900	June 2011
Digital 3D screens	1 114	Dec 2010

Digital screen penetration June 2011
- in %



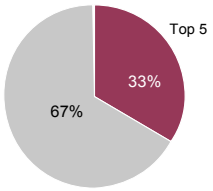
Digital 3D screen penetration Dec 2010
- in %



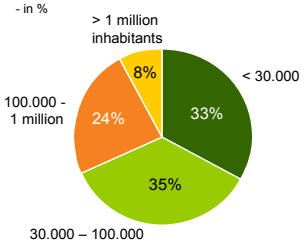
Site & screen concentration - 2010

- Top 5 exhibitors & town size

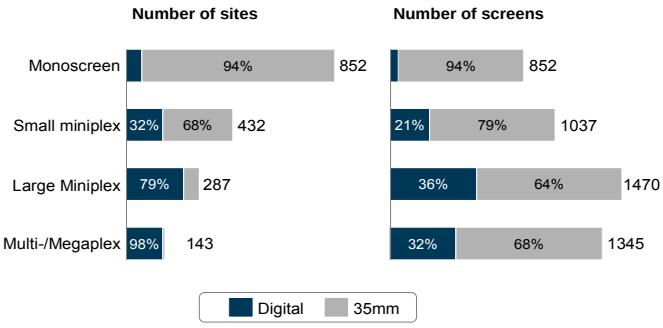
Market share top 5 exhibitors 2010
- in % of screens operated



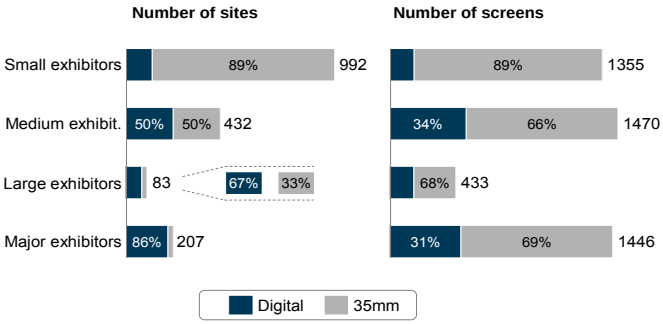
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



DK - Denmark

Basic market data	3Y Avg	Rank
Population in million	5.51	20
GDP / capita in EUR	41 667	4
GBO in MEUR	131.3	13
Admissions in million	13.4	16
Number of first releases	217	21
Number of digital first releases (2010)	n/a	-
National films produced	24	17
Market share - National films	23.9%	7
Market share - Other European films	17.2%	6
Total European market share	41.0%	41
US market share	56.9%	24

Exhibition landscape - 2010	2010	Rank
Cinema sites	162	18
Screens	396	18
Digital cinema sites	77	14
Digital screens	136	16
Digital 3D screens	130	14
Digital site penetration	48%	7
Digital screen penetration	34%	11
3D penetration of digital screens	96%	10
Avg no. of screens per site	2.4	21
Avg no. of screens per digital site	3.6	29
Avg no. of digital screens per digital site	1.8	25
Avg no. of 3D screens per digital site	1.7	23
Number of exhibition companies	135	-
Screen share - leading exhibitor	29%	17
Screen share - top 5 exhibitors	38%	23

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Nordisk Film Biografer	30	100%	26%
2 CinemaxX	8	100%	32%
3 The Danish Film Institute	2	50%	67%
4 SF Bio	2	100%	40%
5 Svenska Bio	1	100%	20%

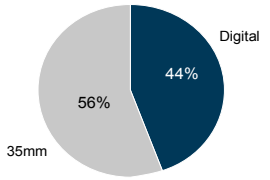
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Det Danske Filminstitut - MEDIA
Third Party Facilitators	XDC, AAM, Sony
Buying groups:	Denmark Digital

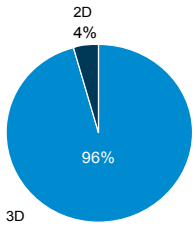
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	77	Dec 2010
Digital screens	176	June 2011
Digital 3D screens	130	Dec 2010

Digital screen penetration June 2011
- in %



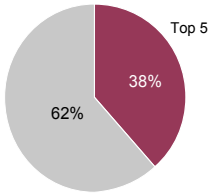
Digital 3D screen penetration Dec 2010
- in %



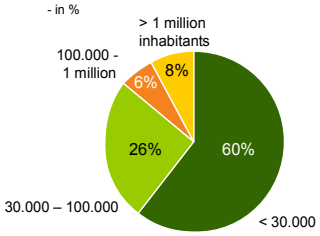
Site & screen concentration - 2010

- Top 5 exhibitors & town size

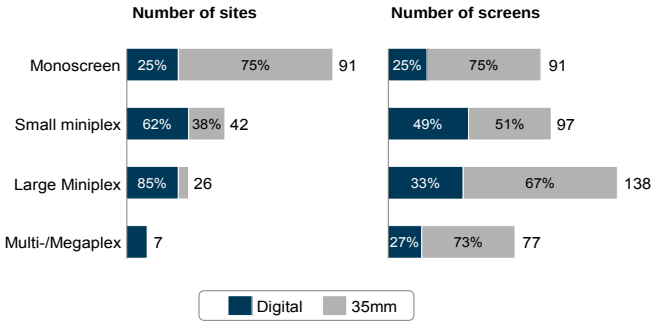
Market share top 5 exhibitors 2010
- in % of screens operated



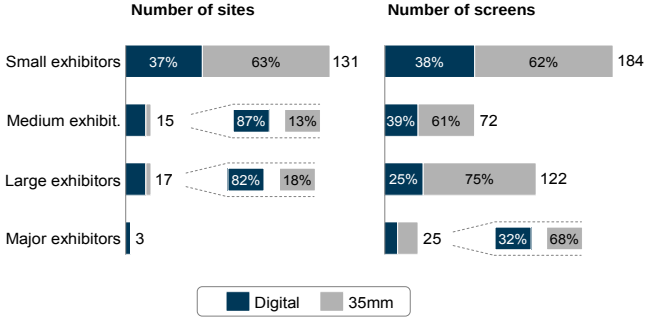
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



EE - Estonia

Basic market data	3Y Avg	Rank
Population in million	1.34	31
GDP / capita in EUR	11 033	24
GBO in MEUR	7.5	31
Admissions in million	1.8	29
Number of first releases	168	26
Number of digital first releases (2010)	18	-
National films produced	9	25
Market share - National films	3.9%	26
Market share - Other European films	12.9%	12
Total European market share	16.8%	17
US market share	82.0%	5

Exhibition landscape - 2010	2010	Rank
Cinema sites	49	25
Screens	74	28
Digital cinema sites	4	31
Digital screens	14	28
Digital 3D screens	12	29
Digital site penetration	8%	33
Digital screen penetration	19%	21
3D penetration of digital screens	86%	22
Avg no. of screens per site	1.5	33
Avg no. of screens per digital site	6.7	12
Avg no. of digital screens per digital site	4.3	4
Avg no. of 3D screens per digital site	3.7	1
Number of exhibition companies	5	-
Screen share - leading exhibitor	53%	4
Screen share - top 5 exhibitors	100%	1

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinamon	7	100%	58%
2 Finnkino	6	67%	33%
-			
-			
-			

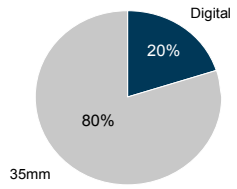
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Ministry of Culture - MEDIA
Third Party Facilitators	-
Buying groups:	-

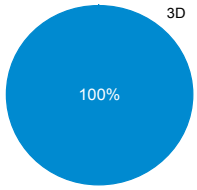
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	4	Dec 2010
Digital screens	15	June 2011
Digital 3D screens	15	June 2011

Digital screen penetration June 2011
- in %



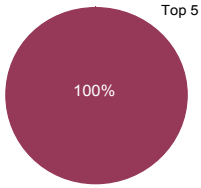
Digital 3D screen penetration June 2011
- in %



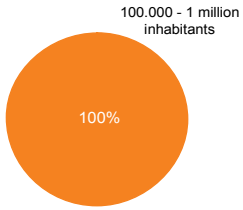
Site & screen concentration - 2010

- Top 5 exhibitors & town size

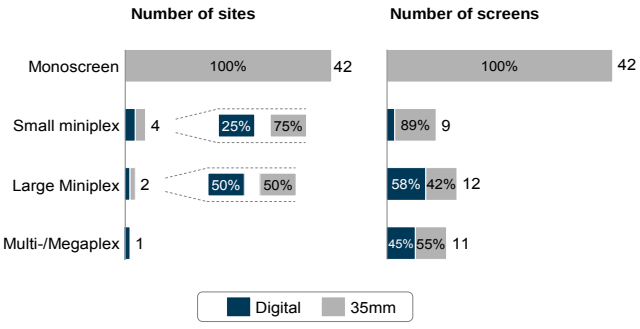
Market share top 5 exhibitors 2010
- in % of screens operated



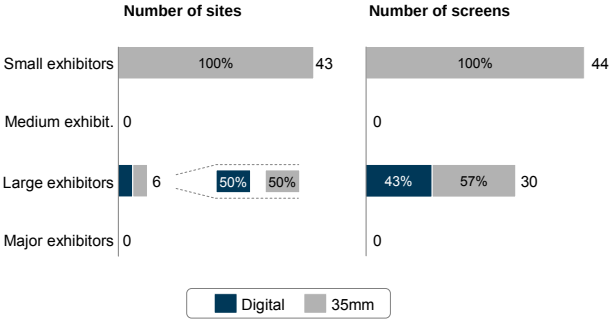
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

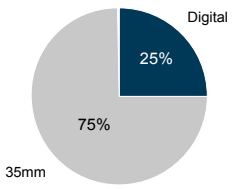


ES - Spain

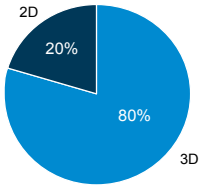
Basic market data	3Y Avg	Rank
Population in million	45.70	7
GDP / capita in EUR	23 300	16
GBO in MEUR	650.9	5
Admissions in million	106.5	6
Number of first releases	554	2
Number of digital first releases (2010)	n/a	-
National films produced	164	3
Market share - National films	18.6%	13
Market share - Other European films	9.4%	19
Total European market share	28.0%	28
US market share	70.8%	12

Latest digital cinema data		Date
Digital sites	292	Dec 2010
Digital screens	1 022	June 2011
Digital 3D screens	604	Dec 2010

Digital screen penetration June 2011
- in %



Digital 3D screen penetration Dec 2010
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	860	5
Screens	4 080	3
Digital cinema sites	292	6
Digital screens	758	6
Digital 3D screens	604	6
Digital site penetration	34%	15
Digital screen penetration	19%	23
3D penetration of digital screens	80%	24
Avg no. of screens per site	4.7	5
Avg no. of screens per digital site	9.4	2
Avg no. of digital screens per digital site	2.6	13
Avg no. of 3D screens per digital site	2.0	14
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	12%	30
Screen share - top 5 exhibitors	38%	24

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Yelmo Cines	209	67%	49%
2 Odeon & UCI Cinemas	157	93%	31%
3 Ocine	51	61%	43%
4 Kinepolis	41	32%	64%
5 Abaco-Cinebox	26	96%	8%

* Percentage share of total screens which have been digitised

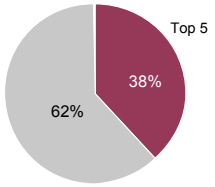
Financing schemes	
Public funding schemes	- Ministry of Culture - ICAA with Autonomous Communities - MEDIA
Third Party Facilitators	XDC, Ymagis, AAM
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

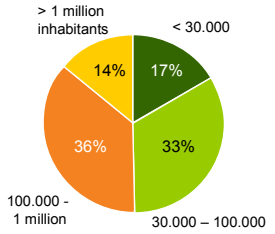
Site & screen concentration - 2010

- Top 5 exhibitors & town size

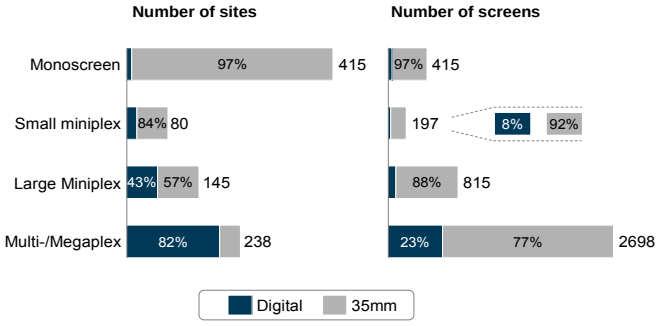
Market share top 5 exhibitors 2010
- in % of screens operated



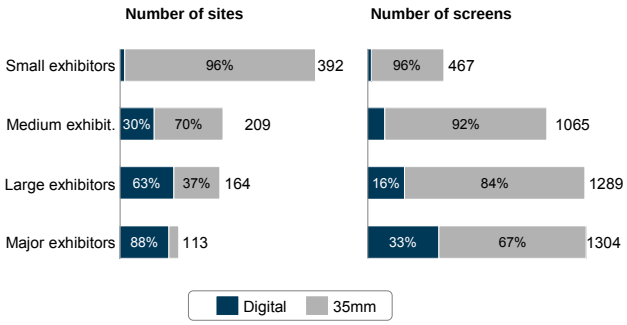
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



FI - Finland

Basic market data	3Y Avg	Rank
Population in million	5.33	22
GDP / capita in EUR	33 667	8
GBO in MEUR	59.2	19
Admissions in million	7.1	21
Number of first releases	176	25
Number of digital first releases (2010)	87	-
National films produced	17	21
Market share - National films	21.6%	10
Market share - Other European films	13.7%	10
Total European market share	35.3%	35
US market share	63.8%	19

Exhibition landscape - 2010	2010	Rank
Cinema sites	172	15
Screens	289	21
Digital cinema sites	56	17
Digital screens	88	19
Digital 3D screens	79	19
Digital site penetration	33%	17
Digital screen penetration	30%	16
3D penetration of digital screens	90%	18
Avg no. of screens per site	1.7	31
Avg no. of screens per digital site	2.9	33
Avg no. of digital screens per digital site	1.5	27
Avg no. of 3D screens per digital site	1.4	27
Number of exhibition companies	133	-
Screen share - leading exhibitor	32%	14
Screen share - top 5 exhibitors	47%	21

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Finnkino	31	94%	34%
2 Bio Rex Cinemas	6	50%	35%
3 Savon Kinot Oy	4	100%	36%
4 5 exhibitors	3	100%	-
-			

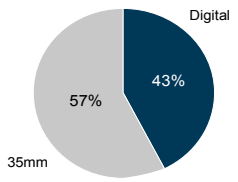
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Suomen Elokuvasäätiö - MEDIA
Third Party Facilitators	AAM
Buying groups:	-

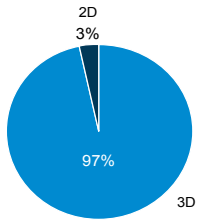
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	56	Dec 2010
Digital screens	123	June 2011
Digital 3D screens	119	June 2011

Digital screen penetration June 2011
- in %



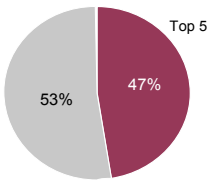
Digital 3D screen penetration June 2011
- in %



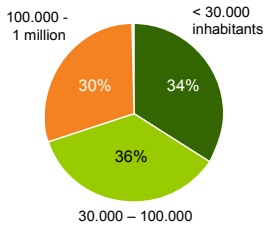
Site & screen concentration - 2010

- Top 5 exhibitors & town size

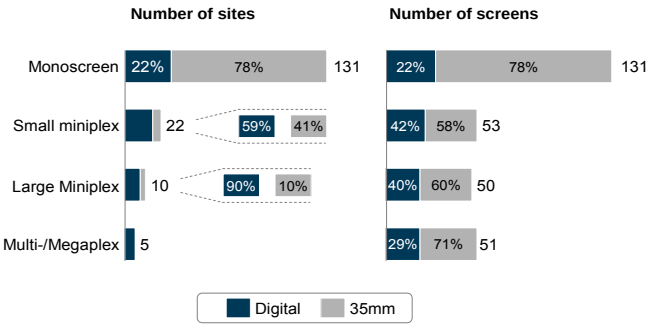
Market share top 5 exhibitors 2010
- in % of screens operated



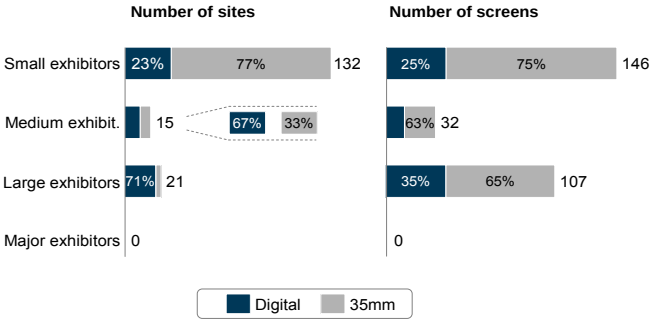
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



FR - France

Basic market data	3Y Avg	Rank
Population in million	64.36	4
GDP / capita in EUR	29 733	12
GBO in MEUR	1 227.5	1
Admissions in million	199.3	1
Number of first releases	573	1
Number of digital first releases (2010)	121	5
National films produced	222	1
Market share - National films	39.2%	2
Market share - Other European films	11.7%	13
Total European market share	50.9%	51
US market share	46.8%	25

Exhibition landscape - 2010	2010	Rank
Cinema sites	2 050	1
Screens	5 478	1
Digital cinema sites	532	2
Digital screens	1 887	1
Digital 3D screens	1 387	1
Digital site penetration	26%	20
Digital screen penetration	34%	10
3D penetration of digital screens	74%	26
Avg no. of screens per site	2.7	18
Avg no. of screens per digital site	5.8	17
Avg no. of digital screens per digital site	3.5	8
Avg no. of 3D screens per digital site	2.6	9
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	14%	28
Screen share - top 5 exhibitors	32%	29

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Gaumont Pathé	399	70%	52%
2 CGR	385	86%	96%
3 UGC	143	52%	39%
4 Kinepolis	75	45%	86%
5 Cineville (SOREDIC)	72	94%	82%

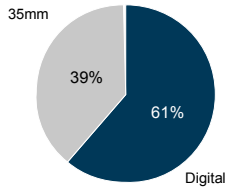
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- 25 funds including: CNC, Régions Alsace, Aquitaine,Centre, Basse-Normandie, Bourgogne, Bretagne, Champagne-Ardenne, Corse, Franche-Comté, Ile-de-France and Départements Deux-Sèvres, Essonne, City of Paris - MEDIA
Third Party Facilitators	XDC, Ymagis, AAM
Buying groups:	-

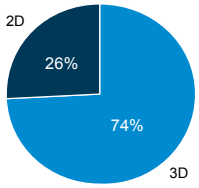
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	532	Dec 2010
Digital screens	3 344	Mid-Oct 2011
Digital 3D screens	1 387	Dec 2010

Digital screen penetration mid-Oct 2011
- in %



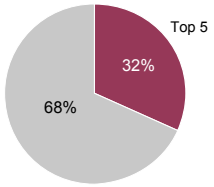
Digital 3D screen penetration Dec 2010
- in %



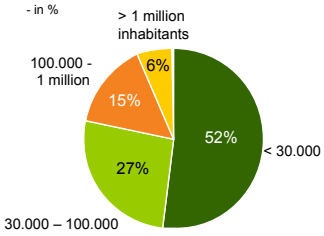
Site & screen concentration - 2010

- Top 5 exhibitors & town size

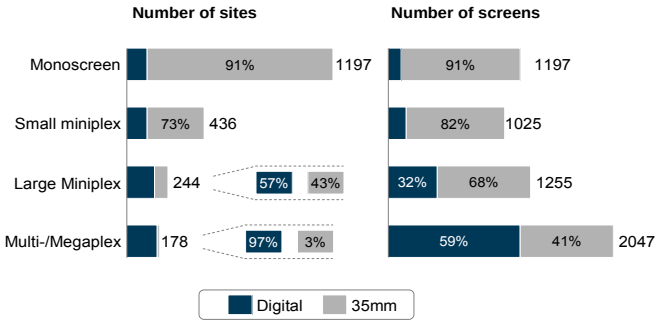
Market share top 5 exhibitors 2010
- in % of screens operated



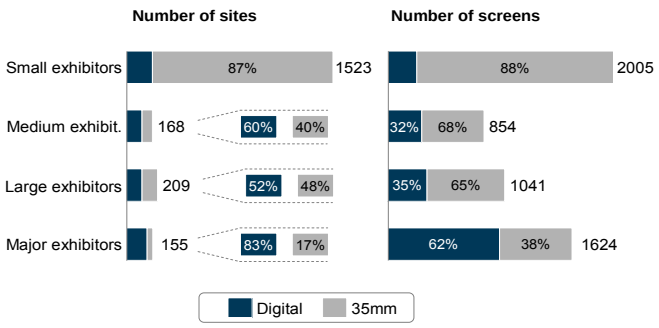
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



GB - United Kingdom

Basic market data	3Y Avg	Rank
Population in million	61.60	5
GDP / capita in EUR	27 433	14
GBO in MEUR	1 092.2	2
Admissions in million	169.0	2
Number of first releases	529	3
Number of digital first releases (2010)	416	-
National films produced	88	5
Market share - National films	23.9%	6
Market share - Other European films	1.7%	25
Total European market share	25.7%	26
US market share	72.7%	11

Exhibition landscape - 2010	2010	Rank
Cinema sites	716	6
Screens	3 671	5
Digital cinema sites	455	5
Digital screens	1 408	2
Digital 3D screens	1 096	3
Digital site penetration	64%	2
Digital screen penetration	38%	9
3D penetration of digital screens	78%	25
Avg no. of screens per site	5.1	3
Avg no. of screens per digital site	7.2	9
Avg no. of digital screens per digital site	3.1	10
Avg no. of 3D screens per digital site	2.4	10
Number of exhibition companies	326	-
Screen share - leading exhibitor	23%	22
Screen share - top 5 exhibitors	75%	10

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Odeon & UCI Cinemas	424	93%	50%
2 Cineworld	391	84%	50%
3 Vue	128	80%	20%
4 Ward Anderson	86	65%	38%
5 Apollo	78	71%	94%

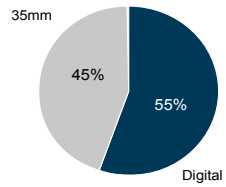
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- British Film Institute - UK Film Council - MEDIA
Third Party Facilitators	XDC, AAM, Sony
Buying groups:	Digital Funding Partnership

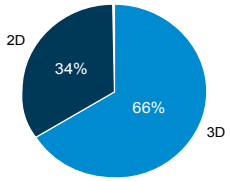
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	455	Dec 2010
Digital screens	2 033	June 2011
Digital 3D screens	1 345	June 2011

Digital screen penetration June 2011
- in %



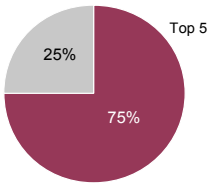
Digital 3D screen penetration June 2011
- in %



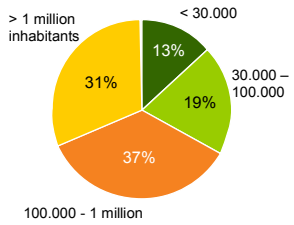
Site & screen concentration - 2010

- Top 5 exhibitors & town size

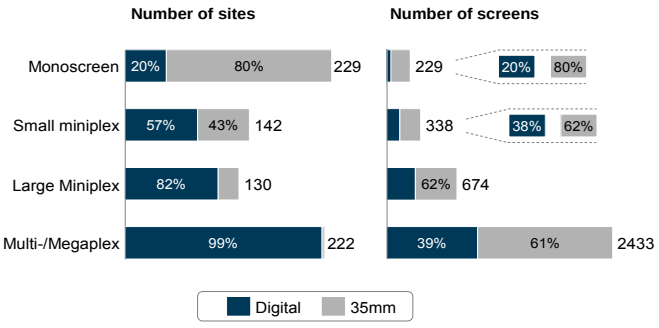
Market share top 5 exhibitors 2010
- in % of screens operated



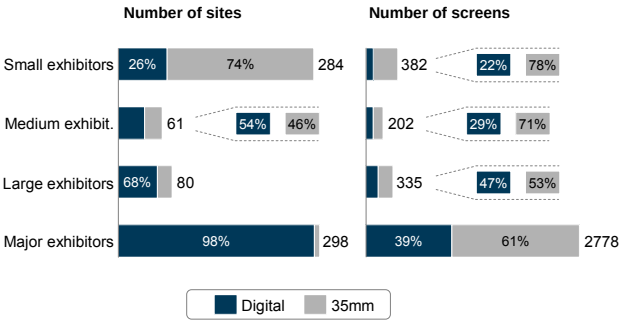
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



GR - Greece

Basic market data	3Y Avg	Rank
Population in million	11.26	11
GDP / capita in EUR	20 767	18
GBO in MEUR	98.1	17
Admissions in million	11.9	18
Number of first releases	0	-
Number of digital first releases (2010)	n/a	-
National films produced	23	19
Market share - National films	10.6%	15
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Exhibition landscape - 2010	2010	Rank
Cinema sites	130	20
Screens	370	20
Digital cinema sites	39	20
Digital screens	59	21
Digital 3D screens	54	21
Digital site penetration	30%	19
Digital screen penetration	16%	28
3D penetration of digital screens	92%	15
Avg no. of screens per site	2.8	15
Avg no. of screens per digital site	5.5	19
Avg no. of digital screens per digital site	1.5	29
Avg no. of 3D screens per digital site	1.4	29
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	n/a	-
Screen share - top 5 exhibitors	n/a	-

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Odeon Cineplex	18	100%	-
2 Village Cinemas	17	88%	-
3 Ster Cinemas	7	86%	-
-			
-			

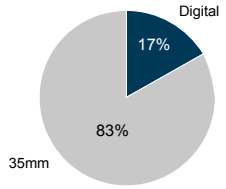
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

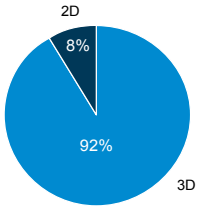
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	39	Dec 2010
Digital screens	63	June 2011
Digital 3D screens	54	Dec 2010

Digital screen penetration June 2011
- in %



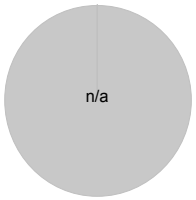
Digital 3D screen penetration Dec 2010
- in %



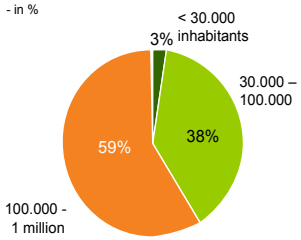
Site & screen concentration - 2010

- Top 5 exhibitors & town size

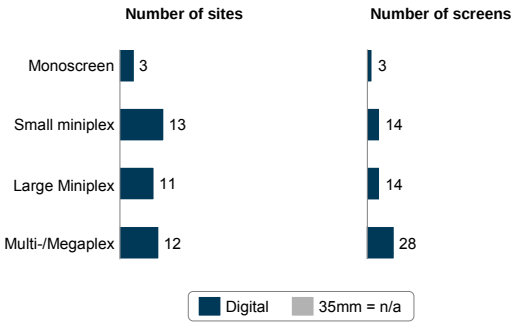
Market share top 5 exhibitors 2010
- in % of screens operated



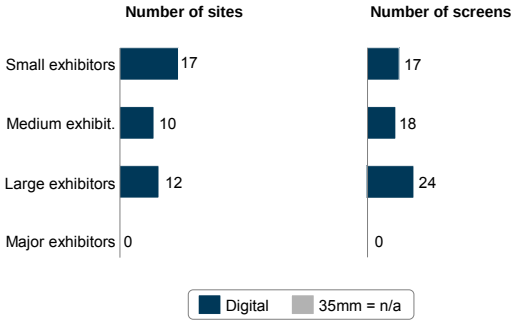
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



HR - Croatia

Basic market data	3Y Avg	Rank
Population in million	4.43	25
GDP / capita in EUR	10 500	25
GBO in MEUR	11.3	26
Admissions in million	3.4	24
Number of first releases	343	10
Number of digital first releases (2010)	n/a	-
National films produced	10	23
Market share - National films	1.7%	30
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Exhibition landscape - 2010	2010	Rank
Cinema sites	65	24
Screens	117	25
Digital cinema sites	7	26
Digital screens	9	32
Digital 3D screens	9	31
Digital site penetration	11%	31
Digital screen penetration	8%	33
3D penetration of digital screens	100%	1
Avg no. of screens per site	1.6	32
Avg no. of screens per digital site	7.3	8
Avg no. of digital screens per digital site	1.3	33
Avg no. of 3D screens per digital site	1.3	32
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	56%	3
Screen share - top 5 exhibitors	100%	1

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conver-sion rate*
1 Cinestar (Kieft Group)	7	100%	11%
2 Constantin Film Holding	2	100%	11%
-			
-			
-			

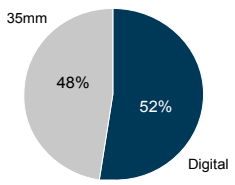
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

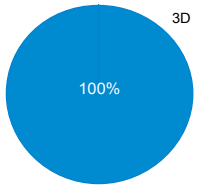
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	7	Dec 2010
Digital screens	61	June 2011
Digital 3D screens	9	Dec 2010

Digital screen penetration June 2011
- in %



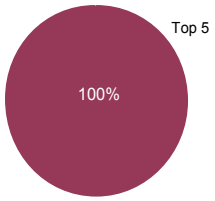
Digital 3D screen penetration Dec 2010
- in %



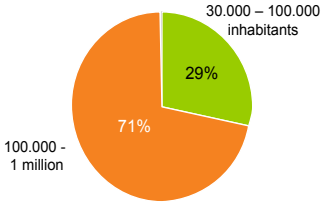
Site & screen concentration - 2010

- Top 5 exhibitors & town size

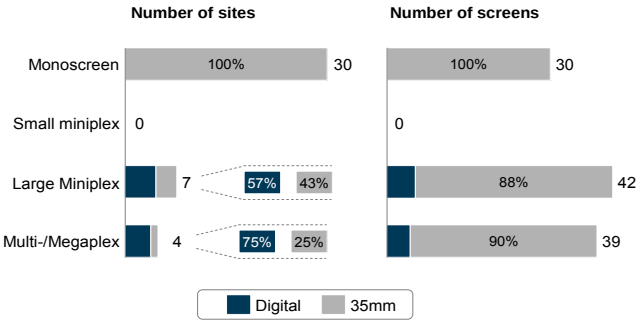
Market share top 5 exhibitors 2010
- in % of screens operated



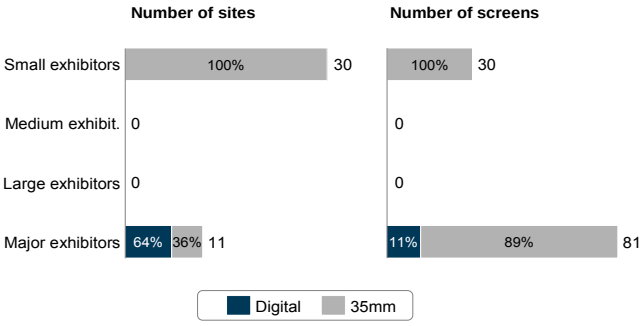
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



HU - Hungary

Basic market data	3Y Avg	Rank
Population in million	10.03	15
GDP / capita in EUR	9 900	26
GBO in MEUR	41.8	21
Admissions in million	10.6	20
Number of first releases	206	22
Number of digital first releases (2010)	n/a	-
National films produced	25	16
Market share - National films	8.5%	17
Market share - Other European films	10.0%	18
Total European market share	18.4%	18
US market share	81.1%	6

Exhibition landscape - 2010	2010	Rank
Cinema sites	172	15
Screens	396	18
Digital cinema sites	26	21
Digital screens	56	23
Digital 3D screens	55	20
Digital site penetration	15%	30
Digital screen penetration	14%	31
3D penetration of digital screens	98%	7
Avg no. of screens per site	2.4	22
Avg no. of screens per digital site	8.4	4
Avg no. of digital screens per digital site	2.2	20
Avg no. of 3D screens per digital site	2.1	13
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	37%	11
Screen share - top 5 exhibitors	61%	18

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinema City	40	98%	26%
2 Palace Mozi	9	100%	14%
3 Budapest Film Kft.	2	100%	13%
3 Fotexnet	2	100%	33%
3 Malom Mozi Kereskedelmi és Szórakoztató Kft.	2	100%	40%

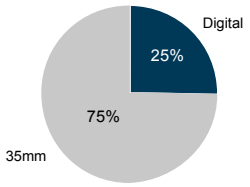
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	XDC
Buying groups:	-

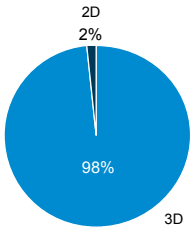
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	26	Dec 2010
Digital screens	100	June 2011
Digital 3D screens	55	Dec 2010

Digital screen penetration June 2011
- in %



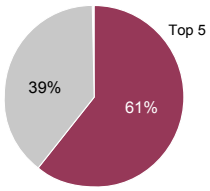
Digital 3D screen penetration Dec 2010
- in %



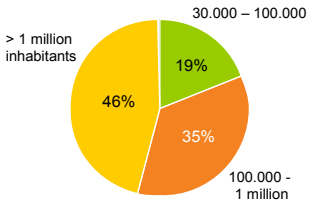
Site & screen concentration - 2010

- Top 5 exhibitors & town size

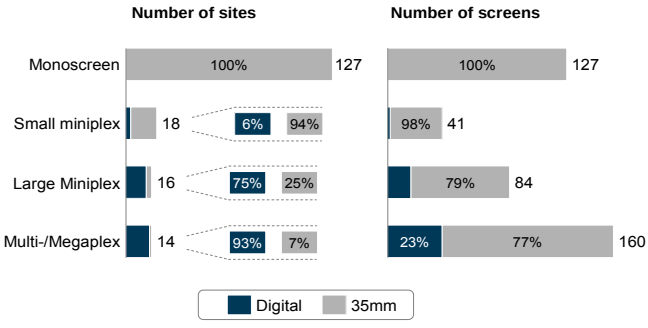
Market share top 5 exhibitors 2010
- in % of screens operated



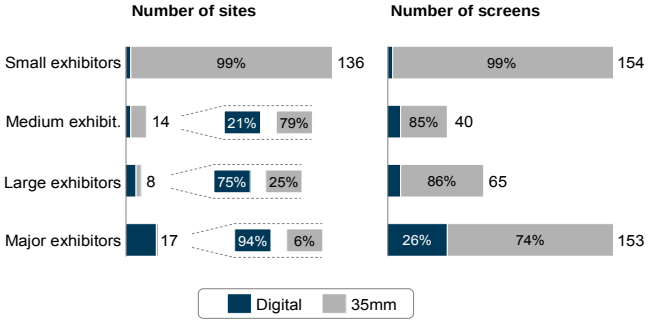
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

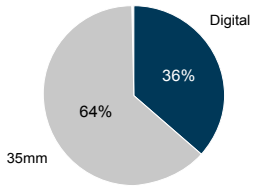


IE - Ireland

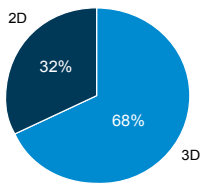
Basic market data	3Y Avg	Rank
Population in million	4.44	24
GDP / capita in EUR	36 867	5
GBO in MEUR	122.3	14
Admissions in million	17.5	11
Number of first releases	343	10
Number of digital first releases (2010)	n/a	-
National films produced	26	15
Market share - National films	0.8%	32
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Latest digital cinema data		Date
Digital sites	53	Dec 2010
Digital screens	162	June 2011
Digital 3D screens	96	Dec 2010

Digital screen penetration June 2011
- in %



Digital 3D screen penetration Dec 2010
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	71	22
Screens	446	16
Digital cinema sites	53	18
Digital screens	142	15
Digital 3D screens	96	18
Digital site penetration	75%	1
Digital screen penetration	32%	13
3D penetration of digital screens	68%	28
Avg no. of screens per site	6.3	1
Avg no. of screens per digital site	7.2	11
Avg no. of digital screens per digital site	2.7	12
Avg no. of 3D screens per digital site	1.8	19
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	34%	12
Screen share - top 5 exhibitors	68%	12

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Ward Anderson	56	59%	35%
2 Spurling Group	22	68%	51%
3 Odeon & UCI Cinemas	21	81%	29%
4 Cineworld	9	100%	53%
5 Gate Group	8	50%	38%

* Percentage share of total screens which have been digitised

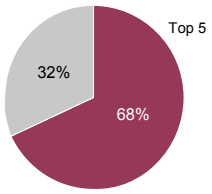
Financing schemes	
Public funding schemes	- The Arts Council and the Irish Film Board
Third Party Facilitators	DFL
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

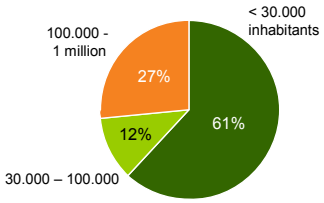
Site & screen concentration - 2010

- Top 5 exhibitors & town size

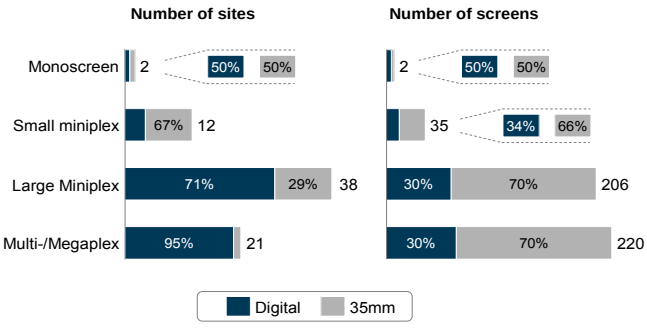
Market share top 5 exhibitors 2010
- in % of screens operated



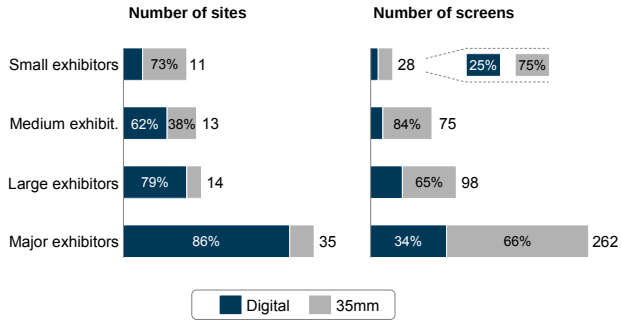
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

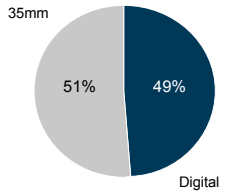


IS - Iceland

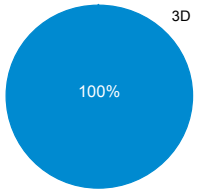
Basic market data	3Y Avg	Rank
Population in million	0.32	35
GDP / capita in EUR	29 700	13
GBO in MEUR	8.9	28
Admissions in million	1.6	30
Number of first releases	166	28
Number of digital first releases (2010)	n/a	-
National films produced	7	29
Market share - National films	9.2%	16
Market share - Other European films	7.8%	24
Total European market share	17.0%	17
US market share	82.4%	4

Latest digital cinema data		Date
Digital sites	7	Dec 2010
Digital screens	20	Sept 2011
Digital 3D screens	20	Sept 2011

Digital screen penetration Sept 2011
- in %



Digital 3D screen penetration Sept 2011
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	18	29
Screens	41	30
Digital cinema sites	7	26
Digital screens	14	28
Digital 3D screens	14	27
Digital site penetration	39%	13
Digital screen penetration	17%	25
3D penetration of digital screens	100%	1
Avg no. of screens per site	2.3	24
Avg no. of screens per digital site	3.7	26
Avg no. of digital screens per digital site	2.0	21
Avg no. of 3D screens per digital site	2.0	15
Number of exhibition companies	8	-
Screen share - leading exhibitor	45%	8
Screen share - top 5 exhibitors	88%	5

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Sam-félagið ehf.	9	100%	47%
2 Sena ehf.	3	100%	30%
3 Kvikmyndahúsið ehf/Myndform ehf.	2	100%	67%
-			
-			

* Percentage share of total screens which have been digitised

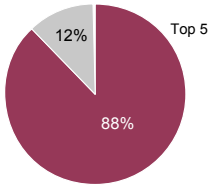
Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

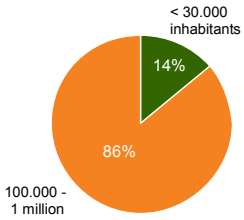
Site & screen concentration - 2010

- Top 5 exhibitors & town size

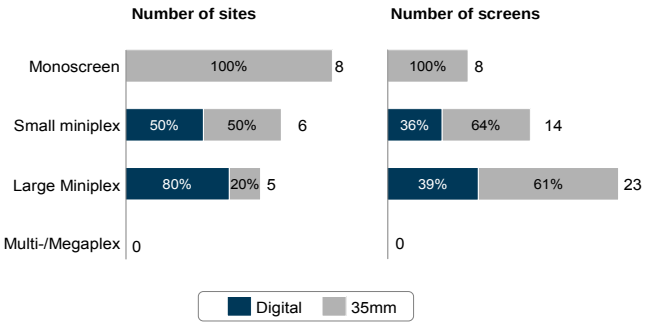
Market share top 5 exhibitors 2010
- in % of screens operated



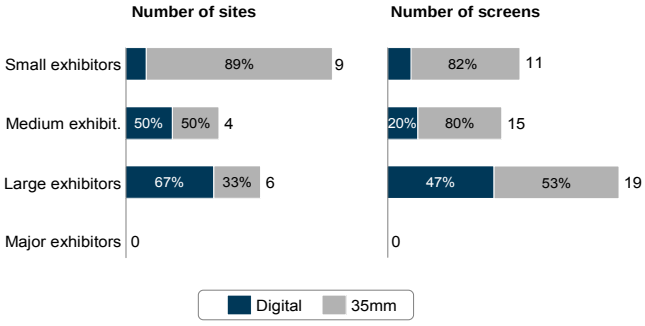
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



IT - Italy

Basic market data	3Y Avg	Rank
Population in million	60.00	6
GDP / capita in EUR	25 667	15
GBO in MEUR	705.9	4
Admissions in million	115.4	5
Number of first releases	370	8
Number of digital first releases (2010)	n/a	-
National films produced	148	4
Market share - National films	28.2%	4
Market share - Other European films	10.8%	15
Total European market share	39.0%	39
US market share	59.7%	22

Exhibition landscape - 2010	2010	Rank
Cinema sites	1 835	2
Screens	3 873	4
Digital cinema sites	474	4
Digital screens	912	5
Digital 3D screens	842	5
Digital site penetration	26%	21
Digital screen penetration	24%	19
3D penetration of digital screens	92%	13
Avg no. of screens per site	2.1	26
Avg no. of screens per digital site	4.8	25
Avg no. of digital screens per digital site	1.9	22
Avg no. of 3D screens per digital site	1.8	20
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	10%	32
Screen share - top 5 exhibitors	25%	33

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 The Space Cinema	147	86%	42%
2 Odeon & UCI Cinemas	120	94%	32%
3 Giometti Cinema	38	100%	38%
4 Stella Film	22	55%	37%
5 Cinelandia	19	95%	37%

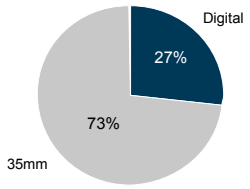
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Tax Credits administered by the Direzione Generale per il cinema - Regional funds in Lombardia, Toscana and Puglia - MEDIA
Third Party Facilitators	Ymagis, AAM
Buying groups:	-

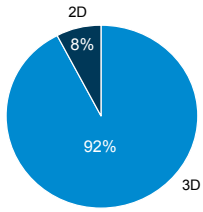
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	474	Dec 2010
Digital screens	1 040	June 2011
Digital 3D screens	842	Dec 2010

Digital screen penetration June 2011
- in %



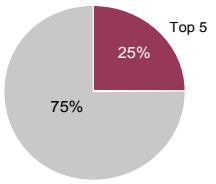
Digital 3D screen penetration Dec 2010
- in %



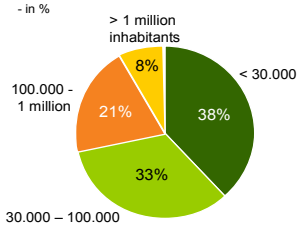
Site & screen concentration - 2010

- Top 5 exhibitors & town size

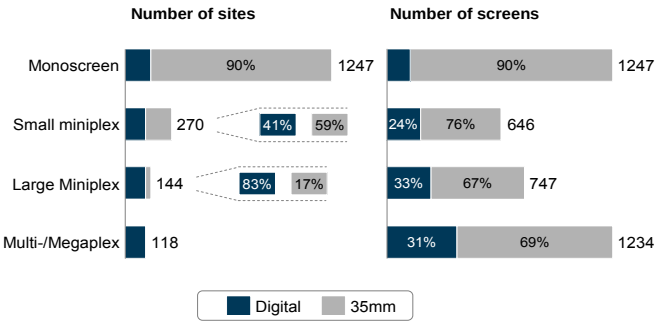
Market share top 5 exhibitors 2010
- in % of screens operated



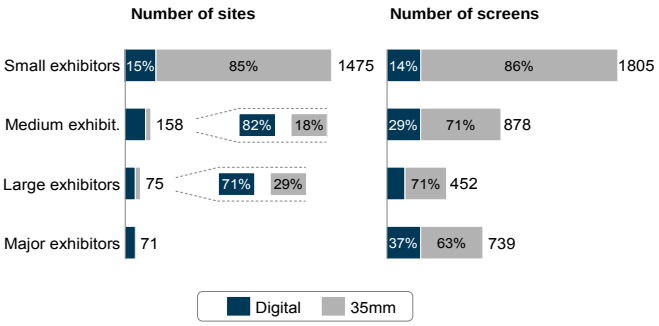
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



LT - Lithuania

Basic market data	3Y Avg	Rank
Population in million	3.35	27
GDP / capita in EUR	8 600	29
GBO in MEUR	10.7	27
Admissions in million	2.9	26
Number of first releases	135	31
Number of digital first releases (2010)	n/a	-
National films produced	6	32
Market share - National films	2.3%	29
Market share - Other European films	13.1%	11
Total European market share	15.4%	15
US market share	83.0%	3

Exhibition landscape - 2010	2010	Rank
Cinema sites	32	27
Screens	81	27
Digital cinema sites	7	26
Digital screens	13	30
Digital 3D screens	13	28
Digital site penetration	22%	27
Digital screen penetration	16%	27
3D penetration of digital screens	100%	1
Avg no. of screens per site	2.5	20
Avg no. of screens per digital site	6.6	14
Avg no. of digital screens per digital site	1.9	23
Avg no. of 3D screens per digital site	1.9	18
Number of exhibition companies	27	-
Screen share - leading exhibitor	49%	7
Screen share - top 5 exhibitors	75%	9

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Finnkino	9	100%	23%
2 Multikino	3	100%	43%
3 Amfiteatro filmai	1	100%	50%
-			
-			

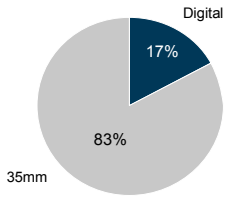
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

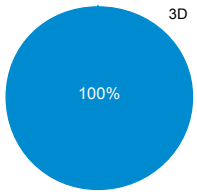
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	7	Dec 2010
Digital screens	14	June 2011
Digital 3D screens	13	Dec 2010

Digital screen penetration June 2011
- in %



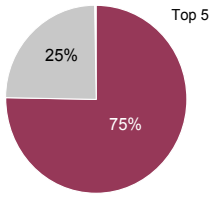
Digital 3D screen penetration Dec 2010
- in %



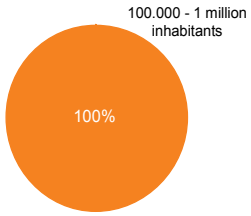
Site & screen concentration - 2010

- Top 5 exhibitors & town size

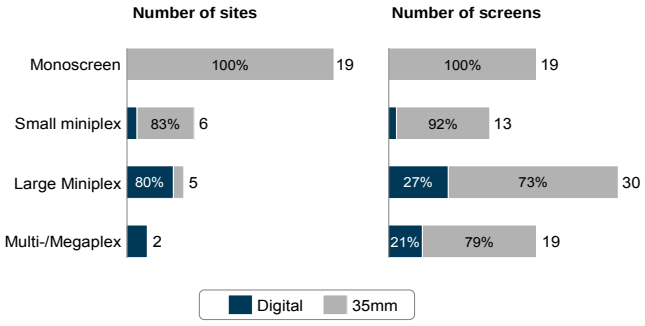
Market share top 5 exhibitors 2010
- in % of screens operated



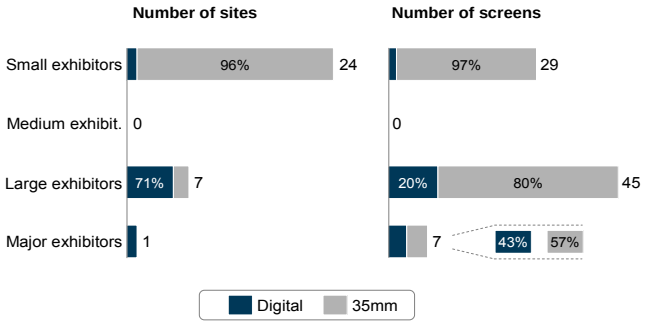
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



LU - Luxembourg

Basic market data	3Y Avg	Rank
Population in million	0.49	33
GDP / capita in EUR	79 967	1
GBO in MEUR	8.5	30
Admissions in million	1.2	31
Number of first releases	424	6
Number of digital first releases (2010)	n/a	-
National films produced	4	33
Market share - National films	1.3%	31
Market share - Other European films	24.8%	3
Total European market share	26.1%	26
US market share	73.4%	10

Exhibition landscape - 2010	2010	Rank
Cinema sites	13	31
Screens	33	34
Digital cinema sites	5	30
Digital screens	24	25
Digital 3D screens	16	25
Digital site penetration	38%	14
Digital screen penetration	73%	1
3D penetration of digital screens	67%	29
Avg no. of screens per site	2.5	19
Avg no. of screens per digital site	5.0	23
Avg no. of digital screens per digital site	4.8	3
Avg no. of 3D screens per digital site	3.2	3
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	63%	1
Screen share - top 5 exhibitors	94%	3

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Utopia Group	16	56%	73%
2 Caramba	8	88%	73%
-			
-			
-			

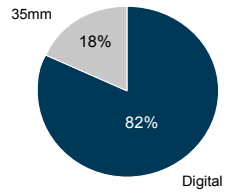
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	Ymagis, XDC
Buying groups:	-

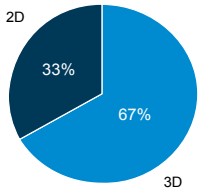
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	5	Dec 2010
Digital screens	27	June 2011
Digital 3D screens	16	Dec 2010

Digital screen penetration June 2011
- in %



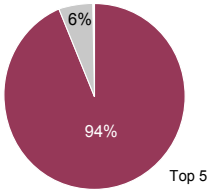
Digital 3D screen penetration Dec 2010
- in %



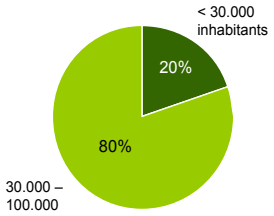
Site & screen concentration - 2010

- Top 5 exhibitors & town size

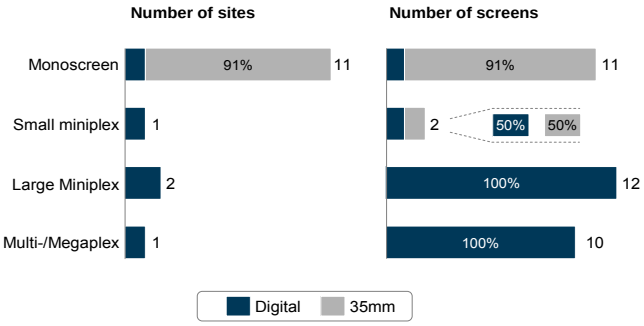
Market share top 5 exhibitors 2010
- in % of screens operated



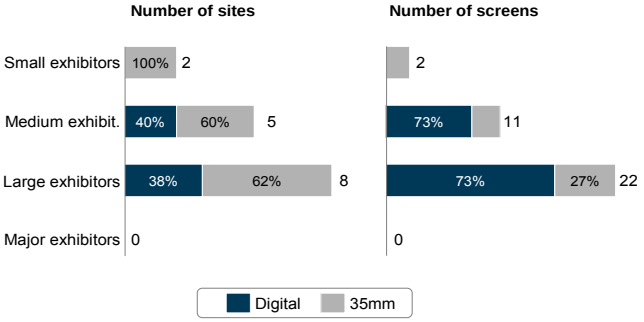
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



LV - Latvia

Basic market data	3Y Avg	Rank
Population in million	2.26	28
GDP / capita in EUR	8 800	28
GBO in MEUR	8.8	29
Admissions in million	2.1	28
Number of first releases	162	30
Number of digital first releases (2010)	13	-
National films produced	8	26
Market share - National films	5.4%	21
Market share - Other European films	15.8%	7
Total European market share	21.2%	21
US market share	73.9%	9

Exhibition landscape - 2010	2010	Rank
Cinema sites	17	30
Screens	63	29
Digital cinema sites	3	32
Digital screens	11	31
Digital 3D screens	10	30
Digital site penetration	18%	29
Digital screen penetration	17%	24
3D penetration of digital screens	91%	17
Avg no. of screens per site	3.7	9
Avg no. of screens per digital site	8.0	6
Avg no. of digital screens per digital site	3.7	6
Avg no. of 3D screens per digital site	3.3	2
Number of exhibition companies	26	-
Screen share - leading exhibitor	27%	20
Screen share - top 5 exhibitors	81%	7

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Multikino	5	80%	63%
2 Finnkino	5	100%	36%
3 Rīgas nami	1	100%	50%
-			
-			

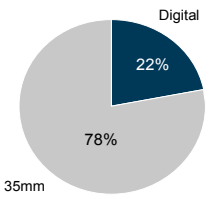
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

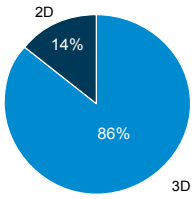
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	3	Dec 2010
Digital screens	14	June 2011
Digital 3D screens	12	June 2011

Digital screen penetration June 2011
- in %



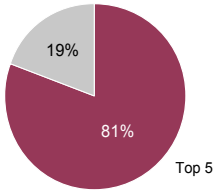
Digital 3D screen penetration June 2011
- in %



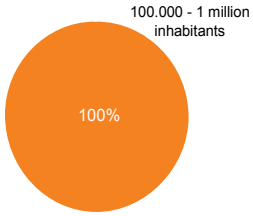
Site & screen concentration - 2010

- Top 5 exhibitors & town size

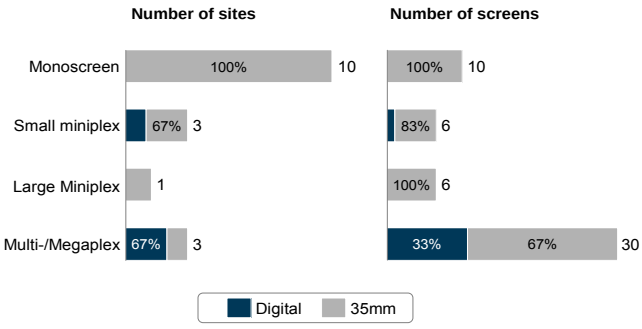
Market share top 5 exhibitors 2010
- in % of screens operated



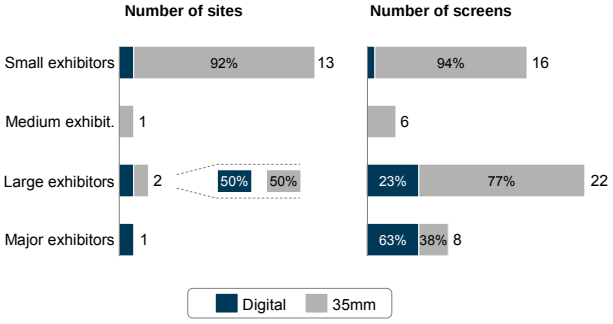
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



MK – 'The Former Yugoslav Republic of Macedonia'

Basic market data	3Y Avg	Rank
Population in million	2.05	29
GDP / capita in EUR	3 300	34
GBO in MEUR	0.3	35
Admissions in million	0.1	35
Number of first releases	330	13
Number of digital first releases (2010)	n/a	-
National films produced	6	30
Market share - National films	n/a	-
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Exhibition landscape - 2010	2010	Rank
Cinema sites	10	33
Screens	18	35
Digital cinema sites	0	-
Digital screens	0	-
Digital 3D screens	0	-
Digital site penetration	0%	-
Digital screen penetration	0%	-
3D penetration of digital screens	0%	-
Avg no. of screens per site	1.8	29
Avg no. of screens per digital site	-	-
Avg no. of digital screens per digital site	-	-
Avg no. of 3D screens per digital site	-	-
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	17%	25
Screen share - top 5 exhibitors	25%	32

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conver-sion rate*
-			
-			
-			
-			
-			

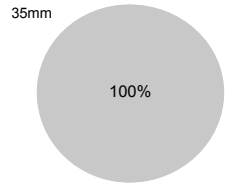
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Eurimages
Third Party Facilitators	-
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	0	Dec 2010
Digital screens	0	June 2011
Digital 3D screens	n/a	-

Digital screen penetration June 2011
- in %

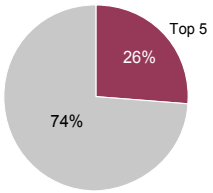


Digital 3D screen penetration (-)
- in %

Site & screen concentration - 2010

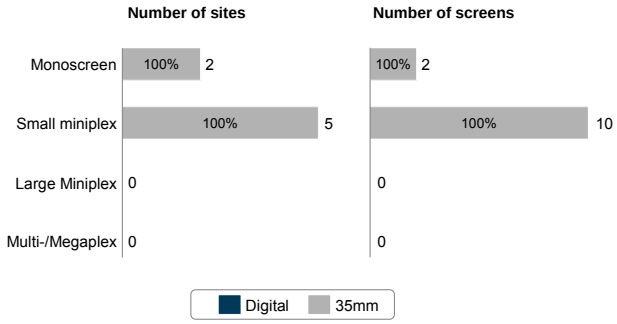
- Top 5 exhibitors & town size

Market share top 5 exhibitors 2010
- in % of screens operated

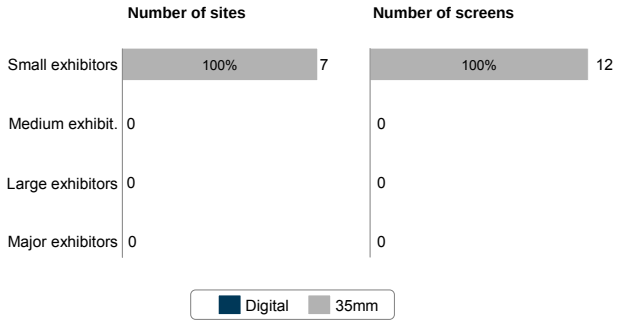


Digital sites by town population 2010
- in %

- By site type



- By exhibitor type

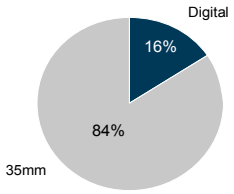


MT - Malta

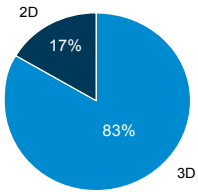
Basic market data	3Y Avg	Rank
Population in million	0.41	34
GDP / capita in EUR	14 533	21
GBO in MEUR	2.0	33
Admissions in million	1.0	32
Number of first releases	0	-
Number of digital first releases (2010)	n/a	-
National films produced	1	34
Market share - National films	n/a	-
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Latest digital cinema data		Date
Digital sites	3	Dec 2010
Digital screens	6	June 2011
Digital 3D screens	5	Dec 2010

Digital screen penetration June 2011
- in %



Digital 3D screen penetration Dec 2010
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	6	35
Screens	37	32
Digital cinema sites	3	32
Digital screens	6	33
Digital 3D screens	5	33
Digital site penetration	50%	5
Digital screen penetration	16%	26
3D penetration of digital screens	83%	23
Avg no. of screens per site	6.2	2
Avg no. of screens per digital site	10.0	1
Avg no. of digital screens per digital site	2.3	17
Avg no. of 3D screens per digital site	1.7	24
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	62%	2
Screen share - top 5 exhibitors	84%	6

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Eden Leisure Group	3	100%	13%
2 Empire Cinema Complex	2	100%	29%
-			
-			
-			

* Percentage share of total screens which have been digitised

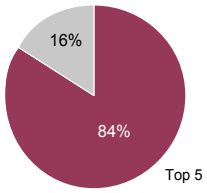
Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	XDC
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

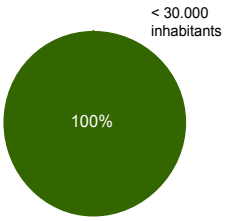
Site & screen concentration - 2010

- Top 5 exhibitors & town size

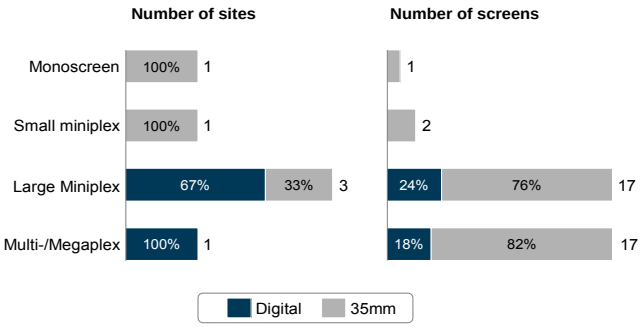
Market share top 5 exhibitors 2010
- in % of screens operated



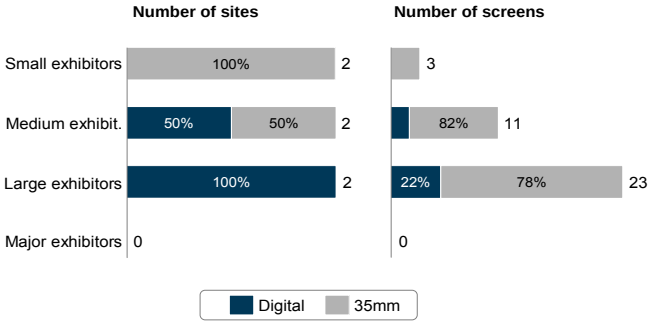
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

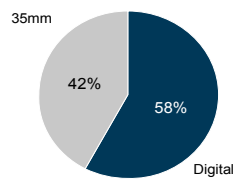


NL - Netherlands

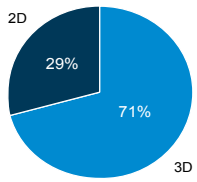
Basic market data	3Y Avg	Rank
Population in million	16.49	10
GDP / capita in EUR	35 500	6
GBO in MEUR	195.1	7
Admissions in million	26.3	9
Number of first releases	346	9
Number of digital first releases (2010)	123	-
National films produced	45	9
Market share - National films	17.1%	14
Market share - Other European films	10.4%	17
Total European market share	27.4%	27
US market share	70.3%	13

Latest digital cinema data		Date
Digital sites	99	Dec 2010
Digital screens	448	Sept 2011
Digital 3D screens	316	Sept 2011

Digital screen penetration Sept 2011
- in %



Digital 3D screen penetration Sept 2011
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	237	12
Screens	777	10
Digital cinema sites	99	11
Digital screens	252	12
Digital 3D screens	231	8
Digital site penetration	42%	11
Digital screen penetration	32%	12
3D penetration of digital screens	92%	14
Avg no. of screens per site	3.3	13
Avg no. of screens per digital site	5.1	21
Avg no. of digital screens per digital site	2.5	14
Avg no. of 3D screens per digital site	2.3	11
Number of exhibition companies	208	-
Screen share - leading exhibitor	19%	24
Screen share - top 5 exhibitors	41%	22

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Gaumont Pathé	77	96%	51%
2 JT Biocopen	23	96%	35%
3 Wolff Bioscopen	11	100%	22%
4 Utopia Group	10	90%	26%
5 Foroxity Filmarena	6	67%	40%

* Percentage share of total screens which have been digitised

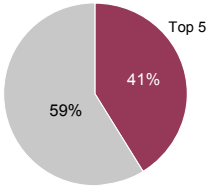
Financing schemes	
Public funding schemes	- Cinema Digitaal - MEDIA
Third Party Facilitators	XDC, Ymagis, AAM
Buying groups:	- Cinema Digitaal - Amsterdam Booking Company BV (ABC) (now part of Cinema Digitaal)

Source: European Audiovisual Observatory after MEDIA Salles

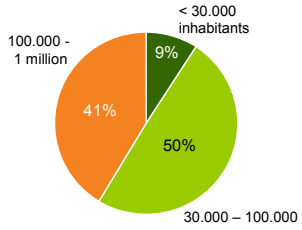
Site & screen concentration - 2010

- Top 5 exhibitors & town size

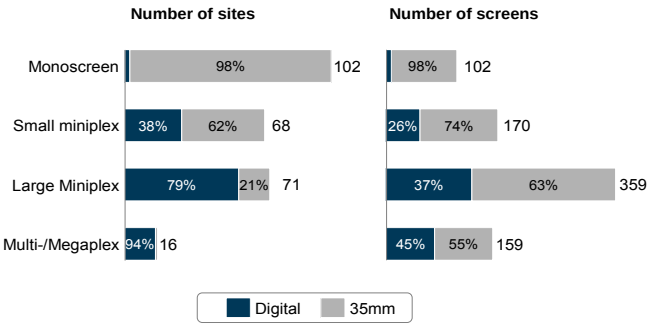
Market share top 5 exhibitors 2010
- in % of screens operated



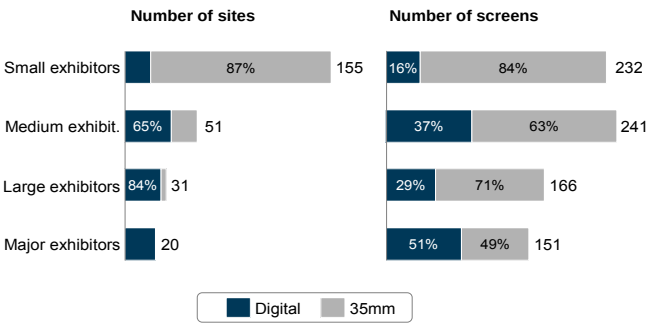
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



NO - Norway

Basic market data	3Y Avg	Rank
Population in million	4.80	23
GDP / capita in EUR	61 033	2
GBO in MEUR	117.5	16
Admissions in million	11.9	19
Number of first releases	222	20
Number of digital first releases (2010)	n/a	-
National films produced	24	18
Market share - National films	22.1%	9
Market share - Other European films	11.4%	14
Total European market share	33.5%	33
US market share	65.7%	17

Exhibition landscape - 2010	2010	Rank
Cinema sites	209	13
Screens	429	17
Digital cinema sites	103	10
Digital screens	268	11
Digital 3D screens	151	12
Digital site penetration	49%	6
Digital screen penetration	62%	3
3D penetration of digital screens	56%	30
Avg no. of screens per site	2.1	27
Avg no. of screens per digital site	2.9	32
Avg no. of digital screens per digital site	2.5	15
Avg no. of 3D screens per digital site	1.4	28
Number of exhibition companies	180	-
Screen share - leading exhibitor	14%	29
Screen share - top 5 exhibitors	35%	26

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Oslo Kinodrift	34	53%	100%
2 Norsk kinodrift	29	93%	94%
3 SF Group	27	48%	59%
4 Trondheim kino AS	19	37%	100%
5 Bergen kino	18	33%	100%

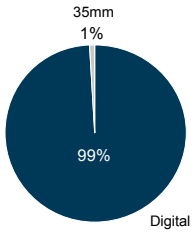
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	-Film og Kino - MEDIA
Third Party Facilitators	AAM
Buying groups:	-

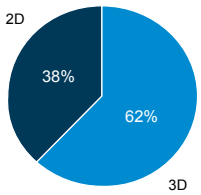
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	103	Dec 2010
Digital screens	425	Sept 2011
Digital 3D screens	263	Sept 2011

Digital screen penetration Sept 2011
- in %



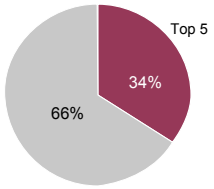
Digital 3D screen penetration Sept 2011
- in %



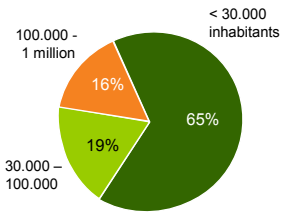
Site & screen concentration - 2010

- Top 5 exhibitors & town size

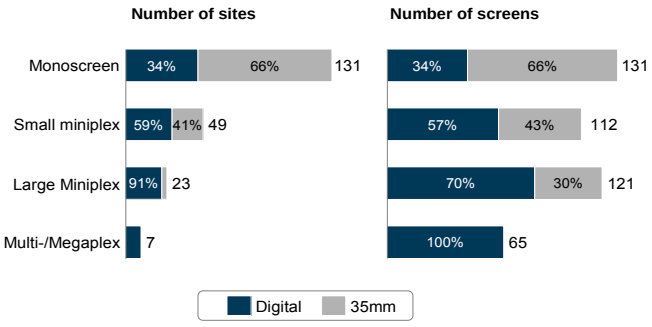
Market share top 5 exhibitors 2010
- in % of screens operated



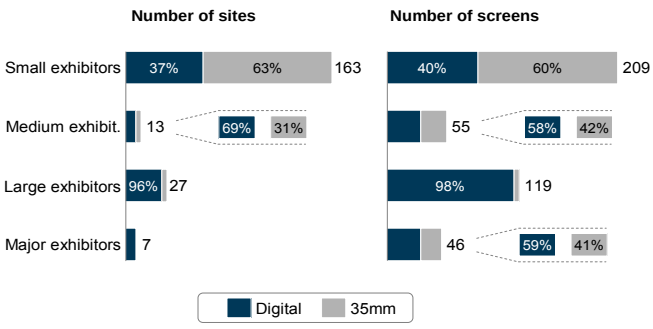
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



PL - Poland

Basic market data	3Y Avg	Rank
Population in million	38.14	8
GDP / capita in EUR	8 967	27
GBO in MEUR	162.7	9
Admissions in million	36.8	8
Number of first releases	274	15
Number of digital first releases (2010)	36	-
National films produced	39	11
Market share - National films	20.0%	12
Market share - Other European films	15.2%	9
Total European market share	35.2%	35
US market share	63.9%	18

Exhibition landscape - 2010	2010	Rank
Cinema sites	448	10
Screens	1 048	8
Digital cinema sites	106	9
Digital screens	324	8
Digital 3D screens	310	7
Digital site penetration	24%	24
Digital screen penetration	31%	15
3D penetration of digital screens	96%	9
Avg no. of screens per site	2.4	22
Avg no. of screens per digital site	6.6	13
Avg no. of digital screens per digital site	3.0	11
Avg no. of 3D screens per digital site	2.9	7
Number of exhibition companies	148	-
Screen share - leading exhibitor	29%	16
Screen share - top 5 exhibitors	63%	15

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Multikino	129	92%	65%
2 Cinema City	104	100%	31%
3 Helios	51	98%	36%
4 Instytucja Filmowa Max-Film	12	83%	40%
5 Atlantic	4	100%	100%

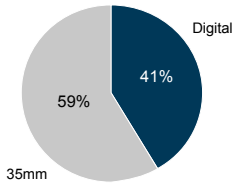
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Fundacja Rozwoju Kina (Malopolska region) - Polski Instytut Sztuki Filmowej (PISF) - MEDIA
Third Party Facilitators	XDC
Buying groups:	-

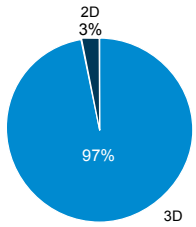
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	106	Dec 2010
Digital screens	433	Sept 2011
Digital 3D screens	421	Sept 2010

Digital screen penetration Sept 2011
- in %



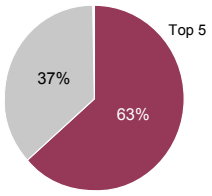
Digital 3D screen penetration Sept 2011
- in %



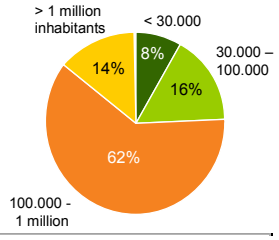
Site & screen concentration - 2010

- Top 5 exhibitors & town size

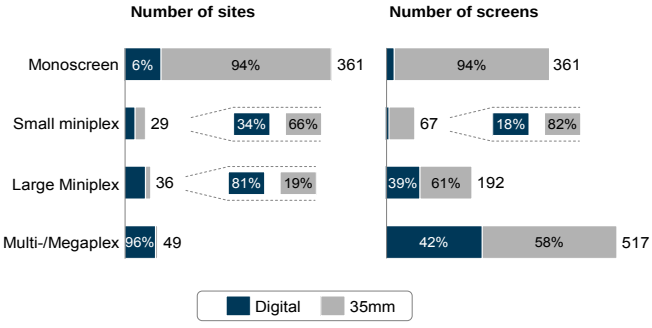
Market share top 5 exhibitors 2010
- in % of screens operated



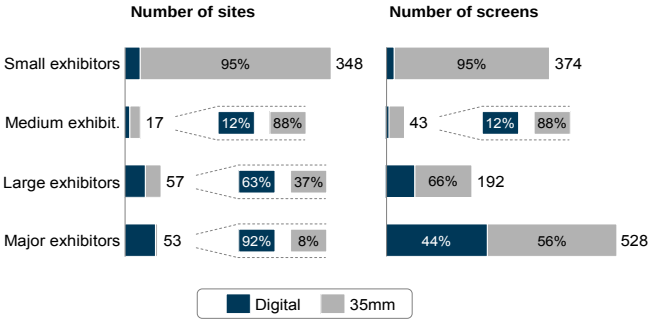
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



PT - Portugal

Basic market data	3Y Avg	Rank
Population in million	10.63	13
GDP / capita in EUR	16 100	20
GBO in MEUR	75.3	18
Admissions in million	16.1	14
Number of first releases	256	16
Number of digital first releases (2010)	173	-
National films produced	22	20
Market share - National films	2.4%	28
Market share - Other European films	9.0%	22
Total European market share	11.3%	11
US market share	88.1%	1

Exhibition landscape - 2010	2010	Rank
Cinema sites	167	17
Screens	564	13
Digital cinema sites	66	16
Digital screens	317	9
Digital 3D screens	176	11
Digital site penetration	40%	12
Digital screen penetration	56%	4
3D penetration of digital screens	56%	31
Avg no. of screens per site	3.4	12
Avg no. of screens per digital site	6.5	15
Avg no. of digital screens per digital site	4.8	2
Avg no. of 3D screens per digital site	2.7	8
Number of exhibition companies	110	-
Screen share - leading exhibitor	38%	10
Screen share - top 5 exhibitors	73%	11

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Zon Lusomundo Cinemas	207	40%	97%
2 Socorama	55	75%	54%
3 NLC - New Lineo Cinemas	19	100%	50%
4 Odeon & UCI Cinemas	16	100%	36%
5 FDO Multimedia, LD[a]	9	100%	69%

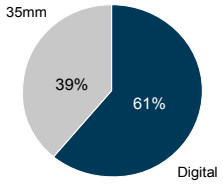
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	XDC
Buying groups:	-

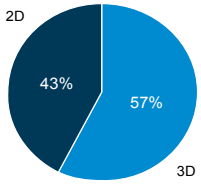
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	66	Dec 2010
Digital screens	343	June 2011
Digital 3D screens	196	June 2010

Digital screen penetration June 2011
- in %



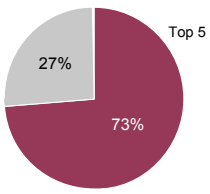
Digital 3D screen penetration June 2011
- in %



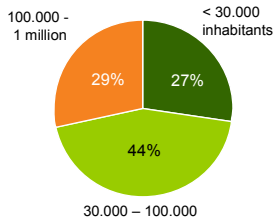
Site & screen concentration - 2010

- Top 5 exhibitors & town size

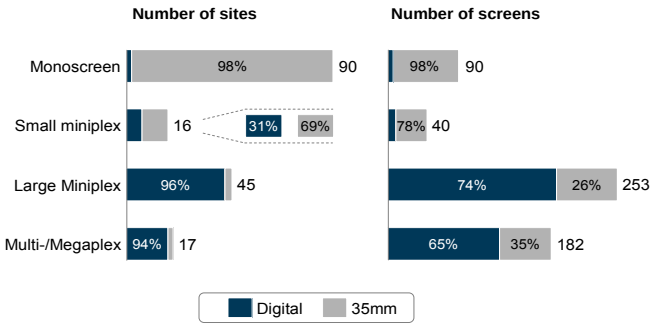
Market share top 5 exhibitors 2010
- in % of screens operated



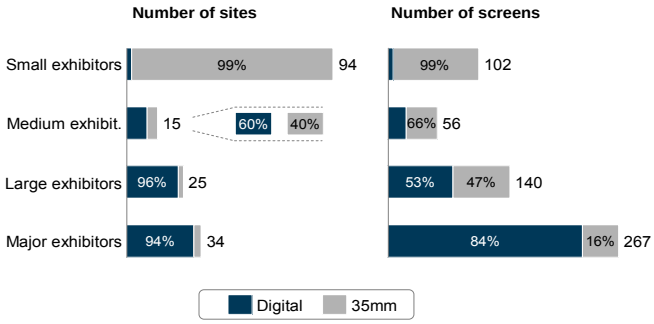
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



RO - Romania

Basic market data	3Y Avg	Rank
Population in million	21.50	9
GDP / capita in EUR	5 900	32
GBO in MEUR	20.4	22
Admissions in million	5.2	22
Number of first releases	198	23
Number of digital first releases (2010)	n/a	-
National films produced	15	22
Market share - National films	2.8%	27
Market share - Other European films	9.1%	21
Total European market share	11.9%	12
US market share	87.5%	2

Exhibition landscape - 2010	2010	Rank
Cinema sites	68	23
Screens	194	23
Digital cinema sites	17	22
Digital screens	61	20
Digital 3D screens	54	21
Digital site penetration	25%	22
Digital screen penetration	31%	14
3D penetration of digital screens	89%	21
Avg no. of screens per site	2.9	14
Avg no. of screens per digital site	8.4	5
Avg no. of digital screens per digital site	3.6	7
Avg no. of 3D screens per digital site	3.2	4
Number of exhibition companies	20	-
Screen share - leading exhibitor	43%	9
Screen share - top 5 exhibitors	79%	8

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinema City	33	85%	38%
2 Movieplex Bucuresti	9	100%	82%
3 Hollywood Multiplex Operations	7	71%	44%
4 Light Cinema - Bucuresti	7	100%	100%
5 Starplex	2	100%	22%
5 Odeon Cineplex	2	100%	25%

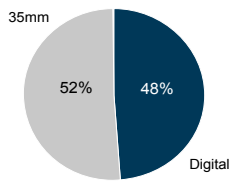
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

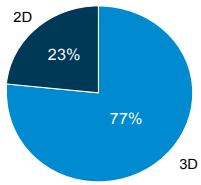
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	17	Dec 2010
Digital screens	94	Sept 2011
Digital 3D screens	72	Sept 2011

Digital screen penetration Sept 2011
- in %



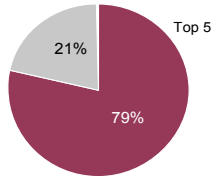
Digital 3D screen penetration Sept 2011
- in %



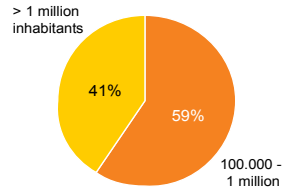
Site & screen concentration - 2010

- Top 5 exhibitors & town size

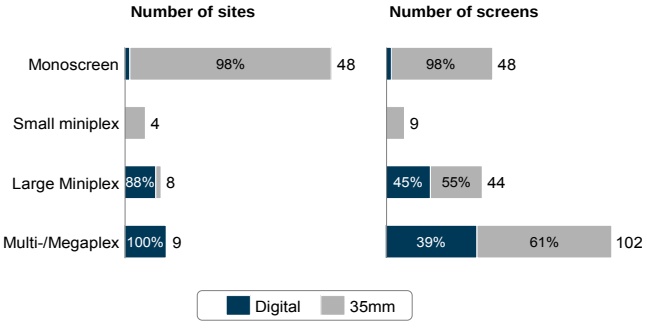
Market share top 5 exhibitors 2010
- in % of screens operated



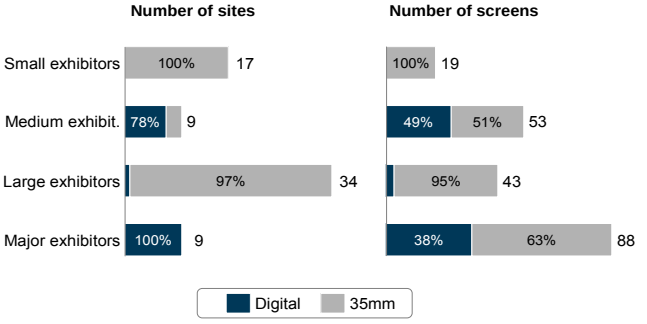
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

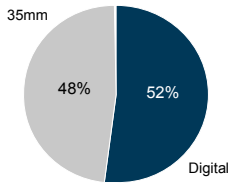


RU - Russian Federation

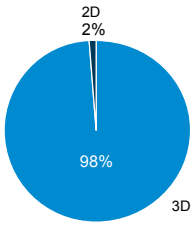
Basic market data	3Y Avg	Rank
Population in million	141.39	1
GDP / capita in EUR	7 334	30
GBO in MEUR	629.2	6
Admissions in million	142.6	3
Number of first releases	339	12
Number of digital first releases (2010)	162	-
National films produced	75	7
Market share - National films	21.4%	11
Market share - Other European films	15.5%	8
Total European market share	36.8%	37
US market share	62.3%	21

Latest digital cinema data		Date
Digital sites	530	Dec 2010
Digital screens	1 260	Sept 2011
Digital 3D screens	1 241	Sept 2011

Digital screen penetration Sept 2011
- in %



Digital 3D screen penetration Sept 2011
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	865	4
Screens	2 430	6
Digital cinema sites	530	3
Digital screens	941	4
Digital 3D screens	937	4
Digital site penetration	61%	3
Digital screen penetration	39%	8
3D penetration of digital screens	100%	5
Avg no. of screens per site	2.8	16
Avg no. of screens per digital site	3.7	27
Avg no. of digital screens per digital site	1.8	24
Avg no. of 3D screens per digital site	1.8	21
Number of exhibition companies	484	-
Screen share - leading exhibitor	7%	33
Screen share - top 5 exhibitors	27%	31

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinema Park	74	100%	53%
2 KARO Film	60	100%	35%
3 Rising Star Media	57	100%	76%
4 Luxor	44	100%	48%
5 Formula Kino	41	100%	58%

* Percentage share of total screens which have been digitised

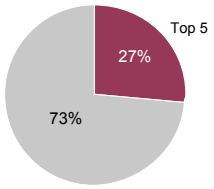
Financing schemes	
Public funding schemes	- Eurimages
Third Party Facilitators	-
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

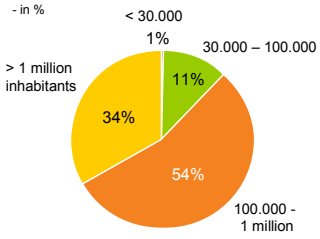
Site & screen concentration - 2010

- Top 5 exhibitors & town size

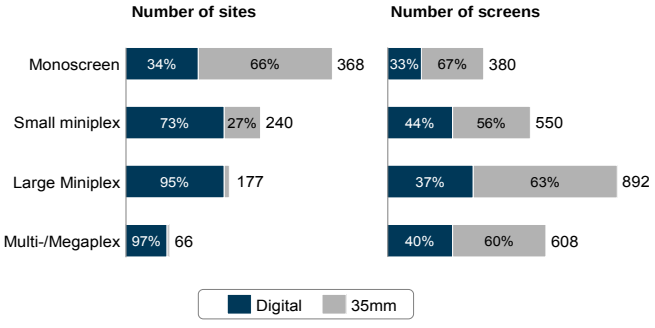
Market share top 5 exhibitors 2010
- in % of screens operated



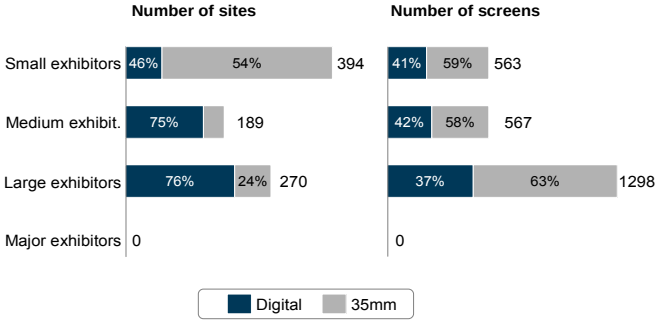
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



SE - Sweden

Basic market data	3Y Avg	Rank
Population in million	9.26	16
GDP / capita in EUR	34 800	7
GBO in MEUR	143.6	12
Admissions in million	16.2	13
Number of first releases	253	18
Number of digital first releases (2010)	105	-
National films produced	39	10
Market share - National films	24.6%	5
Market share - Other European films	10.6%	16
Total European market share	35.3%	35
US market share	63.0%	20

Exhibition landscape - 2010	2010	Rank
Cinema sites	488	9
Screens	830	9
Digital cinema sites	110	8
Digital screens	155	14
Digital 3D screens	146	13
Digital site penetration	23%	25
Digital screen penetration	19%	22
3D penetration of digital screens	94%	11
Avg no. of screens per site	1.7	30
Avg no. of screens per digital site	3.6	28
Avg no. of digital screens per digital site	1.4	32
Avg no. of 3D screens per digital site	1.3	30
Number of exhibition companies	220	-
Screen share - leading exhibitor	28%	18
Screen share - top 5 exhibitors	63%	16

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conver-sion rate*
1 SF Group	58	98%	24%
2 Folkets Hus och Parker	22	95%	14%
3 Svenska Bio	18	100%	19%
4 Cinemascenen i Katrine-holm AB	8	100%	57%
5 Eurostar AB	6	100%	22%

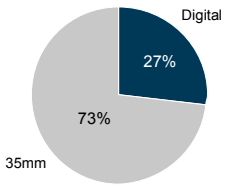
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- Svenska Filminstitutet - MEDIA
Third Party Facilitators	-
Buying groups:	- SKL (AffärsConcept)

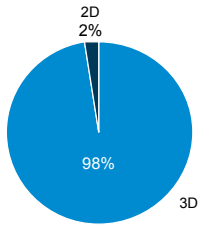
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	110	Dec 2010
Digital screens	224	Sept 2011
Digital 3D screens	219	Sept 2011

Digital screen penetration Sept 2011
- in %



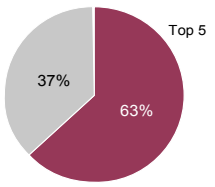
Digital 3D screen penetration Sept 2011
- in %



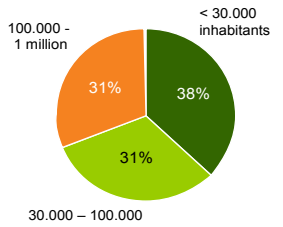
Site & screen concentration - 2010

- Top 5 exhibitors & town size

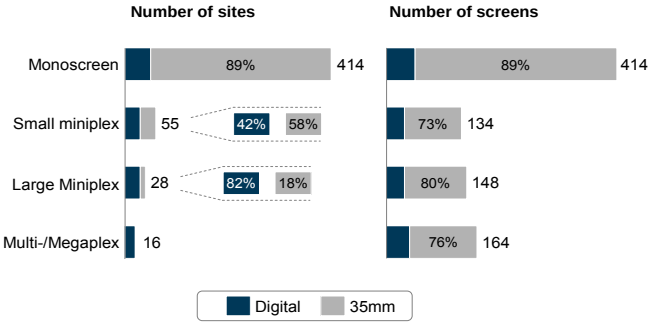
Market share top 5 exhibitors 2010
- in % of screens operated



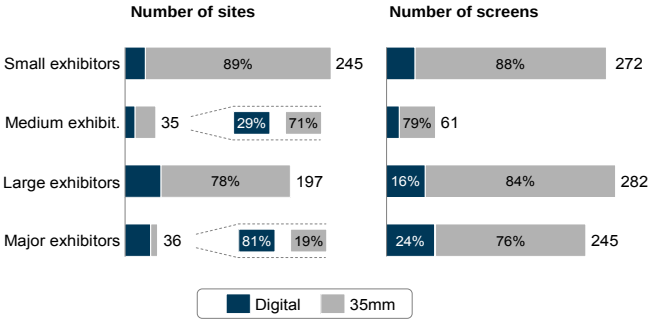
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



SI - Slovenia

Basic market data	3Y Avg	Rank
Population in million	2.03	30
GDP / capita in EUR	17 767	19
GBO in MEUR	11.4	25
Admissions in million	2.7	27
Number of first releases	168	26
Number of digital first releases (2010)	19	-
National films produced	7	27
Market share - National films	4.3%	24
Market share - Other European films	20.5%	4
Total European market share	24.8%	25
US market share	74.4%	8

Exhibition landscape - 2010	2010	Rank
Cinema sites	49	25
Screens	108	26
Digital cinema sites	11	25
Digital screens	16	26
Digital 3D screens	16	25
Digital site penetration	22%	26
Digital screen penetration	15%	29
3D penetration of digital screens	100%	1
Avg no. of screens per site	2.2	25
Avg no. of screens per digital site	5.6	18
Avg no. of digital screens per digital site	1.5	30
Avg no. of 3D screens per digital site	1.5	25
Number of exhibition companies	41	-
Screen share - leading exhibitor	29%	15
Screen share - top 5 exhibitors	65%	14

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Engrotuš d.d	10	100%	32%
2 Kolosej Zabavini Centri	5	100%	18%
3 Komunika	1	100%	33%
-			
-			

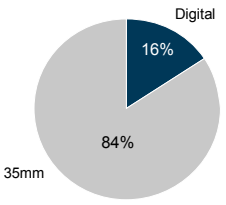
* Percentage share of total screens which have been digitised

Financing schemes	
Public funding schemes	- MEDIA
Third Party Facilitators	-
Buying groups:	-

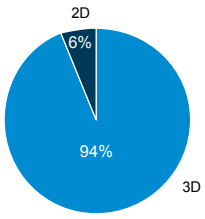
Source: European Audiovisual Observatory after MEDIA Salles

Latest digital cinema data		Date
Digital sites	11	Dec 2010
Digital screens	17	June 2011
Digital 3D screens	16	June 2011

Digital screen penetration June 2011
- in %



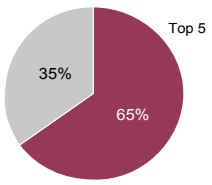
Digital 3D screen penetration June 2011
- in %



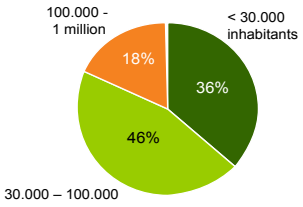
Site & screen concentration - 2010

- Top 5 exhibitors & town size

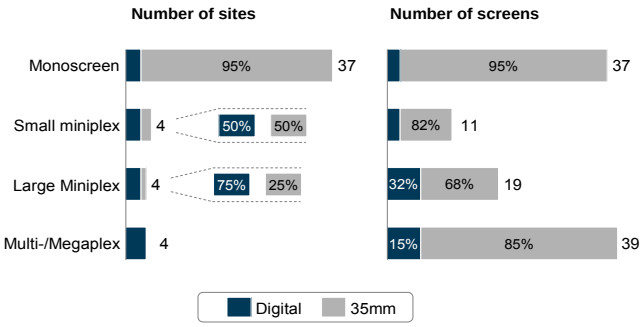
Market share top 5 exhibitors 2010
- in % of screens operated



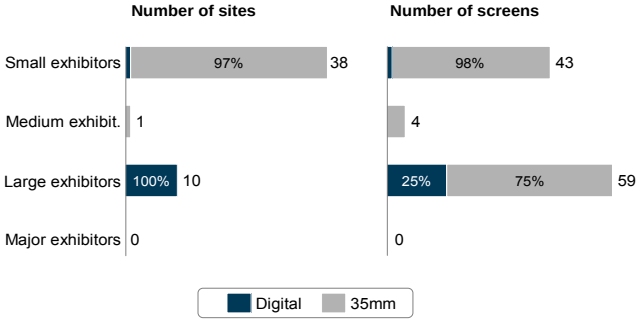
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

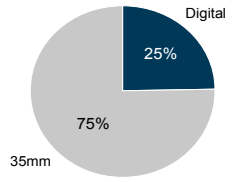


SK - Slovak Republic

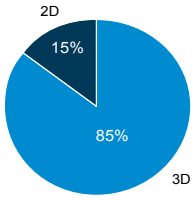
Basic market data	3Y Avg	Rank
Population in million	5.41	21
GDP / capita in EUR	11 867	23
GBO in MEUR	15.6	23
Admissions in million	3.8	23
Number of first releases	183	24
Number of digital first releases (2010)	61	-
National films produced	7	27
Market share - National films	7.3%	18
Market share - Other European films	n/a	n/a
Total European market share	n/a	n/a
US market share	n/a	n/a

Latest digital cinema data		Date
Digital sites	16	Dec 2010
Digital screens	62	Sept 2011
Digital 3D screens	53	Sept 2011

Digital screen penetration Sept 2011
- in %



Digital 3D screen penetration Sept 2011
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	183	14
Screens	248	22
Digital cinema sites	16	24
Digital screens	36	24
Digital 3D screens	32	24
Digital site penetration	9%	32
Digital screen penetration	15%	30
3D penetration of digital screens	89%	20
Avg no. of screens per site	1.4	35
Avg no. of screens per digital site	5.1	22
Avg no. of digital screens per digital site	2.3	18
Avg no. of 3D screens per digital site	2.0	15
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	17%	26
Screen share - top 5 exhibitors	38%	25

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Cinemax a.s	19	100%	51%
2 Cinema City	9	67%	31%
3 Tatrafilm s.r.o.	4	75%	50%
4 EuroCinema BB s.r.o.	3	100%	50%
5 Kultúrny dom A.Hlinku	1	100%	100%

* Percentage share of total screens which have been digitised

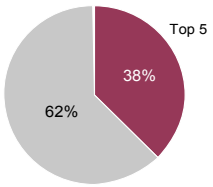
Financing schemes	
Public funding schemes	- Audiovizuálny fond - MEDIA
Third Party Facilitators	XDC
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

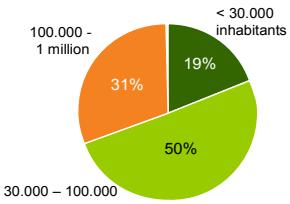
Site & screen concentration - 2010

- Top 5 exhibitors & town size

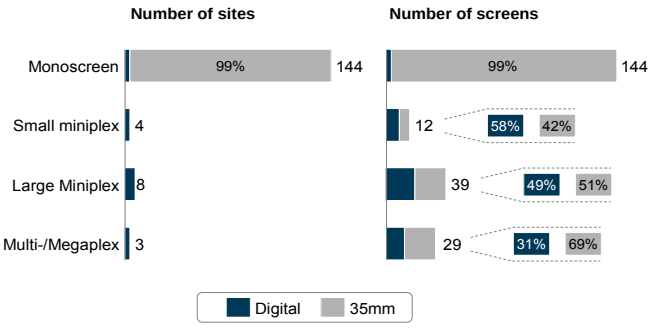
Market share top 5 exhibitors 2010
- in % of screens operated



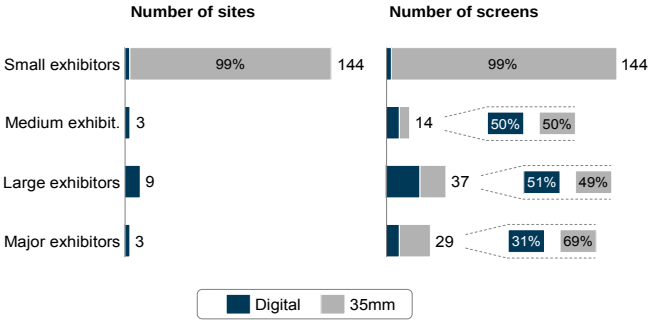
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type

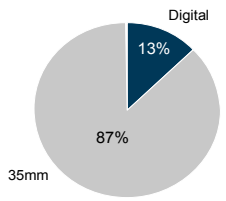


TR - Turkey

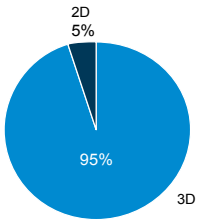
Basic market data	3Y Avg	Rank
Population in million	71.55	3
GDP / capita in EUR	6 900	31
GBO in MEUR	161.6	10
Admissions in million	38.8	7
Number of first releases	256	16
Number of digital first releases (2010)	n/a	-
National films produced	60	8
Market share - National films	54.0%	1
Market share - Other European films	1.3%	26
Total European market share	55.4%	55
US market share	43.4%	26

Latest digital cinema data		Date
Digital sites	118	Dec 2010
Digital screens	240	June 2011
Digital 3D screens	229	June 2011

Digital screen penetration June 2011
- in %



Digital 3D screen penetration June 2011
- in %



Exhibition landscape - 2010	2010	Rank
Cinema sites	491	8
Screens	1 874	7
Digital cinema sites	118	7
Digital screens	205	13
Digital 3D screens	202	10
Digital site penetration	24%	23
Digital screen penetration	11%	32
3D penetration of digital screens	99%	6
Avg no. of screens per site	3.8	8
Avg no. of screens per digital site	7.4	7
Avg no. of digital screens per digital site	1.7	26
Avg no. of 3D screens per digital site	1.7	22
Number of exhibition companies	n/a	-
Screen share - leading exhibitor	23%	21
Screen share - top 5 exhibitors	34%	27

Top 5 exhibitors by digital screens 2010	Digital Screens	3D share	Conversion rate*
1 Mars Entertainment	97	100%	22%
2 Sinerama	12	100%	-
3 Tuze Group-AVŞAR	10	100%	10%
4 Sener Turizm	10	100%	-
5 Attas Alarko	6	100%	-

* Percentage share of total screens which have been digitised

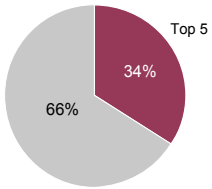
Financing schemes	
Public funding schemes	- Eurimages
Third Party Facilitators	-
Buying groups:	-

Source: European Audiovisual Observatory after MEDIA Salles

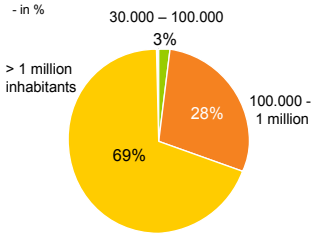
Site & screen concentration - 2010

- Top 5 exhibitors & town size

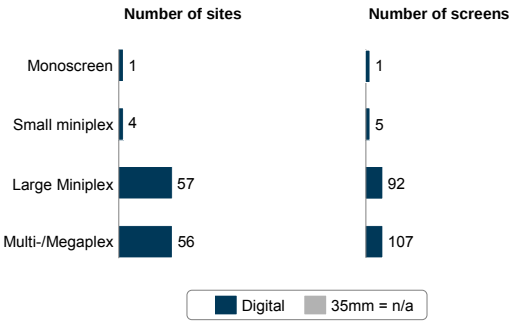
Market share top 5 exhibitors 2010
- in % of screens operated



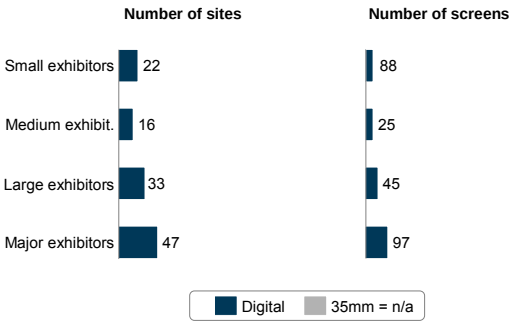
Digital sites by town population 2010
- in %



- By site type



- By exhibitor type



Reference Tables

List of Reference Tables

Table 1 Digital screens by country – 2003 to June 2011

in units

Country	Dec 2003	June 2004	Dec 2004	June 2005	Dec 2005	June 2006	Dec 2006	June 2007	Dec 2007	June 2008	Dec 2008	June 2009	Dec 2009	June 2010	Dec 2010	June 2011
AT	1	1	1	1	16	17	18	20	35	38	84	128	239	258	306	370
BA																
BE	10	10	14	17	20	22	35	44	76	77	98	114	144	220	334	400
BG						4	4	4	4	6	17	19	23	29	57	77
CH				2	12	12	14	14	16	23	28	41	60	90	133	248
CY												1	6	6	15	15
CZ	1	1	1	1	1	1	1	1	1	1	2	25	50	75	133	175
DE	2	2	2	12	31	34	96	142	151	158	162	208	566	738	1 248	1 900
DK			4	5	5	5	5	6	6	10	10	15	25	72	136	176
EE											2	2	5	6	14	15
ES	2	2	1	5	7	10	21	24	33	39	50	162	252	412	758	1 022
FI							1	1	1	6	12	27	48	59	88	123
FR	3	4	6	14	21	19	34	41	66	162	253	598	904	1 262	1 887	2 709
GB	7	10	10	12	33	60	159	244	284	289	303	432	667	997	1 408	2 033
GR								2	2	2	8	15	31	31	59	63
HR										1	7	7	8	9	9	61
HU	1	1	1	1	1	1	1	1	2	6	7	20	31	40	56	100
IE				1	1	13	23	23	36	37	38	47	112	127	142	162
IS						3	3	3	3	3	7	7	7	10	14	17
IT	1	1	4	12	25	29	31	31	38	57	80	183	434	609	912	1 040
LT												4	5	6	13	14
LU			3	3	3	3	13	13	13	14	21	22	22	22	24	27
LV											2	2	3	4	11	14
MK																
MT											2	2	2	3	6	6
NL			3	12	18	20	30	33	34	36	56	77	105	160	252	400
NO	1	2	2	2	3	2	23	21	35	38	48	58	61	94	268	415
PL								1	8	25	53	82	177	266	324	390
PT		1	1	2	1	1	5	9	14	25	44	51	181	259	317	343
RO										4	14	24	40	47	61	77
RU	1	1	1	1	1	1	3	9	31	48	90	161	351	525	941	1 179
SE		1	1	1	6	5	5	5	5	7	8	20	38	93	155	201
SI							2	2	2	2	9	9	9	17	16	17
SK												4	10	24	36	45
TR									1	1	20	33	62	104	205	240
Total EUR	**30**	**37**	**55**	**104**	**205**	**262**	**527**	**694**	**897**	**1 115**	**1 535**	**2 600**	**4 678**	**6 674**	**10 338**	**14 074**

Source: MEDIA Salles

Table 2 Digital sites by country – 2003 to 2010

in units

Country	Dec 2003	June 2004	Dec 2004	June 2005	Dec 2005	June 2006	Dec 2006	June 2007	Dec 2007	June 2008	Dec 2008	June 2009	Dec 2009	June 2010	Dec 2010
AT	1	1	1	1	11	10	11	12	17	19	26	40	57	61	71
BA															
BE	8	9	10	11	14	15	16	16	16	17	17	18	27	42	48
BG						2	2	2	2	3	8	9	12	14	17
CH				2	12	12	13	13	13	17	19	28	43	63	91
CY												1	6	6	6
CZ	1	1	1	1	1	1	1	1	1	1	2	21	42	60	94
DE	2	2	2	9	21	21	48	70	72	70	71	105	317	413	560
DK			4	4	4	4	4	4	4	8	8	13	22	53	77
EE											1	1	2	3	4
ES	2	2	1	5	7	10	17	19	21	23	29	107	177	261	292
FI							1	1	1	4	8	18	35	43	56
FR	3	4	6	13	20	18	27	28	44	43	72	150	257	404	532
GB	6	9	9	10	24	48	135	197	220	222	229	267	357	417	455
GR								2	2	2	8	11	22	22	39
HR										1	6	6	7	7	7
HU	1	1	1	1	1	1	1	1	2	3	4	15	17	21	26
IE				1	1	8	12	12	12	10	9	15	45	50	53
IS						1	1	2	2	2	4	4	4	6	7
IT	1	1	3	10	12	15	17	16	21	35	46	132	290	372	474
LT												3	4	5	7
LU			1	1	1	1	2	2	2	3	4	5	5	5	5
LV											1	1	2	2	3
MK															
MT											1	1	1	2	3
NL			1	7	10	11	17	18	18	18	33	48	55	74	99
NO	1	2	2	2	2	2	18	16	24	23	26	34	34	40	103
PL								1	7	19	42	64	80	95	106
PT		1	1	2	1	1	5	9	14	22	36	39	54	56	66
RO										1	3	7	13	14	17
RU	1	1	1	1	1	1	3	7	27	38	71	125	273	372	530
SE		1	1	1	6	5	5	5	5	7	8	17	32	75	110
SI							2	2	2	2	9	9	9	10	11
SK												4	10	15	16
TR									1	1	20	31	51	86	118
Total EUR	**27**	**35**	**45**	**82**	**149**	**187**	**358**	**456**	**550**	**614**	**821**	**1 349**	**2 362**	**3 169**	**4 103**

Source: MEDIA Salles

Table 3 Digital 3D screens and sites by country – 2009 to 2010

in units

	Digital 3D screens				Digital 3D sites		
Country	**Dec 2009**	**June 2010**	**Dec 2010**		**Dec 2009**	**June 2010**	**Dec 2010**
AT	101	141	208		54	60	70
BA							
BE	45	87	102		25	39	43
BG	12	29	53		8	14	17
CH	53	86	129		40	61	89
CY	6	6	6		6	6	6
CZ	47	66	121		40	53	88
DE	422	619	1114		273	390	543
DK	23	68	130		21	51	77
EE	2	3	12		1	2	4
ES	215	365	604		173	255	281
FI	43	54	79		33	41	54
FR	627	890	1387		246	367	492
GB	474	741	1096		273	344	375
GR	21	21	54		19	19	37
HR	8	9	9		7	7	7
HU	28	37	55		17	21	26
IE	68	82	96		39	44	49
IS	7	7	14		4	6	7
IT	400	563	842		286	372	463
LT	5	6	13		4	5	7
LU	15	15	16		3	3	3
LV	3	4	10		2	2	3
MK							
MT	2	3	5		1	2	3
NL	94	148	231		52	72	99
NO	28	49	151		21	29	84
PL	142	262	310		67	93	104
PT	89	125	176		52	55	64
RO	25	40	54		13	14	17
RU	345	521	937		271	370	528
SE	33	84	146		28	68	106
SI	9	15	16		9	10	11
SK	10	21	32		10	15	16
TR	59	104	202		50	86	116
Total EUR	**3 461**	**5 271**	**8 410**		**2 148**	**2 976**	**3 889**

Source: MEDIA Salles

Cinemas and audiences are in a constant state of flux. To retain your competitive edge it is more important than ever to be aware of on-going change within both global and European exhibition. Such preparation is essential if you are to embrace successfully all future developments within the sector.

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MEDIA
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MiBAC
Direzione Generale per il Cinema

2010-2

Digital Cinema

LEAD ARTICLE

Public Aid for Digital Cinema

The Lead Article takes a look at the legal questions raised by public support mechanisms aimed at facilitating the digitisation of cinemas. It looks at the legal construction and problems of three different variants of national funding schemes and at the EU law with which these constructions eventually need to comply. It also describes two state aid schemes that have already been approved by the EU Commission and a tax incentive scheme currently under investigation. Finally, the Lead Article points the way ahead by explaining ongoing policy and funding activities of the EU.

- **Digital Cinema**
- **State Aid for the Digitisation of Cinemas**
- **EU Actions**

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The European Audiovisual Observatory and MEDIA Salles have teamed up to draft this unique analysis of digital cinema roll-out in Europe.

The report provides the latest figures on digital screens and penetration rates across Europe and goes beyond them to explain the historical development of digitisation. It discusses the main reasons why roll-out did not happen for over a decade before finally entering the mainstream deployment phase in 2009 and analyses the role played by 3D, Third Party Facilitators and public funding schemes. Understanding the historical context, particularly the costs and benefits of digital cinema, is crucial for assessing future developments of the European film industry.

Based on a comprehensive site-by-site listing of digital cinemas as of 2010, the report provides in-depth structural analysis with regard to concentration levels by exhibitors and cinemas of different sizes. It also features a list of the top 50 digital exhibitors in Europe as well as estimated market shares for 3D technology, projector and server manufacturers on a country by country basis.

A special chapter is dedicated to the specific challenges faced by the European independent sector. The report further contains a comprehensive list of dedicated public funding schemes supporting the digitisation process.

The analysis focuses on the pan-European situation which brings to light the big picture aspects of digital cinema roll-out in Europe. The market characteristics of individual markets are depicted in country profiles providing a comprehensive set of key indicators for each of the 35 European markets covered in the report.

MEDIA Salles

Founded in 1991, MEDIA Salles operates in the framework of the European Union's MEDIA Programme with the support of the Italian Government. The association has always placed the promotion of European films through information and training specifically for cinema exhibitors at the centre of its mission.

In the field of information, MEDIA Salles provides statistics on trends in cinema-going for all European countries and the leading world markets. This service has been joined, over the past few years, by a census of Europe's digital cinemas and the elaboration of data and trends in digitalisation internationally. As regards training, in 2011 the eighth edition was held of the only course offered by the MEDIA Programme to deal with the new technologies from the perspective of the movie theatres: "DigiTraining Plus: European Cinemas Experiencing New Technologies".

On the website www.mediasalles.it:

http://www.mediasalles.it

the section DGT online informer is active and periodically updated and the European Cinema Yearbook can also be consulted:

http://www.mediasalles.it/publicaz.htm

In addition, MEDIA Salles' Facebook page provides professional players and all those interested with a time to market on the international distribution of Italian films, complete with dates and countries of release and other useful information.

CINEMA D'EUROPA
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European Audiovisual Observatory

Set up in December 1992, the European Audiovisual Observatory's mission is to gather and diffuse information on the audiovisual industry in Europe.

The Observatory is a European public service body comprised of 37 member states and the European Union, represented by the European Commission. It operates within the legal framework of the Council of Europe and works alongside a number of partner and professional organisations from within the industry and with a network of correspondents.

In addition to contributions to conferences, other major activities are the publication of a Yearbook, newsletters and reports, and the provision of information through the Observatory's Internet site:

http://www.obs.coe.int

The Observatory also makes available four free-access databases, including LUMIERE on admissions to films released in Europe:

http://lumiere.obs.coe.int

and KORDA on public support for film and audiovisual works in Europe:

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