Justice of the future : predictive justice and artificial intelligence

EDITO

The CEPEJ wishes to take a role in this necessary debate in a calm and responsible manner. Today, the use of Big Data processing by increasingly powerful computers (thanks to more and more sophisticated algorithms) is a reality. The question is no longer whether or not we are in favour of this development. The real debate is how the judicial systems will be able, in the very near future, to rely on the developments of these technologies without being subject to them, and to frame their use. This would be so that justice remains a moral principle of social life based on the recognition and respect of the order and the others’ rights.

According to Proudhon “Justice is human, fully human, only human”. The challenge is to reconcile this need with the ever greater expectations of efficiency and quality from the general public.

The Council of Europe is the Organisation for Human Rights and the Rule of Law, constantly seeking to strike the proper balance between the various fundamental principles and individual freedoms. The CEPEJ is therefore particularly well-placed to contribute to a debate that goes far beyond being a fashionable phenomenon...

Stéphane Leyenberger
Executive Secretaray of the CEPEJ
The wave of digital transformation in our societies still affects European courts very unevenly. Many western European countries seem to have already developed an extremely advanced approach with concrete applications both in terms of technology and legal support. For others the subject still appears to be in an emergent stage and would be limited in the near future to the implementation of an effective information technology management. However, this disparity should not give rise to the neglect of these considerable issues, common to all judicial systems.

Among the most advanced technologies at work in this great digital transformation, artificial intelligence (AI) appears to be both the most spectacular and the most discussed. In the United States, many applications are already in use, such as "robot lawyers" or "chatbots" able to provide legal information to litigants or legal professionals. Legaltechs, start-ups specialising in the design of new legal services, as well as established operators offer completely new applications to the legal professions in Europe: The aim is to make consultation of the law and case law more effective, to propose frames of judgment, to review all the documents of a company and to detect possible divergent or incompatible contractual clauses, to give just a few examples. Some private companies even aim to anticipate judges' decisions with so-called "predictive justice" tools, powered by the open data of judicial decisions. i.e. making case law databases available for free download. The objective is to predict the outcome of a dispute on the basis of criteria previously provided by the user, or predict the risk of infringement. According to those who support the system, these tools would contribute to greater transparency and - make it easier to predict judicial outcomes, strengthen the consistency of case law, and make judicial decisions more objective by reducing the risk of bias and error.

These are very attractive arguments for decision-makers, who are increasingly being called upon to see these tools integrated into public policies. The CEPEJ wished to analyse this phenomenon closely in order to meet the challenges which arise, as much on the level of the open data implementation of judicial decisions as in the use of these software.

---

1 Artificial intelligence (AI) is a very broad research discipline that aims to provide a machine with a cognition similar to humans. The latest developments are based on automatic learning (machine learning) which makes it possible to represent a given environment using statistical techniques. The results of this class of algorithms, even if they are convincing for some very complex automated tasks, remain specialized to their field of learning and are not adapted to build a real AI, generalist and equipped with a sophisticated cognition.  

2 See in particular paragraph 51 of CEPEJ(2016)13, Guidelines on how to drive change towards Cyberjustice.
In step with its Guidelines on how to drive change towards Cyberjustice, the CEPEJ offers public policy makers key methods to better understand all the innovations proposed and perceive their potential, as well as their limitations. It is important to encourage general reflection on the deployment of AI in judicial systems software at a European level, so that the approach to the changes is balanced and with full awareness of the stakes, which are considerable both for judicial systems and the judgement process itself. To use the example of “predictive software”; should its daily use by judges be promoted or not? The risk is that these tools, the effects of which would not only provide incentives but could be almost prescriptive, could in fact give rise to a new form of normativity; a trend that places the judge’s sovereignty to evaluate a case within a set framework.

In the long term, the convention of judicial decisions might no longer be based on the courts rationale for individual cases, but instead be a result of pure statistical calculation in relation to the average compensation awarded previously by other courts. There are also questions about the compatibility of these solutions with individual rights enshrined in the European Convention on Human Rights (ECHR), particularly in criminal matters.

The work of the CEPEJ will lead to the elaboration of an ethical Charter on the use of AI in judicial systems accompanied by a scientific study which will focus, amongst others, on the opportunities and disadvantages of “predictive justice” tools. Other documents, including a glossary on AI and a summary of possible uses of AI in judicial systems, are also in preparation.

The adoption of all these documents is scheduled for December 2018. The CEPEJ’s wish is to encourage a positive use of AI, which is, on the one hand, at the service of legal professionals and adaptable to their needs and, on the other, respects individual rights guaranteed by the ECHR and Council of Europe standards. Far from being a simple instrument for improving the efficiency of judicial systems, the AI should indeed reinforce, and not diminish, the guarantees of the rule of law as well as the quality of the public service of justice: objectives which have always been at the heart of the CEPEJ’s action.

In the United States, predictive tools in criminal matters have been deemed discriminatory towards certain communities: see the work of the NGO ProPublica at https://www.propublica.org/article/how-we-analyzed-the-compass-recidivism-algorithm; such applications are being tested in Europe, particularly in Great Britain with the HART software with the same risks - http://www.bbc.com/news/uk-politics-41996422

---

3 In the United States, predictive tools in criminal matters have been deemed discriminatory towards certain communities: see the work of the NGO ProPublica at https://www.propublica.org/article/how-we-analyzed-the-compass-recidivism-algorithm; such applications are being tested in Europe, particularly in Great Britain with the HART software with the same risks - http://www.bbc.com/news/uk-politics-41996422
Small glossary on artificial intelligence

**ALGORITHM**

Finite sequence of formal rules (logical operations and instructions) making it possible to obtain a result from the initial input of information. This sequence may be part of an automated execution process and draw on models designed through machine learning.

**MACHINE LEARNING**

Machine learning makes it possible to construct a mathematical model from data, incorporating a large number of variables that are not known in advance. The parameters are configured gradually during the learning phase, which uses training data sets to find and classify links. The different methods of machine learning are chosen by the designers depending on the nature of the tasks to be completed (grouping). These methods are usually classified into three categories: (human) supervised learning, unsupervised learning and reinforcement learning. These three categories group together different methods including neural networks, deep learning, etc.

**ARTIFICIAL INTELLIGENCE (AI)**

A set of scientific methods, theories and techniques whose aim is to reproduce, by a machine, the cognitive abilities of human beings. Current developments seek to have machines perform complex tasks previously carried out by humans. However, the term artificial intelligence is criticised by experts who distinguish between “strong” AIs (able to contextualise specialised and varied problems in a completely autonomous manner) and “weak” or “moderate” AIs (high performance in their field of training). Some experts argue that “strong” AIs would require significant advances in basic research, and not just simple improvements in the performance of existing systems, to be able to model the world as a whole.

**PREDICTIVE JUSTICE**

Predictive justice is the analysis of large amounts of judicial decisions by artificial intelligence technologies in order to make predictions for the outcome of certain types of specialised disputes (for example, redundancy payments). The term “predictive” used by legal tech companies comes from the branches of science (principally statistics) that make it possible to predict future results through inductive analysis. This analysis identifies correlations between input data (criteria set out in legislation, the facts of the case and the reasoning) and output data (formal judgment such as the compensation amount). Correlations deemed to be relevant make it possible to create models which, when used with new input data (new facts described as a parameter, such as the duration of the contractual relationship), produce a prediction of the decision (for example, the compensation range). Some authors have criticised both the form and substance of this approach. They suggest that, generally speaking, the mathematical modelling of certain social phenomena is not a task (here, isolating the real causative factors of a decision) that can be compared to other activities that are more easily quantifiable (for example, playing the game Go or recognising an image):
here, there is a much higher risk of false correlations. In addition, in legal theory, two contradictory decisions can prove to be valid if the legal reasoning is sound. Consequently, making predictions would be a purely informative exercise without any prescriptive claim.

**Open data**

The term refers to making structured databases available for public download. These data can be inexpensively re-used subject to the terms of a specific licence, which can, in particular, stipulate or prohibit certain purposes of re-use. Open data should not be confused with unitary public information available on websites, where the entire database cannot be downloaded (for example, a case law database). Open data do not replace the mandatory publication of specific administrative or judicial decisions or measures already laid down by certain laws or regulations.

Lastly, there is sometimes confusion between data (strictly speaking open data) and their processing methods (machine learning, data science) for different purposes (search engines, assistance in drafting documents, analysis of case law trends, predicting court decisions, etc.).

---

**Examples of European practices in the field of justice of the future**

**Innovative judicial practice in Latvia: labelling system for audio recordings**

The Court Administration of the Republic of Latvia is a modern, growth-orientated public institution of which the main objective is to provide a bona fide digital space within the European Union. Innovative judicial practice of audio record labelling system, TIX, the innovative judicial audio recording marking system, received the special CEPEJ award in 2015. In 2017, this innovative practice was amongst the winners of the European public service award (EPSA) having been nominated by the IEAP for excellence and innovative solutions as well as for its success on a European and national scale. Those achievements show the level and development potential of Latvia in the regional as well as international context. Since its implementation on 21 September 2013, the system serves as an audio recording tool during court sessions. It facilitates the efficient preparation of clear and interactive court session protocols in PDF format with audio data and links to text. The TIX audio recording tool has been devised to improve the work already being done with traditional court recording options.

---

**Contact information:**
Court Administration Republic of Latvia
Judicial Information System Division
kanceleja@ta.gov.lv
6 Antonijas Street, Riga, LATVIA
☎ +371 67063800
https://ta.gov.lv/EN
TIX facilitates the recording process of court hearings, combining written information with audio in one interactive PDF protocol document. It contains general information about the court session, an audio recording of the hearing as well as how it proceeds, based on statements and questions pertaining to the matter. Since the court clerk is only obligated to make a record of the matters to be adjudicated, preparation of the protocol document does not require much time. The point of interest in the recording can be located by selecting the relevant issue. The PDF format is perfectly suited / adapted to uploading online and further publication. Even before the protocol the audio recording is complete, serving as a witness to how the hearing has proceeded and giving assurance, from the day of online publication, that the written component has complied with the aforementioned protocol.

The PDF can be signed either physically or electronically. Since all the information is contained in a single document, it can conveniently be distributed electronically. It can be read by downloading Adobe Reader free software. TIX records court sessions in two stages; first, by making a note of statements made during the hearing in parallel with the audio recording and, after the court session, using what has been prepared. A draft protocol is saved and is able to be modified at a later stage or to use as a sample/template for the preparation of other protocols. Given that the tool can be exported, experts from the Court Administration often meet with the representatives of the European Union and other countries. Whilst the site continues to be developed, the introduction of the following measures are planned:

1) Developing an algorithm for automatic speech recognition.
2) Integrating the TIX system into the Court IT system...
3) Online streaming of the protocol. This means it will not need to be uploaded before the hearing and one can instead listen to the proceedings online. Furthermore, it will be possible to download the protocol of the court session if needed.
4) Automated transmission (of what has been said during proceedings) in written form.

---

**Sample of protocol in PDF format**

**TIX functionality**

**TIX protocols in courts of Latvia**

- 4 templates of audio recordings
- 140-150 hours of audio protocols
- 140-150 hours of court hearings
- Decreased protocol creation time from 3 days to 2 hours
- 1000+ years of work saved
- PDF document with embedded audio

**Infography**
Ongoing activities: what’s new?

Evaluation of judicial systems

The collection, from the Member States, of data concerning the 2018 Edition of the report “Efficiency and Quality of Judicial Systems” has been completed. The draft report was adopted by the CEPEJ during the 30th plenary meeting of the CEPEJ (27 to 29 June 2018). The Report will be published at a press conference at the Council of Europe in Paris on 4 October 2018. The report will focus in particular on gender issues and access to justice.

Judicial timeframes

The case-weighting and the analysis of the duration of judicial procedures examined by the CEPEJ SATURN Centre

The Steering Group of the SATURN Centre for Judicial Time Management met in Strasbourg on 5 and 6 April 2018. They mainly worked on the development of a caseweighting indicator for the courts, as well as the update of the analysis of judicial delays in European states, based on the case law of the European Court of Human Rights. The management of judicial time for criminal cases under Articles 5 and 6 of the ECHR and the establishment of dashboards for the management of court proceedings were also on the agenda. During its next meeting in Strasbourg on 9 and 11 October 2018, the Working Group will examine the synthesis of the replies to the questionnaires sent to the Network of pilot courts on about case categorisation and how to define a case as pending.

The group will also participate in the meeting of the Network of pilot Courts to be held in Strasbourg on 10 October 2018.

More information about the SATURN Centre for judicial time management

 ['', 'More information about evaluation of judicial systems']
Quality of justice

The CEPEJ Working Group on quality of justice held its 23rd meeting in Strasbourg on 14 and 15 March. The Group discussed in particular the issues of artificial intelligence algorithms in judicial systems. The communication by the courts, the qualitative evaluation of judges’ activities and the implementation of electronic case management systems with a user approach were also discussed. In February 2018, the CEPEJ started its work on the use of artificial intelligence in judicial systems, in coordination with the Committee of the Convention on Data Protection. A multidisciplinary team of experts will lead the drafting of guidelines for the ethical use of algorithms in judicial systems, including predictive justice. A questionnaire was distributed to the European courts in order to draw up an inventory of the various practices in the Member States.

During March and April 2018, the CEPEJ published an online survey on the use of artificial intelligence in judicial systems.

The President of the CEPEJ Working Group on quality of justice explains in an interview of 28 June 2018, the work carried out in the field of artificial intelligence. [https://youtu.be/TWEFY3tlkk8](https://youtu.be/TWEFY3tlkk8)

More information about the Working group on quality of justice

Mediation

At its 30th plenary meeting, the CEPEJ completed the list of existing Council of Europe instruments in the field of mediation, in particular the Council of Europe Recommendations (Recommendation (98) 1 on family mediation; Recommendation (99) 19 on mediation in criminal matters; Recommendation (2001) 9 on alternative dispute resolution methods between administrative authorities and private persons and Recommendation (2002) 10 on mediation in civil matters) and the CEPEJ Guidelines on civil, family, criminal and administrative mediation by adopting a series of concrete tools intended to help Member States to develop the use of mediation, as well as to support mediation actors in their daily practice.
The Toolbox for the Development of Mediation is a resource that is intended to evolve and adapt to different national contexts and that will be gradually completed with new tools. Two of these are the result of a fruitful collaboration between the International Institute of Mediation (IMI) and the Council of European Bars (CCBE). The CEPEJ also confirmed the roadmap of the working group on mediation (CEPEJ-GT-MED) which is based on a survey previously conducted by the Working Group among the member States of the Council of Europe on the impact of the CEPEJ guidelines. Its purpose is to determine the measures which should be implemented in order to increase the use of mediation.

More information about the Working group on mediation

Definitions

The CEPEJ is currently working on a compilation of the definitions used in the CEPEJ’s work in order to review the intrinsic coherence of the definitions while ensuring that there are no contradictions. The CEPEJ also ensures the relevance and clarity of these definitions.

More information about the Working group on definitions

Cooperation programmes

Albania

Since the beginning of 2018, the CEPEJ has organised the following activities within the framework of the action “Strengthening the efficiency and quality of the judicial system in Albania - SEJ II”, which is part of the programme entitled “Horizontal Facility for the Western Balkans and Turkey”, co-financed by the European Union and the Council of Europe and implemented by the Council of Europe, the following activities have been organised in cooperation with the CEPEJ:

- Workshop to present European good practices to judges, prosecutors, lawyers and media representatives in order to increase the transparency of justice, the quality of judicial reporting by the media and public confidence in the media and justice.
- Practical training sessions have been conducted with exercises to improve, for example, press releases, court websites and communications on highly sensitive cases (8 and 9 February 2018)
- Training of the Tirana Court of 1st Instance judicial staff on the service of legal documents (19-20 February 2018)
- Court management training for ‘Chancellors’ of all courts in Albania (22-23 February 2018)

At the presentation of the results of the second meeting of the SEJ II Steering Committee (11 July 2018), the cooperation programme with Albania was extended until 23 May 2019
Short coaching project to strengthen safety and security - collection of information on the practical organisation of court security within the existing national framework by CEPEJ experts (20-21 March 2018)

Training session for prosecutors' offices on their relations with the media (14 and 15 May 2018)

Time management training for judges in Voskopoje (18 and 19 May 2018)

Short Coaching Project 4: Strengthening Court Security (28-30 May, 2018)

Presentation of the satisfaction survey results in 2 courts (13-14 June 2018)

Roundtable on the results of satisfaction surveys in two pilot courts: Shkodra Court of 1st Instance and Appeal Administrative Court of Tirana and presentation of the draft report of the CEPEJ and its recommendations (14 June 2018)

Presentation of the final report on the judicial map: presentation of the data analysis and methodology to support national authorities in the revision of the judicial map (20-21 June 2018)

Meeting with beneficiaries on the IT strategy of the Albanian judicial system (4-6 July 2018)

Results of the second meeting of the SEJ II Steering Committee (11 July 2018) Résultats de la deuxième réunion du Comité de pilotage du SEJ II (11 juillet 2018)

More information about the Programme

Kosovo*

Since early 2018, within the framework of the programme entitled "Horizontal Facility for the Western Balkans and Turkey"; co-financed by the European Union and the Council of Europe and implemented by the Council of Europe, the following activities have been organised in cooperation with the CEPEJ:

Presentation of the in-depth study of the judicial system of Kosovo* carried out by the CEPEJ in Pristina (on 24 January 2018)

Visit to observe the testing of the future Case Management Information System (CMIS) at the Basic Court of Ferizaj (Kosovo*) (7 February 2018)

The Presidents of the Courts and the Kosovo Judicial Council strengthen their use of CEPEJ indicators in Kosovo (1 March 2018) - workshops organised by KoSEJ for judicial staff as part of its court coaching programme

Presentation of the expert’s analysis of the results of the individual court users’ satisfaction surveys in Kosovo (Basic Courts of Gjakova, Pristina and Prizren), on 15 and 16 May 2018

The CEPEJ alongside a group of seven international experts in the field of the use of information technologies in judicial systems, the CEPEJ conducted a workshop for representatives of courts, prosecutors' offices, the Kosovo Judicial Council and the Kosovo Prosecutors’ Council (24-25 May 2018)

A CEPEJ international expert initiated, in Pristina, a new assessment phase based on 2017 data according to the CEPEJ evaluation grid which was adapted to Kosovo (20 June 2018).

More information about the Programme

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.
**Jordan, Morocco and Tunisia (South Programme III)**

The "CEPEJ-South Programme III project: Ensuring Sustainable Democratic Governance and Human Rights in the Southern Mediterranean" aims at promoting the independence, efficiency and quality of justice in the MENA region (mainly Morocco and Tunisia, as well as Jordan) by improving the functioning of the courts and supporting the implementation of judicial reforms and the revision of relevant normative frameworks in conformity with European standards. The "CEPEJ-South III Programme" project follows the projects carried out by the CEPEJ since 2012 in the region, and aims to deepen, develop and perpetuate the actions implemented within the framework of these projects.

- More information about this Programme

**Latvia**

The report "Evaluation of the Latvian judicial system" which has been developed by a team of CEPEJ experts in cooperation with the Court Administration of Latvia in the framework of the Programme entitled "Justice for Growth", funded by the European Social Fund, has been presented to the Latvian authorities (6-7 February 2018).

- More information about the Programme

**Malta**

The judicial authorities of Malta invited the CEPEJ to assist them in the construction of a system for weighting cases within their courts. A synthesis of practices in this area was presented in Malta on 12 February 2018.

- More information about this Programme

**Morocco**

In October, November and December 2017 respectively, within the framework of the Support Programme for the reform of the justice sector - Improving the functioning of justice in Morocco using the tools of the CEPEJ, financed by the European Union and by the Council of Europe and implemented by the Council of Europe, 6 training days on new court management techniques were organised by the CEPEJ. All the Moroccan heads of court and prosecutors participated; that is, 250 people over nine sessions in three different locations (Agadir, El Jadida and Tangier), to be as close as possible to the courts.

Since the beginning of 2018, the following activities have also been organised within the framework of this same programme:

- Participation of a representative of the Ministry of Justice of Morocco in the meeting of the Working group on the quality of justice held in Strasbourg on 14 and 15 March 2018
- In cooperation with the Presidency of the Public Prosecutor’s Office of the Kingdom of Morocco, organisation of training for administrative officials of Moroccan courts (12 and 13 April 2018)

In October, November and December 2017, 6 training days on new court management techniques were organised by the CEPEJ. They were given to all the Moroccan heads of courts and prosecutors, 250 people during 9 sessions in 3 different locations (Agadir, El Jadida and Tangier).
On 27-28 February 2018, in Bratislava, a team composed of CEPEJ experts and representatives of the Ministry of Justice involved in the assessment exercise presented its main findings and recommendations to members of the judiciary, including the Judicial Council, presidents of courts, judges, representatives of legal professions, political decision makers, non-governmental organisations active in the field of justice and the press. This activity took place in the framework of the project “Efficiency and quality of the Slovak justice system”, financed by the European Social Fund.

More information about the Programme

Slovakia

On 27-28 February 2018, in Bratislava, a team composed of CEPEJ experts and representatives of the Ministry of Justice involved in the assessment exercise presented its main findings and recommendations to members of the judiciary, including the Judicial Council, presidents of courts, judges, representatives of legal professions, political decision makers, non-governmental organisations active in the field of justice and the press. This activity took place in the framework of the project “Efficiency and quality of the Slovak justice system”, financed by the European Social Fund.

More information about the Programme

Calendar of CEPEJ meetings

Plenary
3-4 December 2018 in Strasbourg

Bureau
3 October 2018 in Strasbourg

Quality of justice
25-26 September 2018 in Strasbourg

Evaluation of judicial systems
6-7 November 2018 in Strasbourg

SATURN
9 and 11 October 2018 in Strasbourg

Mediation
15-16 November 2018 in Strasbourg

Pilot courts
10 October 2018 in Strasbourg

European day of Justice

The European Day of Justice will be celebrated on 25 October 2018. You can already inform the CEPEJ of the events which are scheduled in your jurisdiction in this framework. The programmes of events in the different countries are regularly published on the CEPEJ website.

https://www.coe.int/en/web/cepej/events/european-day-of-justice

Readers corner

You wish to react to an article published in this issue or to suggest us topics to be approached, please send us your suggestions by e-mail to the following address:

cepej@coe.int

Subscribe to the CEPEJ Newsletter:

https://www.coe.int/en/web/cepej/documentation/cepej-newsletter