Octopus Conference

Workshop on crime and cryptocurrencies

Federal Police

Workshop on crime and cryptocurrencies

**Knock, knock! Who's there on the blockchain?**

- Miners
- Wallets
- VASPs
- DEXs
- ATMs
- Payment Providers
- Mixing Services
- Dark Markets

Miners and mining pools

- The process of validating and adding transactions to the blockchain
- Miners are competing with each other in order to be able to mine a block
- In exchange (when they are the winner) they receive the block reward (newly generated coins).
- Most miners join a mining pool where they are rewarded according to their mining power
- Example: AntPool, NiceHash, F2Pools
- Mining hardware: specialized computers (ASIC chip)
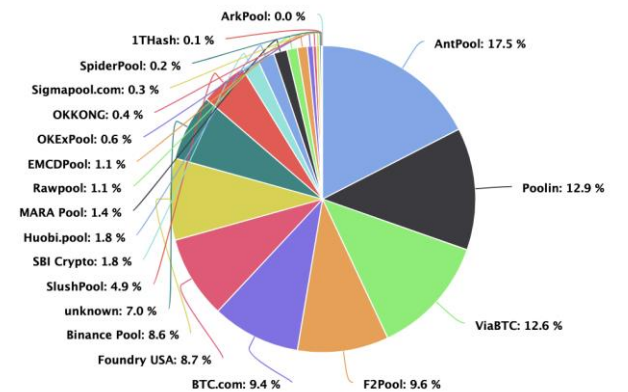
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Miners and mining pools

- Only small chance to be exploited since deposits are from mining
- Stealing electricity?
- Stealing CPU power (cryptojacking)?
- Money laundering?
  - Mining rigs at home versus income from illegal activity
  - Origin of BTC funds are transparant, unless a mixer is used
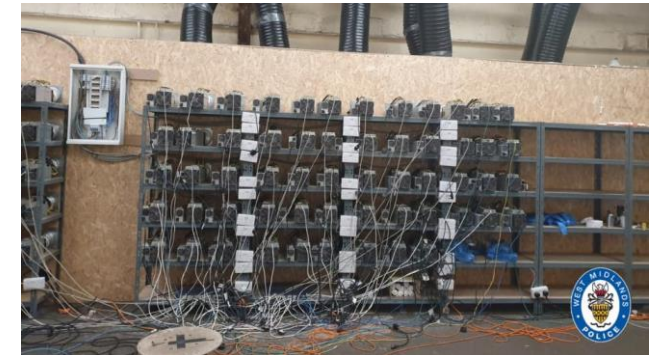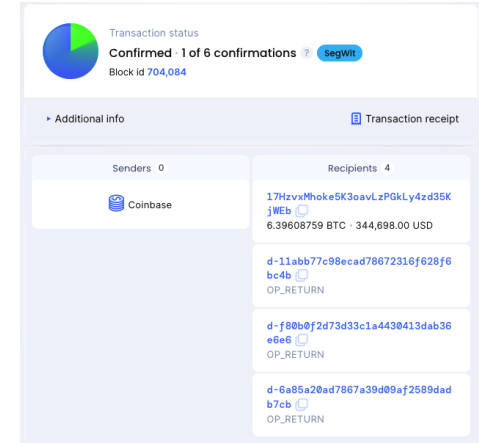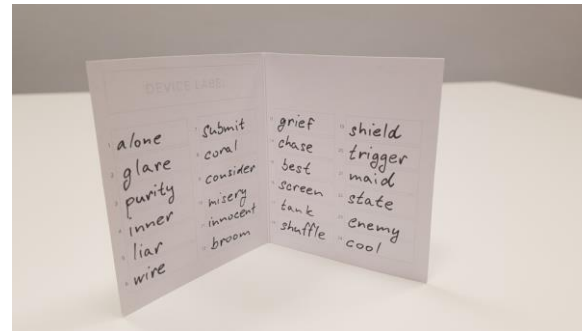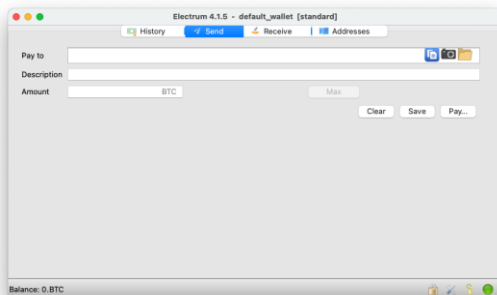
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Wallets

- Full nodes (non-custodial, full blockchain download)
- Light wallets (SPV*-nodes, non-custodial, also on smartphones)
- No KYC required/No account creation
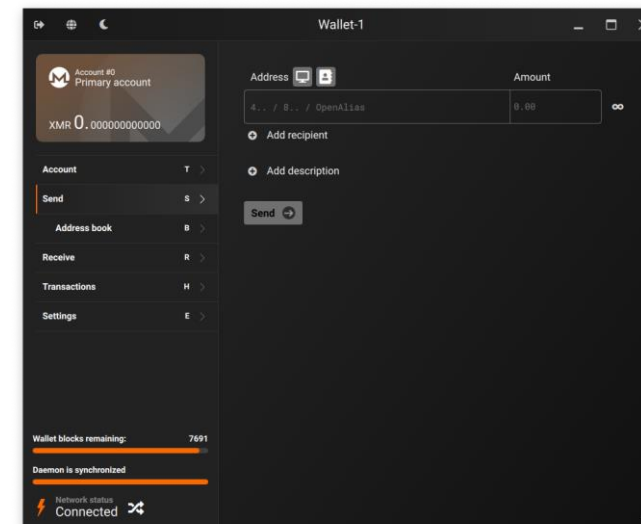- Mostly use a seed phrase as backup
- Be Your Own Bank
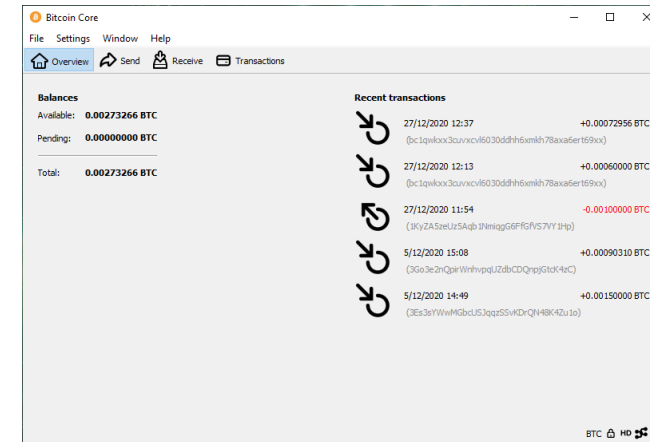
Bitcoin Core

Electrum

Seed phrase example

Monero wallet

*Simplified Payment Verification

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Virtual Asset Service Provider (VASP)

- Exchange between virtual assets and fiat currencies
- Exchange between one or more forms of virtual assets
- Transfer of virtual assets
- Safekeeping and/or administration of virtual assets or instruments (**custodial**)
- Enabling control over virtual assets

- CoE Guide on Seizing Cryptocurrencies
  https://www.coe.int/en/web/octopus/request-form
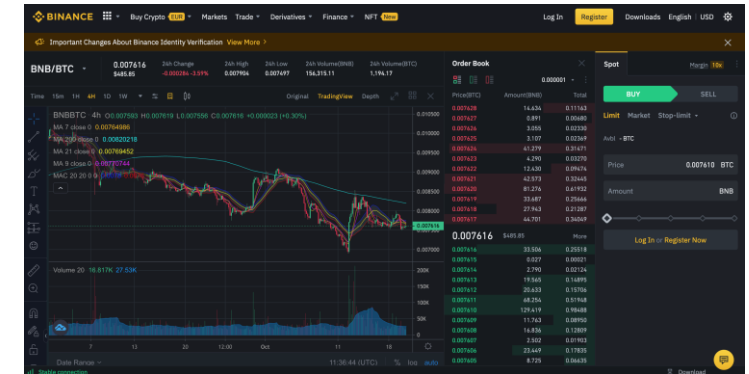
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Virtual Asset Service Provider (VASP)

KYC / AML policies

- Verified name with driver's license or government-issued photo ID
- Verified proof of residency
- Social security number
- Email, phone number
- IP and cookie information

Subpoena

Warrant

MLAT

Binance
Coinbase Exchange
FTX
Kraken
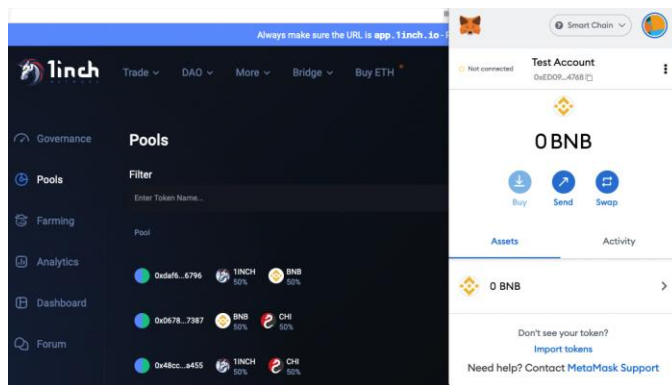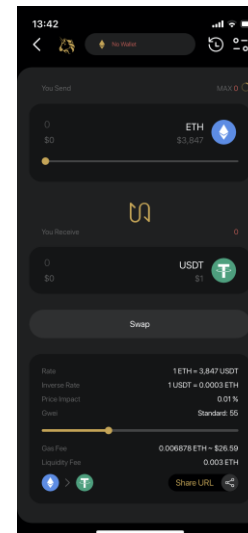KuCoin
...

KYC = Know Your Customer

AML = Anti Money Laundering

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Decentralized Exchange (DEX)

- Non-custodial
- No account is needed
- Just connect to the platform with your wallet (e.g. Metamask or Trust Wallet)
- Increased privacy
- Mostly on the Ethereum blockchain and Binance Smart Chain

1inch DEX with Metamask wallet (browser plugin)

Coin98 mobile wallet with DEX

#▲	Name	Volume(24h)
1	dYdX	$4,341,339,618 ▲ 39.39%
2	Uniswap (V3)	$1,361,579,189 ▲ 15.78%
3	PancakeSwap (V2)	$1,044,418,911 ▲ 2.82%
4	1inch Liquidity Protocol	$533,183,146 ▼ 1%
5	Sushiswap	$472,409,162 ▼ 8.63%
6	Uniswap (V2)	$382,954,795 ▲ 2.08%

https://coinmarketcap.com/rankings/exchanges/dex/

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Cryptocurrency ATMs

- Can convert cash in cryptocurrencies or vice versa
- Small amounts don't always require KYC
- Mostly in public places (camera?)
- Emerging trend (29.682 Oct '21 vs 10.800 in Oct '20)

Crypto ATM Installations Growth
Source: coinatmradar.com

https://coinatmradar.com/charts/growth/
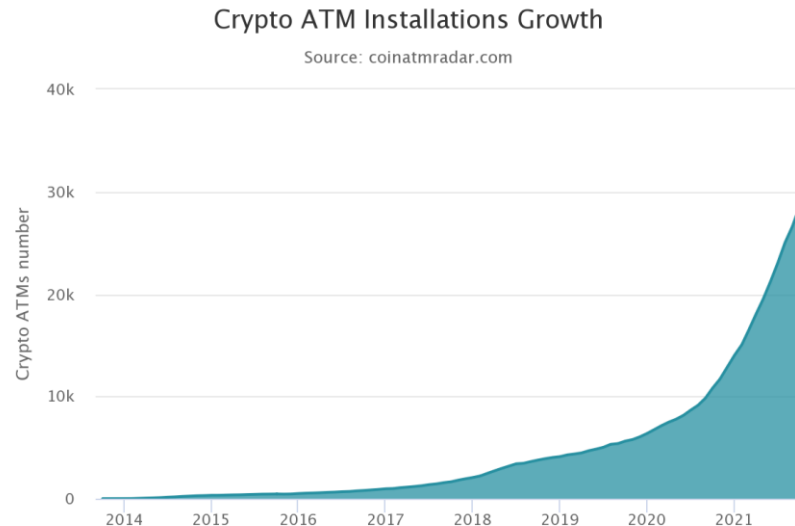
www.coinatmradar.com

Limits and verifications:

Max. €2.500,- per transaction and not more than €2.500,- per 4 weeks.

A one-time registration is needed to buy virtual currency at our ATMs. Search for "byecoin" in the Apple App Store and Google Play and install the app to start the registration process which only takes a few minutes.

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Payment Providers/Gateways

- Used in e-commerce websites to provide crypto payment options
- Allows merchants to accept transactions in cryptocurrencies
- Also used in OTC (brick and mortar shops)
- Can also provide crypto to fiat conversion
- Can be non-custodial
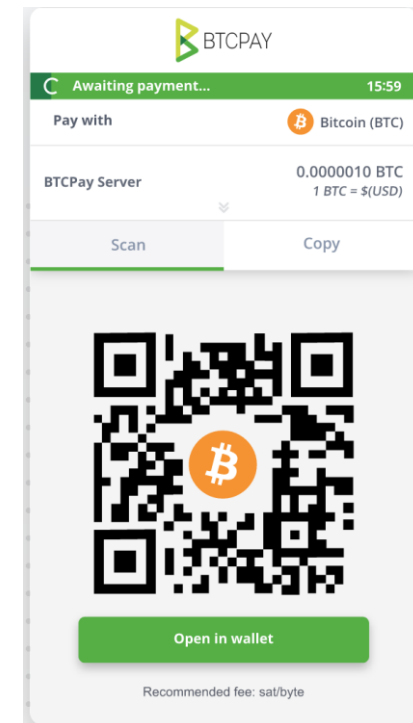- Can have KYC info (depending on the total value of transactions)
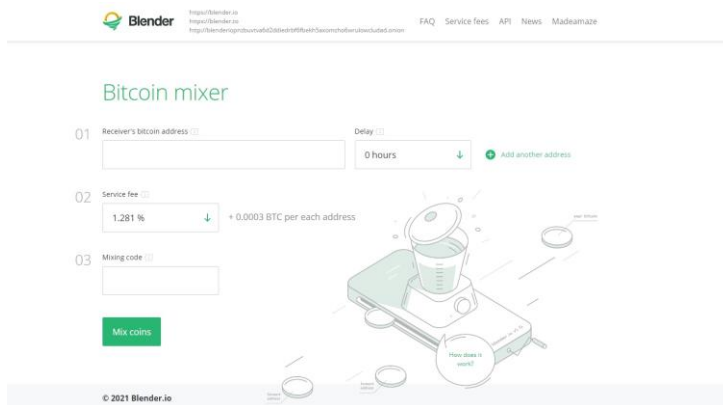
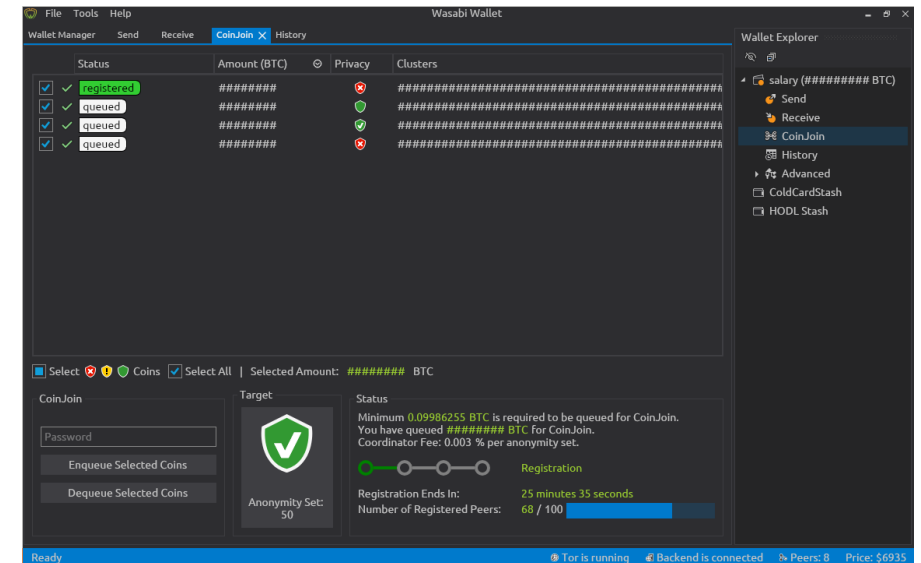BTCPay: self-hosted, open-source cryptocurrency payment processor.

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Mixers and Swap functionalities

- Obfuscate Bitcoin transactions
- No KYC required
- Exist as wel on dark web as on clear web
- Mostly used by darkmarket vendors or stolen funds (ransomware, …)
- Exists also as in-wallet service (Wasabi, Dash, ..)


Wasabi wallet

Blender.io

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Dark Markets

- Marketplaces on the Dark Web (Tor, I2P, …)
- Mostly sell drugs or provide cybercrime or
  child exploitation services/material
- Most popular currency: Bitcoin (sometimes Monero)
- https://darknetlive.com/markets/

Telephony Denial of Service (TDoS)	$22
10-minute DDoS attack, 60 Gbps	$45
4-Hour DDoS Attack, 15 Gbps	$55
Layer 7 bypass, 100 Gbps	$85
30-minute DDoS Attack, 60 Gbps	$90
DDoS attack, fully-managed	$165
DDoS script private CloudFlare bypass	$200
DDoS script private OVH bypass	$250

Source: https://socradar.io/
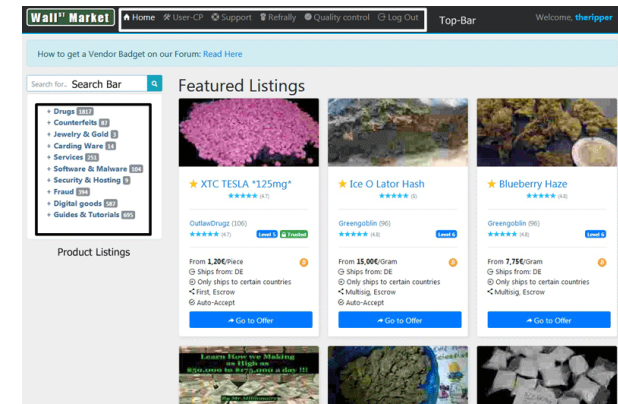
Wall Street market (offline)

DarkMarket in figures:

❯ almost **500 000 users**;

❯ more than **2 400 sellers**;

❯ over **320 000 transactions**;

❯ more than **4 650 bitcoin** and **12 800 monero transferred**.

Source: https://www.europol.europa.eu/

Thank You