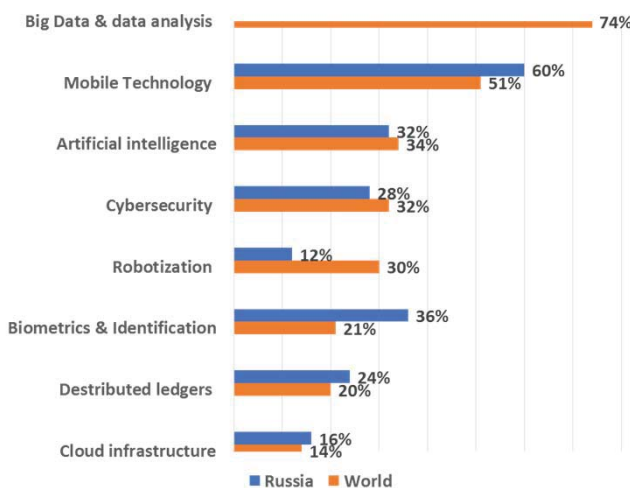


Cryptocurrencies and blockchain: technological and economical advances and criminal risks

Sidorenko Elina L.,
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 Head of the working group of the evaluation of risks of the circulation of cryptocurrencies,
 Director of the Center of digital economy and financial innovations of MGIMO university.

The most investment attractive technologies in 2017



Source: PwC: Global FinTech Survey 2017

Blockchain investments and market trends

Blockchain market Compound Annual Growth Rate –
 61.5% (to USD 2,312.5 million by 2021)

Investments: from USD 500 million in 2012 to USD 1,4 billion by 2016

Banking: 80% banks to start blockchain projects in 2017r.

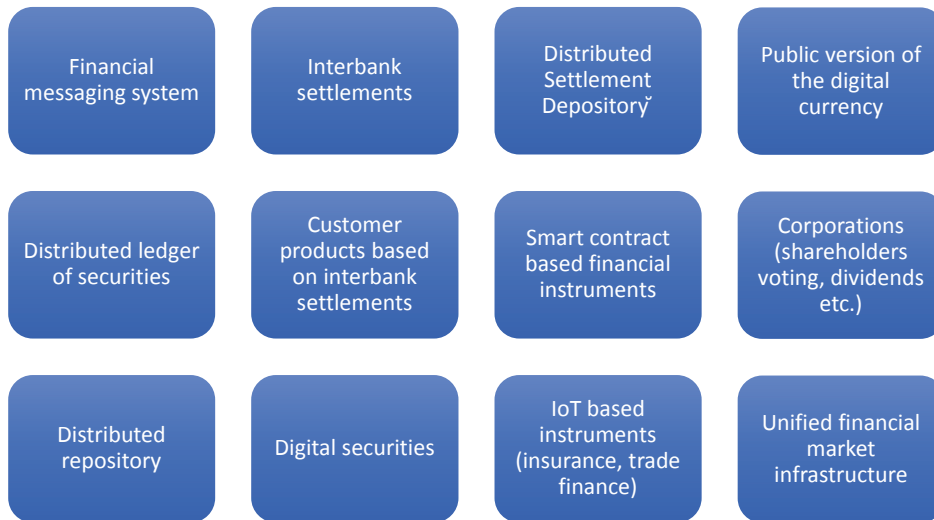
Consortium: R3 – over 70 companies (Credit Suisse, Goldman Sachs, J.P. Morgan & Co. etc.); B3i – over 30 (Aegon, Allianz, Swiss Re.)

States: over 24 states invest in blockchain

DLT application:

Elections (Columbia, Estonia, South Korea, Denmark),
 lend register (Sweden, Georgia), cryptocurrencies
 (Canada, India, China), identification (Estonia), health
 care (Estonia) etc.

Financial market applications of blockchain



Digital economy in Russia



State Programm "Digital Economy of Russian Federation":

- ✓ Legal regulation
- ✓ Governance
- ✓ Human resources
- ✓ Education
- ✓ Information infrastructure and security
- ✓ Health

PROGRAM GOALS:

- Digital platforms for major economic sectors
- Digital platforms for R&D
- Digital economy security infrastructure
- Development of activities of SME in the area of digital technology and digital services
- Participation in international digital economy projects

Bank of Russia Experience

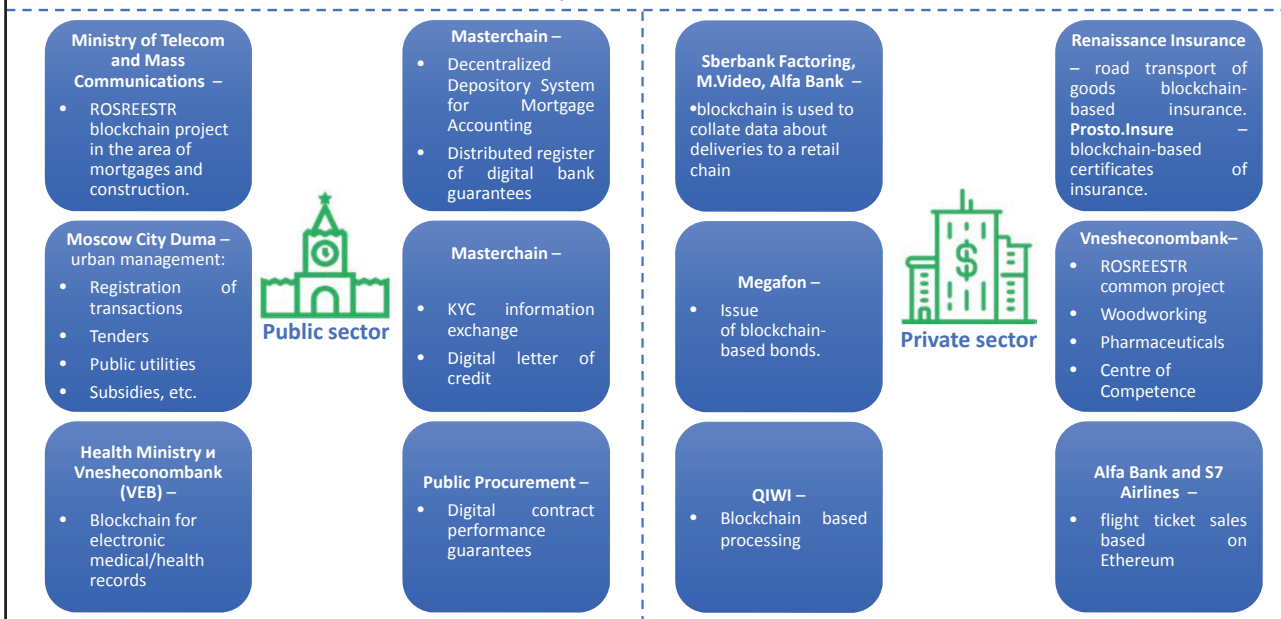


SWIFT financial messages exchange within the closed network of distributed ledgers based on **Hyperledger** technology

Masterchain — financial information storage and exchange network based on **Ethereum**, a framework for practical projects

- Analysis of **distributed ledger technology (DLT)**
- **Digital currencies** research

Implementation of blockchain decisions in the public and private sectors



Vnesheconombank projects

1. **Lend register (RosReestr)** – share agreements; registration of real estate purchase transactions (2018)
2. **Ministry of Health:** circulation of prescription drugs, medicines quality control (2018)
3. **RosPatent** – registration of patent applications
4. **Pension Fund** – implementation of the new pension system (2018)



Perspectives of blockchain development: international organizations



ISO/TC307 – standardization since 2016

- Terms
- Use cases
- Security and privacy
- Identity and smart contracts, etc.



OECD examines:

- Blockchain – key technology
- Potential risks and challenges
- Anti-corruption application



ITU

- Focus Group to analyze the standardization demands of applications and services built on DLT
- Security Workshop



United Nations

- humanitarian and other applications
- UNECE blockchain white paper published
- UNODC и UNICRI – blockchain criminal risks research

Proposals for the development of blockchain from Russia



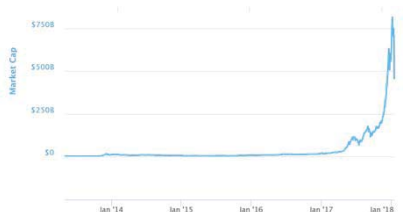
OECD activities:

- Combining the efforts of states in developing a unified approach to legal regulation
- Development of confidentiality, identification, authentication standards
- Platform to exchange knowledge and experience on Blockchain development
- Information exchange: questionnaires, indicators etc.

Economic indicators of cryptocurrency

4553 cryptocurrencies
BTC Dominance: 33.8%

Total Market Capitalization
USD 552,891,070,592



<https://coinmarketcap.com/charts/>

Most expensive cryptocurrencies

#	Name	Symbol	Market Cap
1	Bitcoin	BTC	\$194,535,224,389
2	Ethereum	ETH	\$101,917,970,501
3	Ripple	XRP	\$63,679,790,344
4	Bitcoin Cash	BCH	\$31,206,518,415
5	Cardano	ADA	\$17,159,753,854

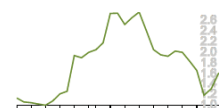
<https://coinmarketcap.com>

Most traded cryptocurrency pairs

ETH/USD - 1,047 USD



XRP/USD - 1.6500 USD



XRP/KRW - 2,090 KRW






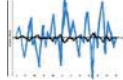




<https://cryptocoinscharts.info>

Cryptocurrency ATMs in the world

2083 Bitcoin ATMs	61 Countries	25 Producers	316 Operators
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<https://coinatmradar.com>

Advantages & Disadvantages of Cryptocurrency

Pros	Cons
<p>Immediate Settlement</p> 	<p>Irreversible payments</p> 
<p>Low transaction fees</p> 	<p>High volatility</p> 
<p>Available for Everyone</p> 	<p>Difficult to understand</p> 
<p>Decentralization means independence</p> 	<p>Once lost password is lost forever</p> 

Crime risks of Cryptocurrency

Main risks:

- Anonymity
- Transboundary nature
- Lack of legal regulation
- Lack of law enforcement experience

New rise of Internet crimes:

- Ransomware
- Child pornography trade
- Drug trafficking

Illegal marketplaces that accepted bitcoins:

- Silk Road, Silk Road 2.0,
- Evolution, Hydra etc.

Two kinds of cryptocurrency crimes:

- **As a payment** for a crime: *contract killing, arms trafficking*
- **As a means** of a crime: *Ponzi schemes, money laundering*



Thank you for your attention!

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