

# Blockchain Technology and IP

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## OVERVIEW

- Blockchain technology – what is it, where does it come from and how does it work?
- Opportunities and challenges in relation to intellectual property
- Limitations/open questions regarding the blockchain
- Looking into the future

## DEFINITIONS, DEFINITIONS, DEFINITIONS

- An incorruptible digital ledger of economic transactions that can be programmed to record not just financial transactions but virtually everything of value (Dan & Alex Tapscott, Blockchain Revolution, 2016)
- A digital ledger in which transactions are recorded chronologically and publicly
- A distributed database, shared and continually reconciled
- A ledger (like an Excel spreadsheet), but it accepts input from lots of different parties
- An immutable distributed database of digital assets

## SUMMARY DEFINITION

At its heart: an asset database, which is

- ✓ Automated
- ✓ Secure
- ✓ Incorruptible
- ✓ Immutable
- ✓ Immediate; direct

because of

Algorithms  
Cryptography  
Distributed  
No deletion  
No intermediary

## A SHORT HISTORY

- Satoshi Nakamoto: "Bitcoin: A Peer-to-Peer Electronic Cash System" 2008; 2010 first real-world transaction using Bitcoins; value (20/04/17): 1 BTC = EUR 1,135
- Other Fintech applications, exploring, inter alia, shorter transactions times and lower costs, know-your-customer applications etc.
- Business models outside the Fintech sector; use in the public sector

## HOW DOES IT WORK?

- Voluntary nodes of distributed network maintain and develop the code
- Miners (nodes with high level computing power) compete in 10 minute intervals in aggregating and grouping the latest transactions into a cryptographically protected block
- Solution of the winning miner is validated by network, block is added to the chain by linking it to the previous block
- Transactions in the block are considered executed when block is added to chain

## A DISRUPTIVE TECHNOLOGY



A disruptive technology is one that displaces an established technology and shakes up the industry or a ground-breaking product that creates a completely new industry

## OPPORTUNITIES AND CHALLENGES FOR IP (1)

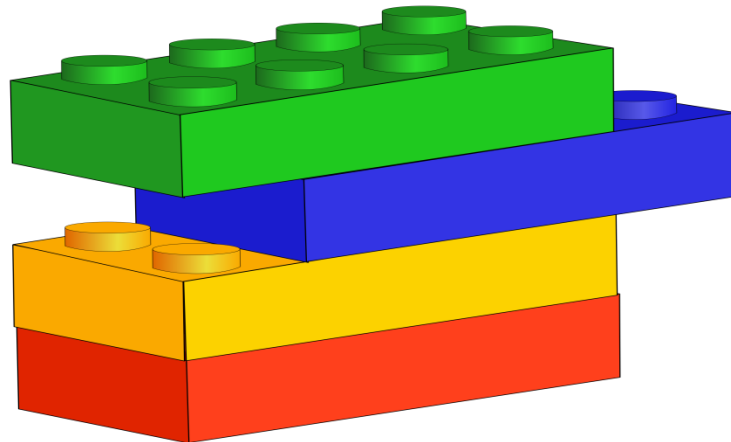
- Blockchain industry use of IP
- Non-blockchain industry use of the technology
- Registration and deposit systems concerning IP
- Blockchain used as vehicle of crime





## OPPORTUNITIES AND CHALLENGES FOR IP (2)

- Blockchain industry use of IP
  - New start-ups being formed at rapid pace
  - Assess how to protect their innovations
  - Assure that they are not infringing IPR of third parties



## OPPORTUNITIES AND CHALLENGES FOR IP (3)

- Non-blockchain industry use of the technology
  - Track and trace – supply chain protection
  - Digital IP rights management



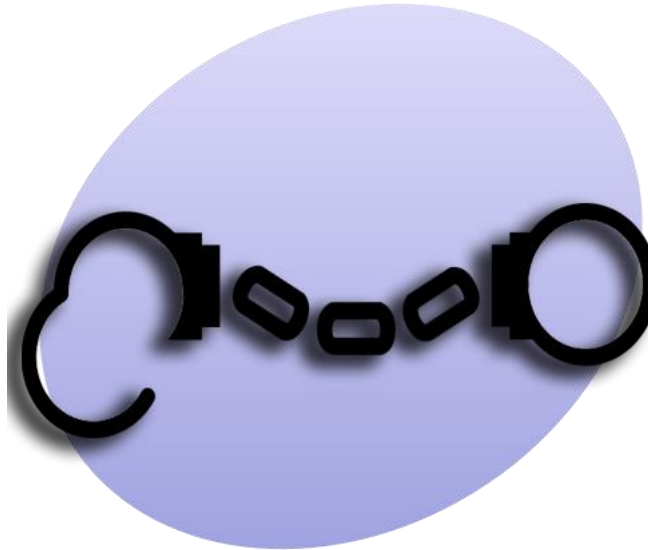
## OPPORTUNITIES AND CHALLENGES FOR IP (4)

- Registration and deposit systems concerning IP
  - Incorruptible and immutable nature of the technology
  - Examples: Delaware blockchain initiative, Estonian e-residency programme
  - Potential for IP register or deposit systems



## OPPORTUNITIES AND CHALLENGES FOR IP (5)

- Blockchain used as vehicle of crime



## LIMITATIONS/OPEN QUESTIONS REGARDING BLOCKCHAIN

- Maturity
- Governance
- Standardization
- Interoperability
- Costs
- Scalable business models



## LOOKING INTO THE FUTURE

- Digital identity
- Blockchain new generation
- Interoperability
- IOT
- High level of automization



## Q&A





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Thank you