


# THE DANISH BLOCKCHAIN EXPERIENCE

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Advisor to the German Government | Senior Editor, The DATA BASE for Advances  
in Information Systems (DataBase) | Associate Editor, Business and Information  
Systems Engineering (BISE) | Editorial Board, Journal of Business Economics

# BLOCKCHAIN IS GOING TO CHANGE INDUSTRIES – NOT JUST FINANCE



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## How blockchain can restore trust in trade



# BILL OF LADING – THE MAIN DOCUMENT OF INTERNATIONAL TRADE ON THE BLOCKCHAIN

[illegible]

- **Three main purposes:**
  - Act as cargo receipt
  - Act as evidence of the contract of carriage
  - Act as title to the cargo
- **The Bill of Lading process has many participants**
- **Physical documents sent around by couriers**
  - Can get lost
  - Do not make it through the process before goods arrive
  - Subject to fraud
  - High handling costs
  - Negative environmental impacts/CO2 footprint



# MAERSK

# PRIVACY IS DEAD, LONG LIVE PRIVACY

- Scott McNealy, then CEO of Sun Microsystems, claimed already back in 1999 “***privacy is dead, get over it***”.
- Tim Berners-Lee himself suggested the creation of a “***Magna carta for the Web***” to “*hardwire the rights to privacy, freedom of expression, affordable access and net neutrality into the rules of the game*”
- In a blockchain secured world, we can gain ownership over data again with “**persistent digital ID and persona**” on a blockchain.



# BLOCKCHAIN STANDARDIZATION WITHIN THE ISO WORKING GROUP TC 307

- An effective, technology-informed **blockchain standardization** will help **Danish industry, entrepreneurs and society** to strengthen their economic competitiveness in regional and global markets.
- The assumption is that blockchain is about to become the **backbone of the Internet of things in a digitized, cyber-physical world.**
- Standardization will be needed **to establish a common language** about the elements of what constitutes a blockchain ecosystem.
  - Interoperability between different blockchains
  - Governance of blockchain systems
  - Smart contract types
  - Protocols for the Internet of Things operating system
  - Legal entity identifier system for provenance of intellectual property





# ISO/TC 307 Blockchain

## WG 1 Foundations

Paolo  
Tasca



## WG 2 Security, privacy and identity

Julien Bringer



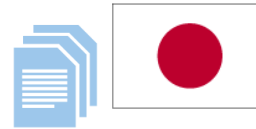
## WG 3 Smart contracts and their applications

Volker Skwarek



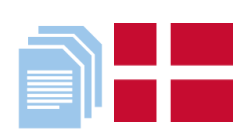
## SG 2 Use cases

Takeo  
Nishikata



## SG 6 Governance

Roman Beck



## SG 7 Interoperability

Eric Cohen



### WG 1 deliverables/project leaders:

ISO/IEC 23257  
Reference Architecture  
Heather Kreger



ISO/IEC TS 23258  
Taxonomy and Ontology  
Peter Luo



ISO/IEC 22739  
Terminology and concepts  
Victoria Lemieux



### WG 2 deliverables/project leaders:

ISO/IEC TR  
Overview of privacy and PII protection  
Stephen Holmes



ISO/IEC TR  
Security risks and vulnerabilities  
Shin'ichiro Matsuo



ISO/IEC TR  
Overview of identity  
Paul Ferris



### WG 3 deliverables/project leaders:

ISO/IEC TS 23259  
Legally binding smart contracts  
Philippa Ryan





# THE LACK OF BLOCKCHAIN TALENT IS BECOMING AN INDUSTRY CONCERN

**'Top 10' blockchain firms worldwide equaling less than 600 people.**

*March 14, 2017*

**Harvard Teaching Case  
"Deutsche Bank: Pursuing Blockchain Opportunities"  
N9-817-100**

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SUMMER SCHOOL**

**3<sup>rd</sup> Blockchain Summer School 2018**  
**[www.blockchainschool.eu](http://www.blockchainschool.eu)**

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# REGISTERING VEHICLES AND TRANSFERRING OWNERSHIP BASED ON BLOCKCHAIN



- **Current challenges:**
  - Imbalance of trust between buyer and seller
  - Seller must trust that buyer will re-register the vehicle
  - Authenticity of registration certificate
  - Excessively, rebuilt or stolen vehicle being sold
  - History of the vehicle
- **Correct and automated registration**
- **Secure and automated transfer of ownership without the need for central authority**

# BLOCKCHAIN HAS THE POTENTIAL TO BECOME THE OPERATING SYSTEM OF THE SERVICE ECONOMY

**Blockchain solutions have the potential to become the “supply chain operating system” to...**



... **record the quantity** and transfer of assets as they move between supply chain nodes,

... **track purchase orders**, change orders, receipts, shipment notifications, or other trade-related documents,

... **assign or verify certifications** or certain properties of physical products,

... **link physical goods to serial numbers**, bar codes, digital tags like RFID, etc., and

... **share information** about manufacturing process, assembly, delivery, and maintenance of products with suppliers and vendors.

# EUROPEAN BLOCKCHAIN CENTER IN COPENHAGEN



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For further information please contact me!

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