The role of government authorities in facilitating technology driven solutions to improve security of inland freight routes & inclusive ecosystems

Gilbert REVEILLON, CEO Mobile LOOV
President ICT Digital Economy CNCCEF
How AI/blockchain can help to more effectively secure supply chains / inland transport systems

- **Objective**: protection from cyber threats, tracking and tracing of cargo flows etc.

**Definition of Artificial Intelligence?**
- so many to deal with...
- but converging towards the ALGORYTHM empowerment!
- since Mathematician Muhammad Ibn Musa al-Kharezmi
  
  *at the Royal Court in Bagdad from Year 780 to 850*

"A technology process or a formula allowing to solve a problem"

- What is done by local governments
  - US, FR, Estonia, Russia, China (ShenZhen, active autonomous trucks/bus)

- What is done by private corporations
  - IBM & Maersk, Accenture, GAFAMI vs BATHX

- What is done by NGOs & Associations
  - Public vs Private BC
  - BC consortia e.g. BITA

- Domestic vs International Corporate Networks
  - Priority is given to national vs international traffic (OBOR/BRI etc.)
  - Interoperability (logistic infrastructure, GPS, 4/5G & new road marks)
  - EU rules (RGPD, regulatory rules etc.)
The Problems in the Freight Transport

*impacting rail freight efficiency*

The value of freight rates was USD 380 Billion in 2017 (UNCTAD)

- Rail Freight relies partly on shipping industry efficiency and not just within the multimodal approach
- Shipping industry is one of the largest economic sectors BUT it is the least technologically advanced one
- Today paper documents are issued for all shipped cargo no matter of the transport means.
- All original documents are being sent by couriers, taking time and money.

All cargoes and freights are being paid for in traditional ways – via bank wire transfers or letter of credit

- Both are expensive, slow and non-confidential methods.
- Increasingly more often USD and EUR transactions are being blocked for weeks by US correspondent banks.
- Original documents delivery delays and money transfer delays cause unaccounted extra costs, opportunity cost & depreciation of assets, while disturbing a long supply chain ecosystem.
Blockchain is implemented by countries in order to avoid:
- imported fraudulent products
- products not matching the quality standards
- products not matching proof of origin...

It’s a better answer that blocking borders...
- USA
- France
- China
- Canada
- Estonia
- Russia
- Japan
- Germany
- Swiss

What has also been done by governments...
- technology infrastructures
- R&D investments
- Cyber Security leverages

What technology is leading AI chipset...

WORLD LEADING
GPU Nvidia V100 with 21Bn transistors
Graved in technology 12 nm.
Launched in 2017, using 640 tensors.
Chipsets RAM of 32 Go at 900 Go/s

September 4th 2019, Geneve
Founded in August 2017, the Blockchain In Transport Alliance (BiTA), has quickly grown into the largest commercial blockchain alliance in the world, with nearly 500 members in over 25 countries that collectively generate over $1 trillion in revenue annually.

HQ USA and much asset management oriented... vs Europe more social responsibility & sustainable investments etc...
3 The Stablecoin Landscape

This section walks through the several methods that stablecoin issuers use to attempt to achieve relative price stability, and how they have evolved over time. Figure 1 outlines the five types of stablecoins that will be expanded on throughout the remainder of this section.

Figure 1: Categorization of Stablecoins

- Collateral
- Off-Chain
- Fiat
- Bank-Issued
- 3rd Party-Issued (Bank Deposit Backed)
- On-Chain
- Commodity
- Crypto-coin
- Algo-coin

Stablecoins backed by fiat money have captured the vast majority of volumes. There are three types of fiat money: physical cash, central bank reserves, and commercial bank money. Currently, commercial bank money is the most likely to be used as collateral for stablecoins.

https://www.youtube.com/watch?v=ys0__ZB3u8U

CargoCoin Explainer Video

3,969 views
COUNTRIES quick OUTLOOK
What are the main problems to solve with BlockChain paradigm?

The US Congress & Blockchain...... Cyber Security
STRONG WILL TO BENEFIT FROM NEW FRENCH TECH
EDUCATING OUR POLITICAL & GOVERNMENT STAFF

Article 26 : Amendement de la loi PACTE
Deep Tech strategy too
The Chinese Market

*Very early investments in BC, QC & AI*

Under China’s 13th five-year plan, introduced in 2016, Beijing launched a “megaproject” for quantum communications and computing which is aimed at achieving breakthroughs by 2030.

**The Shanghai city case for AI**: a nation leader but soon a world leader...

- Shanghai’ AI ambition first outlined with municipal plan Nov 2017
- City authorities pledged to expand the scale of the industry to $14Bn by 2020
- Dedicated industrial fund of 60 emerging AI technologies from local companies
- Hosting six demonstration zones and 60 AI applications in the same period

It was also the result of the central government to build the Nation’s first pilot zone for the innovation and application of AI.

=> A comprehensive industrial chain, growing startup culture & strong human capital

=> Aisland located in Zhangjiang Science City in Shanghai

To compare with the French White Paper Strategy for AI sovereignty produced in 2018

**September 4th 2019, Geneve**
The Chinese Market

A new scope of management due to new connectivity

The Promise of 5G is Already Visible in China

5G is enabling real-world applications in healthcare services, autonomous driving and smart cities.

At Shanghai’s 2019 Auto Show, China Mobile showcased its autonomous vehicle technology – which allowed a driver at the Shanghai show to take the wheel and control a car more than 1,000km (620 miles) away in Beijing. It used a 5G network that had only a 10-millisecond delay.

Hangzhou’s City Brain project, a cloud computing and artificial intelligence-driven urban traffic-management system, covers a total area of 420 km² (162 miles²) – that’s seven times the size of New York’s Manhattan island. With 5G networks, Hangzhou’s City Brain will be able to process greater amounts of data gathered from a range of IoT units, including lamp posts, manhole covers and electricity meters. The advanced mobile infrastructure would enable sensors to be deployed in underground pipes to find water leakage.

China also leads the world in 5G patents

What is 5G?

The fifth generation of mobile technology means more than just faster data speeds and greater network capacity. It also provides a foundation for connecting an unlimited number of machines to one another for day-to-day communication. A 5G network will support: a million connected devices per square kilometre; transmitting a package of data with a delay of just 1 millisecond and peak data download speeds of up to 20 gigabits per second.

Source: SCMP analysis, company websites
Autonomous Vehicles
Trucks / Car / Bus
in real live conditions

Application Diagram of IVICS

Connectivity
- 5G
- GPS
- Road marks
Under the supervision of China customs, Chinese shoppers can buy goods from overseas via authorized CBEC platforms and have their orders shipped through the CBEC pilot zones/cities.

### Different tax policies

<table>
<thead>
<tr>
<th>General import (B2B)</th>
<th>Tariff + VAT* + Consumption tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonded-area import/Direct mail (Via authorized CBEC platform)</td>
<td>VAT<em>70% + Consumption tax</em>70% (Depends on the product categories)</td>
</tr>
<tr>
<td>Personal postal articles (Post via authorized CBEC platform)</td>
<td>Personal parcel tax (Depends on the product categories)</td>
</tr>
</tbody>
</table>

*VAT=Value-added Tax

Note: Functions and implementations of regulations on CBEC imports in CBEC pilot zones and cities are slightly different. Stakeholders should keep track with the government’s policy announcement.
Irrespectively, technology will increase supply chain efficiency and security

Autonomous container trucks serve in logistics parks. Drones delivery in tough terrains.

Sharing Economy
Using various platforms, the Sharing Economy can match demand and supply at a fraction of the cost that confronts traditional brokers.

Connected autonomous truck fleets provide warehouse-to-warehouse transport.

Maersk and IBM launches the first cross-border logistics solution on blockchain.
L'Agence des services frontaliers du Canada et le port de Montréal font l'essai d'une blockchain visant à optimiser le transport de marchandises. Cela consiste en un « grand livre distribué », partageant et synchronisant les données des transporteurs maritimes, des ports et des grossistes du monde entier.

L'Agence applique aussi plus de 90 lois et règlements qui assurent la sécurité du pays et des Canadiens.

Hyperledger & Stellar are platforms you can find in the USA too...
ESTONIA

• *Blockchain* leader *Guardtime* make Estonia a leading player part of FIATA

• International Federation of Freight Forwarders Associations (FIATA) *Blockchain* solution called *Silsal* in June 2018.

SLOVANIA
First Quantum-Secured Blockchain Technology Tested in Moscow

Quantum computers pose a significant security threat to cryptocurrencies such as Bitcoin. Now a team of Russian scientists has worked out how to secure blockchains using quantum mechanics.

by Emerging Technology from the arXiv June 6, 2017

Interest in cryptocurrencies is currently at fever pitch with banks, businesses, and governments racing to understand the technology and how they can exploit it. As a result, the cryptocurrency market has begun to rise exponentially, and last month reached an astonishing $90 billion in market capitalization. Whatever happens next, cryptocurrencies look certain to play an increasingly influential role in the global financial system.

But there is a problem on the horizon. The big challenge with digital cash is to ensure that everyone uses it honestly. And there seems to be a pretty good solution in the form of blockchain technology. This guarantees honesty using cryptographic techniques that are widely thought to be unbreakable, except by brute force attacks.

And therein lies the problem. Brute force attacks are difficult for classical computers but will be easy for the next generation of quantum computers. The vast number-crunching power of these devices mean that as soon as they are available, cryptocurrencies will be suddenly more vulnerable to attack.

German Sukonnikov
Deputy Head Corporate Head IT Department RZD
Blockchain mining with QC
Quantum Computing for…
Route Optimization for Multimodal Transport Systems
Germany: Digital logistics chains – smart wagon upgrade meets the half-way point

DB Cargo to fit its entire wagon fleet with smart sensors and telematics by 2020

DB Cargo is powering ahead with the digitalisation of its freight wagon fleet: the 34,000th wagon with state-of-the-art telematics and smart sensors rolled out of the refitting facility in Seez in Switzerland last October. By 2020, the approximately 68,000 wagons in the company’s German fleet will all have the digital technology on board – the result of investing a high seven-figure sum.

The GPS and sensor technology bring a range of benefits for DB Cargo’s customers. A telematics module, GPS and the use of RFID and NFC tags help the analogue freight wagons join the fully connected digital world. The modernised wagons use mobile telephony to transmit signals during the journey, such as when the wagon starts and stops or sensors detect an impact. This data can help to produce useful information about the load condition, temperature and humidity and about the movement of sensitive cargo inside the wagon.

“The smart freight wagons are modernising rail freight transport and making it fit for the future. Our customers are benefiting from more manageable logistics chains, higher-quality transport and predictable arrival times. With these advantages, we want to achieve a lasting shift in traffic onto the environmentally-friendly rail freight network and to make our contribution to ‘Strong Rail’ in Germany and Europe,” said Jan-Mark Leutenschlager, Member of the Management Board for Production at DB Cargo (left) and Jürgen Harland, Head of Logistics and SCM at Salzgitter Flachstahl GmbH (right).

Ces trois nouveaux investisseurs rejoignent les armateurs CMA-CGM, MSC et A.P. Møller-Maersk (voir NL n°2935) dans son capital. Traxens compte ainsi accélérer son développement à l’international avec un focus sur l’Asie. « C’est une solution innovante pour l’industrie logistique, a déclaré à ce titre Shunsuke Noda, chief digital and information officer du groupe Itochu. En plus de notre investissement, nous sommes donc impatients de travailler avec Traxens en tant que partenaire afin de développer les ventes de ses produits et services en Asie, région où le trafic terre-mer est en plein essor. »

Traxens table sur 100 000 conteneurs équipés - reefer et secs - à la fin 2020, mais ils devraient être plus nombreux car A.P. Møller-Maersk a fait savoir lors de son entrée au capital qu’il allait passer une première commande susceptible d’atteindre les 50 000 boîtiers.

Traxens a par ailleurs lancé récemment un projet pilote IoT dans le port espagnol de Valence afin d’y améliorer l’efficacité opérationnelle des mouvements de conteneurs et est partenaire de l’équipementier/logisticien Daher dans le cadre de son offre de tracabilité lancée fin 2018 (voir NL n°2804). AD
L’AVENIR DE LA BLOCKCHAIN PASSE PAR LA SUISSE

Particulièrement attachée au respect de la vie privée et de la protection des données, la Confédération Helvétique a pris très tôt le virage de la Blockchain comme la technologie peer to peer et indépendante permettant de sécuriser les transactions et échanges en ligne. La culture de l’innovation, en plus d’un cadre légal encourageant les initiatives, ont permis au pays de s’imposer comme moteur de la Blockchain à l’échelle mondiale.

Blockchain et supply chain

Le géant suisse de la logistique Panalpina se met à la blockchain sans céder à ses sirènes

Jeudi 27.06.2019 - 13:16
par Yannick Chavanne

Partenaire du récent Swiss Blockchain Hackathon, Panalpina met en avant une approche rationnelle et réaliste en matière de blockchain. Le groupe suisse de logistique mise sur des projets pilotes apportant des avantages tangibles.
Regional / Global Competitive advantages

* Cable vs Satellite Internet *

1. USA needs to invest 130bn$ for 5G infrastructure 5G to catch up its delays *

2. CHINA’s « GPS » BEIDOU has already more satellites than USA’s GPS (satellite positionning systems used from mobile gaming to emergency location)

3. CHINA Quantum Satellite Communication with QKD since 2017 (e.g. MICIUS, corridor between Shanghai & Beijin vs Corridor Boston & New York)

2. How much is needed to compet in IoT

1. growing popularity of IoT, sensor networks, and other telemetry applications leads to the collection of vast amounts of time series data... e.g. France and geospatial time series on 3 Axis.
2. A single connected car has over 200 sensors and generates 4 TB per day per car.
3. An airline has over 6000 sensors capturing 2.5TB per day per aircraft.
4. Weather forecasting requires close to 5PB of data every day.

The challenge has been to automate a historically manual process of analyzing a single data series of a few data points to large-scale processing of thousands of time series and millions of data points.

Moreover, the wider that IoT solutions scale the larger the risks to consider, including increased opportunities for data breaches as well as greater compliance and regulatory changes to manage.

This is compounded by struggles with inflexible infrastructures, complex supply chains, and the need to work with global partners to help address a range of operational issues e.g. 5G global connectivity.

**How to choose** the right future-proof infrastructure that allows for change over time.

**How to increase** the number of IoT devices you have deployed and manage them at scale.

**How to increase** the efficiency of your existing devices, including streamlining maintenance.

Real-world use cases, from application performance optimization to workload anomaly detection.

September 4th 2019, Geneve
IoT Global Vision

Rationalization of costs - Increased Businesses +

WHEREAS 63 Bn$ potential savings identified

BUT also new revenues

Cf ETCS +20% trains/H

IoT $10 Trns $ STAKE

DATA 40 Trn octets

D’ici à 2025, McKinsey estime le marché annuel entre 3,9 et 11,1 trillions de dollar. Sur les 44 000 Go de données collectées par ces objets connectés, moins de 1% sont exploités.

e.g. A.I. Predictive Modeling for Assets Management in manufacturing

- predictive maintenance
- predictive occurrence
DEEP TECH DEFINITION: SCIENTIFIC DISRUPTING DISCOVERIES IMPACTING environment, health, smart & sustainable city, manufacturing & work

Face recognition  Fingerprint  3D veins network  Activities detection

assisted and autonomous drive  images search
MUTUAL BENEFITS AI vs BC

• HOW AI WILL BENEFIT BLOCKCHAIN

• HOW BLOCKCHAIN WILL BENEFIT AI
  1. Help AI explaining itself 2. Increase AI effectiveness 3. Lower the market barriers to entry 4. Increase artificial trust 5. Reduce catastrophic risks scenario

INLAND FREIGHT USING BOTH : AI & BLOCKCHAIN

INLAND FREIGHT RELYING ON TECHNOLOGY : hardware & usage & regulatory matter (national, international)
But not just good things happening with AI...
Facke news and other great things...
FLUX ET DONNÉES D’EXPÉDITION

DOCUMENTS STRUCTURÉS ET NON STRUCTURÉS

RÉSEAU DES ADHERENTS TRADELENS
Blockchain is being introduced in an already fragile digital landscape, with reports of hacking being ubiquitous. A single cyberattack in late June last year cost Maersk up to $300 million. Maersk responded with “different and further protective measures” to contend with a “new type of malware”. This highlighted a growing problem for the shipping industry.

Blockchain is hailed as a safe, robust alternative to existing systems with central points of failure. If this claim is factual, could the maritime sector be facing an inevitable transition to such solutions? As a provider of a Blockchain-based platform for trade related documentation processing, CargoX has put extensive thought into the sensible adoption of Blockchain for the maritime industry. Many of the concerns around adopting blockchain regard the peripheral points of failure rather than Blockchain as a protocol itself...
BATHJDX vs GAFAMI

About 6 m blockchain invoices issued in Shenzhen after 1 year operations
Source: Xinhua | 2019-08-06 09:49:12

SHENZHEN

Baidu, Alibaba and Tencent are Getting Into Blockchain too

The three internet giants are developing and commercializing their own blockchain offerings.

- In September 2018, Baidu Finance released its first blockchain whitepaper outlining possibilities in consumer finance, management of financial clients and community building, asset digitization, public welfare, identity systems, digital rights management and logistics.
- Of the 197 registered projects by the Cyberspace Administration of China, Baidu has them: Baidu Blockchain Engine, Supercash, and Tianben.
- In October 2018, Alibaba Cloud launched its global Blockchain-as-a-Service (BaaS) offering, which provides enterprise-level platform services to help companies build a trusted cloud architecture.
- Tencent, along with Huawei and several other companies, formed the Financial Blockchain Shenzhen Consortium (FSDC).
- Their goal is to develop China’s first open-source platform that meets regulatory requirements and financial industry demands.
- Tencent’s registered projects include Tencent blockchain and Tencent Cloud’s Taobao platform.

Source: Cyberspace Administration of China, Baidu, Alibaba, Tencent

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ACCENTURE + THALES = Blockchain & Hardware security approach
From Sandbox to Free Trade Zone & BRI

• Sandbox country
  • China BC sandbox
  • French BC sandbox (AMF & ACPR)
  • Etc.

• Sandbox corporate
  • Deloitte
  • Ernst & Young
  • IBM Maerks *
  
  https://docs.tradelens.com/reference/sandbox_zone/

Paradox : more free space for trading & investment
more controls anti-landering, fraud & security

• Free Trade Zone
  ▪ Chinese deployment from Shanghai to Shenzhen
  ▪ Great Bay Aera for fastest response to the global market needs
  ▪ World FTZ and OBOR / BRI

  • According to United Nations: 3500 FTZ in 135 countries employing 70 millions +
  • Biggest FTZ are located in China, Singapore & United Arabic Emirats
  • Image problems for lack of transparencies mainly in emerging countries, not compliant with WTO rules (empty shell etc)
  • China in 1978 they started with SEZ Special Economic Zones to attract FDI, and main production towards export.
  • August 1980 Standing Committee of the 5th Congress approved 4 costal cities Shenzhen, Zhuhai, Shantou et Xiamen with facilitating economic policies, further regulated with Kyoto agreements.

• 6 Major Benefits :
  • Trade & FD Investment facilitated
  • Reforming Administrative & Financial setup
  • Cross-border e-commerce
  • New taxes policies for FTZ
• In 2016, the 4 FTZ de Shanghai, Guangdong, Tianjin & Fujian generated 409 Bn RMB of collected taxes
The decision tree is composed of a number of questions that assist in defining whether a blockchain is the correct approach for a particular business or not.

**Blockchain Beyond the Hype**

These 11 questions will help you make a quick initial assessment of whether blockchain is the right solution for the problem you’re facing.

In this graphic, blockchain is used to refer to all forms of distributed ledger technology (DLT).

DLT is a digital system in which transactions and their details are recorded in multiple places at the same time, without a central database or administrator.

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This graphic is based on work developed by Dr. Cathrina Mulligan under FP7 project CHREX (Cybersecurity, Controls & Trust in Digital Transformation; H2020-639787) and released under the terms of Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License. For earlier version see publication in 2017 "Journal of Strategic Change" 16(6): 481-488.
100+ Different proof of work, authority, stake etc. What is the right choice for Rail Freight Architecture, Consensus & Smart Contract

WHY PROOF OF AUTHORITY?

PROOF OF WORK & PROOF OF STAKE

• Very inefficient use of energy and taxing on the electrical grid
• Costly, slow, and unscalable validation processes
• Limits overall control and the possibility for improvements
• Can allow certain actors to acquire too much power and monopolize the market

PROOF OF AUTHORITY

• Traditional mining is not necessary, leading to minimal energy usage
• Speed, cheap, scalable and customized validation processes
• Allows changes and amendments to be made without the use of “forks”
• Balance of power is maintained & institutions keep pace with innovation

AMEND & Cost Savings

Avoid hegemony of GAFA or BATHX or COUNTRY
SOLVING The PROBLEMS
Proof of Authority & Amend unique features

Up to $100 M added value per Year by using BC beyond Corridors

3 strategic leverages

Cost savings (40% less nodes)
improved performance (40% for 2 days cut)
improved predictable ETA (10%)

Vs Today your clients are facing:

Difficult Access to certified information
Little stakeholders interoperability

High Costs of border controls
Length & frictions with customs

High risks of human errors through manual ERP processes

VIDEO UIC

September 4th 2019, Geneve
Digital Single Market POLICY

The EU Cybersecurity Act

The EU Cybersecurity Act revamps and strengthens the EU Agency for cybersecurity (ENISA) and establishes an EU-wide cybersecurity certification framework for digital products, services and processes.

A new mandate for ENISA

ENISA, (European Union Agency for Network and Information Security) the EU Agency for cybersecurity, is now stronger. The EU Cybersecurity Act grants a permanent mandate to the agency, more resources and new tasks. In particular, ENISA will have a key role in setting up and maintaining the European cybersecurity certification framework by preparing the technical ground for specific certification schemes and informing the public on the certification schemes as well as the issued certificates through a dedicated website.

ENISA is also mandated to increase operational cooperation at EU level, helping EU Member States who would request it to handle cybersecurity incidents, and supporting the coordination of the EU in case of large-scale cross borders cyber-attacks and crises. This task builds on ENISA (European Union Agency for Network and Information Security)’s role as secretariat of the national Computer Security Incidents Response Teams (CSIRTs) Network, established by the Directive on security of network and information systems (NIS (Network and Information Systems) Directive).

A European cybersecurity certification framework

The EU Cybersecurity Act introduces for the first time an EU-wide cybersecurity certification framework for ICT products, services and processes. Companies doing business in the EU will benefit from having to certify their ICT products, processes and services only once and see their certificates recognised across the European Union.
The Directive on security of network and information systems (NIS Directive)

The NIS Directive is the first piece of EU-wide legislation on cybersecurity. It provides legal measures to boost the overall level of cybersecurity in the EU.

The Directive on security of network and information systems (the NIS (Network Information Systems) Directive) was adopted by the European Parliament on 6 July 2016 and entered into force in August 2016. Member States have to transpose the Directive into their national laws by 9 May 2018 and identify operators of essential services by 9 November 2018.

The NIS (Network Information Systems) Directive provides legal measures to boost the overall level of cybersecurity in the EU (European Union) by ensuring:

- Member States' preparedness by requiring them to be appropriately equipped, e.g. via a Computer Security Incident Response Team (CSIRT) and a competent national NIS (Network Information Systems) authority,
- cooperation among all the Member States, by setting up a cooperation group, in order to support and facilitate strategic cooperation and the exchange of information among Member States. They will also need to set a CSIRT (Computer Security Incident Response Team) Network, in order to promote swift and effective operational cooperation on specific cybersecurity incidents and sharing information about risks,
- a culture of security across sectors which are vital for our economy

and society and moreover rely heavily on ICTs (Information Communication Technology), such as energy, transport, water,

How supply chain security has evolved over two decades

Both physical and cyber supply chain security are critically important. Expert Ernie Hayden outlines the recent history of supply chain defenses and what enterprises need to know.

October 2018, the U.S. Federal Energy Regulatory Commission (FERC) officially approved a new standard for the North American electric energy industry. The critical infrastructure protection standard, referred to as "CIP-013-1 -- Cyber Security -- Supply Chain Risk Management," was issued to address "... cyber security risks to the reliable operation of the Bulk Electric System (BES) by implementing security controls for supply chain risk management of BES Cyber Systems."

The history of supply chain rules and guidelines

Prior to the attacks on Sept. 11, 2001, common discussions regarding supply chain risk management primarily took place in the insurance and risk management industries... there was no systematic methodology to analyze shipment risks.

After 9/11, supply chain security began to evolve into a more structured and methodological. Since 2012, there has been increased awareness and emphasis on cybersecurity in the supply chain process.

Phase one: Physical supply chain security
Phase two: Cyber supply chain security
Cyber Crime
For economical or political reasons, By Countries or Private Individuals

IPS = Intrusion Protection Systems – Detection in 465 days in Europe vs 160 days in USA/CAD/UK >>>> average 240 days

TESLA CAR HACKED IN 30 SEC, US AIRFORCE F-15 CONTROLLED IN FLIGHT etc...

IoT is just an entry door

ISO/IEC 27000:2018
Information technology & Security techniques
Information security management systems Overview and vocabulary
• Hunting the universal model of Quantum Computing...
• Aiming at the US NIST Post Quantum
Smart Cities Assets Optimization
The Railways Use Case

Indirect Constraints
Amongst parameters to consider:
- Topological layouts
- Railways connectivity
- Multimodality interactions (e.g.: Freight)
- Real-time changes
- Workforce & resources planning
- Maintenance scheduling

For every train schedule a heuristic approach is required to solve an optimization problem

NEW ERA OF DIGITAZATION OF ASSETS EMPOWERED BY QUANTUM ANNEALING
Quantum Annealing

Performance Indicators

55%  78%  63%  87%

16ms

Optimisation of time table schedules performed on D-Wave 2000Q.

Suitable for all categories business and personal presentation

Suitable for all categories business and personal presentation

Suitable for all categories business and personal presentation

Suitable for all categories business and personal presentation
Conclusion in IMPROVING TRUST
BlockChain & Multi-Modal Freight

- At stake: an increase in the value of transported goods (threshold > 500K$ per container and saving of up to 100m$ / Year on BRI)
- Improved attractiveness of the choice of transport’s benefits within Freight Ecosystems
- Improved effectiveness & efficiency of the entire freight ecosystems as engaged in BlockChain

- Governments need to explore further blockchain’s potential through its use in public-sector projects that demonstrate its workings, its potential and its inevitable limitations. Although blockchain is not nearly as evolved now as the internet was in 2005, co-operation among all stakeholders on issues like taxonomy or policy guides on basic principles is crucial.
- Those stakeholders include government, industry, academia and civil society. All this must be done while keeping in mind the global nature of blockchain and that blockchain regulations need to be made in synch with regulations on other issues are adjacent to the technology, such as electronic signatures. However, work can be done in the global arena through international initiatives and organizations such as the ISO.

=> Be recognized agile contributor in the $380Bn/Y Freight industry