



# EBSI fueling the digital economy of the empowered citizens

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Digital Credentials Masterclass

Bledt Oct'19




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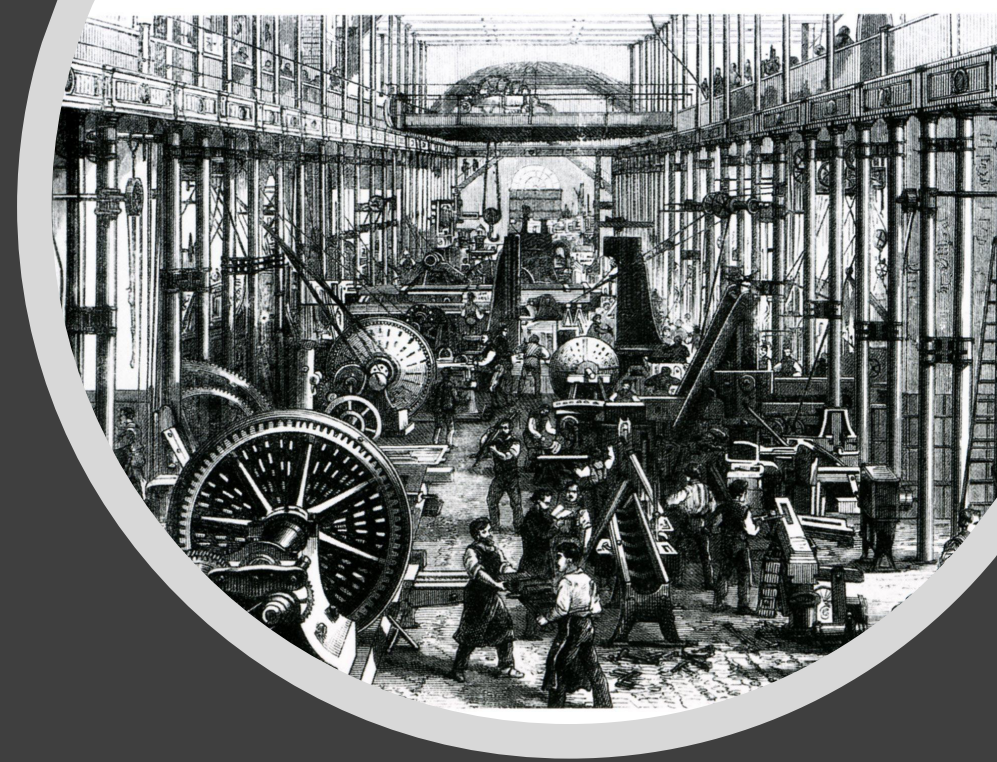


# A brief look to industrial revolutions



# 1<sup>st</sup> Industrial revolution

- Water/Steam powers the economy
  - Suppression of human dependence of animals
  - Steamboats, locomotives
- No transport network for the goods
  - Mechanical automation
  - Handwork to machinery
- Communication: telegraph
- Unpowered people
  - From cottages to factories
  - Fundamental changes in agriculture, the development of factories, and rural-to-urban migration
  - It brought workers to cities to work in factories

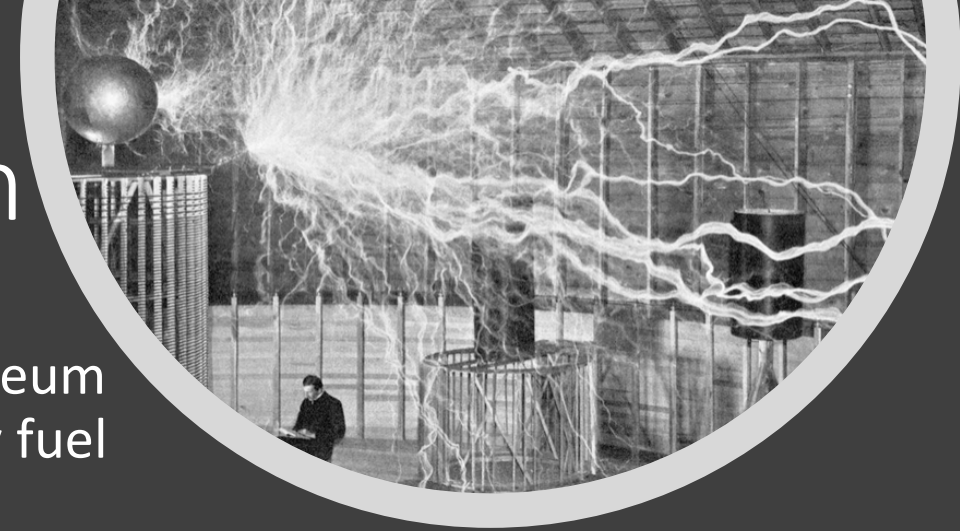


18<sup>th</sup> century



# 2<sup>nd</sup> Industrial revolution

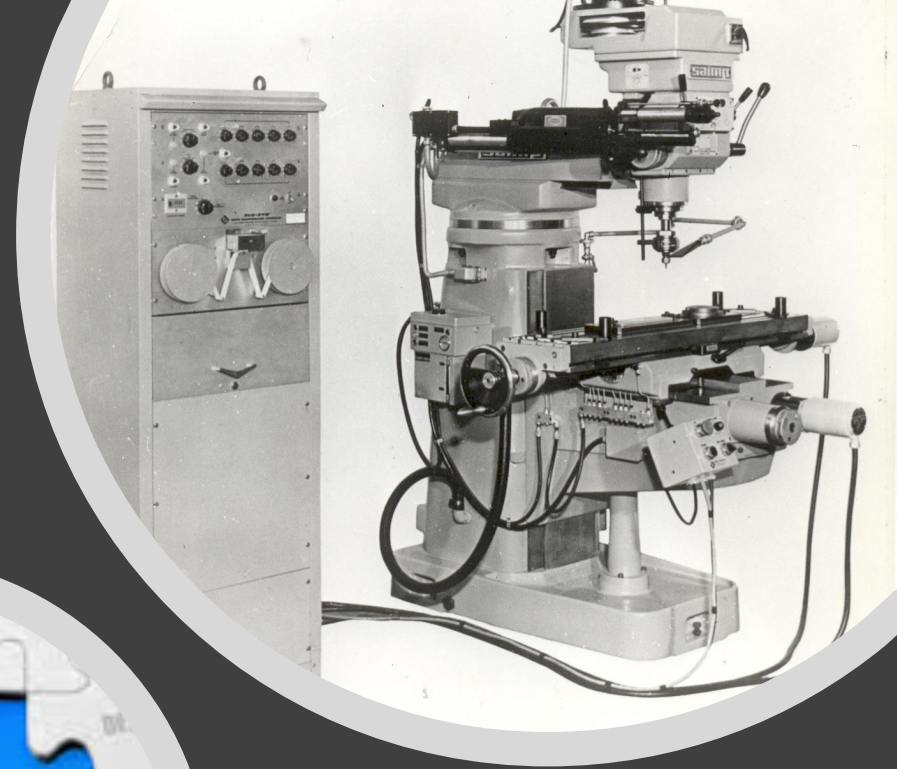
- Improvements in chemical, steel, and petroleum industries and the introduction of electricity fuel the economy
  - Use of electrical power saw electronics enter the marketplace (electric lights, radios, fans, television sets)
- First transportation networks and *faster* communication
  - Railroad tracks, bridges, skyscrapers
  - Lower cost of products, and new markets to sell products, economic expansion
- Telegraph and telephone lines
- Unpowered people
  - Relocation



19<sup>th</sup>/20<sup>th</sup> century

# 3<sup>rd</sup> Industrial revolution

- No substantial changes fueling the economy
  - Tooling equipment replaced by machines (electronic automation)
- Good terrestrial and maritime transport
- 1<sup>st</sup> information revolution
  - Personal computer
  - Internet born
  - Computer and internet-based knowledge
- Citizen start to be empowered, been able to contribute and create contents in the digital world



Lat 20<sup>th</sup> century



# 4<sup>th</sup> Industrial revolution

This Fourth Industrial Revolution is fundamentally different. It is characterized by a range of new technologies that are fusing the physical, digital and biological worlds, impacting all disciplines, economies and industries, and even challenging ideas about what it means to be human.

**Information, data, fuels the  
economy**



Prof. Klaus Schwab, Founder and  
Chairman, World Economic Forum



## From Baby boomers to Generation Z

- Generation Z highlights the need to meet our customers, their lifestyle, their way of relating, the channels through which they want to relate, etc.
- We are facing new times where face-to-face is no longer relevant, multichannel is a reality.
- The process of when and where at the mercy of the user





3 key disruptive technologies for digital educational credentials

- Blockchain
- Self Sovereign identity
- Verifiable credentials

# Blockchain

- Will be the new high speed highway for the Digital economy
- Will bring
  - Trust
  - Time savings
  - Disintermediation
- Will help to reduce fraud in academia







# Self sovereign identity

- The age of the digitally empowered citizen
- Will bring
  - Anonymization
  - Citizens ownership and control of their data
- The previous step to Zero Knowledge Proof



# Verifiable credentials

- Will be the “containers” for the credentials
  - Just like the containers did for the shipping sector in early 60s
- Most of us will be moving to a more just-in-time skilled education
  - Stacking credentials will be the normal
  - Longlife Learning + Personal Learning Pathways



# ESTABLISHING GLOBAL LEADERSHIP IN BLOCKCHAIN AND DISTRIBUTED LEDGER TECHNOLOGIES



## JOINED-UP POLITICAL VISION (EU-MS)

JOINT DECLARATION ON THE ESTABLISHMENT OF THE **EUROPEAN BLOCKCHAIN PARTNERSHIP** [EBP] AND THE DEVELOPMENT OF THE **EUROPEAN BLOCKCHAIN SERVICES INFRASTRUCTURE** [EBSI] FOR CROSS-BORDER DIGITAL SERVICES OF PUBLIC INTEREST



## PUBLIC-PRIVATE PARTNERSHIP

SUPPORTING THE CREATION OF **THE INTERNATIONAL ASSOCIATION OF TRUSTED BLOCKCHAIN APPLICATIONS** [INATBA]; A MULTISTAKEHOLDER ORGANISATION TO PROMOTE TRUST AND INTEROPERABILITY AT GLOBAL LEVEL



## CONNECTING GLOBAL and EUROPEAN EXPERTISE

THE **EU BLOCKCHAIN OBSERVATORY AND FORUM** BRINGS TOGETHER THE LEADING GLOBAL EXPERTS TO IDENTIFY OBSTACLES, INCENTIVES AND PRACTICAL SOLUTIONS TO PROMOTE BLOCKCHAIN UPTAKE.



## INVESTING IN EU RESEARCH, INNOVATION AND START-UPS

THROUGH THE CONNECTING EUROPE FACILITY AND H2020 PROGRAMMES, THE EU IS CO-INVESTING IN THE MOST ADVANCED DIGITAL INFRASTRUCTURE AND THE MOST INNOVATIVE EU START-UPS  
**NEW EU INVESTMENT SCHEME FOR AI AND BLOCKCHAIN + SUPPORT PROGRAMME**



## PROMOTING AN ENABLING DSM LEGAL FRAMEWORK, INTEROPERABLE STANDARDS and SKILLS DEVELOPMENT

EU STRATEGY  
BLOCKCHAIN HOLISTIC APPROACH

**2017**

-  
**Tallinn declaration on  
eGovernment**

In 2017, Member States and EFTA countries signed the Tallinn declaration on eGovernment outlining the importance of having efficient and secure digital public services in order to achieve the full potential of the Digital Single Market.



**2018**

-  
**European Blockchain  
Partnership  
declaration**

In 2018, 27 EU Member States, Norway and Lichtenstein signed a declaration creating the European Blockchain Partnership (EBP) with the ambition to provide digital public services matching the required level of digital security and maturity of today's society.



**2019**

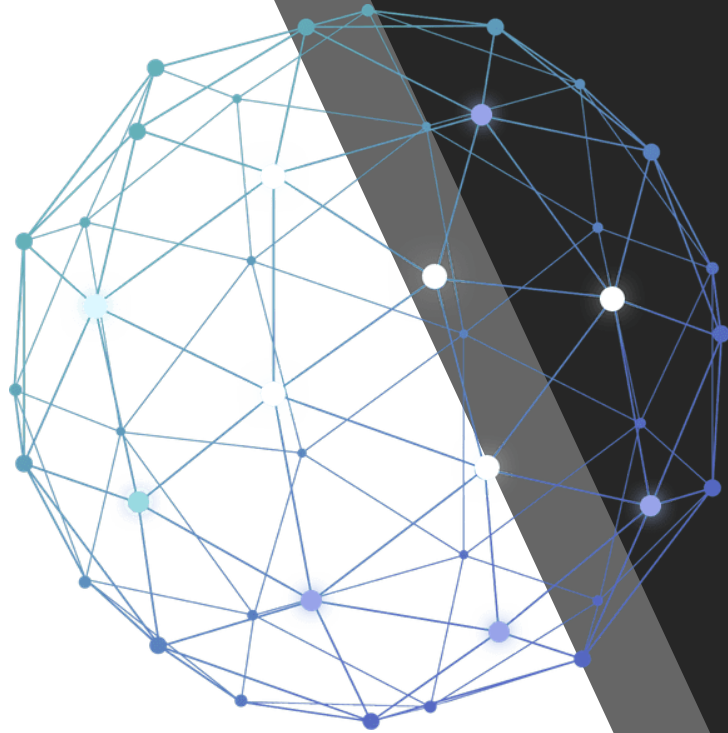
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**European Blockchain  
Services Infrastructure**

On 14 February 2019, the European Commission published the 2019 Telecommunications Work Programme of the Connecting Europe Facility (CEF) creating initial funding conditions for EBSI.

**BACKGROUND**



# WHAT IS EBSI?



- The European Blockchain Services Infrastructure (EBSI) aims to become a “*gold standard*” digital infrastructure to support the launch and operation of EU-wide cross-border public services leveraged by blockchain technology.
- EBSI aims to establish itself in ‘virtually’ every public sector domain that can benefit from blockchain technology. *EBSI will focus on specific use cases where blockchain technology can enhance cross-border digital public services.*
- These use cases are identified and selected each year by the Member States (European Blockchain Partnership) and the European Commission.





EBSI is the Highway for Educational credentials in the Digital Economy



Academia remains asleep!!!

... the standardization of the data is the key point to be successful...



**HOPE**

IS NOT A STRATEGY

**LUCK**

IS NOT A FACTOR

**FEAR**

IS NOT AN OPTION

- JAMES CAMERON

LUCK IS NOT A FACTOR |



Let's going to start standardization of Ed. Credentials  
today, here in Bledt!



*"The best way to predict your future  
is to create it!"*