



A renewed industrial strategy: Key elements and changing value chains

European Industry Partnerships for New Digital Age,
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STRATEGY FOR EUROPE TO LEAD THE WAY

**Boosting EU's
technological
and industrial
capacity & AI
uptake**

**Preparing for
socio-
economic
changes**

**Ensuring an
appropriate
ethical
and legal
framework**

**Development and use of
AI for good and for all**

Common European Data Space

Free flow of data (across sectors and MS)

Data Governance (GDPR, data sharing rules)

Rich pool of available data (open and closed)

Large data spaces per sector

Data platforms
for pooling and
sharing

Interoperability

Cloud storage and
processing



Health



Industry



Agriculture



Finance



Transport

High-value
data sets
from the
public
sector

Personal data spaces



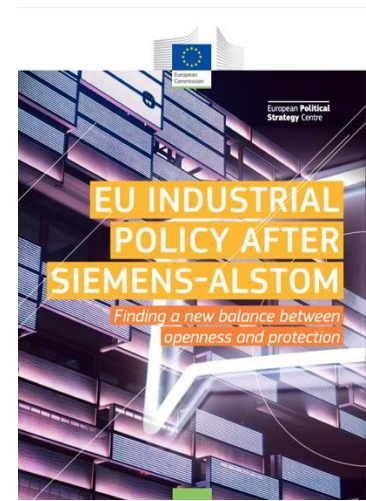
Competition policy in support of competitiveness: IPCEI Framework

Important Projects of Common European Interest (IPCEI)

- Simpler state aid rules to fill funding gap for ambitious transnational innovation projects
- R&D&I incl. first industrial deployment
- Spill-over effects

Strategic Forum for IPCEI

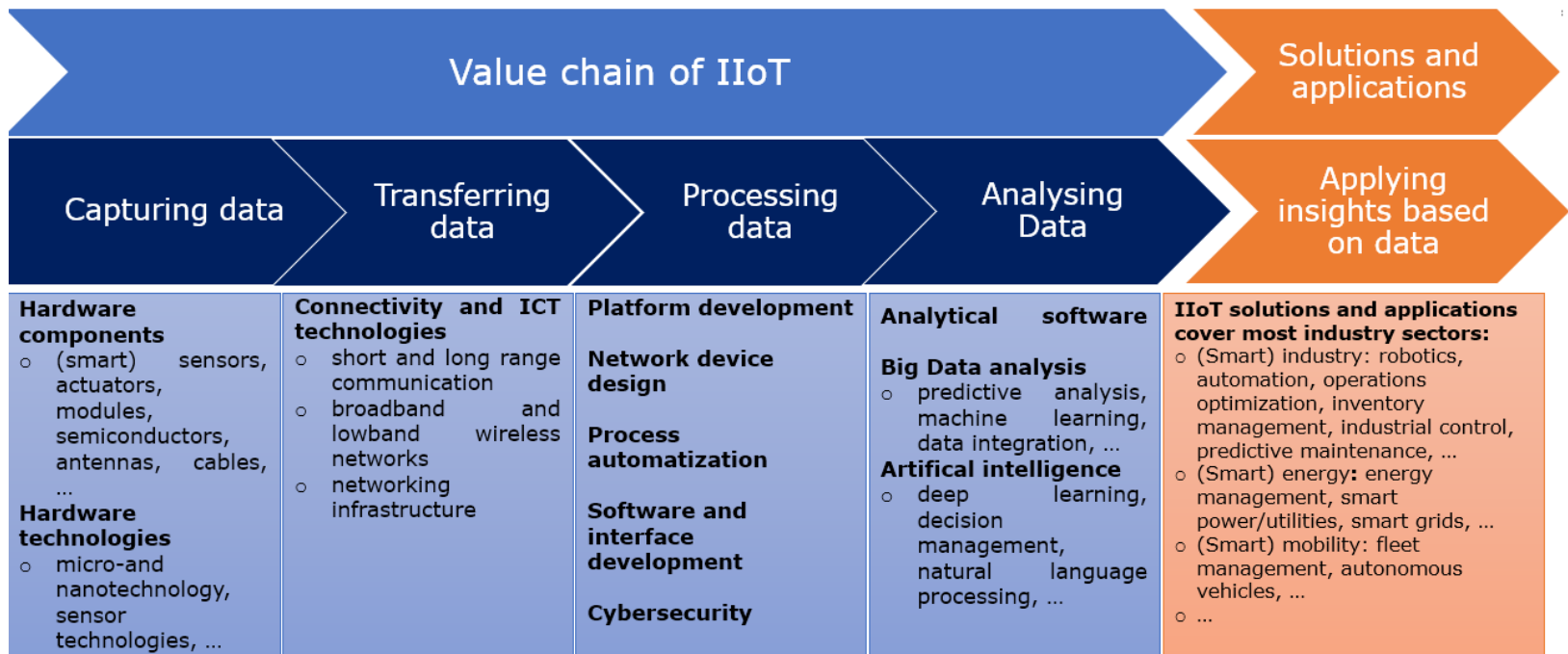
- Commission expert group established in 2018
- To identify key strategic value chains for joint or well-coordinated investment and action
- To develop joint vision/actions for these value chains



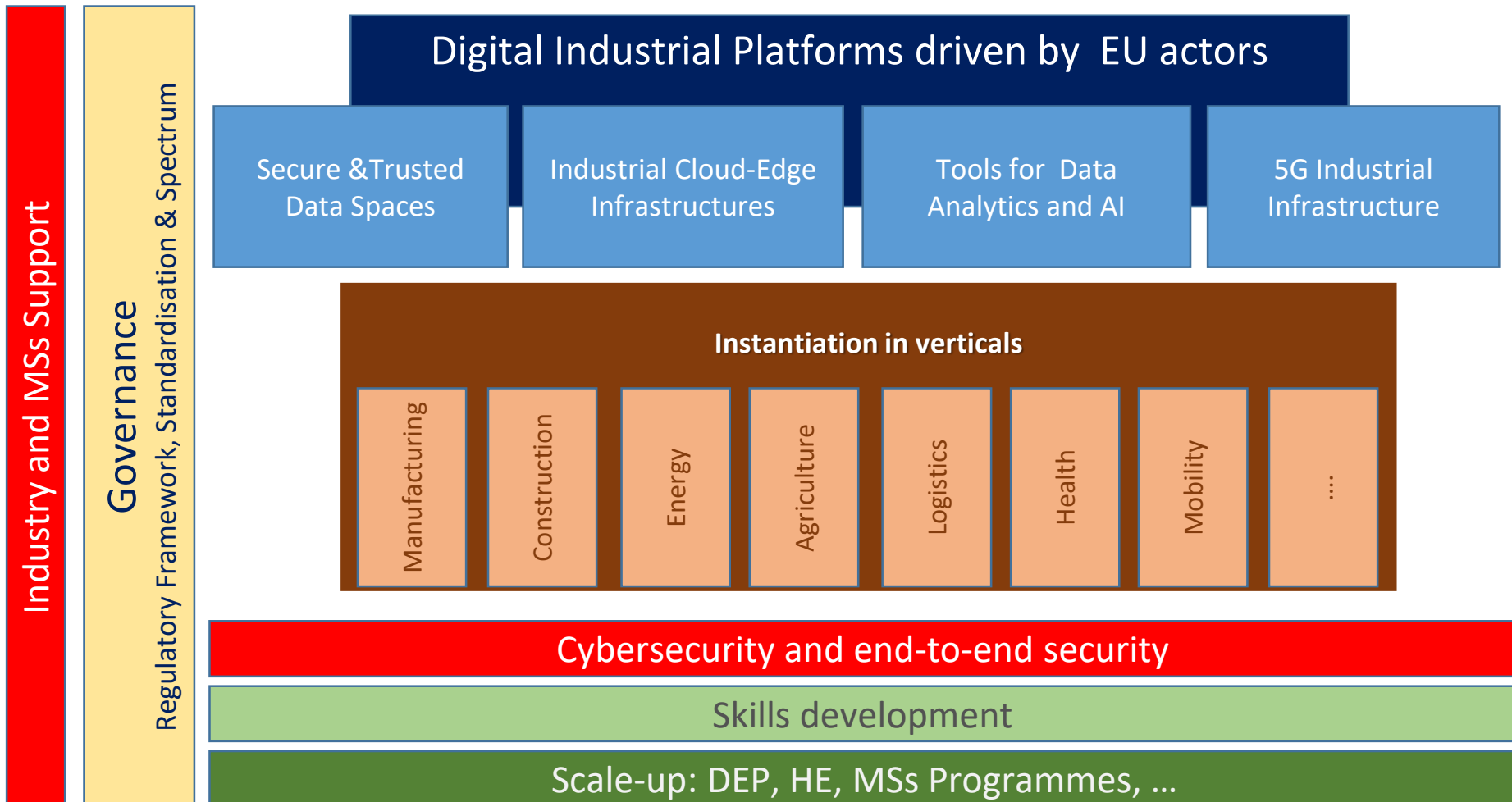
Key strategic value chains prioritised by the Strategic Forum

*Microelectronics**
*Batteries**
*High-performance computing**
 Connected, clean and autonomous vehicles
 Smart health
 Low-carbon industry
 Hydrogen technologies and systems
 Industrial Internet of Things
 Cybersecurity

** already ongoing initiatives.*



Common European Industrial IoT and Data Ecosystem



- “We will need to invest in innovation and research, redesign our economy and update our industrial policy”
- “I will put forward my plan for a future-ready economy, our new industrial strategy.”
- “Our economic policy must go hand in hand with social rights, Europe’s climate-neutrality objective and a competitive industry.”



Stimulate Research and Innovation??

- Artificial Intelligence, data and robotics
 - High-performance computing
 - Key Digital Technologies
 - Smart Networks and Services
-
- Cloud computing, i.e. roll-out of cloud federation of infrastructures and services??
 - AI infrastructure based on HPC centres??
 - Quantum technologies??
 - Priorities? Negative priorities?



UvdL: “I will make sure that we prioritise investments in Artificial Intelligence, both through the Multiannual Financial Framework and through the increased use of public-private partnerships”

Important Projects of Common European Interest??

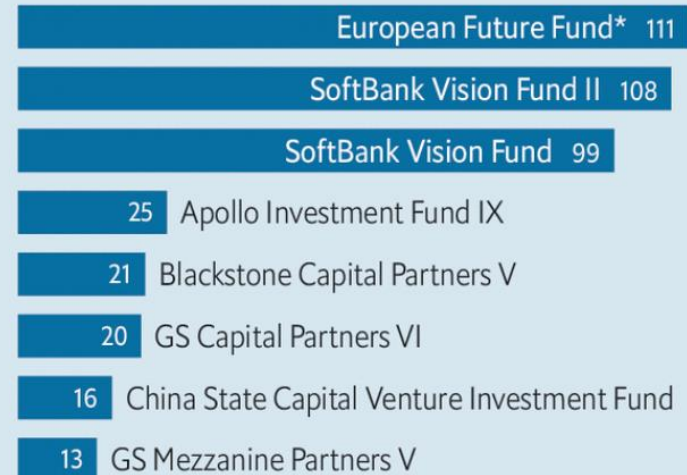
- Alliance between Commission, Member States and industry to support the strategic value chain on Industrial Internet of Things??
- Important Projects of Common European Interest??
 - Strategic value chain on Industrial Internet of Things?
 - Second IPCEI in microelectronics?
- Mission letter Margrethe Vestager, Executive Vice-President-designate for a Europe fit for the Digital Age:
 - “Competition will have an important role in our industrial strategy. The competitiveness of our industry depends on a level playing field that provides business with the incentive to invest, innovate and grow. EU State aid rules should support this where there are market failures and the need to strengthen value chains. As part of this, you should continue to work with the Member States to make the most of Important Projects of Common European Interest.”

European Future Fund

- Sovereign wealth fund
- Dirigism approach vs welcome support for EU champions?

Hard cash

Technology investment capital funds
August 2019, \$bn



Source: Bloomberg

*Proposed

Industrial Strategy

Key competitive factors IIoT value chain

INDUSTRIAL IOT

D Competitive fit – we evaluate key factors supporting competitive strength for the IIoT value chain

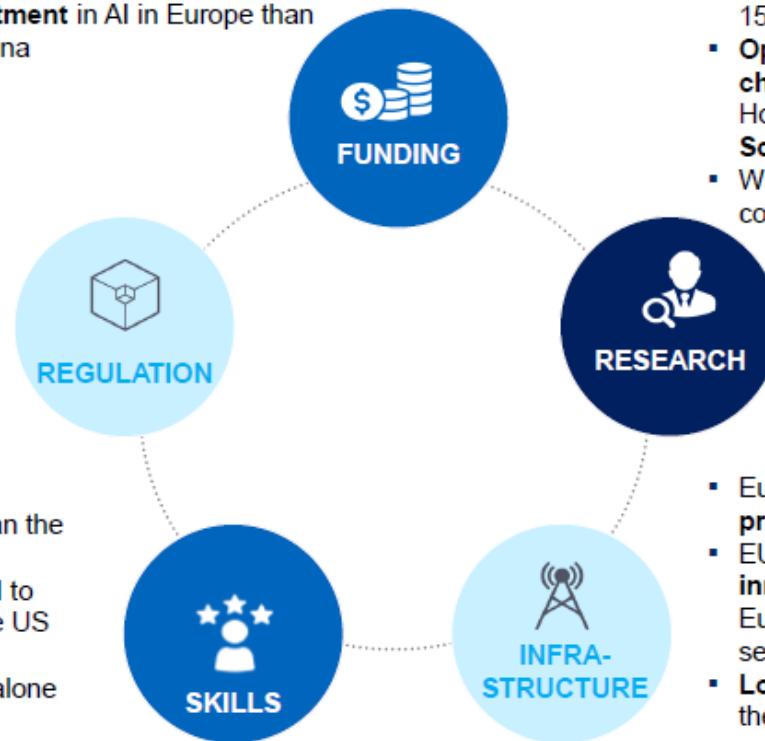
PRELIMINARY FOR DISCUSSION NON-EXHAUSTIVE

Strong performance On par Lagging

- The EU invests almost **EUR 500 m** in IoT-related research, innovation and deployment
- 5 - 7x less investment** in AI in Europe than in the US and China

- Uniform legal requirements** for **product liability/safety** on the EU level, but **scattered national regulatory** landscape regarding **testing rules**
- Initiatives to support IIoT** development on the **EU-level²** and on a **national level³**

- Faster growth in STEM** graduates than the US
- 5.7 m software developers** compared to 4.4 m in the US – but net outflow to the US
- Lack of **0.7 m workers** with advanced technological capabilities in Germany alone especially on rural SME sites



- Europe has the **largest share of top 100 AI research institutions** (32 vs. 30 from the USA and 15 from China)
- Open science/collaboration** promoted, e.g. **free-of-charge publishing** by all research projects under Horizon 2020 and plans for a **European Open Science Cloud** in 2020
- Widening **gap in patents** in digital, AI, quantum computing and big data¹

- Europe is **lacking platform and technology providers**
- EU IIoT landmark project **AI4EU** and **digital innovation hubs** aim to create a dynamic European IoT **ecosystem**, entailing cross-sectorial partnerships and collaboration
- Lower readiness** for AI diffusion (33% behind the US, 5% behind China)

¹ Per capita ratio: 1.5 in EU vs. 2.5 in US ² E.g. Digitising European Industry, European Data Economy Initiative ³ E.g. "Plattform Industrie 4.0" in Germany, "Alliance pour l'Industrie du Futur" in France

SOURCE: McKinsey Global Institute analysis; McKinsey project team

Regulatory framework for AI

- UvdL: “In my first 100 days in office, I will put forward legislation for a coordinated European approach on the human and ethical implications of Artificial Intelligence. This should also look at how we can use big data for innovations that create wealth for our societies and our businesses.”
- Any views?

- Uptake of digital technologies by SMEs
- European Green Deal
 - Part of UvdL first 100 days in office
 - Threats or opportunities??
 - Twin climate and digital transitions??
- Standardisation