Industrial Internet of Things

European Industrial Partnership
For the Digital Age

Rolf Riemenschneider
European Commission - DG CONNECT
• Commissioner Sylvie GOULARD for Single Market
  • Long-term strategy for Europe’s industrial future.
    • Supported by DG GROW and DG CONNECT
  • On enhancing Europe's technological sovereignty. investing in the next frontier of technologies,
    • blockchain, high-performance computing, algorithms, data-sharing, data-usage tools, 5G standards, ..
  • to lead reflections on issues such as Europe’s technological sovereignty in key value chains,
    • including in the defence and space sectors, common standards and future trends.

• This Workshop to trigger reflections on Strategic Value Chains on Industrial IoT across different Partnerships, industrial stakeholders and Associations
• **Vodafone: DIGITAL SINGLE MARKET 2.0**

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>Sector of sectors</th>
<th>Services</th>
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</thead>
<tbody>
<tr>
<td>Turbo-charged investment in Gigabit networks: achieving sustainable infrastructure competition</td>
<td>Made in Europe: creating the conditions for Europe to lead in digitisation of the economy</td>
<td>Trust by design: empowering citizens</td>
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<tr>
<td>Licensing: holistic approach to spectrum licensing that is coordinated, non-discriminatory and encourages competitive investment.</td>
<td>Creating a harmonised IoT framework: supporting European IoT products, through a technology-neutral approach.</td>
<td>Same rights, same regulation: for all digital services across Europe – ‘telecoms lite’ approach.</td>
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<td>Faster delivery of 5G networks through more network sharing: proactive support from regulators is needed.</td>
<td>Innovation-first policies: ensuring quality differentiation enabled by 5G-powered new services and making competition.</td>
<td>Trust: e-commerce and hosting platforms should take reasonable steps to protect consumers from harmful or illegal products, content and services.</td>
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<td>Lower deployment costs: fast and consistent implementation of the Code; revision of Broadband Cost Reduction Directive.</td>
<td>Stimulating the data economy: through policies that encourage voluntary data sharing, especially in new industrial areas.</td>
<td>Secure by design: holistic approach to security across the digital ecosystem; harmonised obligations.</td>
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Courtesy: Vodafone 2019
Digitization – Level of Maturity

Source: Accenture
Industrial IOT Platforms Strategy

- "The value of a platform comes through the size of the ecosystem to support it"
- What **Strategy for European actors for Industrial IoT?**
• Focus Area on Digitisation & Transformation

Horizon 2020 (300 M€ for 2018-20)
• Next generation platform building and piloting through large scale federating projects
• Common EU-wide strategies pooling resources

See
IIoT will be key building block for Artificial Intelligence

- **IIoT supported by changing value chains**
  - IIoT includes an *open environment* for connecting systems and a *multitude of Industrial Things*
  - *Things* include everything from simple sensors to smart devices with sophisticated embedded control systems (like vehicles, robots, machines)

- **IIoT driven by emerging Topologies**:
  - **Within Existing Systems** → collect data for analysis, add new functionality
  - **Highly Distributed Systems** → manage distributed assets, connect IT and OT, improve effectiveness
  - **OUTSIDE Systems** → include environmental data, Learning systems → AI

- **IIoT – Leading reflections on Future Trends**
  - Massive connectivity through **5G networks**
  - From Cloud-Server architectures towards Serverless // From Central to Mesh
  - Ensure safety & control beyond connectivity → **Cyber Physical Systems**
  - More **Intelligent Edge** combines computing, connectivity, decision making & learning
  - Data Analytics in the backend: **Digital Twins** combined with machine learning,
Objective: ensure that Europe drives the digital transformation of society and economy, bringing benefits to all citizens and businesses

More specifically to:

• Reinforce the EU’s digital capacities

  ➢ Secure & Trusted Industrial Data Space(s)
    (computing, data, cybersecurity, AI,..)

• Prepare for and lead the next generation technologies
  (Cloud, Edge, CyberPhysical, AI, Crypto)

• Build a world-leading connectivity infrastructure

  ➢ 5G industrial and secure network infrastructure
    (low latency, dedicated spectrum slicing, NFV)
Common European Industrial IoT and Data Ecosystem

**Digital Industrial Platforms driven by EU actors**

- Secure & Trusted Data Spaces: Data access, sharing, valorisation
- Industrial Cloud / Edge / Data Infrastructure & Marketplaces
- Tools: Data Analytics, MW-OS, security, CPS, AI & Cloud-edge Continuum
- 5G industrial trusted and secure infrastructure, connected sensors

**Governance**


**Industry and MSs Support**

- Instantiation/exploitation of the ecosystem in verticals through large-scale experimentation and regulatory sandboxes – business value, user engagement

**Skills development**

- Scale-up: DEP, HE, MSs Programmes, ...

**Verticals**

- Manufacturing
- Construction
- Energy
- Agriculture
- Logistics
- Health
- Mobility
- ...
New Partnerships to support Strategic Value Chains in Industrial IOT

• ??? Questions for the Panels ???

Key Building Blocks for Seizing the AI Potential:

? HPC, algorithms, and data-sharing and data-usage tools

? Converging Technologies IoT, AI, cloud, big data,..

? 5G networks – standards – deployment & up-take

? Reflect on Mission-critical Value chains…

? Need of Public Intervention in Key Sectors ( Data Spaces, Network & Services ) ?
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>09.00</td>
<td>Arrival and coffee</td>
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<tr>
<td>09.30</td>
<td>Welcome and introduction</td>
<td>Ovidiu VERMESAN, SINTEF, CREATE-IOT</td>
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<tr>
<td>09.40</td>
<td>Strategic Value Chains – work of Strategic Forum</td>
<td>Szabolcs Szekacs, DG GROW</td>
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<tr>
<td>09.55</td>
<td>Industrial IoT – Setting the Scene</td>
<td>Rolf Riemenschneider, DG CONNECT</td>
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<tr>
<td>10.05</td>
<td>Secure Trusted Data/Knowledge Applications &amp; Infrastructure</td>
<td>Sergio Gusmeroli, POLIMI, IT</td>
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<td>10.45</td>
<td>HPC/Cloud/Edge Infrastructure</td>
<td>Natalie Samovich, Enercoutim, PT</td>
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<tr>
<td>10.15</td>
<td>Coffee break</td>
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</table>
New Partnerships in support of Strategic Value Chains in IIoT

- ??? Questions for the Panel ???

- Global Competition – Leadership of EU Actors

- Reflect on Changing Value chains...

- How to trigger a bold investments in Digital Infrastructures

- Need of Public Intervention in Key Areas
  - at national, cross Member States, @EU-level ?
  - Role of industry and existing partnerships

- What Use cases to support a revised Industrial Policy ?
Background & Useful links:

- **Digitising European Industry Strategy (DEI):**

- **Supporting and Building Platforms under DEI**

- European Commission’s **Strategy on Key Strategic Value Chains**, Apr. 2019
  - Conclusions on a EU Industrial Policy Strategy, A vision for 2030

- **Stakeholder Forum 2019 on 13-15th Nov. 2019 in Madrid**
  - “Artificial Intelligence and Digital Innovation Hubs for the European industry”

- **Common European data spaces for Smart Manufacturing**
  - 16th September in Brussels – [Registration Open](#)