EU KDT framework for supporting companies' digitalization pilots in industry networks

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Content

- Background, Nordic Interoperability Co-operation (NIC)
- KDT - Key Digital Technologies, EU framework
- Production Value Network Interoperability (PVNI) project preparation

NIC FI objectives

(ongoing pre-project together with VTT)

- **Identify gaps and challenges** in business models, technologies and standards **that prevent digitalization and the full exploitation** of the information economy in the industrial use of digital information exchange in international ecosystems
- **Define a path to overcome these challenges in collaboration** with companies and involved standardization organizations as a joint Nordic Interoperability Cooperation
- **Involve relevant stakeholders** and build an international network of companies and research organisations for joint European project efforts

Key Digital Technologies (KDT)

Horizon Europe JU partnerships: Single Basic Act = One ring to rule them all

- Covers 9 JU partnerships within HEU:
  - Circular Bio-based Europe
  - Clean Aviation
  - Clean Hydrogen
  - Europe's Rail
  - Global Health
  - Innovative Health Initiative
  - Key Digital Technologies
  - Single European Sky
  - Smart Networks and Services
- JUs can not start before SBA is approved
- Key Digital Technologies (KDT) is the only tripartite JU:
  - European Commission (EC)
  - Member States (MS)
  - Industry
- KDT Funding principle 1:1:2
- Agreements between MS and JU not yet done

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KDT preliminary call schedule

- Call 2021:
  - Launch Dec. 2021 – Jan. 2022
  - End Apr. 2022
  - One-phase call (only FPP)
  - Project selection Jul. 2022
  - National grants Nov. 2022
  - Project start before end of 2022
  - Commission funds 210M€
  - Finnish allocation 7 – 10 M€
- Call 2022:
  - Launch May 2022
  - End Sep. 2022
  - One-phase call (only FPP)
  - Project selection Nov.2022
  - National grants May 2023
  - Project start summer 2023
  - Commission funds 240M€
  - Finnish allocation 10M€

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KDT Call types

- IA calls
- RIA calls
- Special topics
  - Proposed: Edge AI processors; open source hardware; Eco-designed electronics; chip infrastructure
- Funding rates still not fixed, target is ECSEL level
- Control of MS funds: National or Common Management of Finanfial Contributions (CMFC)
- National veto on use of each MS contribution

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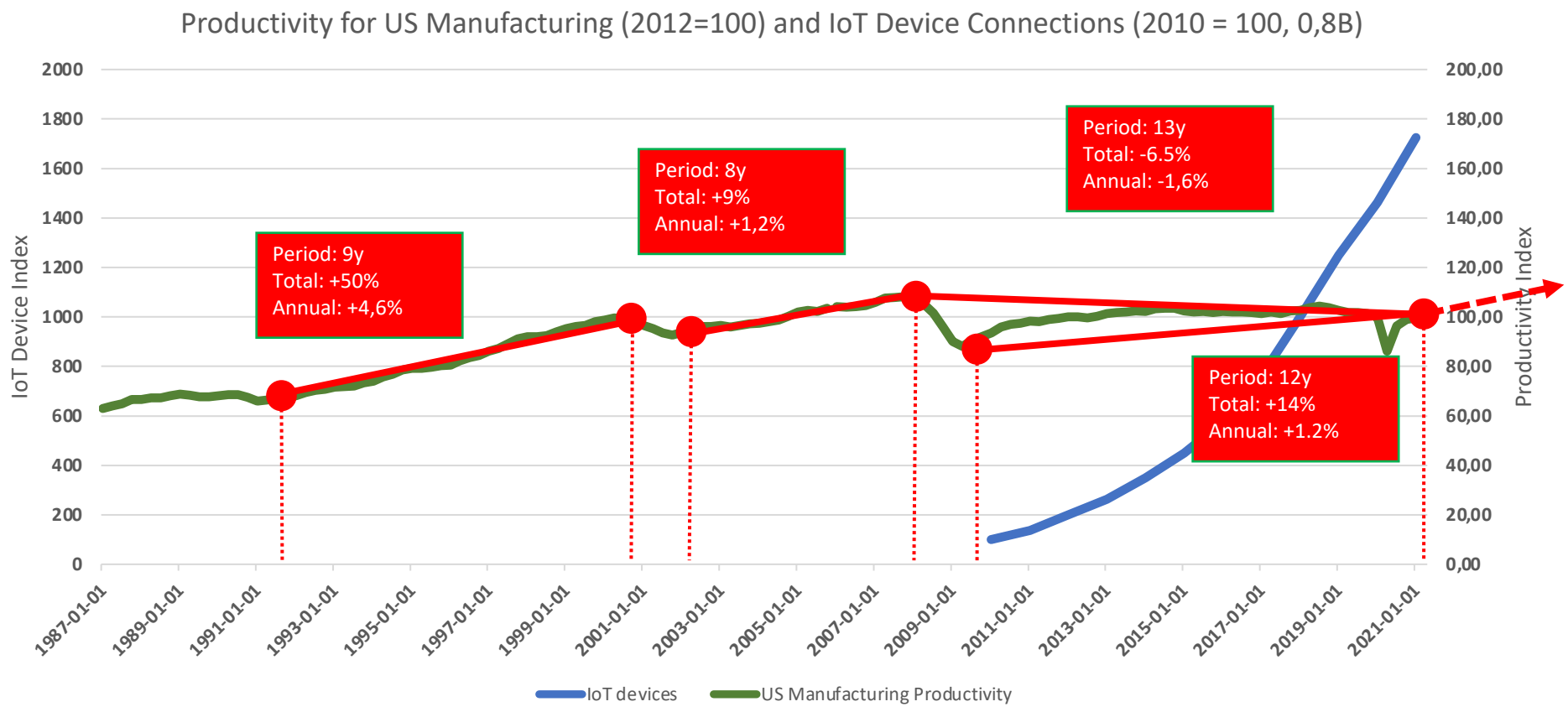
Production Value Network Interoperability (PVNI)

From NIC FI to international collaboration

- Production Value Network Interoperability (PVNI)
  - An **Innovation Action** project preparation for Key Digital Technologies (KDT) of Horizon Europe
    - Focus on industry applications, implementation of demonstrations etc.
  - Coordinated by Luleå University of Technology
  - Finnish contact point David Hästbacka, david.hastbacka@tuni.fi

Productivity Paradox: Stagnating Productivity, Exponential Digitalization and Information Complexity

Productivity trend for Manufacturing



?

How can we create same impact from Digitalization and Ind4.0 as PC's and Automation did in the 90's?

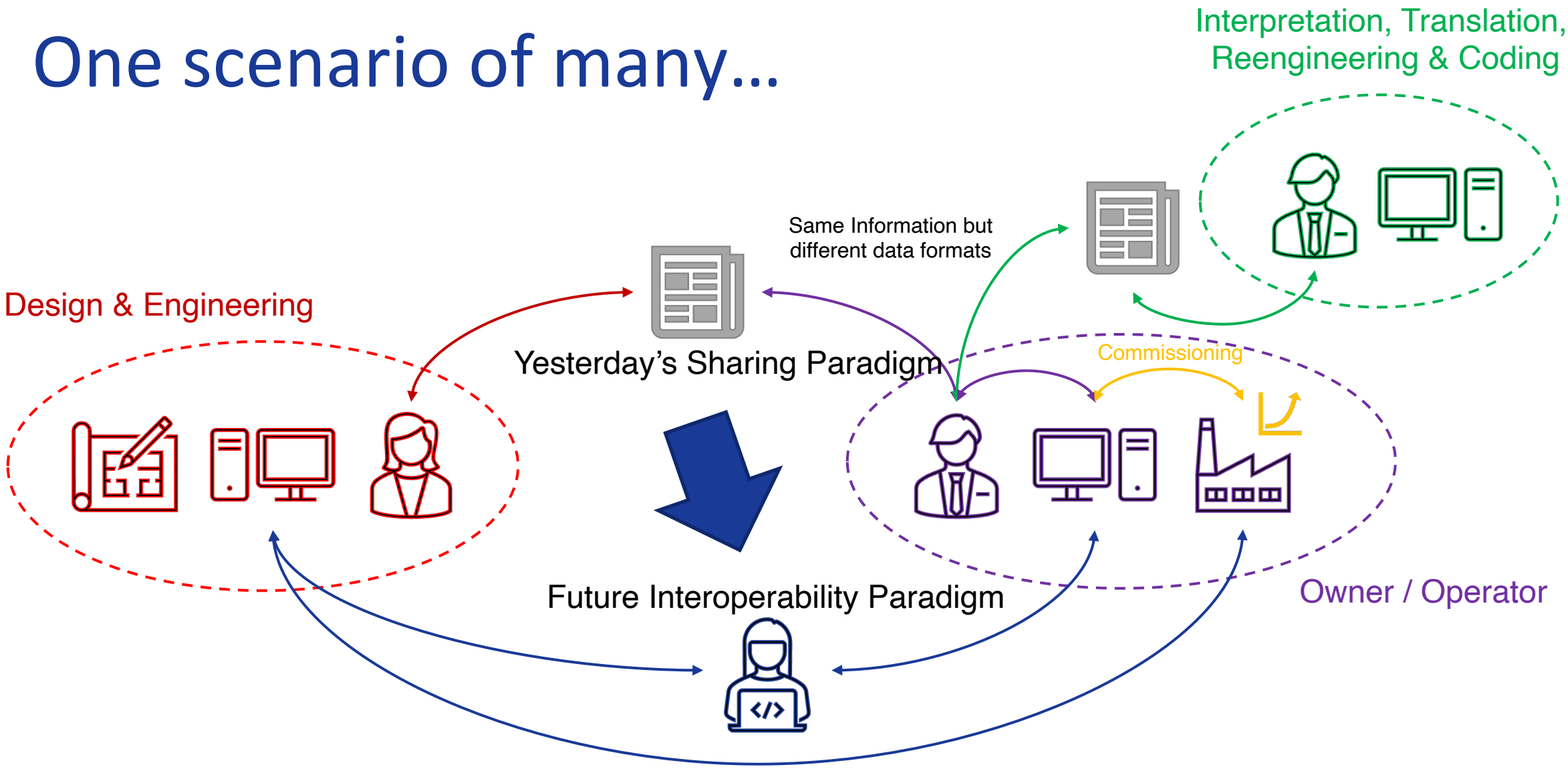
PC's and Automation reduced or made manual labor more efficient!

Can we reduce or make manual *labor with computers* more efficient?

Yes, but it will require interoperable information exchange!

Slides: LTU, Sweden

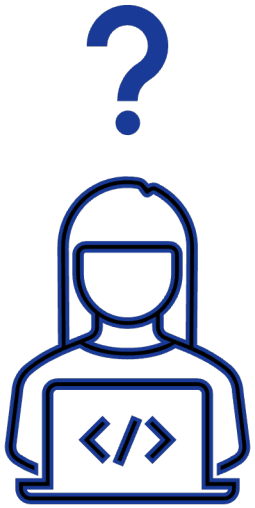
One scenario of many…

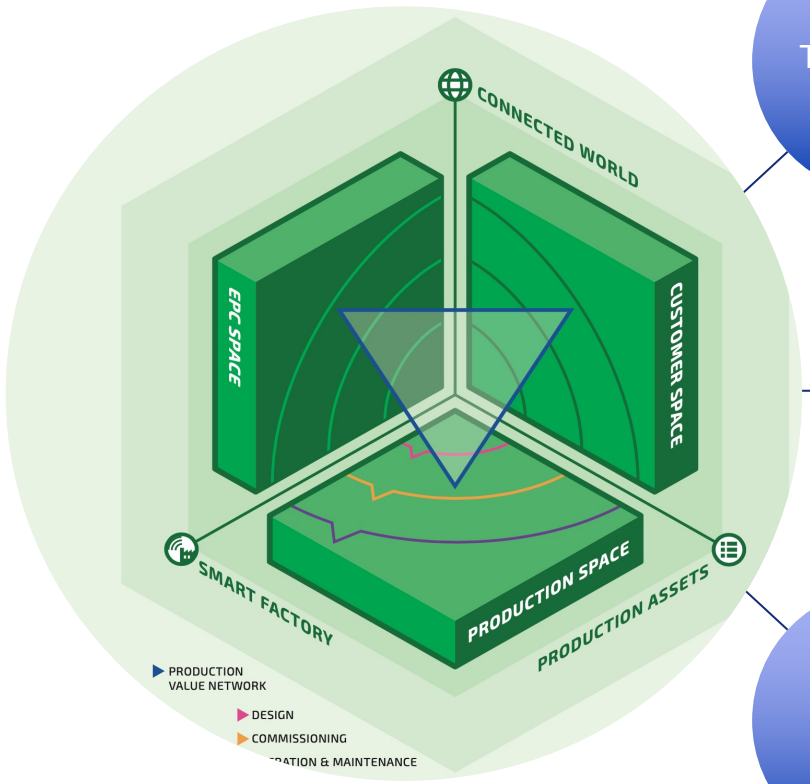


Global Challenge

Increase Manufacturing Productivity by Enabling Autonomous and Evolvable Interoperability of Information for Production Value Network Stakeholders, through Machine Interpretable Content

Fundamental building blocks for achieving interoperability





Translations

- Autonomous
- Throughout Life-cycle

Common Languages

- Major international standards
- Data Models

SoA Paradigm

- Data access
- Evolvable & Flexible Systems

Finnish use case topics and objectives for PVNI (tentative)

- Demonstrators, e.g. in WP7 Energy and WP8 Process Industry
  - Implementations by companies (possibly in collaboration with partners) demonstrating new ways for technical information exchange

- Increase usability of plant technical information throughout the lifecycle
- Interoperability for digital twins development
- …

Thank you!

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