

# SME Servitization and Digital strategy

SERVITIZATION: An Opportunity for Growth in European Regions

6<sup>th</sup> October 2020

Matthias Kuom

# Smart Factories of the Future = Servitization?



#### machine tool industry has to master digital disruption & leverage data for competitive advantage (and to survive)

It's a completely different industry than it was even 5 years ago



#### Trends

#### ON-DEMAND MANUFACTURING

Moving away from large integrated manufacturing systems to a system where a 3<sup>rd</sup> party provide support for the production of final products all the way from the initial concept through final product delivery to the customer....manufacturing in the cloud.

#### • SERVITIZATION OF MANUFACTURING

Shifting from selling Product to selling Product-Service Systems. Monetization of data and the shift to services is enabled by IIoT.

#### • BUSINESS MODELS FOR ADDITIVE (OR HYBRID) MANUFACTURING

Moving from a manufacturer-centric to a consumer-centric model—away from centralized to decentralized supply chains where consumer goods manufacturers can implement a "hybrid" approach with a focus on localization and accessibility, or develop a fully personalized model where the consumer effectively takes over the productive activities of the manufacturer.



Prof. Noel P. Greis - Center for Digital Enterprise & Innovation - Kenan-Flagler Business School - University of North Carolina at Chapel Hill

## The Shift

| Products   | Products<br>with additional services  | Servitization  |
|--|---|--|
| Classic product<br>business<br>No industry 4.0<br>Technologies<br>required for<br>business model | Services extend<br>products<br>I4.0 Technology e.g.<br>for<br>remote services<br>Condition Monitoring<br>predictive maintenance | Operator models /<br>pay-per-use models<br>Digital technology<br>for e.g.<br>Air as a service<br>Drilling as a service |



## From Smart Factories to Industry 5.0

application domains that clearly

72%

demonstrate the value proposition

of managers surveyed say they are

in value can be unlocked through

European Commission

considering data sharing to

improve operations

\$100B+

manufacturing-process

optimization alone

#### Data Sharing Enables Largely Self-Controlled Factories



**Note:** Based on a global BCG survey of 996 manufacturing managers.

What is data used for?

#### What does this mean

- Digitalization will seep into every part of the machine tool industry
- Data and information will be increasingly integrated with machines and physical processes and offer new ways of automation
- Data is the basis to improve and scale services to exploit digital disruption
- Small companies have the most at stake since they need to fit into the machine tool ecosystem and data is the glue



## **Commission Priorities**

Esp. Digital Europe Programme





"

"I want European businesses and our many SMEs to access high quality data and create value for Europeans – including by developing Artificial Intelligence applications."

> Thierry Breton, Commissioner for the Internal Market



## **European Strategy for Data**

The Commission presented strategies for AI and data 19.2.2020

White Paper on AI: a European approach to excellence and trust A European strategy for data



#### Strong business-to-business domain Strong industrial and services sectors

In 2018, machinery and vehicles was the EU's most exported product group (EUR 809 billion) and made up 41 % of total exports



## Top 5 manufacturing activities in EU

- 1. Motor vehicles, trailers and semi-trailers
- 2. Machinery and equipment
- 3. Fabricated metal products
- 4. Food products
- 5. Chemicals and chemicals products



#### 2025

# Europe has everything to play for

- Data can transform all sectors of the economy and is crucial for Al
- Personal and non-personal data can be a source of innovation for new products and services
- Data can contribute to tackle societal challenges such as climate change, health, mobility, etc.
- Data can make our lives and work easier and better



#### Industrial data

The potential value of use of nonpersonal data in manufacturing is EUR 1.5 trillion by 2027







### Deploying the strategy through 4 Pillars









#### A cross-sectoral governance framework for data access and use

including a legislative framework for the governance of European data spaces and other cross- sectoral measures for data access and use

#### **Enablers**

Total investments of € 4-6 billion in a High Impact Project on European data spaces and federated cloud infrastructures

#### Competences

Empowering individuals, investing in digital skills & data literacy and in dedicated capacity building for SMEs.

#### Rollout of common European data spaces

in crucial economic sectors and domains of public interest, looking at data governance and practical arrangements.





#### **Common European data spaces**



## Manufacturing Data Spaces

- Data Strategy: "The Commission will promote the development of common European data spaces in strategic economic sectors and domains of public interest. This should lead to the availability of large pools of data in these sectors and domains, combined with the technical tools and infrastructures necessary to use and exchange data, as well as appropriate governance mechanisms."
- Here: focus on sharing, pooling, and reusing data across organisations in the manufacturing sector
- Objective: to set up and deploy several operational data spaces for specific value chains in the manufacturing sector, which enables companies in different user roles (supplier, client, service provider,...) to interact with large amounts of manufacturing data.



## Al Testing and Experimentation Facilities

| Coordinated plan on Al          | A Reference Testing and Experimentation Facility is a technology infrastructure that has specific expertise and experience of testing mature technology in manufacturing, under real or close to real conditions.   |
|---------------------------------|---|
|                                 | From lab to the market, key to foster the deployment of trustworthy AI, encouraging geographical coverage.  |
| Synergies                       | European data spaces, DIHs, AI on demand platform.  |
| Digital Europe<br>Programme     | Commission envisages establishment of world class reference testing and<br>experimentation sites for AI-powered products and services throughout Europe.<br>Common resources available to all European stakeholders to validate new AI-based<br>solutions in real settings. |
| Member States                   | Encouraged to match the investments ("co-funding").   |
| Use of other sources of funding | Complementarities with Cohesion Policy investments. e.g. European Regional<br>Development Fund.   |



#### AI TEF on Manufacturing



Major use cases:

**Factory level optimization** (Flexible production in high-throughput and high variety environment. Rapid prototyping and use case development, assessment, feasibility. Flexibility to adapt to the manufacturing reconfiguration and trend towards shorter series).

**Collaborative robotics** (Development of mobile, intelligent AI-powered robot models enabling effective and safe human - robot collaboration).

Other use cases:

Supply chain planning. Circular economy: AI for reverse logistics, remanufacturing, recycling, reuse. World-class large-scale reference sites for testing and experimentation

Common resource available to all European stakeholders to validate new AI-based solutions in real manufacturing settings.

Validation of all the aspects: technical, socio-economic, legal.

Limited number vs geographical coverage.

Ways to interact with parallel initiatives on data spaces, the European Al-ondemand platform and DIHs.

Full integration, industrial validation and demonstration in real manufacturing environments, prototyping, pilot manufacturing, business development, regulation, standardization, certification and benchmarking, as well as ethics, cybersecurity and data protection, where appropriate.



### A New Industrial Strategy for Europe An SME Strategy for a sustainable and digital Europe

• A network of up to 240 Digital Innovation Hubs will work closely with Enterprise Europe Network, Startup Europe, and others to ensure a seamless support and advice service, including with national, regional and local authorities.





#### European Digital Innovation Hubs as part of the SME Strategy





- Focus on manufacturing, agriculture and wood, in line with Digital Slovenia 2020, and with Slovenia's RIS3 strategy
- One of the pilots in "Regions in Transition"

## • Services are funded through structural funds

Organisations involved: Chamber of Commerce, Smart Factories Cluster, the ICT horizontal network (SRIP PMiS), universities (University of Ljubljana, University of Maribor), SME's supportive environment (Association for Informatics and Telecommunications, Technology park Ljubljana), Wood Industry Cluster, IIBA Slovenia Chapter and others







## Keep in touch

**Matthias Kuom** 

European Commission Directorate-General for Communication Networks, Content and Technology Artificial Intelligence & Digital Industry – Technologies & Systems for Digitising Industry Unit



Matthias.Kuom@ec.europa.eu





# Thank you



© European Union 2020

Unless otherwise noted the reuse of this presentation is authorised under the <u>CC BY 4.0</u> license. For any use or reproduction of elements that are not owned by the EU, permission may need to be sought directly from the respective right holders.

Disclaimer: The views expressed here are for further discussion with the MS. The EC cannot be held liable for any of the views expressed in this document.

