

# MARKET4.0

CONNECT & PRODUCE

**A Multi-Sided Business Platform for Plug and Produce Industrial Product Service Systems**

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# MOTIVATION (...as is situation)

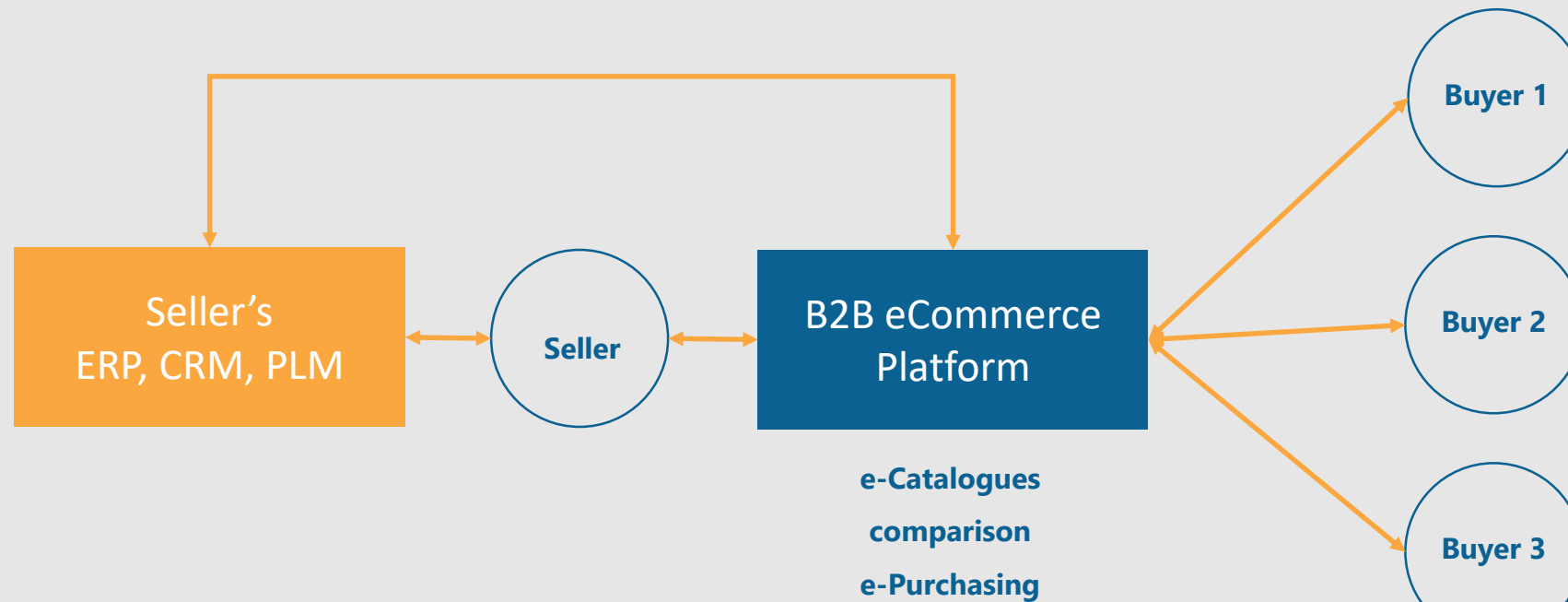
## On-line Procurement of Production Equipment and Services



### Problems/Shortcomings

- ❖ Hard to maintain *catalogue-based web portals*
- ❖ *Vendor lock-in* solutions e.g. from ERP providers
- ❖ *Friction* for ecosystem building (e.g. difficult to integrate service providers)
- ❖ No possibility to *virtually test or simulate*

# B2B eCommerce platforms



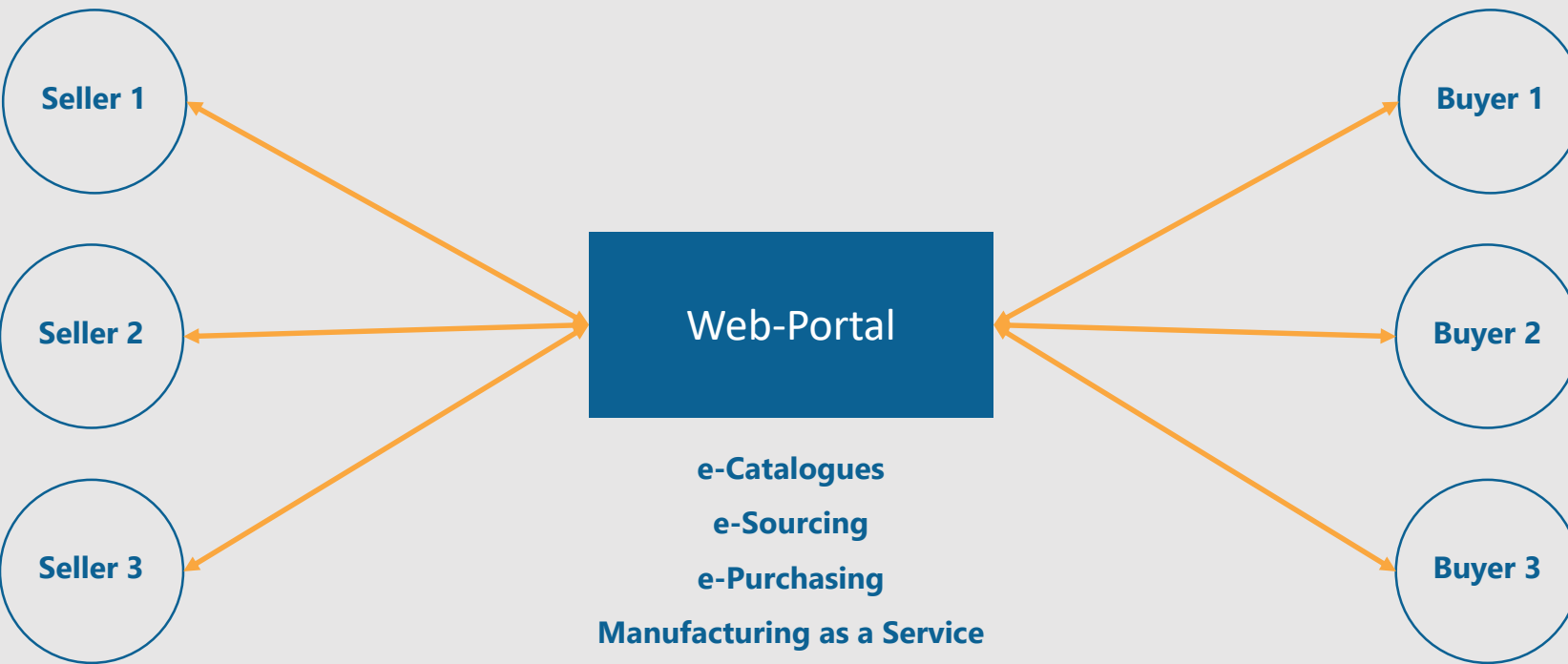
## STRENGTHS

- ✓ Integration capabilities with ERP, CRM, PLM
- ✓ Suitable for mid-caps or large companies
- ✓ Improved digital experience and personalization (B2C like)
- ✓ Detailed control over buying, selling, and purchasing workflows
- ✓ Some solutions offer App Store

## WEAKNESSES

- No ecosystem building
- Limited support of e-Sourcing
- Less suitable for SMEs
- Vendor lock-in
- Third parties difficult join
- No focus/specialization in manufacturing services
- No simulation capabilities

# B2B e-Marketplaces



## STRENGTHS

- ✓ Suitable for mid-caps, large companies and SMEs
- ✓ Improved digital experience and personalization (B2C like)
- ✓ Ecosystem building
- ✓ Focus/specialization in manufacturing services.

## WEAKNESSES

- Limited control over buying, selling, and purchasing workflows
- No capability to build supply networks.
- No simulation capabilities.
- No App Store
- No direct, peer-to-peer communication. All transactions are based on the portal.

# Opportunities

## ➤ Industry4.0 technologies

- Digital Twin/Simulation data are generated in the various phases of the lifecycle
- Digital Factory technology provides the capability to virtually validate and test manufacturing equipment.
- Industrial IoT technology provides the capability for networked production equipment.

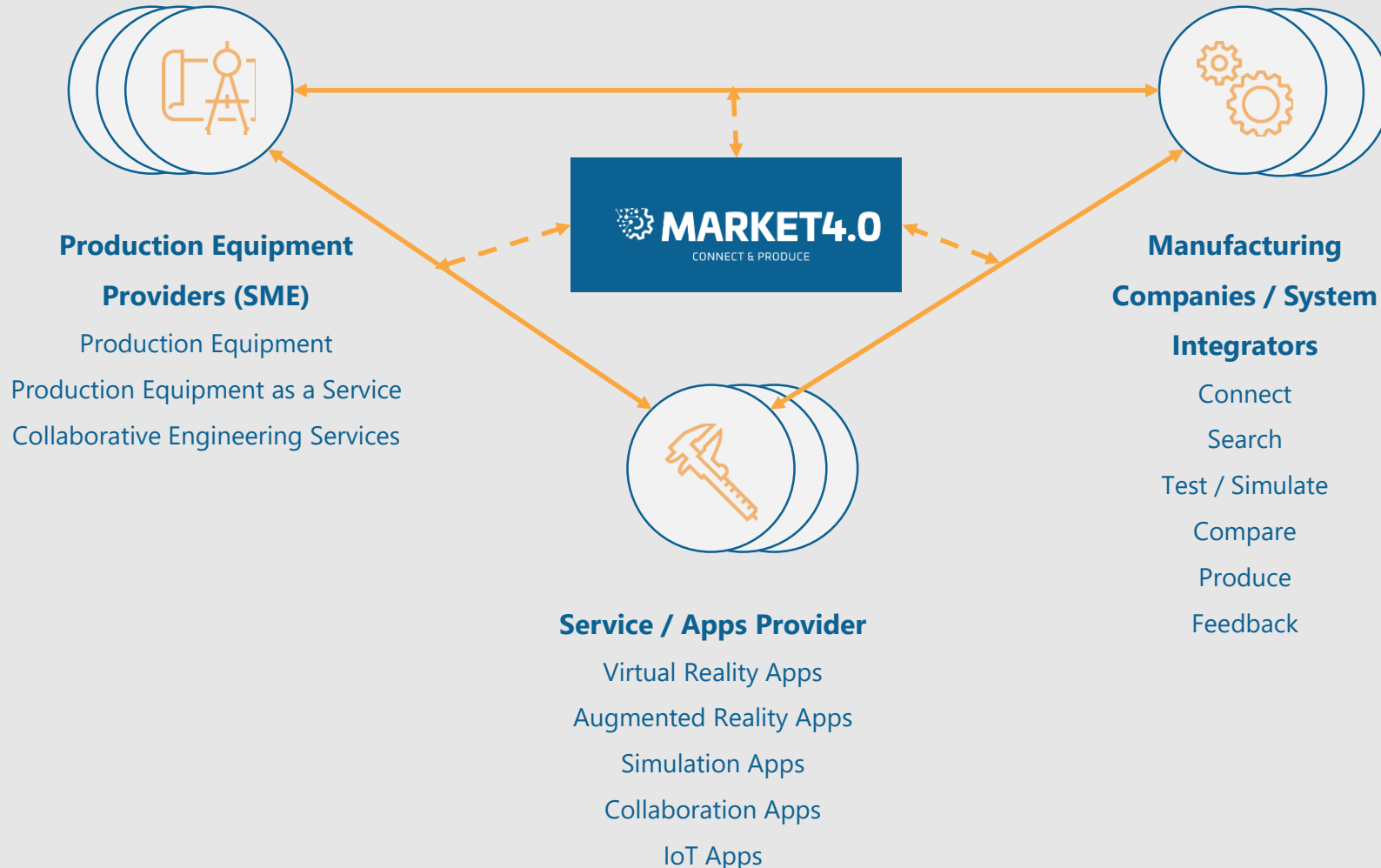
# Opportunities

- **Industrial Data Space (IDS)** technology provides the opportunity to share data in a trusted ecosystem (data sovereignty).
- European companies are not making the most of all the opportunities digital has to offer. For example highly digitalized is
  - 56% of computing companies versus only 6% of metal products companies
  - 58% of large enterprises versus only 20% of SMEs

# VISION

**MARKET4.0** develops an **open multi-sided digital platform** for enabling **production equipment** and **service providers** to connect and work together with **manufacturing companies**.  
Creates **technical** and **financial trust** in manufacturing B2B collaboration.

# CONCEPT



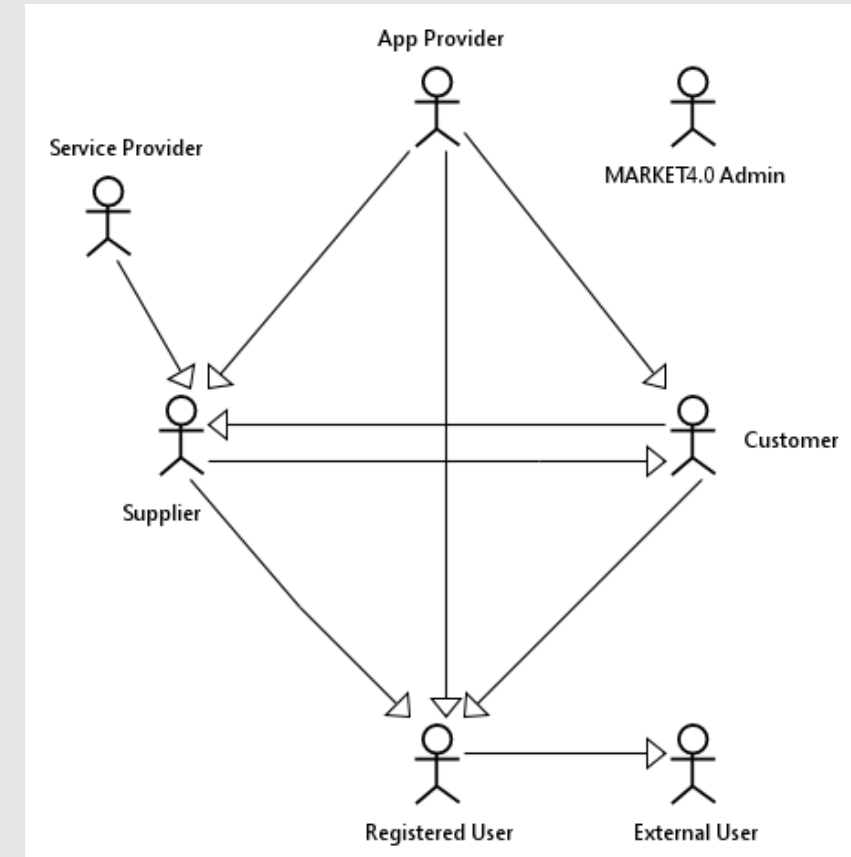
## Peer-to-peer marketplace services

- ✓ Frictionless entry to the ecosystem
- ✓ Product capabilities publication
- ✓ Dynamic Supplier Network Configuration and Management
- ✓ Anonymized feedback
- ✓ Simulation before purchase

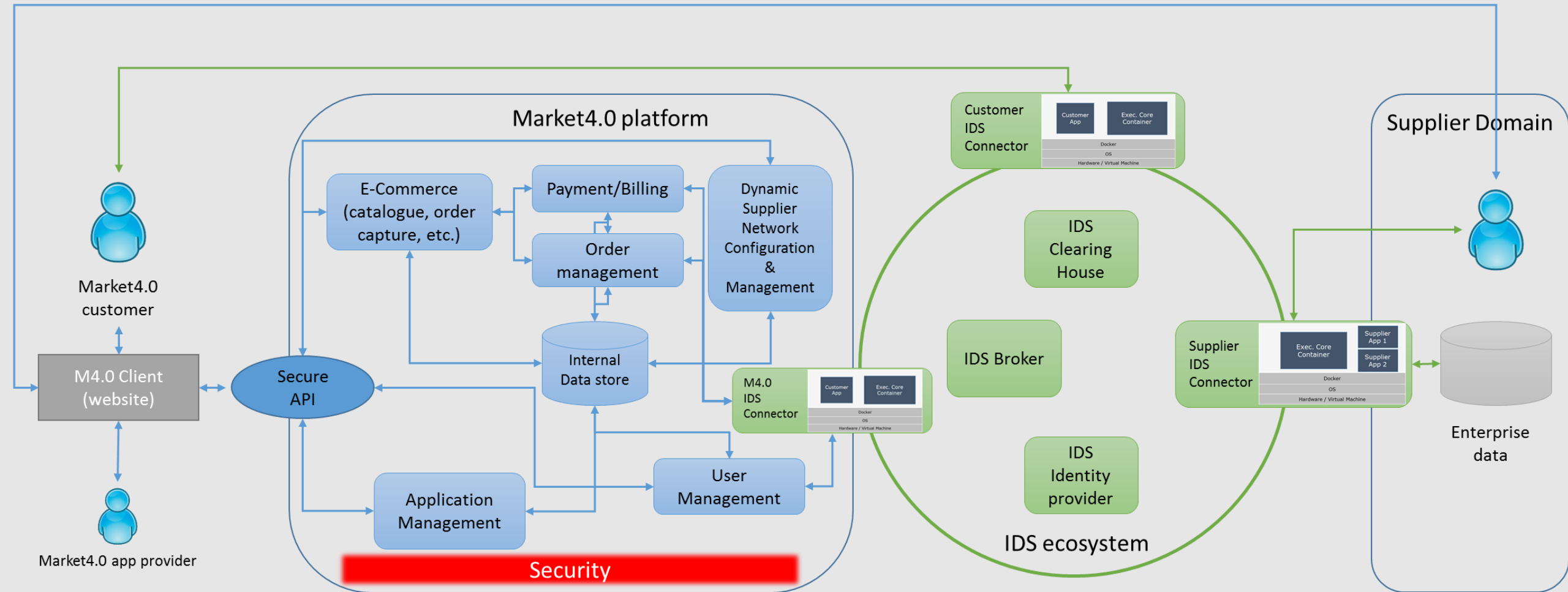


# MARKET4.0 Actors

Role Name	Role Description
<b>External User</b>	This is any user that has access to public information of MARKET4.0. This user does not need to register to the platform. However, he has limited access to platform's functionality.
<b>Registered User</b>	This is any user that has registered to the platform. There may be several types of users.
<b>App provider</b>	This is a registered user. The main role is to provide and maintain MARKET4.0 Apps
<b>Supplier</b>	This is a registered user. The main role is to sell products and services through the platform.
<b>Customer</b>	This is a registered user. He seeks to buy products or services through the platform.
<b>Service Provider</b>	A registered user that provides some service to facilitate the interaction between supplier and customer

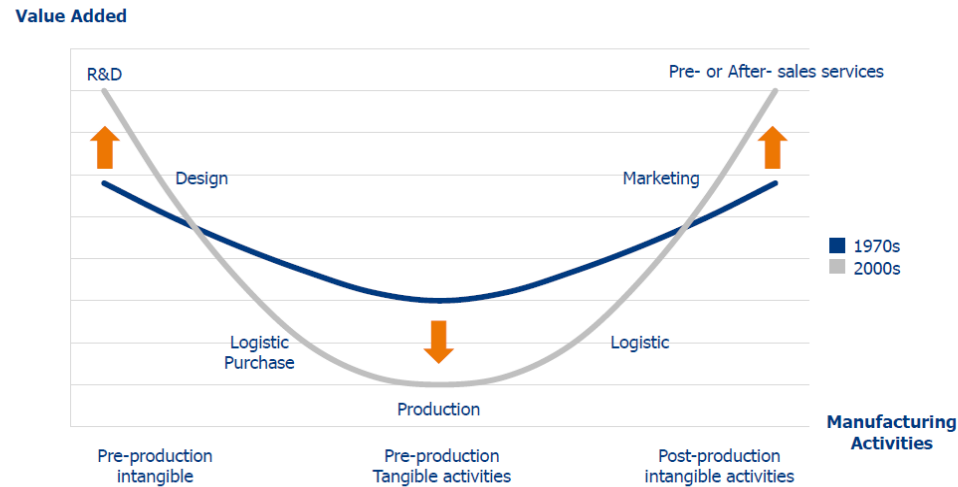


# Overview



# USP-1 Product-Service Marketplace

The "SMILE" challenge: European businesses must focus on high value added activities



- Value creation in Manufacturing is progressively shifting **towards pre-production** (R&D and Design) and **post production** (marketing and Pre-or-After sales service) activities

Source: The European House - Ambrosetti re-elaboration on Bruegel data, 2014



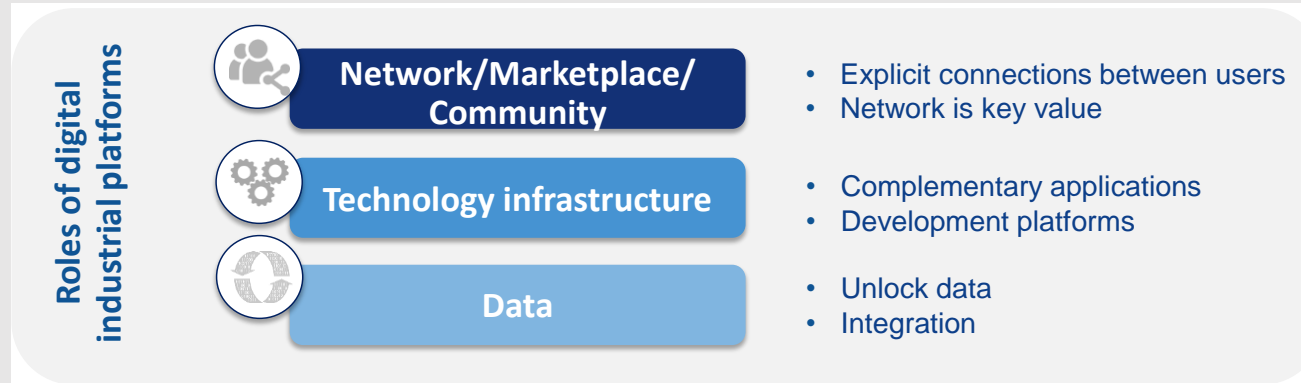
## Problems/Shortcomings

- ❖ EU Equipment Manufacturer cannot globally compete just on Products any longer
- ❖ Small positive % improvements in Production Quality / Efficiency cannot alone fill the price gap with low wages Countries

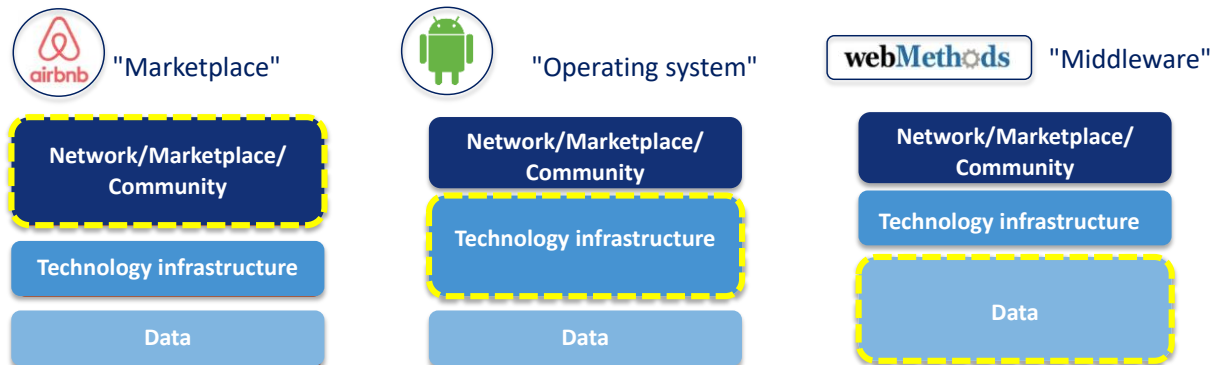
## MARKET4.0 Value Proposition

- ❖ Pre-sales services shorten the time-to-contract and reduce the risk of re-work owing to sub-optimal equipment configuration and deployment
- ❖ Post-sales services guarantee highly qualified support along the whole lifecycle of the equipment including refurbishment, re-manufacturing and recycling phases (Circular Economy)

# USP-2 Secure, low-Investment and Dynamic Marketplace



Examples of how different platforms fill in roles in different ways and to varying degrees



Adapted from <http://platformed.info/platform-stack/>

## Problems/Shortcomings

- ❖ One-stop-shop Digital Marketplaces usually implement expensive cloud-HPC centralized architectures difficult to build and maintain
- ❖ Peer-to-Peer Digital Middleware platforms guarantee background security and scalability but usually operate on stable value chains led by Large Companies

## MARKET4.0 Value Proposition

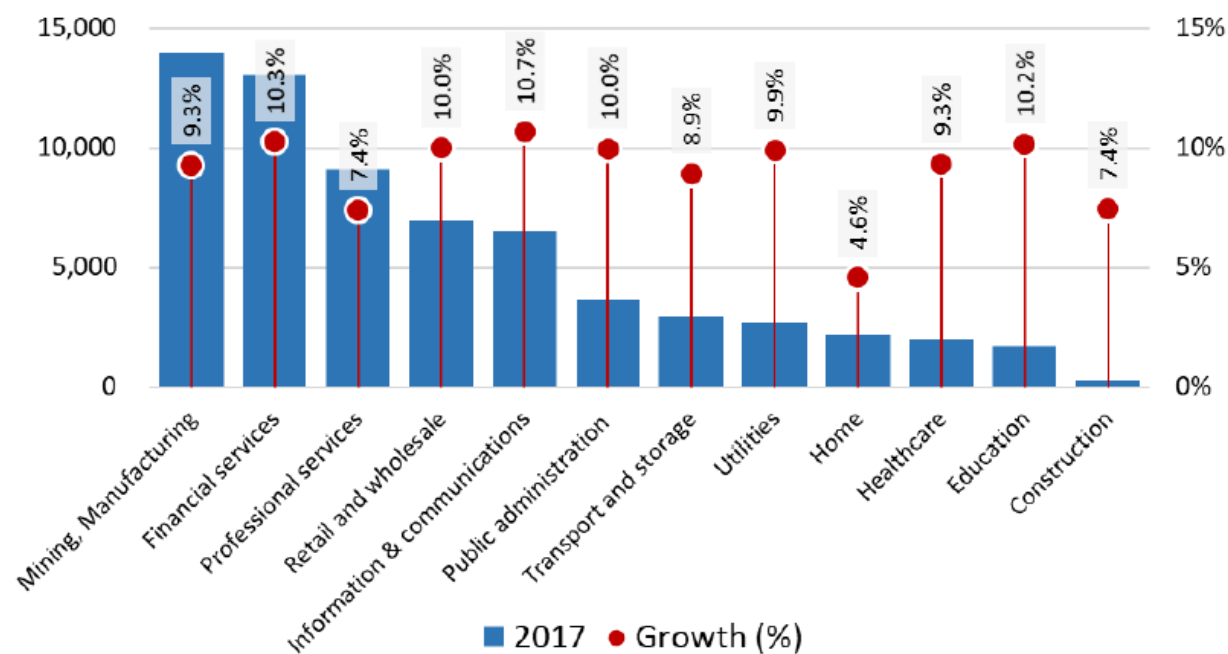
- ❖ Interoperability between a cloud Digital Marketplace and a P2P Middleware for ad-hoc Value Chains creation and occasional B2B data exchanges (virtual IDS Connector)
- ❖ Low-investment integrated solution for SMEs and personalization of Human Interaction by intelligent and adaptive Customer Journeys workflows

## From a Product-Service Marketplace to a Data Marketplace for Product-Service

- **MARKET4.0** makes it possible to **share data in a trusted B2B ecosystem** for the purpose of trading Product-Service-Systems.
- **MARKET4.0** utilizes the Smart Connected Supplier Network (SCSN) **ontology** for supporting the transactions in the ecosystem.
- **MARKET4.0** has been design and it is being developed as a **generic data platform**
- **Additional agreed ontologies** along with their metadata can be supported by the platform for creating data marketplaces, for example, data supplied and consumed from Product-Service-System.

# USP-3 Data Marketplace

Figure 26: Data Market Size, Growth by Industry 2017 (€, Million; %)



Source: European Data Market Monitoring Tool, IDC 2018



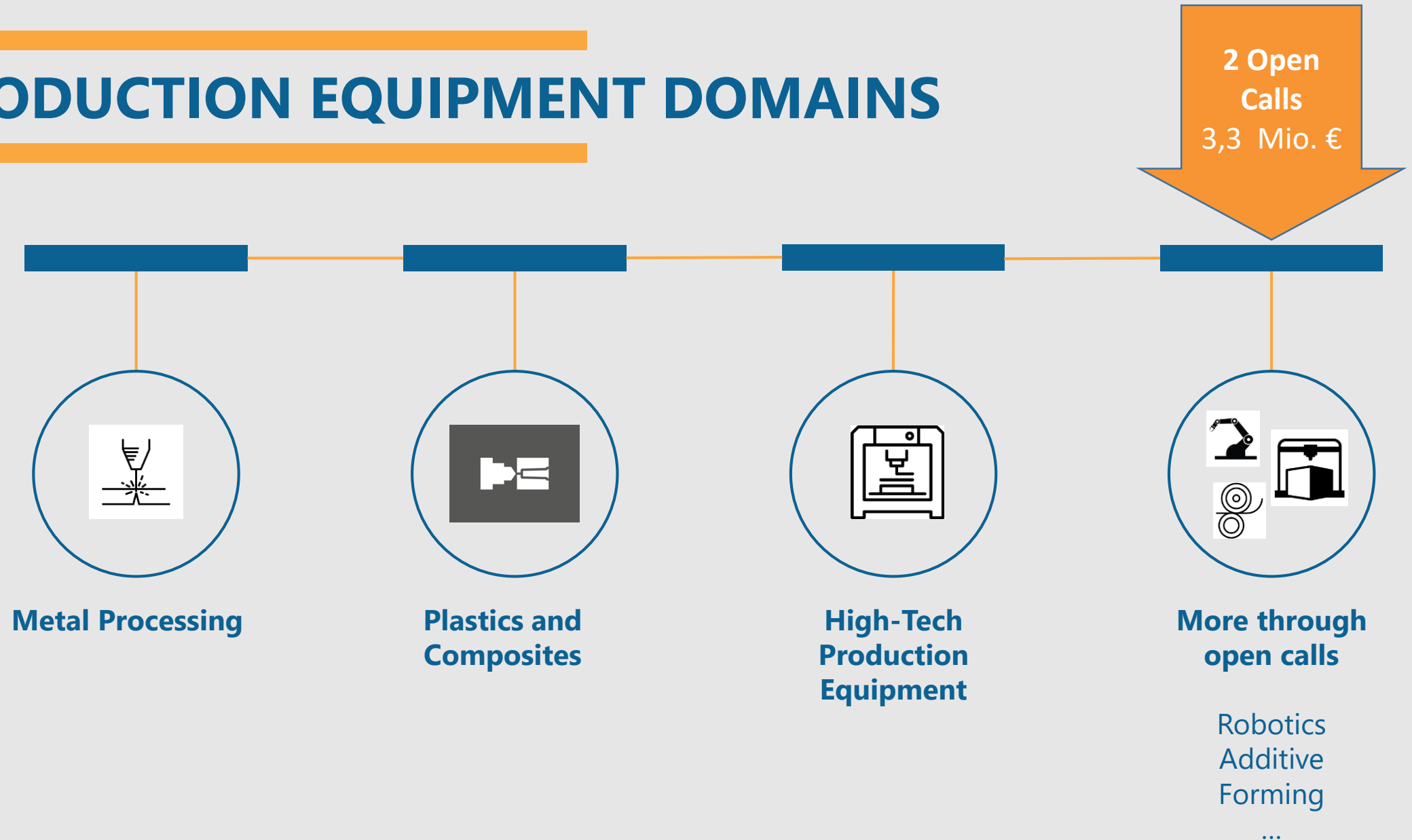
## Problems/Shortcomings

- ❖ Data Economy is deeply transforming our society from a technical-business-social and ethical perspective
- ❖ Insufficient availability of reliable, high quality datasets from Manufacturing Industry is hampering the development of extensive added value ecosystems of innovators and open Digital Innovation Hubs

## MARKET4.0 Value Proposition

- ❖ Open Manufacturing Equipment Data Models (metadata) to support the development of Digital Twins and other advanced applications
- ❖ B2B Data Exchange reference architecture based on the EU GDPR and Data Sovereignty

# PRODUCTION EQUIPMENT DOMAINS



# TIMELINE HIGHLIGHTS for open call

- 5 Type A, 3 Type B
- 2 Type C experiments for projects that will demonstrate how MARKET4.0 platform can be expanded to other production equipment domains (e.g. robotic grippers, welding guns etc.)

01 Nov. 2019

- Preparation for open call

01 Aug. 2020

- Open Call Round-1 experiments start

01 Mar. 2020

- Open Call Round-1 Published

31 July 2021

- Open call experiments end

- 10 experiments (type A) for production equipment companies that want to connect to the MARKET4.0 marketplace in one of the three domains (metal, plastics and high-tech).
- 4 experiments (type B) for projects offering services and in order to extend the functionalities of existing production equipment domains (metal, plastics and high-tech).



# THANK YOU



Project Coordinator: **INTRASOFT International SA**



[www.market40.eu](http://www.market40.eu)



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