Data and AI-enabled new Business Models in Manufacturing

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WHO WE ARE

DANOBATGROUP

- Danobat Group, a leading Machine Tool Group with two brands: Danobat and Soraluce.
- 15 high-level production plants
- Workforce 1300 people approx. € 260 million turnover
- Sectors: Automotive, Wind, Aeronautics, Health ...
- Customers:
  - Automotive: Caterpillar, Ford, PSA, Volvo
  - Energy: GE, Gamesa, Vestas
  - Railway: CAF, Siemens, Alston, SNCF
  - Aeronautical: GE, Rolls Royce, Lufthansa

BDV BIG DATA VALUE ASSOCIATION

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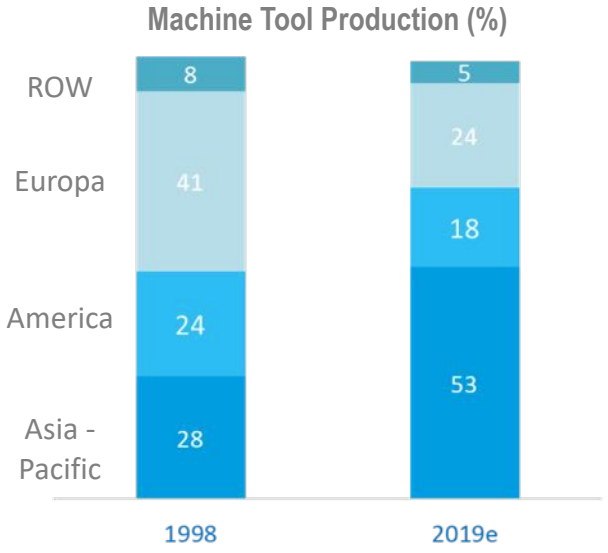
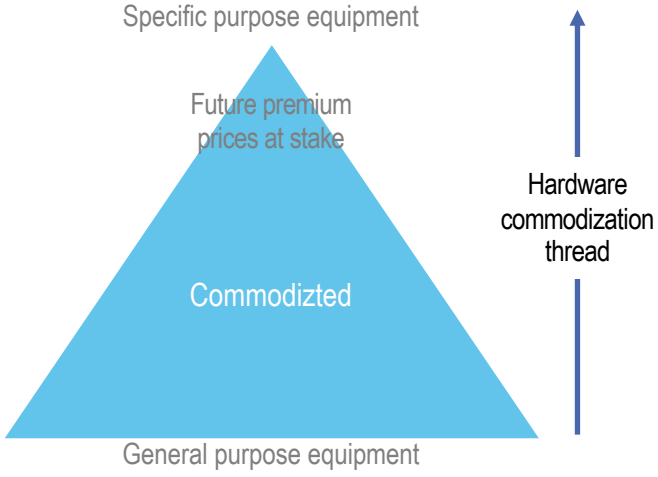
CHANGES IN MACHINE TOOL BUSINESS MODEL

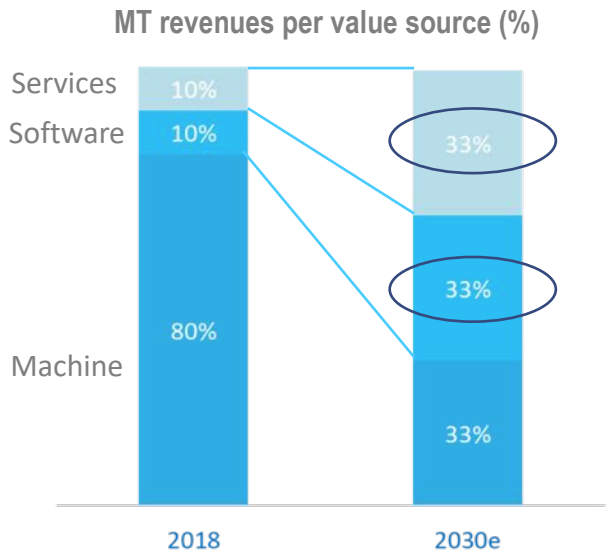
*Displacement of **value source** from **machine** to **software** and **services***



Increased competition specially from China….



….eroding margins in machine tool sector….



….leading to the rethink the current business models.

Source: Indra Minsait

DIGITALIZATION

Growth opportunity

Digital products and services address the needs of customers in markets that promise significantly stronger growth than **mechanical engineering** companies' typical core businesses of machines and components

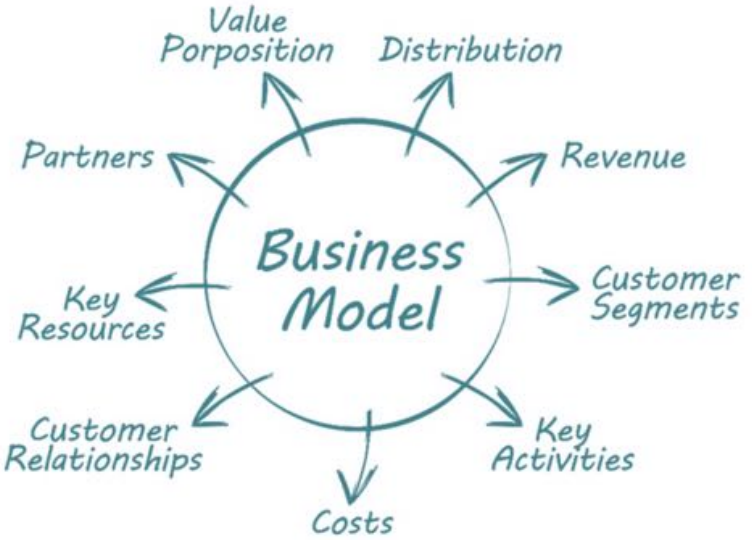
30% sales growth of more than 30% for **offerings** from mechanical engineering companies **that relate to IIoT**

2-3% sales growth of **core mechanical engineering** products

NEW BUSINESS MODELS

Data for leveraging new approaches

- **Outcome-based model** the customer is charged by usage, or outcome
- **Extended product** core product combined with value adding data-driven services available throughout its lifecycle
- **De-manufacturing** breakdown of a product into its individual parts with the goal of maximizing reuse and recycling opportunities
- **Mass customization** combination of flexibility and personalization that are peculiar to bespoke manufacturing with the low unit costs associated with mass production
- **Virtual factory** orchestration of a community of micro-factories, all linked by an electronic network that enables them to operate proximity production when receiving an order
- **Crowdsourced innovation** exploitation of collective intelligence with the aim of gathering valuable design ideas and technical insights to be turned into real products
- **Analytics-as-a-service** on-demand access to a one-stop-shopping analytics engine supporting shop floor intelligence
- **Open data platform** data hubs meant to integrate disparate data sources, thus enabling information to become shareable and actionable
- **Dynamic pricing** SLAs, pricing plans, payment terms, and other contractual terms may be customer-specific or based on real-time market factors

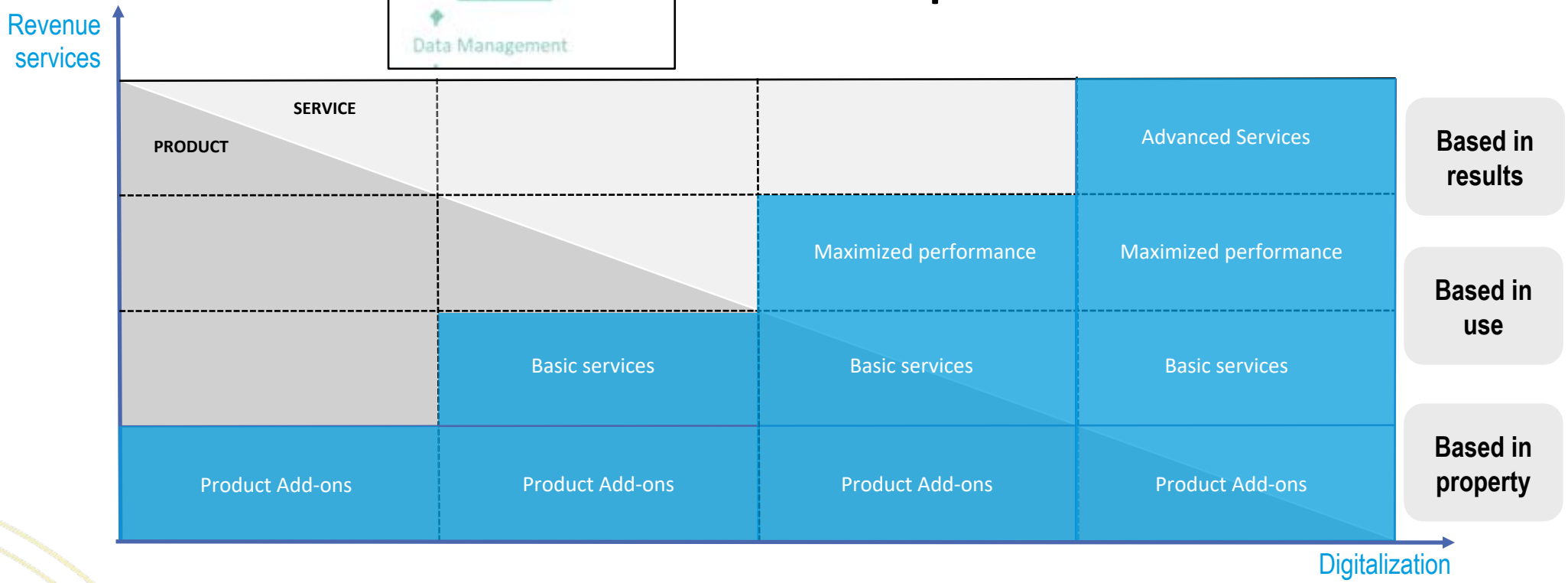


DIGITAL BUSINESS CONCEPT

5 Development lines can be clearly defined under the concept of *Digital Business*

SERVITIZATION

A process in Several Steps



- Connected machine
- Monitoring
- Smart Functions

- Spare parts
- Remote diagnostics
- Consulting for operational improvement

- Maintenance program
- Condition dependent maintenance
- Guaranteed availability

- Guaranteed performance
- Power by the hour (pay per output)
- Operational costs included

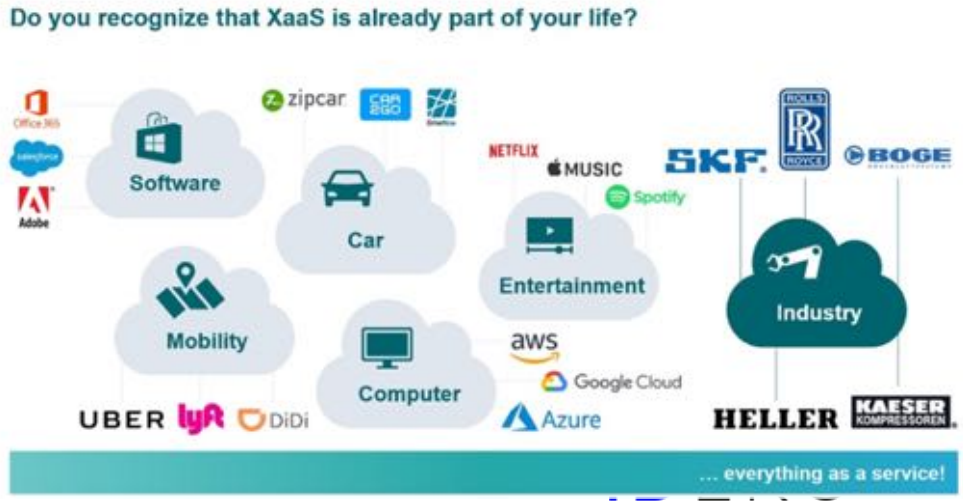
Source: Indra Consulting based in Kohtamäki et Al

REVENUE STREAMS

Everything as a service

- Pressure towards flexible solutions and cost improvement
- First experiences in mechanical engineering (Heller, Schaefler,..)

Source : Siemens



Paving the way

Define the **Services Business Model**, as a strategic area of the company:

- **Identifying** and maximizing the opportunity
- **Structuring** it within Danobatgroup,
- Defining the **business model** that monetizes it
- Creation of a recurring **revenue center**
- Defining the **value proposition** and **selling argument**
- Identifying the **target clients** and getting the model to perceive it as part of the value
- Define the **appropriate channel** (s) to address them
- Maximizing the **monetization of knowledge**

Set up: Implementation Keys

Business Model	Technology 4.0	Structure (Back Office)	Processes (Continuous Improvement)
• Define the actors / clients typology • Define sources of income • Define value proposition • Define commercial strategy	• Connectivity of machines • Corrective issue management • Big data: analysis and decision making aligned with the Business Model	• Expert knowledge, • Diagnosis and decision making on received information	• Sort and optimize the Corrective: speed up problem resolution • Feedback to new developments • Learning and optimization processes

Methodology

Methods and processes that need to be defined, communicated and put into operation.

Resources/ Organization

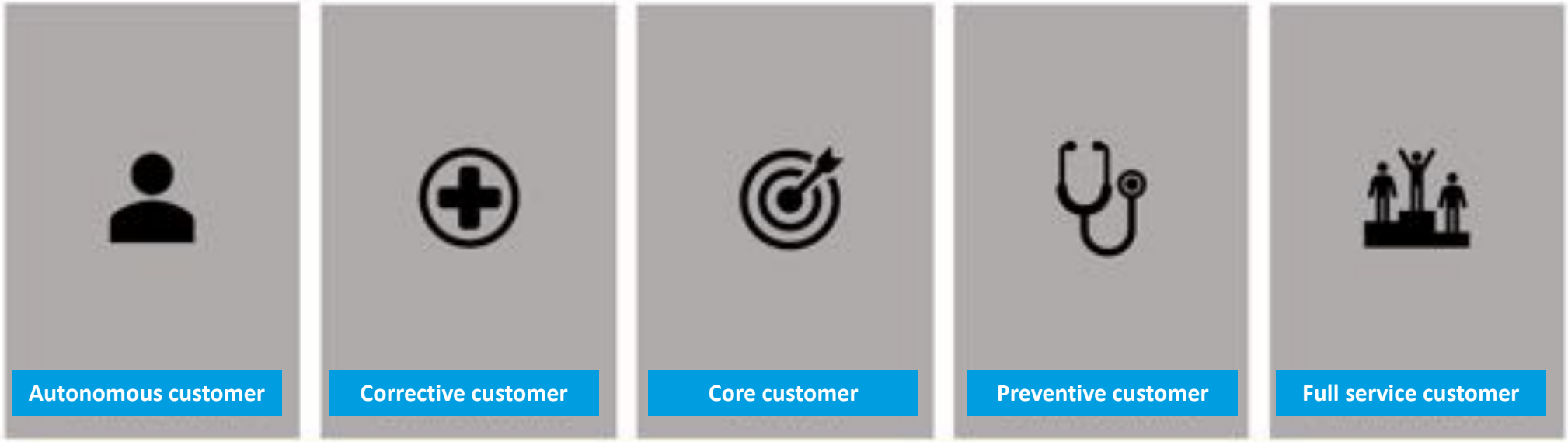
Changes in the organization related to the SAT and the resources necessary to carry out the actions.

Tools

Changes, usage, activation of the tools currently owned by Danobatgroup (SUTAN, ERP, ...)

Customer profiling - Service Box

Danobatgroup defines **packages** of maintenance, consumables and spare parts offering **concrete solutions** to demaning customers with **specific requirements**



Service Box examples

Preventive customer:

- The customer is **machine operation focused** and is able to react to unforeseen issues but with **no structure to coordinate and execute scheduled tasks,** spare parts or consumables.
- The customer wants to **guarantee** that the **machines** have a perfect **set up** and commissioning at any moment without internal resources for that purpose

Full service customer:

- The customer is **exclusively focused in the activities that provide value to the product or service**.
- The customer **entrusts the auxiliary tasks to partner suppliers integrating them within their structure** in order to ensure the effective functioning of the assets.
- The customer **relies fully on its partner provider** who expects **proactivity** in order to **optimize** the **results** offered by the assets.

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