

A photograph of three children playing on a dark blue sofa in a living room. The child on the left is wearing a dark blue hoodie and light grey pants, the middle child is in a light grey t-shirt and grey pants, and the child on the right is in a white t-shirt and blue jeans. A patterned pillow is on the sofa, and a small table with red items is in the foreground. The text 'Our vision' is overlaid in large white font.

# Our vision

To create a better everyday life  
for the many people



# IKEA Industry

World's largest  
manufacturer of wooden  
furniture.

**20,000**  
co-workers at  
**43** production  
units in  
**9** countries

- SOLID WOOD
- BOARDS
- FLATLINE
- DUAL SITES (FLATLINE & BOARDS)
- DEVELOPMENT CENTRES
- OFFICES



# PRODUCT RANGE

**BUSUNGE**



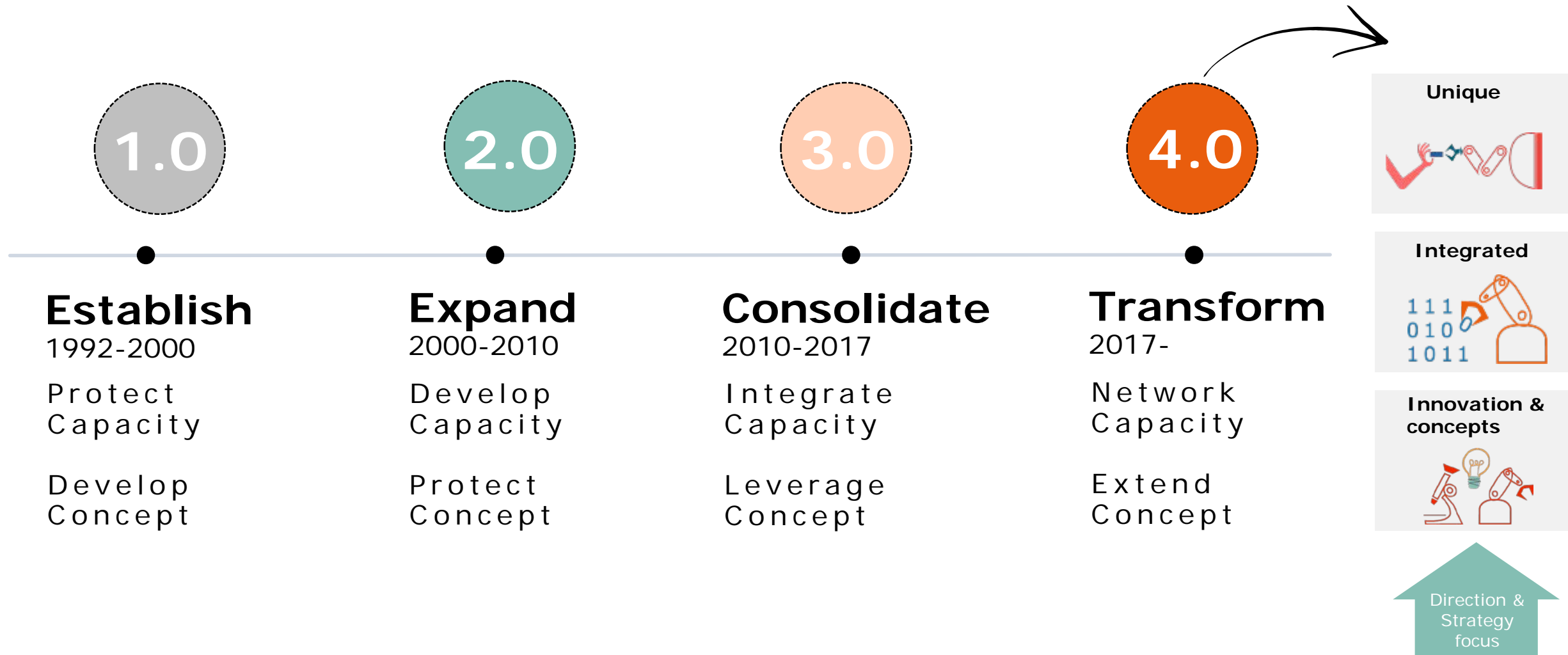
**HEMNES**



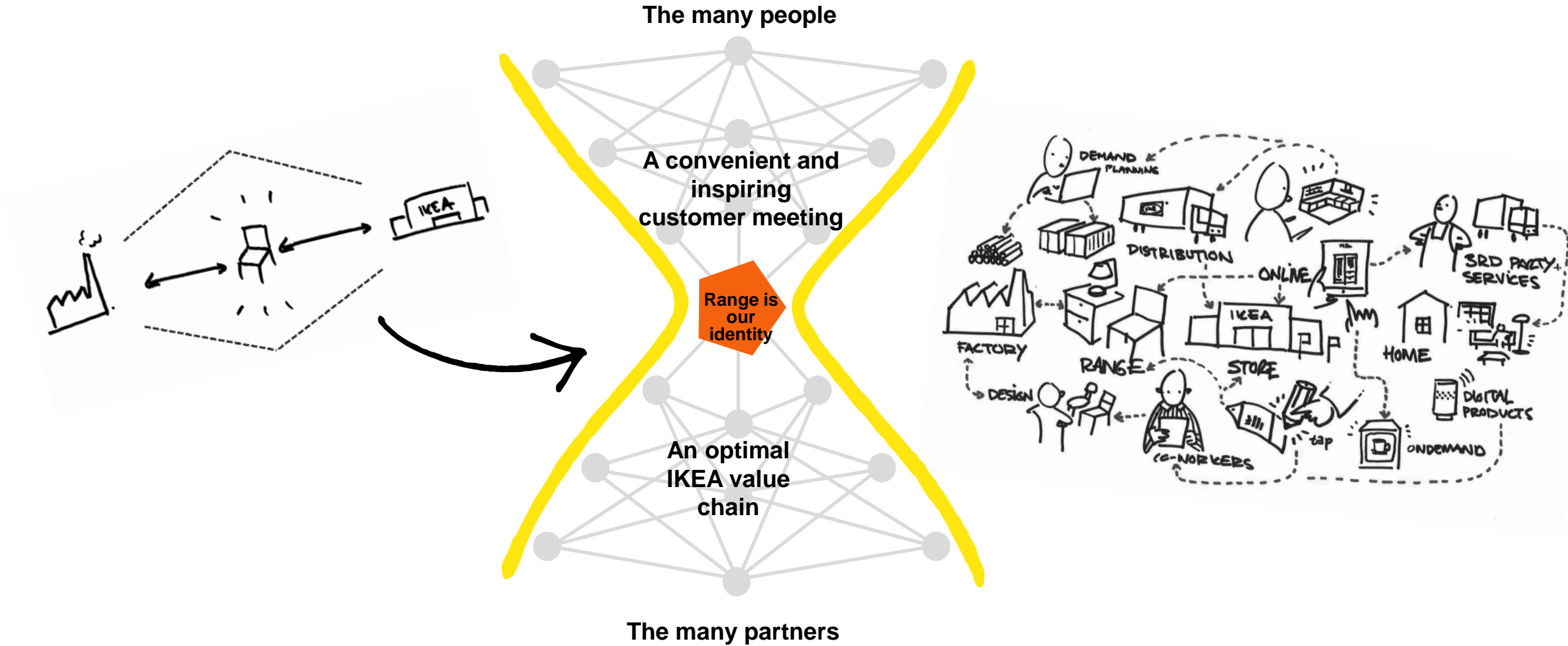
**PAX**



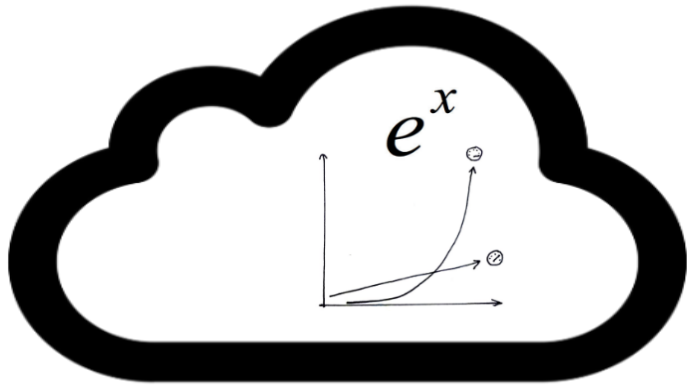
# IKEA Industry – 27 years of manufacturing



# Things are changing. The rise of the ecosystems.



- Example of elements in action - IoT



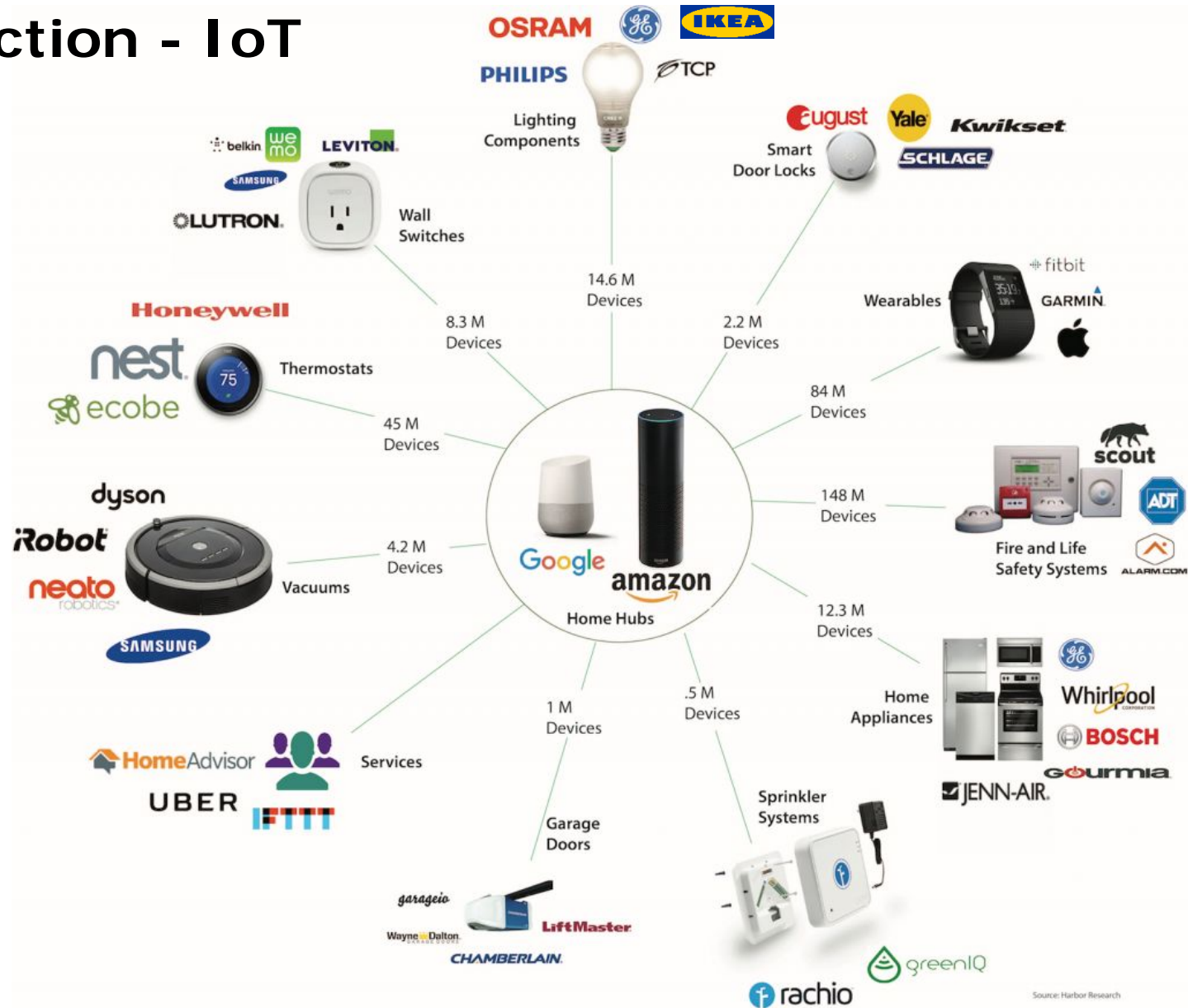
Infinite computing capacity @ very low cost



Everything becomes connected



Data turn into a currency

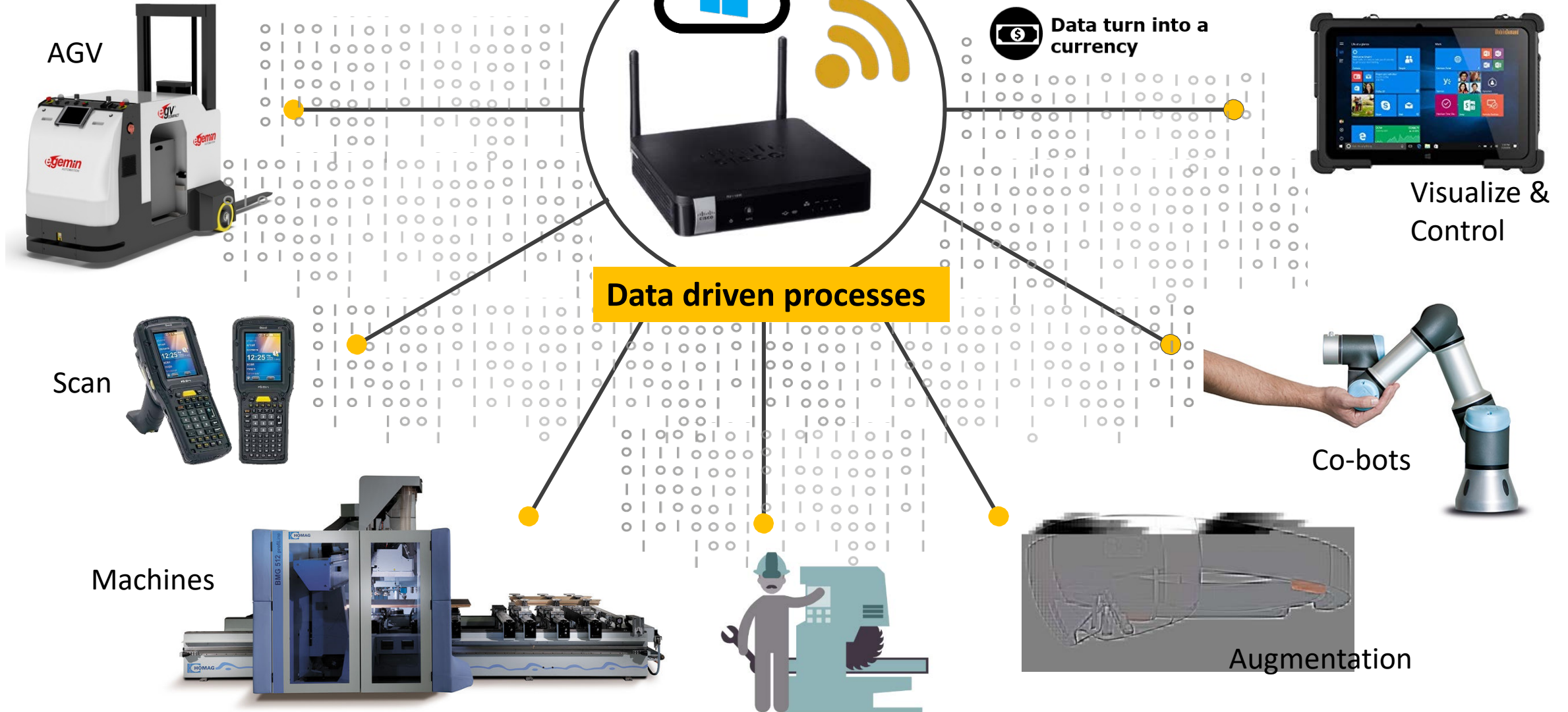


# ● IIoT (Industrial Internet of Things)

 Infinite computing capacity @ very low cost

 Everything becomes connected

 Data turn into a currency



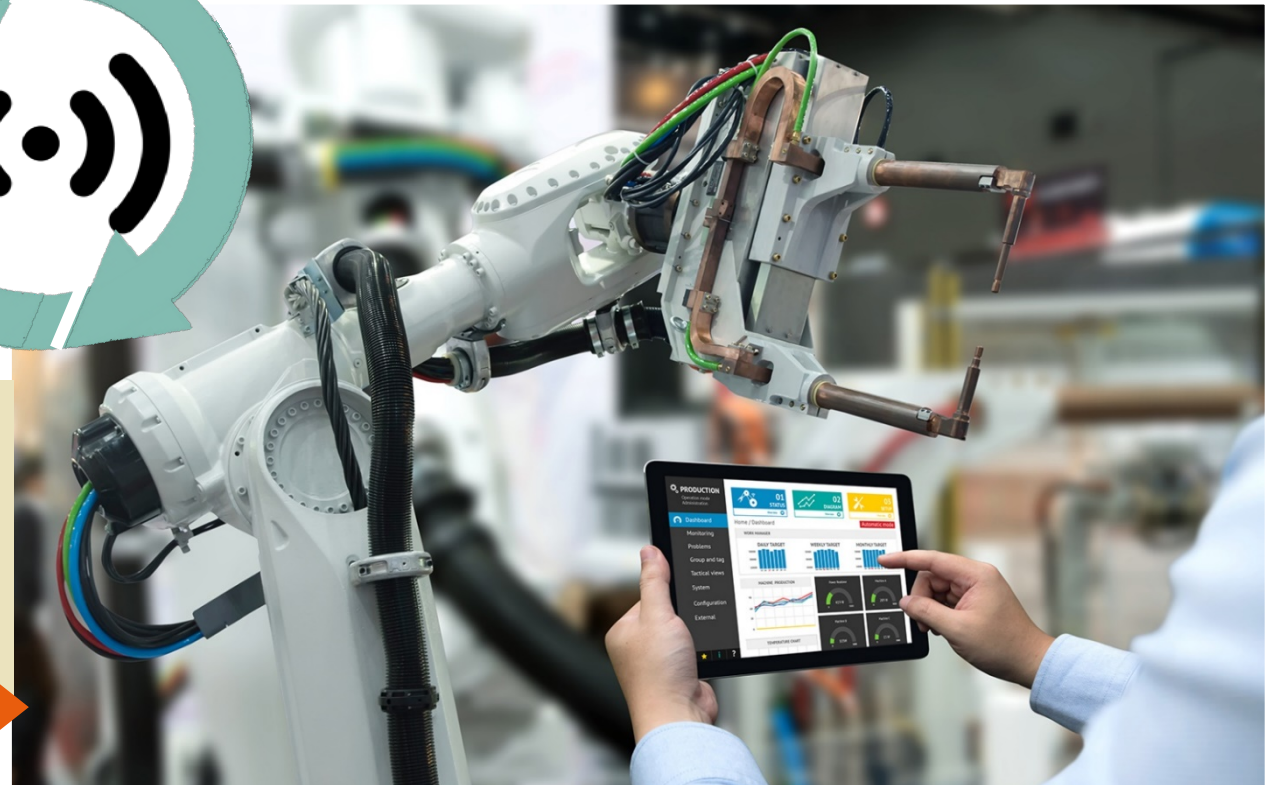




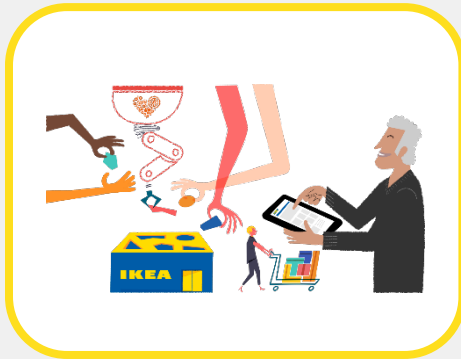
**Technology driven  
retail revolution**



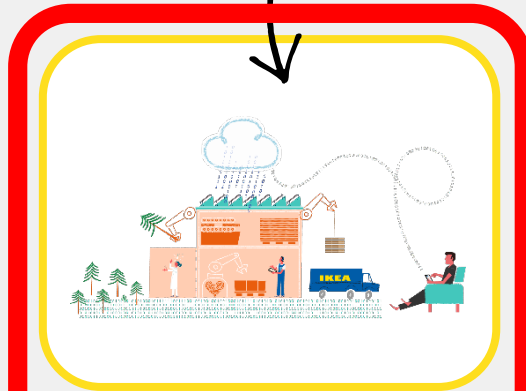
**Smart and connected  
manufacturing**



# FOUR STRATEGIC AREAS



**1** UNIQUE  
CAPABILITIES  
AND CAPACITIES



**2** THE INTEGRATED  
MANUFACTURING  
SYSTEM



**3** INNOVATION,  
MANUFACTURING  
CONCEPTS AND  
KNOWLEDGE  
TRANSFER



**4** SUSTAINABILITY  
AND CIRCULAR  
ECONOMY

# Future-proof our Manufacturing Capabilities

## Smart and connected manufacturing

- ⌚ Shorter product lifecycles
- ⌚ Smaller batches, reduced lead times
- ⌚ Rapid technology development and absorption to stay competitive

## Manufacturing System of the Future...



**...Digitalised, integrated and automated**

## Technology driven retail revolution

- ⌚ New ways to sell, serve and interact
- ⌚ New competitors and business models
- ⌚ New expectations, new requirements



**Product Lifecycle Management (PLM)**

Planning



**Data capturing and visualisation**

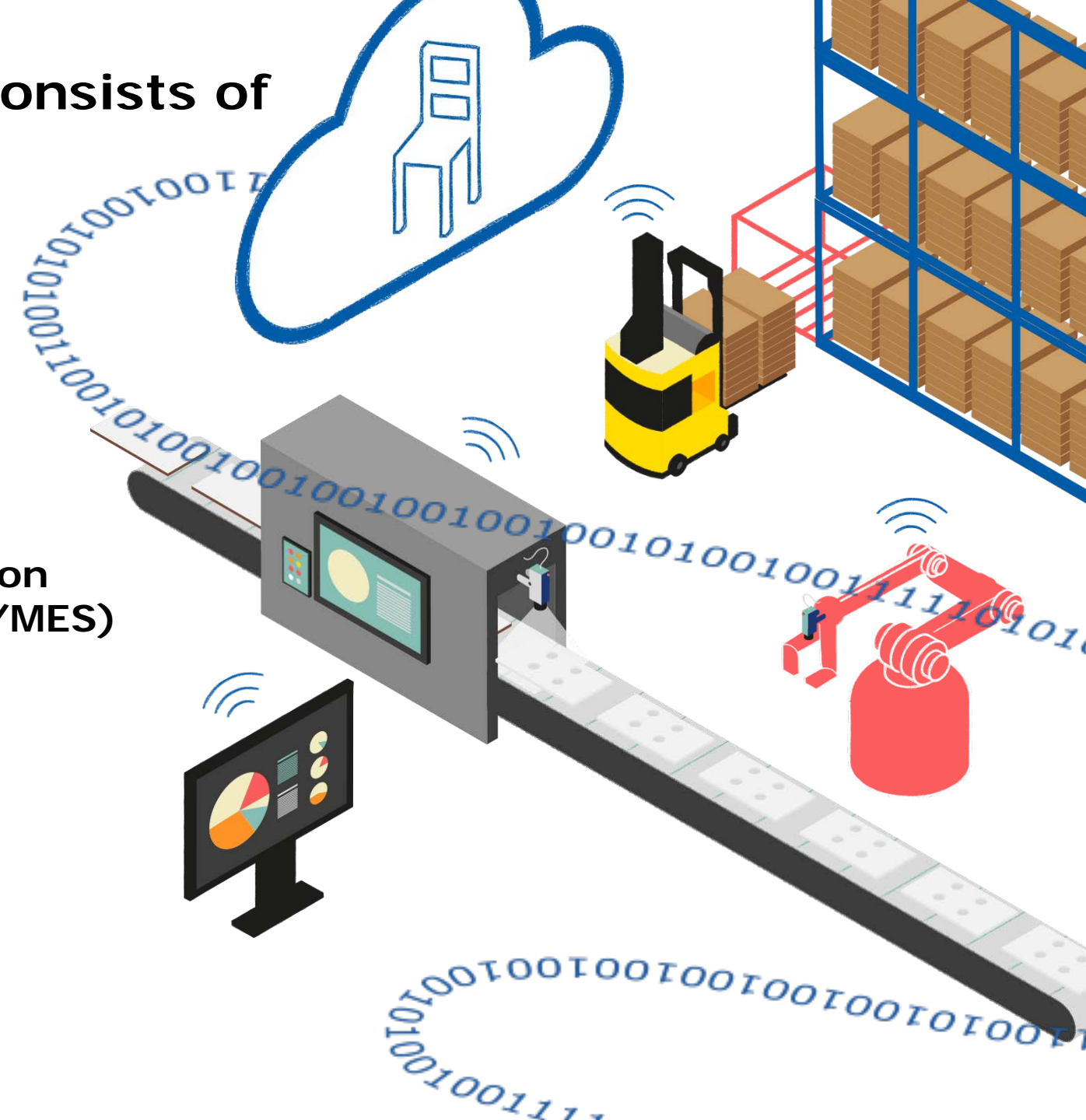
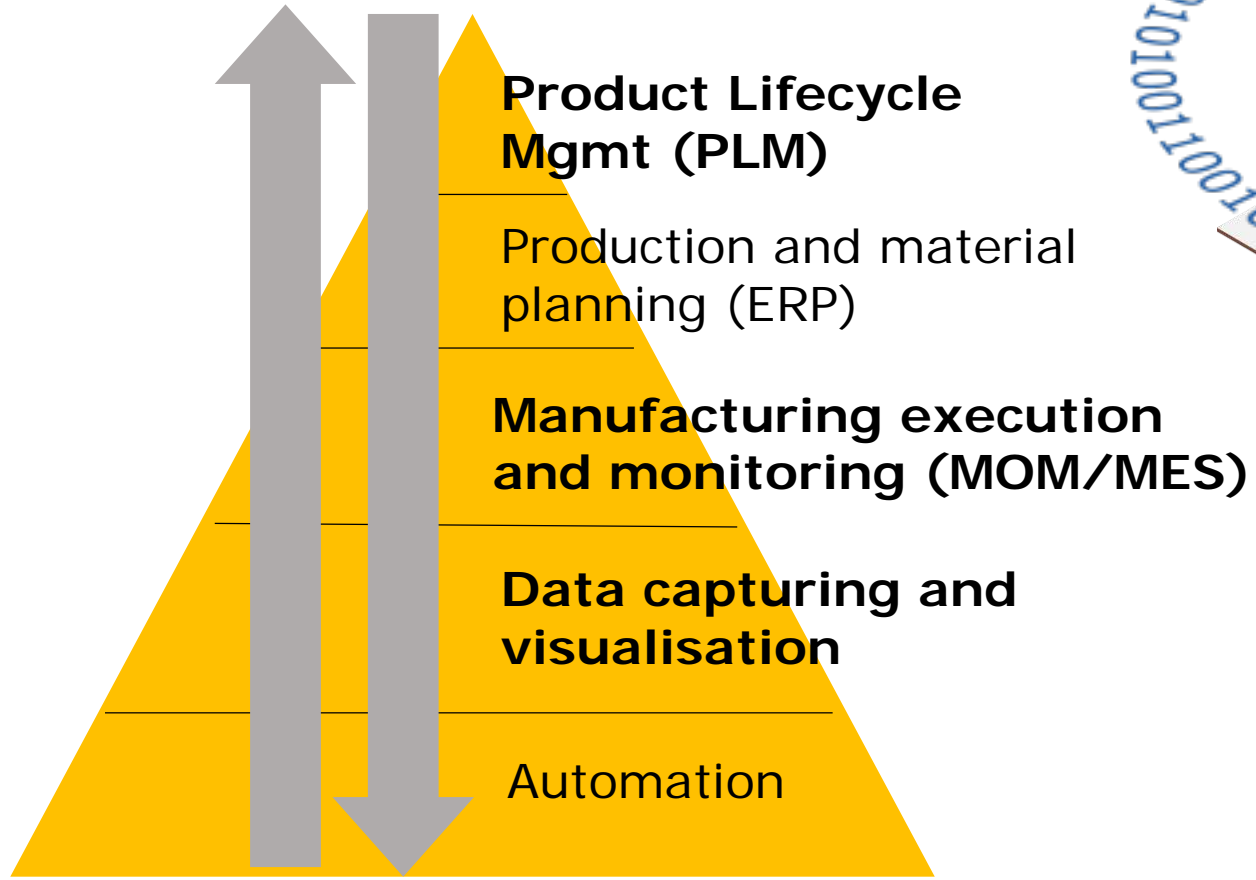
**Manufacturing operations management and execution (MOM/MES)**

**Flexible automation**

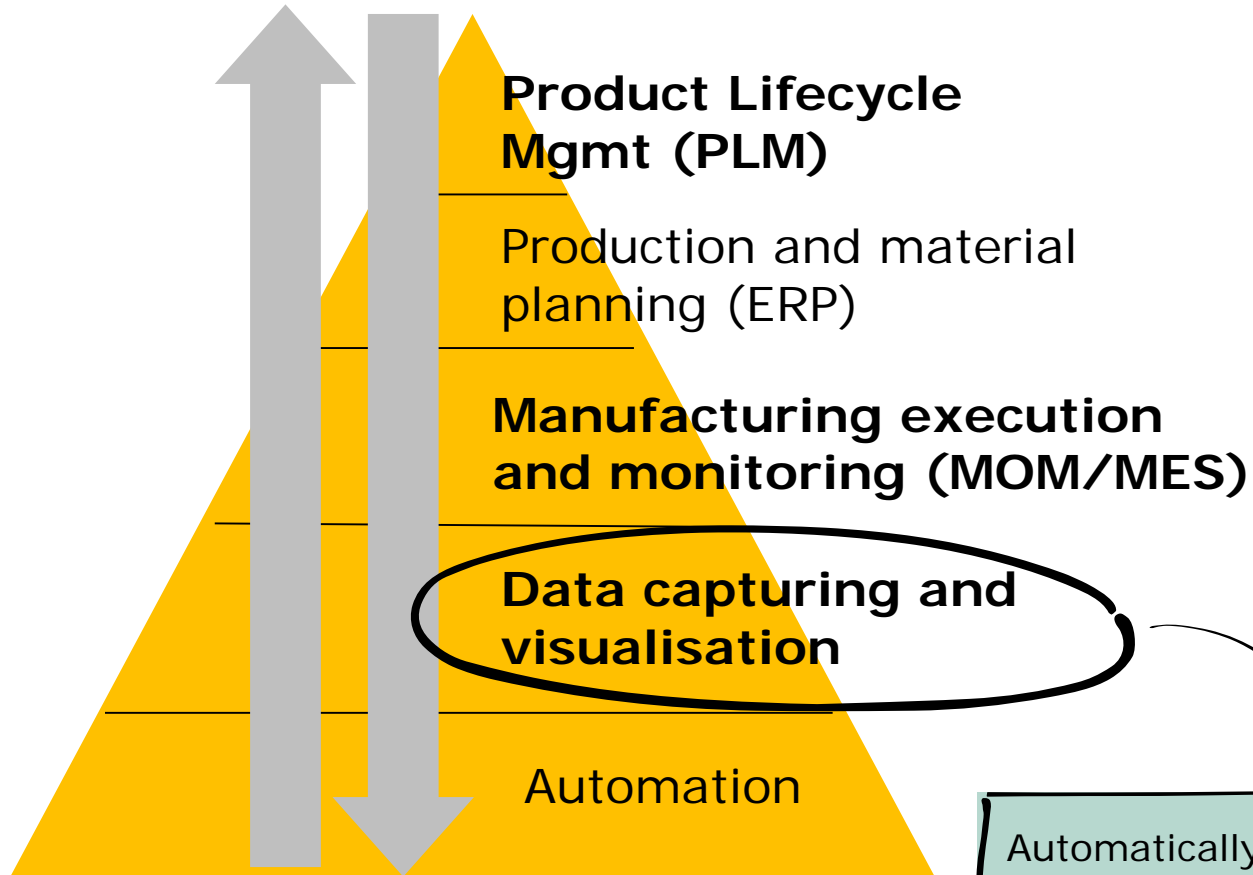


Animation

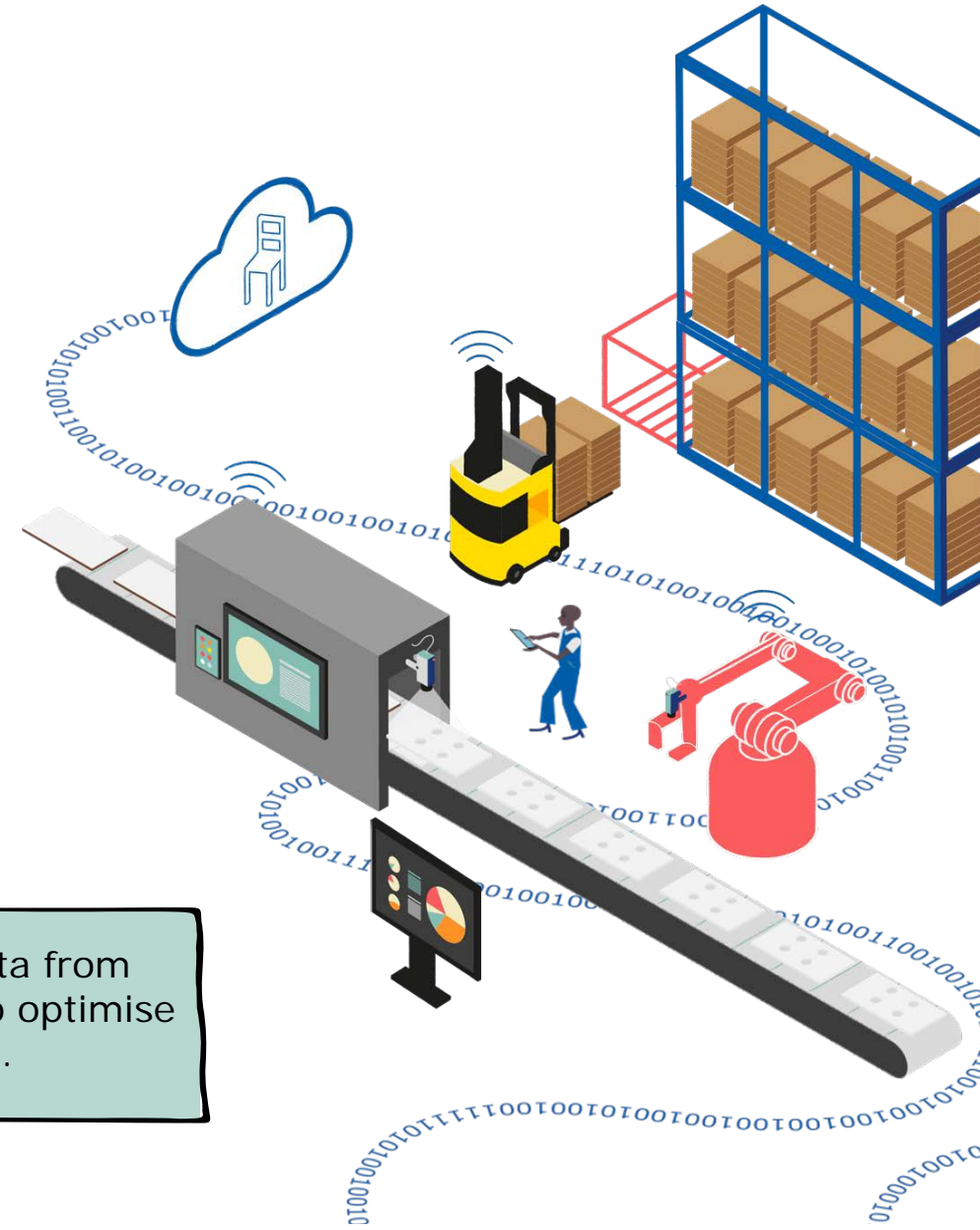
# The MSF Concept – what it consists of



# The MSF Concept – what it consists of



Automatically collected data from an integrated shop floor to optimise quality, efficiency and cost.





# Key challenges today



## Data structure

- Unstructured shop-floor data
- Missing common data naming
- Data ownership not defined



## Machine connectivity

- Often too little shop-floor data available
- Low level of connectivity prevents automation development
- Connecting machines requires much resources (time and cost)
- Infrastructure not prepared for leveraging new smart machines
- Every supplier has different standards



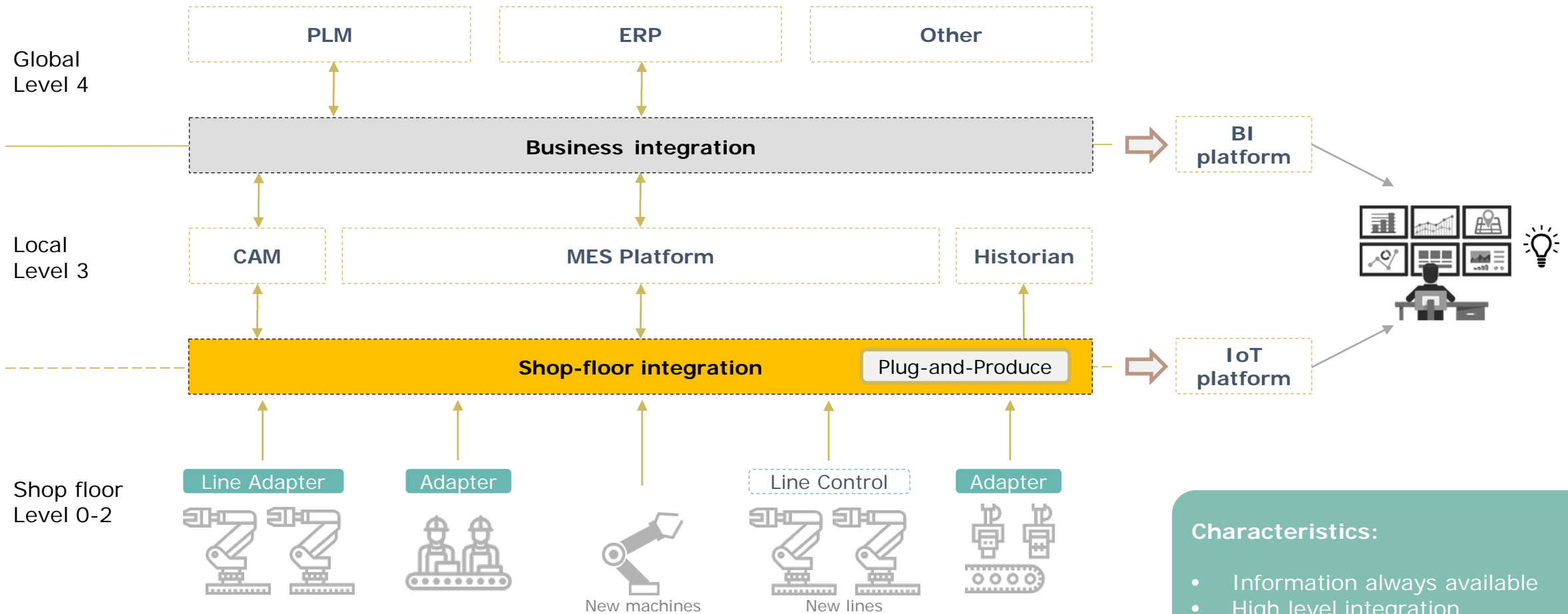
## IT/OT\* architecture and security operations

- Architecture not prepared for future technology and security requirements
- OT architecture separated from IT architecture

\* OT (Operational Technology) = IT for automation and shopfloor



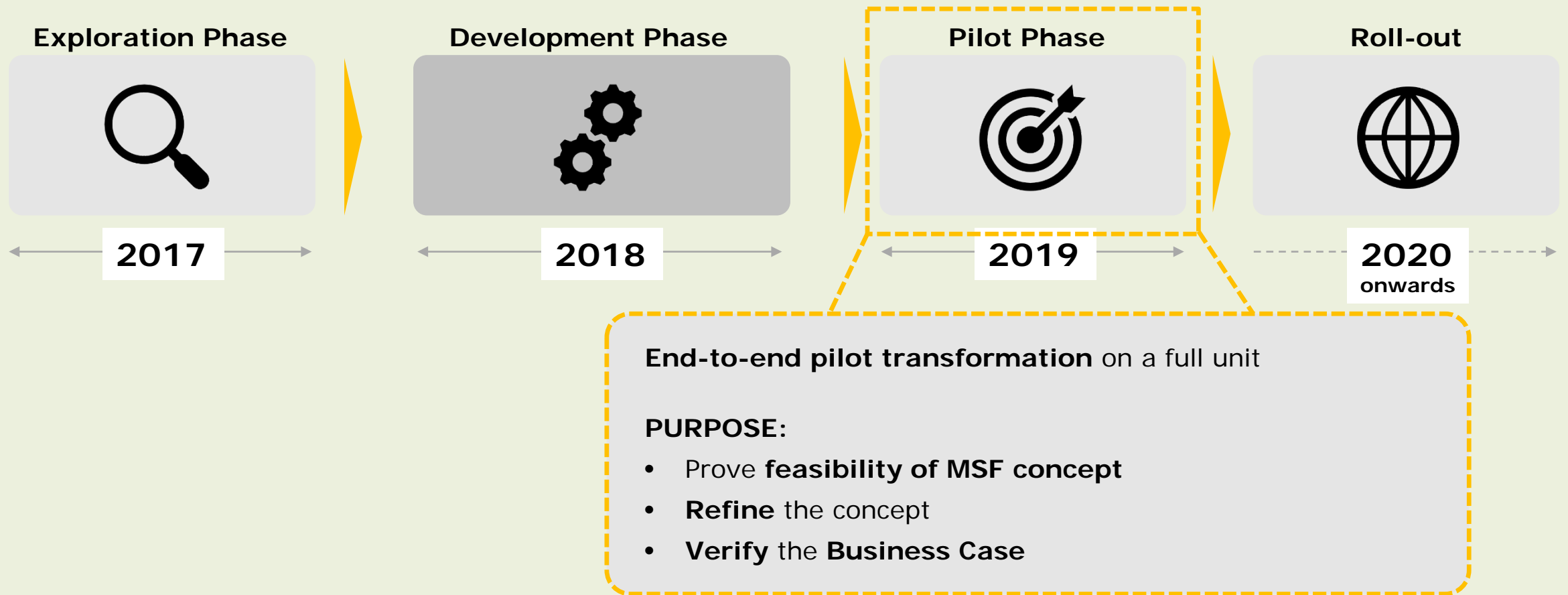
# The digital factory



## Characteristics:

- Information always available
- High level integration
- Full data collection
- Easy and advanced analytics
- Easy to extend and reconfigure

# MSF Journey



# MSF Pilot Lubawa Pigment



**Pull principle:**  
strong local team

**Outcome-oriented:**  
focus on Business Case

**Tailored to needs:**  
MSF Core + automation

**Decoupled approach:**  
- MSF Core 2019  
- Additional automation solutions 2020

# MSF Pilot Lubawa Pigment: Impressions & Findings

People...



**Change Management Workshops**



**Involving our coworkers**



...and Technology

**From 1 signal to  
~1500 data points**



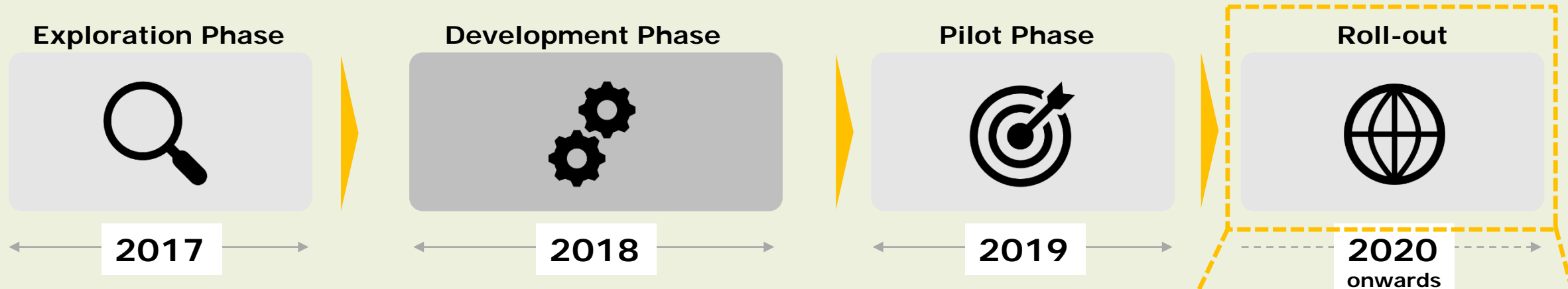
**Controlling access to machines**

# What were the challenges and learnings?

- 🚫 It's about our **people** – not **technology**. **Change Management** and **training** are key
- 🚫 Always start with **clear Business Objectives**
- 🚫 Never underestimate the **effort to implement new ways of working**
- 🚫 **Data** is becoming a **true asset**
- 🚫 **Machine suppliers** are maturing and opening up for Industry 4.0 – this helps us on the journey
- 🚫 A **strong local team** is key for success



# Implementation plan



- 🕒 **Ambition: deploy MSF to all furniture factories in 4–5 years**
- 🕒 **Roll-out ambitions (units) for FY20 and FY21 already aligned with Divisions**
- 🕒 **Roll-out organization being designed**

# Roll-out Principles

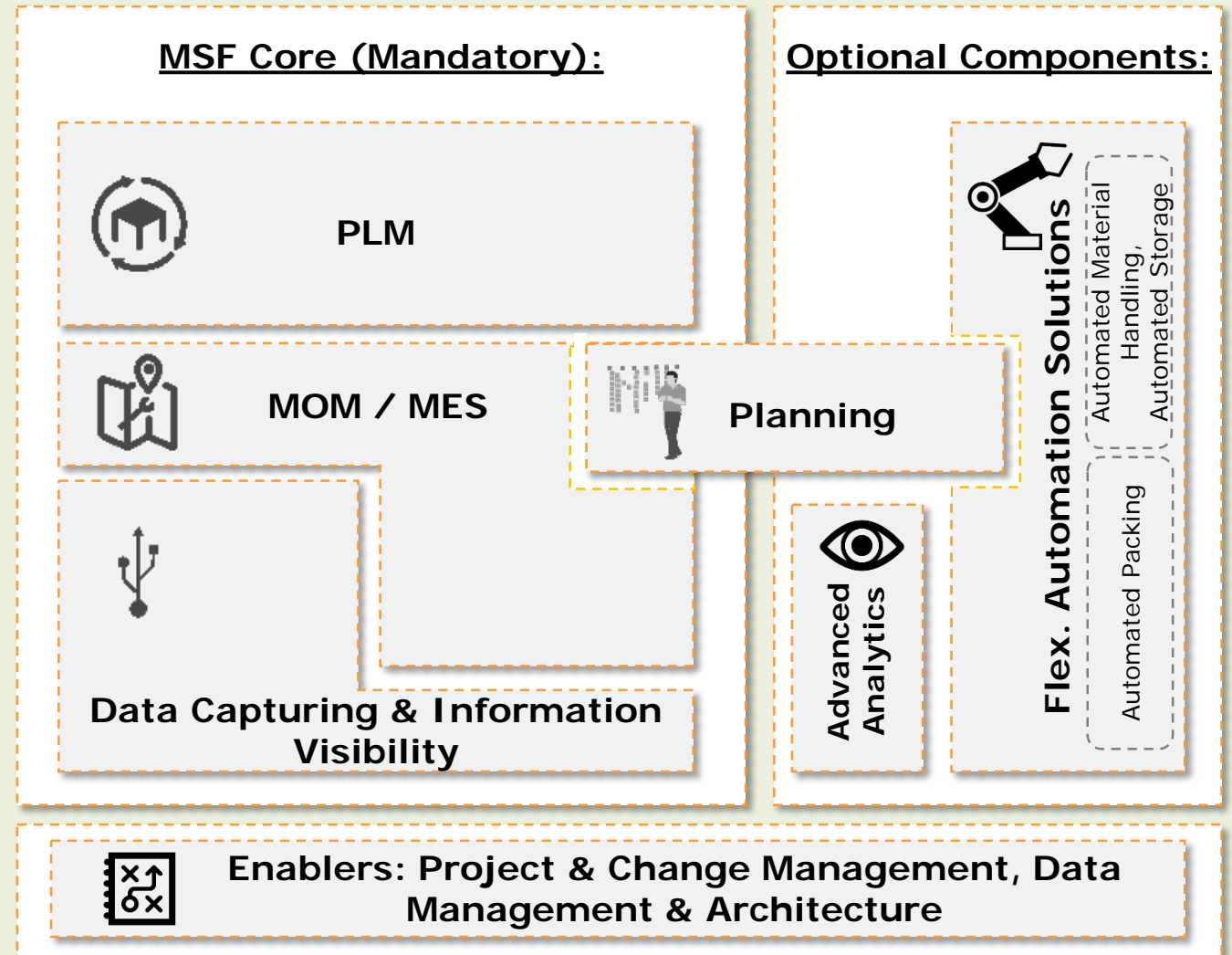
**Pull Principle – Local Responsibility**

**Individual Business Cases and scoping for each factory**

**Thorough Preparation**

**Focus on Change Management and Knowledge Transfer**

**Value Realization Management**





# The future of digital is analogue!

It's **People**, not machines, that will make  
this transition happen!



IKEA Industry