

# The environment

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## What to do when...

- you live in a VUCA environment (volatility, uncertainty, complexity and ambiguity)?
- you have different customers & different products?
- your manufacturing equipment is not useful for the next project ( ~7 years project lifetime in the Automotive Industry)?
- the demand changes constantly?
- CAPEX is a constraint?

# IIoT as a key player in flexible manufacturing and regarding the connected worker – a case study of the Automotive Industry

## IndustryX Talk

Human Centric Digital Transformation and Sustainability

**Hugo David Herrmann**

Operational Excellence & Industry 4.0 EMEA

13th November 2024

London, UK

Environments  
**THAT MOVE YOU**





Servus!  
MÜNCHEN















México

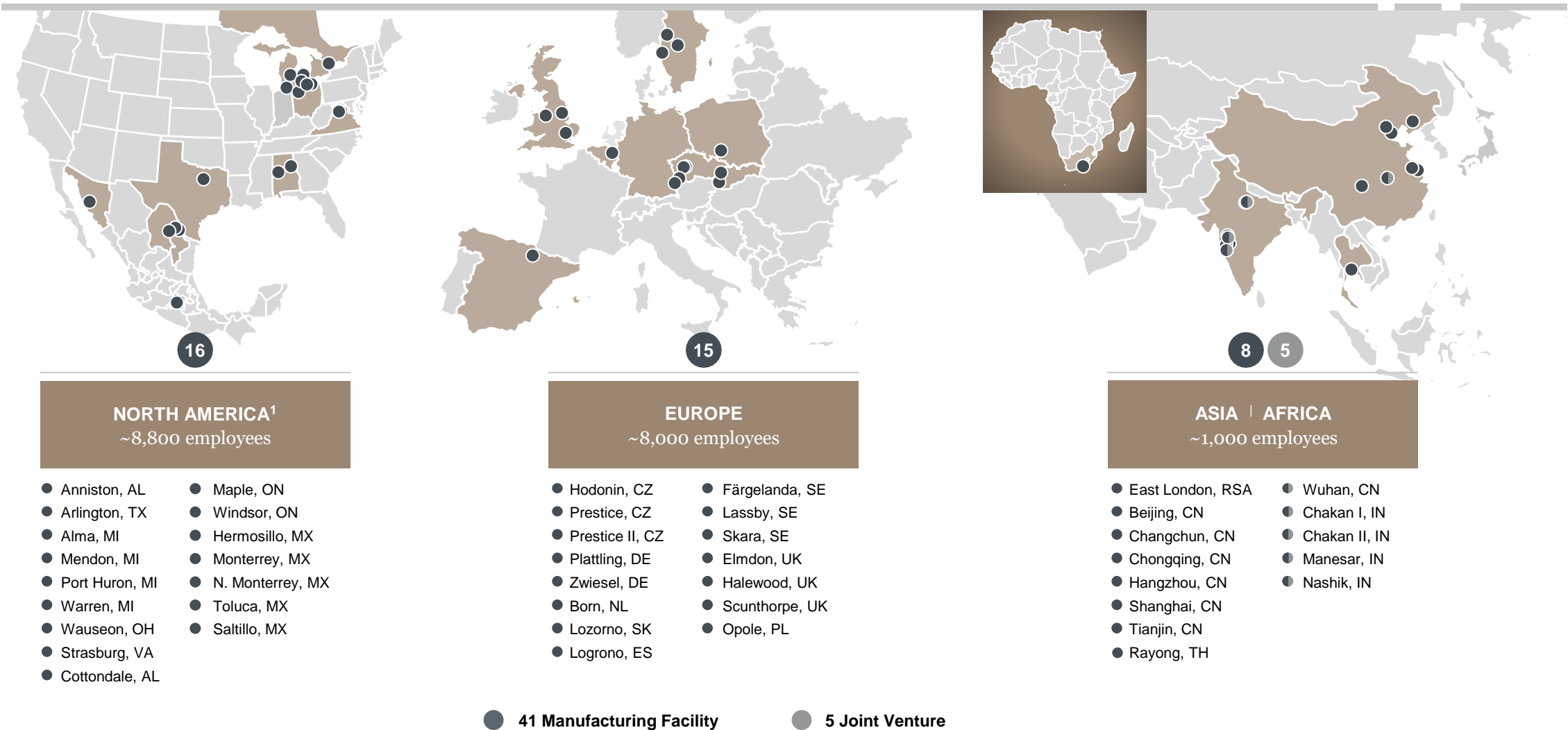


# PREMIER GLOBAL AUTOMOTIVE SUPPLIER IN KEY-VEHICLE SEGMENTS WITH LEADERSHIP IN CORE PRODUCT CATEGORIES

	Instrument Panel Cockpits & Consoles	Door & Trim Systems	Headliner & Overhead Systems	Painted Exterior & Interior Components
Leading Industry Position	Top 3	Top 3	Top 2	Minor Player
% 2023E Sales	39%	38%	15%	8%
Key Customers				
Product Examples				

# GLOBAL LOCATION OVERVIEW

IAC is headquartered in Luxembourg, operates in 17 countries across the world, and employs over 18,000 people



# GLOBAL MARKET LEADER IN ATTRACTIVE PRODUCT CATEGORY

Importance of auto interiors as a key differentiator influencing buying decisions



**~50%**

*of U.S. customers perceive interior as “very important”*



**~71%**

*of auto executives expect interior customization to be more important over the next 5 years...*



**~22%**

*expected rise in Interior Content Per Vehicle (CPV) by 2030*



**~3-4%**

*N. America ~3.2% CAGR over next 5 years (~\$21B market); Europe ~4.0% CAGR over next 5 years (~\$25B market)*

***OEMs are focused on installing premium interiors and refreshing interiors regularly in order to attract consumers, which has led to increasing investment dollars towards interiors***

**More capital being spent by customers to differentiate, lessen mass, enrich customer experience**

*Source: McKinsey Study – April 2021; Ducker Worldwide*

# Flexibility



# Modular Automation



Video 2



# MODULARIZATION AND FLEXIBILITY

Different technologies, different customers, different products in One Line



Our customers required us to undertake this journey.

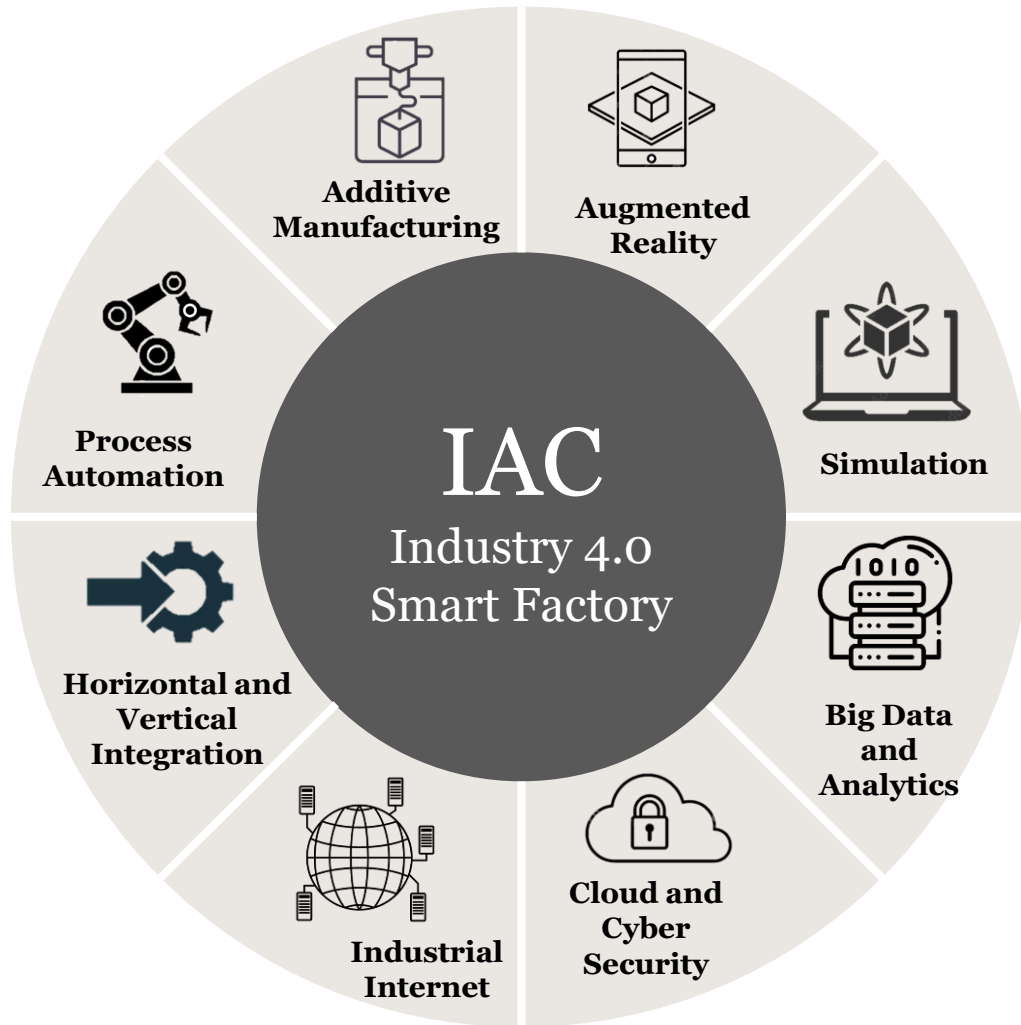
Porsche Smart Factory & IIoT





# IAC JOURNEY TO THE SMART FACTORY

Putting the pieces together



Change Management

First Step: be Lean  
in Operations

Modular Flexible  
manufacturing

Strategy &  
Leadership

# CASE STUDY

## flexible manufacturing and modular automation with the help of IIoT

### Challenges

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Technology-driven approach  
without a clear target picture  
(Use cases)



Lack of competencies &  
growing dependence on  
external experts



High Investment



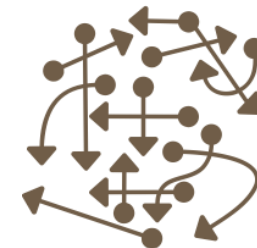
Misunderstanding the concept of Smart  
Manufacturing  
is not always **fully understood** by top management



Disconnection from the Shopfloor



Lack of Lean Processes and  
Excessive Use of Paper





# CASE STUDY

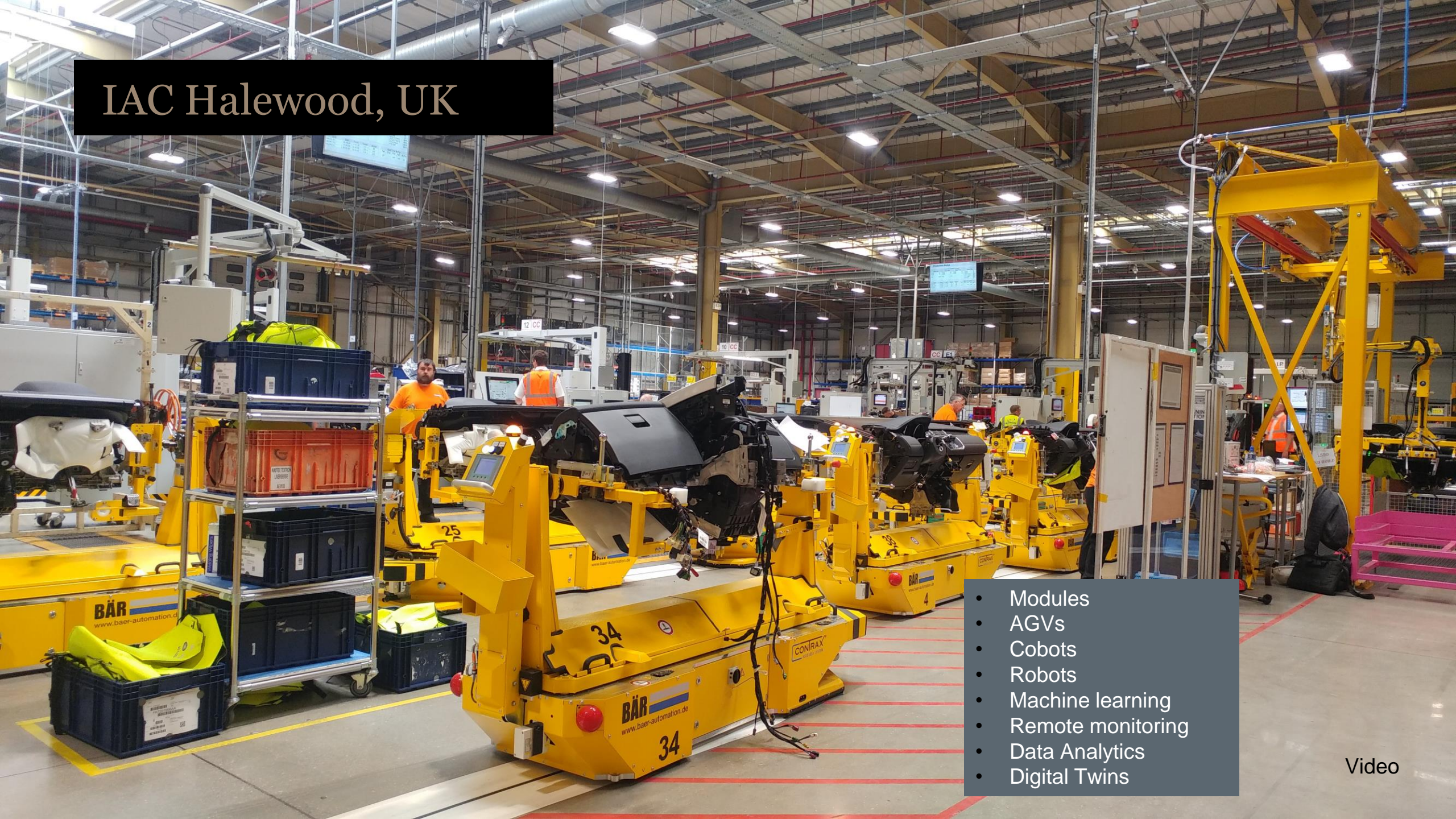
## when the strategy and leadership didn't attend to work

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# IAC Halewood, UK



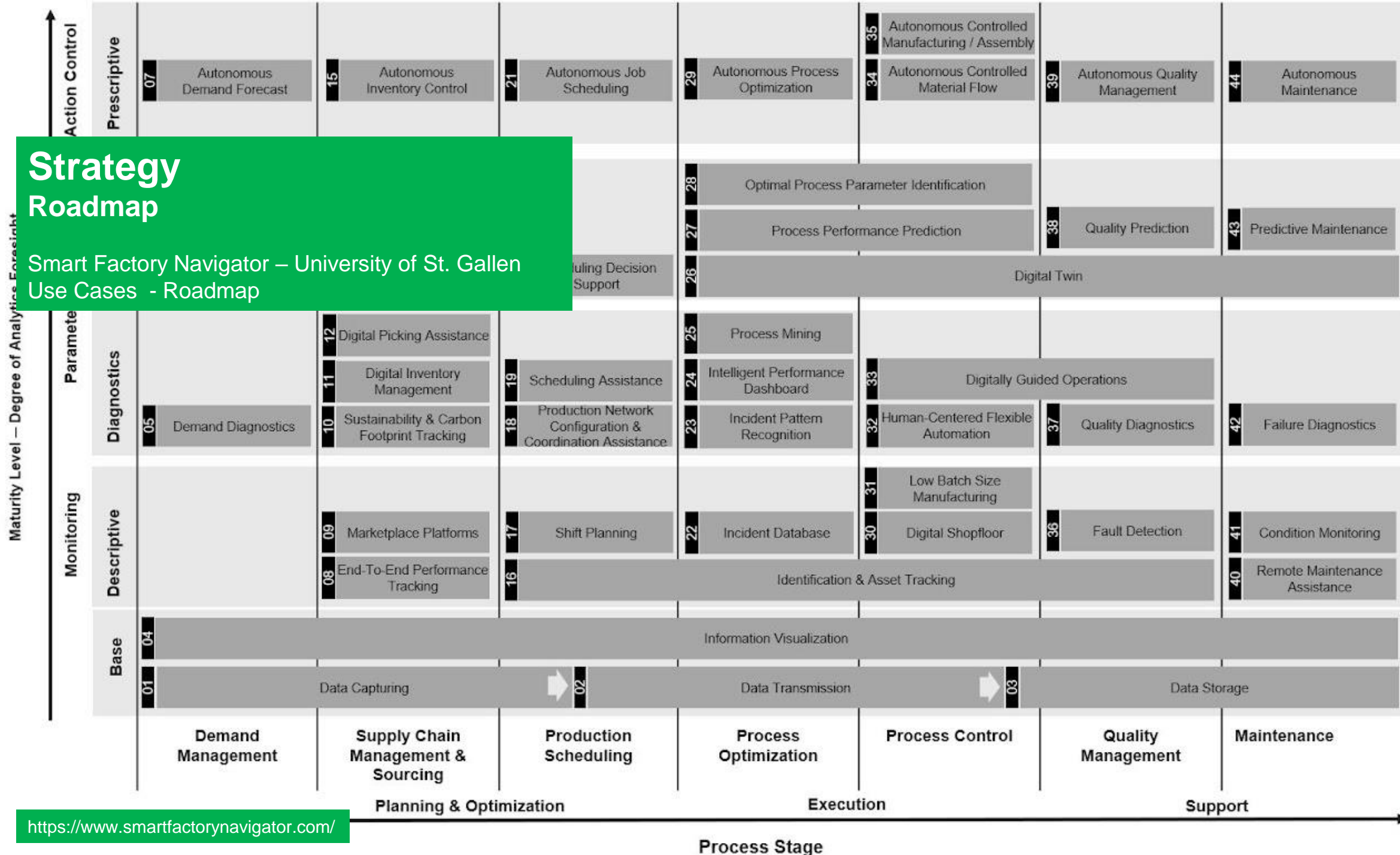
- Modules
- AGVs
- Cobots
- Robots
- Machine learning
- Remote monitoring
- Data Analytics
- Digital Twins

Video



# Strategy Roadmap

Smart Factory Navigator – University of St. Gallen  
Use Cases - Roadmap





Global footprint → Standardisation  
CULTURE IS KEY





# How does this journey of Smart Factory benefit our Business?

A before and after glance

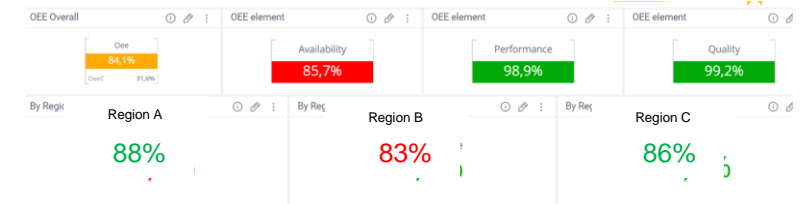
## We are a Global Company

DATE: Feb 24, 2015      SHIFT: Day      LINE: 9					
Hour	Target	Actual	Shift Target	Shift Actual	Comments
1	210	210	210	210	😊
2	210	150	420	360	
3	210	210	630	570	😊
4	210	216	840	786	😊
5	210	186	1050	972	LUNCH BREAK
6	210	127	1260	1099	20 MINUTES MAINT
7	210	210	1470	1309	😊
8	210	113	1680	1422	

Machines  
Europe

Machines  
Americas

Machines  
China



- Data collection (sensors and Big Data) → optimize processes & reduce downtimes
- Remote monitoring
- OEE (increase in 2%)
- Downtimes (MTBF / MTTR)
- Scrap (reduce significantly)
- Predictive Maintenance → **our objective**

**Do not forget the most important ...**  
our people in the Shopfloor





# Where to start the Transformation....

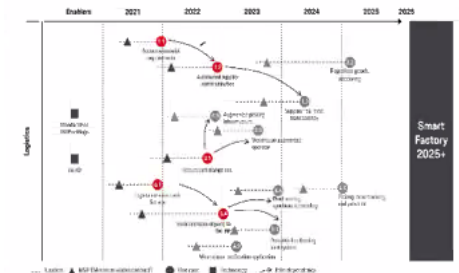
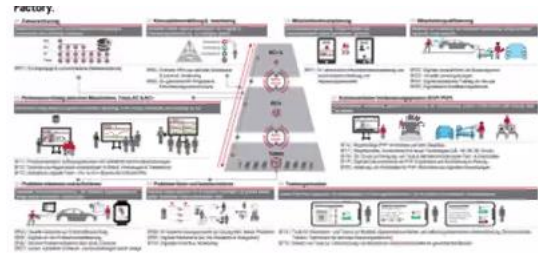
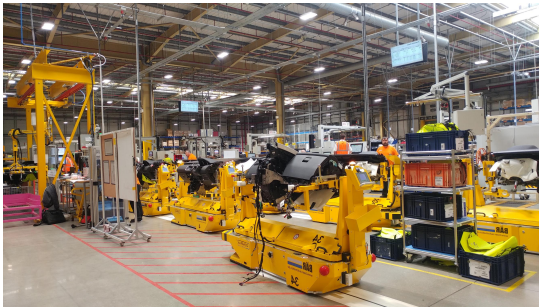
Lean is not just a concept... it is a lifestyle

**Vision and design guidelines** – clear vision with descriptive design guideline for internal and external communication

**Process target pictures** – clearly defined process target pictures for the future process including their use cases  
**Reduce Downtimes**

**Potentials & Business Case**  
– estimated potentials (saving cost in the Plant or Supply Chain)

**Implementation Roadmap** – prioritized use cases including dependencies allocated in the implementation roadmap



## Strategy and Leadership

# KEY TAKEAWAYS

Lean is not just a concept... it is a lifestyle and requires

## Standardization

Customized by the needs of the regions/plants



Data driven decision → Data  
Collection → optimize  
production and processes



## Value Management

Develop a business case with  
KPIs and not only good intentions



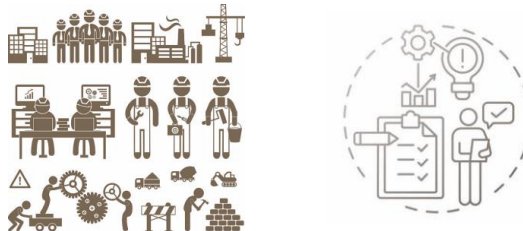
## Find a LEADER

Success comes with CEOs and  
VPs on your side OR a strong  
leader in the organization



## Create Accountability

Involve the shopfloor from the  
beginning



## Lean and Design thinking

Create the culture  
PEOPLE is the difference between  
success and failure







**IndustryX Talk**<sup>EU</sup>  
14<sup>th</sup> - 15<sup>th</sup> November 2024 | London, UK

**Strategy & Transformation Management**  
**Operational Excellence, Smart Factory, Industry 4.0**

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**Linked in**



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