



# ON THE DISRUPTIVENESS OF DIGITALIZATION IN MANUFACTURING – OUR RESPONSE

The Fastems  
Digital  
Journey  
14 March '17

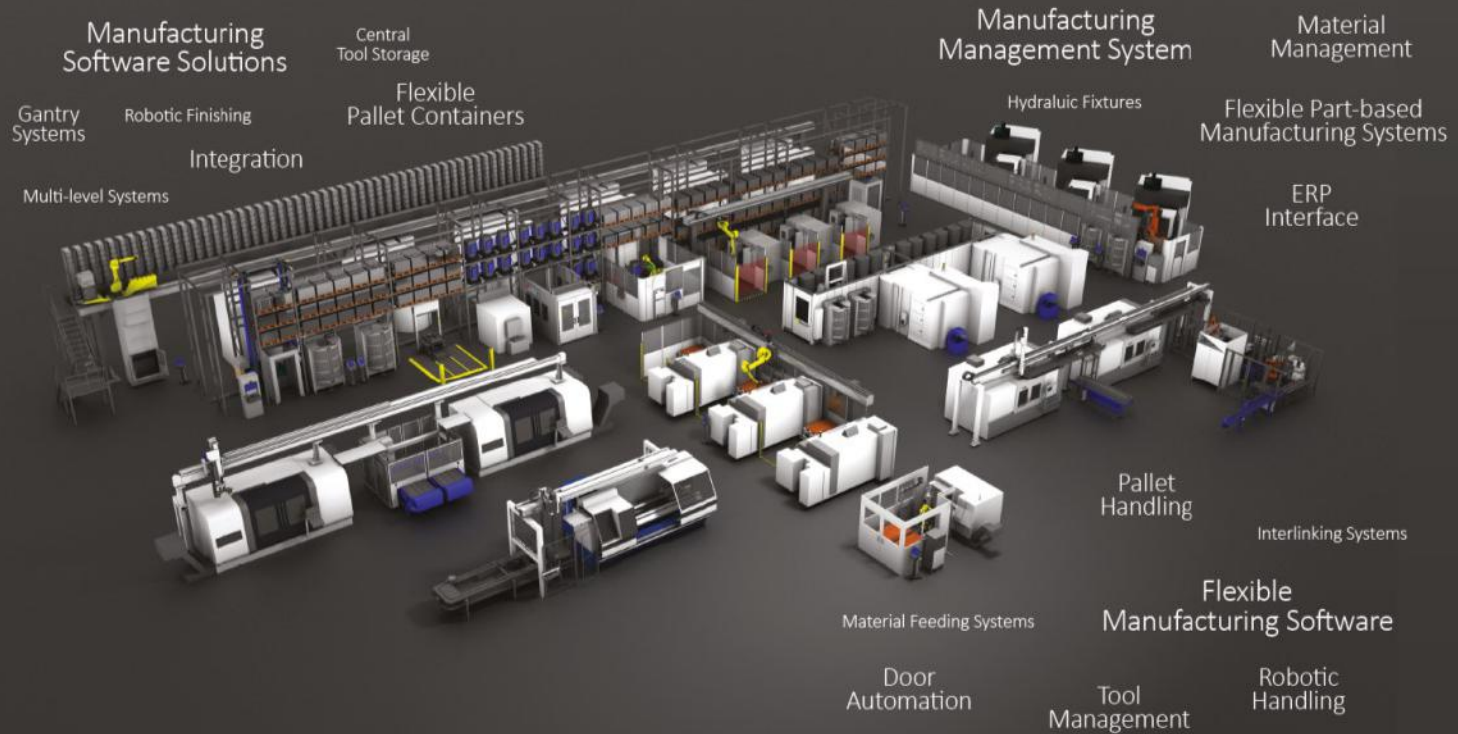
Tomas Hedenborg, CEO



# Agenda

- Who is Fastems?
- Culture and leadership as enabler
- Views on digitalization of manufacturing
- The 8760 dilemma
- Agility demand and response

# FACTORY AUTOMATION SYSTEMS



# SOUNDS BRILLIANT, 4,000 SYSTEMS WORLDWIDE



1982

First system installed  
and still in use!

24/7

Teleservice support  
worldwide

7,200

Fastems record: spindle  
hours per year

# FASTEMS WORLDWIDE

A privately held company founded in 1901 with world headquarters in Finland, Fastems operates in nine European countries, the United States, Japan and China, with manufacturing facilities in Finland and Germany.



Annual Sales: **70 Million Euros**

Employees: **380**

Systems sold to: **Over 40 countries**

The Foundation...

# **STRATEGY, CULTURE, LEADERSHIP**

# FASTEMS' ROLE

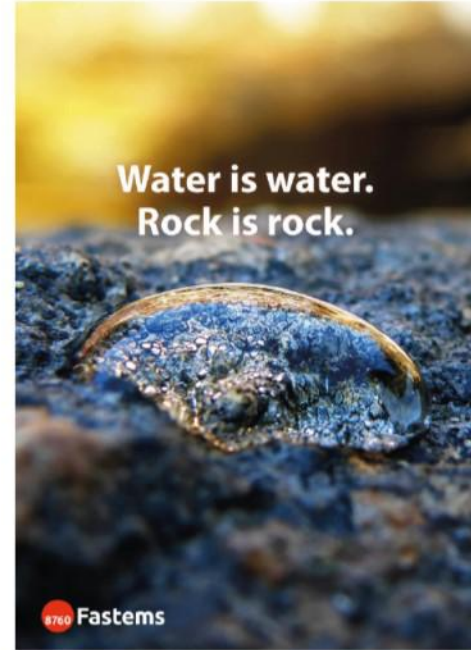
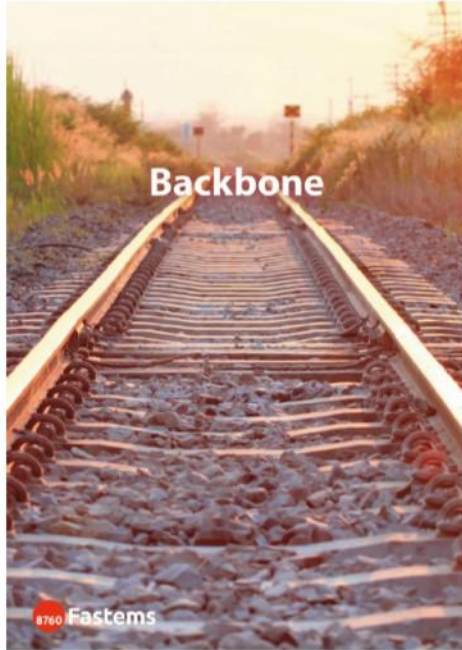
## ..... in serving the customer

- Improve customers' competitiveness through automation
- Being with our customers 8760 hours in a year, providing more value for their time
- Creating the attractive jobs of the future
- Radically change the way solutions are built and served using industrial internet and software
- Create possibilities for value adding by using new emerging technologies and process innovation
- Applying robotics on every level of the manufacturing value chains



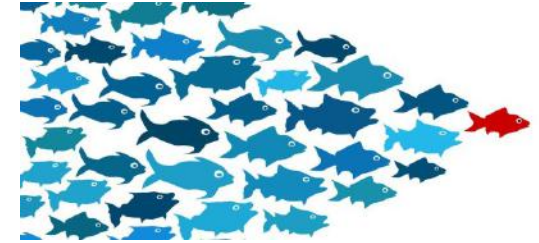
# FASTEMS COMMITMENT

## Manners of Our Culture



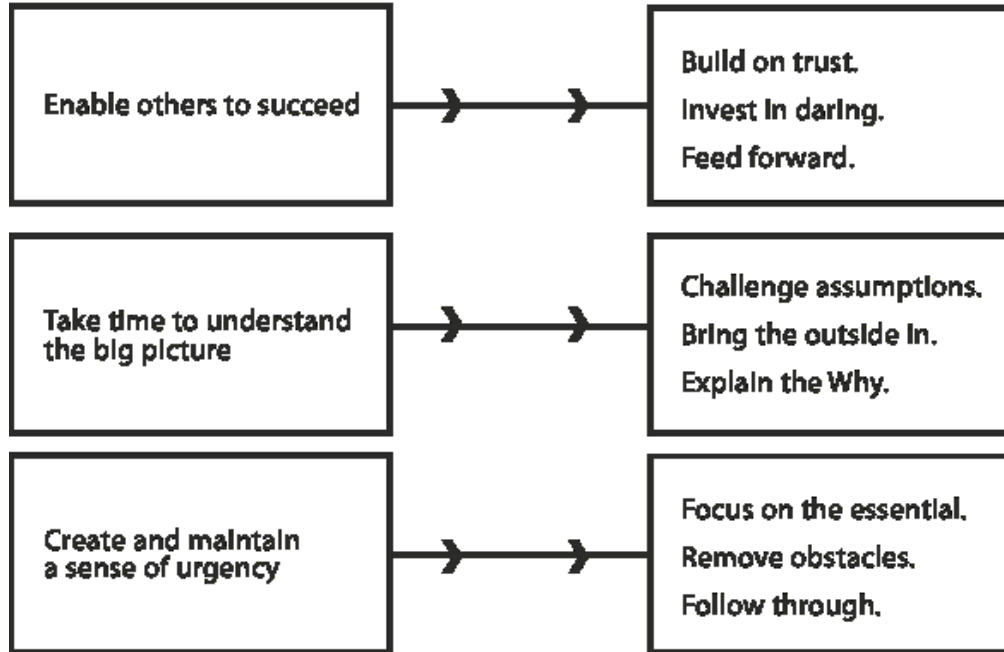


# FASTEMS LEADERSHIP – Delight and Deliver



Principles

Manners

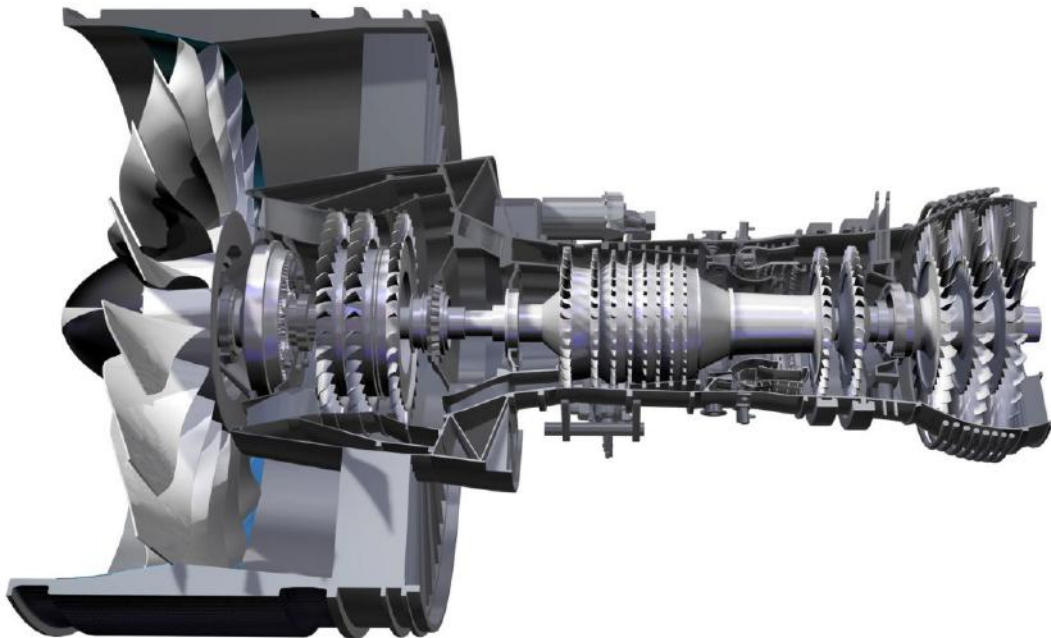


Some Technology Stuff...

# **FASTEMS' SOLUTION PORTFOLIO**

# Case - MTU Aero Engines

Airbus 320 NEO engine blisk manufacturing



## MTU challenge

- For 25 years MTU thought that manufacturing-intensive production can't be profitable in the high cost Bavarian area.

## The solution

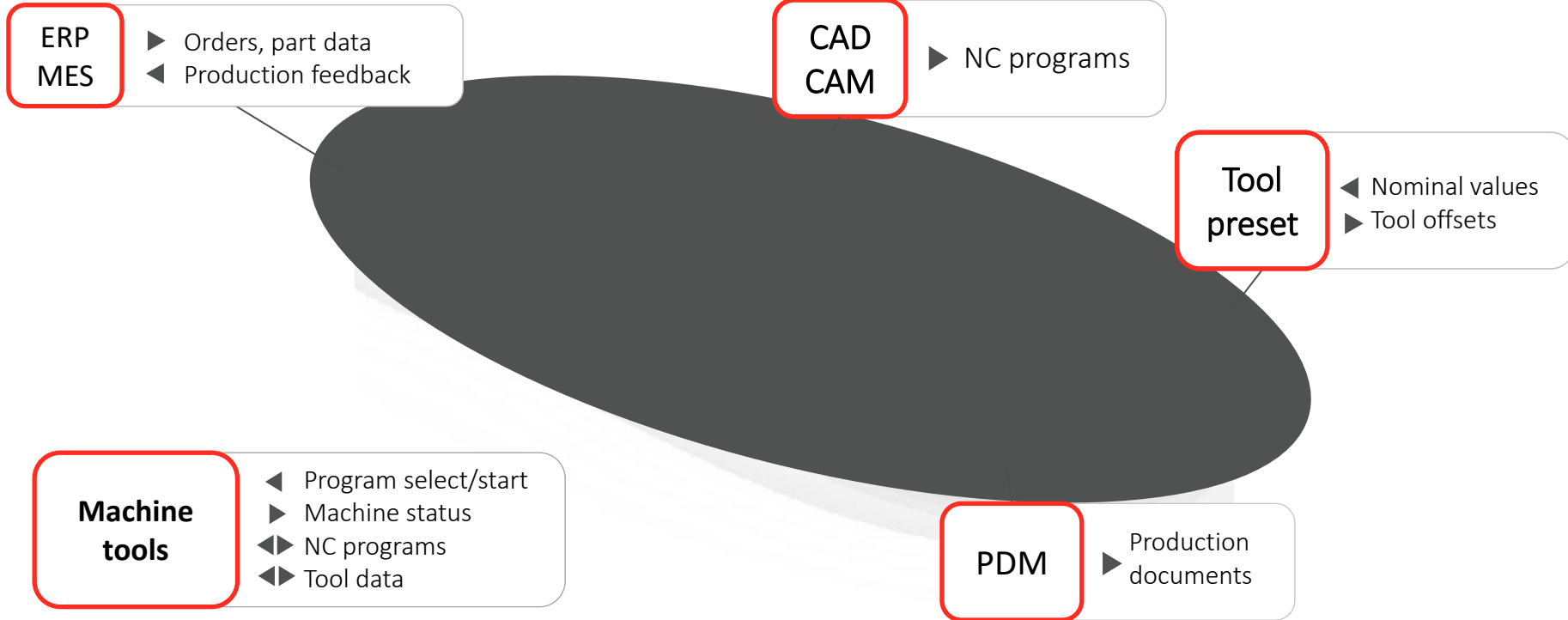
- Automating manufacturing and workflow management with software and hardware.

## The consequence

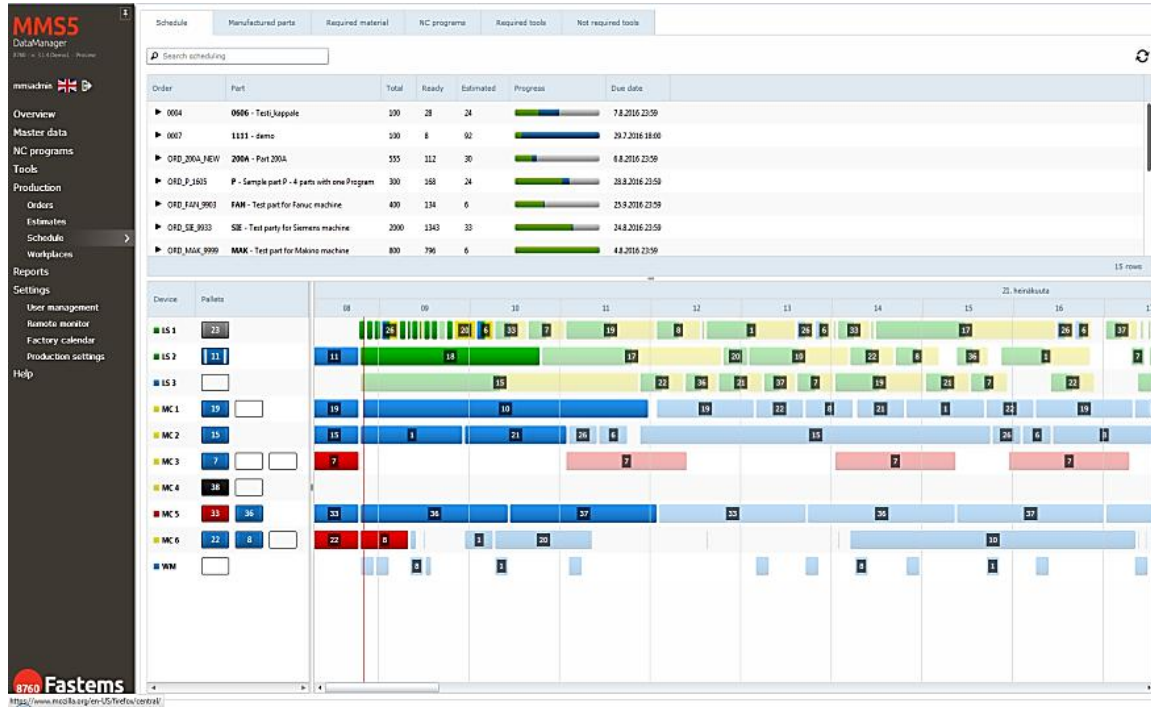
- Fastems is mission critical for "Hall 077" and subsequent assembly – by choice of the customer

# MANUFACTURING DIGITALIZATION

## starts with connecting production assets



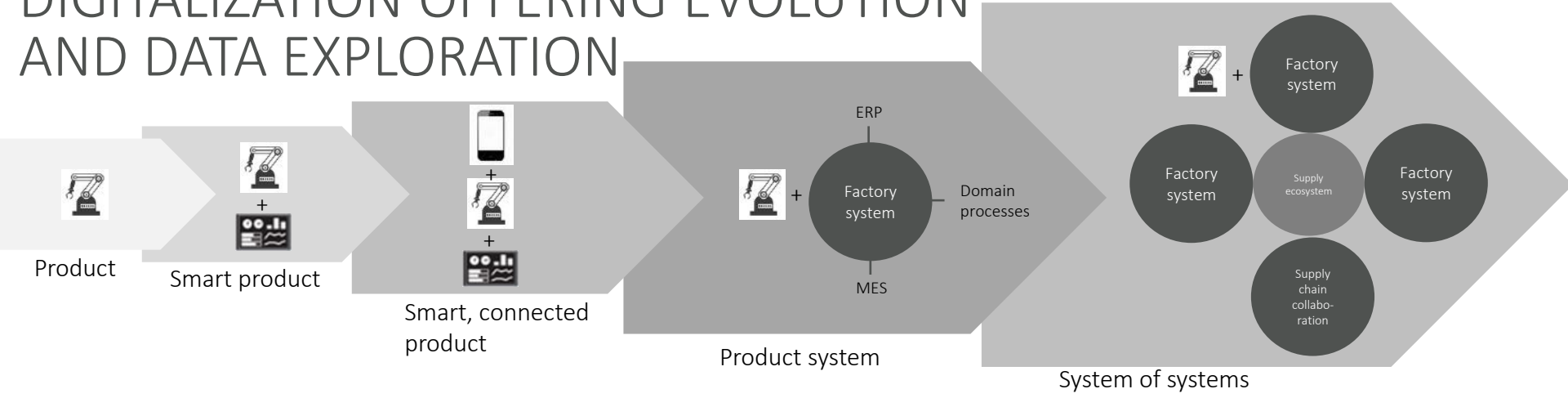
# MANUFACTURING DIGITALIZATION in practice



- Based on real time data production orders are simulated and optimized into the production schedule, then outcome is executed.
- Any change in production assets (data, resource or machine status) triggers an updated simulation.

→ real time data based production schedule for coming days!

# DIGITALIZATION OFFERING EVOLUTION AND DATA EXPLORATION



<b>Type of data</b>	Product, technological data	Door to door data	End to end & market demand data
<b>Customer value</b>	Predictive maintenance, Proactive monitoring	Production resource management	Holistic supply chain transparency
<b>Driver</b>	Delivery reliability driven	Resource optimization driven	Scarcity and demand driven
<b>Technology/business models</b>	MMS /system based	Platform based	Ecosystem based



Conclusions and Actions...

# THE FASTEMS APPROACH

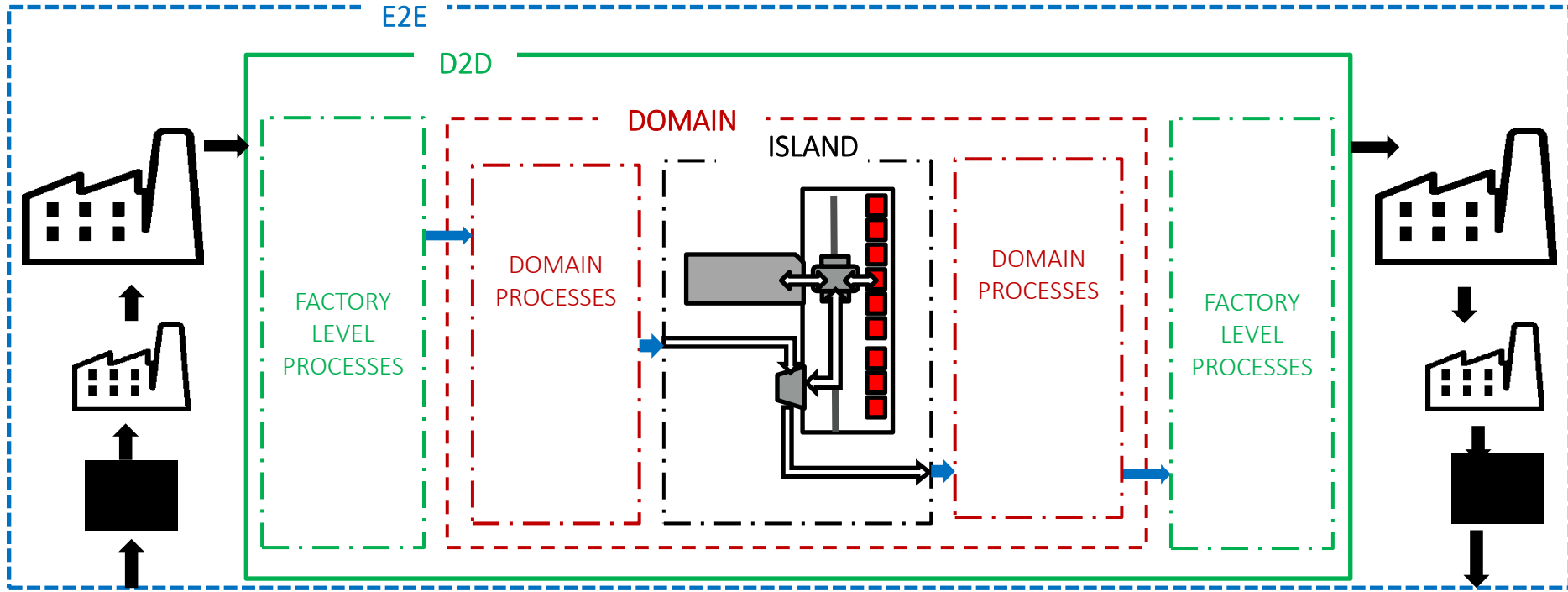
# Ambition level – Out of the Island

E2E – End to End: whole supply chain

D2D – Door to Door: one factory

DOMAIN – machining + supporting processes, quality mgmt, interim logistics

ISLAND – manufacturing systems and -cells



# ”How to get it all without making a mess”

## Bimodal IT = Marathon Runners + Sprinters

Think  
Marathon Runner



**Mode 1**

**Mode 2**

Think  
Sprinter

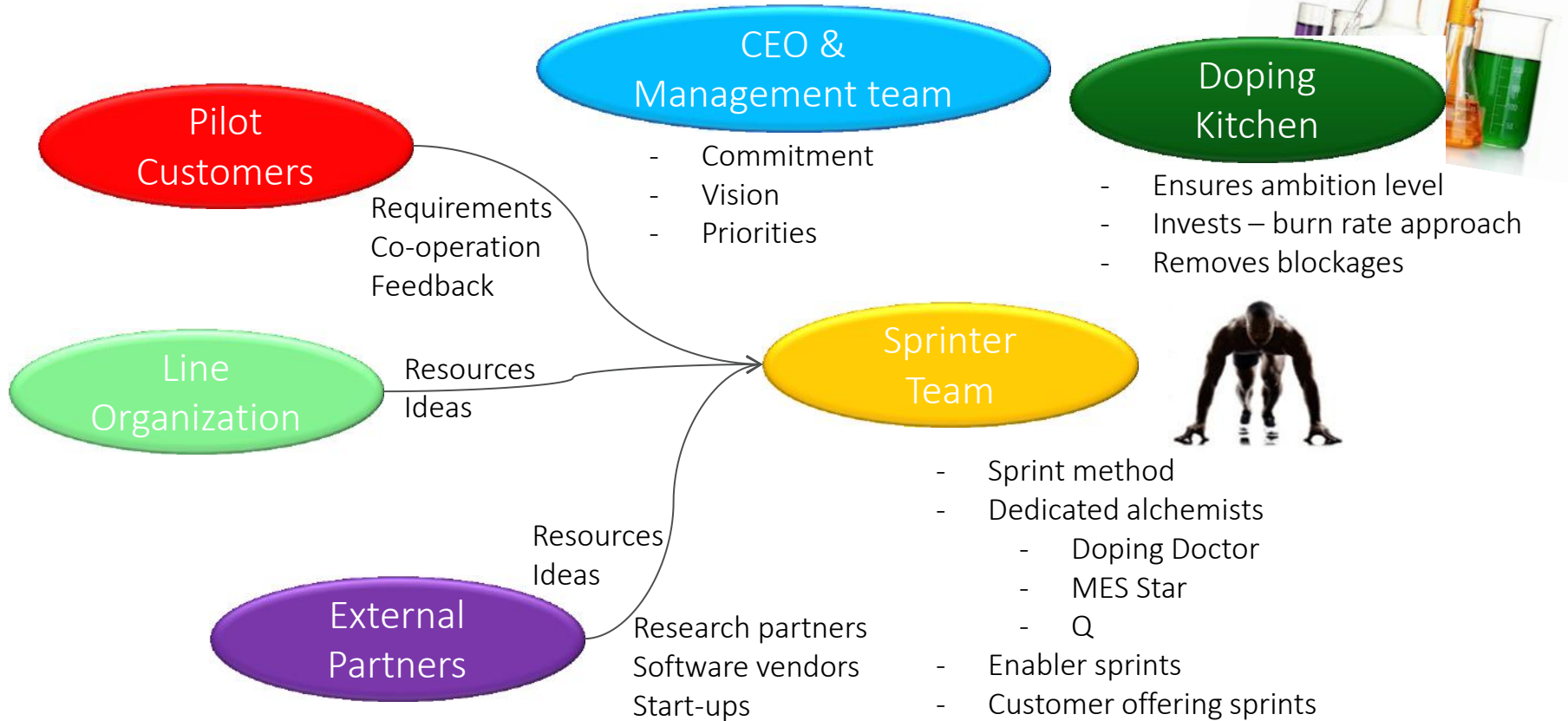
Reliability	Goal	Agility
Price for performance	<b>Value</b>	Revenue, brand, customer experience
Waterfall, V-Model, high-ceremony IID	<b>Approach</b>	Agile, Kanban, low-ceremony IID
Plan-driven, approval-based	<b>Governance</b>	Empirical, continuous, process-based
Enterprise suppliers, long-term deals	<b>Sourcing</b>	Small, new vendors, short-term deals
Good at conventional process, projects	<b>Talent</b>	Good at new and uncertain projects
IT-centric, removed from customer	<b>Culture</b>	Business-centric, close to customer
Long (months)	<b>Cycle times</b>	Short (days, weeks)



**Gartner.**

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# Doping Kitchen



# Is IoT just about technology & business models?



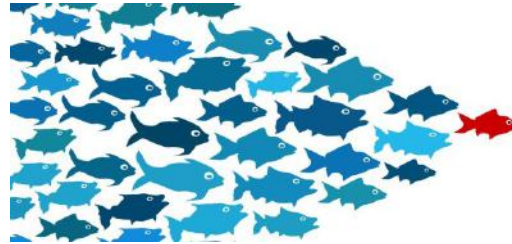
Technology & Business  
models



Culture



Performance management



Leadership

# Conclusions

- IIoT is not about technology, it's about strategy
- Change-promoting mindset, culture and leadership are mandatory
- Radical challenge of legacy for disruptive leaps
- Organize and manage for agile development



Thank You

[www.fastems.com](http://www.fastems.com)

A photograph of a modern industrial building with a white facade and large glass windows. The building features two prominent red horizontal stripes. The word "Fastems" is displayed in large, dark, 3D block letters on the roofline. The sky is blue with scattered white clouds.

# Fastems