



ON THE DISRUPTIVENESS OF DIGITALIZATION IN MANUFACTURING – OUR RESPONSE

The Fastems
Digital
Journey
14 March '17

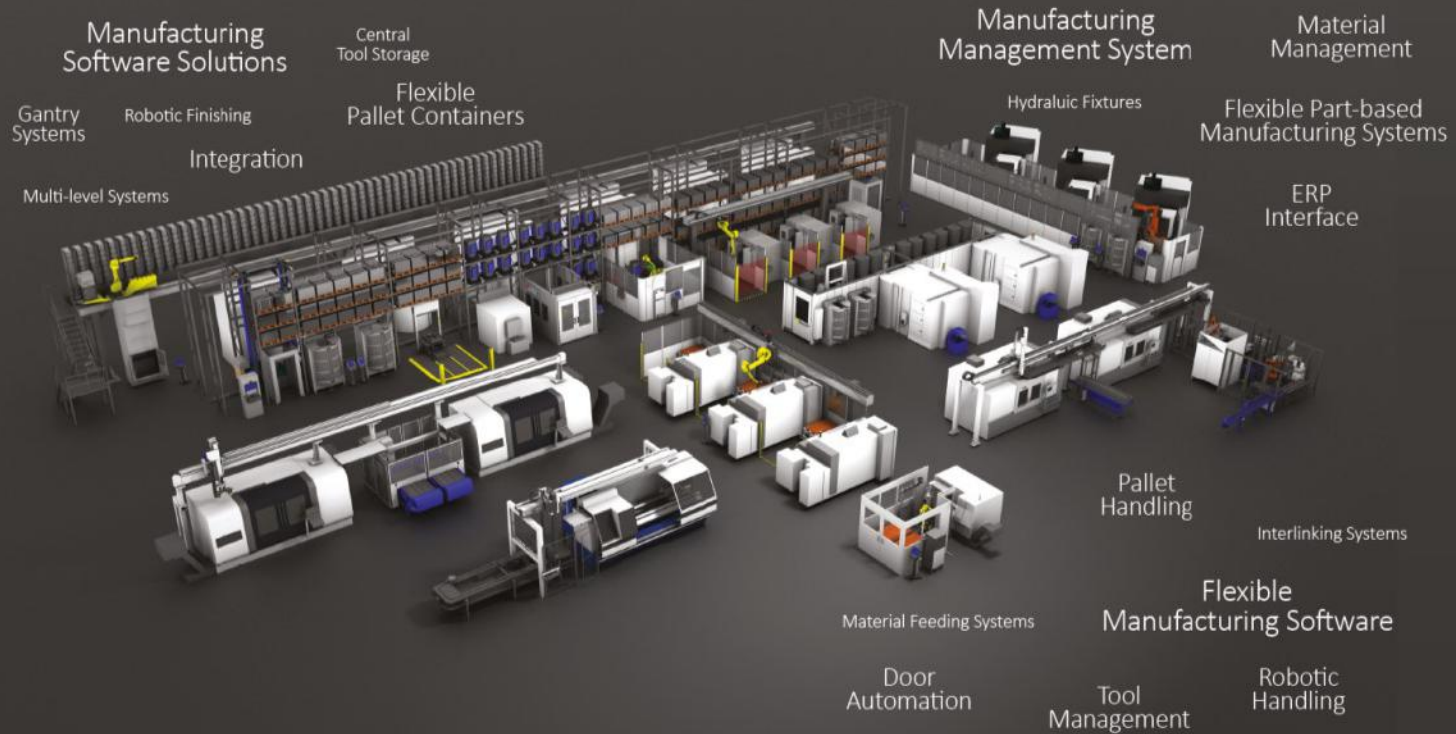
Tomas Hedenborg, CEO



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

8760

Fastems

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

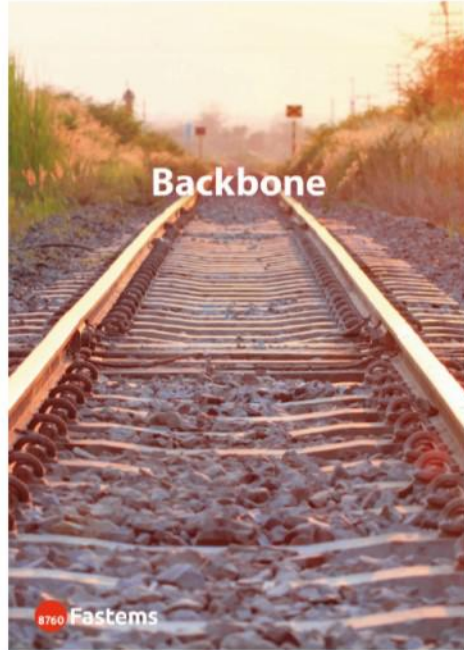
FASTEMS' ROLE

..... in serving the customer

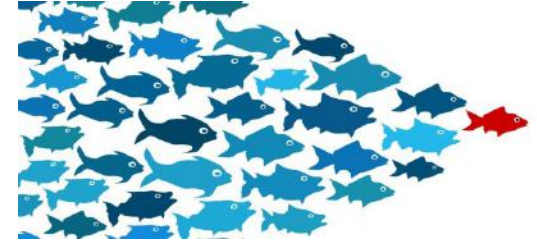
- Improve customers' competitiveness through automation
- Being with our customers 8760 hours in a year, providing more value for their time
- Creating the attractive jobs of the future
- Radically change the way solutions are built and served using industrial internet and software
- Create possibilities 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

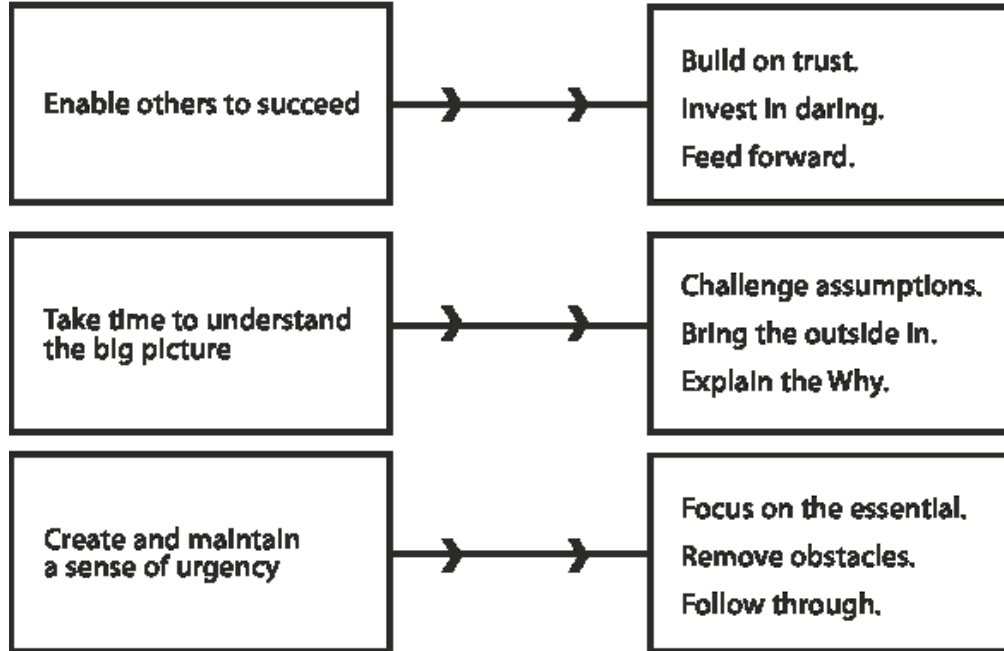


FASTEMS LEADERSHIP – Delight and Deliver



Principles

Manners

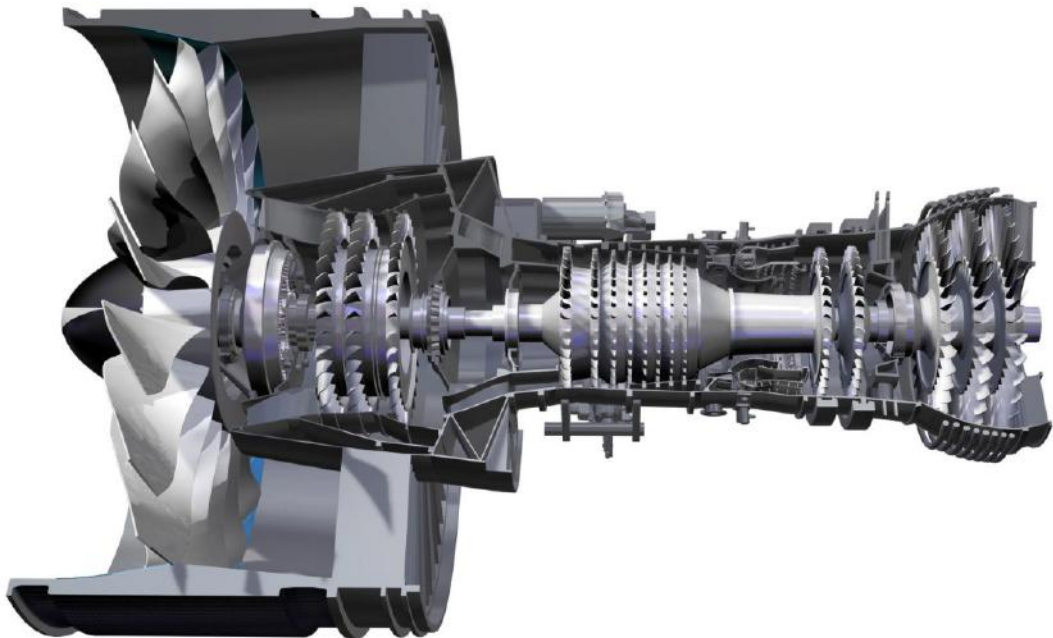


Some Technology Stuff...

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

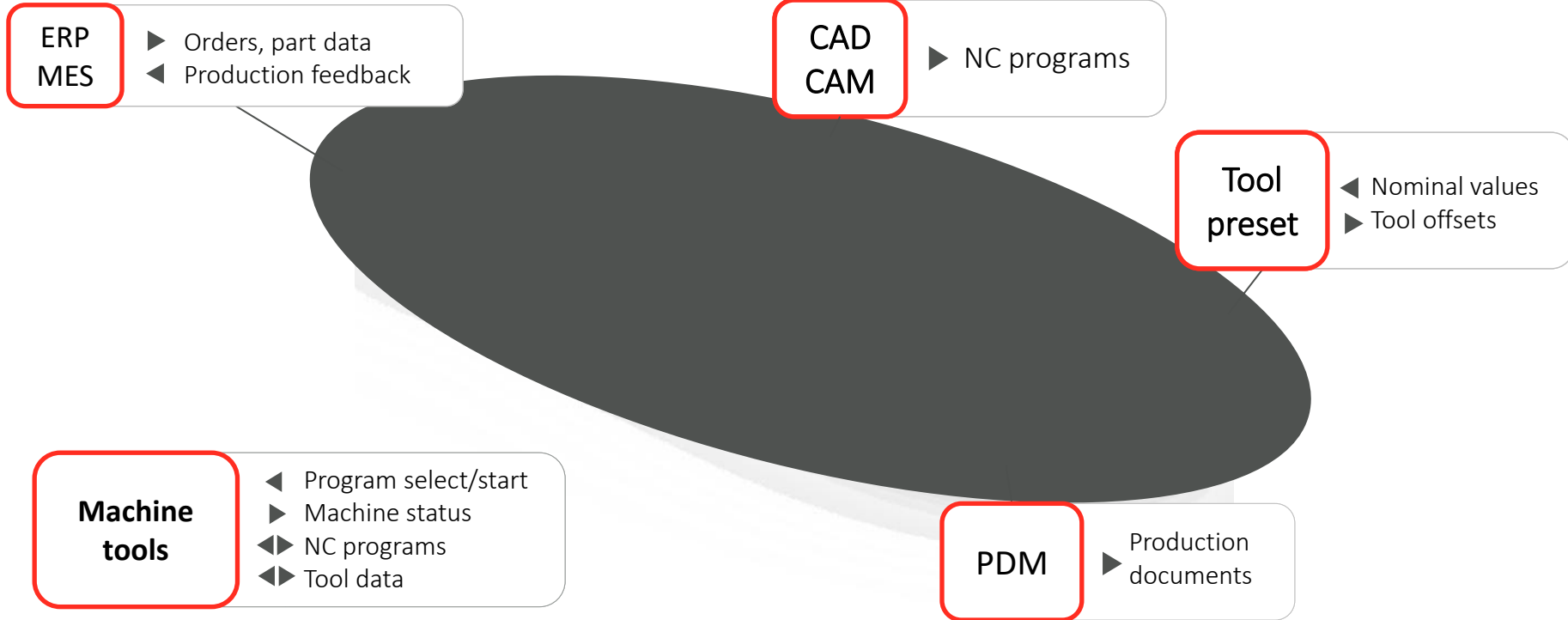
- Automating manufacturing and workflow management with software and hardware.

The consequence

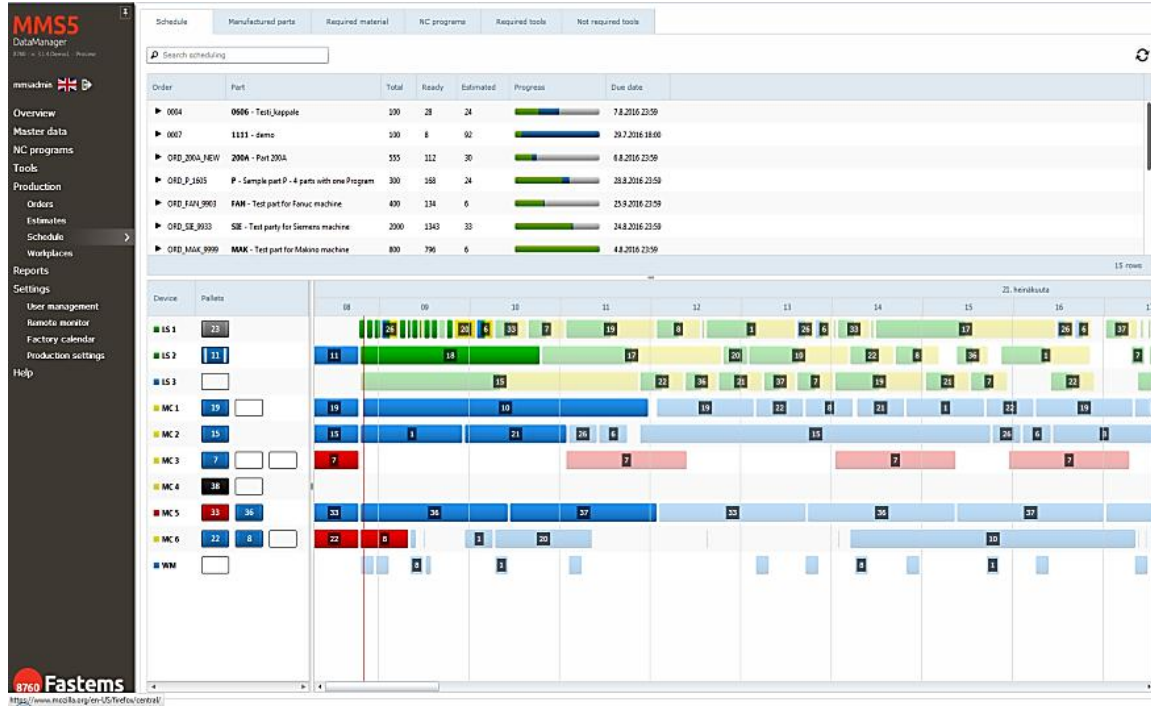
- Fastems is mission critical for "Hall 077" and subsequent assembly – by choice of the customer

MANUFACTURING DIGITALIZATION

starts with connecting production assets



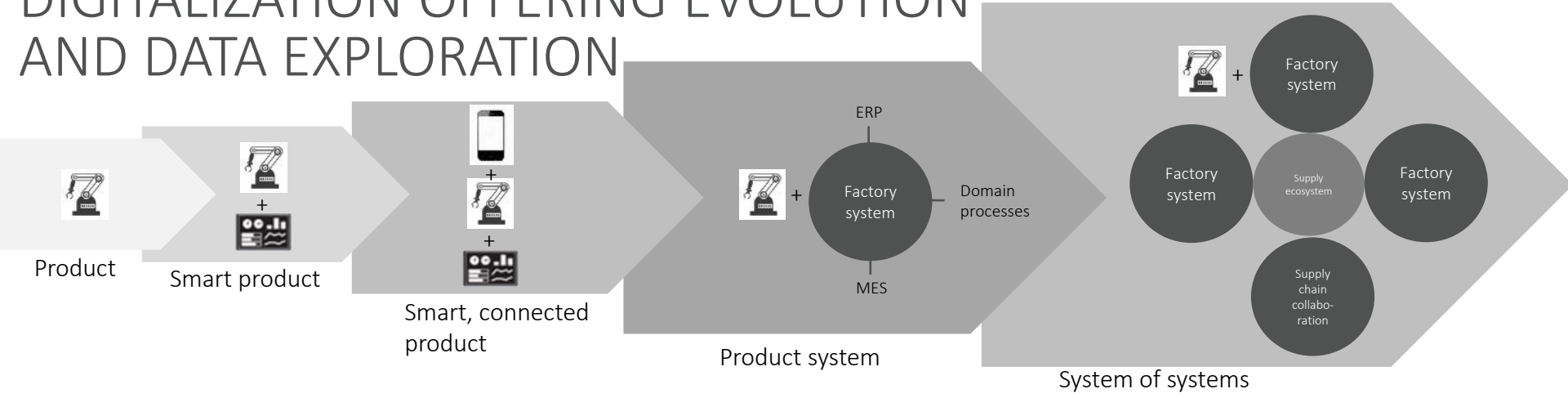
MANUFACTURING DIGITALIZATION in practice



- 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



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

Conclusions and Actions...

THE FASTEMS APPROACH

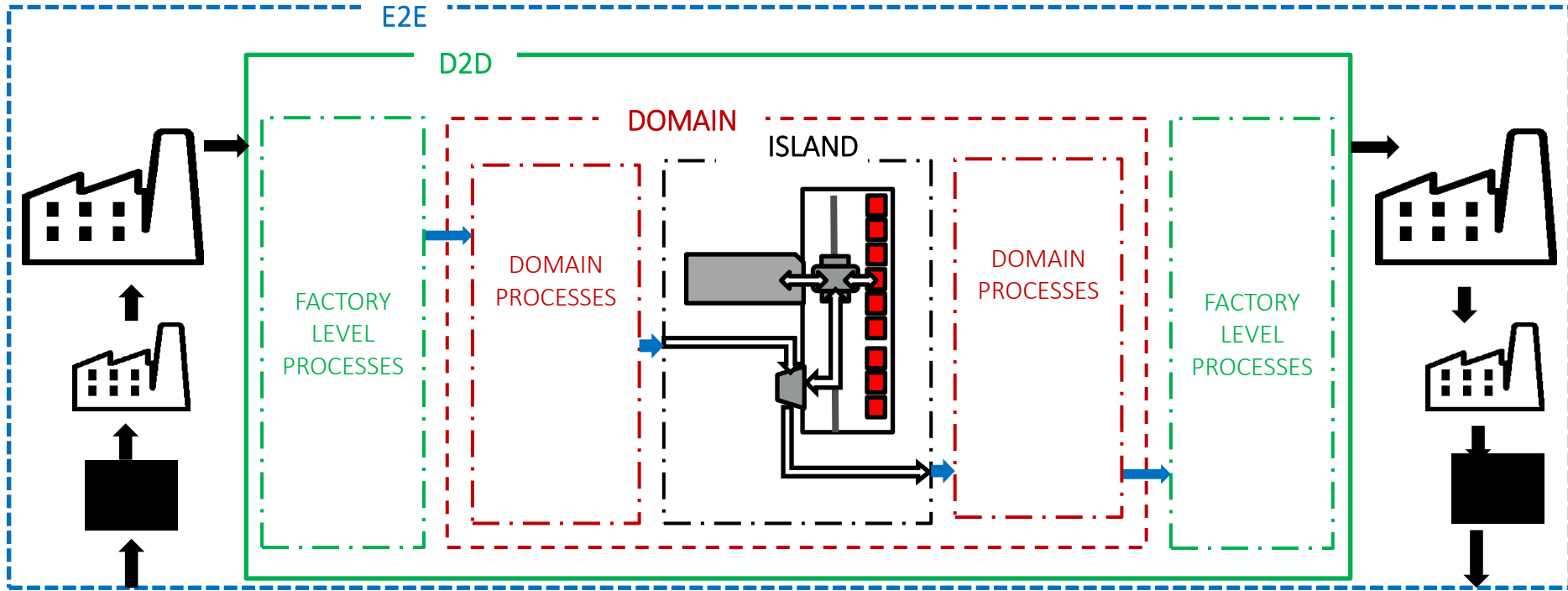
Ambition level – Out of the Island

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

Reliability

Goal

Price for performance

Value

Waterfall, V-Model,
high-ceremony IID

Approach

Plan-driven,
approval-based

Governance

Enterprise suppliers,
long-term deals

Sourcing

Good at conventional
process, projects

Talent

IT-centric, removed
from customer

Culture

Long (months)

Cycle times

Mode 2

Agility

Revenue, brand,
customer experience

Agile, Kanban,
low-ceremony IID

Empirical, continuous,
process-based

Small, new vendors,
short-term deals

Good at new and
uncertain projects

Business-centric,
close to customer

Short (days, weeks)

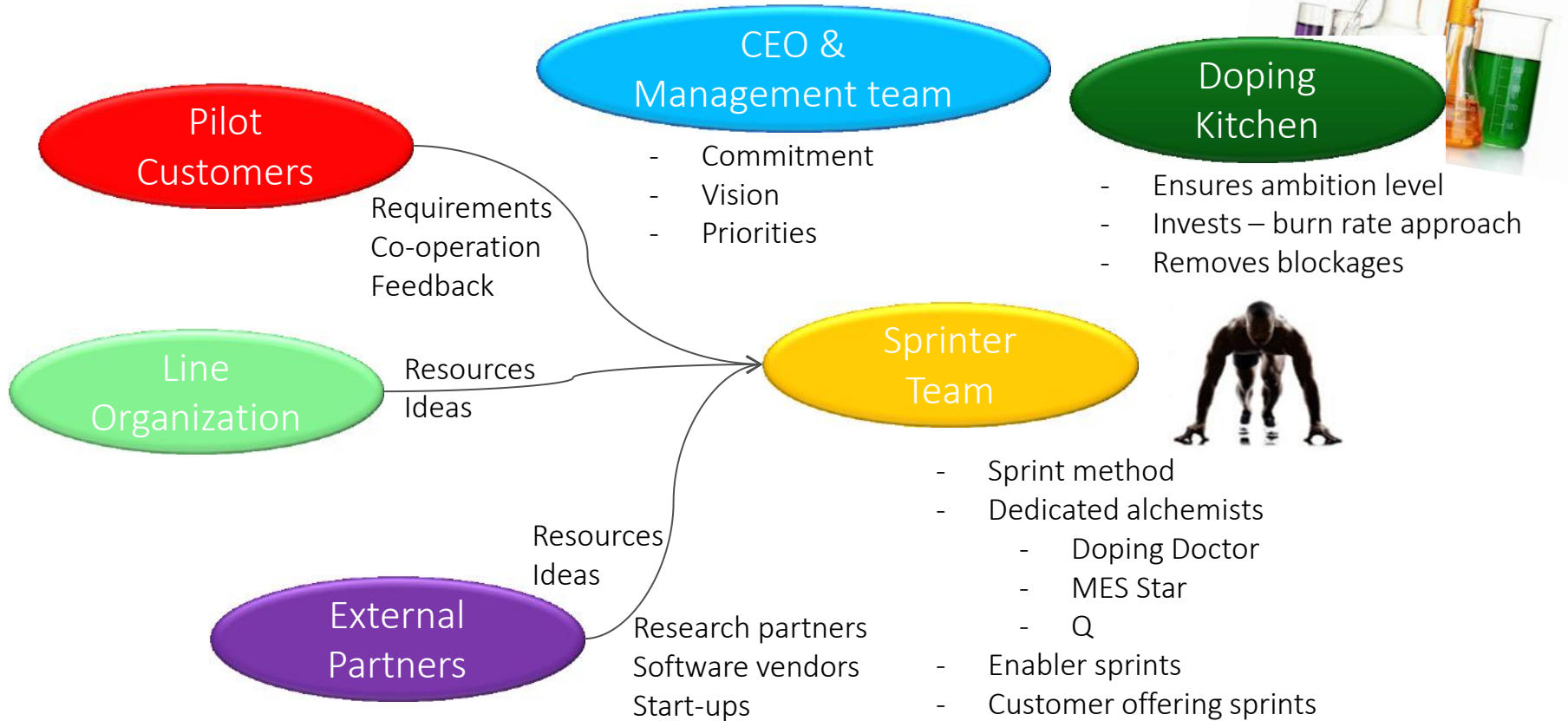
Think
Sprinter



Gartner.

© 2015 Gartner, Inc. and/or its affiliates. All rights reserved.

Doping Kitchen



Is IoT just about technology & business models?



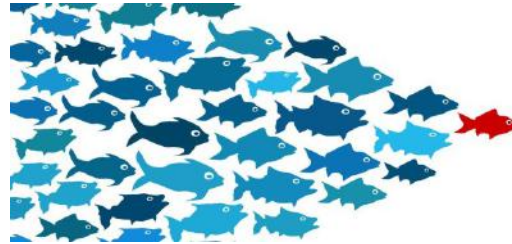
Technology & Business
models



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

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