IIoT & Kaizen:
the Japanese philosophy of waste reduction in the 4.0 factory

Robotika

Camilla Bonanni
Founder & Consultant
IoT & Digital Transformation

Nice to meet you :)

- +20 in Technology & IoT Business Development/Sales
- Google, TD Synnex, Oracle
- Data Marketing, IoT, Data Infrastructures/Cloud Systems
- Presales, Architecture Design, Business Strategy
- Digital Transformation Consultant
- Studies in Lean Manufacturing in JP

Executive Summary

Toyota’s Legacy for IIOT

10 Principles for 4.0 Manufacturing

Cases

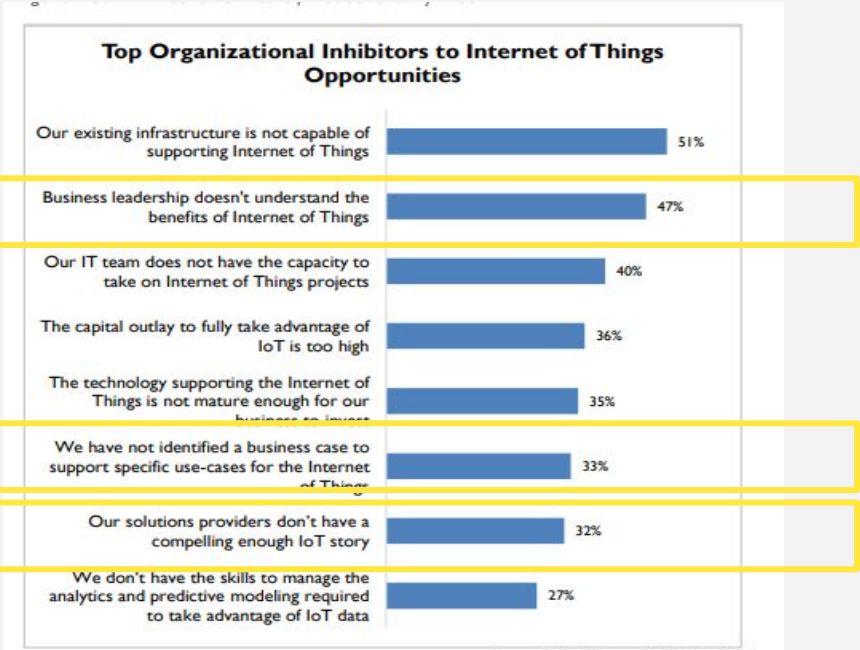
Executive Summary

Toyota’s Legacy for IIOT

10 Principles for 4.0 Manufacturing

Cases

Proving IoT's Process Optimization Value



Source: RSR Research

IOT & IIOT

Are a Lean Management Matter.

Adopting and Selling IIOT
must be consistent
with a Lean Processes mindset.

Toyota’s Legacy for nowadays IIOT world

Taichi Ono (1912-1990)

Shigeo Shingo (1909-1990)

改善
KAIZEN
Continuous Improvement

無駄
MUDA
Waste

“There are 4 purposes
of **Improvement (kaizen):**
Easier, Better, Faster & Cheaper.
These 4 goals appear in the
order of Priority.”

Shigeo Shingo

Executive Summary

Toyota's Legacy for IIOT

10 Principles for 4.0 Manufacturing

Cases

Waste

0

Fight waste, whether material or not:
in production, people, inventory,
motion, defects, waiting time, quality.

Visibility

1

The most dangerous type of waste
is the one you cannot see.

Visibility

2

Practice
constant observation of reality
at the *gemba.*
Look for waste everywhere.

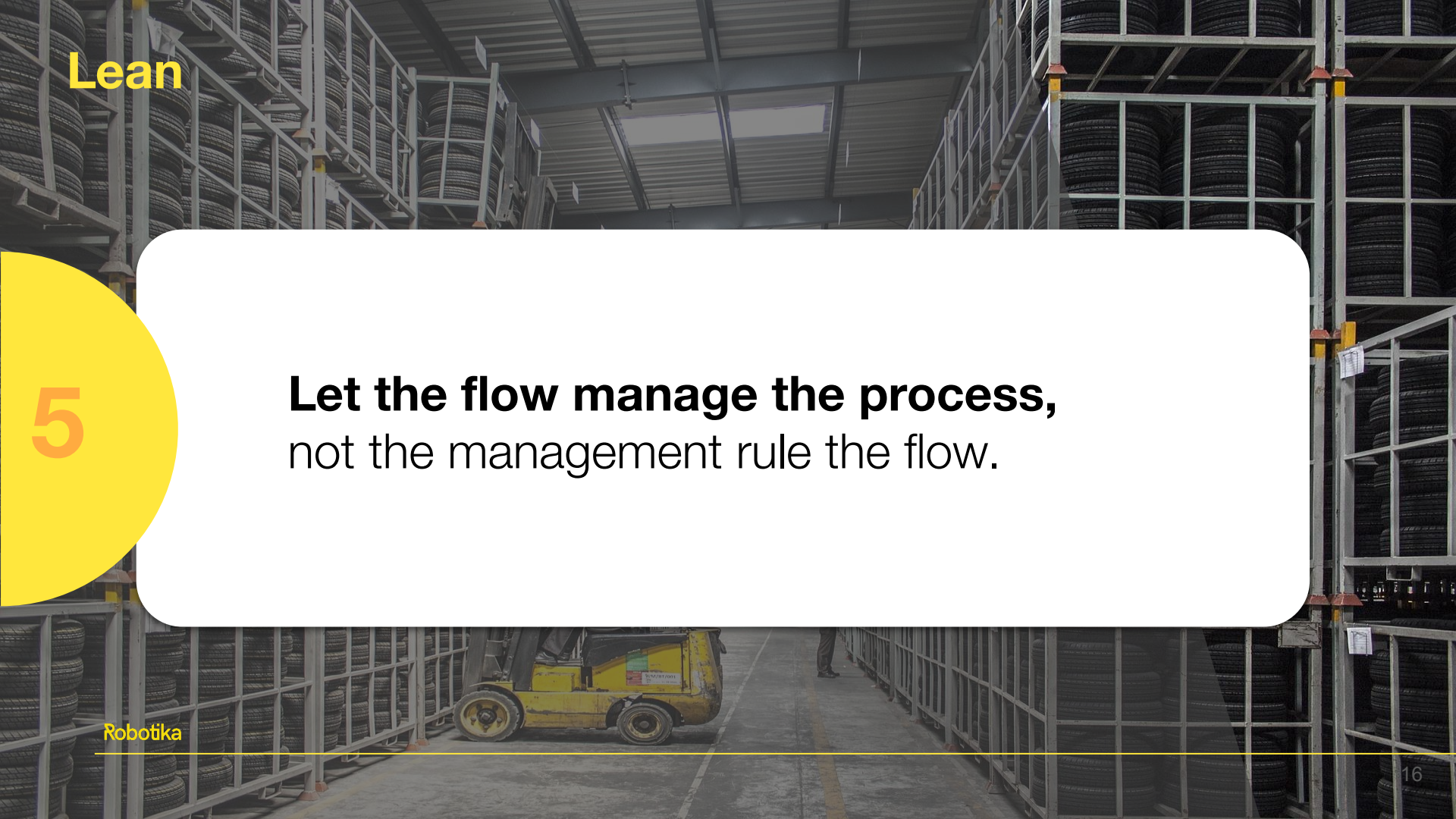
Optimization

3

Recognize the Mistake and identify the Root Cause.
The importance of Optimization.

4

Profit stems from (good) process.



5

Let the flow manage the process,
not the management rule the flow.

Prediction & Prevention

6

Process amendments should be anticipated.
The importance of Prediction.

7

“Just in time”, not “Just in case”.
Fight overstocking, but ensure constant replenishment.

8

Reduce over-production.

Real-time

9

Synchronization and Real-Time Actuation are the essence of lean management.

10

Create a Visual Factory.
Make production metrics and signals visible to the organization.

IoT Definition in a Nutshell

A Technology Framework
with HW & SW components,

that helps businesses & humans
optimize Decisions, Processes and Value,

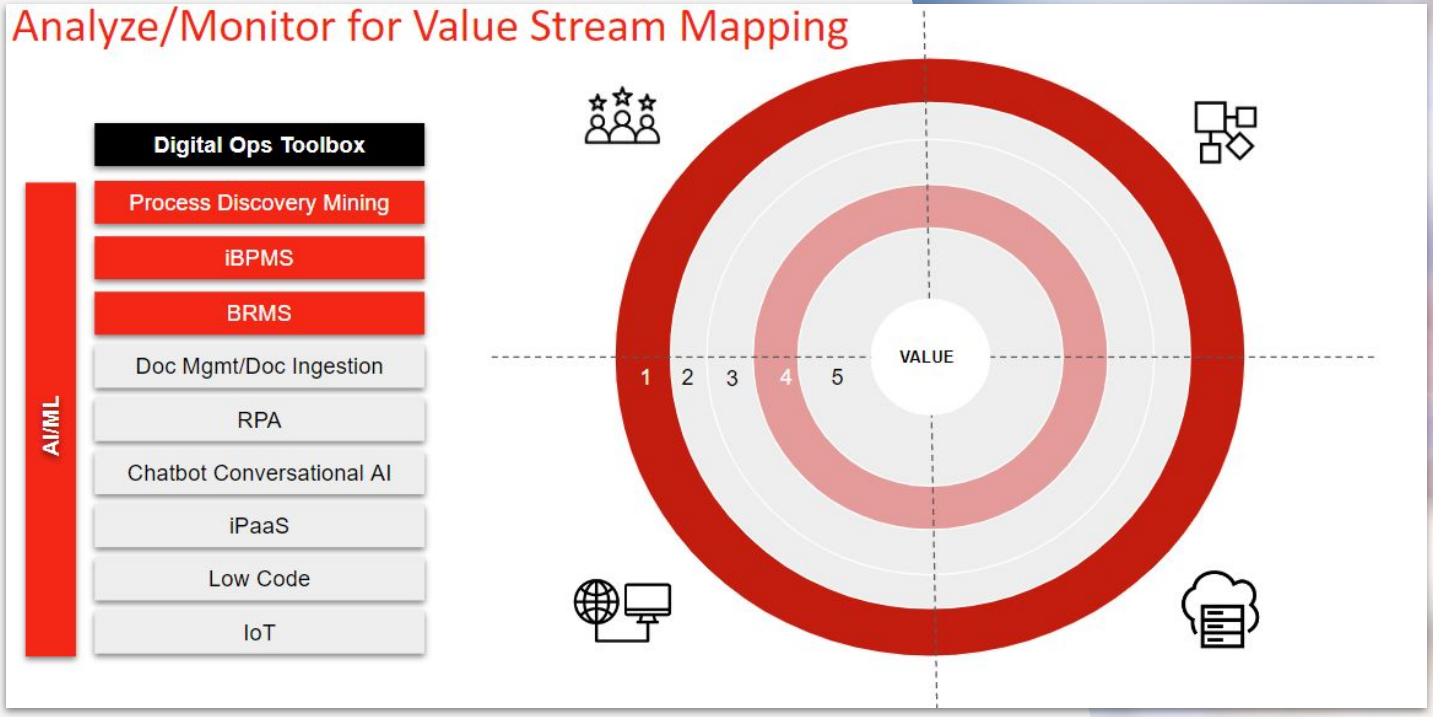
based on Data Insights collected real time
within Physical Spaces

by The Things = Sensors of Events/Conditions
in Physical Spaces.

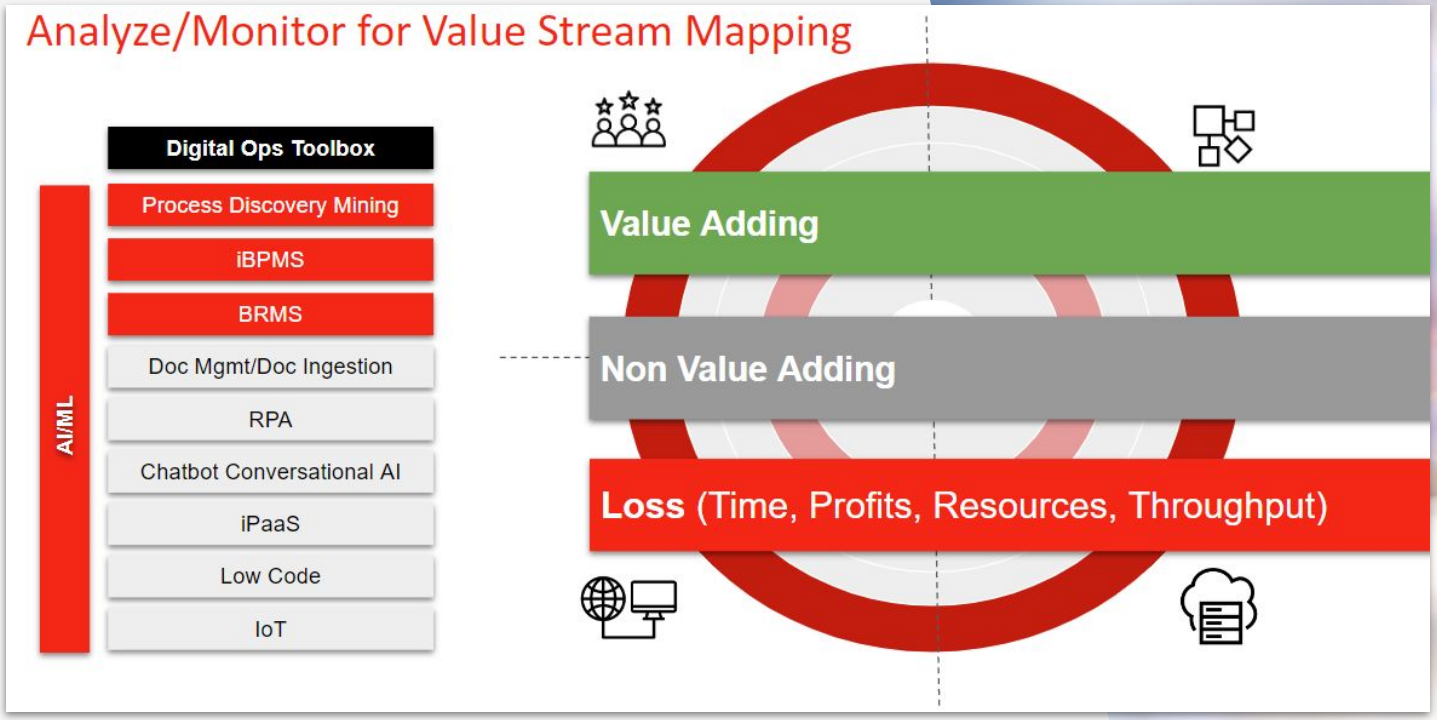
Hyperautomation

- Data-driven
- End-to-End
- Composable
- Cross-platform
- Cloud-based/Remote
- Unmanned > AI

Analyze/Monitor for Value Stream Mapping



Analyze/Monitor for Value Stream Mapping



Executive Summary

Toyota’s Legacy for IIOT

10 Principles for 4.0 Manufacturing

Cases

Kennametal pushes manufacturing into the future with IoT & Cloud

“When you are able to see what you are producing, it makes you want to produce more.”

Kennametal pushes manufacturing into the future with IoT & Cloud

Case Study publicly available from owner on Youtube at:
(656) Kennametal pushes manufacturing into the future with IoT and Microsoft Cloud Solutions - YouTube

Quoted for educational purposes.

RICOH saves up to 300K GBP yearly in waste reduction

“Toner is a very expensive commodity. We have taken all the data of the toner filling process to predict what is the optimal point to stop filling the toner.”

RICOH saves up to 300K GBP yearly in waste reduction

Case Study publicly available from owner on Youtube at:
(656) Predictive Analytics for Manufacturing, Ricoh Products Ltd. Case Study - YouTube

Quoted for educational purposes.

Key Takeaways

- Don’t detach digital transformation from **BPM**;
- Make ***waste* your north-star** for IoT-driven digital transformation;
- **Quantify waste** and compare it against IoT adoption ROI;
- Create a factory that is **visible to all operators**, cross-lines of business.

Thanks for your Attention

ありがとう

Camilla Bonanni

IoT & Digital Transformation Consultant

Sociologist, Italian born, with a +20 years international track-record in tech sales and business development spent across Europe, Asia and Middle-East, Camilla Bonanni is an IoT consultant with a holistic approach to digital transformation, which she sees as a method of corporate governance, blending together business processes, technical, commercial and even people management aspects around the principles of measurability and automation.

After embracing an initial career in data marketing within IT multinationals of the caliber of Apple, Google, Yahoo, she later specialized in 4.0 technologies and worked for several years in IoT as a pre-sales consultant and industry lead in the distribution/solution aggregation world for Tech Data Synnex EMEA, designing and strategizing edge architectures oriented to specific business outcomes, for top channel partners and system integrators, across several industries: from Retail to Healthcare, from Smart Spaces to Manufacturing, Transportation and Logistics.

She studied lean manufacturing at Toyota in Nagoya and Tokyo, learning from the Japanese world a number of methods that find immediate application in the IoT world and are inspired to the continuous improvement (*kai-zen*) and waste reduction.

Later she specialized in data infrastructures and cloud services at Oracle, where she currently works, as an Industry business development lead at EMEA level within the Cloud Systems division.
Besides her own independent consultancy activity (Robotika), she also serves as a guest lecturer for MBA business school ISDI in Barcelona and Madrid, regularly delivering courses to post-graduate students on the business impact of hyper-automation, IoT and AI adoption in modern enterprise.

Robotika

Digitizing Human Space

Robotika.space
Camilla Bonanni - camilla@robotika.space
Eleudamon OÜ - ER Hub, Ahtri tn 12 - 10151, Tallin - Estonia