

L'evoluzione 4.0: lo scenario in Italia. Opportunità, difficoltà e applicazioni.

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Is Italy ready for the Fourth Industrial Revolution?



Challenges to Manufacturing Today...



The Market of One

- » Customized offerings
- » Individual requirements
- » Regional preferences



Extreme Variability

- » Productivity
- » Innovative technology
- » Employee Satisfaction



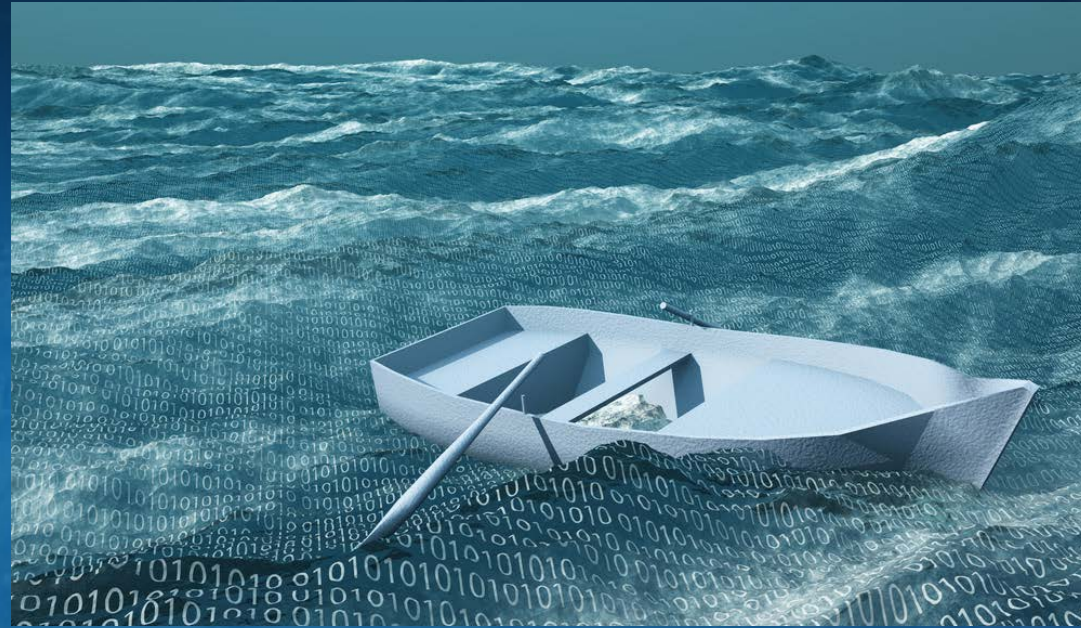
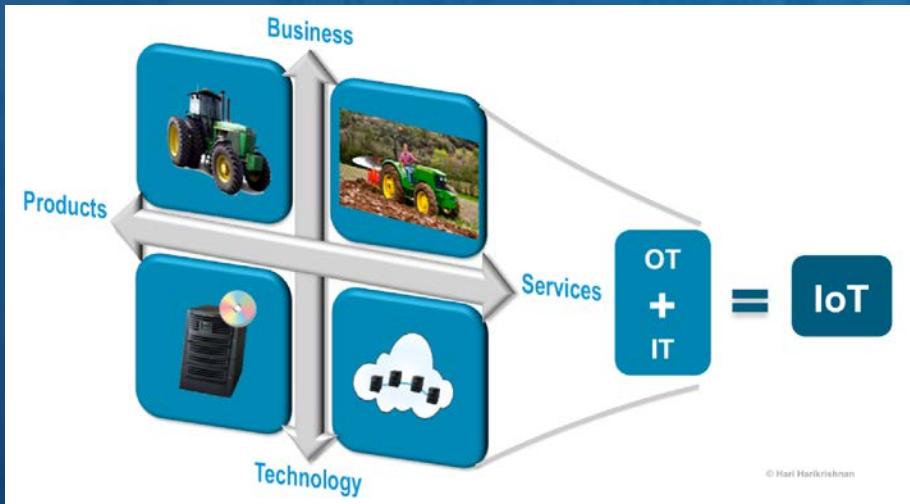
Rapid Innovation

- » Time to market
- » innovative products

Industry 4.0

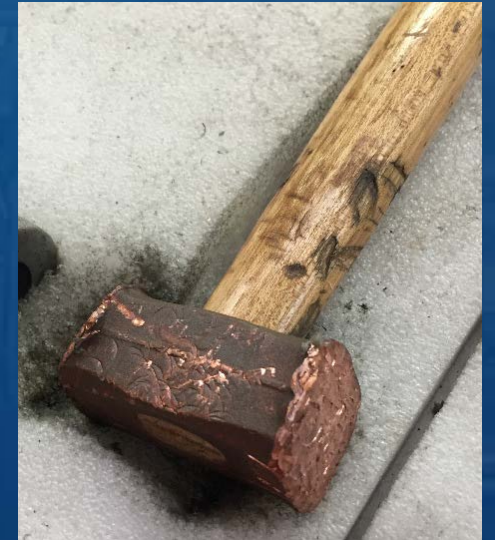
Impression from Italy

Difficult to integrate OT and IT



Big data,
what to do ?

Strategy not ready for I3.0



Industry 4.0 – Customers' Perspectives

Fears

People knowledge not always available (data scientist)
Business case not clear / difficult to define



Resistances

Internet infrastructure reliability
Products/machines not ready for connection



Expectation

Customer wants “More with Less”
Higher Profitability with new opportunities

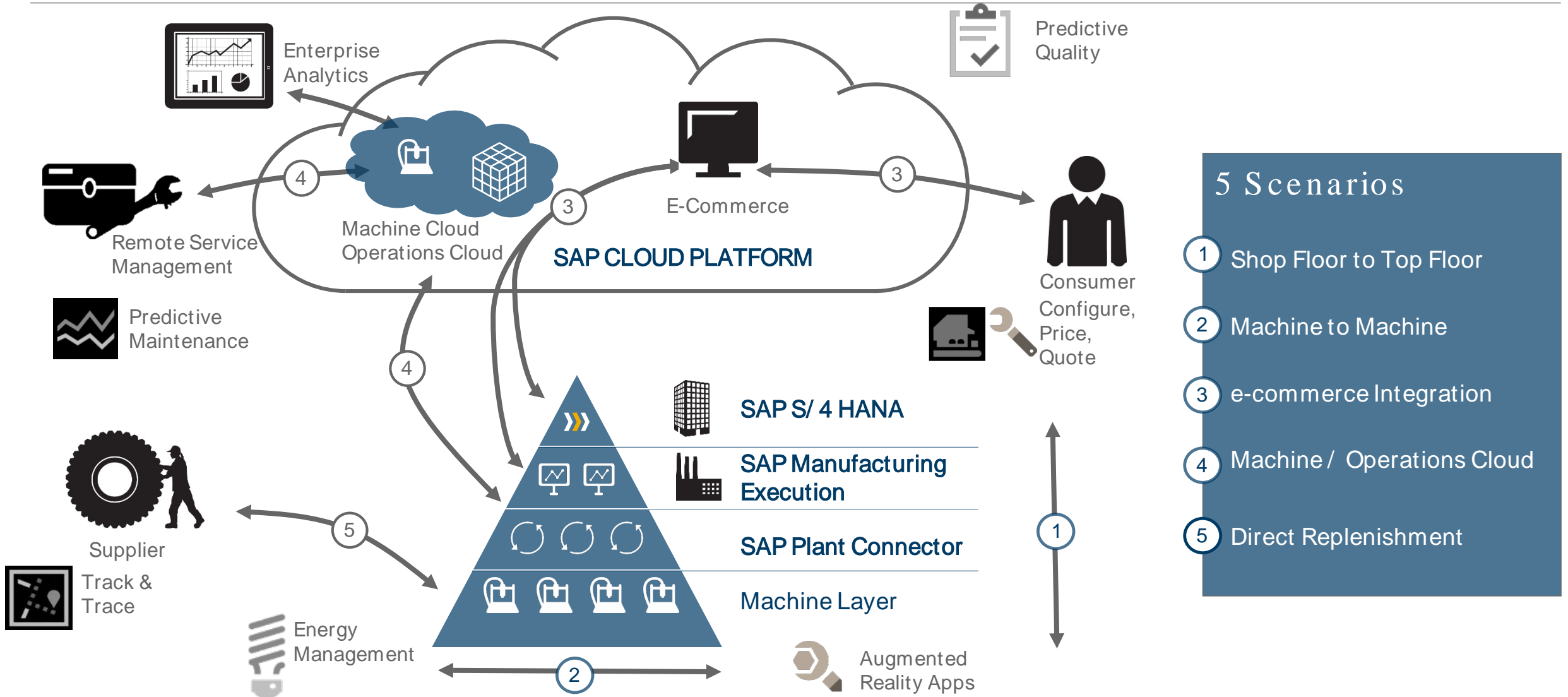


SAP Point of View



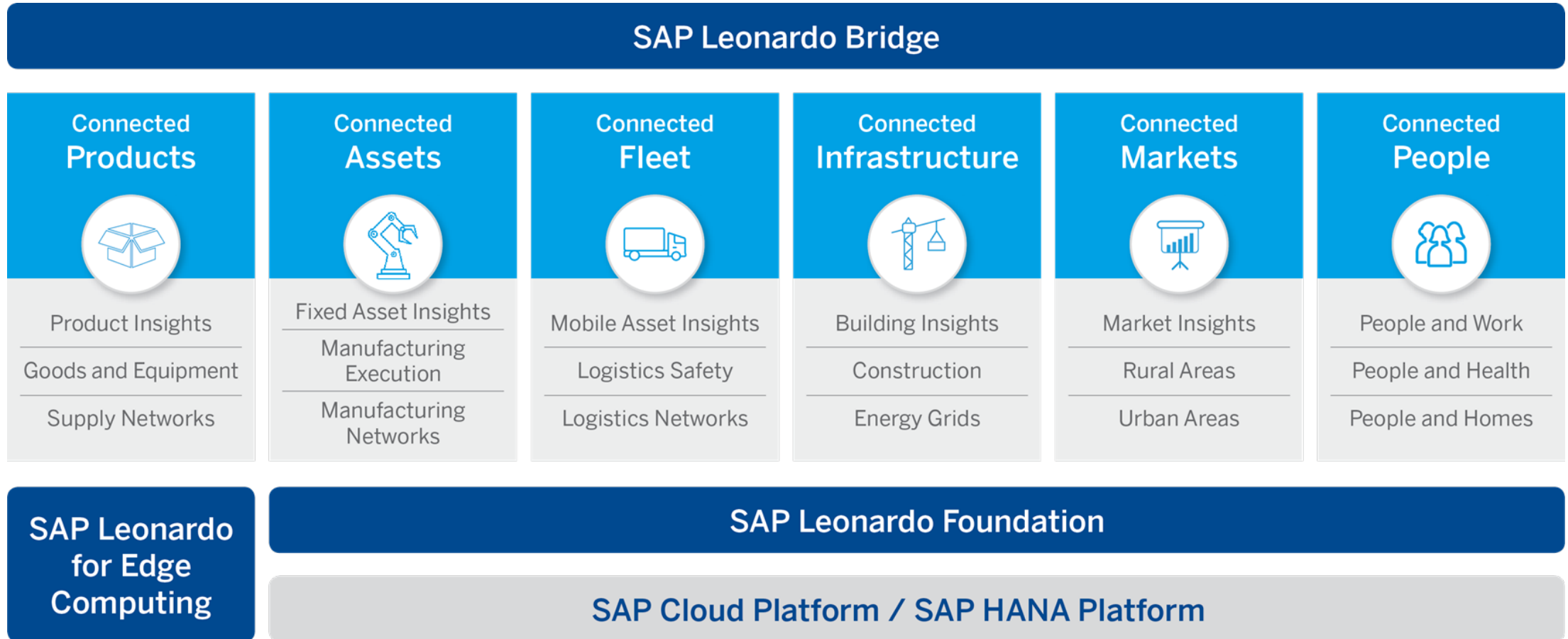
SAP Connected Manufacturing

Five Scenarios of Industry 4.0

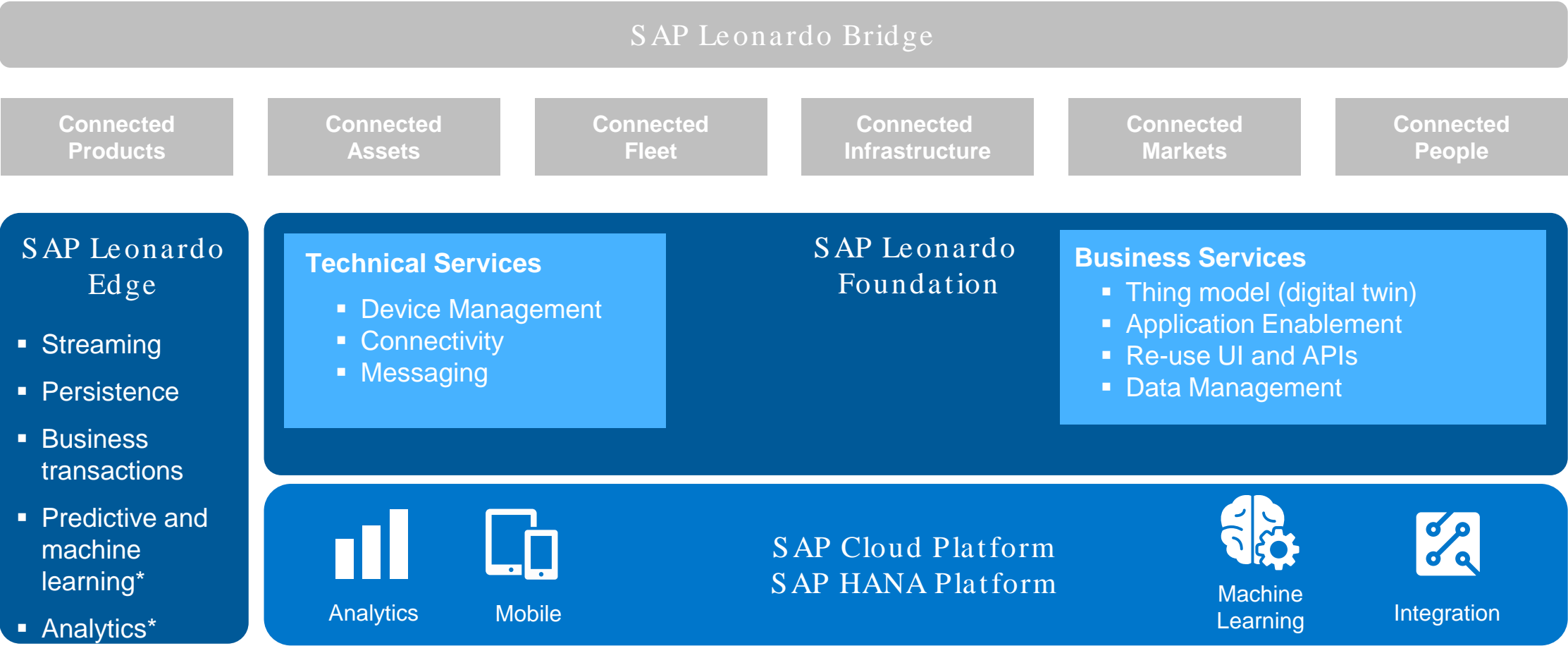


Connecting Things with People and Processes

SAP Leonardo Innovation Portfolio



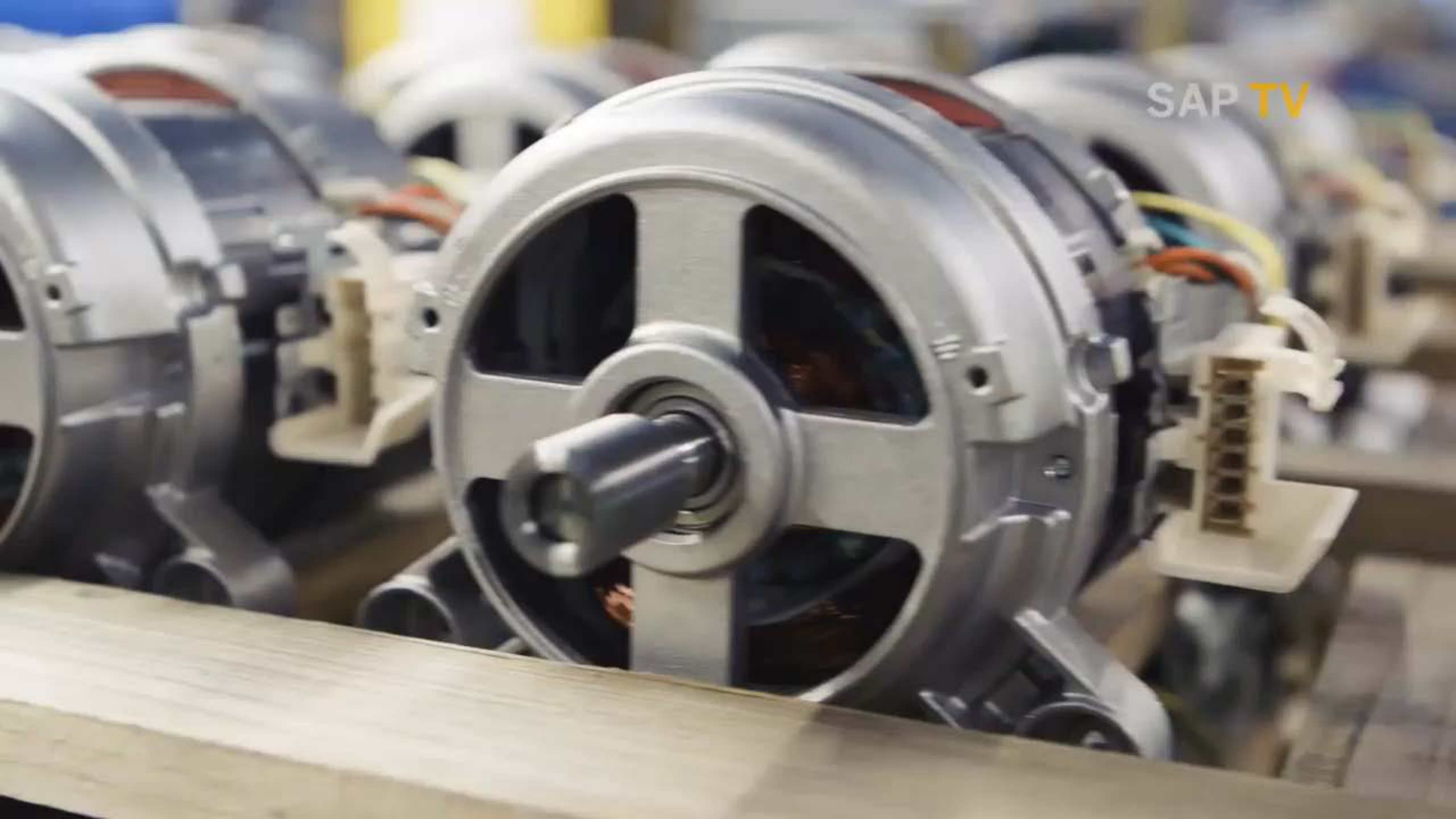
Innovation Portfolio: Foundation and Edge



*Future capabilities

Is the Fourth Industrial Revolution, real today?





Dynamic Maintenance Management System: Trenitalia

Company

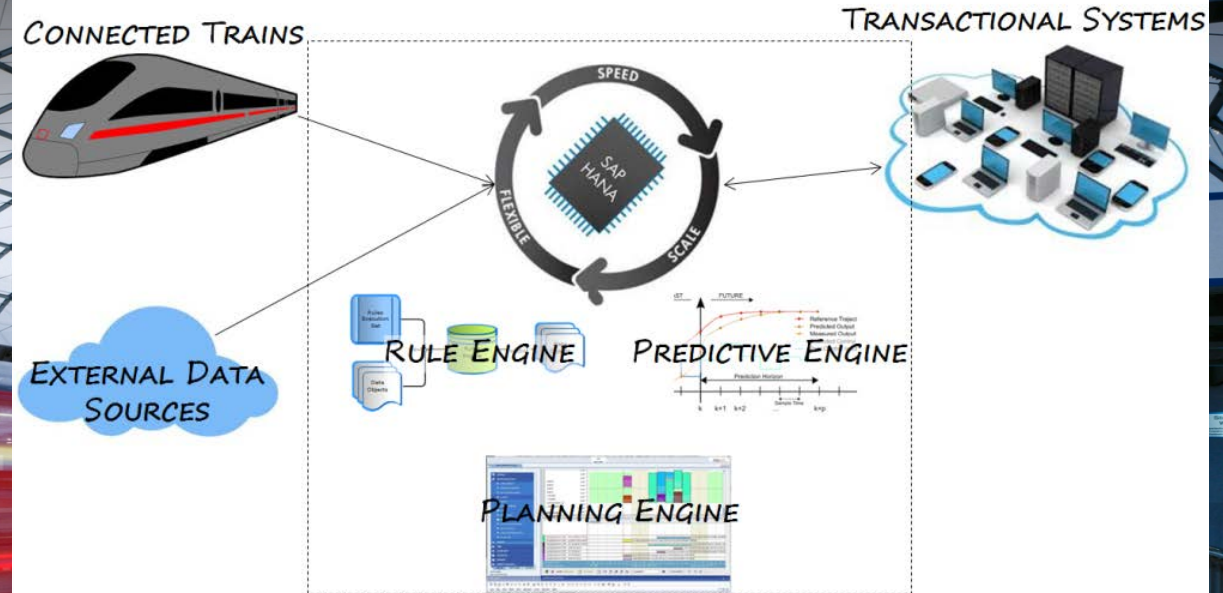
The company owns and operates a fleet of around 2.000 electro-trains, 2.000 locomotives and 30.000 coaches and wagons.

Situation: 40% of maintenance effort is for corrective maintenance. Maintenance of rolling stock has been identified as one aspect of the Digital Transformation.

Solution

- Custom solution on SAP HANA
- Data fusion between IT and OT data
- Multidimensional assets description
- Remote train diagnostics
- Engineering rules and predictive models
- Indicators-based planning
- Dynamic optimization of maintenance schedules

Process/ Technology Innovation



Benefits

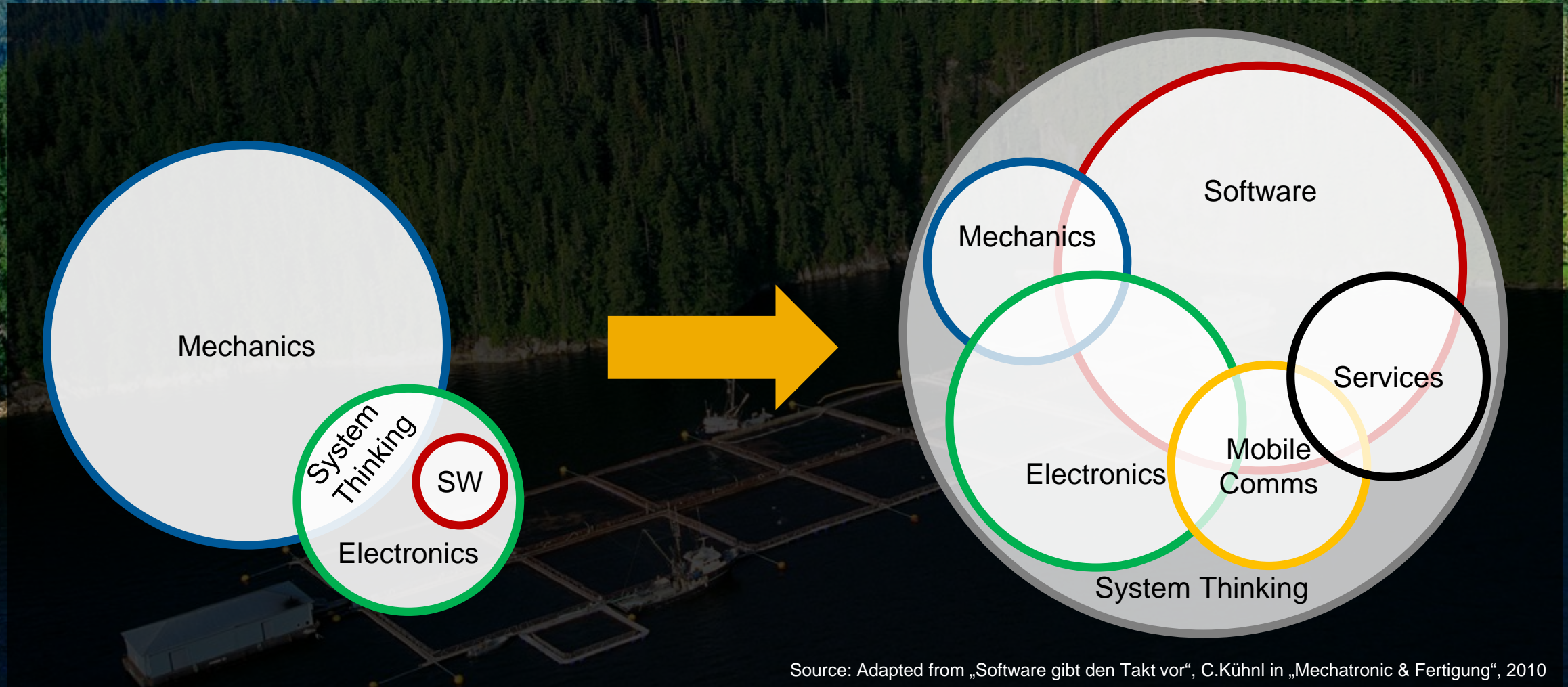
- Higher asset availability leading to higher passenger satisfaction
- Less effort for corrective maintenance

Fourth Industrial Revolution Actions to take?



From Products to Systems

Transition from simple Products to complex Solutions



Source: Adapted from „Software gibt den Takt vor“, C.Kühnl in „Mechatronik & Fertigung“, 2010

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