

Industrie 4.0

Herausforderungen für die Fertigungsindustrie
in der Digitalen Transformation

München, 27.01.2016

Ulrich Ahle



Atos
Worldwide IT Partner



Goods as a Service
Industrie 4.0 **Social** Search
Internet of Everything Operational Excellence
Big Data
Virtual **Digitization** 3D Printing
Contextual
Mobility **Analytics** Digital Natives Location Based
Internet of Things
Make to Individual Data Lake
Software **Privacy**
Cloud Disruptive

Digital Transformation - all them buzzwords

Digital will be highly disruptive to most industries, affecting not only revenue and cost structures but also shaking up the core business and operating models



**Digital
Transformation**



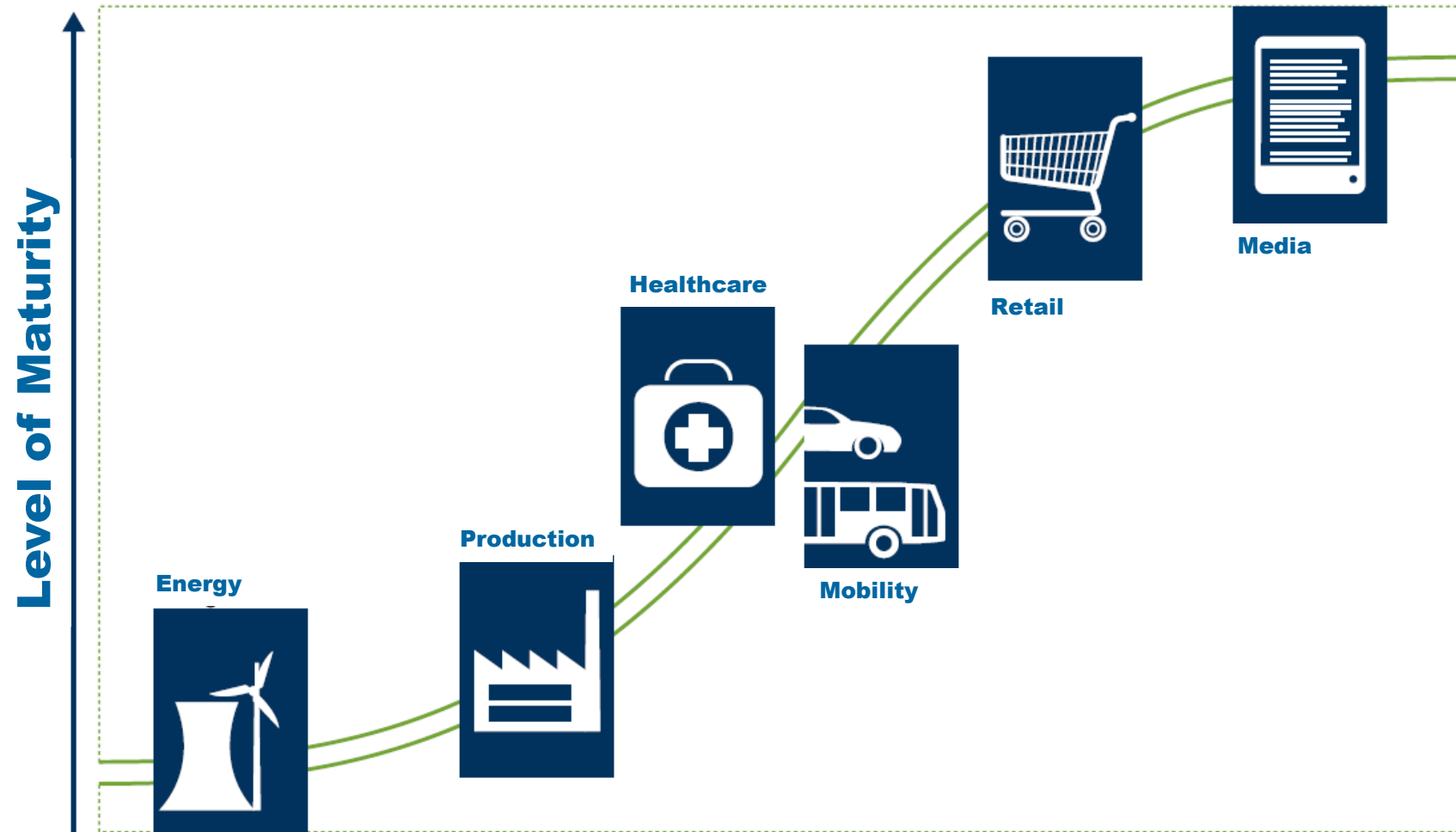
**Disruptive
Technologies**



**Changing
Workforce**

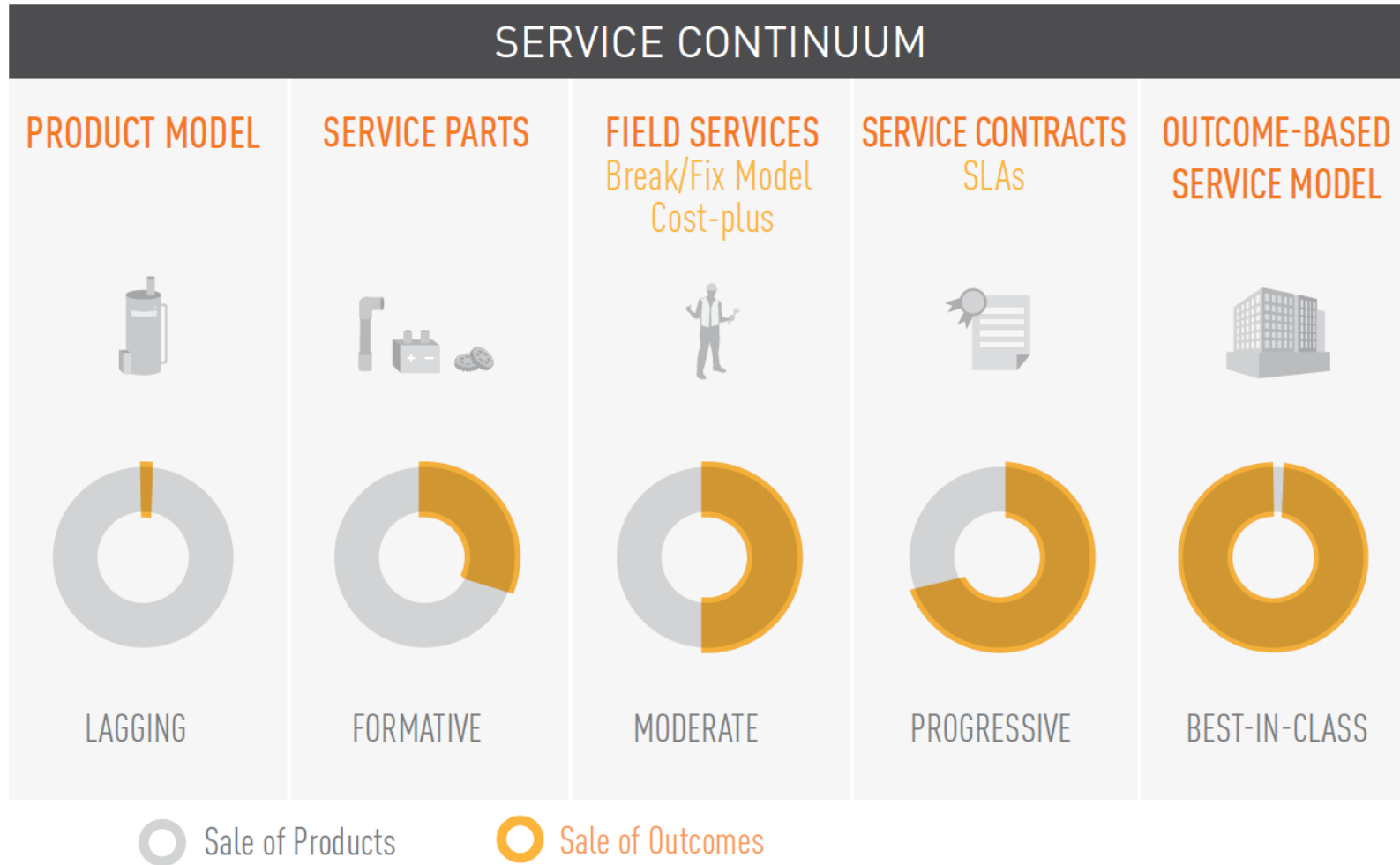
Digital Disruption will be cheaper, stronger and faster

Level of maturity of digital business models



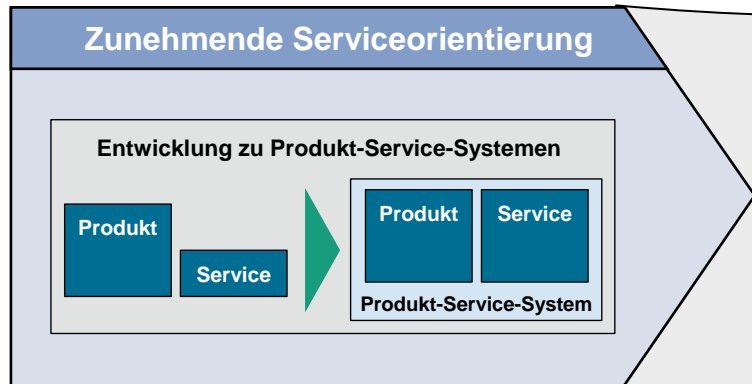
Source: Accenture

70% of the companies in manufacturing are in the first three stages of the Service Continuum



Source: Oxford Economics

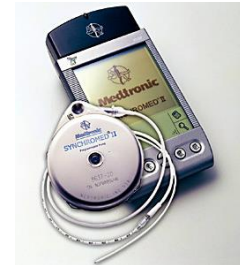
ACROSS: BMWI-Förderprojekt im Rahmen ‚Smart Service Welt‘



- Klassische Produkt- und Komponentenanbieter erweitern das **bestehende Produktportfolio** durch individualisierte Services
- Die daraus resultierende **Serviceorientierung** wird beschleunigt durch die **digitale Veredelung** von Produkten und Dienstleistungen

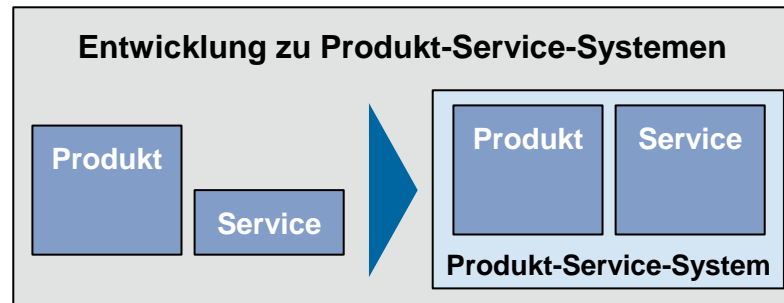
Quelle: ACROSS

Trend zu Produkt-Service-Systemen



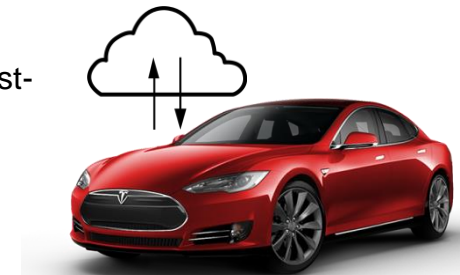
Medtronic

Implantiertes Blutzuckermessgerät sendet per Funk Daten an ein Überwachungsgerät und warnt bei kritischen Abweichungen



Tesla

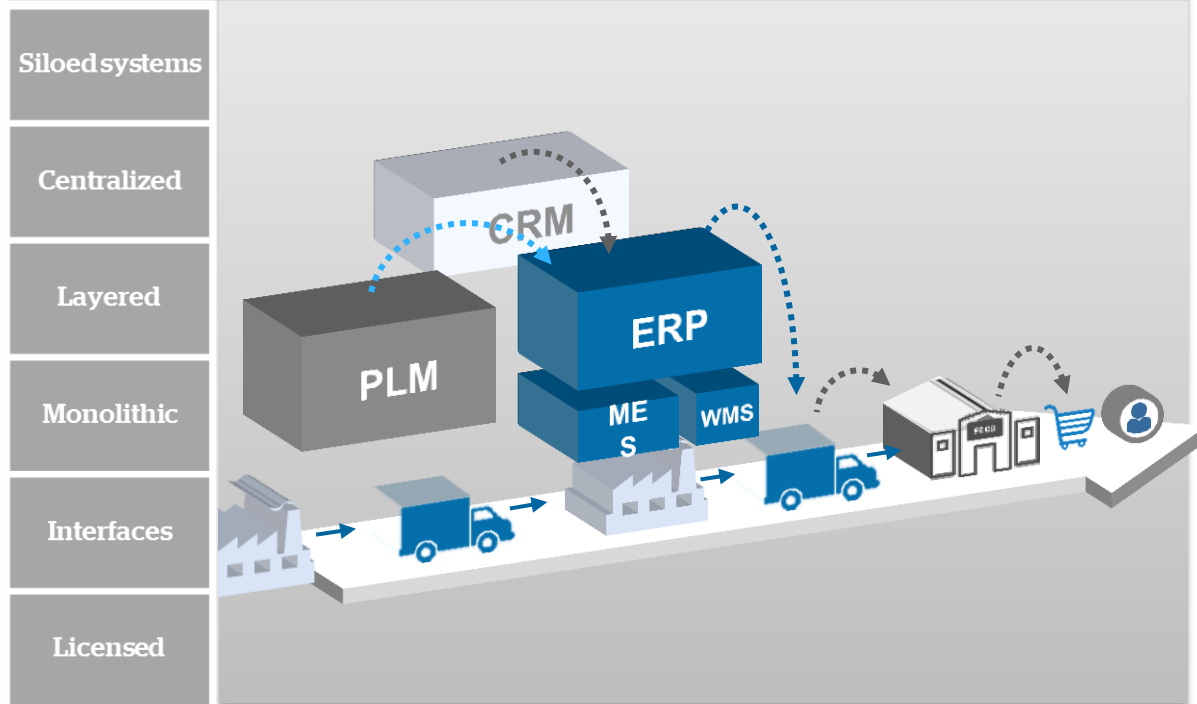
Bei Reparaturbedarf selbstständiges Anfordern von Korrektursoftware sowie Benachrichtigung des Besitzers



Moving from single, siloed systems and organizations to an industrial network of capabilities

Today

While today's production is linearly organized and optimized within the boundaries of organizational and system siloes...

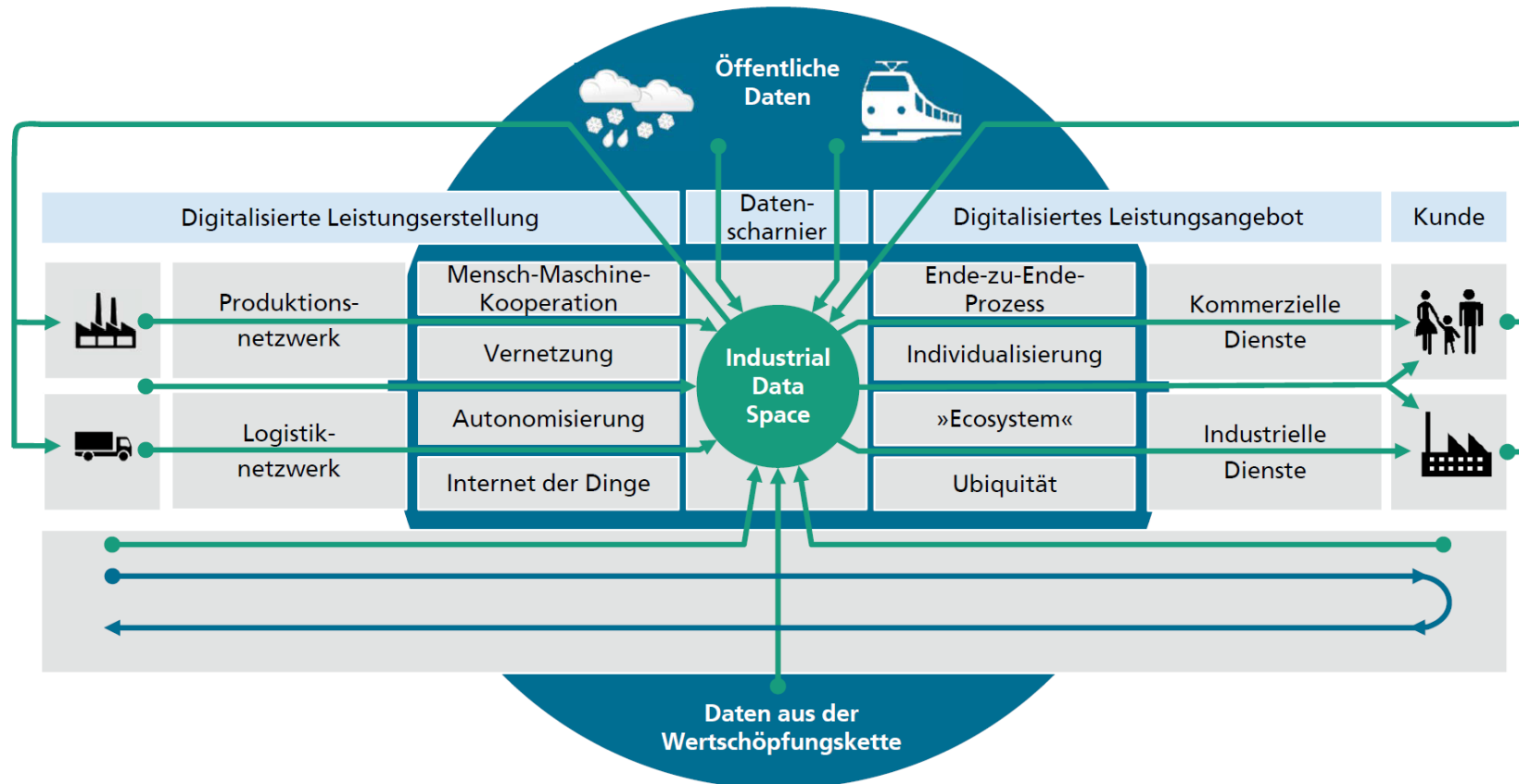


FUTURE

... manufacturing of the future will fulfill individual customer needs by a collaborative and agile network of capabilities

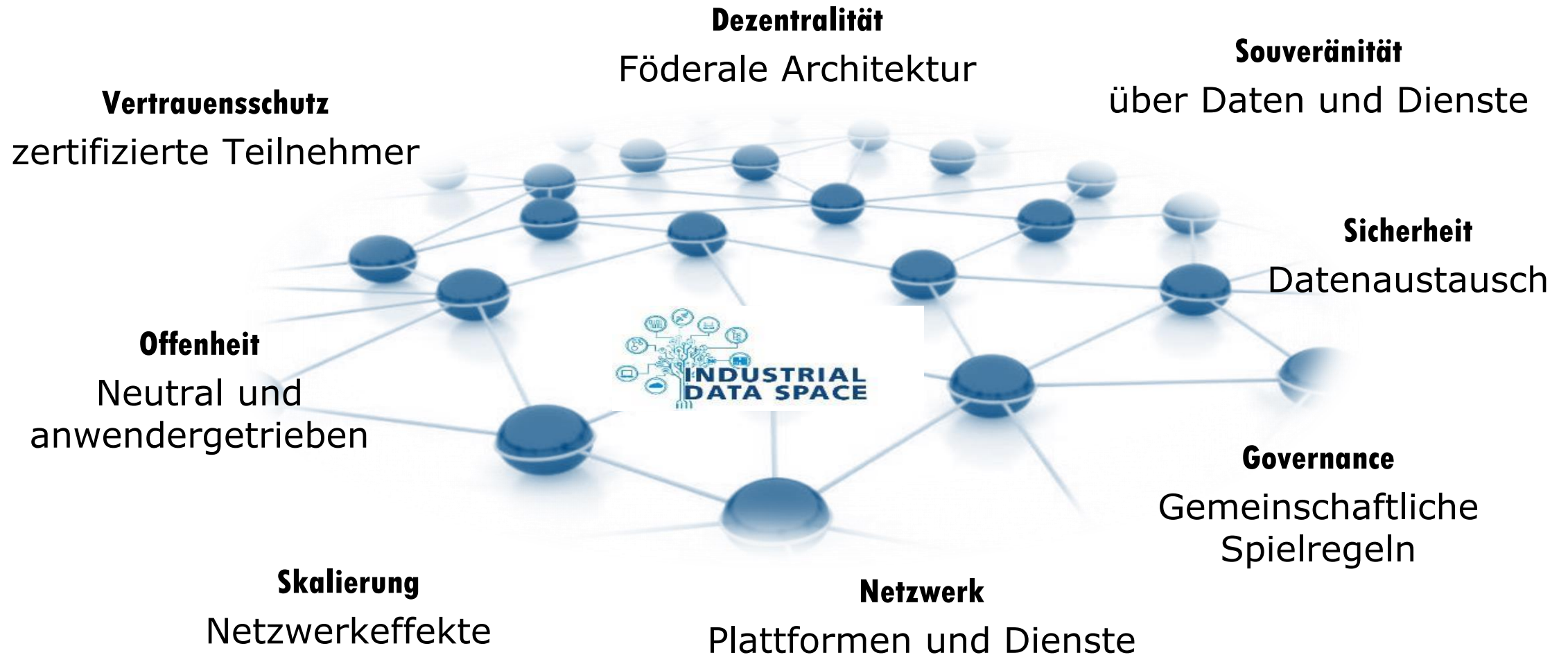


Industrial Data Space: Bindeglied zwischen Produktion und Smart Services



Quelle: Fraunhofer / IDS

Industrial Data Space fungiert als »Network of Trusted Data«



Quelle: Fraunhofer / IDS

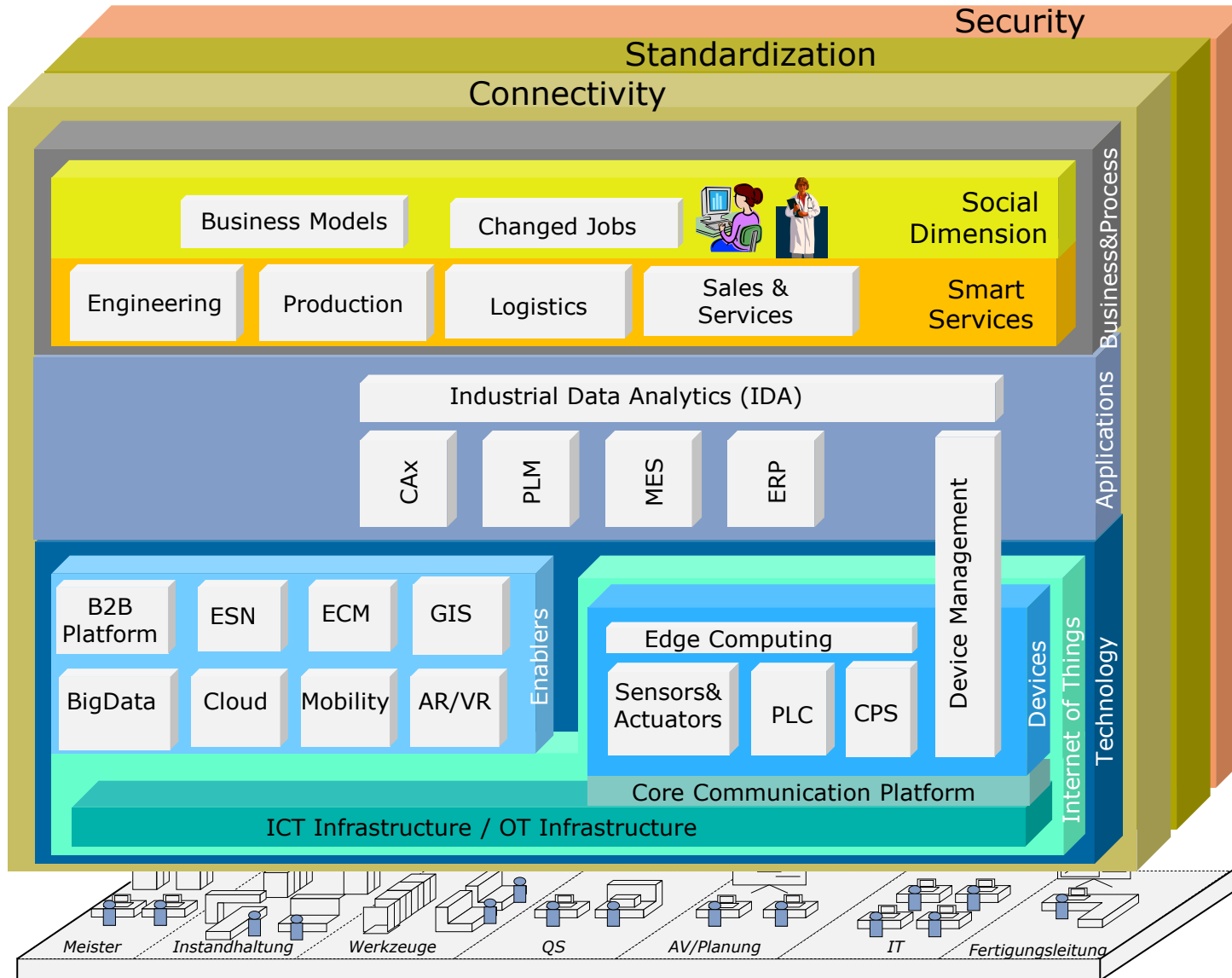
Gründung des Industrial Data Space e.V. am 26.01.2016 in Berlin



Vorstand des Industrial Data Space e.V.: (v.l.n.r.)

- Markus Vehlow, PwC
- Dr. Ralf-Peter Simon, KOMSA AG
- Dr. Robert Bauer, SICK
- Heike Niederau-Buck, Salzgitter
- Dr. Ralf Brunken, Volkswagen
- Prof. Dr. Boris Otto, Fraunhofer IML
- Prof. Dr. Reimund Neugebauer, Fraunhofer-Gesellschaft
- Dr. Reinhold Achatz, thyssenkrupp
- Ulrich Ahle, ATOS

Atos Industrie 4.0 Reference Architecture



Efficiency

Effectiveness

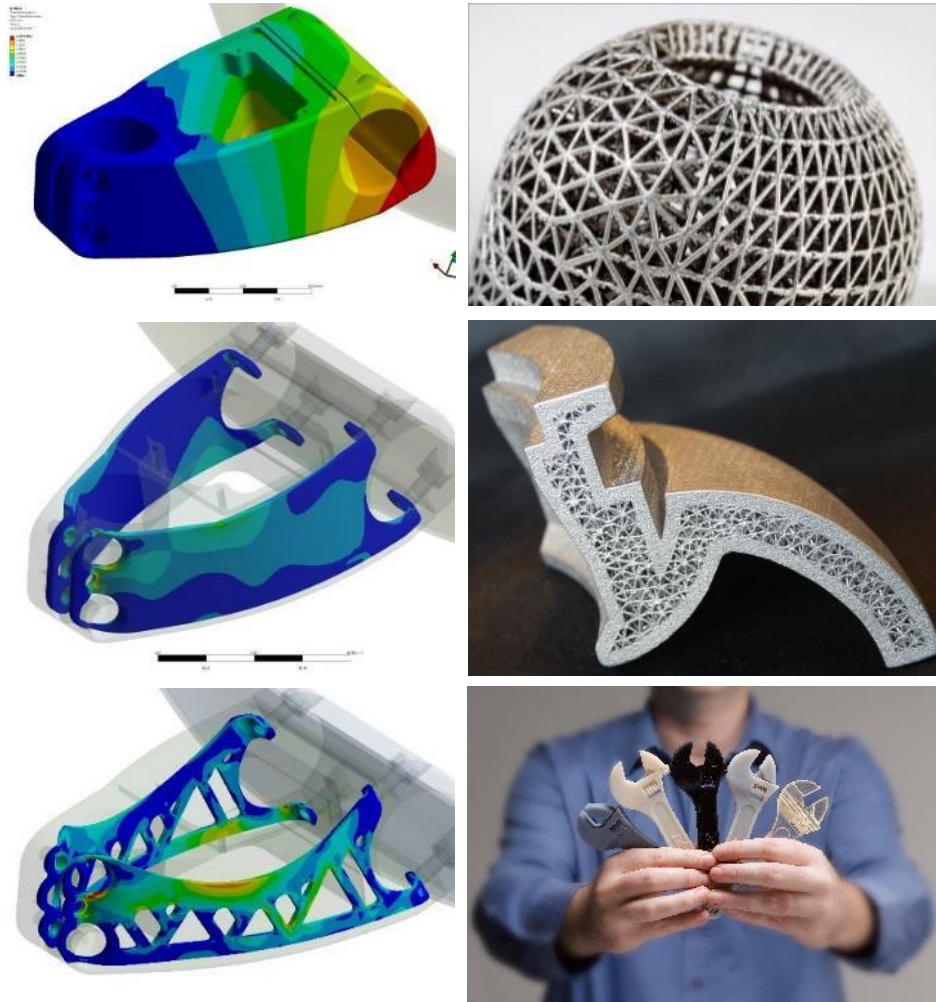
Industrie 4.0

Agility

Quality

Additive Manufacturing (3D Printing)

“RepAIR” - Focused in a Predictive Maintenance System



Onsite Maintenance and Repair of Aircraft by integrated Additive Manufacturing

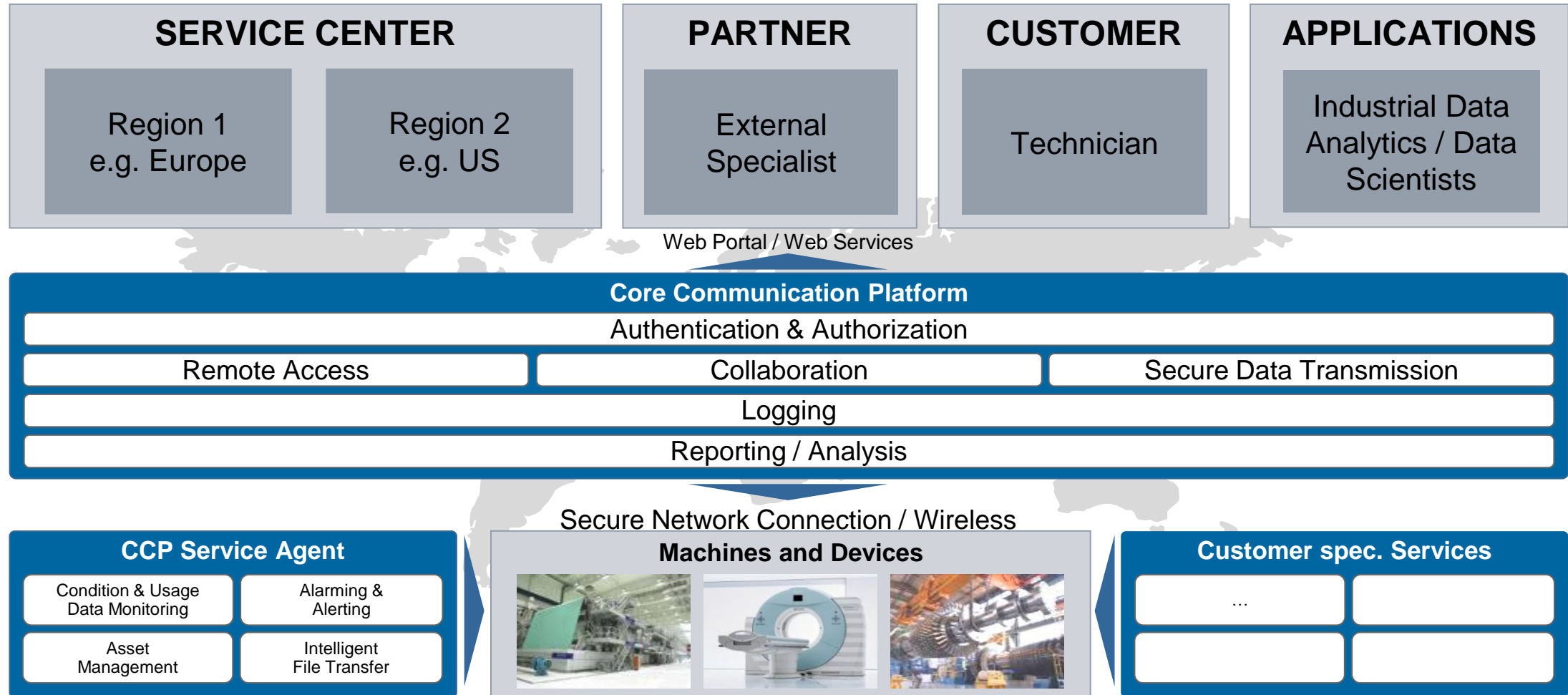
The main objective of RepAIR is to shift the “make” or “buy” decision towards the “make” decision by cost reduction in the remake and rework of spare parts and therefore **improve cost efficiency for maintenance repair** in aeronautics and air transport.

RepAIR Members (Extract):



Core Communication Platform: Atos' IoT platform

Millions of devices communicate based on CCP





SIEMENS

Our business impact:
we deliver
**OPERATIONAL
EXCELLENCE**



Supporting clients to ensure that best in class engineered products provides best in class outcomes in the daily operations

What we have realized for our Siemens:

Providing a service platform enabling the manufacturer to operate its products more efficiently by

- A **continuous measurement** of performance and equipment data
- **Data Analysis, Pattern and Threshold recognition**
- **Recognition of erroneous/critical components**
- **Preventive Maintenance Planning and Condition based Monitoring**



Our business impact: we deliver business reinvention



Providing enhanced functionality and increased comfort to the consumer

Creating valuable customer and product insight through data collection

Providing a multi-sided-marketplace for the smart home ecosystem

What we have realized for B/S/H/:

Create a **risk- and revenue-sharing** business partnership for the “Home Connect” program

Support B/S/H/ from vision to requirements to realization, including **end-to-end** system test

Design, develop and operate the **central communication platform**, capable to support millions of devices

The mission: Monetizing the data



B/S/H/



Our business impact:
we ensure
**Business
Reinvention**



Transforming Manufacturer into the
Digital Mobile World

What we have realized for Michelin:

- **New Michelin Service**
- **30 countries availability**
- **10-15% after market business boost**
- **For Michelin's clients:**
 - **10% Fuel savings**
 - **Improved Fleet Uptime up to 5%**





Our business impact:
**we ensure
customer
experience**



Renault granted its Innovation Award
to Atos in 2013 for the R-Link project

What we have realized for Renault:

Renault R-Link solution, *awarded as most innovative solution*, with seamless integration of multimedia connectivity and infotainment services
Global Roll-out in more *than 35 countries*
E-Commerce for onboard , & off-board functionalities
The in-dash R-Link Multimedia Tablet
(7 inch Android based) allows a *seamless smartphone OS integration*)



RENAULT



Agricultural Equipment Manufacturer

Our business impact:
**we deliver
business
reinvention**



Providing precision agriculture for farmers based on data collected from seeders, harvesters, spreaders and sprayers

What we did for our client

Data volume capacity **30 times higher** than before

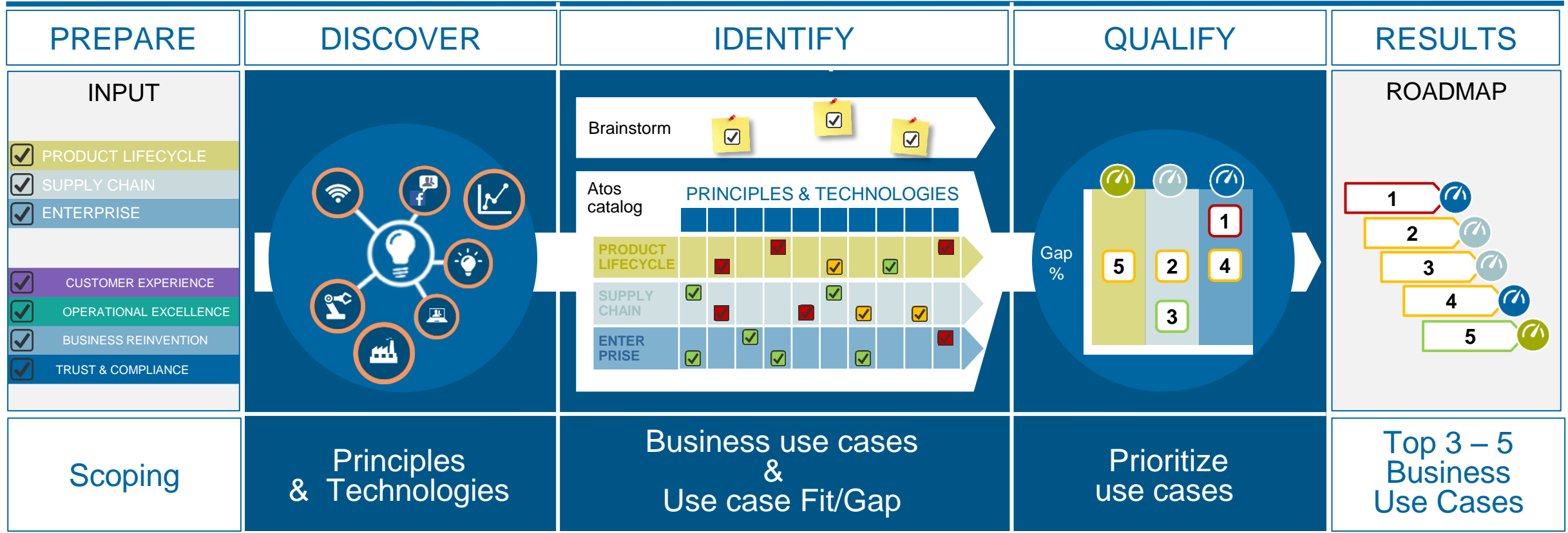
Collection and real-time analysis of hi-fidelity and hi-definition agricultural data (every **3 minutes** from **180 sensors** on **every** single machine globally)

250,000 vehicles providing real-time machine data

Shaping a **new era** of precision farming

Industrie 4.0 Opportunity Discovery workshop

Workshop approach



Danke

- ▶ Ulrich Ahle
- ▶ e-mail: ulrich.ahle@atos.net
- ▶ Telefon: +49-174-1533348

