
# Succeeding with the Industrial IoT – Connecting Products, Assets, or Fleets

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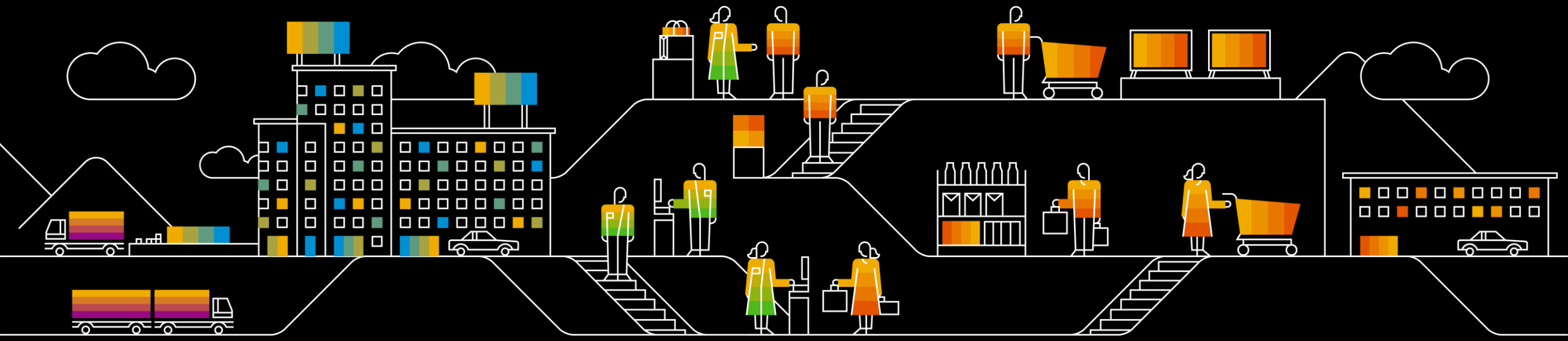
# SAP Leonardo capabilities: Connect things with people and processes

SAP provides highly innovative capabilities for the industrial Internet of Things (IoT) that extend the digital core with adaptive applications, Big Data management, and connectivity to enable:

- New business processes
- New business models
- New work environments



# SAP Leonardo: Strategy for the IoT

**SAP Leonardo empowers Live Business by connecting things with people and processes.**

SAP provides an IoT solution portfolio with adaptive applications, Big Data management, and connectivity, extending the digital core powered by SAP HANA to enable:

## Efficient LED models


**SAP Predictive Maintenance and Service**
**8%–10% reduction in maintenance costs**


**SAP Connected Manufacturing**
**+2,700% throughput**


**SAP Connected Logistics**
**-50% inventory stock**

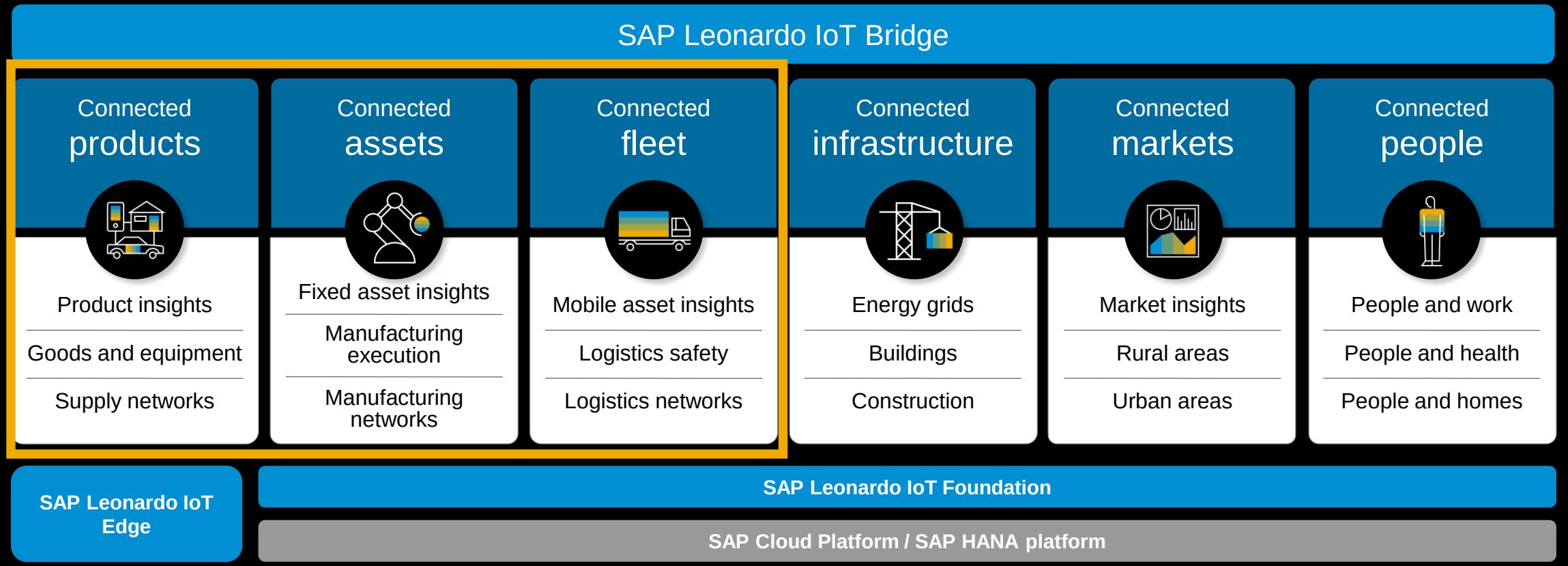
## New business models


**Commercial fleet management**
From importing, selling, and leasing cars to business beyond; data-driven services of the car and the driver close to transactional SAP systems

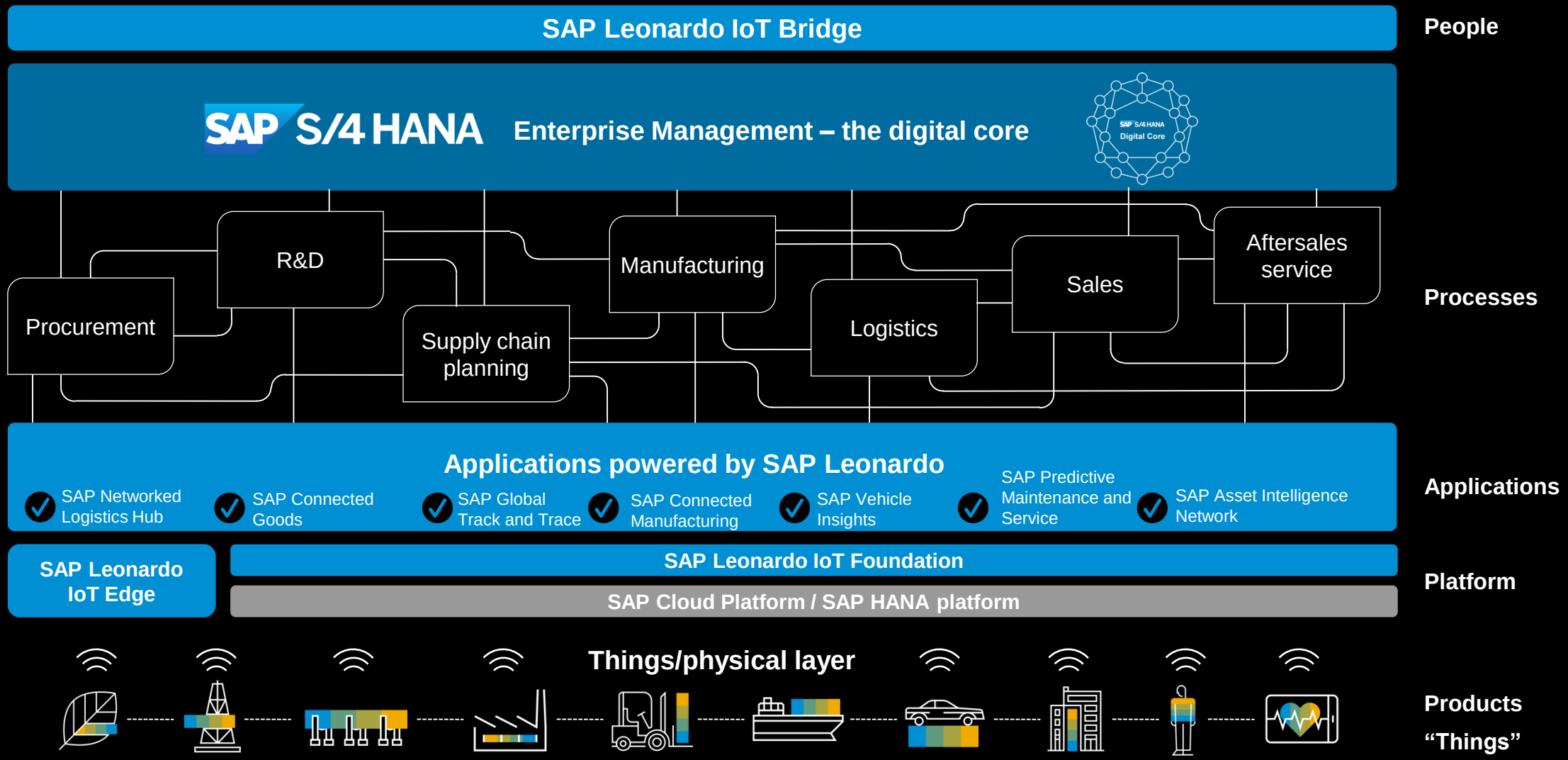

**Usage-based insurance**
Individualized insurance based on driving behavior


**End-to-end transport processes**
Innovation lab using BPW trailer telematics and SAP Vehicle Insights as foundation (commercial, trucks, trailers)

# SAP Leonardo



# SAP Leonardo: The big picture



# Connected products

- Design and manage smart products lifecycle
- Connect, monitor, control, and distribute products in the field
- Manage, track, and control inventory across the networks

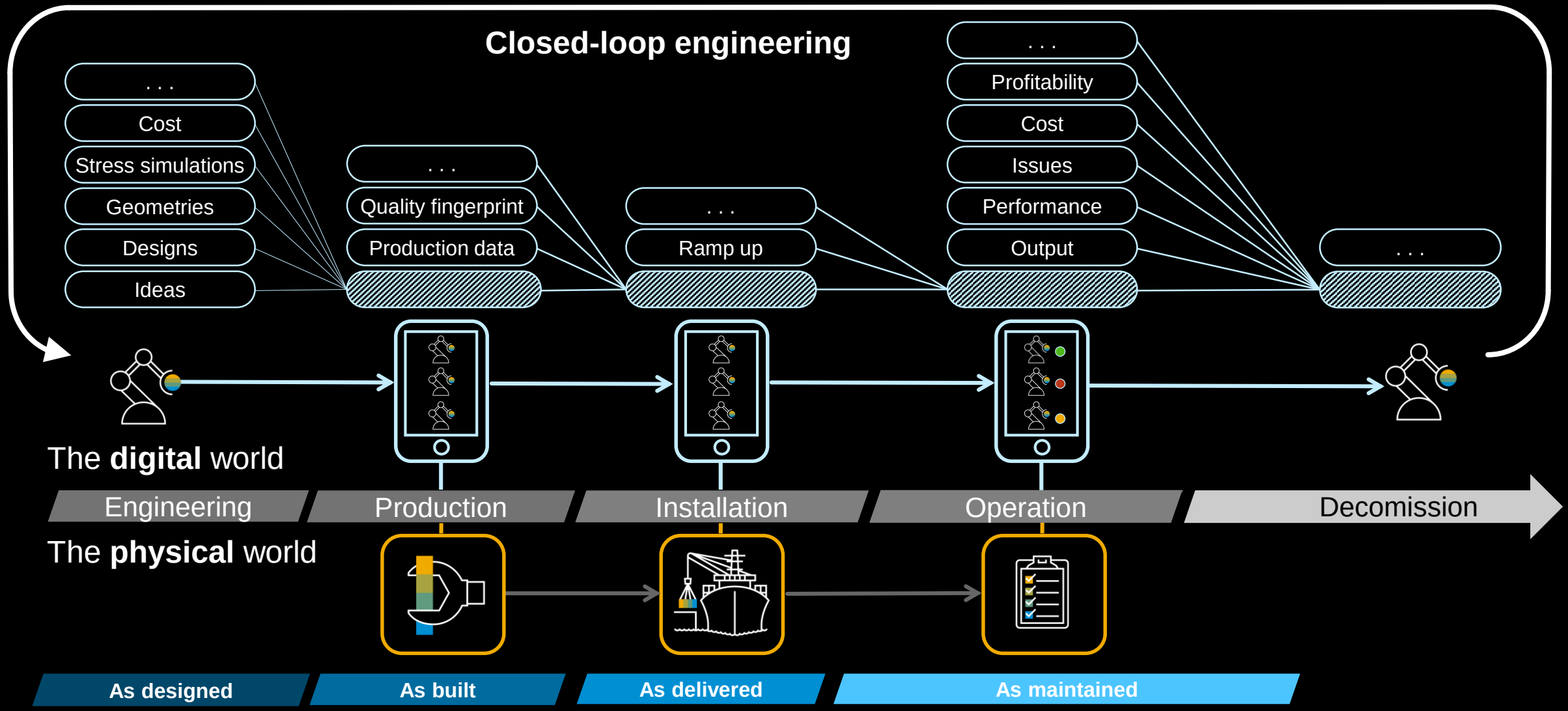
**SAP Connected Goods – SAP Supply Chain Control Tower**



** Future release*

# The industrial IoT starts with live engineering

Use case: Digital twin digital product lifecycle management with live insights



# Connected products – goods and equipment

Connect, monitor, and control products in the field

## Challenges

- Transparency on remote field device performance and efficiency
- Loss of sales due to stock-outs
- Visibility to product utilization, misuse, theft, or misplacement
- Ability to monitor goods storage conditions leading to spoilages
- Regulatory compliance to track storage conditions such as temperature and humidity

## IoT-driven trends

- Drive new business models (product-as-a-service) based on usage and drive better revenue per unit device
- Gain higher availability and reduce unplanned downtime with predictive service, and reduce cost impact due to lost goods
- Reduce spoilages for cold-chain scenarios
- Reduce cost and increase effectiveness of meeting compliance needs

## Typical industry value benchmark*

**10%–15%**

New business model – increased revenue

**10%–15%**

Reduced spoilage (% of rev)

**10%–15%**

Reduced revenue loss due to stock-outs (% of rev)

**10%–15%**

Reduced unplanned downtime/outages

**50%–70%**

Reduced theft or misplacement loss

**7%–10%**

Reduced capital expenditure with better availability and improved life

* Source: SAP Internal Value Benchmarks

# Connected products – supply network

Manage, track, and control inventory across the networks

## Challenges

- Have limited visibility over their supply chain performance and the drivers
- Are unable to react in a timely manner to deviations
- Have multiple tools in place but no clear overview
- Have to contact multiple people before understanding the situation, which is time consuming and cumbersome
- Need a lot of time to extract data from different systems
- Have no ability to simulate

## IoT trends – supply networks

- Drive agile, data-driven decision making related to supply networks
- Empower users with full visibility into data from multiple sources, including IoT data
- Achieve better productivity and efficiency



** Future release*

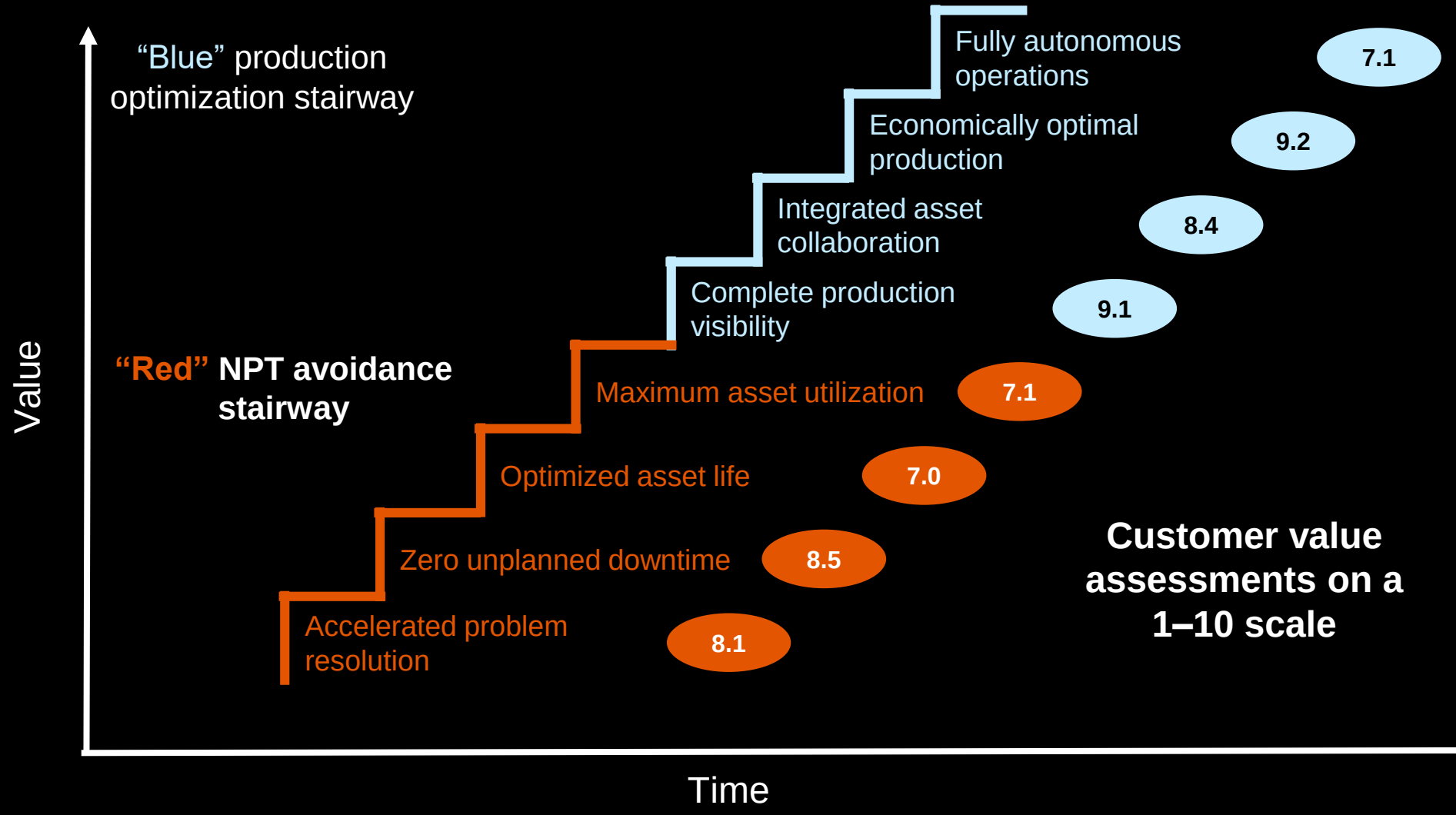
# Connected assets

- Connect, monitor, and tightly control manufacturing equipment
- Optimize asset performance throughout its lifecycle
- Manage a network of assets to identify and resolve issues before they happen

**SAP Asset Intelligence Network – SAP Predictive Maintenance and Service**
**SAP Manufacturing Execution – SAP Manufacturing Integration and Intelligence**

# SAP Leonardo – connected assets

The journey to capitalizing on value



# SAP Leonardo – connected asset use cases

**Operational effectiveness**

**65%–80% improved**
overall equipment effectiveness

**Asset health monitoring and maintenance**

Reduce maintenance costs
**8%–10%**

**Asset collaboration**

**Decreased**
ALM costs
**Increased**
asset availability

**Manufacturing efficiency**

**$60M–$180M** annual energy savings
15 refineries

**Field services**

**9,000** miles of URDs
**220,000** equipment assets
Reduced truck rolls resulting in **CAPEX reduction**

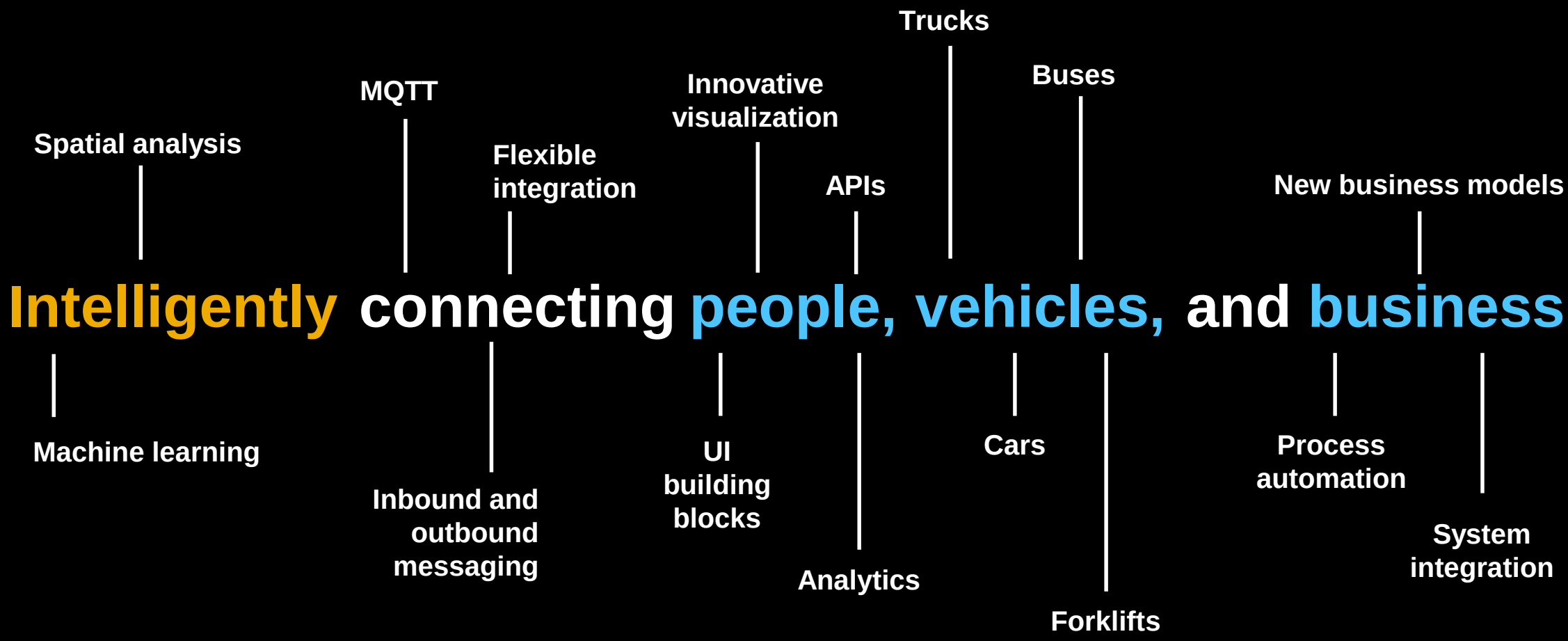
**OT- IT convergence**

**Better insights** for **better decisions** based on a integrating operations and business data

# Connected fleet

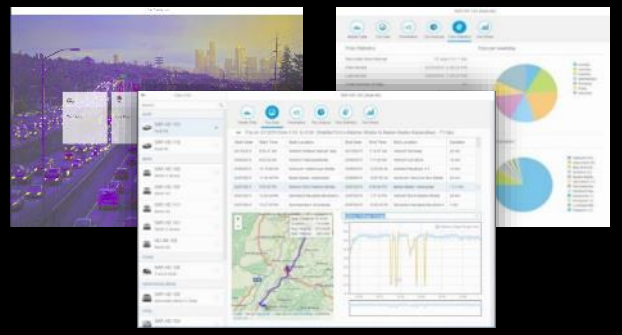
- Collect, map, store, and analyze fleet and vehicle data in real time
- Perform safety analysis of drivers and assets to reduce accidents and improve safety
- Maximize your logistics strategy and comply with regulations across the global network

## SAP Leonardo

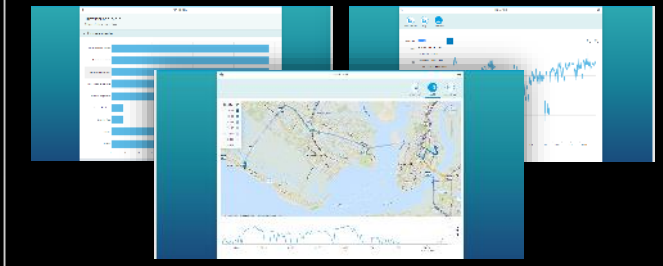


# Broad variety of scenarios – reimagine the world of moving assets

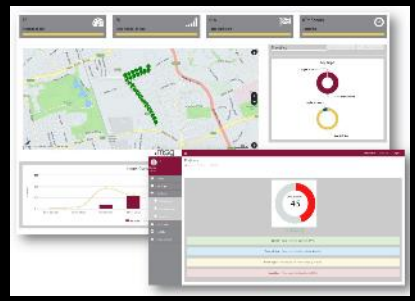
## Fleet analytics



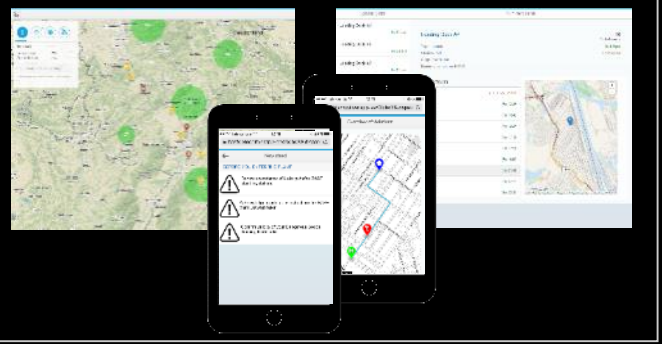
## Remote vehicle diagnostics



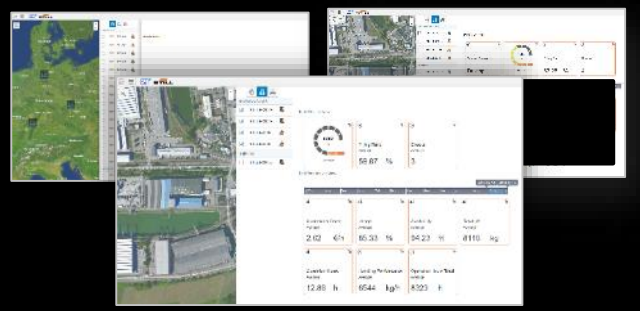
## Usage-based insurance



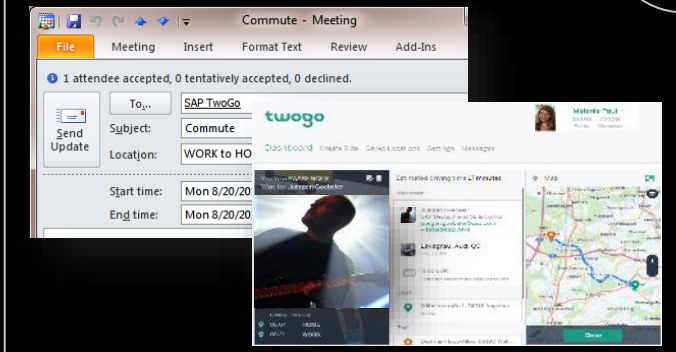
## Connected logistics and delivery



## Commercial fleet management



## Mobility



# SAP Vehicle Insights – services

## Run

## Build

**Fleet**

Fleet monitoring

**Logistics**

Forklift analytics

**Mobility**

Ride sharing

Partner app

Customer app

Vehicle master data service

Inbound data service

Trip calculation service

Data integration services

Many, many more services

Time series store service

Analytics cube service

Route analysis service

Geo services

**Data storage services**

**Data analytics services**

**Geo and map services**

**SAP Vehicle Insights – services**

# Key takeaways

| | |
|---|---|
| **Why SAP?** | The IoT is a key **strategic pillar** for SAP<br>**SAP commitment** – €2 billion investment until 2020 – press release link<br>**125+ customers** deploying with IoT solutions and platform from SAP |
| **Faster time to value** | SAP provides deep industry expertise for **end-to-end packaged applications for the IoT**<br>SAP Leonardo accelerator packages – **paid pilot and IoT labs** to enable customer success |
| **Extensive IOT capabilities: IoT apps solutions, microservices, and platform** | Advanced **IoT apps on SAP Cloud Platform and SAP HANA platform** enhanced with strategic acquisitions<br>Plat.one: Accelerate IoT platform innovation<br>Fedem: Digital twin<br>Altiscale: E2E capabilities including Hadoop data storage |
| **Extensive ecosystems** | Strategy SI partners: Accenture, EY, and others<br>Extensive IoT ISV partners and OEMs: Intel, Dell, Siemens, and others |

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