



SAP Leonardo Live

Not just another business conference

Industry Innovations with SAP Leonardo: Mill Products Industry

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PUBLIC

Agenda

Digitalization in Mill Products

Mill Products Use Cases for SAP Leonardo

- Connected Manufacturing
- Connected Products
- Predictive Maintenance
- Predictive Quality
- Connected Fleet
- Precision Forestry
- Construction Site Logistics

What is mill products?

Forest products



- Solid wood
- Plywood
- Particle board

Mining, nonferrous metals



- Mining
- Copper
- Aluminum

Cement and concrete



- Cement
- Ready-mix concrete
- Concrete products
- Aggregates

Pulp and paper



- Brown paper
- Fine paper
- Hygiene

Primary metals



- Flat steel
- Long steel
- Aluminum

Building products



- Bathroom
- Windows
- Ceramics
- Glass
- Gypsum
- Flooring
- Roofing
- Furniture
- Insulation

Packaging



- Paper packaging
- Plastic packaging
- Aluminum packaging
- Glass packaging

Fabricated metals, cable



- Metal service centers
- Cable
- And more

Textiles



- Yarn and fibers
- Fabric
- Carpet and rugs

Digital trends transforming the mill products industry



New players enter and change business.

68%

Of mill CEOs worry about new rivals from other industries disrupting their sectors.

<http://www.pwc.com/gx/en/ceo-agenda/ceo-survey/download.html>

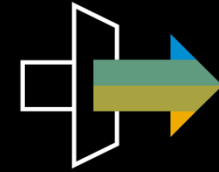


Need for innovation is not debatable.

65%

Of enterprises are already using the Internet of Things.

<https://451research.com/blog/419-today-65-of-enterprises-already-using-internet-of-things-business-value-found-in-optimizing-operations-and-reducing-risk>



Digitalization will impact all end- to-end processes.

E-commerce = Growth

The first companies to use e-commerce to sell and distribute their mill goods have demonstrated the potential for revenue growth.

www.bcgperspectives.com/content/articles/process-industries-go-to-market-strategy-bringing-digital-disruption-building-materials-reinventing-customer-journey/?chapter=2#chapter2

Technology trends enabling digital transformation



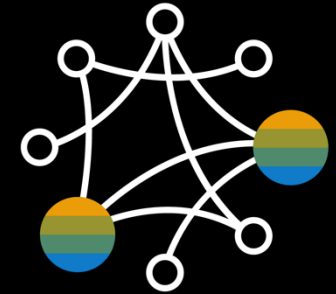
Artificial intelligence and machine learning

Helps to reduce need for human interaction / automates business processes



Cloud computing

Offers the quickest path to new business models and software upgrades



Internet of Things (IoT)

Helps create new value, such as improved customer service, product tracking, and manufacturing insights

To transform mill products companies, prioritize new business models and processes



1. Innovative products

Customers demand constant innovation, such as metals or paper made from recycling material, new products with specific characteristics such as strength, innovative coatings, and better processing capabilities.



2. Small lot sizes and individualization

Quick order completion and delivery of tailor-made solutions create additional value for customers.



3. Customer collaboration

Critical customer relationships need to be strengthened for sustaining high customer satisfaction and retention rates.



4. Value-added services

Digitalization and interconnection of products and services create additional value. An example is to advise on the best usage of a complex product, which can drive new revenue opportunities.



5. Disintermediation

Companies will increasingly look up, down, and across their value chains to expand into additional markets.

High performance delivers substantial rewards

SAP performance benchmarking shows that, compared with average performers, top performers in mill products achieve:

>30% **Growth in market share** by integrating offers across traditional and digital marketing channels

>17% **Return on assets** where asset management systems are fully integrated

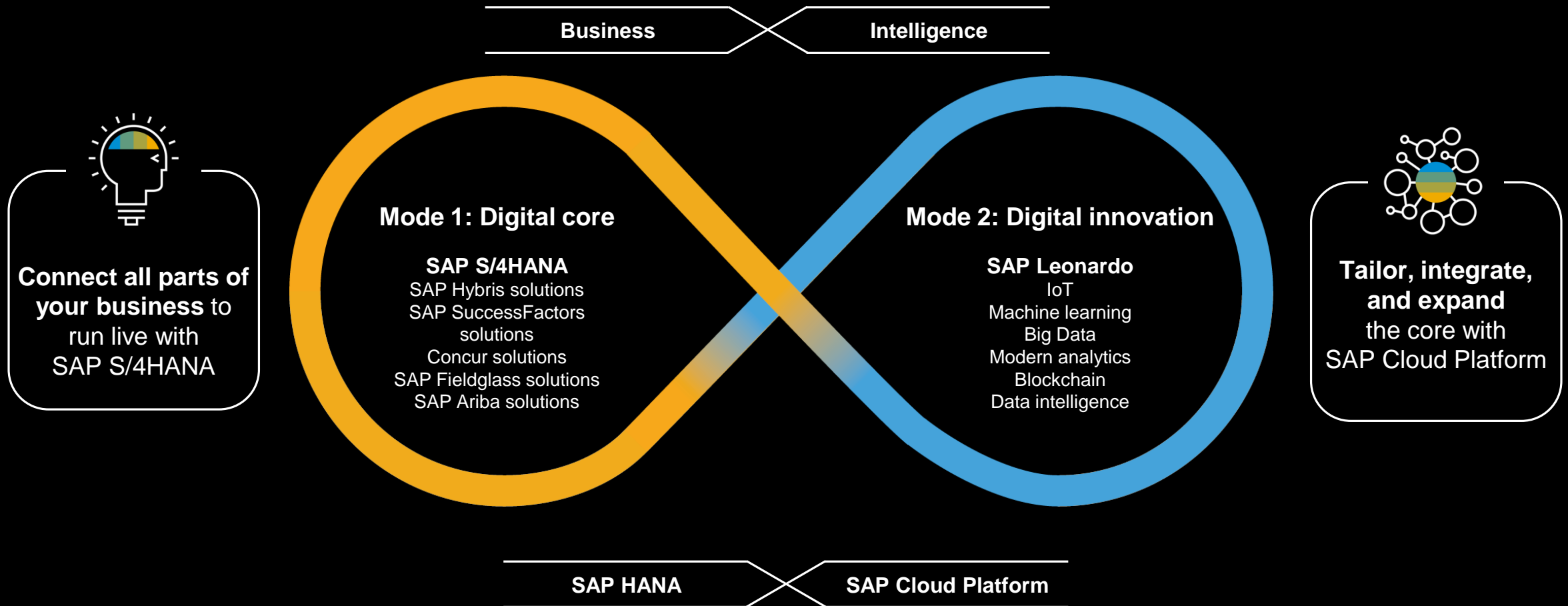
<33% **Lead time** for order fulfillment when supply plans align with demand

>30% **Service level** creating greater customer satisfaction and profitability

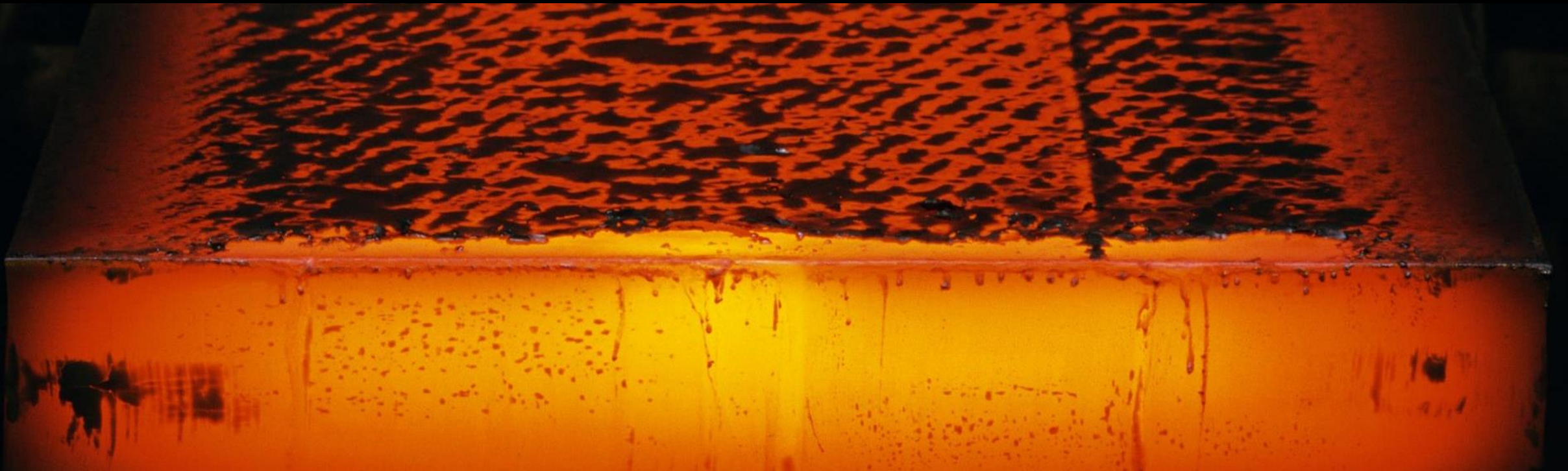
>11% **Overall equipment effectiveness** on assets where equipment use is tracked in real time

The bimodal architecture of the modern enterprise

A digital core and a digital innovation system



Mill Products Use Cases for SAP Leonardo

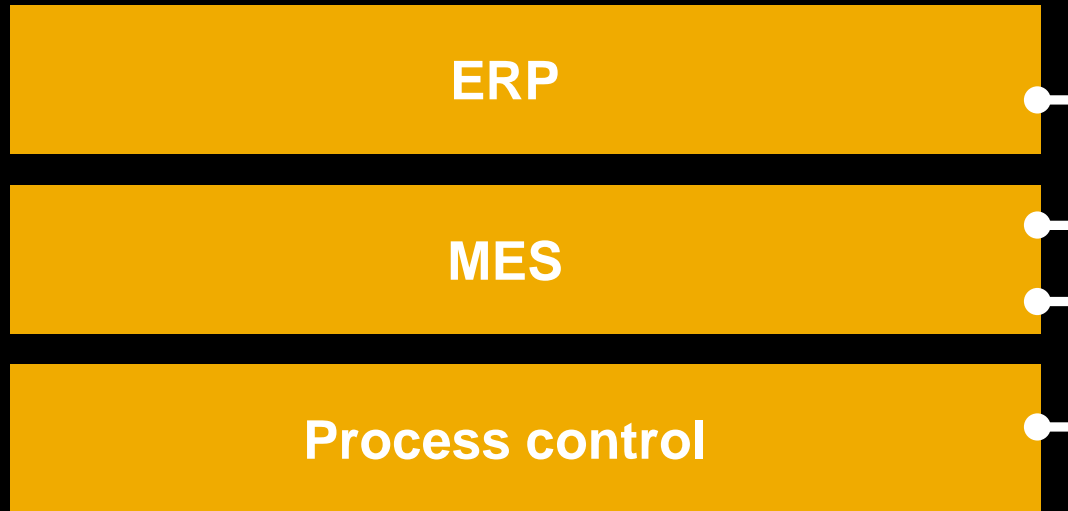


Connected Manufacturing



Common system architecture in the mill product industry

Silos, delays, and complexity hinder business agility and innovation



Limited integration between levels ...

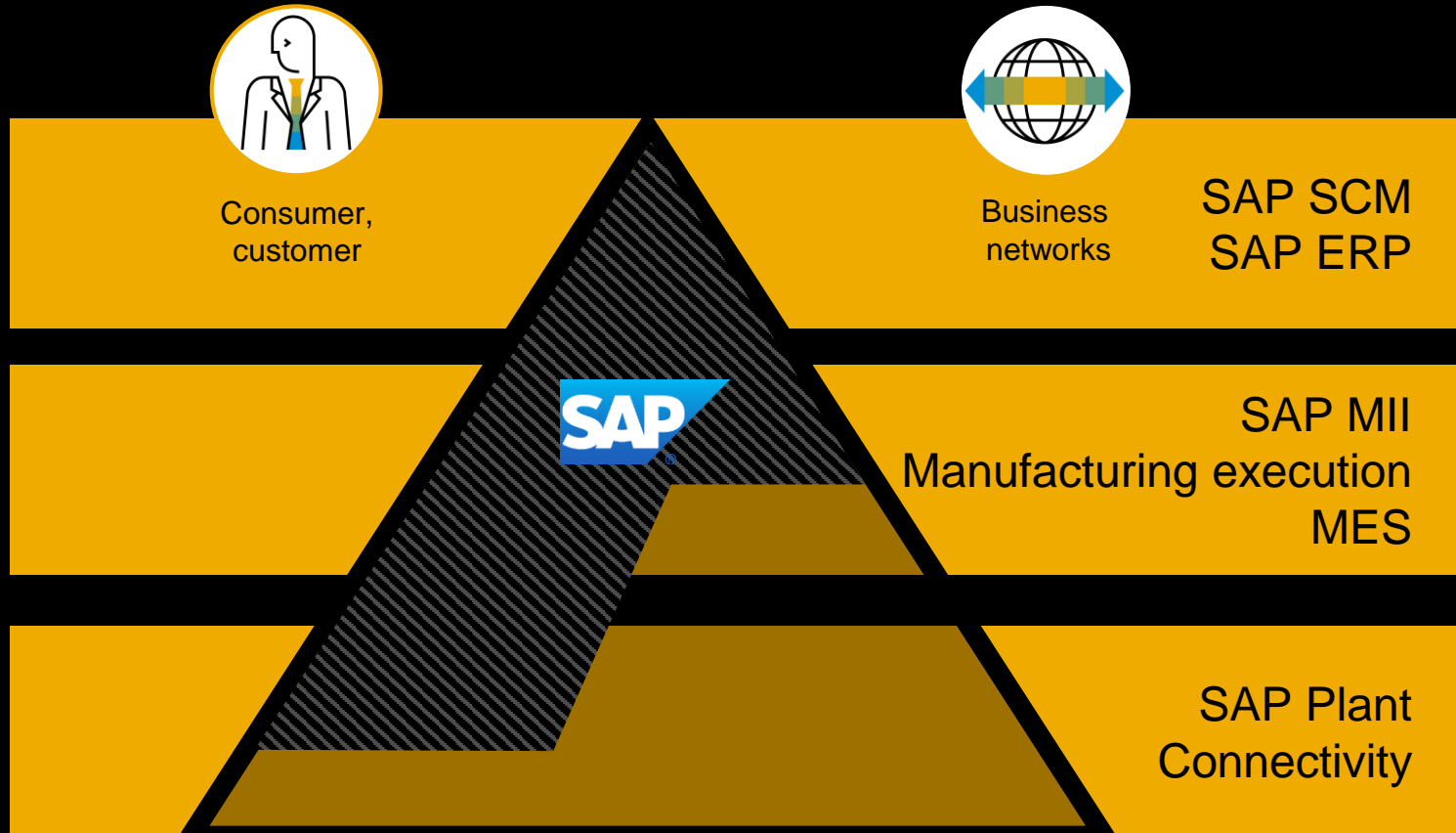
- Different technologies
- Different organization and responsibilities
- Different skills and professional profiles
- Often, even different codes and standards

... results in

- Most decisions being made based on models built for approximated information and gut feeling
- A delay between the facts and their reflection in the information systems
- Detailed decisions on operations that are often only locally optimized – but not connected holistically

Industry 4.0-enabled architecture in the mill products industry

Connect manufacturing with core business processes to increase business agility



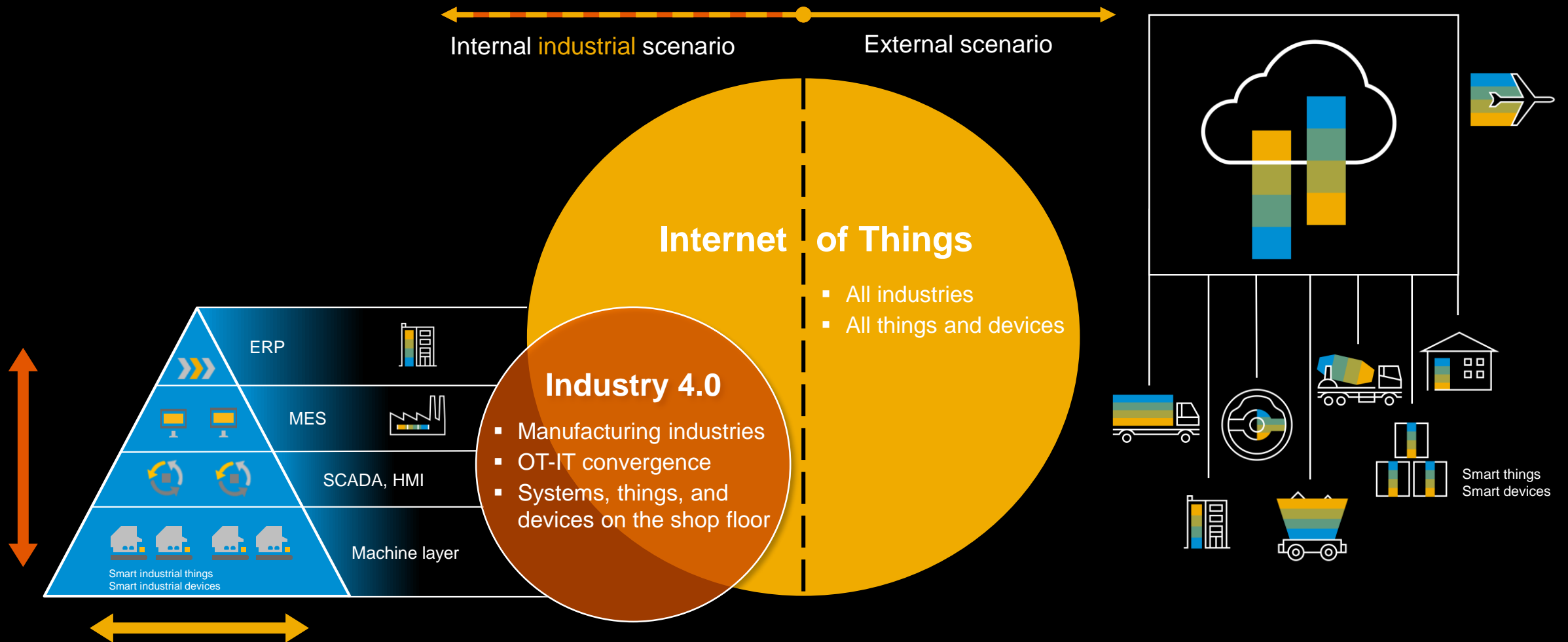
Benefits

- Reduce isolated applications
- Reduce media breaks
- Easily combine manufacturing, IoT, and core business data
- Take action in real time on data of any type and volume
- Deliver a single source of truth and real-time insight

Smart simplification from top floor to shop floor and customer to operations

Internet of Things and Industry 4.0

SAP Connected Manufacturing runs Industrial IoT with Industry 4.0 scenarios



Building products company

Connected manufacturing



Optimizing production, and reduce energy costs through real-time correlation of environmental, technical and production parameters.



Connected Products



Connected products



- Innovate through the interconnection of products and services
- Connect, monitor, and control products
- Track, trace, and respond to changing conditions



SAP Connected Goods – SAP Global Track and Trace

SAP Global Track and Trace vision:

Leverage IoT for real-time insights into your extended supply chain – multitier, end-to-end

Connected IoT

Devices and automation



Products and cargo



Transportation resources



Onboard units



Services



Business partner onboarding



SAP Global Track and Trace

Events Status Location Condition



Visibility for customer and consumer

Multitier logistics network visibility

Real-time inventory counting

Food pedigree and safety

Supply chain integrity

Real-time planning

Real-time maintenance and services

...

Predictive Maintenance



Predictive maintenance

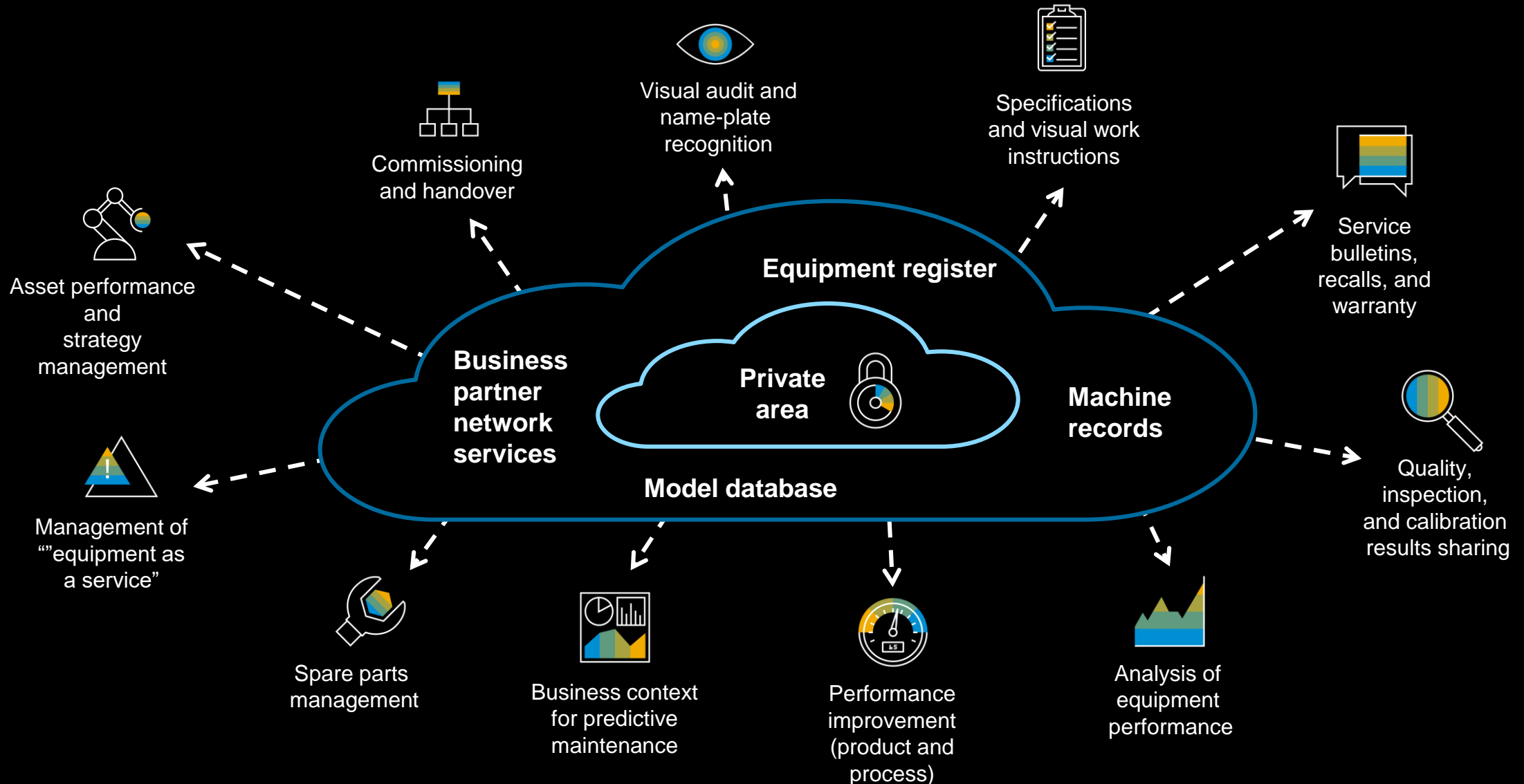


- Optimize the performance, availability, and quality of manufacturing
- Maximize equipment uptime through predictive maintenance
- Optimize manufacturing by adapting Industry 4.0 concepts



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

SAP Asset Intelligence Network – bridging operators and manufacturers



Predictive Quality



PoC Steel manufacturer



Predictive quality

Analysis of 300 parameters per slab more accurately predicts defects and results in 75% reduction in quality checks needed



Paper manufacturer

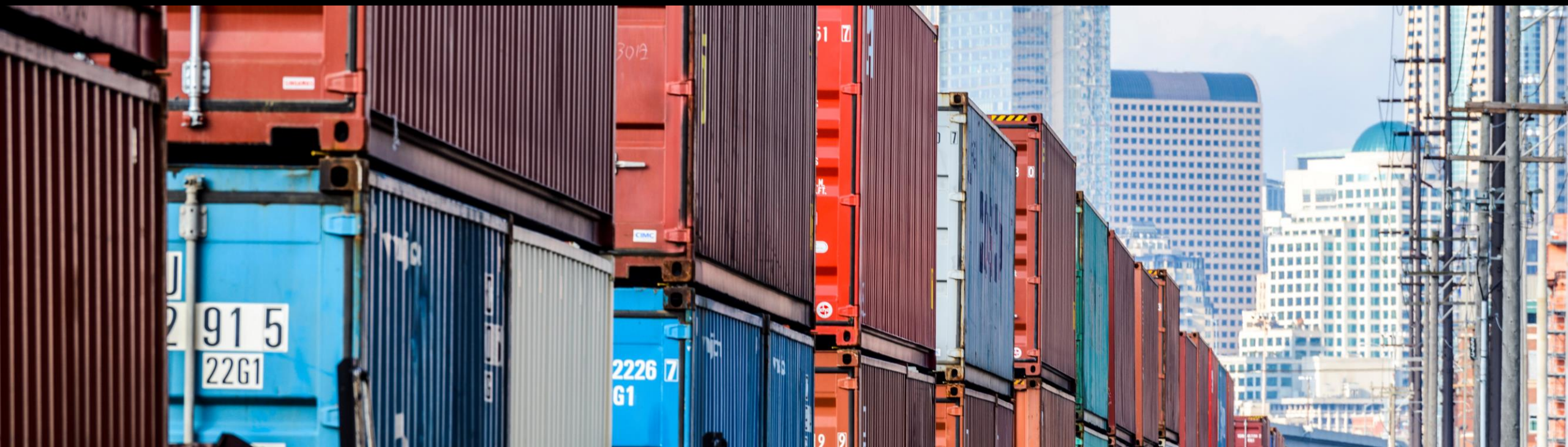


Predictive quality

Real-time sensor data of several PLCs and camera-based defect data. Support for machine operator with preset production parameters, alerts indicating quality issues, and production data acquisition.



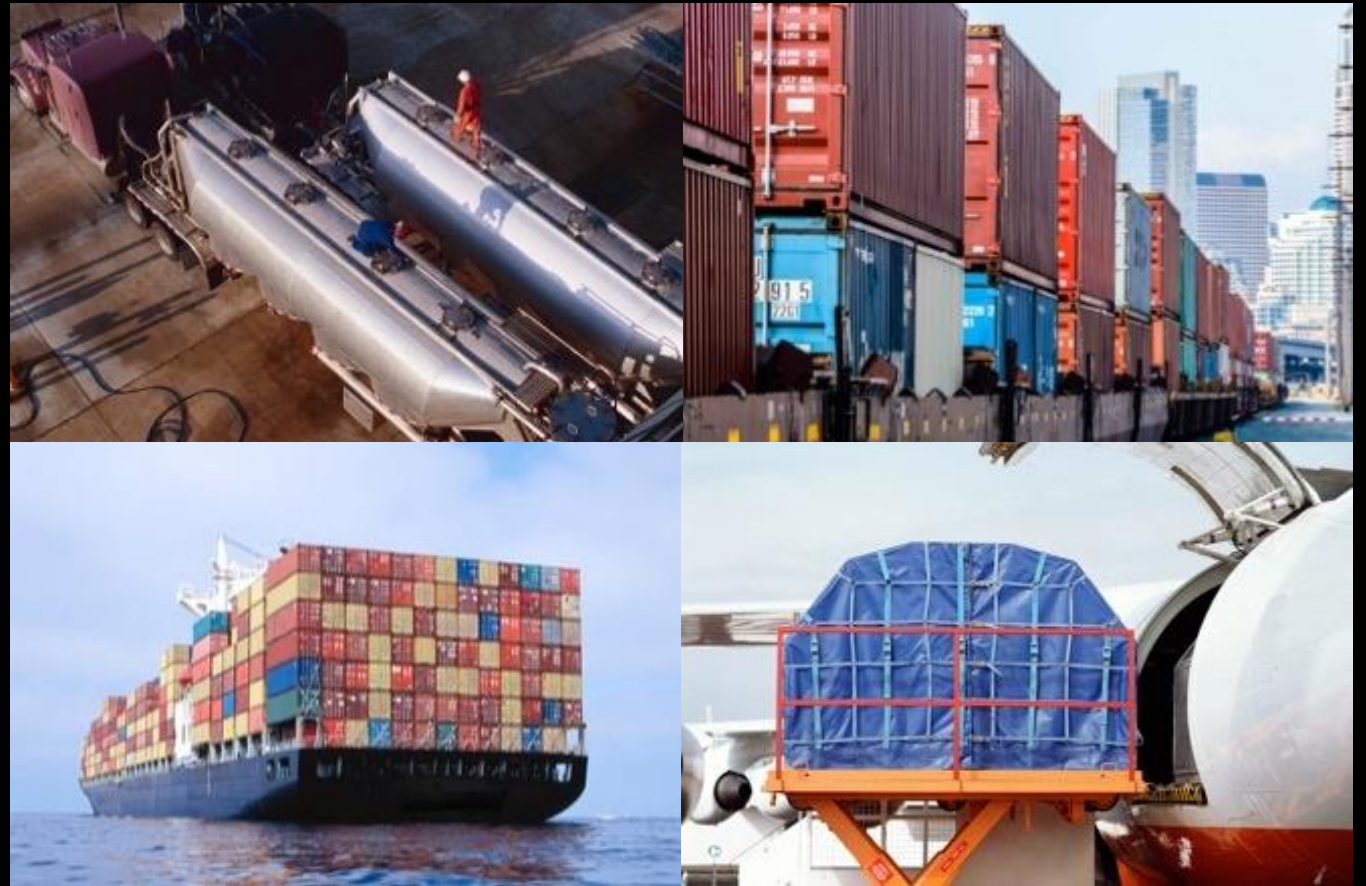
Connected Fleet



Connected fleet



- Collect, map, store, and analyze moving assets data in real time
- Optimize your supply chain and logistics processes
- Gain full visibility of products, spare parts, product stocks, and movements



SAP Vehicle Insights – SAP Networked Logistics Hub – SAP Global Track and Trace

Mining company



Connected fleet

Analyzes tire sensor data, truck load, environmental factors, and operator behavior. Delivers results that change operator training, speed guidelines, and road layouts, and increase tire life.



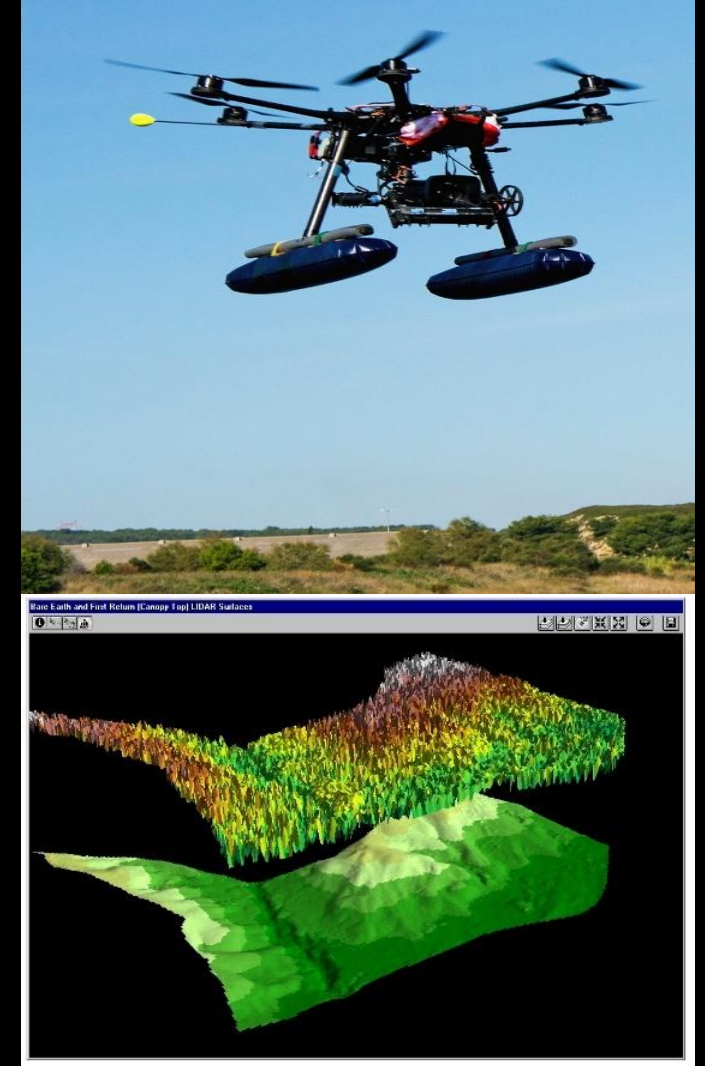
Precision Forestry



Precision Forestry: Drones

Collect field data with autonomous aerial vehicle

Fast data collection with an autonomous aerial vehicle to capture aerial images on forests or very small areas. Processing and analysis of data with the SAP HANA platform, which provides fast and precise information to optimize insight for the forester and to provide support.



Precision Forestry: Vehicle analytics

Optimize production and increase yield

Obtain a detailed, geobased overview of blocks, activities, and yield maps. Plan and optimize block tasks based on sensor and weather data. Monitor equipment and field tasks (such as those conducted by contractors in real time).



Construction Site Logistics





Process innovation

Optimize deliveries, trucks, pumps,
and collaboration

Business needs

- **Timely deliveries** to construction sites, such as ready-mix concrete
- Adaptability for many **last-minute changes**
- **Accommodation of limited space** at the construction site and surrounding area
- **Collaborative scenarios** of construction companies, logistics providers, building materials suppliers, and equipment and machinery companies

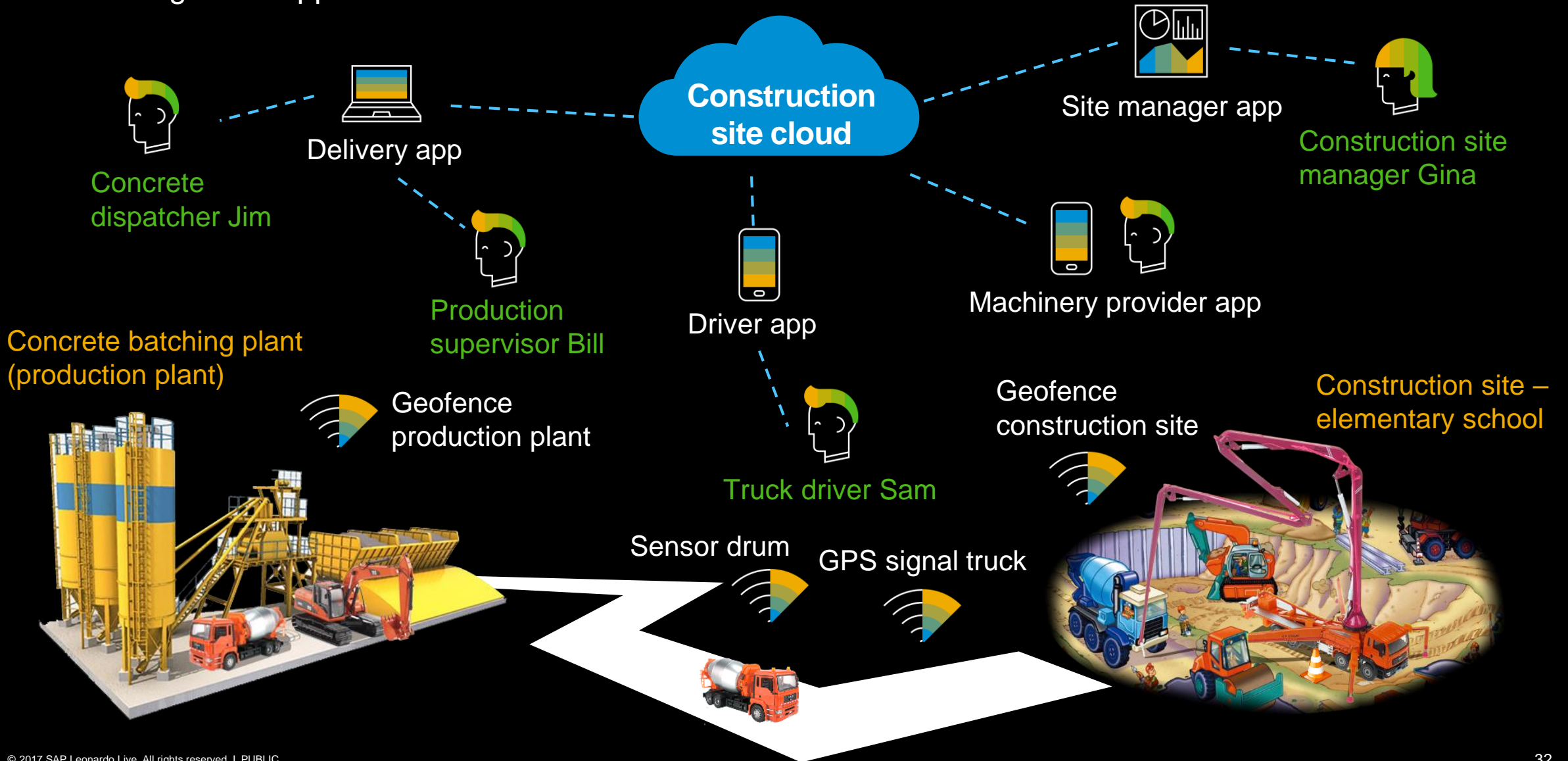
Technology opportunity

- **Real-time data, such as GPS, sensors, weather, and traffic**
- Real-time network (SAP Cloud Platform) for any party involved plus easy onboarding
- **Real-time collaboration with mobile devices** and natural language processing

Construction site logistics

Business logic and apps

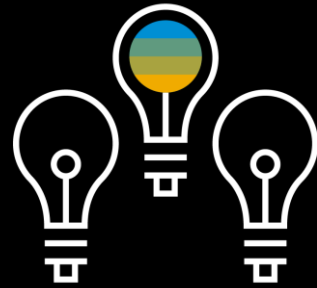
Concept



Next steps: conduct an “explore” workshop



How do we find the right innovation path?



What “use cases” have been prioritized, designed, implemented?

For each innovation use case:

- What is the game plan?
- What are the design challenges?
- Who are the stakeholders?



Outputs:

- Prioritized business scenarios and use cases
- Design challenges and game plan
- Stakeholder map

SAP Leonardo

How do I see innovation in action?

Visit [SAP Leonardo Centers](#) in New York or Palo Alto, California

Thank you.

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