The Future of Track and Trace in a Digitalized World

Petra Diessner, SAP

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SAP Run Simple

The Future of Track and Trace in a Digitalized World (Innovation Session, 45 minutes)

Optimize customer service levels and track inventory from end to end with cloud-based, multitier logistics network capabilities. See how SAP Global Track and Trace complements and extends our existing on-premise solution portfolio for track and trace. Big Data architecture and easy onboarding and offboarding of business partners supports efficient decision making and business partner communication.

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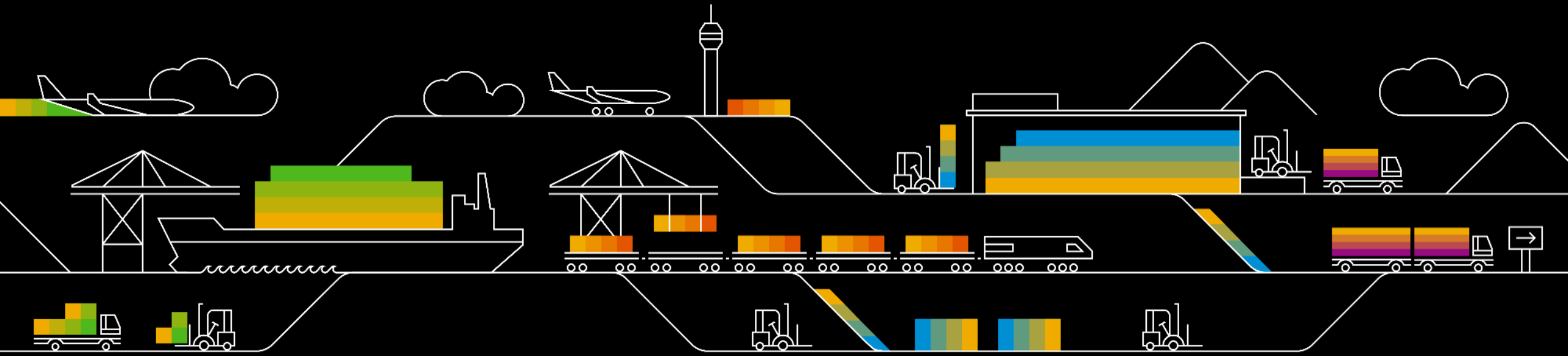
The business need for track and trace



The challenge: Supply chain risk has increased tremendously – the imperative for track and trace.

Supply chain disruptions have a negative impact on the

shareholder value and **reputation** of a brand owner, regardless of the culprit: **the brand owner is always held responsible**.[1]

IoT
Intelligence
Velocity
Visibility
Supply chain risk
Insight
Decision
Desirability
Cloud
Management by exception
Value
Big Data
KPIs
Integrity

Global supply chain disruption cost

$56 bn

in 2015.[2]

72% of suppliers that have dealt with a breakdown in their supply chains have lacked the full visibility needed to come up with a fast and simple solution.[3]

[1] "From vulnerable to valuable – how integrity can transform a supply chain," PricewaterhouseCoopers

[2] Research from the British Standards Institute

[3] Study by the Business Continuity Institute

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The opportunity: The world is increasingly digital and networked.

By 2020

9 billion

mobile users in the world[1]

End of 2020

212 billion

“things” will be connected.[2]

As digitalization continues to modify the global supply chain landscape, its unprecedented data sources and solutions will lead not only to the demise of disparate information systems but also to the rise of **true end-to-end supply chain visibility**.[3]

[1] Statista, 2014.

[2] Cisco Global Cloud Index: Forecast and Methodology 2014–2019, April 21, 2016

[3] Supply Chain Visibility: A Precursor to Insight and Optimization, April 2016

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SAP's track and trace mission – supporting our customers in running a Live Business

Offer holistic tracking and traceability, covering the complete value chain, to establish full visibility and built-in compliance for inventory and products in our customers' complex supply chains

Since 2001

Business process tracking and visibility for goods and assets in transit

SAP Event Management

Since 2007/2015

Comply with serialization directives (tobacco, agriculture, explosives, and life sciences) and provide product lifecycle intelligence

SAP object event repository, SAP Auto-ID Infrastructure, SAP Advanced Track and Trace for Pharmaceuticals*

Since 2012

Trace product batch genealogy

SAP Global Batch Traceability

On premise and on SAP HANA Enterprise Cloud | SAP S/4HANA sidecar certified (*planned)

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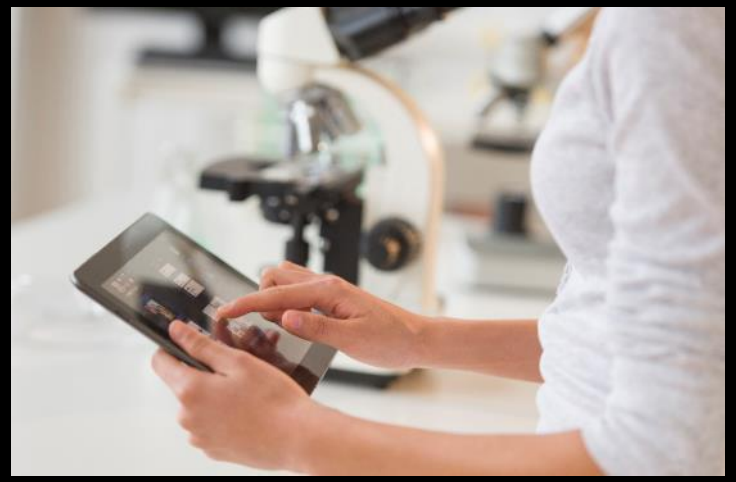
How track and trace from SAP already supports customers in their digitalization journey



Life sciences, consumer products (CP):

Condition monitoring to assure product quality

Retail, CP:

Geotracking to allow for best-possible customer service

Automotive, high tech:

Automation through bar code and RFID to reduce efforts and errors

Leveraging the respective application's (basic) IoT capabilities *OR* IoT services within SAP Leonardo IoT Foundation

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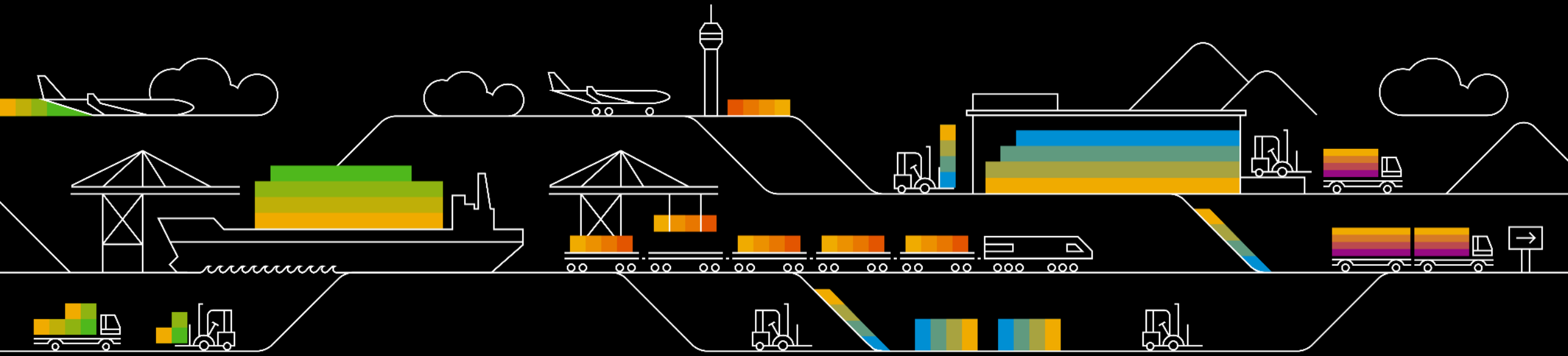
Current trends in the track and trace space



Trends in the track and trace space

Internet of Things (IoT)

Business network support

Exploding data volumes

Multitier visibility

Scalable on-demand offering

Machine learning, blockchain

Enticing experience, real time

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SAP Leonardo – digital innovation system

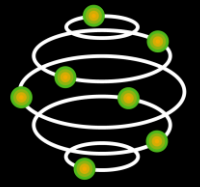
- Breakthrough technologies integrated on **SAP Cloud Platform**
- User-centered **design thinking**
- **Accelerators** comprising software and services

SAP Cloud Platform

Internet of Things

Machine learning

Analytics



Big Data

Design thinking

Blockchain

Data intelligence

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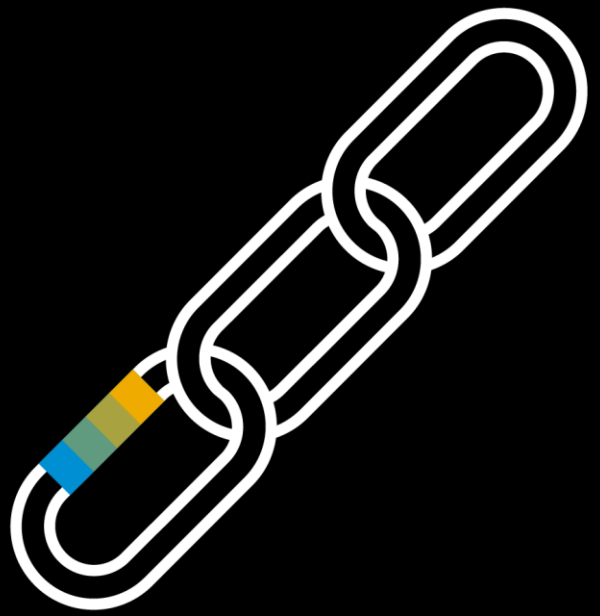
Characteristics of high-potential blockchain use cases

Blockchain usage criteria

- Multiparty scenario
- Participants as equal partners
- Shared repository
- Multiple writers
- Certain need for mutual control
- Intermediaries to be made obsolete
- Need for transparency
- Transfer of digitals assets



Food distribution – authentication and record keeping ▶ permanent, tamper-proof record of every transaction along the way

High-value items – secure ledger to authenticate original versus counterfeit

www.sap.com/blockchain

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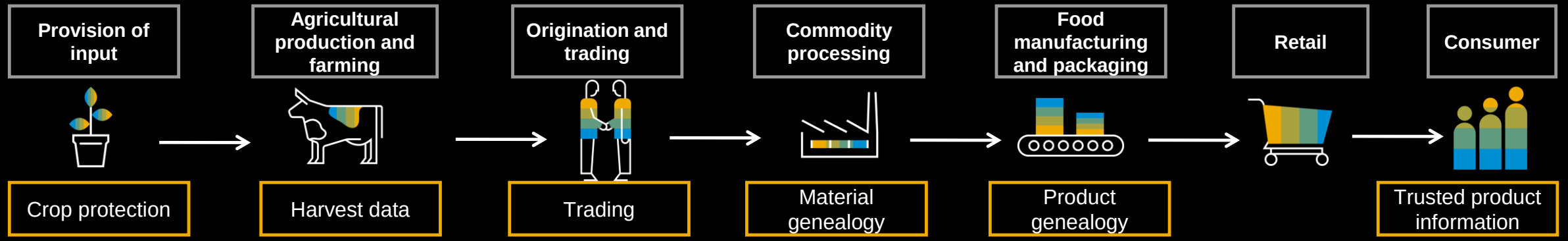
Creating a trust chain with an irrefutable record of the material-to-product provenance



1. Crop protection used in a certain farm field

Material type/ variety/ grade

Harvest date

Farmer ID

From vendor to farm customer A

2. Harvest data:

Sustainability footprint and certified and checked free of child labor

Material name (GTIN)

Farmer ID /name

Farm field ID

Country of origin

From farmer A to trader A

3. From trader A to processor A

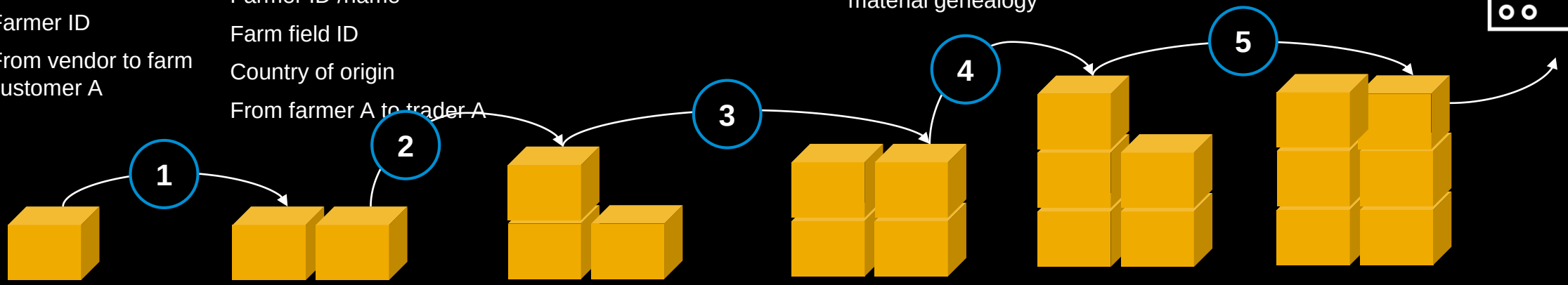
Commercial transaction only – no modification to material

4. From semifinished material processor A to finished food processor A

Relation of input material and their sustainability footprint to semifinished material genealogy

5. Finished food processor A to retailer A

Relation of input material and the sustainability footprint to finished product genealogy



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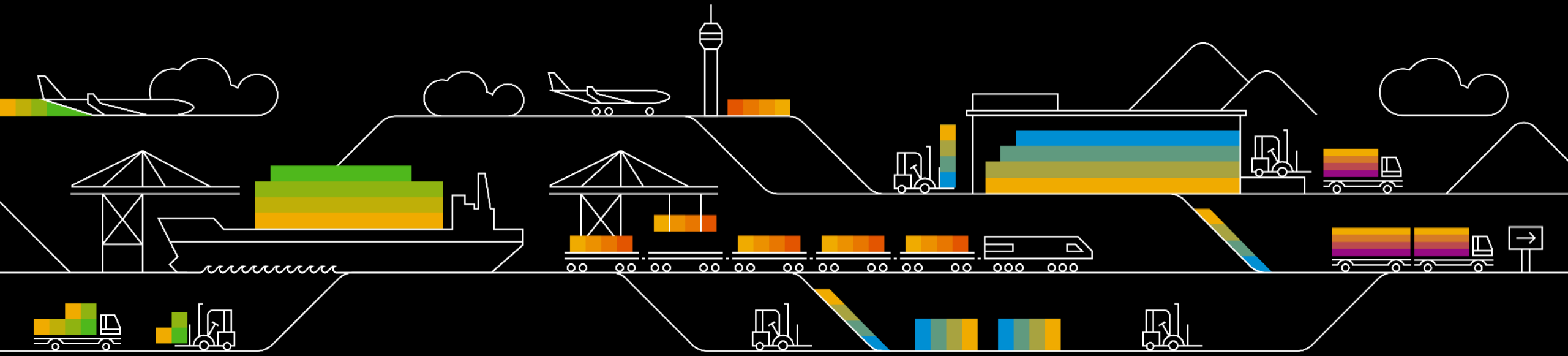
The business need for track and trace



The vision: leverage IoT for real-time insights into your extended supply chain – multitier, end-to-end

Connected IoT

Devices and automation

Products/ cargo

Transportation resources

Onboard units

Services

Business partner onboarding

Cloud-based 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 | Predictions | …

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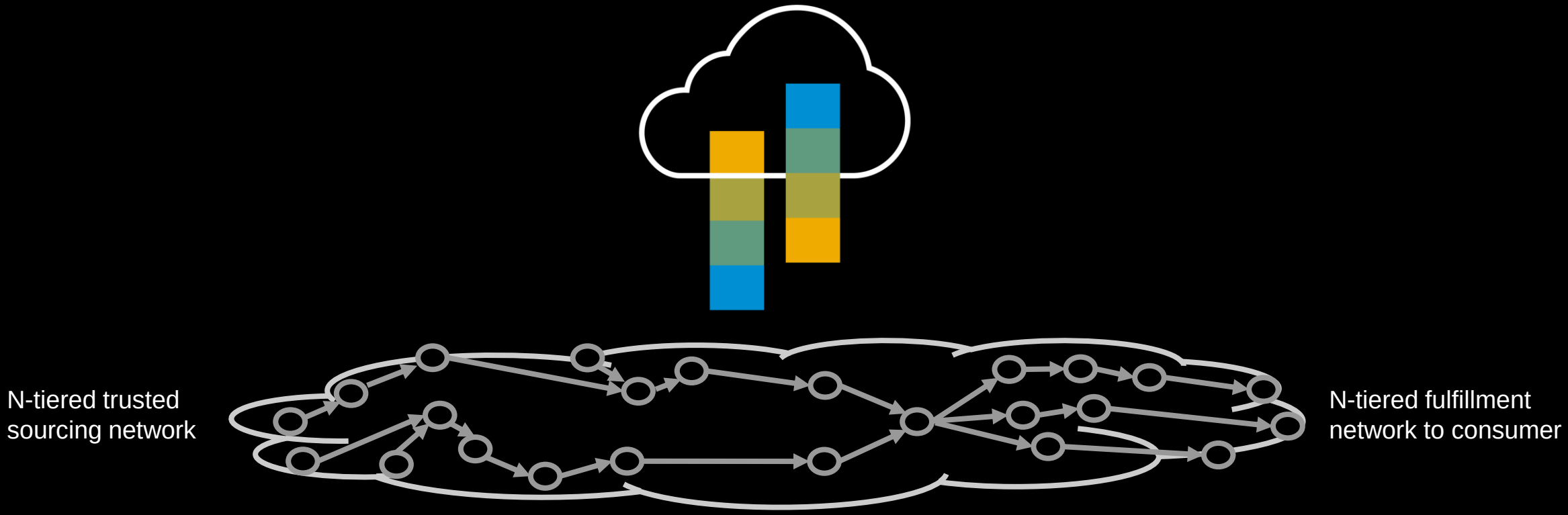
Capture and share track and trace data across global sourcing, production and fulfillment networks with SAP Global Track and Trace

A cloud-based track and trace network service by SAP



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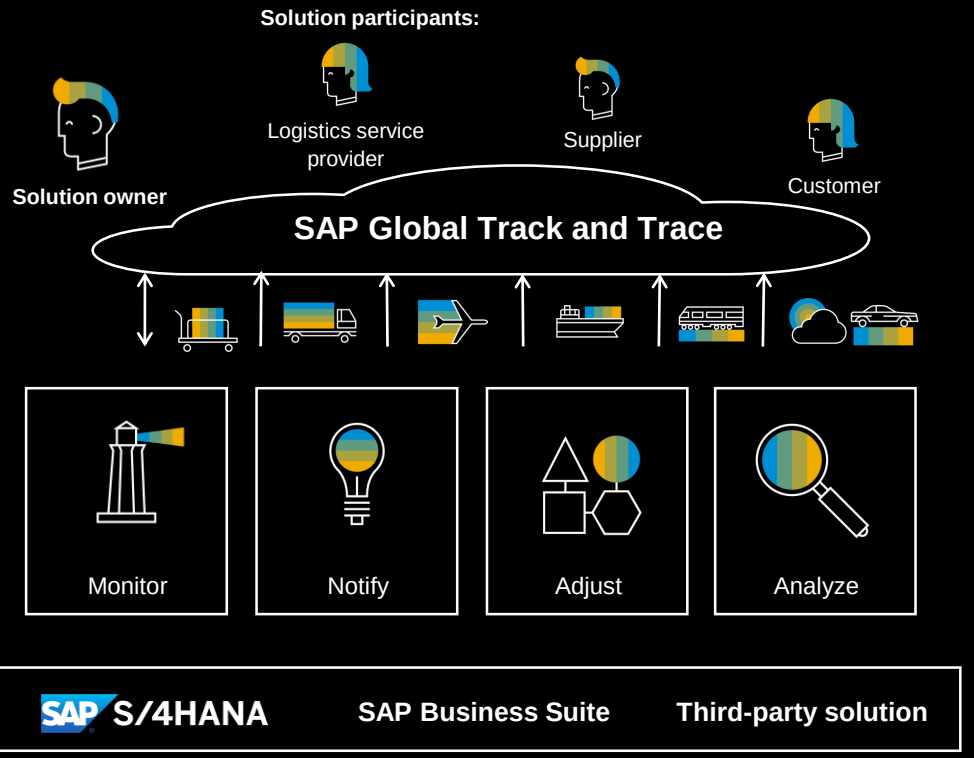
Cloud-based track and trace, powered by SAP Leonardo

Challenges

- Late awareness of issues
- Information silos
- Lack of collaboration
- Painful onboarding and offboarding
- Manual efforts
- Performance and scale

SAP Global Track and Trace



Benefits

- Supply chain risks
- Customer satisfaction
- Scale as per your needs
- Secure infrastructure
- Real-time insights
- Efficient collaboration

Survey the timely execution of critical business processes and track goods and assets in transit with SAP Global Track and Trace

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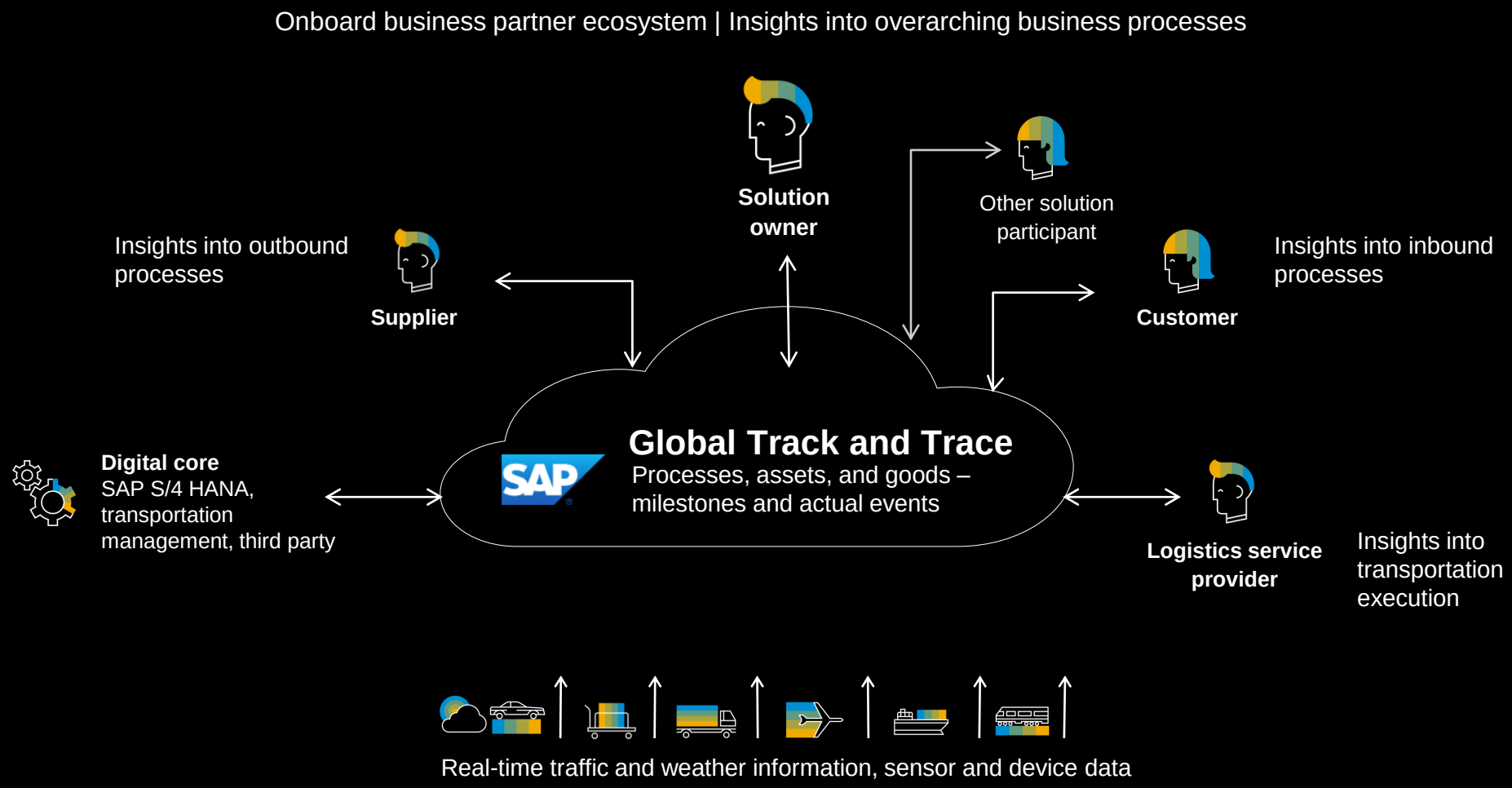
SAP Global Track and Trace



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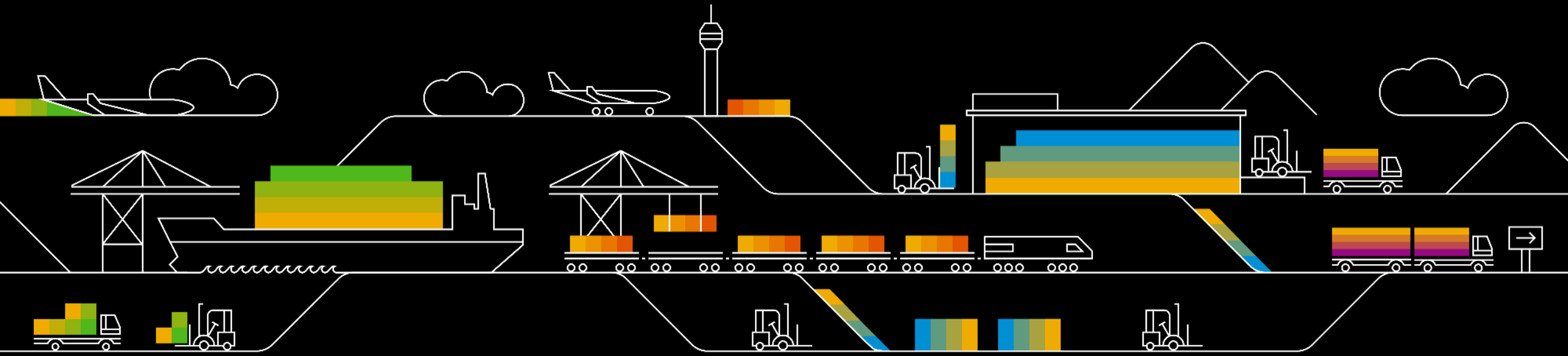
Demo



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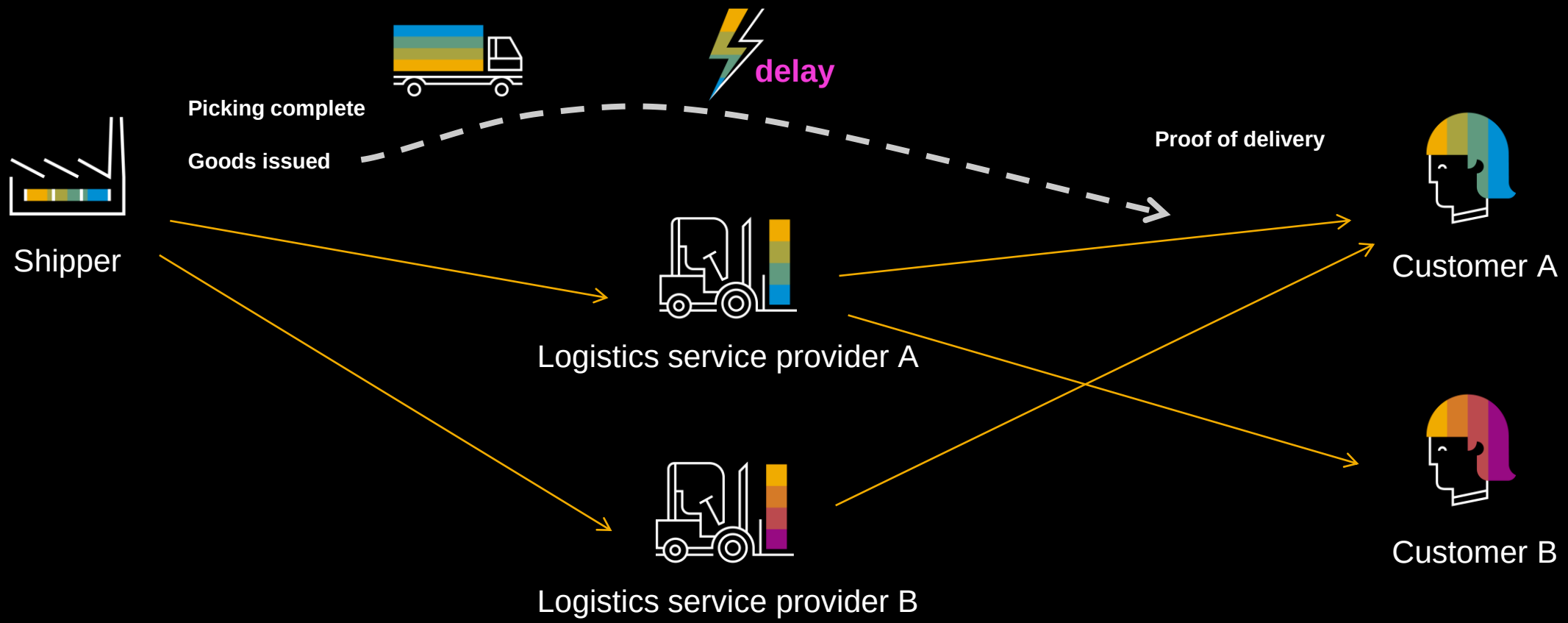
Ready-to-run content: provide real-time delivery transparency in your extended supply chain



Provisioning and onboarding – master data: business partner

Can be complemented by shipment tracking on a project basis

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Ready-to-build: generic business process and object tracking – examples

Provisioning and onboarding – master data: business partner

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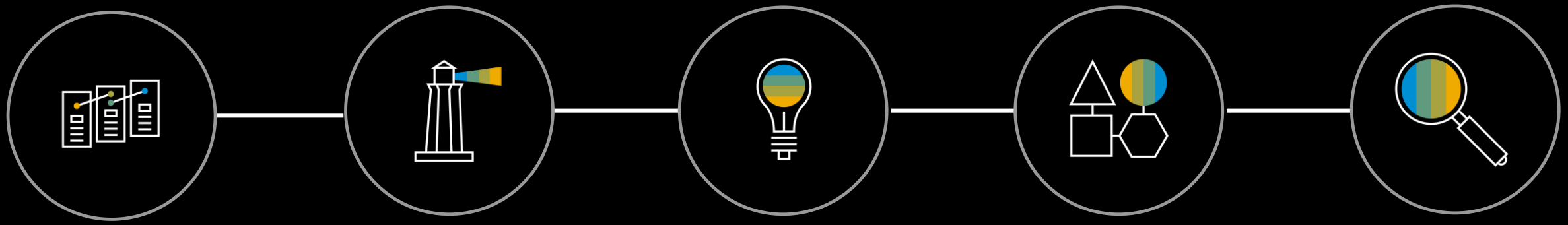

Setup

- Onboard business partner ecosystem based on consolidated master data
- Integrate with business backend systems
- Activate and/or configure tracking scenarios

Monitor

- Capture business events from a variety of data sources across your business network in real time

Notify

- Be informed of deviations from the plan
- Get real-time status updates

Adjust

- Make informed and timely decisions
- Act on early notification of emerging threats
- Trigger business adjustments

Analyze

- Allow each stakeholder to access a personalized view of the tracked objects and processes
- Run reports

- SAP back-end integration via SAP Event Management application interface
- Configuration editor

- Via OData interface or SAP Fiori app

- SAP Fiori app search via status

- Manual

- SAP Fiori app

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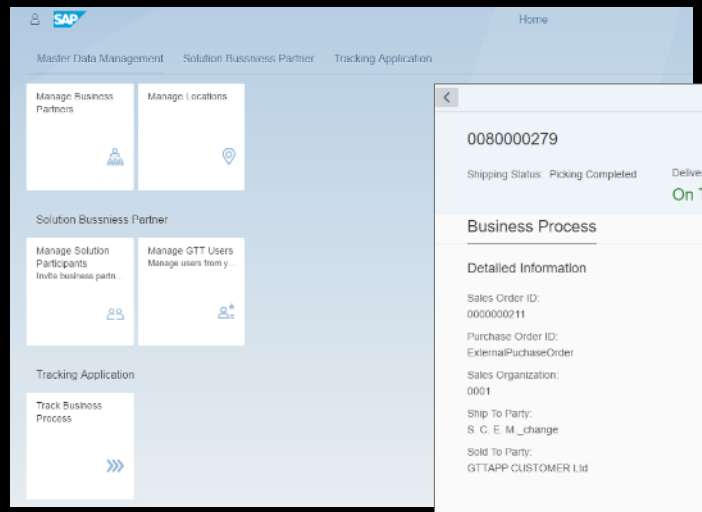
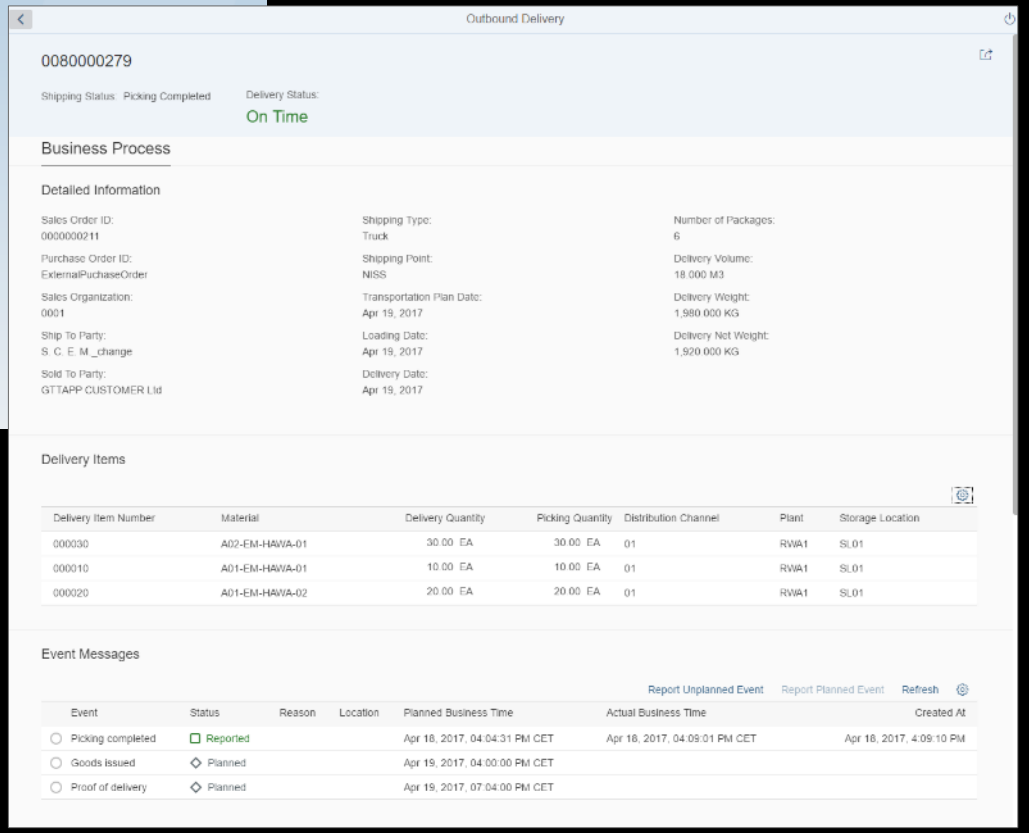
Provide the right information to the right users at the right time

Personalized launchpad



Tracking details



Integration with collaboration workspace

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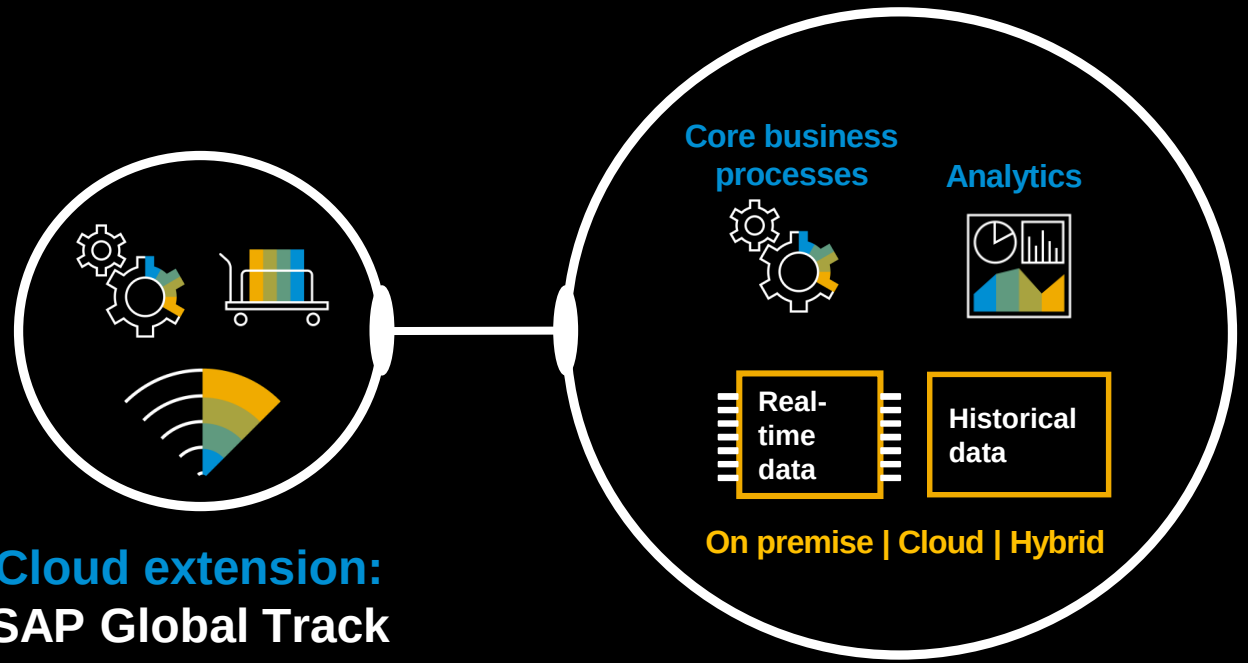
Value drivers: instance-level and aggregated visibility on the go

Provide **real-time insights** to all relevant stakeholders for their specific business needs

Gain scalable performance and throughput **on demand**

Easily **onboard and offboard** business partners

Upload and **consolidate** master data



Cloud extension:
SAP Global Track and Trace

Enterprise digital core:
SAP S/4HANA

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SAP Global Track and Trace

Architecture

User access and collaboration

Thing connectivity

SAP Global Track and Trace

Bucket A | Bucket B | ….

IoT services from SAP

SAP IoT Application Enablement

SAP Leonardo IoT Foundation

SAP Cloud Platform Integration

SAP Cloud Platform

Integration with SAP and third party

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Current capabilities and road map

Subject to change

Available today

- Delivery tracking
- Shipment tracking

Coming soon – ordering across the network

- Extended scenarios for business process tracking
  - – Purchase order tracking
  - – Sales order fulfillment tracking
  - – Different network party views

Road map

- IoT capabilities
- Object tracking
- Product genealogy
- Generic and industry networks
  - – Farm-to-consumer value chain track and trace

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SAP Global Track and Trace

Business benefits

Improve customer service through better reliability and real-time insights

Reduce supply chain costs by easing collaboration and avoiding costly firefighting

Enable event-driven operations based on operational and aggregated insights into supply chain conditions

Protect and differentiate brand with the help of value-add services

Support regulatory compliance and sustainability efforts based on collating necessary data

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Where to find more information

Early adopter registration
https://influence.sap.com/sapglobaltrackandtrace

Help
https://help.sap.com/viewer/p/sap_global_track_and_trace

SAP Solution Explorer
https://solutionexplorer.sap.com/solexp/ui/vlm/default/vlm/default-lob-99/default-bpr-259,default-e2e-1128,default-ist-3126

SAP.com
coming soon

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Thank you.

Contact information:

Petra Diessner
Solution Owner Track and Trace,
IoT and Digital Supply Chain SAP SE
petra.diessner@sap.com
LinkedIn

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