



Digital Transformation In Logistics

Disruptive or Business-as-Usual?

October 2021



New Reality in **Logistics**



Supply Chain Resilience

Operate supplier networks to hedge risk and flexibly engage external resources where required. Pro-actively manage supply chain risks.



Supply chain efficiency & Logistics 4.0

Optimize the flow of goods, increase asset and warehouse utilization investing in advanced automation.



Supply chain integrity and transparency

Create a digital twin of fulfillment & logistics processing building on asset insights and uniquely identified products.



Delightful delivery experience

Fulfill the promise of omnichannel commerce with state-of-the-art logistics and last-mile execution.



Sustainability

Address sustainability goals by providing decision support in supply chain planning & execution complemented by emissions reporting and analytics.

Enabling Technology



Internet-of-Things

Provides sensor-enabled value-added services and business outcomes



Advanced Automation

Increasing efficiency by integrating latest automation technology and robotics



Data Science & Machine-Learning

Sophisticated algorithms to optimize movements and storage strategies



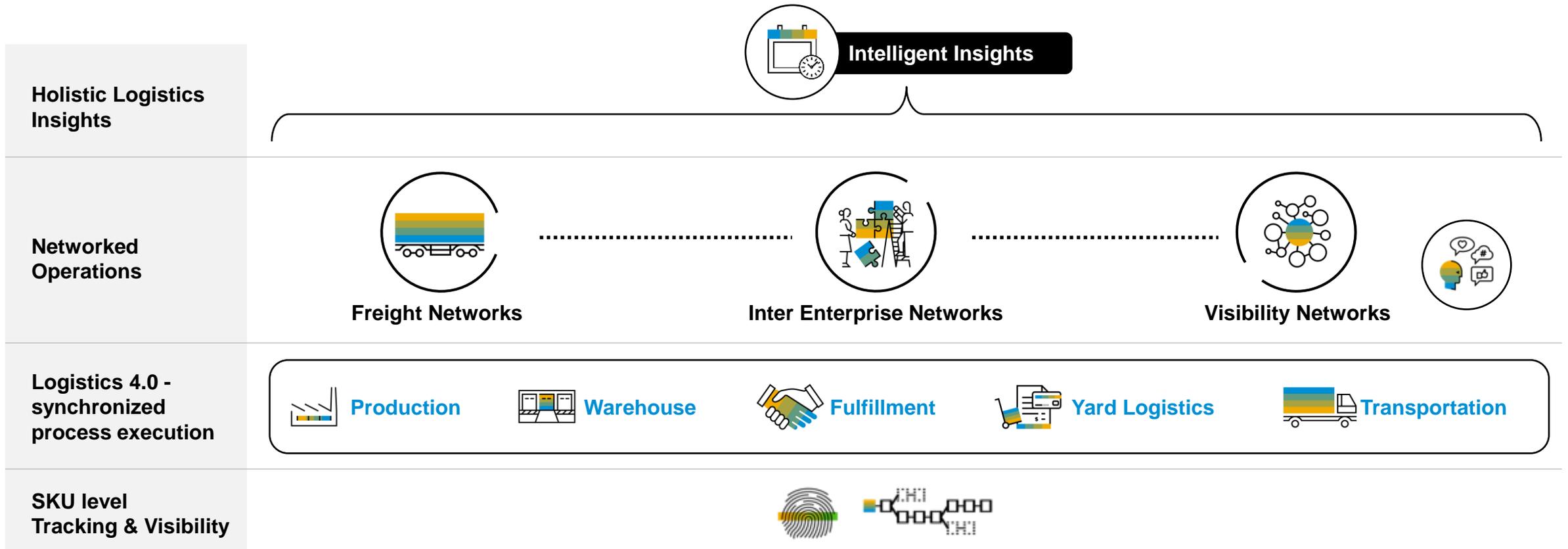
Networks

Align distribution and fulfillment processes by collaborating with logistics participants

Blockchain

Secure Data sharing across the Logistics Network

Digital Logistics – Big Picture





Digital Innovations in Logistics



**Digital Logistics
Convergence**



Freight Networks



**Real-time
Visibility**



Logistics 4.0



**Intelligent Insights &
Applications**



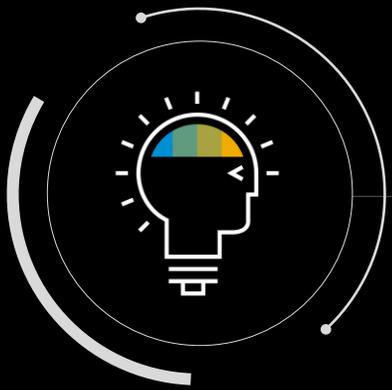
**Logistics Experience
Management**



**Secure Data &
Document Exchange**



**Sustainable
Logistics**



A deeper look...



Digital Logistics Convergence

Seamless process execution across manufacturing, warehousing, fulfillment and transportation.

- Foundation for modern delivery services
- Perfect order delivery
- Improved operational efficiency
- Streamlined replenishment
- Reduced Inventory

Disruption level: low

A woman with blonde hair is smiling and talking on a black corded telephone. She is wearing a blue denim shirt. In the background, another person is partially visible, and there are office shelves with papers. The scene is set in a professional office environment.

Freight Networks

Freight Collaboration provides order coordination, dock appointment scheduling and standardized visibility.

- Jointly manage logistics transactions
- Exchange documents and receive insights into process steps performed by others
- Natively integrate with backend systems
- Collaborate with digital freight forwarders

Disruption level: moderate to high

Real-time Visibility

Provides transparency into order fulfillment, shipment tracking – inbound and outbound.

- Track business process progress and goods in-transit
- Deliver tailored insights to business users
- Notify stakeholders of exceptions and status updates
- Trigger follow-up transactions based on defined rules
- Link with real-time shipment progress information from connected visibility providers

Disruption level: low



Logistics 4.0

Out-of-the-box robotics and IoT integration with logistics applications

Warehouse Robotics

- Easily integrate robots/co-bots with SAP applications
- Add robots on-the-fly to meet peak demand
- Expand to areas where robots haven't been used

IoT

- Indoor positioning of warehouse resources
- Automated goods movement and inventory updates
- Smart replenishment and Kanban

Disruption level: moderate



Intelligent Insights

Provides situational awareness of global supply chain movements and performance analytics.

- Global logistics situation room
- Visibility and alerting across modes of transport
- Optionally enriched by external risk data
- Standard key performance indicators
- Drive resilience and business process efficiency across the global value chain

Disruption level: moderate to high

Intelligent Applications

Provides sophisticated data science and machine-learning tooling to logistics applications

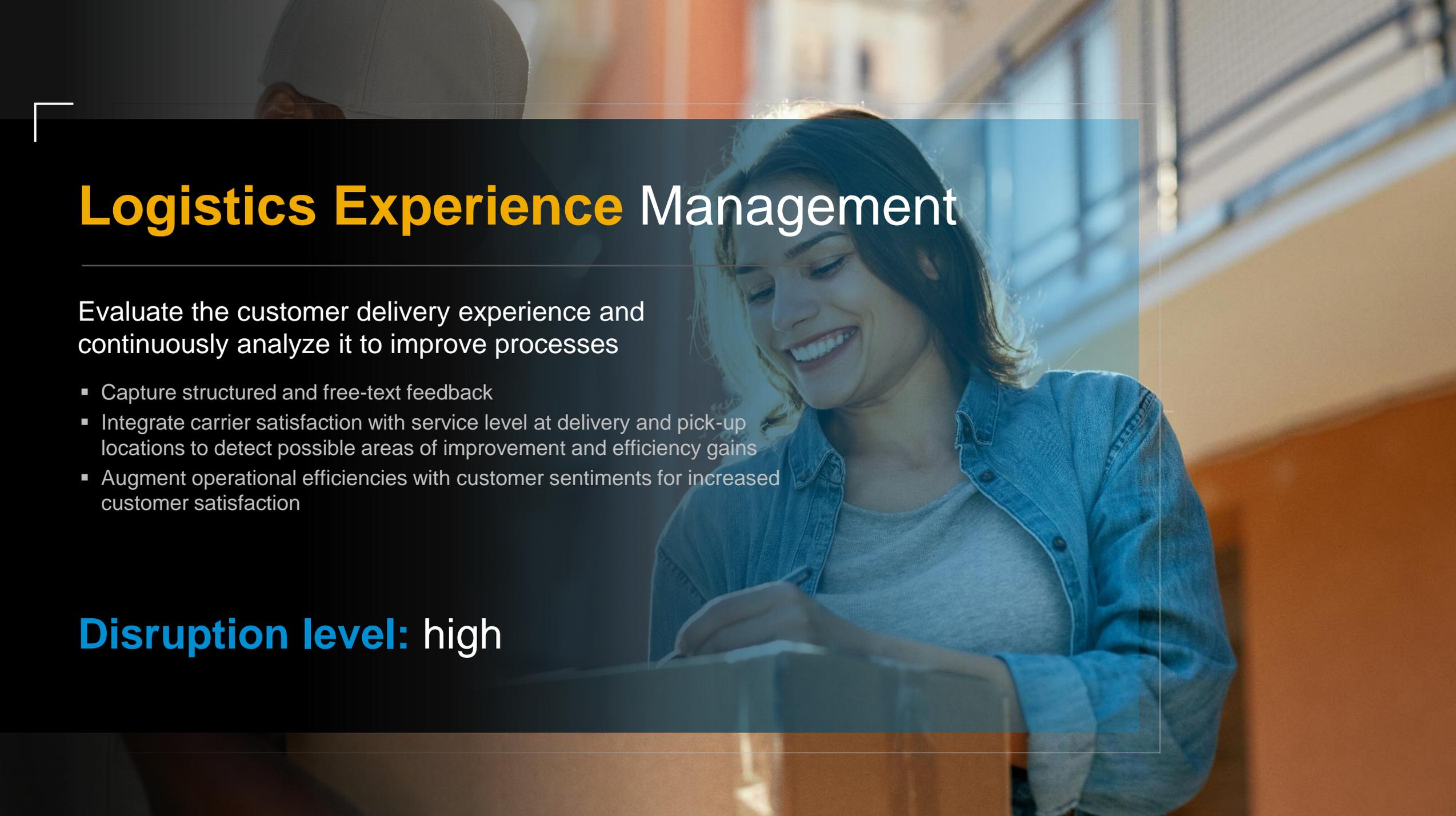
Warehouse

- Analyze warehouse operation KPIs
- Simulate optimization scenarios
- Optimize warehouse movements

Transportation

- Automated vehicle routing & scheduling
- 3-dimensional load planning
- Automated Carrier Selection

Disruption level: moderate to high



Logistics Experience Management

Evaluate the customer delivery experience and continuously analyze it to improve processes

- Capture structured and free-text feedback
- Integrate carrier satisfaction with service level at delivery and pick-up locations to detect possible areas of improvement and efficiency gains
- Augment operational efficiencies with customer sentiments for increased customer satisfaction

Disruption level: high

Secure Data & Document Exchange

Blockchain based applications facilitating automated information exchange while guaranteeing integrity

Material Traceability

- Track material provenance from raw material to consumption
- Share information with end consumer as a differentiator
- Efficiently facilitate product recalls

Trade Document Collaboration

- Digital document share for international trade
- Secure and tamperproof process ownership trail
- Integrated with operational systems

Disruption level: moderate

Sustainable Logistics

Solutions targeting **zero emissions** and **zero waste** in supply chain

CO² Emissions Management & Reporting

- Capture emissions data
- Optimize business decisions leveraging environmental data

Returnable Packaging Management

- Enables circular logistic flows for returnable and reusable packaging material

Disruption level: high



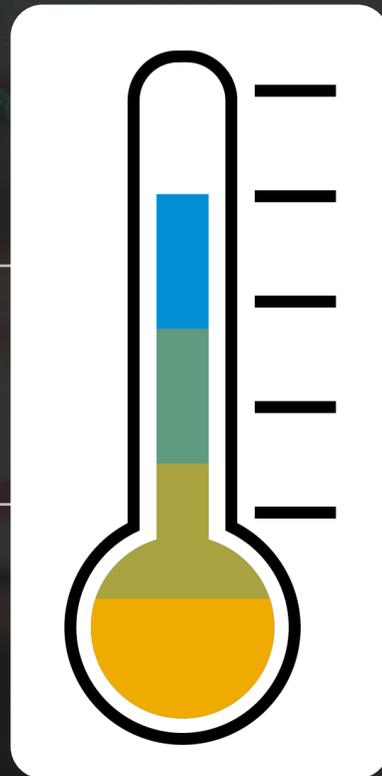
Summary

It's time to re-imagine Logistics.

Innovation

Transformation

Optimization



- Freight Networks
- ZERO Emissions
- ZERO Waste
- Logistics Experience Management

- Intelligent Insights / logistics situation rooms
- Intelligent applications leveraging big data & ML
- Trade document collaboration
- Logistics 4.0 (robotics & IoT)
- Product Provenance based offerings

- Supply Chain Convergence
- Supply Chain Visibility

Q&A

