# Bosch Trac360

**Right parts, right quantity
at the right time**

BOSCH    Microsoft

# Agenda

1. Optimizing a supply chain starts with visibility

2. Lack of visibility magnifies issues

3. Smartly track shipments with Bosch Trac360

4. Precisely tracking over 300,000 bins of parts

5. Harnessing Azures services to enable granular tracking

# Optimizing a supply chain starts with visibility

## $1.5T

American businesses spend every years on shipping logistics, almost 8% of US GDP[1]

## 69%

Best–in-class businesses have on-line visibility into in-transit shipment status[2]

## 60%

Best–in-class businesses have end-to-end supply chain data, process, and distribution visibility for decision making[3]

# Lack of visibility magnifies issues

**Delivery of wrong parts and goods**

Supply chains with little to no digitization can lead to the wrong parts or goods being produced and delivered or conversely, parts can be mislabeled or confused with similar parts, resulting in customers receiving incomplete or incorrect orders.

**Error-prone manual entry of data**

Relying on manual entry, needing to refer to multiple, disparate systems or manually inspecting goods increases the probability of errors, which can cascade through the supply chain, and not be caught until a wrong order is received.

**Lack of end-to-end visibility**

When freight arrives at a warehouse, distribution center, or customer site, it can be challenging to immediately discern what goods have arrived, their condition, treatment during shipment, extent of the journey, and provenance.

# Bosch Trac360 enable customers to track and smartly manage the shipment of their parts and products in real-time, using integrated technologies

Trac360
Right Parts, Right Quantity at the Right Time

Provides comprehensive visibility across supply chain

Increases warehouse and process productivity

Integrates with IoT, blockchain, and enterprise systems

# End-to-end connected supply chain

**Transparency throughout the entire supply chain**

Produces real-time "digital travel diary" of shipments, freight carriers, and other details

**Real time parts, bin, and pallet traceability**

Uses a breadth of technologies to continually track parts, reusable bins and pallets, and documentation

**Blockchain driven transactions**

Smart contracts simplify the financial transactions built on certain conditions between the entities
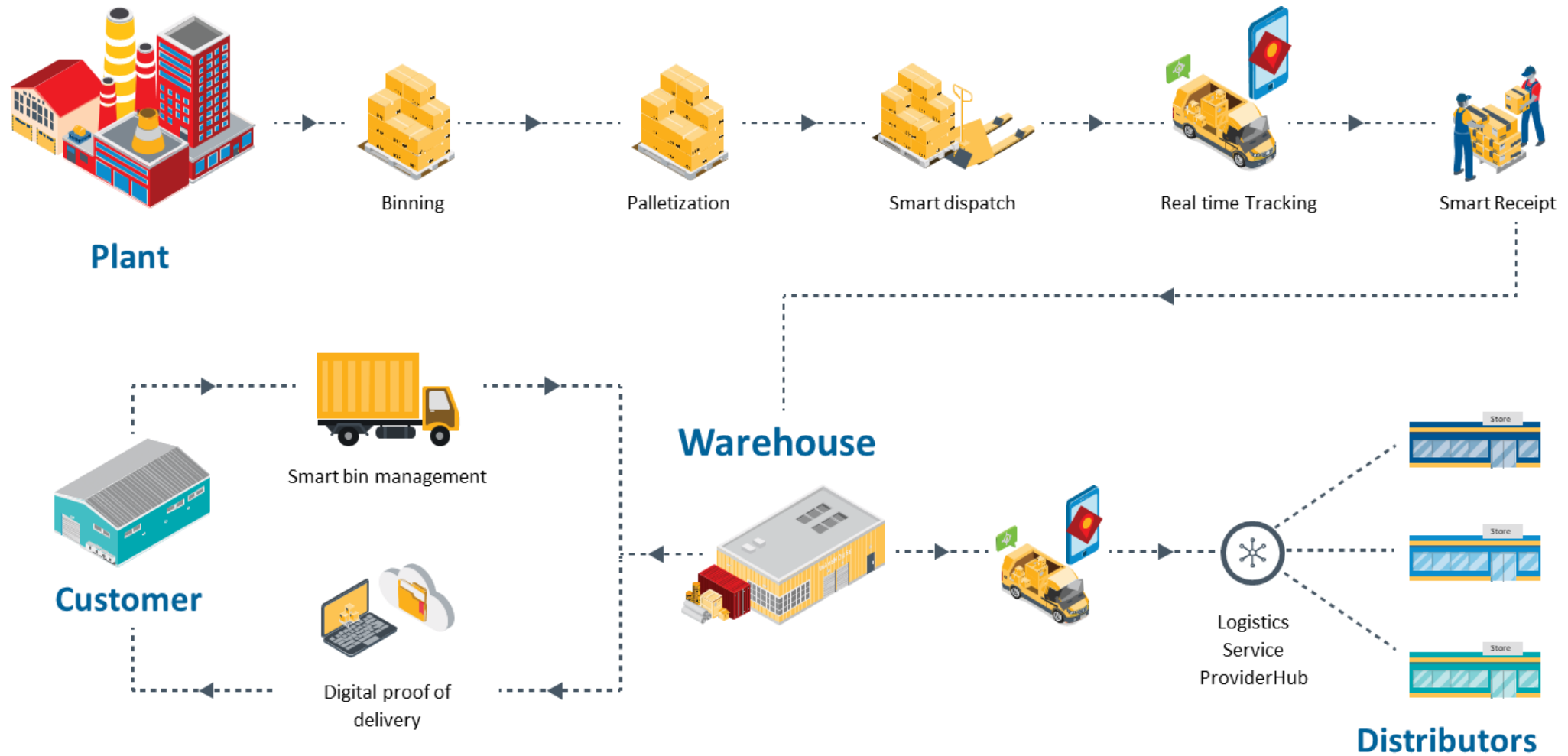
**Digitally powered logistics operations**

Automates warehouse operations using numerous technologies, along with IoT sensors to for condition monitoring of goods and vehicles

**Integrated systems**

Offers a one-stop portal that integrates multiple sources of supply chain and business intelligence, improving planning and warehouse productivity

# End-to-end product and shipment traceability

# Comprehensive visibility across supply chain

Enables end-to-end situational awareness by labeling and tracking shipments and associated carriers from manufacturing through delivery to end-customers



Improves traceability by using blockchain, sensors, RFID, and QR barcodes to label, map, and track containers (bins, pallets, etc.) and their contents

Correlates contents of containers with range of engineering, manufacturing, and customer relationship systems to optimize visibility

Complements geofencing by triggering alerts when freight carriers arrive then uses augmented reality to "see" goods, condition, and other variables

Uses IoT sensors for condition monitoring of goods (i.e. temperature) and vehicles (i.e. fuel usage), and sends alerts when thresholds are exceeded

# Warehouse and process productivity

Optimizes warehouse efficiencies by reducing necessary inventory levels, improving stock visibility and retrieval, and increasing reusable containers turnover
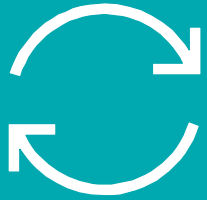
Speeds up locating parts, kitting, packing, and shipping goods by making it faster to find the right parts and quantity at the right time

Expedites payments by generating and processing invoices that correspond with steps in the supply chain flow

Uses sensors for condition monitoring of goods, vehicles, and other assets, reducing the need for manual inspections

Increases the efficiency of bin management by tracking bin location and status, expediting the return of empty reusable bins

# IoT, blockchain, and enterprise integration

Provides an integrated, cloud-based dashboard that aggregates data from multiple disparate systems to improve real-time insights and decision-making



Presents a "single-pane" that displays invoicing, palletization, reusable bin status, goods in-transit and warehoused, notifications, etc.

Integrates enterprise resource planning, customer-relationship management, and manufacturing execution system, increasing efficiencies

Relies on blockchain to produce smart contracts and transactions that are trackable and irreversible

Offers field service integration to monitor fleet performance and triggers alerts when issues are detected

# Harnessing Azure services

Enabling granular tracking of goods, carriers, and processes across the supply chain
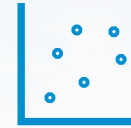
**Integration to speed data into cloud**

**Storage to scale without latency**

**Visualizations to surface insights**

**Analytics to predict and plan**

**Security to protect data**

# Precisely tracking over 300,000 bins of parts



Bosch Trac360 was developed to solve the challenges of distributing parts from Bosch factories in India to local warehouses for Suzuki, Hyundai, Honda, and Maruti. There were disconnects between what was being produced, shipped, and received. Trac360 digitized the entire supply chain, integrating multiple systems and enabling logistics planners to precisely know in real-time the location and status of parts, reusable shipping containers, and trucks.

### IMPROVED SATISFACTION
Over the course of 18 months, achieved 100% accuracy of delivering the right parts and right qualities at the right time

### INCREASED TRANSPARENCY
Precisely tracked production and delivery of 287,995 bins of parts, grouped into 24,216 pallets, delivered by 3,362 trucks

### INCREASED COMMUNICATION
Digitally informs customers and logistic planners of the location and status of parts in real-time

### IMPROVED EFFECIENCY
Seamlessly integrated multiple systems, invoices, receipts, payments, and processes, improving supply chain efficiencies

# Ready to increase the product and shipment traceability of your supply chain?

→ We will connect you with the Bosch Trac360 sales team: bhuvan.Shetty@de.bosch.com

→ Learn more: bosch-india-software.com