



# SAP Leonardo **Live**

Not just another business conference

## SAP Transportation Management – **A Platform for the Future**

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Markus Rosemann, SAP

PUBLIC

# Our platform strategy for digital supply chain execution



## Functional

Holistic and vertical



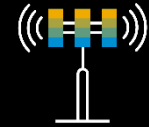
## Integrated

Support for end-to-end processes



## Flexible

Processes and deployment



## Connected

Real-time insight and network communication

## Supply chain execution platform

SAP Extended Warehouse Management

SAP Transportation Management

Applications powered by  
SAP Leonardo

SAP Global Track and Trace

SAP Leonardo IoT  
Foundation

SAP HANA | SAP Cloud Platform

# SAP Extended Warehouse Management (SAP EWM)



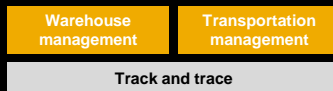
- Continuous core improvement for supply chain execution (SCE)
- New industry capabilities



- Enhanced SCE platform integration
- Enhanced integration with SAP S/4HANA



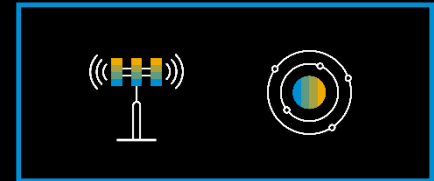
Supply chain execution with SAP



- SAP EWM in SAP S/4HANA
- SAP EWM with SAP ERP
- Cloud solution



- Next-generation automation
- Enhanced device and asset connectivity



# SAP Extended Warehouse Management – overview



Analytics – Transit warehousing – Labor management – Cross-docking – Compliance  
Native technologies – Implementation tools

# Leading-edge warehouse technology integration



**SAP Extended  
Warehouse  
Management**



**Connected  
devices**

- Mobile devices
- RFID scanners
- Pick by voice
- Augmented reality
- Pagers and phones
- Label printers
- Scales



**Connected  
automation**

- Conveyors
- Lifts
- Cranes
- Robots
- Picking systems
- Manufacturing execution systems
- Automated storage and retrieval system (ASRS)
- Automatic guided vehicle (AGV)

# SAP Transportation Management (SAP TM)



## Holistic transportation management: Comprehensive process and multimodal coverage

- Shipping and freight-forwarding industries
- Large and midmarket enterprises
- Domestic and international transportation
- Inbound and outbound freight management
- Simple and complex high-volume operations

## SAP Transportation Management



Tracking and reporting →

# Logistics networks – overview



## Yard and hub logistics

- Capture and monitoring of location for transportation units
- Geofences for automatic and manual notifications
- Role-based access and functionalities



## Sensing and responding to logistics information

- Gain visibility into location and condition of your goods and assets along the entire supply chain
- Perform better management by exception through real-time visibility into shipments, assets, and processes



## Item serialization and product traceability

- RFID-enabled and auto ID-enabled business processes
- Capture of serial numbers during production and distribution
- Support for the global GS1 standard EPCIS
- Monitoring of serialized product lifecycle events and processes
- Advanced analytics and authority reporting

# Road map for digital logistics

PLANNED

## Today

### Warehouse management

- E-commerce returns
- SAP Extended Warehouse Management embedded in SAP S/4HANA
- Basic shipping

### Transportation management

- Transit warehouse enhancements
- Usability and analytics
- Collaboration portal enhancements

### Logistics network

- Yard logistics
- Networked logistics hub
- Handling unit traceability in the SAP Global Batch Traceability application

## Planned

### Warehouse management

- Industry-related enhancements for e-commerce and retail
- Internet of Things (IoT) scenarios
- Quality management feature parity for embedded SAP EWM in SAP S/4HANA

### Transportation management

- SAP Transportation Management embedded in SAP S/4HANA

### Logistics network

- Generic track-and-trace (T&T) services based on IoT application services platform

## Future direction

### Warehouse management

- Automotive industry extensions
- Expanded warehouse automation

### Transportation management

- Retail enhancements, such as milk runs
- Common transportation scheduling

### Logistics network

- Product T&T across business networks
- Logistics T&T

This is the current state of planning and may be changed by SAP at any time.



# Where to find more information on digital logistics

## SAP Solution Explorer – digital logistics

### SAP Community

<http://scn.sap.com/community/scm/transportation-management>

<http://scn.sap.com/community/scm/event-management>

<http://scn.sap.com/community/extended-warehouse-management>

<http://scn.sap.com/community/internet-of-things>

### Landing pages

<http://go.sap.com/solution/lob/supply-chain/transportation-management.html>

<http://go.sap.com/product/scm/event-management.html>

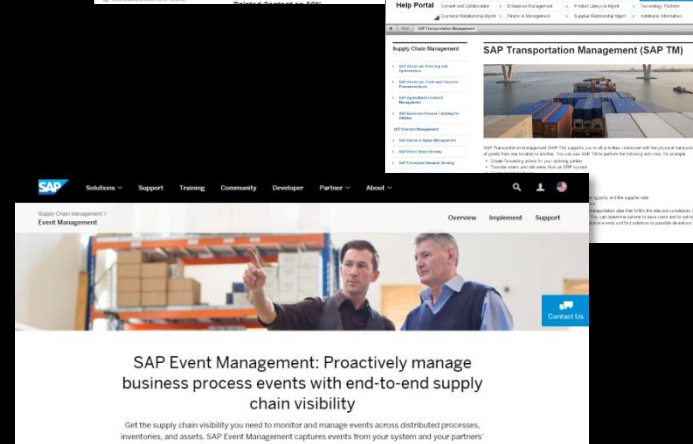
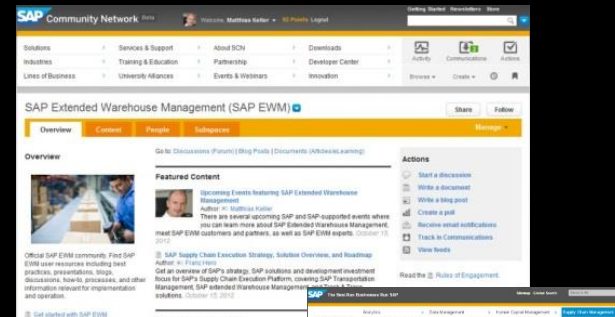
<http://go.sap.com/product/scm/extended-warehouse-management.html>

[www.sap.com/iot](http://www.sap.com/iot)

### Road maps

SAP S/4HANA

Line of business: Supply chain



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# Welcome

SAP Transportation Management – A Platform for the Future

**Steelcase**

# Our mission: Create great experiences wherever work happens

Global Office Furniture Industry Leader

FY17 revenue of 3.0 billion USD

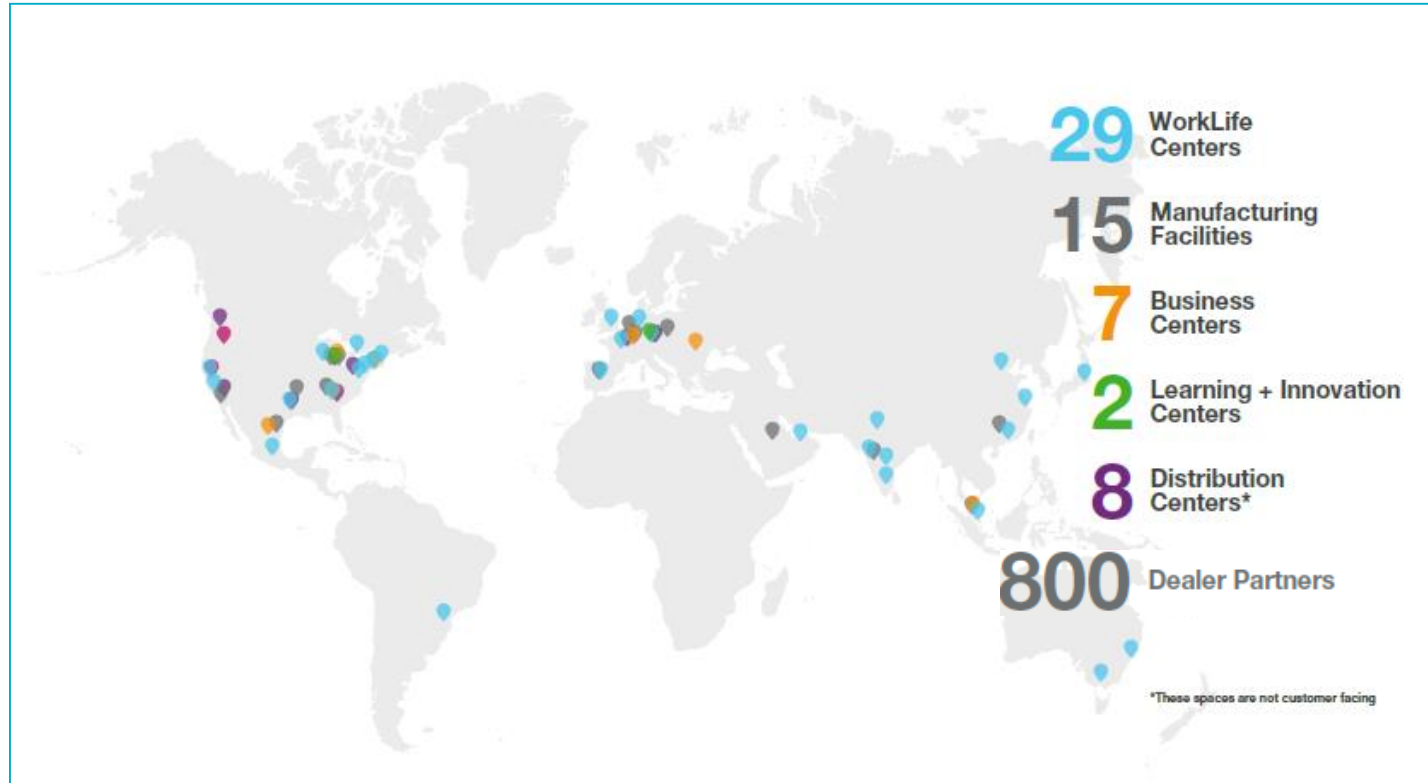
100% Make to order/Engineer to order

Highly-configurable product: variable options, finishes and dimensions –

Totaling nearly 42,000,000,000,000,000 SKU possibilities



## Steelcase maintains a broad global footprint



# Who we serve

- Financial
- Government
- Education
- Healthcare
- Technology
- Retail
- Automotive
- Food/Beverage
- Home Office
- And more...



## Why we chose SAP Transportation Management (SAP TM)



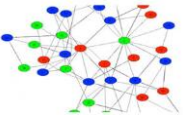
Global Solution – support multiple ERP systems



Standardize our logistics processes globally



Improved reporting and visibility of our logistics processes



System capable of handling our complex business requirements

# Due to our industry and business model we have unique delivery requirements to meet

Job site deliveries are time critical

- Install crews waiting
- Elevator appointments

Job sites often have specific requirements

- Trailer size/service level requirements
- Lift gates/ramps
- Driver requirements (US Citizenship, Union Driver, security cleared)
- Load sequence of grouped freight
- Extra driver for unload assistance or expedited delivery

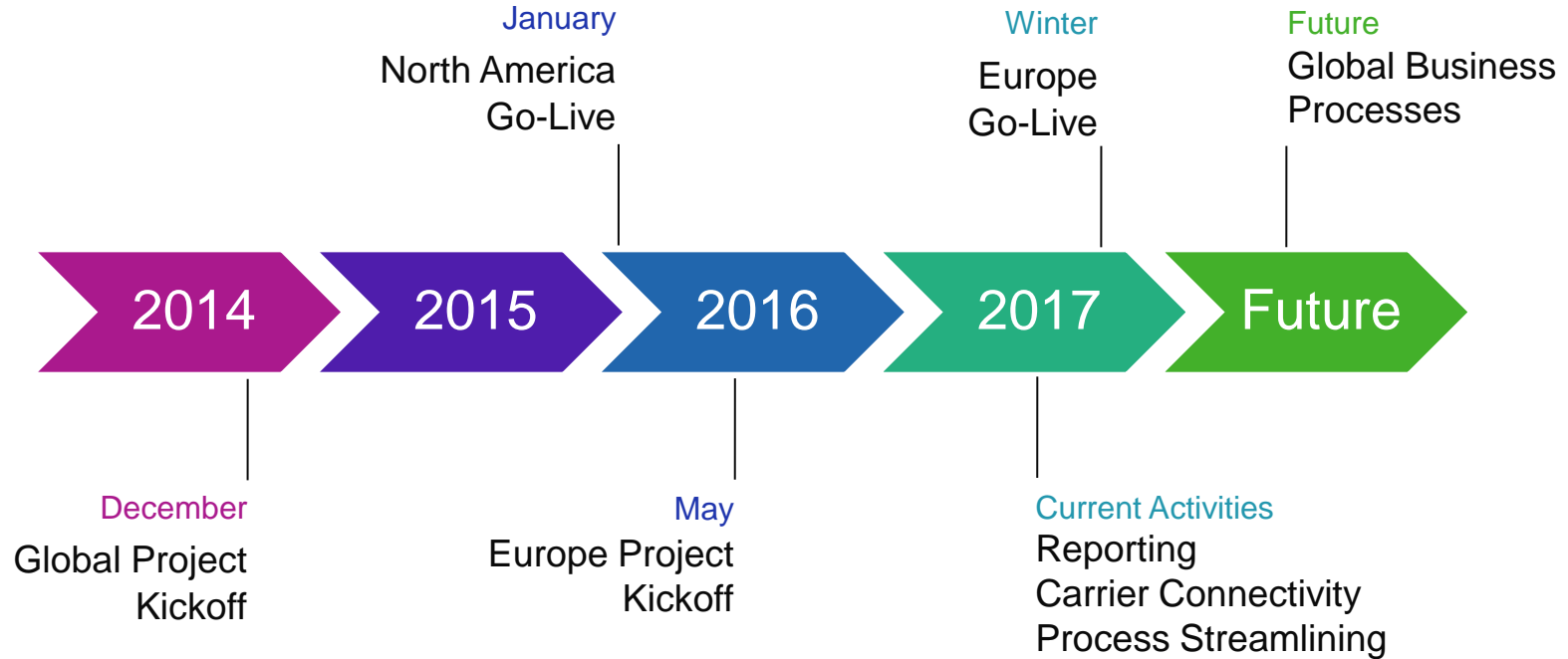
Dealer warehouse deliveries have much more flexibility and fewer requirements

We perform at ~ 99% on time delivery for all stops



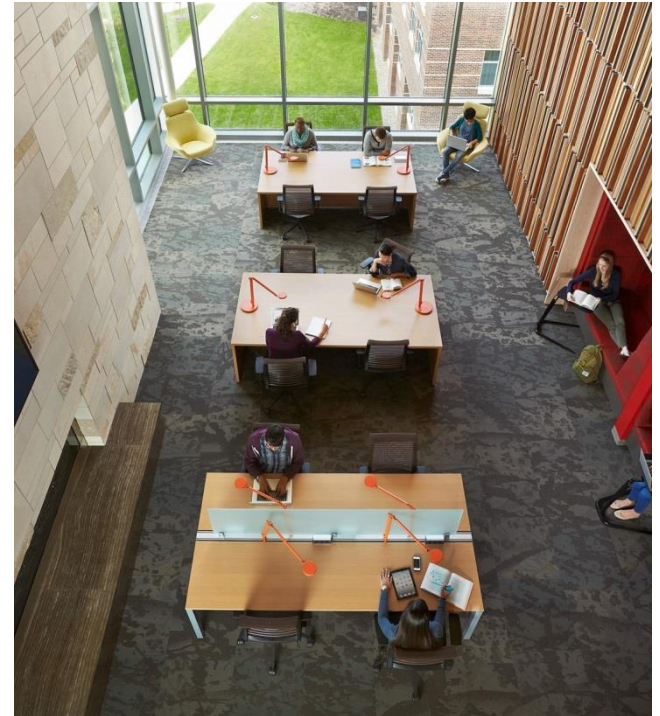


# Our SAP Transportation Management journey



## We are using a significant portion of SAP TM functionality

- Inbound, Outbound, Intercompany
  - Integration with ERP purchase order, sales order, delivery and shipment
  - Forwarding Order for non-ERP supported moves
- Vehicle Scheduling and Routing (VSR)
- Carrier selection and tendering
- Carrier Collaboration Portal
- Cost distribution and freight settlement



# We use SAP TM to support inbound, outbound and intercompany freight movements



## Inbound

- Supplier shipments to Steelcase plants

## Intercompany

- Finished goods to distribution centers
- Plant to plant raw material shipments
- Dunnage material between Steelcase locations

## Outbound

- Distribution center to end customer

# Steelcase inbound transportation network (Americas)



# Inbound transportation planning

Planning Horizon

Standard – 2 days

Incremental – 1 day

Purchase orders have short lead times

Inbound planning is performed in the Transportation Cockpit

Inbound planners serve geographical regions

The screenshot displays the SAP NetWeaver Business Client 5.0 Transportation Cockpit interface. The main window is titled "Transportation Cockpit: Inbound NE, IB Standard". It features several panels and tables:

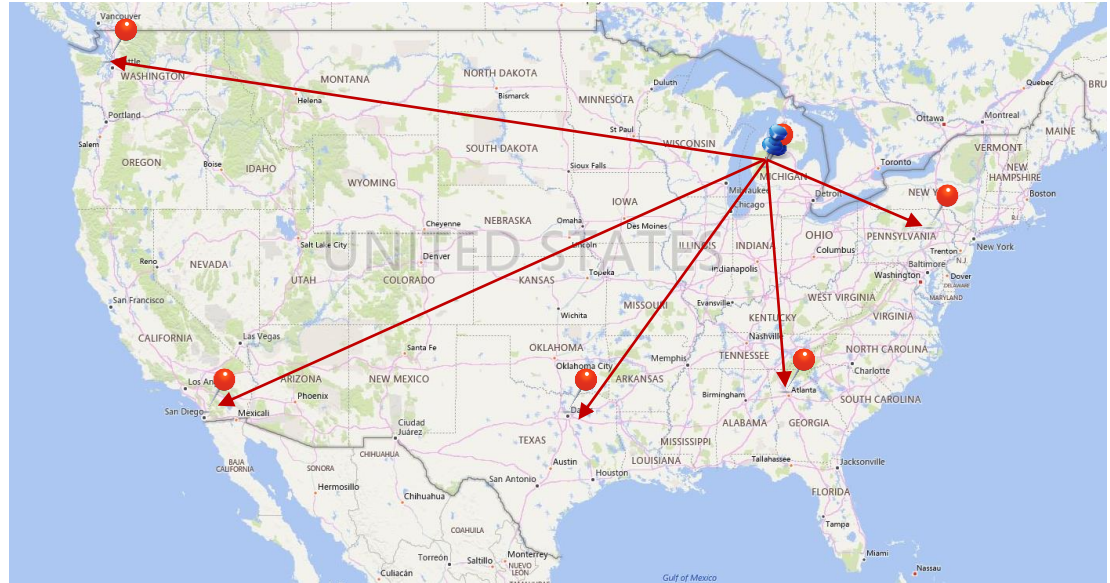
- Freight Unit Stages (24):** A table listing freight units with columns for Freight Unit, Loading Location Description, Original, Postal Cod., Execution Document, and Cc. The table contains 24 rows of data.
- Steelcase Inbound Freight Orders (5):** A table listing freight orders with columns for Document, Execution Block, Means of Tr., F, S, Maximum Utiliza., Total, D., T., and Carrier. The table contains 5 rows of data.
- Trucks (20):** A table listing trucks with columns for Resource, Description, Means of Transport, Max. Weight, and W. The table contains 5 rows of data.
- Map Display:** A map showing the geographical region of the Great Lakes and surrounding areas, with a blue line indicating a route from Chicago to Detroit.

# Steelcase intercompany transportation network (Americas)

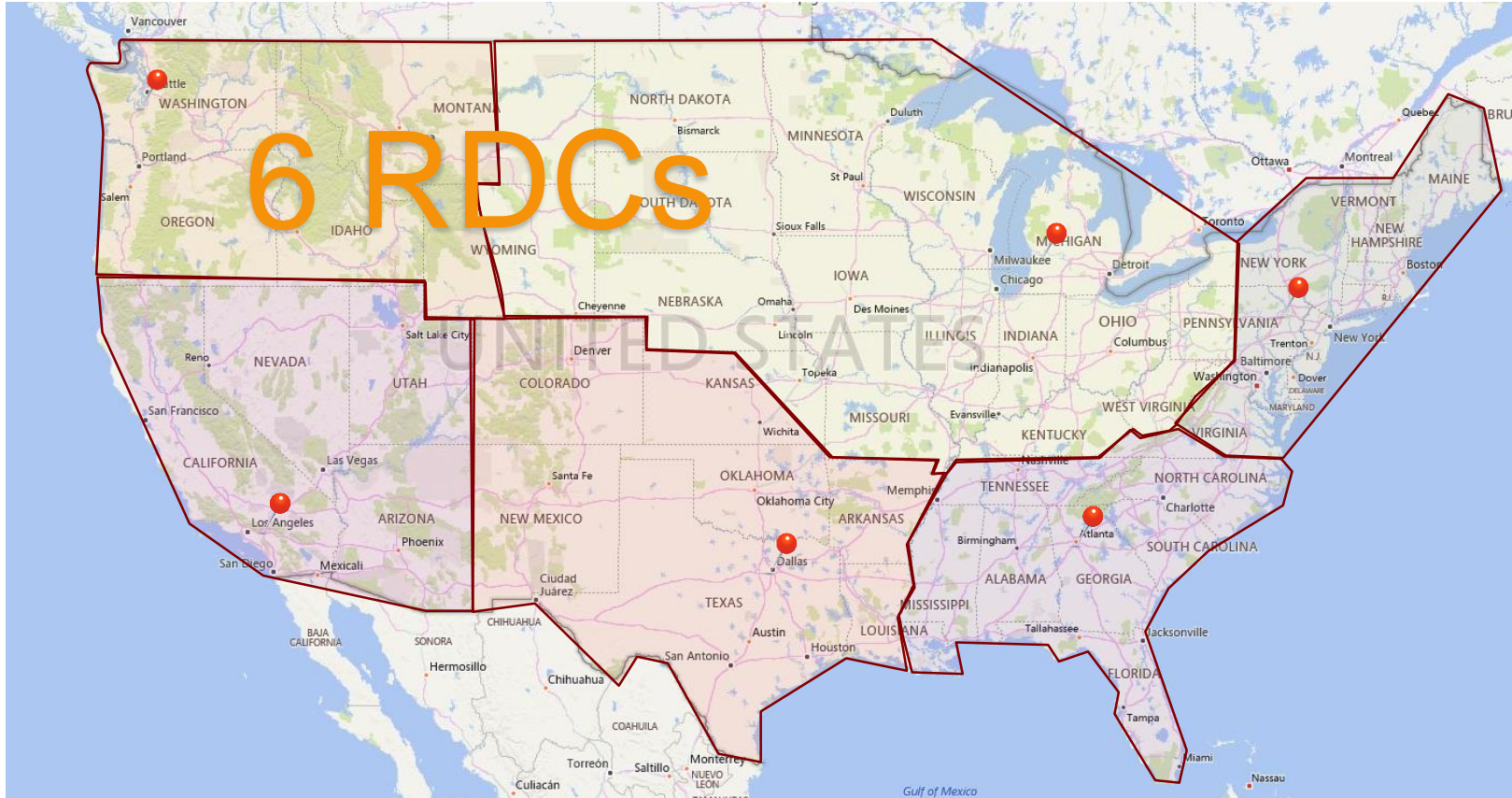
Finished goods freight is pushed from plants to Regional Distribution Centers (RDCs)

Transportation schedules are used for consistent shipments between Steelcase locations

Demand forecast reports are used to determine if additional trailers are needed



# Steelcase outbound transportation network (Americas)



# Outbound transportation planning

## Planning Horizon

Standard – 6 days

Incremental – 5 days

Optimizer runs in batch every evening

Outbound planners review and revise TM plans

Frequent changes to ship to locations and dates

The screenshot displays a software interface for transportation planning. At the top, it shows a search bar and the title "Transportation Cockpit: CC Incremental, OB Standard". Below this, there are several tabs and buttons for navigation and actions. The main area is divided into two panels: "Freight Unit Stages (1706)" on the left and "Freight Orders/Freight Bookings (211)" on the right. The "Freight Unit Stages" panel contains a table with columns for Freight Unit, Loading Location Description, Original, Postal Code, Execution Document, and CC. The "Freight Orders/Freight Bookings" panel contains a table with columns for Document, Execution Block, Means of Transport, F, S, Maximum Utilization, Total, D, T, and Carrier. Below these panels is a map of the western United States, showing major cities like San Francisco, Los Angeles, San Diego, Phoenix, Las Vegas, and Denver. A blue line on the map indicates a route from San Francisco to Los Angeles. At the bottom, there is an "Overview" section with a table for details, including columns for Details and Location Description.



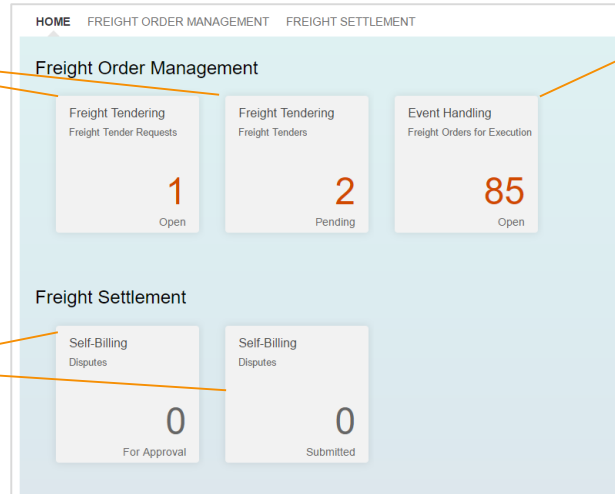
# Carrier collaboration portal from SAP

## Tendering

- Tender acceptance
- Tender rejection with reason codes

## Freight Settlement Disputes

- Dispute rates
- Add accessorial charges
- Notes to shipper (dispute related)
- Attachments



## Event Reporting

- Pickup date and time
- Arrival date and time
- Notes to shipper
- Delay events
- Attachments

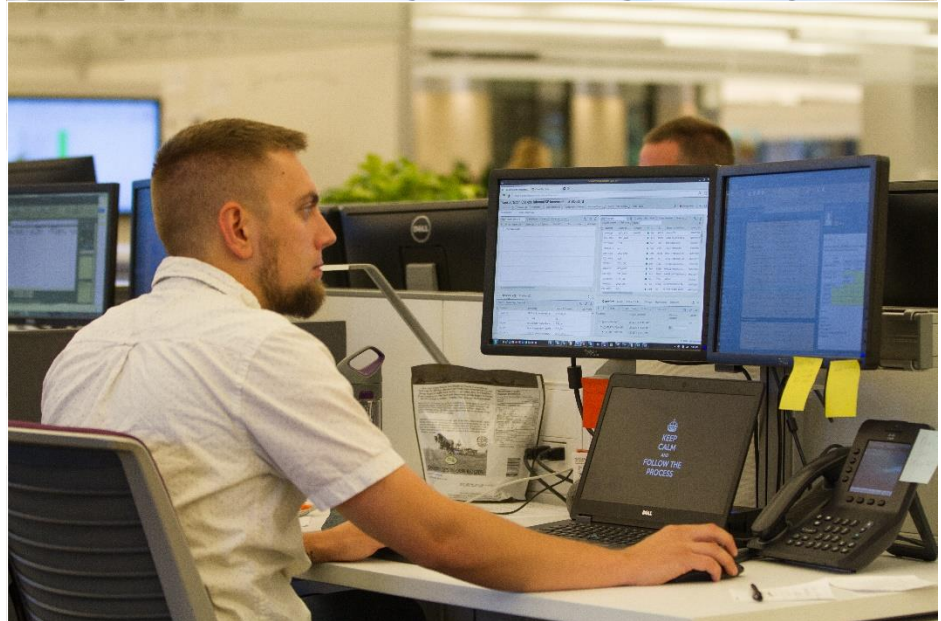
## How we work

Team members hold stand-up meetings every day

Mission control layout

Collaborative space

Inbound and outbound teams sit next to one another



## Key Performance Indicators – the Steelcase Logistics Mantra

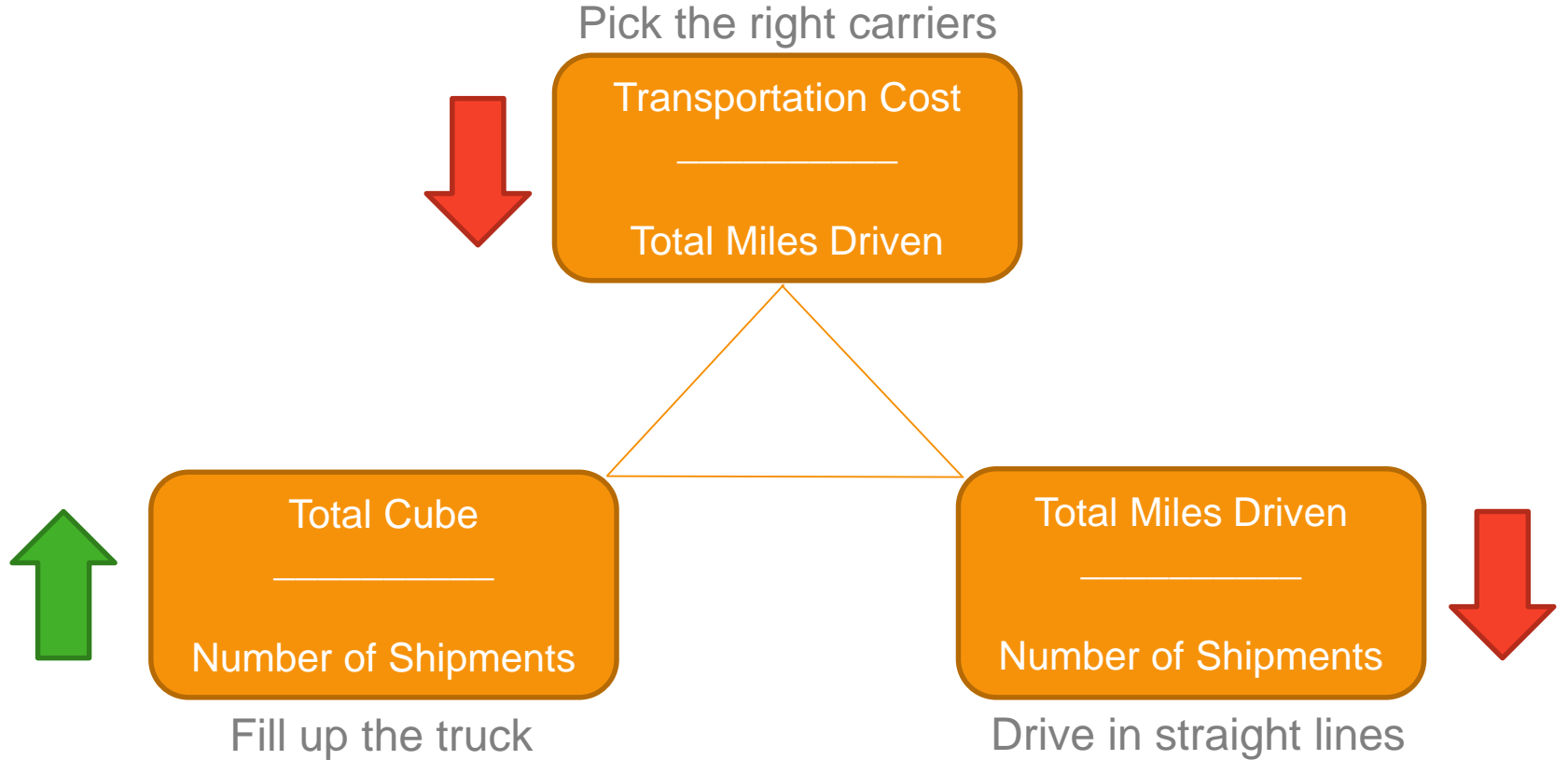
Fill up the truck

Drive in straight lines

Pick the right carriers

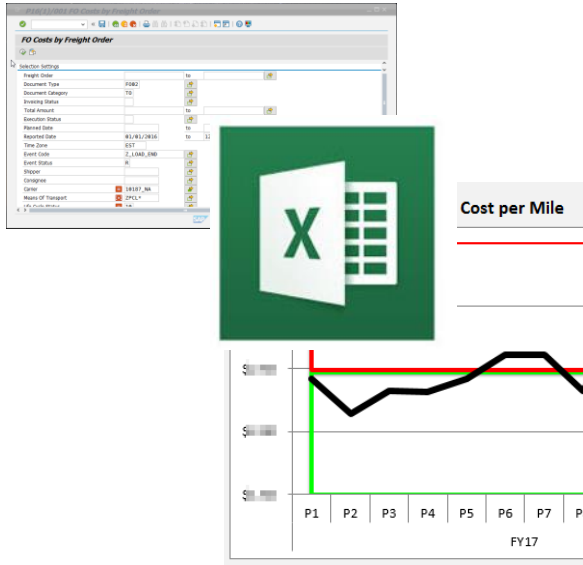


# Key Performance Indicators

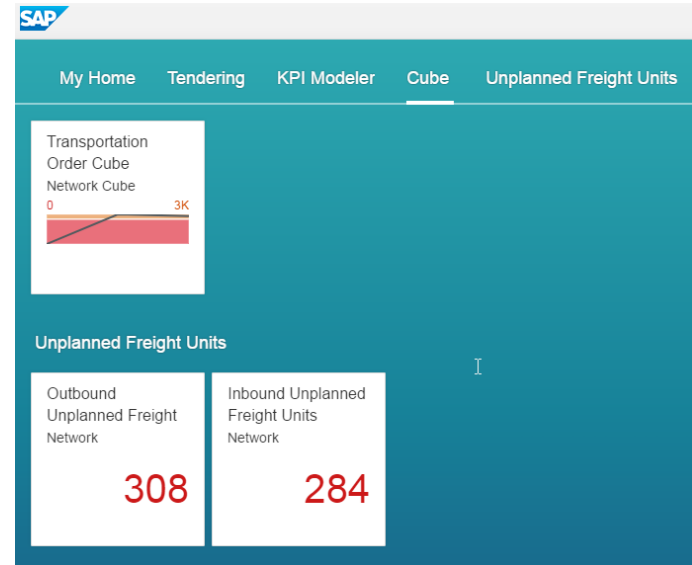


# Key Performance Indicators – Tools

## Custom KPIs



## SAP Smart Business



# Challenges with highly configurable product and specials

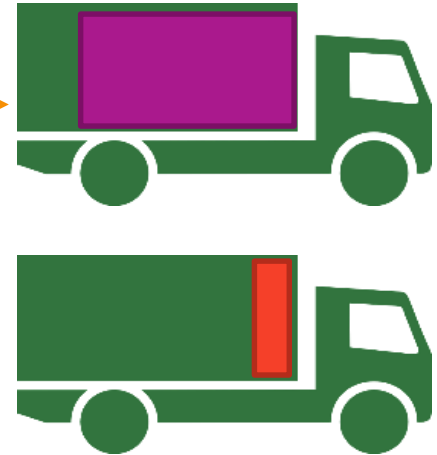
## Transportation plan

The screenshot shows a software interface for managing freight orders. The main window is titled "Freight Orders/Freight Bookings (2) Road Freight Order Hierarchy (2)". It features a toolbar with options like "View: IB Standard", "Check", "Fix", "Unfix", "Carrier Selection", "Tendering", and "Calculate Charges". Below the toolbar is a search bar and a table of freight orders.

Document	Source Location...	Means of Tr...	Destination Locat...	F. S.	Maximum Utiliza...	Total...	D...	T...	Carrier...	S
7000189977	GM Midwest RDC	ZFTL1D_53	EGYPTIAN BUSI...		96%	455,500	MI	1,...	FOREW...	S
7000189978	GM Midwest RDC	ZFTL1D_53	EGYPTIAN BUSI...		27%	455,500	MI	87...	EXCEL...	S

Below the table is a "Map" section showing a map of the United States with a blue line connecting Chicago and Louisville. The "Maximum Utilization" dropdown menu is highlighted with a brown box, and two orange arrows point from it to the truck icons on the right.

## Execution



## Our pilot project capturing weight and cube

We are capturing length, width, height,  
and weight

Scanning the handling unit barcode  
updates SAP ERP

Delta log created for root cause  
investigation



# We are looking at ways to improve our data for planning

SAP ERP

SAP TM

Handling unit update with length, width, height, and weight

SAP Transportation Management utilization is updated



Product is measured and weighed after final assembly

Freight Orders/Freight Bookings (1) Road Freight Order Hierarchy (1)

View: IB Standard | Check | Fix | Unfix | Carrier Selection | Tendering | Calculate Charges

Create/Update ERP Shipment | Set Status | Search

Document	Source Location	Means of Tr.	Destination Locat.	F	S	Maximum Utiliza.	Total	D.	T.	Carrier	S
7000189977	GM Midwest RDC	ZFTLID_53	EGYPTIAN BUSI...			99%	455.500 MI	1...	FOREW...	S	

Overview | Stages | Map | Carrier Ranking | Charges

Clear Map | Show Legend | Show Display Profile

A map showing a blue route from Chicago to Philadelphia. The route starts in Chicago, goes east to Detroit, then south to Cleveland, then east to Philadelphia. Major cities like Milwaukee, Indianapolis, and Washington are also visible.



**Love how you work.**