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# Manage by Exception: Automate your processes and focus on high value tasks

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Michael Favor, Manager, Transportation Management Systems, Chamberlain Group

Nicholas Runge, Practice Director Transport & Logistics, Westernacher & Partner Consulting, Inc.

Session ID #83614

## CHAMBERLAIN GROUP

### Shannon Lange

- IT Director, Business Systems - Supply Chain & PLM, Chamberlain Group
- Almost 20 Years with Chamberlain
- Working with SAP since 2011 in the Supply Chain Space
- IT Hero by day, DIY'r by night & weekends

### Michael Favor

- Manager, Transportation Management Systems, Chamberlain Group
- 18 Years of supply chain experience
- Implementation experience in all multiple categories of Supply Chain
- Avid skier based out of Tucson, AZ
- Email: michael.favor@chamberlain.com

## Westernacher

### Nicholas Runge

- Practice Director Transport & Logistics Americas, Westernacher & Partner Consulting
- 12 years logistics experience
- 7+ years SAP TM implementation experience, globally
- Born and raised in rainy Hamburg, Germany
- Now based out of sunny Scottsdale, AZ
- Email: nicholas.runge@westernacher.com

# Key Outcomes/Objectives

Today's session should help to understand

1. Value Drivers for SAP TM based on real life example
2. Benefits of a harmonized end-to-end SAP system landscape
3. Automation potential with SAP Transportation Management and SAP Fiori

# Agenda

- Chamberlain Group Company Background
- SAP Transportation Management Project Highlights
- Management by Exception enabled by Westernacher's TM Control Tower

## Our Vision

We give the power of access  
and knowledge.

## Our Mission

People everywhere rely on CGI to move safely through  
their day, confident that what they value most is secure  
and always within reach.

## Our Brands

**LiftMaster** **CHAMBERLAIN** my**Q** **GRIFCO** **Merlin** **tend** **SYSTEMS** **CPSG**

# Over 6,000+ Employees Worldwide

CGI is a global team with solutions & operations designed to serve customers in a variety of markets worldwide.

**8,500+**

Sales offices and dealer network locations

## AMERICAS HEADQUARTERS

**Systems Headquarters**  
Germantown,  
Wisconsin

**Global Headquarters**  
Oak Brook, Illinois

**CPSG Headquarters**  
Denver, Colorado

## EMEA HEADQUARTERS

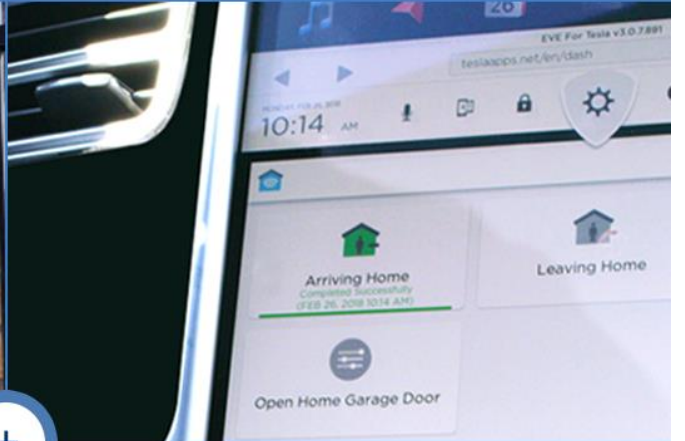
**EMEA Headquarters**  
Saarwellingen,  
Germany

## ASIA

## OCEANIA HEADQUARTERS

**Oceania Headquarters**  
Sydney, Australia

# Our Core Categories










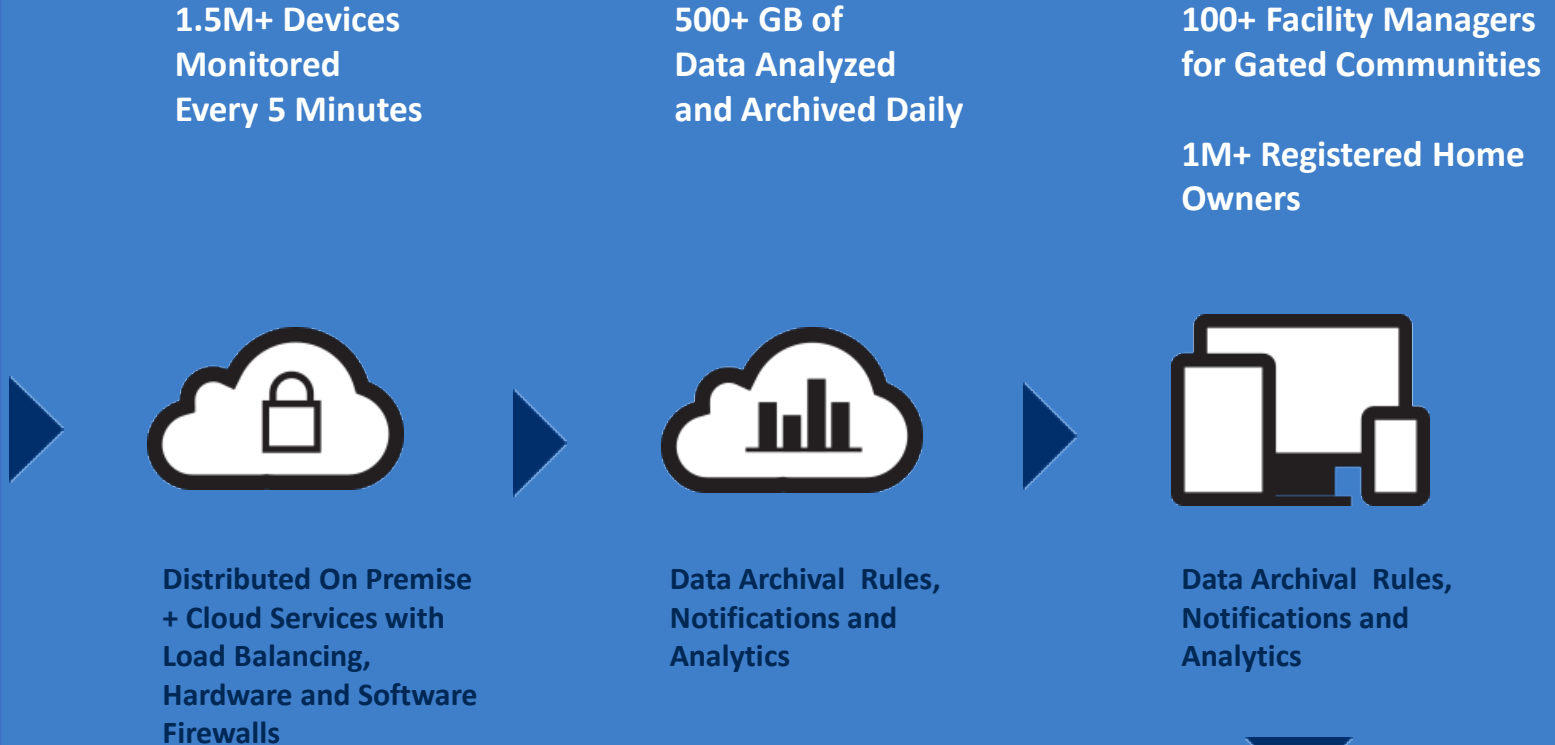
Residential  
Garage Door  
Openers

Commercial  
Door  
Operators

Gate  
Operators  
& Access  
Controls

Embedded  
Automotive  
Access  
Controls

-  Partner Devices
-  Multi-Format Credentials
-  IP Access Controls
-  Residential Garage Door Automation
-  Gate Automation
-  Commercial & Fire Door Automation
-  Locks & Video





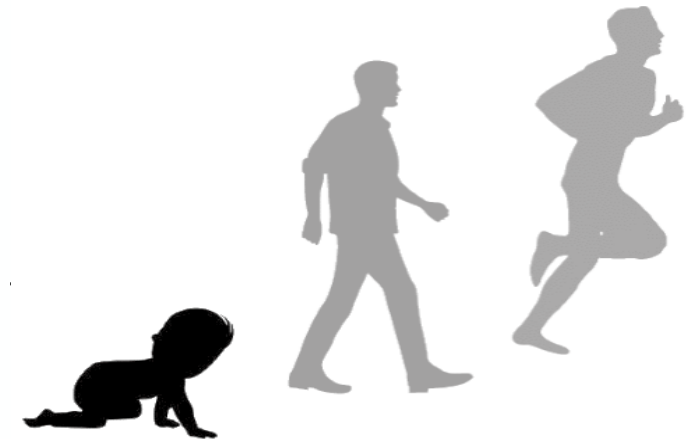
*In-Garage Delivery is  
here  
For Amazon Prime  
members*



**ASUG**

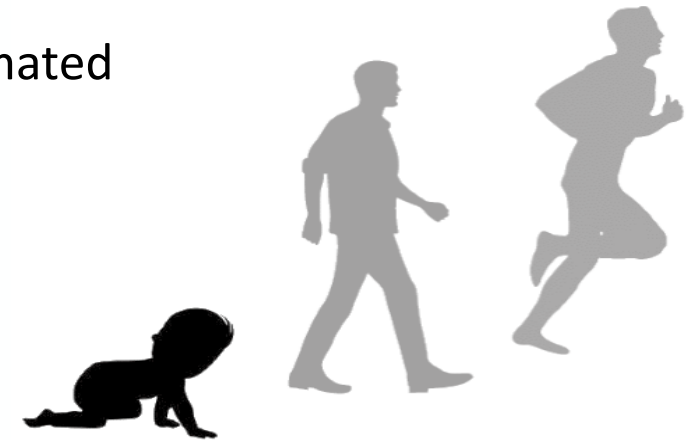
# Chamberlain Group Before SAP TM

- Systems
  - Manhattan PkMS for WM and Transportation Planning & Execution
  - SAP for sales and finance
- Process
  - Very Manual
  - FTL routing done via carrier matrix
- Planning Manpower
  - Equal to one full time equivalent for Tucson DC
- Shipment Types Share
  - LTL and FTL are 15% of the total shipments but count for 85% of M3 volume



# Chamberlain Group Before SAP TM

- Legacy application supports outbound planning in a limited capacity
- Transportation processes in Nogales (production plant) are handled manually
- Consolidation opportunities not maximized nor do we have a systemic way of bidding out freight to multiple carriers
- Legacy functionality only tracks the status of the shipment within the four walls of the DC
- LTL/TL freight rates and analysis of carrier's performance is not automated
- Freight settlement is outsourced



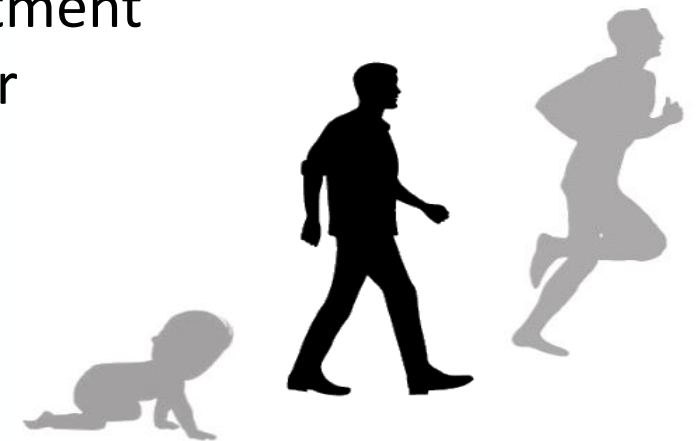
# Strategic Drivers for SAP TM

- **Commercial Excellence**
  - Reduction in freight spend: Getting the best rate, with on-time delivery will save our customers and Chamberlain freight costs
- **Meaningful Innovation & Digital Leadership**
  - Connectivity to our carrier base (rates, performance, real-time tracking)
- **Operational Excellence**
  - On-time delivery and quality
  - Meet the customers needs (lift gate, inside delivery)
  - Strive to provide the 'perfect delivery'
  - Maximize level of automation



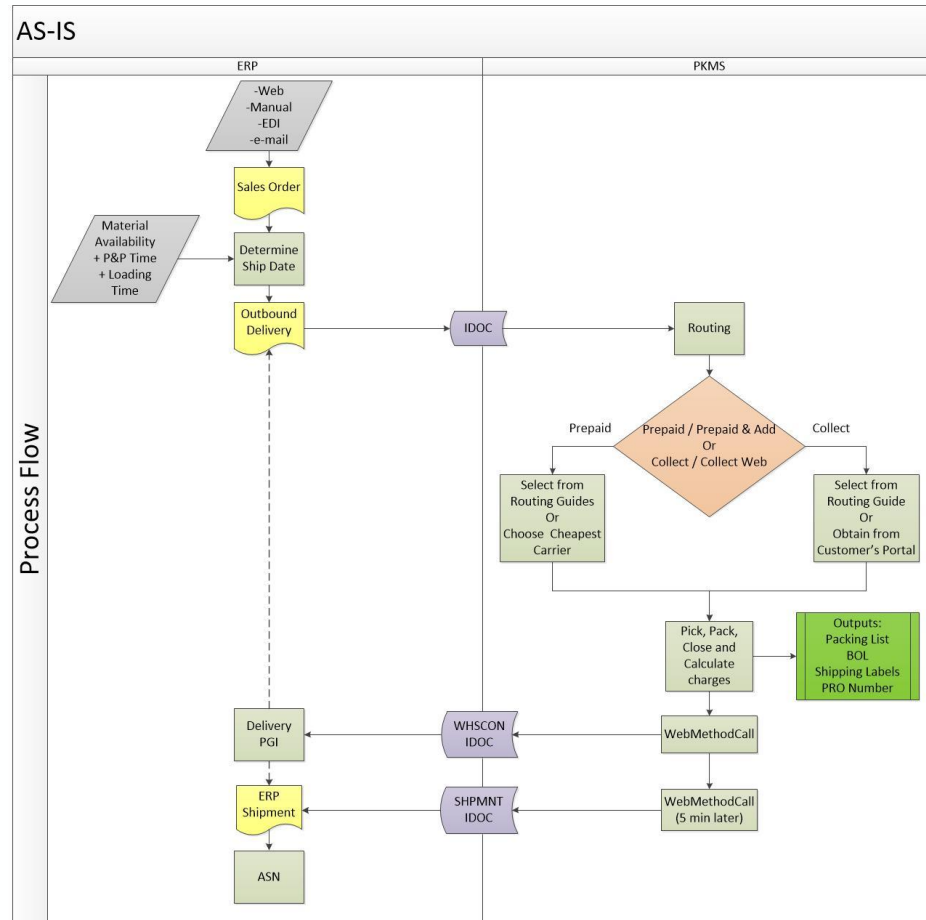
# SAP TM Implementation Overview

- Chamberlain and Westernacher met for 5 days
  - Transportation, Distribution, Customer Service, IT and sales
- Current processes and systems landscape were white boarded
- Order Based vs Delivery Based Planning debated
- 3 weeks in total to complete blueprint document
- Five months of development with significant time commitment from both Chamberlain IT and Business and Westernacher Consulting as a strategic partner
- Successful Go-Live in February 2019

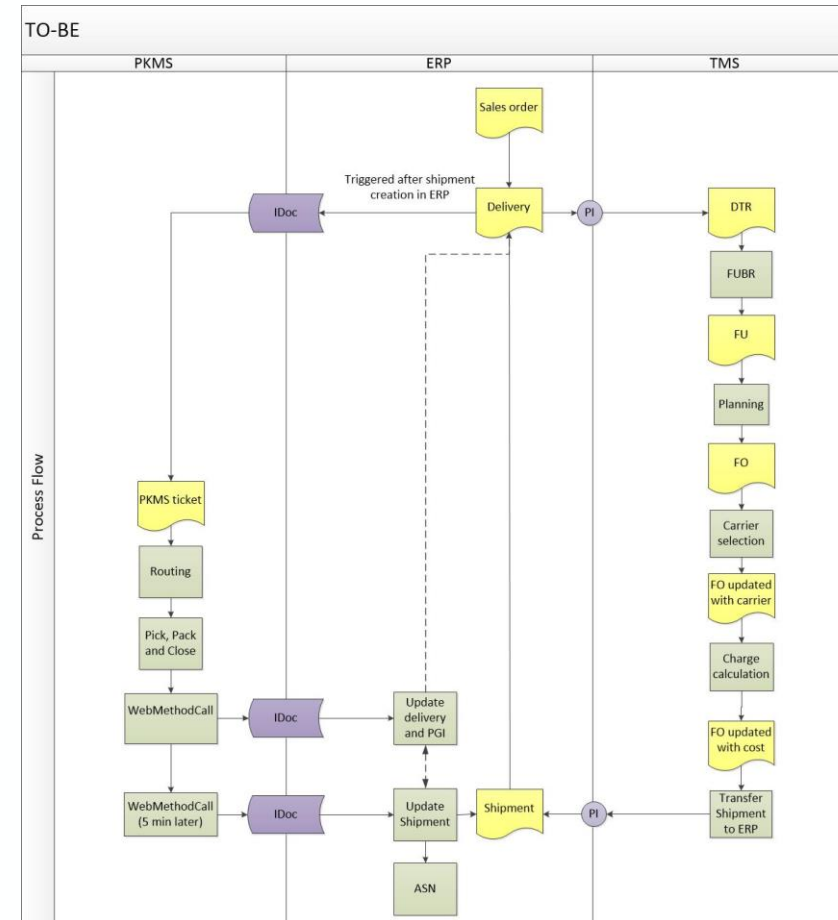


# Process Flow – Before and After

## Legacy Process



## SAP TM Process



# SAP TM Phase I - Goals

- Outbound Shipment Execution – Tucson DC to Include:
  - Modes of Transport (TL & LTL)
  - Contract Management
  - Load Building/Optimization
  - Electronic Load Tendering
  - 6 LTL Carriers to do EDI 204/214
  - Workflow
  - Alerts
  - Reporting/Analytics (out of the box)
  - High degree of process automation
- Timeline
  - 6 Months from Blueprint to Go Live



# SAP TM Phase I - Achievements

- Exception Based Transportation Management
- Planning
  - TL & LTL Modes, Load Optimization, Freight Tendering (broadcast), Automatic Carrier Selection, and PC Miler (map) Integration
- Transportation Execution & Monitoring
  - Track and Trace via SAP EM, Carrier Collaboration through Portal
- Contract Management & Charge Calculation
  - SMC3 (rate) Integration, Transportation Charge Management
- High degree of process automation





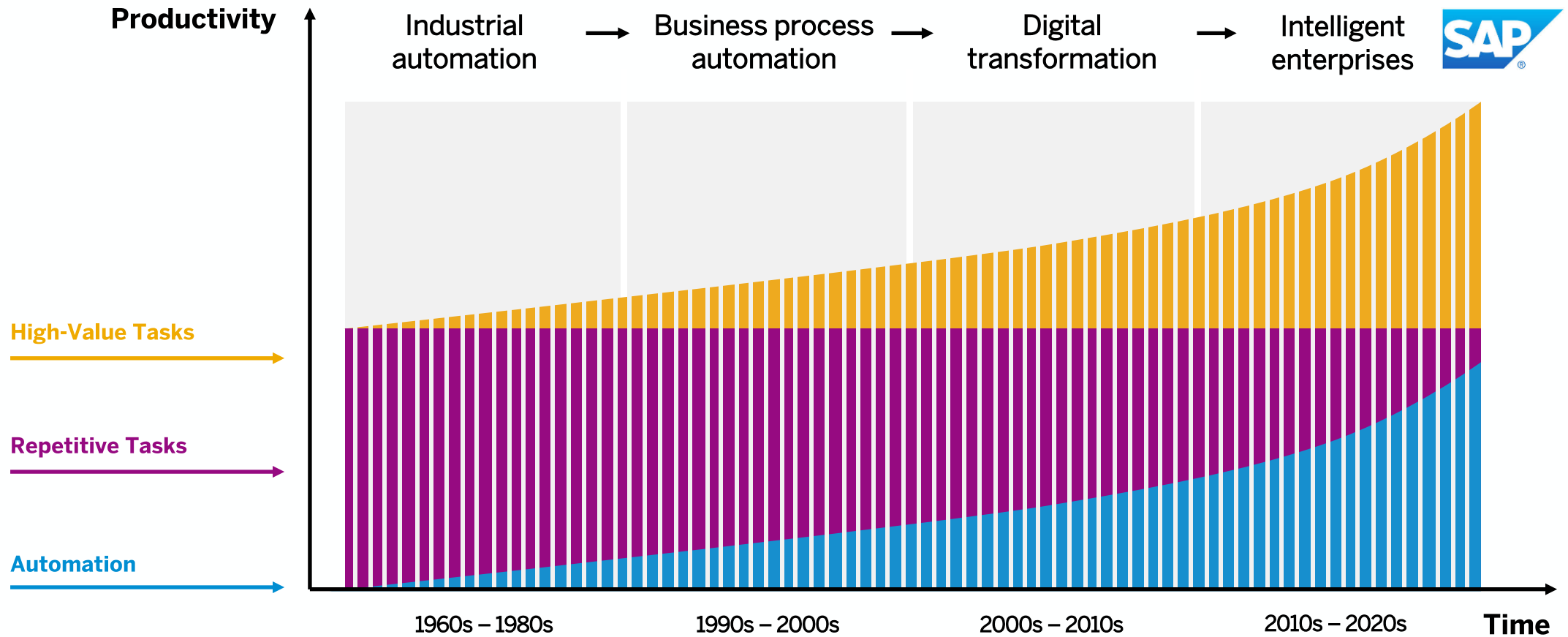
# Management by Exception

Full Process Automation with SAP TM



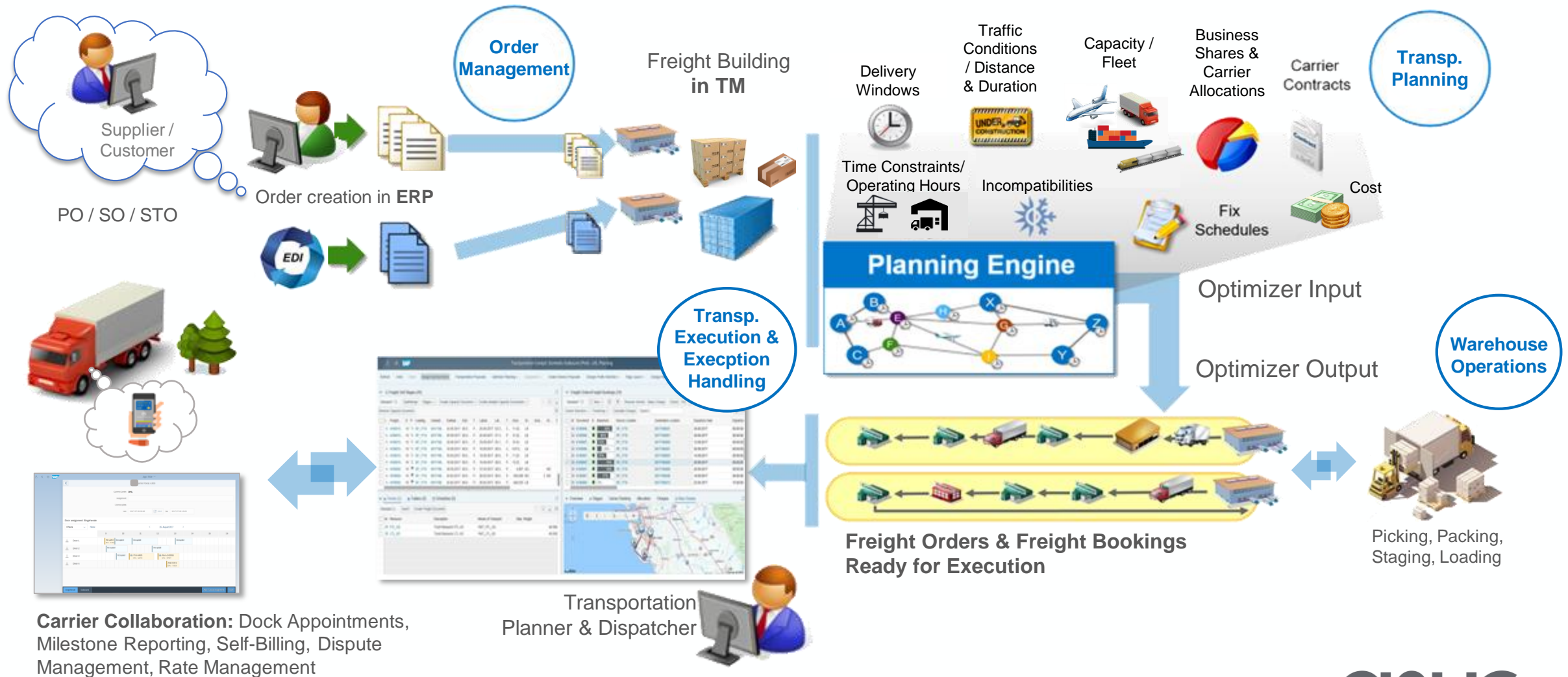
# Management by Exception

Focus on High Value Tasks!



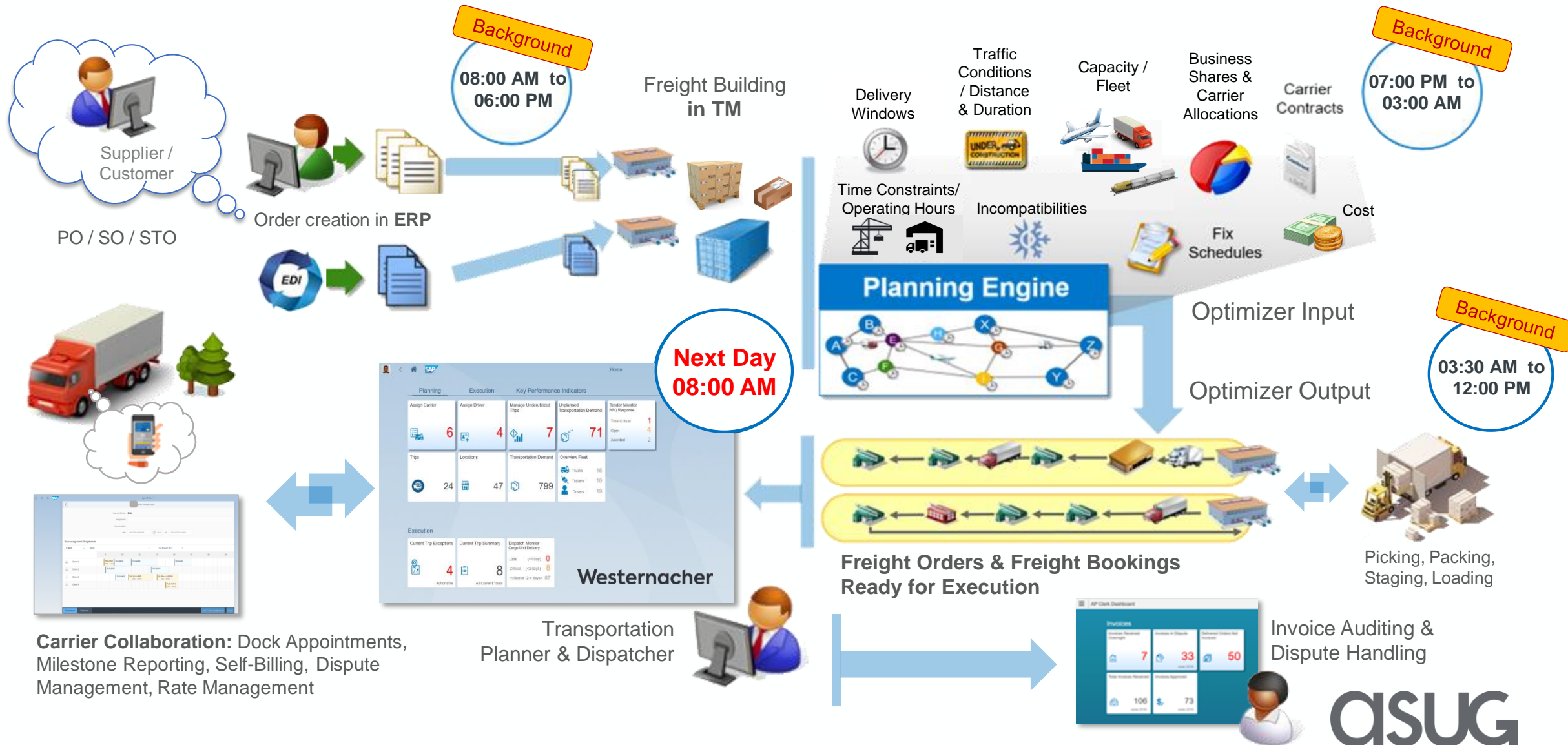
# Management by Exception

## SAP TM End-to-End Process Overview



# Management by Exception

## Process Automation



# Management by Exception

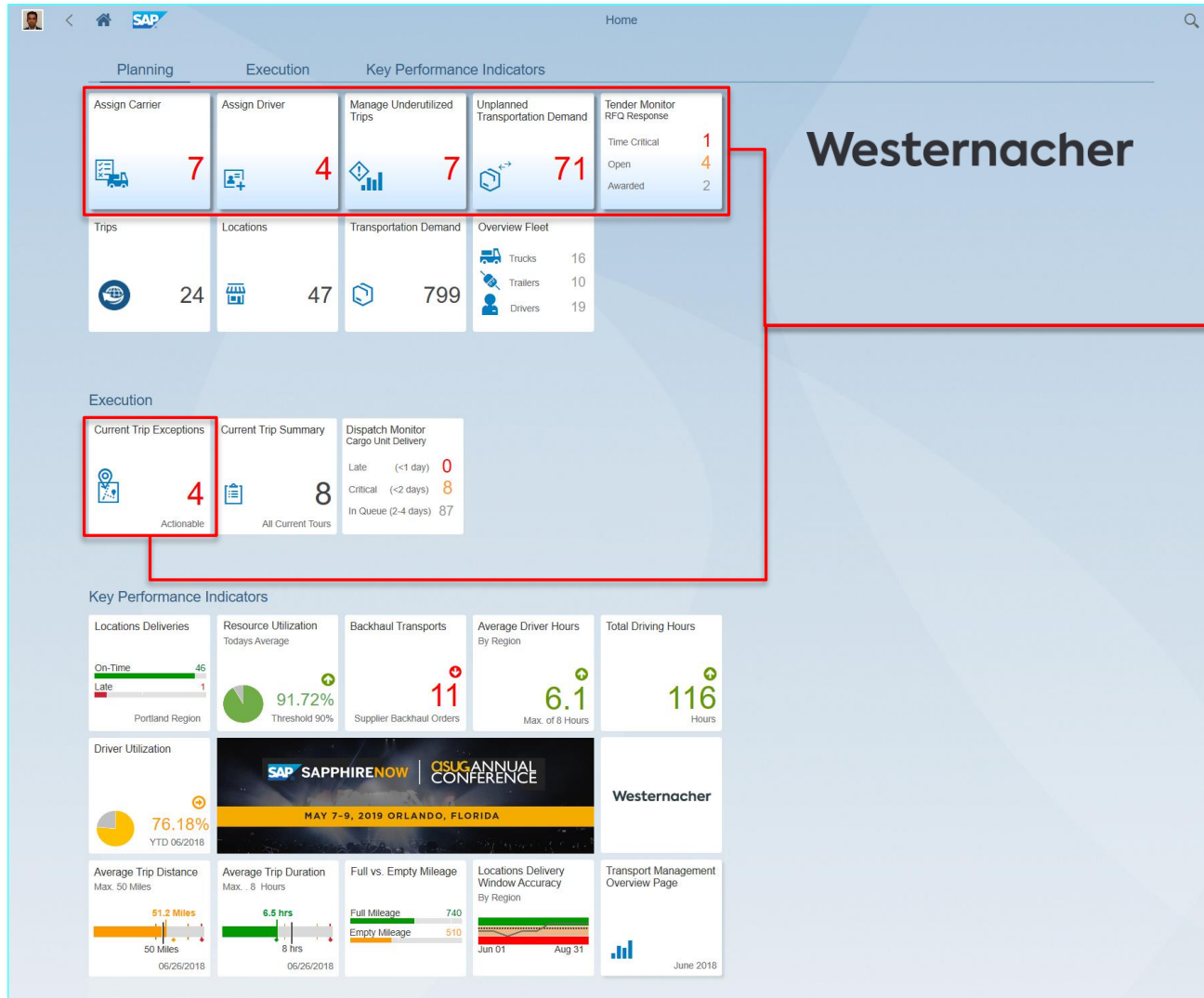
## Westernacher Control Tower

- The Westernacher 'Control Tower' is based on SAP Fiori UX / UI5 technology to enable the user to manage the daily operations only through exception handling.
- This role based dashboard concept separates a single screen in different sections such as Planning, Execution and KPIs.
- Assuming an automated planning/scheduling process, this Fiori dashboard displays only relevant data in the dedicated tiles in which the user can drill into.
- Each section provides different apps to execute different actions with focus on exceptional cases.
- All screens are minimized to the operationally required minimum set of data and functionality.
- All executable transactions are standard functions also available in the regular NetWeaver UI.



# Management by Exception

## Westernacher Control Tower



Process Exceptions

# Management by Exception

## Westernacher Control Tower

The screenshot displays the SAP SAPPHIRENOW Westernacher Control Tower interface, divided into Planning and Execution sections.

**Planning Section:**

- Assign Carrier:** 7 (highlighted with a red box)
- Assign Driver:** 4
- Manage Underutilized Trips:** 7
- Unplanned Transportation Demand:** 71
- Tender Monitor RFQ Response:** 1 (Time Critical), 4 (Open), 2 (Awarded)
- Trips:** 24
- Locations:** 47
- Transportation Demand:** 799
- Overview Fleet:** Trucks (16), Trailers (10), Drivers (19)

**Execution Section:**

- Current Trip Exceptions:** 4 (Actionable)
- Current Trip Summary:** 8 (All Current Tours)
- Dispatch Monitor Cargo Unit Delivery:** 0 Late (<1 day), 8 Critical (<2 days), 87 In Queue (2-4 days)

**Key Performance Indicators (KPIs):**

- Locations Deliveries:** On-Time 46, Late 1 (Portland Region)
- Resource Utilization:** 91.72% (Today's Average, Threshold 90%)
- Backhaul Transports:** 11 (Supplier Backhaul Orders)
- Average Driver Hours By Region:** 6.1 (Max. of 8 Hours)
- Total Driving Hours:** 116 (Hours)
- Driver Utilization:** 76.18% (YTD 06/2018)
- Average Trip Duration:** 6.5 hrs (Max. 8 Hours)
- Full vs. Empty Mileage:** Full Mileage 740, Empty Mileage 510
- Locations Delivery Window Accuracy:** (Jun 01 - Aug 31)
- Transport Management Overview Page:** (June 2018)

**Assign Carrier Detail View (Right Panel):**

**Worklist Items (7)**

Trip	Source	Destination	Departure Date	Departure Time	Stops	Mode	Duration	Distance	Tendering	Carrier	Driver	Details
10223882001820	WHS_01	LOC_10	June 27, 2018	08:00 AM	1	FTL	03:45 hrs	39 miles	<input type="checkbox"/>			>

**Trip Details for Trip 10223882001820:**

- Shipper:** Westernacher AG
- Consignee:** CUST\_10
- Carrier:** No Carrier
- Driver:** No Driver
- Source Address:** 1200 N Kirk Rd, Batavia, IL 60510, United States
- Destination Address:** 2670 W Main St, St Charles, IL 60175, United States
- Departure Date:** June 27, 2018
- Delivery Date:** June 27, 2018
- Departure Time:** 08:00 AM
- Delivery Time:** 11:45 PM
- Cargo Weight:** 38,508.85 lbs
- Cargo Volume:** 87 M3
- Assortment:** DRY
- PPL Loaded:** 25.22
- Number of Stops:** 1
- Duration:** 03:45 hrs
- Distance:** 39 miles
- Tendering Status:** Not Started
- Execution Status:** Not Started
- Subcontracting Status:** No Carrier Assigned
- Utilization by PPL:** 97%

**Worklist Items (7) Table:**

Trip	Source	Destination	Departure Date	Departure Time	Stops	Mode	Duration	Distance	Tendering	Carrier	Driver	Details
10223882003434	WHS_01	LOC_13	June 27, 2018	05:30 AM	4	LTL	08:55 hrs	112 miles	<input type="checkbox"/>			>
34624246524426	WHS_01	LOC_06	June 27, 2018	08:15 AM	3	LTL	02:45 hrs	99 miles	<input type="checkbox"/>			>
37987286725765	WHS_01	LOC_30	June 27, 2018	08:00 AM	1	FTL	02:15 hrs	23 miles	<input type="checkbox"/>			>
6600000098999	CMP_01	ISL_12	November 01, 2018	05:50 AM	1	FTL	3d 03:11 hrs	945 miles	<input type="checkbox"/>			>
77378373773873	WHS_01	LOC_15	November 01, 2018	11:10 AM	3	LTL	04:07 hrs	97 miles	<input type="checkbox"/>			>
98793736768373	WHS_01	LOC_04	December 04, 2018	05:45 AM	4	LTL	04:20 hrs	115 miles	<input type="checkbox"/>			>

Last Refresh: June 26, 2018, 08:56 AM

# Management by Exception

## Westernacher Control Tower

The image displays the SAP Westernacher Control Tower interface, which is used for managing logistics operations. It features several key components:

- Planning and Execution Dashboards:**
  - Key Performance Indicators (KPIs):** Includes metrics for Assign Carrier (7), Assign Driver (4), Manage Underutilized Trips (7), and Unplanned Transportation Demand (71).
  - Trips and Locations:** Shows 24 trips and 47 locations.
  - Transportation Demand:** Displays 799 units of demand.
  - Overview Fleet:** Lists 16 Trucks, 10 Trailers, and 19 Drivers.
  - Current Trip Exceptions:** Shows 4 actionable exceptions and 8 critical ones.
  - Dispatch Monitor:** Tracks late and critical cargo unit deliveries.
  - Resource Utilization:** Shows 91.72% utilization for today's average.
  - Supplier Backhaul Orders:** Displays 11 orders.
  - Average Driver Hours:** Shows 6.1 hours max.
  - Total Driving Hours:** Shows 116 hours.
  - Driver Utilization:** Shows 76.18% YTD utilization.
  - Average Trip Distance:** Shows 51.2 miles.
  - Average Trip Duration:** Shows 6.5 hours.
  - Full vs. Empty Mileage:** Shows 740 full miles and 510 empty miles.
  - Locations Delivery Window Accuracy:** Shows a bar chart for accuracy by region.
- Assign Carrier Window (Detailed View):**
  - Worklist Items (7):** A table listing trips with columns for Trip, Source, Destination, Departure Date, Departure Time, Stops, Mode, Duration, Distance, Tendering, Carrier, Driver, and Details.
  - Trip Details:**
    - Trip: 10223882001820
    - Carrier: No Carrier
    - Driver: No Driver
    - Shipper: Westernacher AG
    - Consignee: CUST\_10
    - Source Address: 1200 N Kirk Rd, Batavia, IL 60510, United States
    - Destination Address: 2670 W Main St, St Charles, IL 60175, United States
    - Departure Date: June 27, 2018
    - Delivery Date: June 27, 2018
    - Departure Time: 08:00 AM
    - Delivery Time: 11:45 PM
    - Cargo Weight: 38,508 lbs
    - Cargo Volume: 87 M3
    - Assortment: DRY
    - Number of Stops: 1
    - Duration: 03:45 hrs
  - Resource Availability:**
    - Vehicle Resource (2):**

Resource	Description	Capacity
<input checked="" type="checkbox"/> FULL_H_02	Full Height Truck	26 PPL
<input type="checkbox"/> FULL_H_03	Full Height Truck	26 PPL
    - Driver (6):**

Driver Name	License Type
<input type="checkbox"/> Bob Love	Class A CDL
<input type="checkbox"/> Scott Jones	Class A CDL
<input checked="" type="checkbox"/> Mark Johnson	Class A CDL
<input type="checkbox"/> Paul Williams	Class A CDL
<input type="checkbox"/> Brian Mitchel	Class A CDL
<input type="checkbox"/> Harris Miller	Class A CDL
    - Carrier (1):**

Carrier	Carrier Name
<input type="checkbox"/> XPL_LOG	XPL Logistics
  - Summary:**
    - Departure Date: June 27, 2018
    - Departure Time: 08:00 AM
    - Duration: 03:45 hrs
    - Vehicle Resource: FULL\_H\_06
    - Driver: John Davis
    - Carrier: Westernacher\_LOG



# Management by Exception

## Westernacher Control Tower

**Planning**

- Assign Carrier: 7
- Assign Driver: 4
- Manage Underutilized Trips: 7
- Unplanned Transportation Demand: 71
- Tender Monitor RFQ Response: 1 Time Critical, 4 Open, 2 Awarded

**Execution**

- Trips: 24
- Locations: 47
- Transportation Demand: 799
- Overview Fleet: Trucks (16), Trailers (10), Drivers (19)

**Key Performance Indicators**

- Locations Deliveries: On-Time (46), Late (1) - Portland Region
- Resource Utilization: 91.72% (Threshold 90%)
- Backhaul Transports: 11 (Supplier Backhaul Orders)
- Average Driver Hours: 6.1 (Max. of 8 Hours)
- Total Driving Hours: 116
- Driver Utilization: 76.18% (YTD 06/2018)
- Average Trip Distance: 51.2 Miles (Max. 50 Miles) - 06/26/2018
- Average Trip Duration: 6.5 hrs (Max. 8 Hours) - 06/26/2018
- Full vs. Empty Mileage: Full Mileage (740), Empty Mileage (510)
- Locations Delivery Window Accuracy: Jun 01 - Aug 31

**Assign Carrier**

Worklist Items (7)

Trip	Source	Destination	Departure Date	Departure Time	Stops	Mode	Duration	Distance	Tendering	Carrier	Driver	Details	
<input checked="" type="checkbox"/>	10223882001820	WHS_01	LOC_10	June 27, 2018	08:00 AM	1	FTL	03:45 hrs	39 miles	<input type="checkbox"/>	WST_LOG	Mark Johnson	>

**Trip Details**

Trip 10223882001820

Carrier: No Carrier  
Driver: No Driver

Cargo Weight: 38,508.85 lbs  
Cargo Volume: 87 M3  
Assortment: DRY  
PPL Loaded: 25.22

Shipper: Westernacher AG  
Consignee: CUST\_10

Source Address: 1200 N Kirk Rd, Batavia, IL 60510, United States  
Destination Address: 2670 W Main St, St Charles, IL 60175, United States

Departure Date: June 27, 2018  
Delivery Date: June 27, 2018

Departure Time: 08:00 AM  
Delivery Time: 11:45 PM

Number of Stops: 1  
Duration: 03:45 hrs  
Distance: 39 miles

Tendering Status: Not Started  
Execution Status: Not Started  
Subcontracting Status: No Carrier Assigned

Utilization by PPL: **97%**

Workflow Diagram:

```

    graph LR
      A[Check Fleet] --> B[Found Driver]
      B --> C[Found Carrier]
  
```

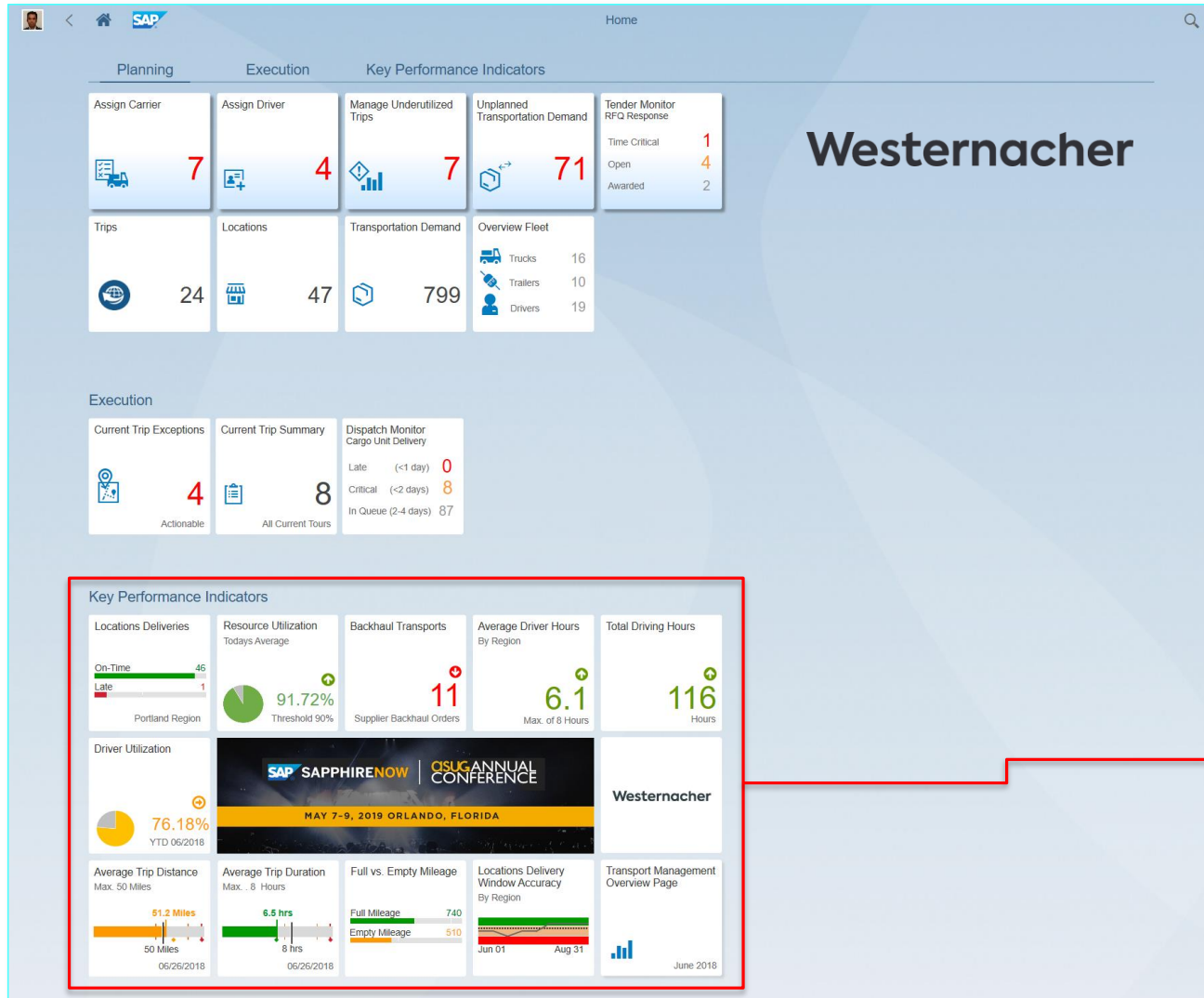
Table of other worklist items:

<input type="checkbox"/>	10223882003434	WHS_01	LOC_13	June 27, 2018	05:30 AM	4	LTL	08:55 hrs	112 miles	<input type="checkbox"/>			>
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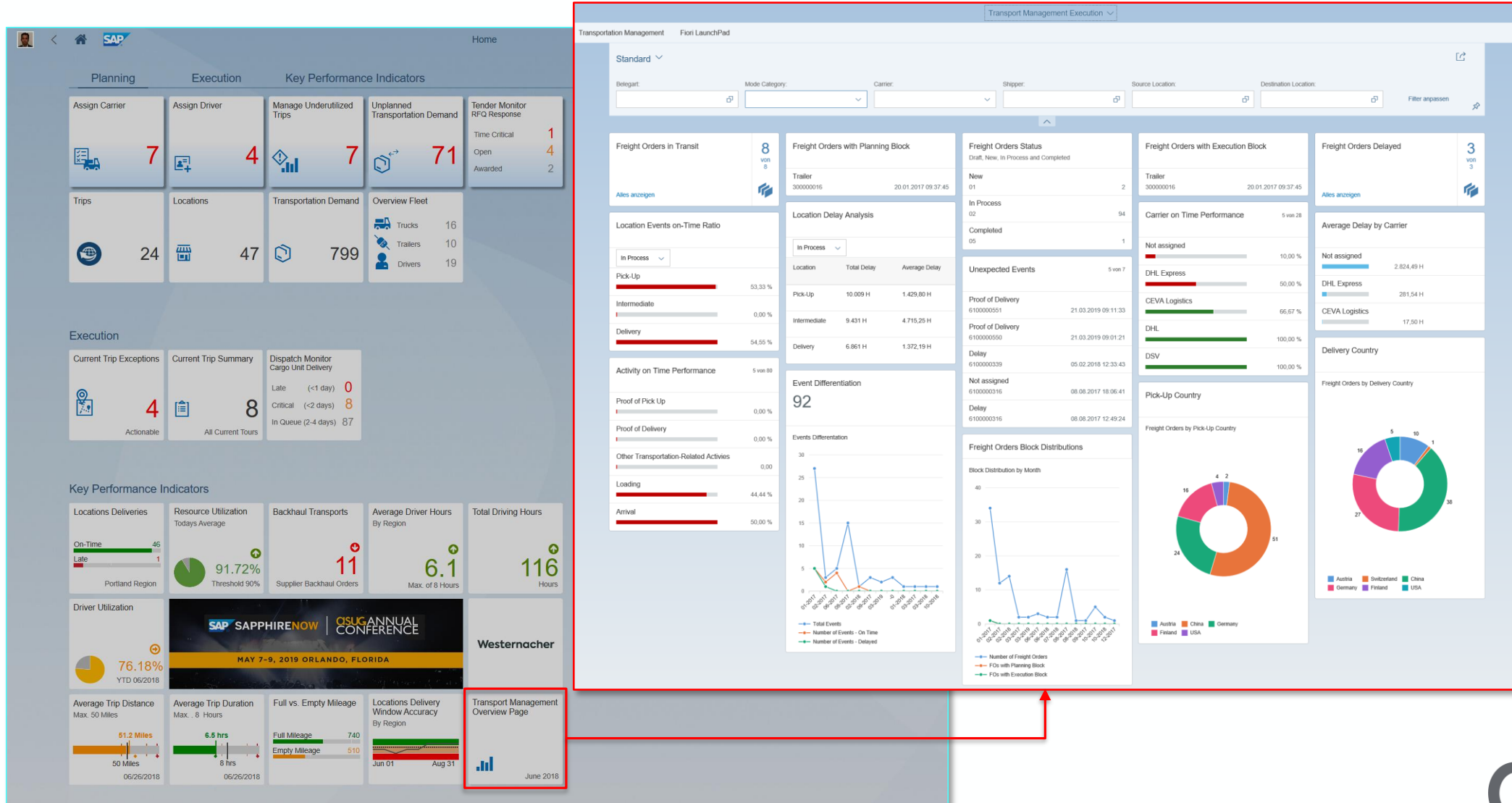
## Westernacher Control Tower



Embedded Analytics

# Management by Exception

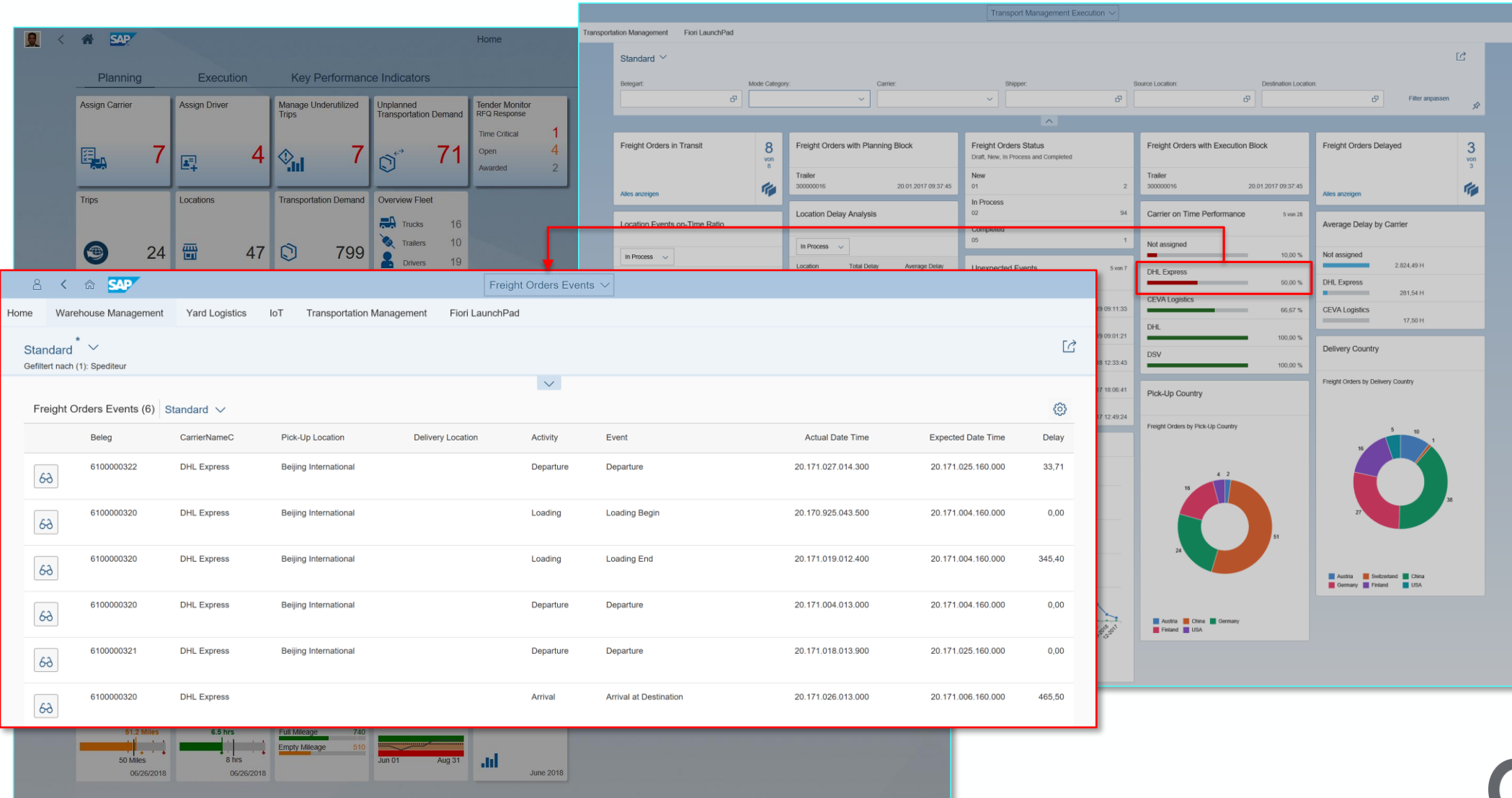
## Westernacher Control Tower



- Powerful real time reporting and root cause analysis based on SAP back-end functionality enabled by SAP HANA
- Built in latest Fiori technology
- To be deployed on SAP HANA to achieve comprehensive real time reporting

# Management by Exception

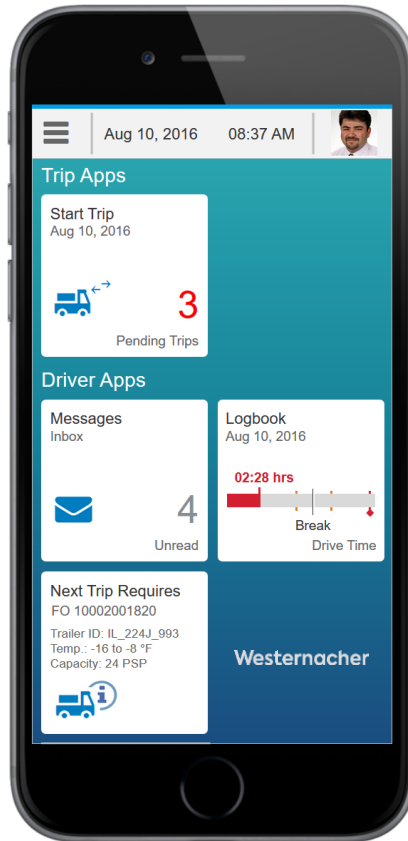
## Westernacher Control Tower



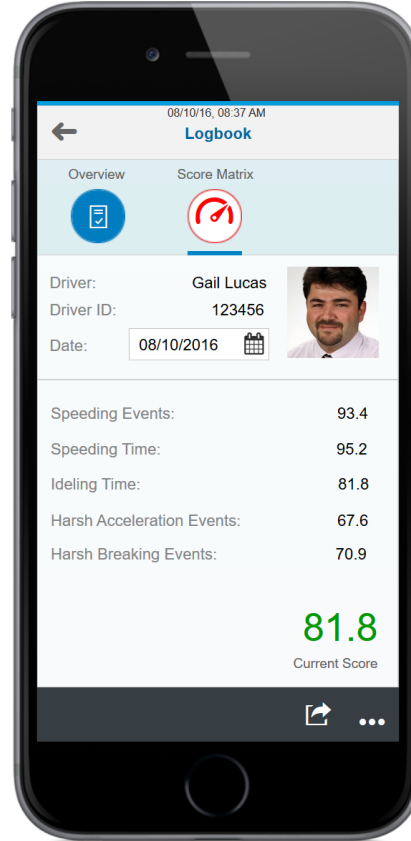
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# Management by Exception

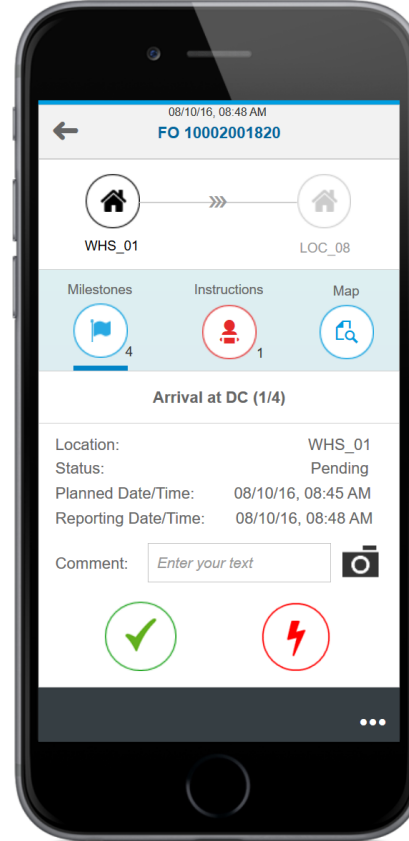
## Westernacher Mobile Driver Applications



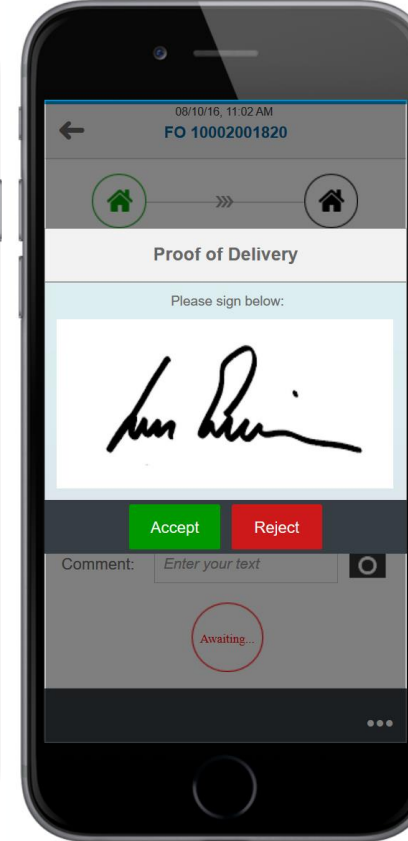
Menu



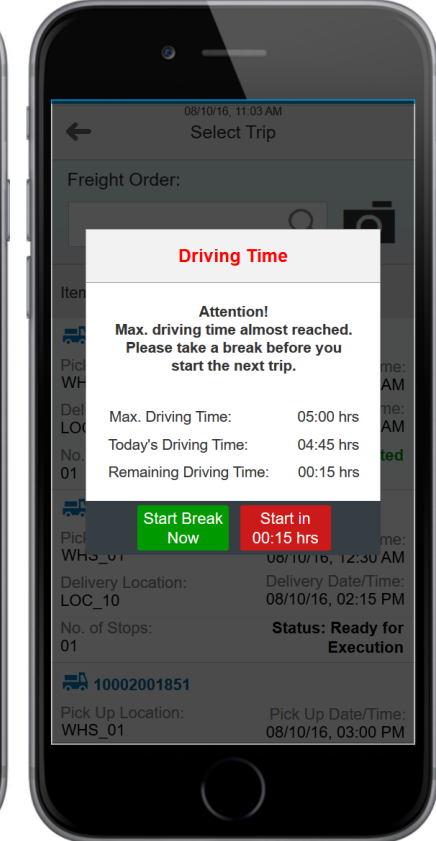
Driver Logbook



Milestone Reporting



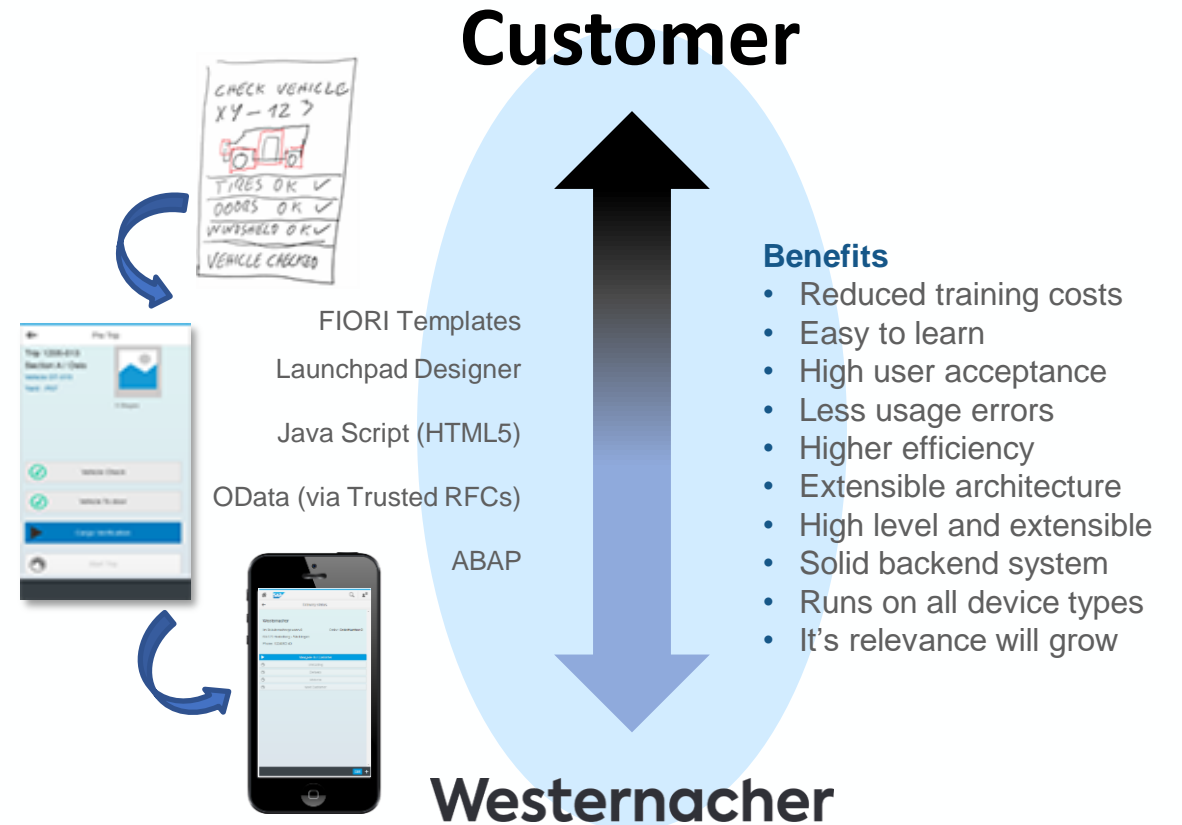
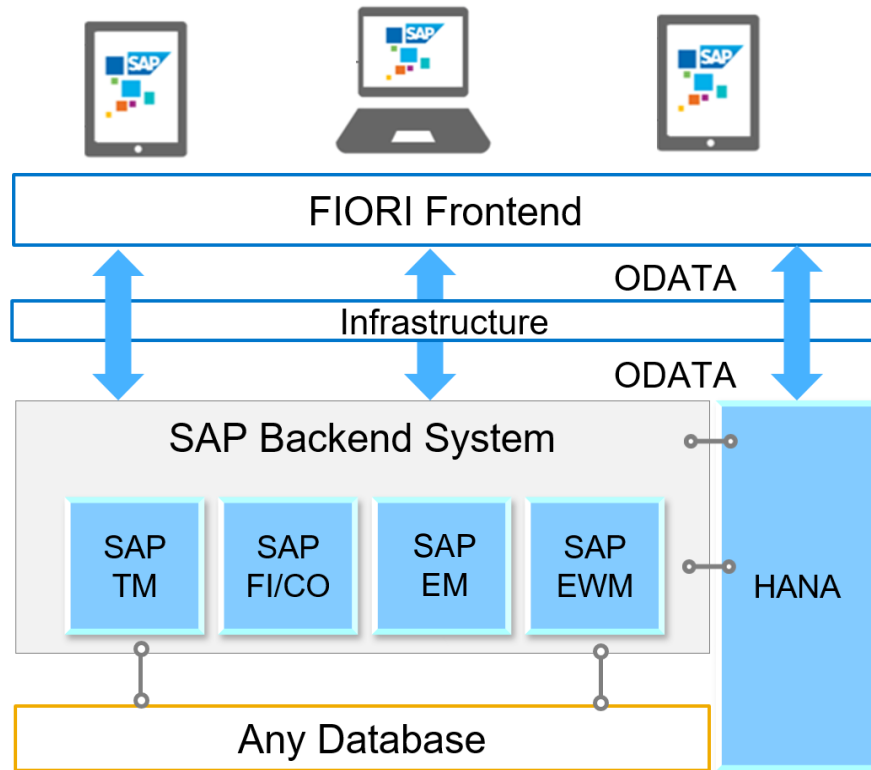
Proof of Delivery



Time Management

# Management by Exception

## SAP Fiori



### Benefits

- Reduced training costs
- Easy to learn
- High user acceptance
- Less usage errors
- Higher efficiency
- Extensible architecture
- High level and extensible
- Solid backend system
- Runs on all device types
- It's relevance will grow

# Management by Prediction

Exception Prediction & Prevention

**Westernacher**  
+ Partners



# Thank you so much!

Feel Free to Reach Out!

## Q&A

For questions after this session, contact us at...

**Michael Favor, Chamberlain Group**

Email: [michael.favor@chamberlain.com](mailto:michael.favor@chamberlain.com)

**Nicholas Runge, Westernacher & Partner Consulting**

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