

Digitalization and the impact on the finished vehicle supply chain



PROACT
INTERNATIONAL



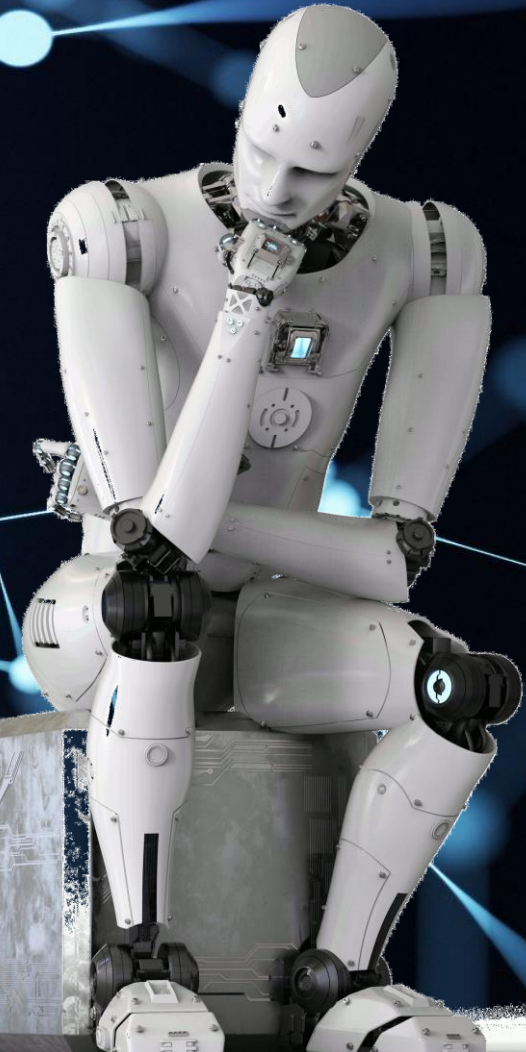
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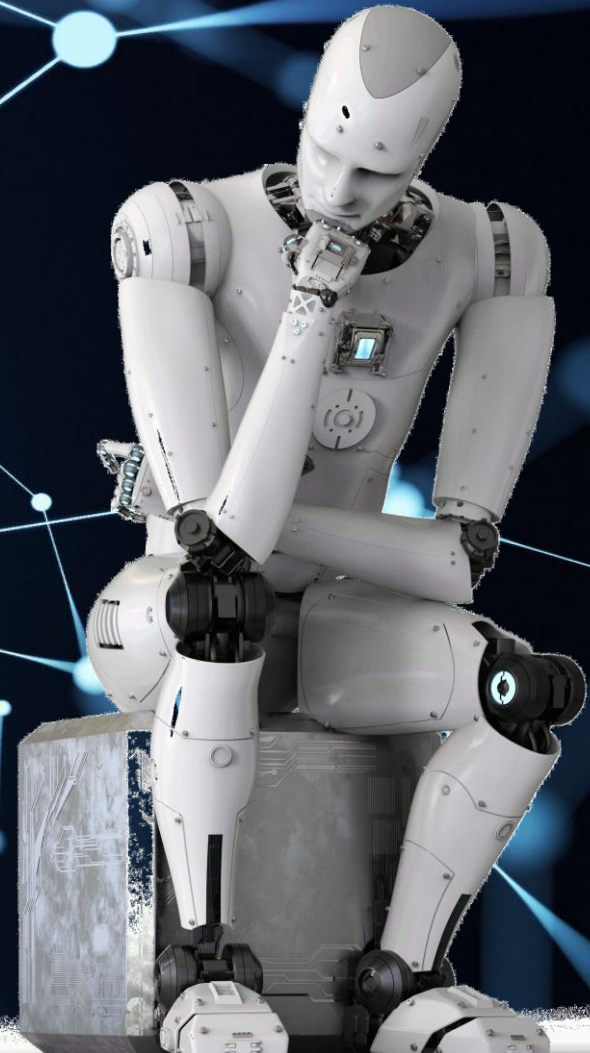
ECG Academy Alumni Meeting - Barcelona, 7th February 2020

Christian Fuss – Managing Director ProAct Europe



Agenda

- Introduction
- Drivers for change
- Digitalization
- Telematics and the impact on the vehicle
- The role of software solutions
- Conclusion

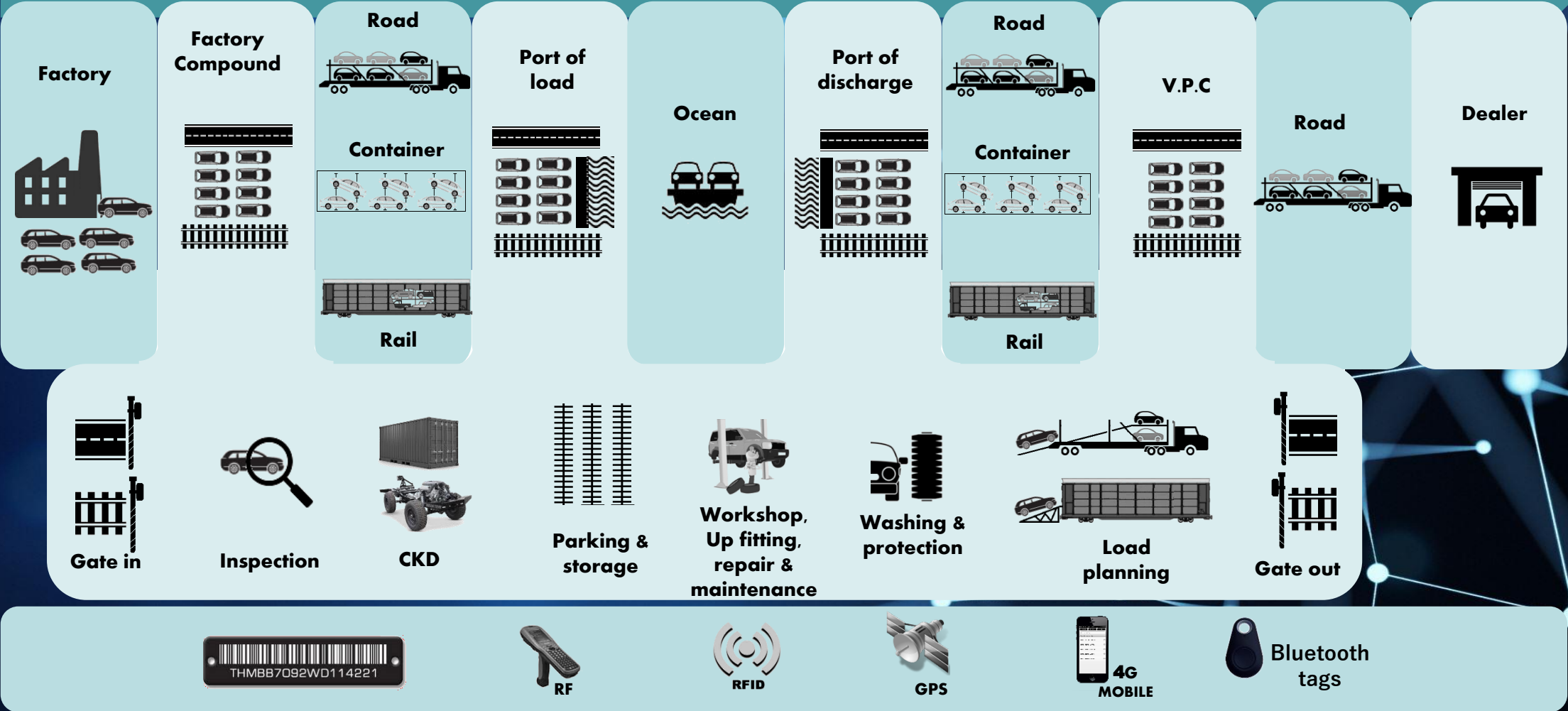


Who is ProAct

- Supply Chain software solutions company with many years of experience deploying in US, Mexico, Europe, S. Africa, Asia and Oceania
- Over 70% of our market is within finished vehicles both in yard management and global plant to dealer solutions
- Our solutions are based on a highly configurable supply chain process execution engine
- Individual yard throughputs ranging from 15,000 VINs/annum to 350,000 VINs/annum
- System throughputs ranging from 15,000 VINs/annum to 2 million+ VINs/annum
- Invest heavily in evolving the product to deal with future challenges and technologies



Factory to Dealer Enterprise management

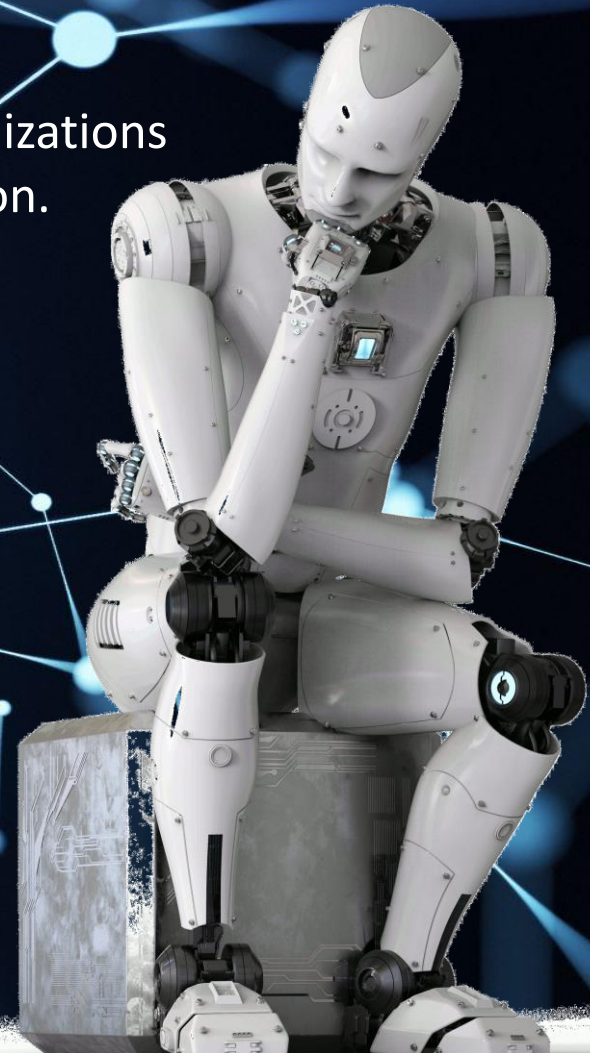




Sponsor of the ECG Academy, 'Digital Mindset' award ?

Digital Mindset:...it is a set of attitudes and behaviors that enable people and organizations to foresee possibilities by making sense of the ever increasing sources of information.

- Digital transformation is increasingly impacting every organization
 - Solving new and old challenges
 - Creating new business models
 - Creating new revenue streams
 - Providing increased visibility
 - Supporting customer expectations
- We want to raise awareness of the need to embrace digitalization
- Stimulate discussion and new ideas from within
- Support the development of the next generation of supply chain industry leaders



Our focus is on a changing world

- Trade
- Politics
- Regulation
- Security
- Climate
- Technology
- Market expectations
- Changing attitudes



- Rapid change
- Uncertainty



Future Game Changers

- New manufacturers (and JV's)
- Changing the whole concept of what is a 'Yard'
(is a yard, is it a warehouse, is it a showroom, it is a collection centre, it is a rental centre ?)
- Increase in made-to-order and direct consumer deliveries
- More consumer specification options but with a shorter delivery expectation
- New routes, capacity and the increasing use of containerisation
- Increase in building in options at the factory that can be switched on/off
- Increased telematics connectivity to the vehicle and future autonomous driving
- Lifetime connectivity and management of a VIN



Digitalization - A platform for change ?

So what is Digitalisation of the supply chain?

Digitalisation of the supply chain involves :

- automate processes, documentation, reduce manual intervention – focus on exceptions and advance planning
- sending, publishing, acquiring, collecting or receiving (real-time) data from all stakeholders within the supply chain
- consolidating, analysing and comparing this data to its process objective;
- interpreting and rationalising this data to derive consequence and effect;
- feeding back information or initialising events into the supply chain;

And potentially doing it all with 'Big Data'

(in 2018 almost 100 million cars and commercial vehicles were manufactured globally)

In a vehicle, digitization could for example be:

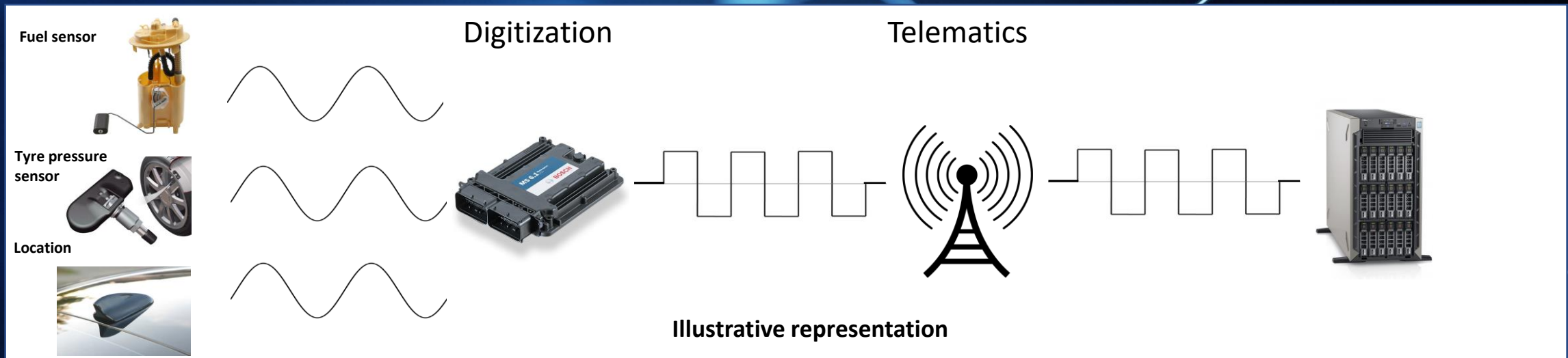


or fuel level, location, temperature or any sensor that is monitored on the vehicle

But how do we get this information into the Supply Chain ?

Telematics (from Telemetry)

the area of technology that deals with sending digital information over long distances using wireless forms of communication:




Vehicle becomes an integral part of the Supply Chain Order Management:

- **ORDERING SERVICES:** i.e increase tyre pressure
- **TRIGGER EVENTS:** i.e. Battery is fully charged – return car to storage area
- **PROVIDE STATUS UPDATES:** Location
- **PART OF THE ROUTING INTELLIGENCE:** i.e. vin knows which ship to load onto
- **SECURITY:** allow remote locking of vehicles overnight

... etc...





Business Process Rule Sets

VEHICLE YARD MANAGEMENT

Search

Details

Details

Code

TELE-BATTERY

Description

Battery Telematics Evaluation

Entity Type

Consignment


Type

Event

Evaluation Method


Match First

Rules




Battery Threshold Check (STANDARD)

VEHICLE_CLASS = STANDARD, VOLTAGE = < 9.6




Initiate Battery Charge



Battery Threshold Check (SUV)

VEHICLE_CLASS = SUV, VOLTAGE = < 12.2



Initiate Battery Charge

FVL


User Guide


Menu

Control Panel - ADMIN

1 Unread Alert(s)

(Sign Out)





Enter & Amend GeoFences
Yard Management

Search

Details

Details

Code

LA

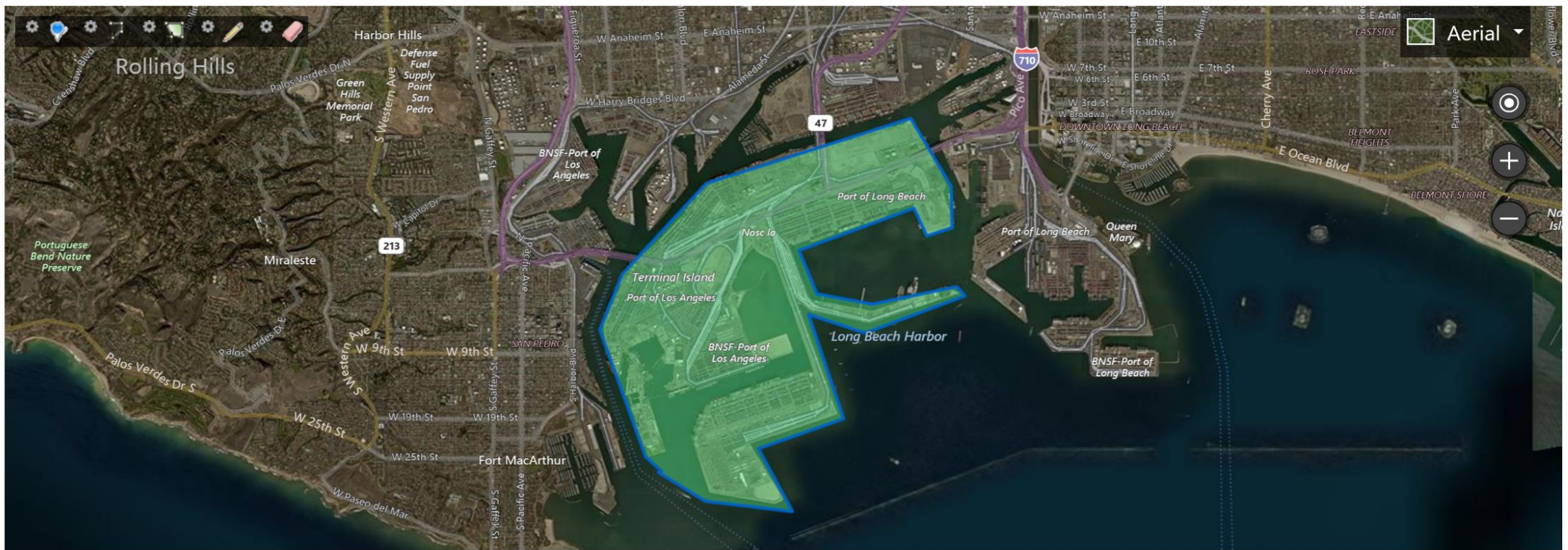
Type

Polygon

Description

Port of LA

Aerial



ProAct

Menu

Control Panel - GRANDRIVER

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(Sign Out)

Will we ever be able to rely on vehicle data only ?

Other digital data sources:

- Vehicles in the hull of a RORO (or container) vessel unlikely to have connectivity
- Same might apply to rail cars or containers
- Covered or enclosed transportation, covered or multi-story parking may inhibit GPS
- Cellular triangulation not accurate
- What happens when battery discharges or vehicle develops fault

So we will need to collect and process additional digital data

(eg. Vessel positions and ETAs, railcar position, complimentary positioning data, gate data, e-documentation, ANPR, e-POD)

Is the Industry ready? Any inhibitors ?

- Much of this data is only available to the OEM or the consumer
- Only recently are manufacturers acknowledging the value to carriers and service providers
- Standardisation
- Technical considerations (battery drain, accuracy of data)
- Diverse technical capabilities across all stakeholders
- Cost of making this data available
- Who benefits most, OEM or Service provider or both?

And possibly the biggest inhibitor

- Lack of systems and technologies to consume the data and to consolidate, analyse and compare this data to its process objective;

The missing link – Intelligent Logistics Control Tower Solutions

Feeding back instructions to mobile devices, external systems or directly back to car



BIG DATA

CYBER PHYSICAL SYSTEMS

Feedback Loop

Logistics Control Tower Solution

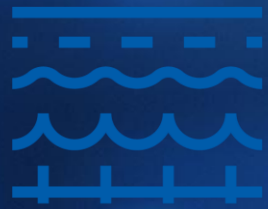
- Analysis
- Objectives
- Processes
- Goals
- Measurements
- Interpretations
- Initiation



Conclusion

The world is changing and we need to be flexible and able to deal with uncertainty
....so solutions must evolve too

- Opportunity from use of Digitalization
- Opportunity from use of Telematics – increase in importance
- New role of the vehicle as part of the order management
- Many sources of information will continue to be needed and information sharing along the supply chain will increase
- Embrace technology und see it as an enabler
- Increasing importance of Software Solutions - Control Tower



ECVG

The Association
of European
Vehicle Logistics

Finished Vehicle Logistics – Moving to a Digital Supply Chain