



SAP
Innovation
Awards 2019



SAP Innovation Awards 2019 Entry Pitch Deck

Smart Logistics for Moving Assets

HCL

THE BEST RUN





https://www.youtube.com/watch?v=_P_HRC63yqE

Smart Logistics for Moving Assets

HCL



“Quote”

Track Vehicles in real-time using HCL’s Smart Logistics for Moving Assets

Challenge

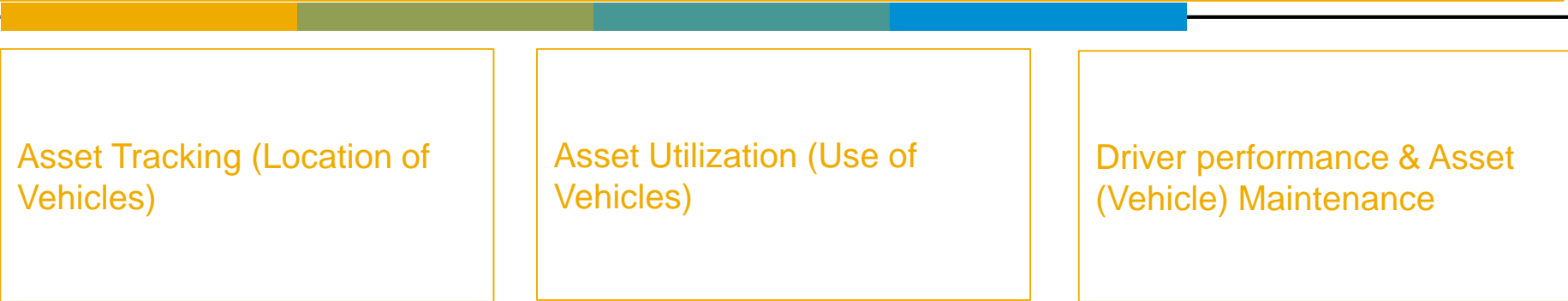
Organizations today need a solution that can help them manage their fleet of vehicles efficiently. They expect the solution to be able to ingest the real-time data from OBD-II devices and Onboard sensors installed on their vehicles so that they can measure the KPIs for Enterprise Fleet management.

Solution

The HCL Smart Logistics Solution for Moving Assets is a comprehensive Fleet Management solution which leverages the SAP Leonardo IoT. This cloud-based solution makes fleet management more efficient by addressing some of the common problems such as locating vehicles both inside and outside plants/warehouses, tracking the utilization of vehicles and enabling shared usage of vehicles by providing operators an ability to reserve the vehicles for a specific time period.

Outcome

The POC helped the business in determining the location and utilization of their vehicles in real-time. Further it helped track the OBD-II parameters of vehicle trips thus providing a visibility to driver behavior & vehicle maintenance requirements.





Partner Information

HCL

Service Integrator

“ ”

Transform Experience. Transform Business.

HCL



Business Challenge & Objectives

Utilization

- Inability to measure the Drive time of different vehicles in their fleet
- No scientific way to measure Driver utilization

Trip Management – Scheduling and Monitoring

- Inability to track the location of the vehicle and monitor the Trips in real-time
- Inability to schedule the trips without real time information on the current usage & location of vehicles

Driver Performance

- Inability to measure Driver performance. Adherence to Speed Limit, Acceleration, Hard Brakes

The POC objectives were :

Provide an art-of-the-possible solution that gives real-time visibility to vehicle location and utilization.

Provide an accurate tracking for vehicle diagnostics (OBD-II parameters) from Vehicle Canbus

Prove the technology by installing industry grade OBD devices and Bluetooth sensors on vehicles integrated with SAP Leonardo IOT.



Project / Use Case Details

A manufacturing organization owns a large fleet of vehicles worldwide. Without any real time monitoring of its current fleet, the organization is unable to measure the utilization of its vehicles. Further it cannot make sufficient vehicles available at the right location for it so they can be judiciously assigned to their projects. Without a good visibility in the utilization and the location of its vehicles, the organization has to procure new ones on business request. In addition, without a good view of the condition of vehicles, the organization has no way to analyse the maintenance costs or predict breakdowns.

The organization will like to have a real-time view of the Usage of the vehicles in their fleet, their condition and their location. This will help the organization in evaluating the requests for procuring new vehicles judiciously. Further, a real time view of the trips will give them a view of vehicle conditions and driver performance during the trips.

A POC was executed by installing IOT devices (OBD & Blue tooth sensors) on a subset of vehicles that capture vehicle location and diagnostic information. These devices were integrated with HCL Smart Logistics solution for Moving Assets. This cloud based solution utilizes SAP Leonardo IoT to ingest time series data transmitted from the IOT devices. The solution offers an intuitive UI deployed on SAP Cloud platform that reads the time series data from Leonardo IoT via APIs and presents the information of the vehicles and the associated trips. The business functions available on the UI include Trip Overview, Vehicle Monitoring, User and Admin console and Utilization Summary are described below. The UI is accessible on a desktop using a web URL or on an iPad through native iOS app.

Trip Overview: The Trip Overview is designed to assist Fleet managers and provides the following functionalities to track the fleet of vehicles in a selected area with a map view: Live tracking; Reports & Analytics – Monitor specific OBD Parameters; Audit Trail; Live Integration with OBD-II meters

Utilization Summary: The Utilization Summary is designed to assist the Fleet managers to know the current Utilization for each of the vehicles under his fleet of vehicles and provides the following statistics: Total utilization of the selected vehicle for each day, Total trip time (runtime + ideal time) of the selected vehicle for each day, Utilization tread for last 7 days and 30 days

Admin Console: The Admin Console is designed to assist Fleet managers and provides the following functionalities: Add New Vehicles, Register New Drivers, Vehicle and Driver Assignment

User Console: Allows drivers to reserve the vehicles



Benefits and Outcomes

Business / Social

Asset Tracking

- Ability to monitor on-road and in plant vehicle location in real-time

Asset Utilization

- Ability to measure utilization of vehicles

Maintenance

- Provide real-time visibility to the vehicle diagnostics (OBD Parameters and Fault codes) to schedule preventive maintenance

Driver Performance

- Provide real-time monitoring and alerting capability by tracking OBD parameters like Speed, Hard brake and hard acceleration which can be used to measure driver performance

IT

IoT Enablement

- Ability to provide location tracking services for moving assets

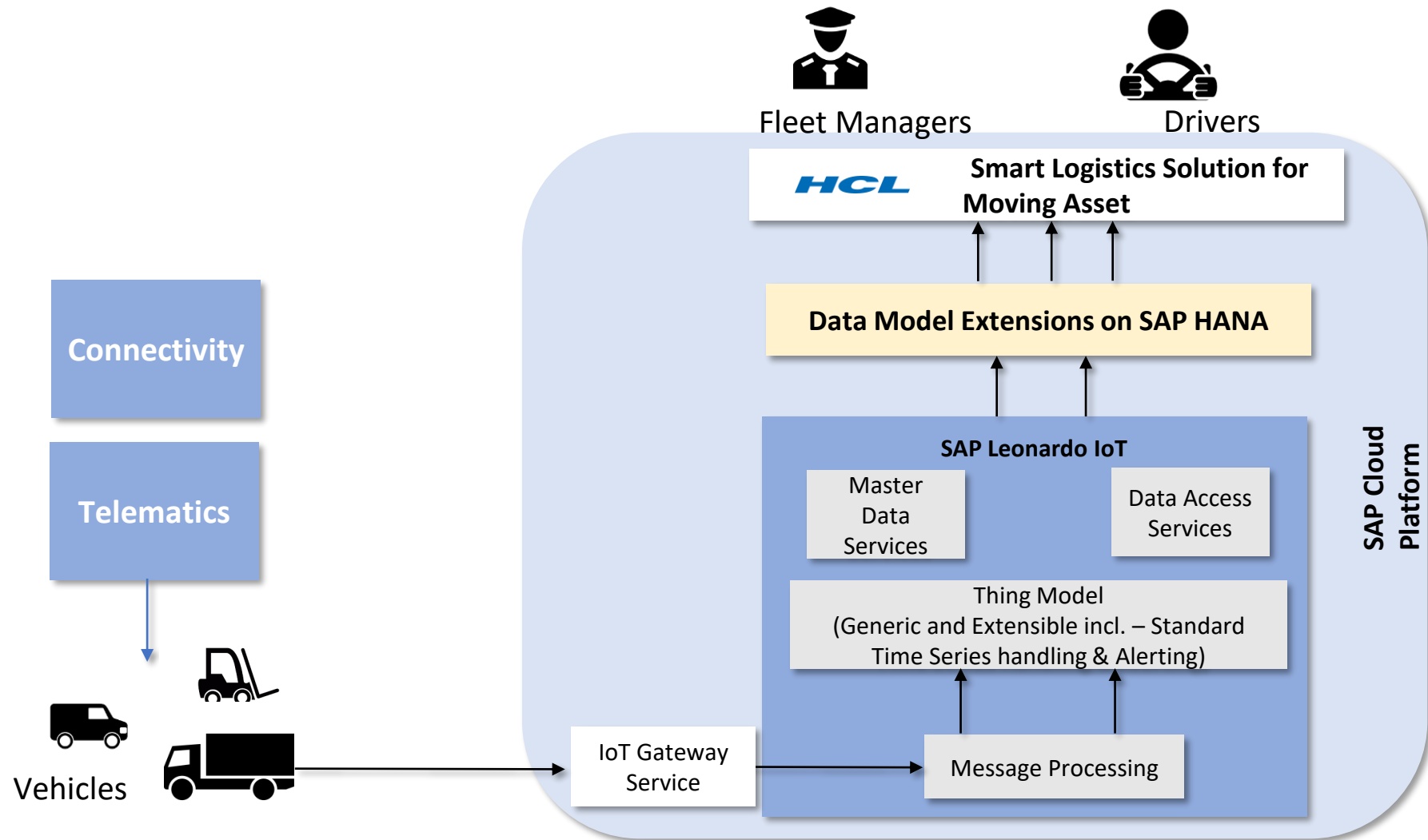
Human Empowerment

Uberize Assets

- Ability to reserve assets (vehicles) based on availability



Architecture



Note :The solution was Originally Developed on SAP Leonardo IoT Vehicle Insights. It is being transitioned to SAP Leonardo IOT Application Enablement Framework



Deployment

Date of Deployment or POC: 13th Oct 2018

Number of live users: 20

SAP Technologies Used:

Product	POC/Production
SAP Cloud Platform	POC
SAP Leonardo IOT	POC
SAP HANA on Cloud Platform	POC

Server Processor:

Linux Distribution:



Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes/No	Contribution to Project
1.	Machine Learning / Artificial Intelligence		
2.	IoT	Yes	IoT Devices installed on Vehicles (Assets)
3.	3D printing		
4.	Blockchain		
5.	API Economy / Integrate the Intelligent Enterprise		
6.	Cloud Native / Event Based Architectures		
7.	Extending the digital core with SAP CP / ABAP in SAP CP		
8.	SAP Leonardo Application (extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop)	Yes	Originally Developed on SAP Vehicle Insights & being transitioned to SAP IOT Application Enablement Framework