

## Case Study

# Truck GPS monitoring system Mobis Automotive Czech s.r.o.

### Mobis Automotive Czech s.r.o.

Mobis Automotive Czech s.r.o. is a Czech subsidiary of the Korean company Hyundai MOBIS, a leading manufacturer of modules and auto parts, as well as an exclusive supplier for the Hyundai Motor and KIA Motors car manufacturers. The Czech branch was founded on December 22, 2006 and is located on an area of 74,000 m<sup>2</sup> in the Nošovice industrial zone in the North Moravian Region.

At present, the company manufactures car modules (front and rear axle, front end module and instrument panel) in a three-shift operation. Every year, it has to supply parts for up to 300,000 cars.



### Realisation Period

March 2015 – June 2016

### Comment

*„We are able to plan and manage production in a more efficient way with this user-friendly monitoring tool. By monitoring our suppliers' truck traffic due to having access to information about their movement, current location, loading, or transported freight, which is available to us anytime and anywhere in a web browser, we can optimize our existing stock of materials or, alternatively, take any action appropriate in case of a delayed delivery.”*

### Initial Project Objectives

MOBIS Automotive Czech decided on taking modernization steps leading to more efficient planning and production processes by real-time monitoring of the individual deliveries of material on the way. Investment into development of a GPS monitoring system by the CES (AutoCont) company was selected as the most suitable solution meeting the functionality requirements.

#### Solution requirements

- Graphic representation of the vehicles' current location on a map
- Vehicle filtering per supplier, vehicle status, etc.
- Clearly arranged overview of suppliers and their relevant vehicles
- Display of vehicle-related data for each car (registration number, driver's contacts etc.)
- Integration of the solution to the company information system SAP
- Reflection of the current traffic conditions in the map view

## Benefits

- Efektivnější plánování výroby
- Optimalizace stavu zásob
- Aktuální přehled o dodávkách materiálu v reálném čase
- Přehledné grafické zobrazení aktuální pozice nákladních vozidel
- Snadné kontaktování daného řidiče ve zpoždění
- Včasné řešení problémů s opožděním nebo nedostatkem materiálu
- Predikce dodání materiálu
- Zohlednění aktuálního stavu dopravy

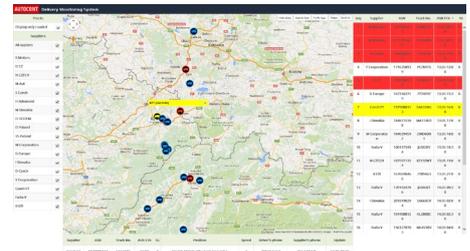
## Applied technologies

MS SQL database  
NET (MVC)  
Google API  
SAP  
SterlogTrace

## Solution

This is a truck monitoring solution clearly displaying the trucks as icons on the map. Users can choose whether they want to display loaded or empty vehicles. Icons representing the trucks are changing colours according to the current vehicle status. For example, a vehicle with a significant delay is shown as red. The application further features truck filtering according to the supplier, along with an option to for example switch on the layer displaying the current traffic situation on the map. It is also possible to display a list of vehicles in the table clearly arranged per selected supplier. Selection of a particular supplier will be also reflected in the map view, where only the relevant vehicles will be consequently visible. The table view further provides information on a selected vehicle such as: registration number, supplier's name, speed, driver's phone number, current position, freight ID etc. When clicking on the line describing the given car, an information bubble will be displayed next to the vehicle's current location on the map containing its registration number.

The map view, besides tracking the current vehicle locations with real-time automatic updates in the specified time intervals, further enables switching on the layers on the map displaying the current traffic conditions. A full-screen view feature is available for increasing the clarity of the map.



The solution further displays listings concerning the trucks sorted per colours, i.e. in green, if there is enough material available for manufacturing of the final product, or by contrast, in red, if the carrier transporting the required material has been delayed and there is a risk of material shortage. Any issue regarding a delayed delivery or lack of material can be addressed in a timely manner. The manufacturing process can be managed more efficiently with respect to the current material in stock. Considering the display of the truck's current location on the map and taking into account the traffic situation, it is then possible to predict future inventory levels and material delivery times. Real-time inventory status provides a convenient tool for optimization of the material in stock.

System input information on the current truck location is provided by the Sherlog service, the rest of the data, such as the contents of the materials in transport, are provided on basis of an integration to the company information system SAP.