



SECAR BOHEMIA

ROBUST SATELLITE POSITIONING & ITS IN PRACTICE

Lubomír Myslík

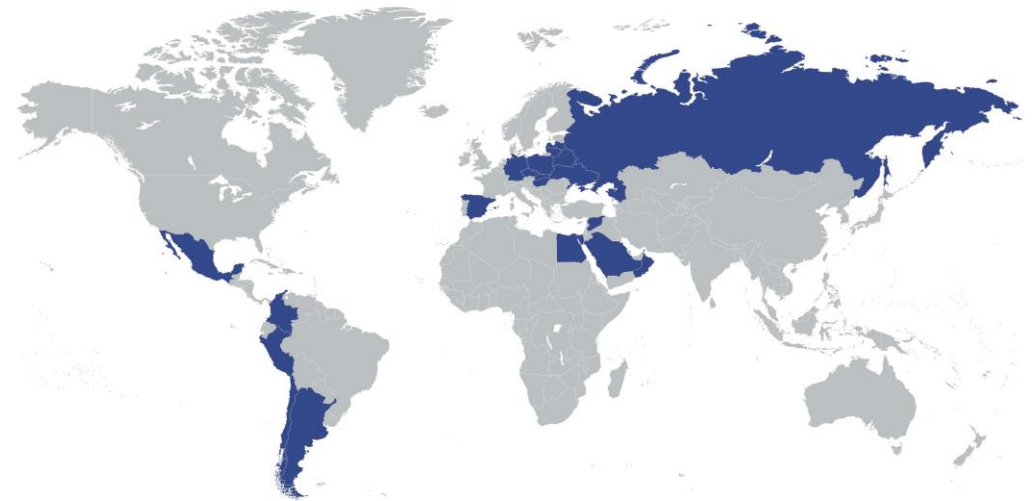


COMPANY PROFILE

- SECAR BOHEMIA, a.s., established in 1992
- 100% owned by Czech proprietors
- 150 employees
- Average annual turnover: CZK 400 million
- Dominant position in the Czech & Slovak market
- Full offer of HW and SW and tailor-made solutions
 - Development
 - Production
 - Services
- Foreign branches and operations

ABROAD ACTIVITIES

- The company operates in more than 12 countries
- Takes up new opportunities in Latin America, Europe, the Middle East, Russia



SHERLOG

Stolen vehicle recovery

eCall

Fleet management

Possession security

Pipeline leakage detection

SECAR BOHEMIA
GROUP

Traffic information

GNSS tracing & tracking

RFID technologies

eHealth

Radio security

Persons & asset tracking

Vehicle telematics

SHERLOG

Since 1992

STRUCTURE



ROBUST LOCALIZATION



Radio Car Security

SHERLOG Security Car



- After-theft search system
- **Based on radio location**
- Own frequency & infrastructure & search vehicles
- Non-stop dispatch centre
- Success rate: 98% of vehicles located
- Vehicle usually returned within 2 hours
- More than 25,000 vehicles in the Czech Republic, 40,000 worldwide
- Accurate localization is the **key** to success



How it works...searching

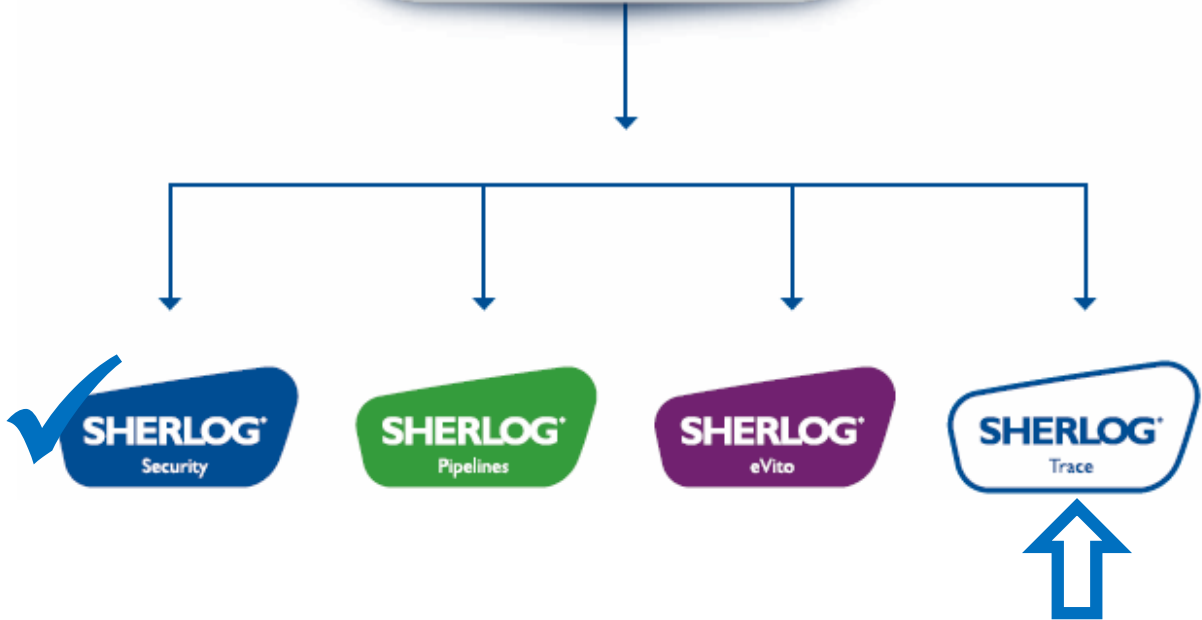
- Hidden units
 - installation of units is hidden and hardly to discover
- Team of scouts
 - our own fleet of search vehicles and aircraft equipped with mobile radio trackers
- Operations centres
 - non stop service 24/7
 - monitoring of vehicles
 - coordinates scouts of vehicles
- Action
 - interventions always coordinated with the Police
 - average search time is about 1 hour
 - not only in Czech Republic, abroad EUROWATCH service



Localization (radio)



The screenshot displays a software interface for radio localization. The main window, titled "Kokeš - data1_e.ref - [1:18276]", shows a map of Prague with several data overlays: a red line representing a signal path, a blue line with a label "20002 s12 14", and a green label "Londýnská II". The map includes neighborhood names like "STARÉ MĚSTO", "NOVÉ MĚSTO", "VINOHRADY", "NUSLE", and "ŽIŽKOV". A small inset image on the left shows a radio tower. The interface includes a menu bar with options like "Soubor", "Pohled", "Seznam", "Výkres", "Rastr", "Výpočty", "Aplikace", "Nástroje", "Okna", and "Help". A toolbar with various icons is located below the menu. At the bottom, there is a status bar with text: "zmenšení obrázku (zmenšení měřítka) 2x", "zmenšení obrázku (zmenšení měřítka) 2x", "Co chceš ?", and a scale bar for "1km".



ROBUST LOCALIZATION



Fleet Management

SHERLOG Trace

- Tracing & tracking platform
- **GPS/GLONASS (GNSS) & GSM/UMTS based**
- All-inclusive services
 - Installation of device
 - Real-time data transmission
 - Web application
 - Data archiving
 - Vehicle logbook
- >60.000 units / >8.500 clients



How it works

- **Technical part**

- units
- accessories

- **Technological part**

- IT infrastructure
- connection
- servers

- **Application**

- Web application
- SmartPhone app
- support applications




App / Reporting - Graphs

- ★ Recently used reports ▲
-  MobilEye – Trend of drivers
-  Maximum allowed speed excess
-  MobilEye – Ranking of drivers
-  MobilEye – Detailed summary of warnings
-  Trips of vehicles by private / company coefficient
-  MobilEye – Listing of speeding

Favorites reports

-  **Log book - Basic** ★
Find out about accessibility features, the location of readme files, product support numbers, and tips for using the online documentation. Samples and Walkthroughs
-  **Day car report** ★
Summary of trips info grouped by days for selected vehicle and month
-  **Maximum allowed speed excess** ★
Find out information about excess of maximum allowed speed for selected vehicles in given period.

-  **Trips of vehicles working hours**
Find out about trip hours for selected v

Electronic Jurne → Vehicle

Electronic Journey modul

Selected car:

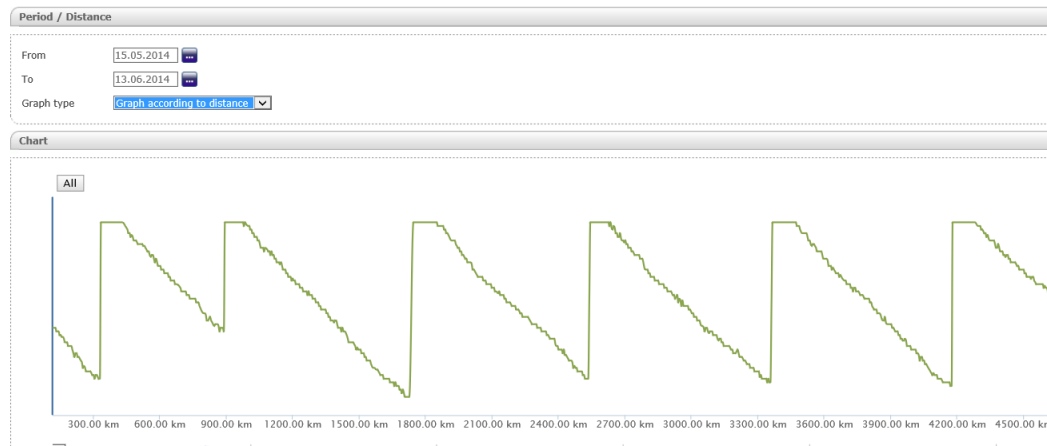
Department:

Subordinate departments

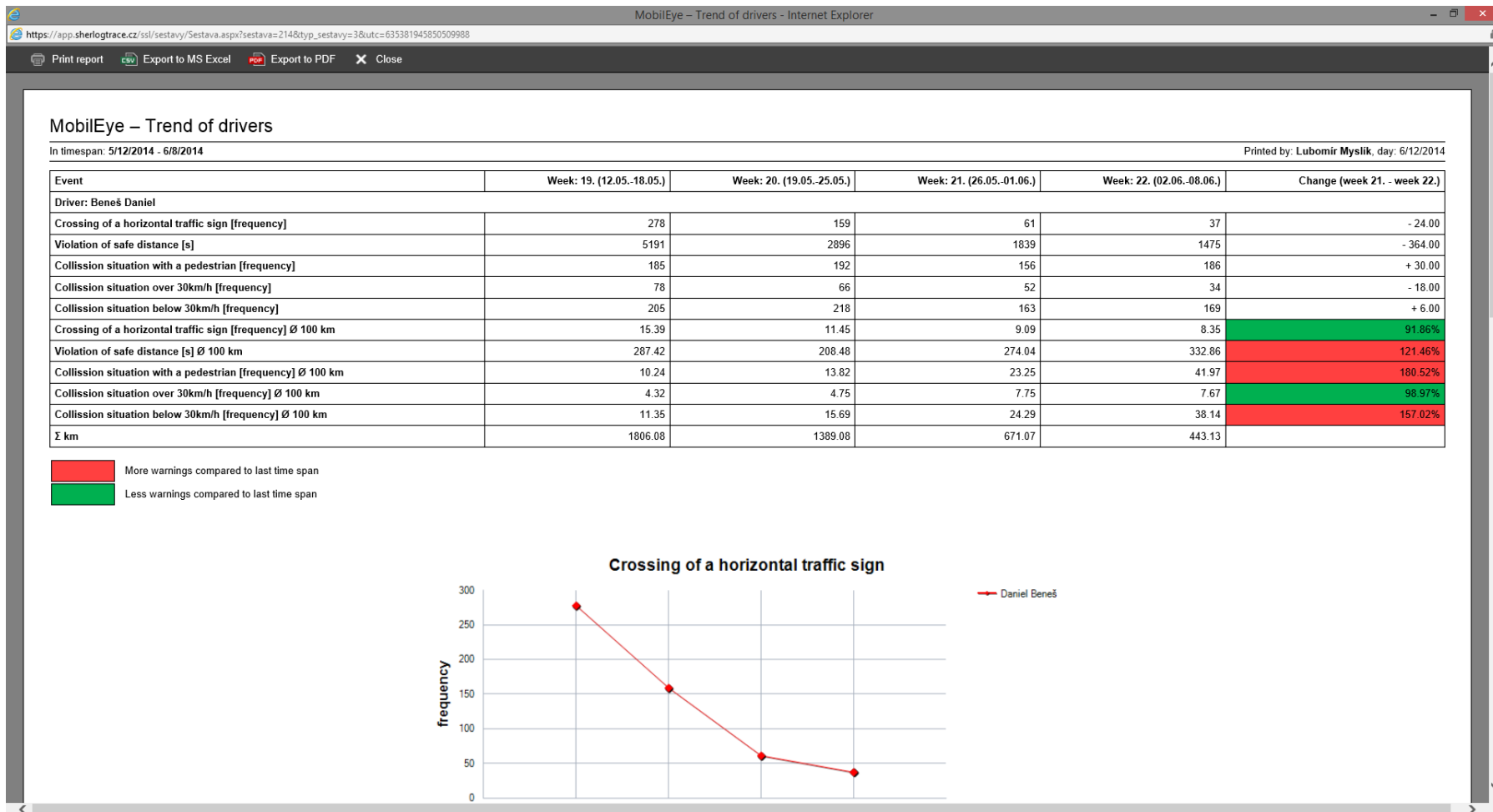
Trips of vehicles company coeffic Help

Overview of vehicl driven distance

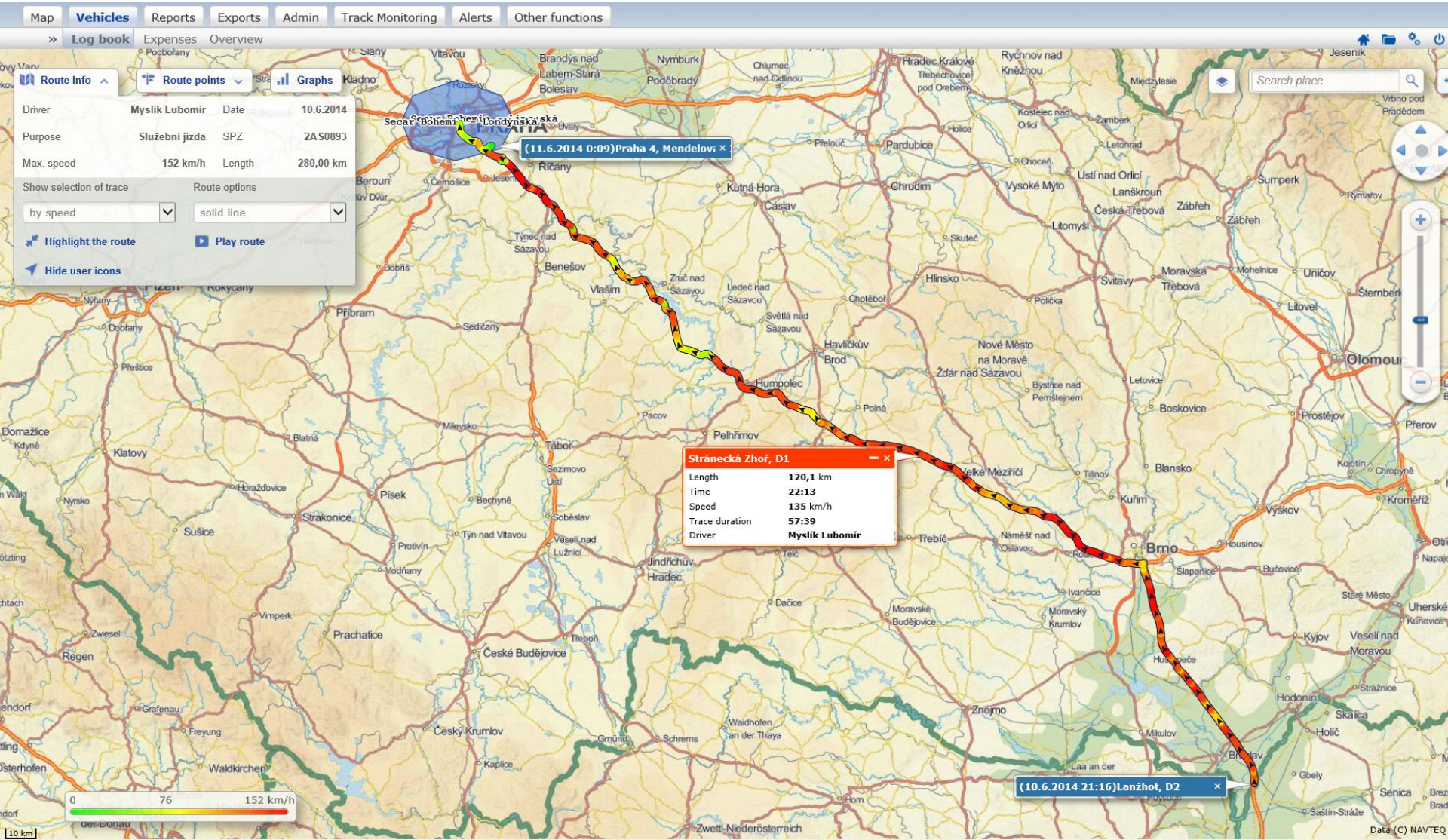
The graph is generated for the selected vehicle and year. Both can change a graph is automatically redrawn. Axis "x" by default shows the time. If you change the chart type to chart according to the distance traveled and the x-axis changes the distance traveled in the selected period. Axis "y" automatically displays all the values of the selected vehicle are measured. What values are measured is determined by the type mounted unit and its accessories. Summary values are listed below the graph with the color code. Click on the selected value control to hide or display the chart. This way you can keep the graph only those values that you want to compare.



App / Reporting - Graphs



App / Map – route (GNSS)



App / Map - position (GNSS)

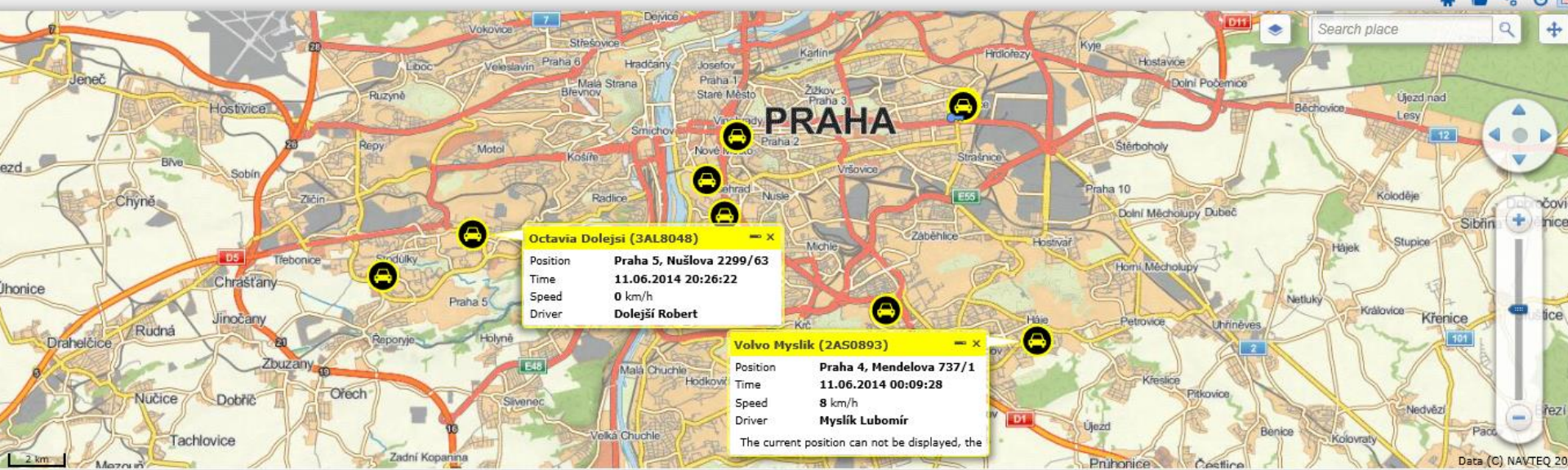


SHERLOG® TRACE

News archive | Application information

Lubomír Myslík / SECAR BOHEMIA

- Map
- Vehicles
- Reports
- Exports
- Admin
- Track Monitoring
- Alerts
- Other functions



Octavia Dolejsi (3AL8048)

Position	Praha 5, Nušlova 2299/63
Time	11.06.2014 20:26:22
Speed	0 km/h
Driver	Dolejší Robert

Volvo Myslík (2AS0893)

Position	Praha 4, Mendelova 737/1
Time	11.06.2014 00:09:28
Speed	8 km/h
Driver	Myslík Lubomir

The current position can not be displayed, the

Volvo Myslík (2AS0893)

Unit overview

- Estado de taquimetro: **45 847,90 KM**
- Route time in a given month: **45:38:42**
- Current status of the tank: **70,00 L**
- No. of trips: **1039**
- Tareas de mantenimiento planificadas (1): **20.1.2015 (45 000,00 KM), PERIODICAL CONTROL**
- Average fuel consumption: **6,00 L/100 KM**

Last routes

- [CZ] Lanžhot, D2 > [CZ] Praha 4, Mendelova 737/1: 280,08 km (Tue 10.6.2014 21:16:13 - Wed 11.6.2014 01:11:44)
- [SK] Sekule > [CZ] Lanžhot, D2: 9,42 km (Tue 10.6.2014 21:11:12 - Tue 10.6.2014 21:16:12)
- [SK] Bratislava III, Vajnorská 1307/17 > [SK] Sekule: 73,59 km (Tue 10.6.2014 19:53:35 - Tue 10.6.2014 20:49:48)

GNSS Limits

● CRITICAL POINTS

- Short 2-5 minutes / up to 2km journeys
- Routes in city centers
- Courtyards or in/out door ramps without or with bad GNSS coverage
- High accuracy in localization required
- Exact milage needed (pay per km)

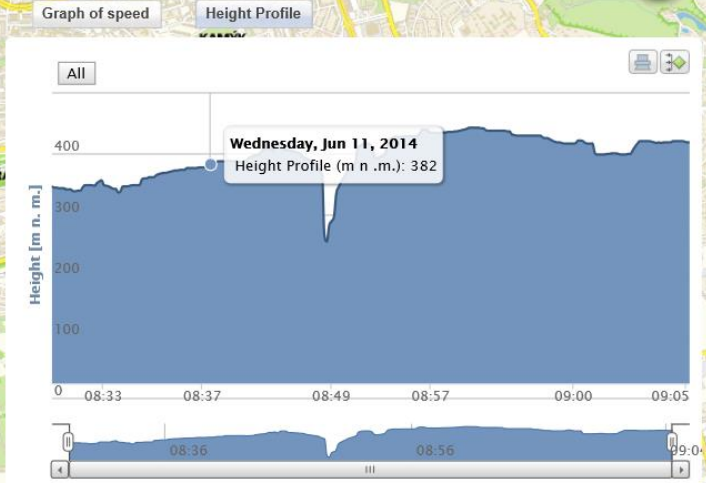
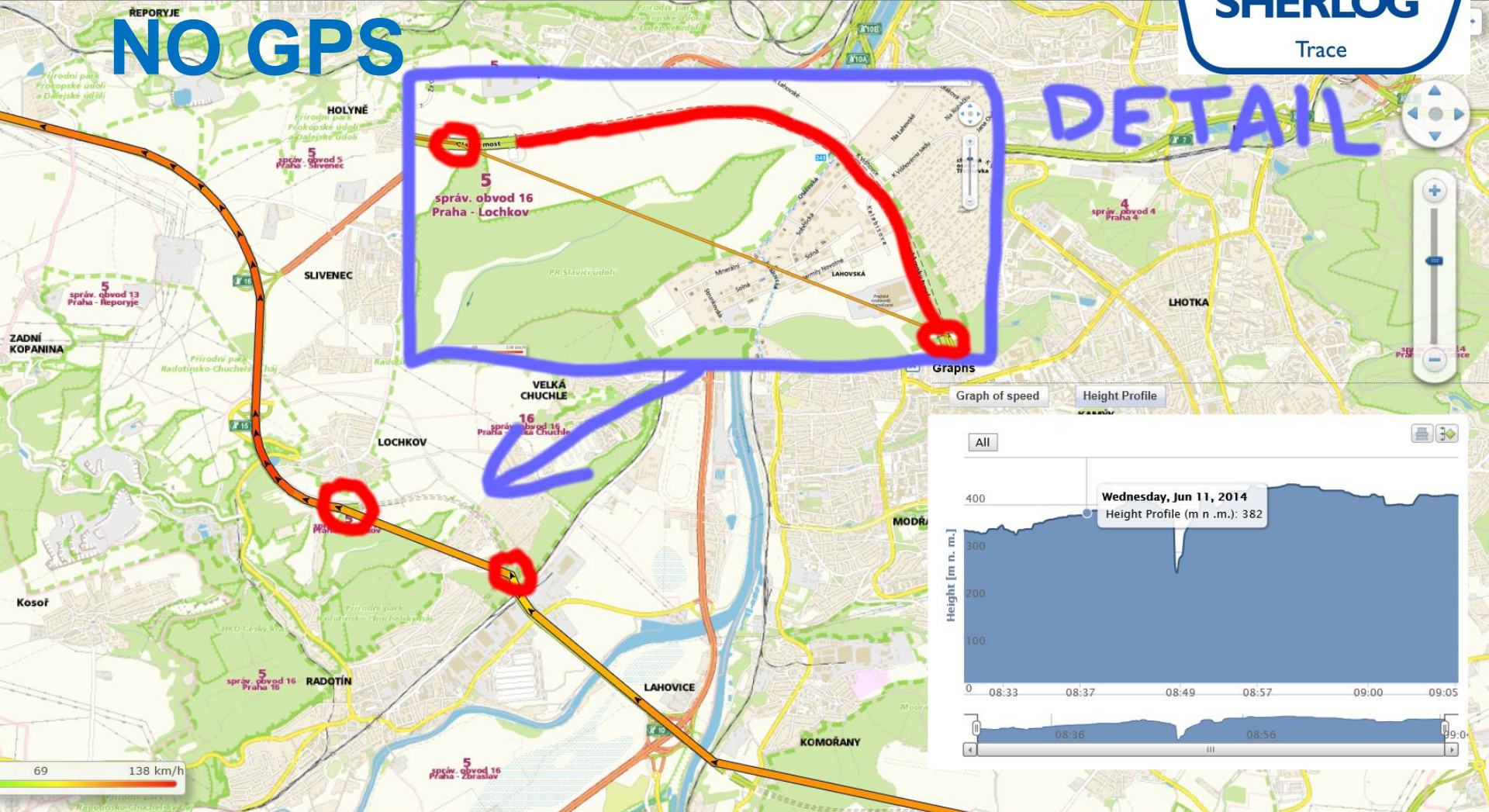
● PROBLEMS

- Long time to first fix (for short journeys)
- Indoor movement (loss of GNSS signal)
- Flyovers & inaccurate positions (multipath)
- Parts of journey missing (milage doesn't fit)

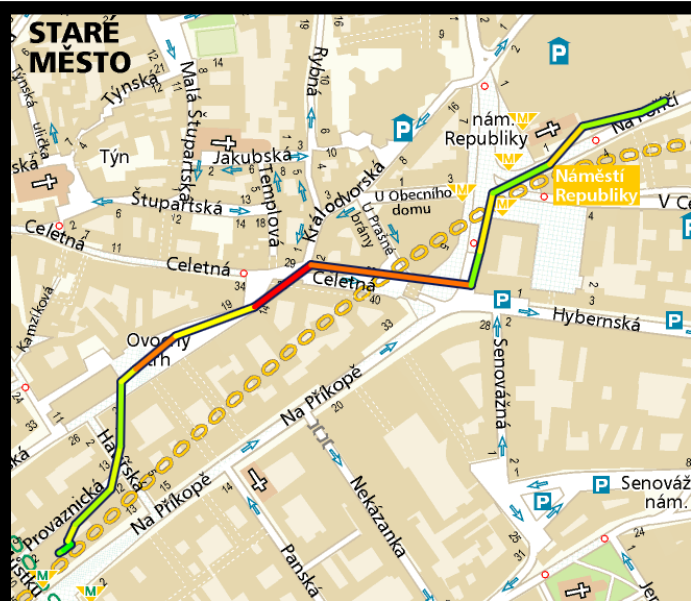


NO GPS

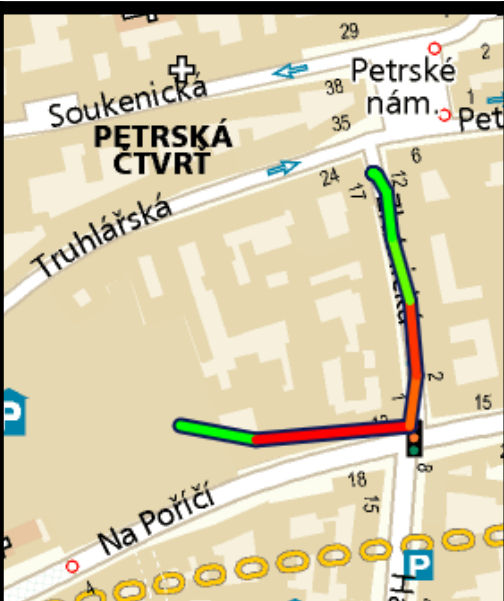
DETAIL



Short routes in cities



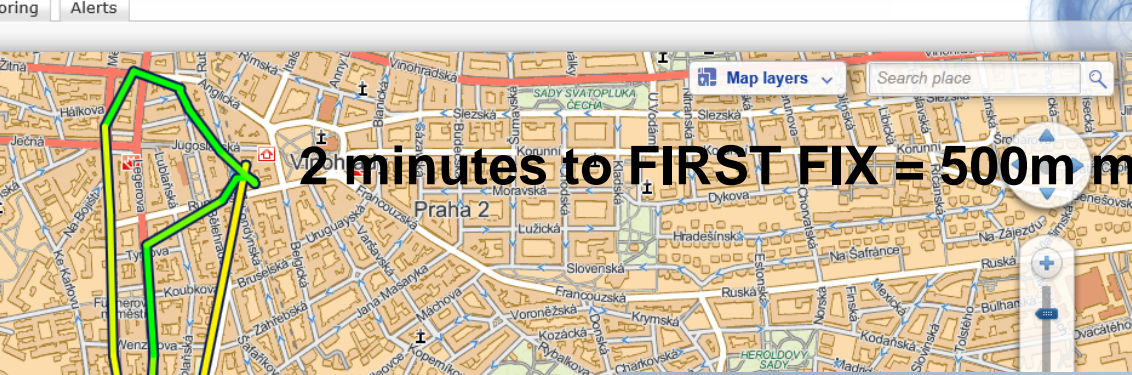
4 min. / 1.1km



3 min. / 0.1km



1 min. / 0.3km



Position	Praha 4, 5. května 1670
Length	1 km
Time	16:30
Speed	49 km/h
Trace duration	09:33
Driver	Malina Martin

SHERLOG trace

Vehicles Reports Exports Admin Track Monitoring Alerts

Log book Expenses Overview

PRAHA

Praha 2, Jugoslávská 599/18

Date	22.1.2013
Time	16:08:17
Speed	-
Driver	Malina Martin

REAL POSITION

Multi GNSS

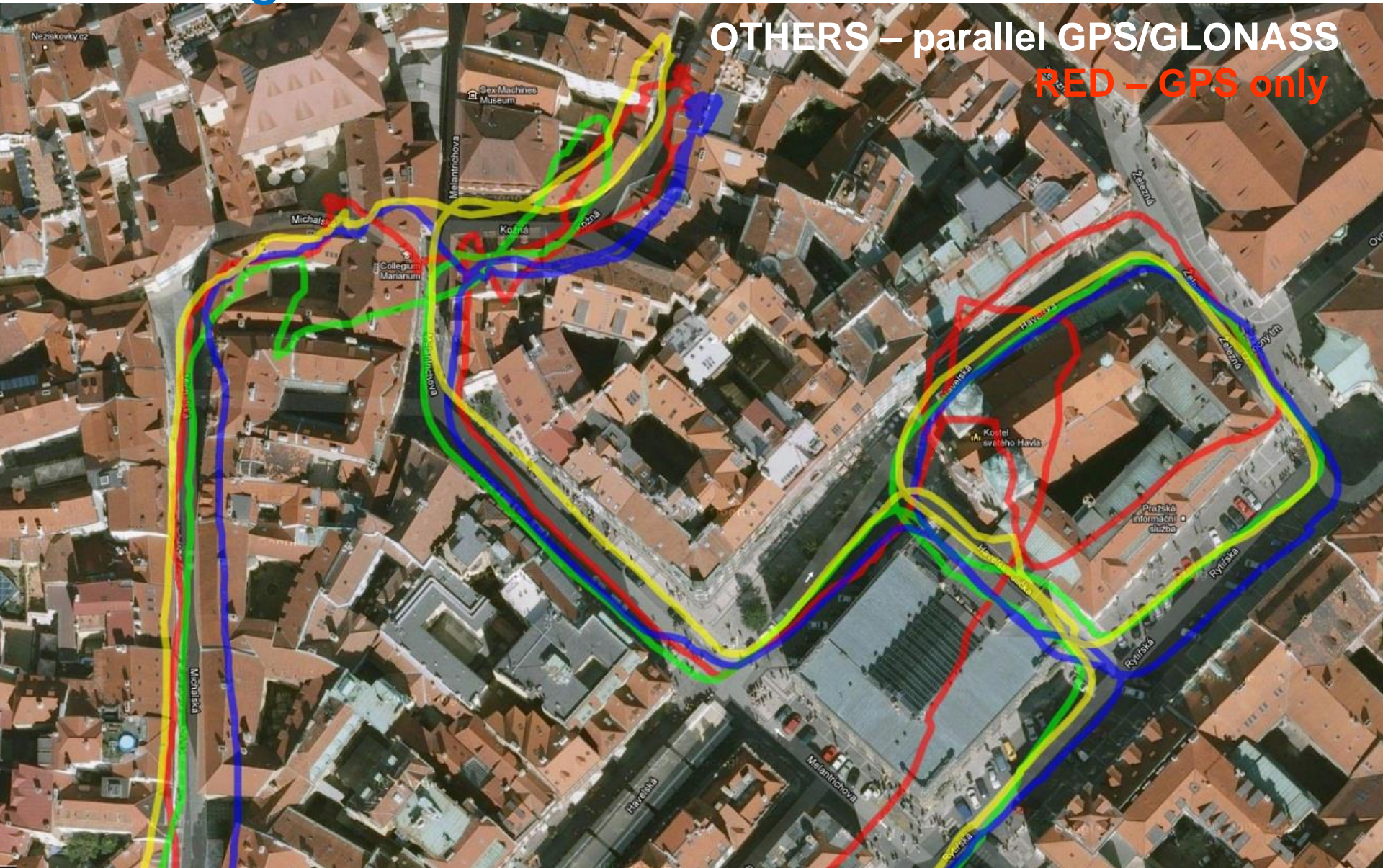
Testing of GPS/GLONASS receivers

SHERLOG®

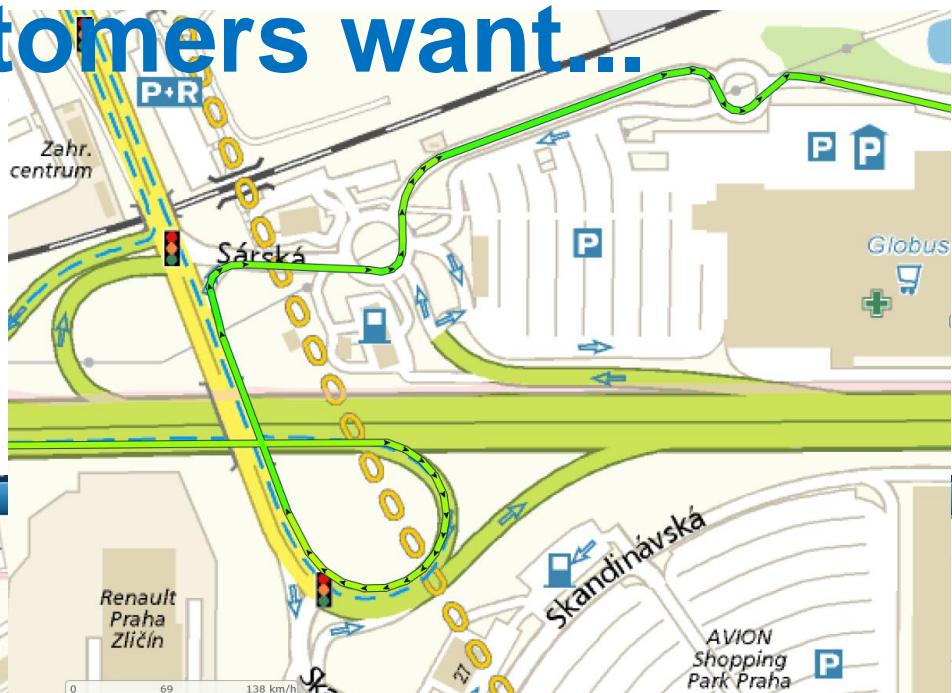
Trace

OTHERS – parallel GPS/GLONASS

RED – GPS only



Customers want...



...REALITY



ROBUST LOCALIZATION



Other activities (eCall, FCD, RFID)



SHERLOG Trace /eCall



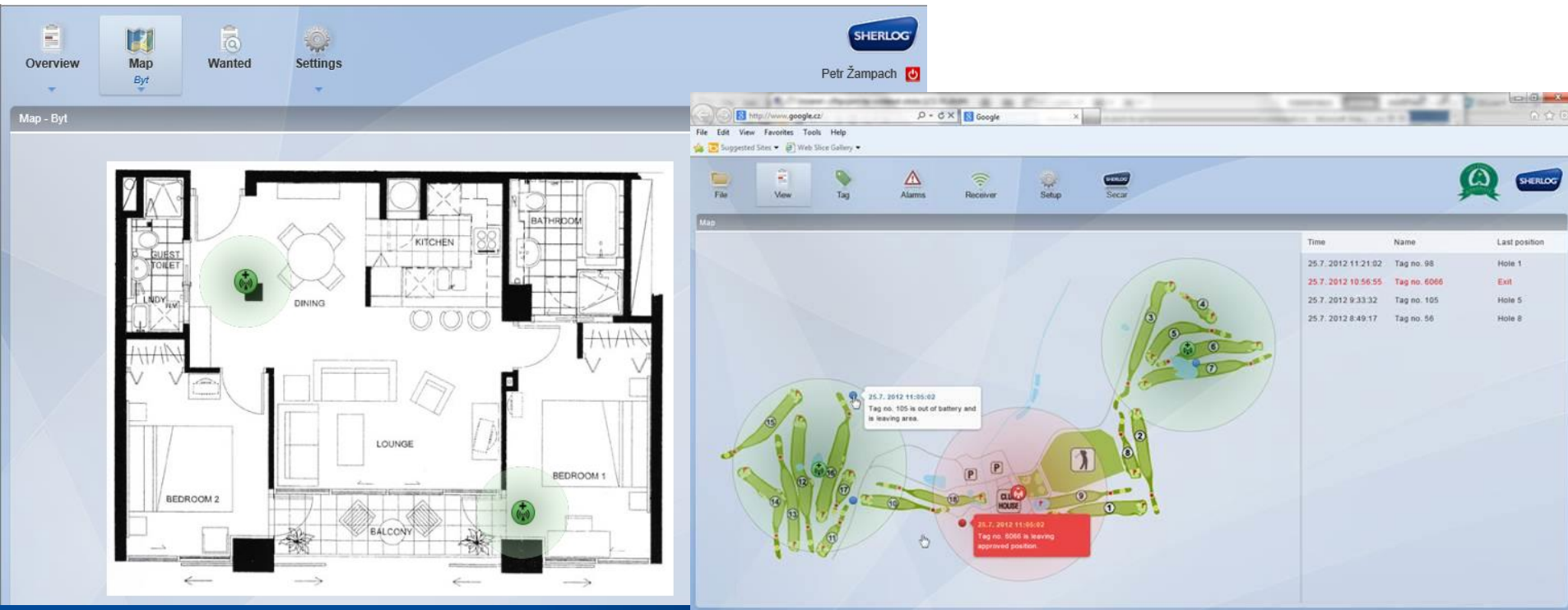
SHERLOG Trace / FCD

- Floating Car Data / Traffic Information
 - Real-time and statistics traffic information system
 - Higher accuracy = higher traffic info quality



SHERLOG Trace /RFID

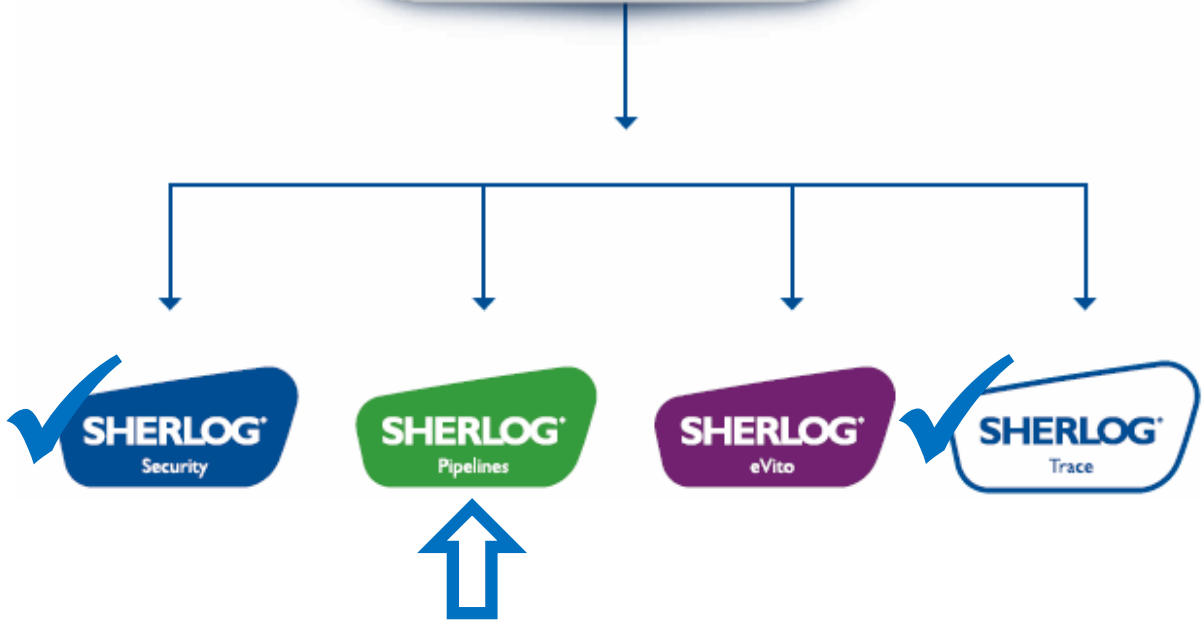
- RFID based localisation systems for monitoring of critical assets
- Indoor / Outdoor



The screenshot displays the SHERLOG Trace software interface, which is used for monitoring critical assets via RFID. The interface is divided into several sections:

- Navigation Bar:** Includes 'Overview', 'Map Byt', 'Wanted', and 'Settings'.
- User Information:** Shows the user name 'Petr Žampach' and a power icon.
- Map - Byt:** A detailed floor plan of a building with rooms labeled: GUEST TOILET, LADY, DINING, KITCHEN, BATHROOM, LOUNGE, BEDROOM 1, BEDROOM 2, and BALCONY. Green circles indicate the location of RFID tags.
- Real-time Tracking Map:** A map showing the movement of RFID tags (represented by green arrows) across the building. A tooltip indicates: '25.7.2012 11:35:02 Tag no. 105 is out of battery and is leaving area.' Another tooltip indicates: '25.7.2012 11:35:02 Tag no. 8086 is leaving approved position.'
- Log Table:** A table showing the last position of various tags.

Time	Name	Last position
25.7.2012 11:21:02	Tag no. 98	Hole 1
25.7.2012 10:56:55	Tag no. 6060	Exit
25.7.2012 9:33:32	Tag no. 105	Hole 5
25.7.2012 8:49:17	Tag no. 56	Hole 8



SHERLOG Pipeline

SHERLOG®

Pipeline

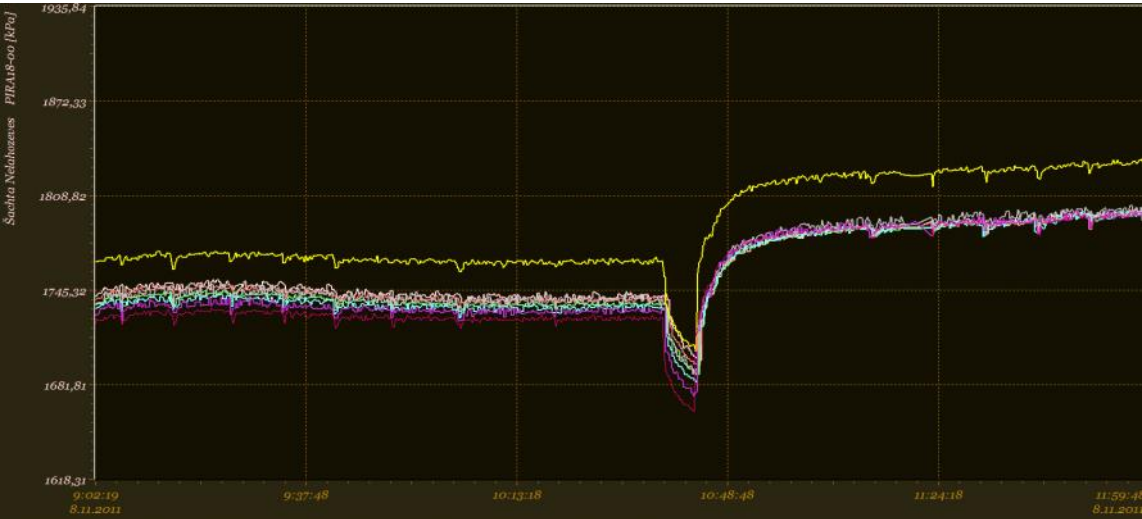
- Pipelines security monitoring system
- GPS & GSM/UMTS/RADIO/Sat based
- Comprehensive services
detects and **localizes leakage** of the pipe content (gas, liquid, mix)
detect defect from 3mm
localization in tens of meters
fast feedback – approx. 50s
complete service
- Implemented in 5 countries
- More than 2.500km monitored



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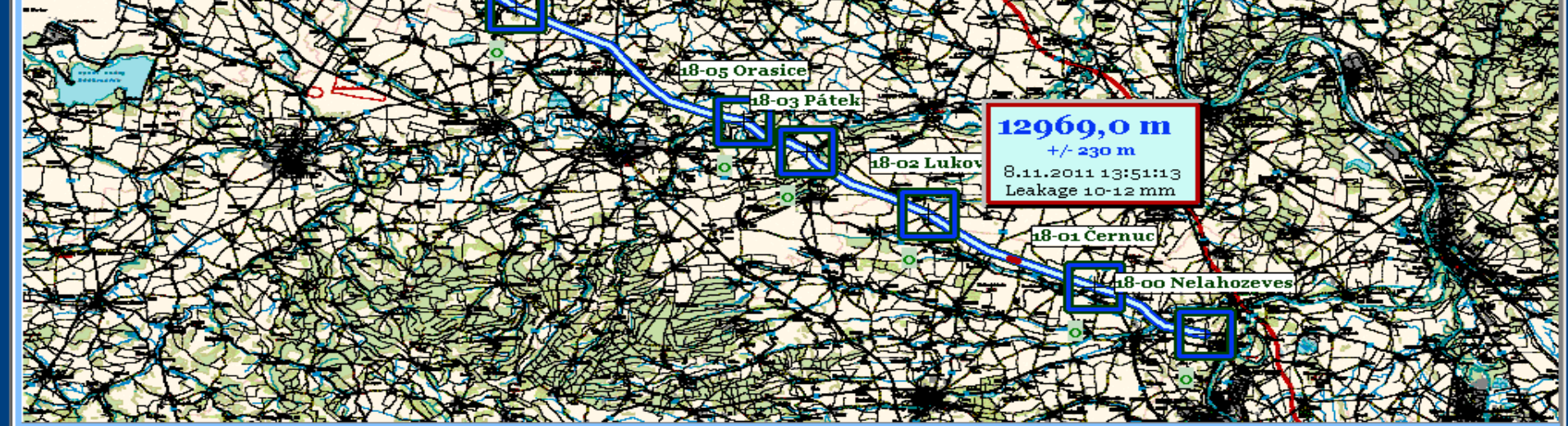
SHERLOG Pipeline

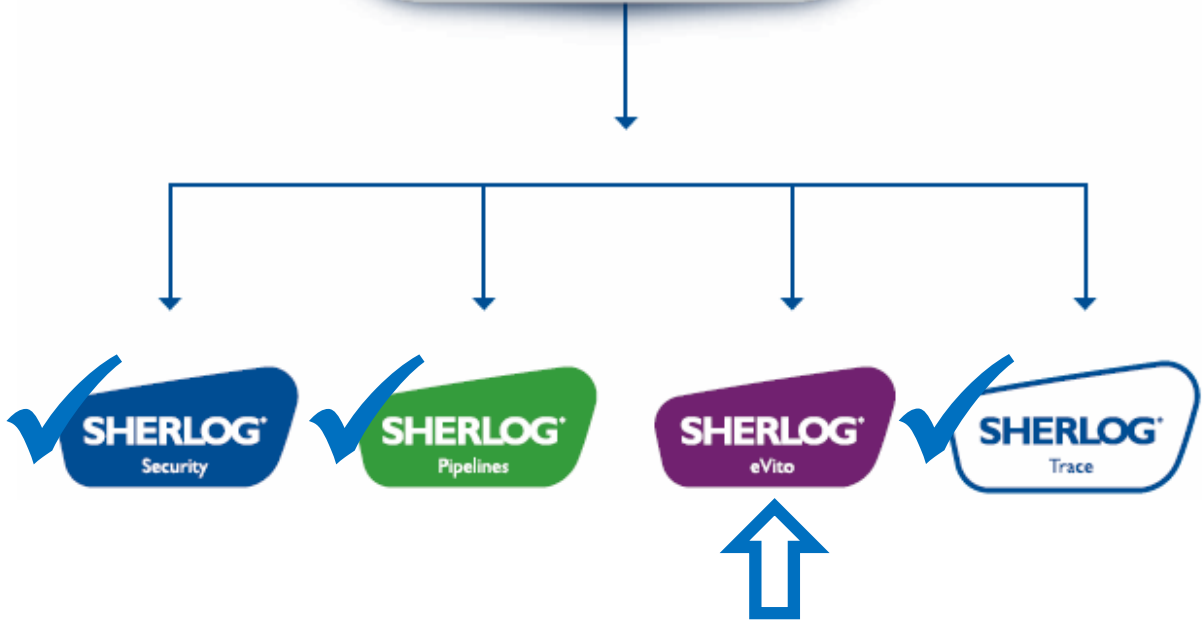


PIRA18-00	PIRA18-01	PIRA18-02	PIRA18-03	PIRA18-05	PIRA18-07	PIRA18-08	PIRA18-12	
1791,59	1811,05	1014,89	1014,89	1470,29	1887,53	1218,04	1812,78	1110,29

OR 8.11.2011 13:59:48
8.11.2011 13:59:48

Alarmy Uhy-Záluží Nápověda





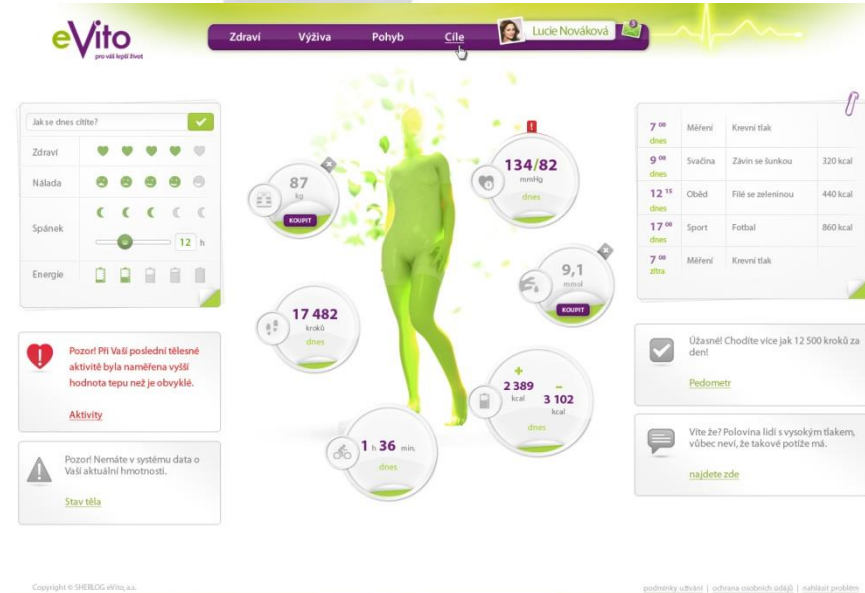
SHERLOG eVito

SHERLOG®

eVito



- Universal telemedicine platform
- Monitoring system for physical and health parameters
- People **localization** (activities, movement)
- All-inclusive services
 - measuring equipment
 - web application
 - data transmission in real time
 - medically supported algorithms
 - complete service



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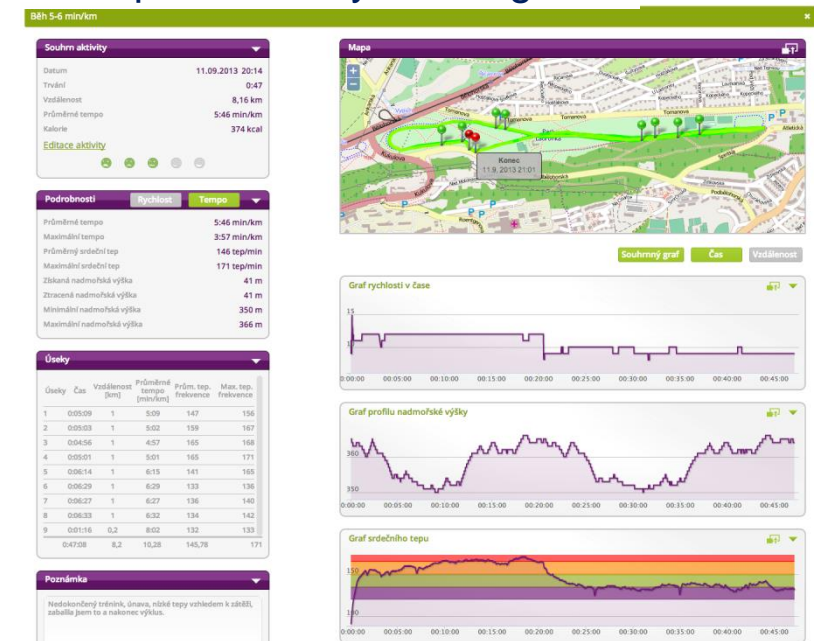
Since 1992



Pedometer



Sports activity tracking



Heart rate



A world map with a dark blue background and light blue outlines of continents. Several white circular markers with blue centers are placed on the map, indicating various locations across Europe, Africa, and South America. The text "THANK YOU FOR ATTENTION" is centered over the map in white, bold, uppercase letters.

THANK YOU
FOR ATTENTION

Lubomír Myslík



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