



9-12 JUNE

STOCKHOLM 2019

GLOBAL PUBLIC
TRANSPORT SUMMIT

INTELLIGENT SOLUTIONS FOR OPERATIONAL EXCELLENCE

INNOVATION GUIDED TOURS

Tuesday 11 June, 11:30 - 12:30

On this guided tour you will discover various solutions designed to improve operations and quality of service for mass transit systems. Among them are solutions that help metro and rail operators avoid safety incidents and service

disruptions caused by cyber-attacks, collision avoidance system for buses and large vehicles, and artificial intelligence technologies for the planning and scheduling of operations.



FGC

Connectivity projects for Mobile Material

The Geotren app lets you know, in real time, the position of the fleet on metropolitan lines, shown on a map of the region that's easy for users to understand (Google Maps). For each train you have information about its route, whether it's on time or late and how crowded each of the cars is (though this feature is not available for the oldest trains).

Also shown are the connectivity applications that will gradually be added to the Geotren platform. These make it possible to view different subsystems with their status and alarms remotely, which is very useful for those responsible for operations and/or maintenance. In particular, the on-board cameras (inside and outside), the driver's desk (very useful as a tool to support drivers in the event of an incident), internal information monitors, auxiliary converters, braking system and journey recorder can all be monitored.

The strategy for improving communications, and in particular the future roll-out of 5G, will make it possible to ensure that all processes supported by these tools meet the standards of robustness and availability that are usual on the railway.



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Mobileye

Next generation of Mobileye Shield+™

Mobileye Shield+™ is a collision avoidance system specifically designed for buses and large vehicles. Using sophisticated computer vision algorithms the system's cameras monitor both the road ahead and the vehicle's blind spots. When they detect a dangerous situation, the system issues real-time alerts to assist drivers in avoiding or mitigating collisions.

The next generation system takes road safety technology further with enhanced ADAS features, connectivity, and actionable data output. What's more, Smart ADAS allows the system to adjust alert configurations based on driver behavior and environmental changes. It also helps create an online crowdsourced map displaying accident hot spots on transit routes based on aggregated alert data, a map that can be used to show where city infrastructure improvement is most necessary.

The next generation system is powered by EyeQ®4, the fourth-generation of Mobileye's vision system-on-chip. The EyeQ4, which powers the crowdsourced mapping and localization, also brings enhanced safety features, such as the ability to detect vulnerable road users day and night.



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Optibus

Optibus Platform

Optibus' software-as-a-service (SaaS), cloud-native planning and scheduling platform leverages artificial intelligence and powerful algorithms to rapidly reduce labour, fuel and vehicle costs as well as improve passenger service and grow ridership for mass transportation operators and agencies.

By introducing cutting edge technology to the mass transit sector, Optibus ensures an improved rider experience through expertly planned and controlled core operations.

Optibus has been chosen by more than 300 cities to drive some of the most complex and largescale transportation operations worldwide, streamlining operations while reducing congestion, emissions and costs. The company has offices in San Francisco, London, Tel Aviv and Düsseldorf.

The logo for Optibus, featuring the word "optibus" in a blue, lowercase, sans-serif font. The letter "o" is stylized with a small circle above it.

Eyal Cohen

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ACTIA

Podium2-ITxPT Multi-Purpose Workplace

Actia is innovating with this new variant of its Driver Workplace combining vehicle information with the Actia ITxPT labelled backbone. The innovation is based on the ergonomic integration of displays in the same driver workplace while respecting VDV and ITxPT standards.

Podium2-ITxPT eases the deployment of onboard IT-systems for public transport and the relevant back-office features such as eco-driving, AVMS, PIS, Ticketing, connectivity. The center of the driver workplace is dedicated to the vehicle MMI with a full screen cluster combined with a head-up display. The design of the right side of the workplace allows an ergonomic integration of a multi touch terminal compliant with ITxPT requirements.

This innovative combination provides interesting added values:

- Intuitive and easy control workplace for a unique user experience,
- Easy to customize with a countless possible configurations,
- Compatible with the Actia labelled ITxPT backbone.

ITxPT features now at your fingertips!

The logo for Actia, featuring the word "ACTIA" in a bold, white, sans-serif font on a dark blue background. To the right of the text is a green graphic consisting of a grid of squares.

Pierre DELRAT

Program Management

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Cylus

CylusOne™

Cylus, the global leader in rail cybersecurity, helps metro and rail companies avoid safety incidents and service disruptions caused by cyber-attacks.

Cylus developed CylusOne™ - the first-to-market solution designed to meet the unique cybersecurity needs of the rail industry. CylusOne™ detects cyber threats in the operational network, both trackside and onboard, facilitating a timely and effective response before any harm is done. Led by veterans from the elite technological unit of the Israeli Military Intelligence Corps, together with top executives from the railway industry, Cylus combines deep expertise in cybersecurity and rail.



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Dafo

Next Generation Vehicle Fire Suppression System

Next generation vehicle fire suppression system and related ecosystem features the following subsystems and benefits.

- Smart, Industrial Internet of Things (Manufacturing 4.0) enabled manufacturing equipment that is:
 - continuously online and stores all manufacturing and testing data to the DAFO-Cloud for later access and analysis
 - fully controlled and links firmware and configuration files that were downloaded to each individual control unit
 - first step providing full genealogy and data integrity for
- Vehicle mounted fire suppression system with its key elements, including control unit that:
 - contains various both built-in (CAN-bus, DAFO-Link) and optional (WiFi, 3G/4G, Bluetooth, LoRa, Sigfox, etc.) communication methods
 - logs all events and history into internal memory that is mirrored into DAFO-Cloud
 - has supercapacitor-based architecture without need for periodic battery replacements
 - can be linked together and allow modular multizone control and fully redundant (or triple) system for very critical systems.
- Toolkit for installation and maintenance crew provides:
 - seamless connectivity to DAFO-Cloud to access and update vehicle fire suppression system configuration, maintenance and other data
 - DAFO-BLE with associated mobile apps allows using mobile phone to carry out necessary maintenance and installation tasks.



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