

# INCIDENT MANAGEMENT EXECUTED WITH THE VEHICLE MOUNTED VMS

ALL VEHICLE FUNCTIONS CONTROLLED FROM A DISTANCE BY THE ROAD SUPERVISOR



# **A ROAD SUPERVISOR SHOULD ALWAYS WORK IN A SAFE WORK ZONE**

## **CONTROL THE AUTODRIP 2.0 EASILY** WITH A TABLET FROM 100M DISTANCE

### DURING THE DEVELOPMENT WE FOCUSSED FULLY ON SAFETY AND SUSTAINABILITY

To create more safety and sustainability during traffic incidents, the vehicle mounted VMS has been provided with the latest technologies. This brochure informs you how these technologies are implemented and what the user benefits are during the execution of incident management.

#### INFORM MOTORISTS IN ADVANCE EXPLICITLY TO AVOID DANGEROUS CIRCUMSTANCES DURING INCIDENTS

When a sudden traffic incident happens the road supervisor will be the first to re-organise the traffic. Nevertheless, incident management is mostly executed with simple pawns and barriers, which do not inform approaching motorists in advance and could cause dangerous circumstances.

EBO van Weel aims the goal to increase the level of safety Within a reach of 100 meters the road supervisor is able to for both the motorists and road supervisors. Therefore, the control all features easily with an app on a tablet. This app vehicle mounted VMS enables the road supervisor to avoid enables the supervisor to create new animations, upload anihazardous circumstances by making the traffic incident mations to the LED-display, position the lift-unit and set the visible within 500 meter in advance. Informed by a full colour figuration of the emergency beacons within 10 seconds. display with animations and lines of text, approaching motorists will be warned with a notification in advance. In short:

#### A SAFER WORK ZONE BEHIND THE VEHICLE MOUNTED VMS PROVIDED BY INNOVATIVE TECHNOLOGIES

Innovative technologies have enabled us to create new



functions. Similarly to the safety of the motorists, the safety of road supervisors, road workers and salvors should be quaranteed equally. The incident vehicle offers a safe work zone and consequently decreases the risk of accidents during incident management.

#### CONTROL ALL FUNCTIONS OF THE TRAFFIC INCIDENT **VEHICLE WITHIN A DISTANCE OF 100 METERS**

The road supervisor has all instrument controls of the safety vehicle in one hand (tablet) to execute traffic operations and to position himself or herself in a safe zone along the road.



# HARDWARE DEVELOPED FOR INTENSE USAGE

## ALL COMPONENTS ARE FABRICATED IN EUROPE TO ENSURE BEST RELIABILITY

### SUSTAINABLE COMPONENTS DECREASE THE TOTAL **COSTS OF OWNERSHIP BY 7%**

#### **ELECTRICAL LIFT-UNIT - GUARANTEES A HIGHER** RELIABILITY

This newly developed unit is responsible for lifting the LED-display to a height of 2.6 meter above the road surface (mounted on a vehicle). In addition the lift-unit also has the function to turn 40 degrees to a right and left position. Because of this the user is always able to position the LED-display right in front of the approaching motorists.

Besides these functions, the electrical lift unit has the benefit, in comparison to a conventional hydraulic lift-unit, that it consumes 10x less energy. Instead of 2.050 Watt for the Electrical lift-unit hydraulic lift-unit, the electrical lift-unit consumes only a The lift-unit moves the LED-display up to a height of 2,6 meter. In addition, the user is fraction, namely 200 Watt. also able to turn the LED-display with 40 degrees into a right and left position

#### **LED-DISPLAY - AN ENERGY REDUCTION OF 76%** COMPARED TO CONVENTIONAL LED-DISPLAYS

More pixels, full colour (25.000 colours) graphics and energy reduction of 76% compared to conventional LED-displays. In collaboration with Swarco AG we developed this LED-display. It is carried out with a unique lens technology to save energy. Subsequently, the pixels which display the color black will be switched off and consequently save energy.

Within 1-2 seconds the user is able to send an animation to the LED-display. Via an editor in the app the users is able to easily compose new animations by using the traffic signs from the library and self written lines of text.

#### **TOTAL COST OF OWNERSHIP - A REDUCTION OF 7% REGARDING THE CUMULATIVE COSTS AFTER 10 YEAR**

The investment in vehicle mounted VMS's is usually budgetted for 10 years of intensive usage. Therefore, we have designed the product aiming for a long term sustainability.

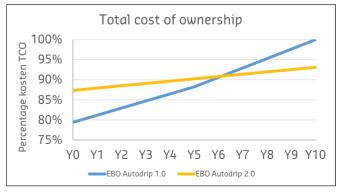
EBO van Weel conducted this in two ways. Firstly, the electrical lift-unit has a few moving parts. Secondly, the whole set-up uses no more than 540 Watt max., which eliminate an extra battery. Lastly, the elimination of required lubrication and having less critical points of failure, result in a low-maintenance and subsequently sustainable product.





LED-display

With just one tablet application the user is able to control the LED-display, lift-unit and emergency beacons



Graph Total Cost of Ownership

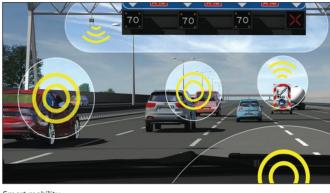
The usage of sustainable components cause a reduction of 7% regarding to the Total Cost of Ownership



# **BE PREPARED FOR TECHNOLOGICAL FUTURE DEVELOPMENTS**

## THE HARDWARE IS ALREADY PREPARED FOR SMART-MOBILITY APPLICATIONS

### WITHIN 10 YEARS VEHICLE-TO-VEHICLE- AND VEHICLE-TO-INFRASTRUCTURE COMMUNICATION WILL BE PRESENT ON OUR ROADS



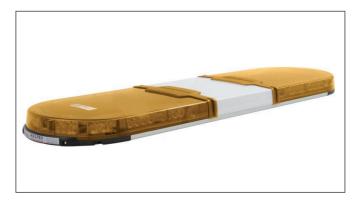
Smart mobility

The autodrip 2.0 is prepared to implement developments in te future such as communication with in-car-systems, traffic control systems and traffic management centers



Connected with the traffic management center

A secured connection enables the traffic management center to stay up to date via a real-time overview of all road supervisors and their status/operations.



Emergency beacons controlled via the app on a tablet

The emergency beacons are together with all other functionalities controlles via one app.

#### SMART MOBILITY - READY FOR THE FUTURE

The vehicle mounted VMS will usually be depreciated within 10 years. In the meanwhile a lot of changes will emerge concerning "smart mobility". Vehicle-to-Vehicle- and Vehicle-to-Infrastructure communication make their debut. Vehicles will be connected with each other, but also connected with the traffic control systems.

The board computer incorporated in the autodrip 2.0 is prepared to implement developments in the future such as communication with in-car-systems, traffic control systems and traffic management centers. You are simply one software update away.

#### CONNECT WITH THE TRAFFIC MANAGEMENT CENTER - A REALTIME OVERVIEW OF THE ROAD SUPERVISORS

Via Traffic Fleet (our online fleet management system) a secured connection could be set up with the traffic control center. This gives the ability to control the whole fleet of vehicle mounted VMS's real-time.

Actual status information and potential errors can be read and reported accurately. Moreover, the availability of the road supervisor could be notified on the tablet. This enables the traffic management center to stay up-to-date constantly regarding the circumstances and the activities of the road supervisor.

## EMERGENCY BEACONS - ALL FIGURATIONS INTEGRATED IN ONE APP

Besides the connection with the autodrip and her environment, the app is also able to control the emergency beacons. All figurations are clearly visible in the app and could be controlled with just one tip on the tablet.

The integration of the emergency beacons contains the benefit of being integrated in the app, which is also used to control the other functions of the vehicle. Subsequently, the road supervisor has all functions of the vehicle in one hand (tablet) and it can be controlled within a distance of 100 meters.

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