

Life-saving signs

Energy- and cost-efficient variable message signs from Triplesign swiftly adapt to real-time traffic dynamics, updating within three seconds to provide timely and accurate information

Words | Triplesign System



Variable message sign (VMS) solutions are used worldwide to improve traffic flow and increase traffic safety. They can be used to caution drivers about hazardous weather conditions, flooded or slippery roads, heavy traffic congestion, wildlife, or unattended railway crossings. Alternatively, they can also enhance road flexibility by allowing alterations in traffic direction, speed limits, or road use.

Currently, the most widely used VMS system is based on energy-intensive LED technology. The VMS solutions from Triplesign System – a Swedish family-owned company – consumes significantly less power than the LED solutions, and is also more cost-effective, reliable, and robust compared to the electronically powered VMS.

Opting for a Triplesign VMS instead of an LED VMS could lead to savings of up to €60,000 per sign over a 25-year lifespan. How?

The system operates at an incredibly low power consumption of only 1Wh, regardless of the sign's size. This efficiency allows the signs to be powered by solar energy, utilizing a small solar panel and battery seamlessly integrated into the sign's frame. Additionally, wireless communication capabilities enable cable-free operation, eliminating

Above: Highway re-direction ahead of large bridge in Sweden

Below: Traffic flow/direction in Poland

the need for cable excavations (and subsequent CO₂ emissions) while allowing for precise installation at optimal locations.

“Cabling and connectors are the main cause of disruptions for traffic authorities worldwide. With our Solar VMS solution, no cabling is required for the signs, which in turn minimizes maintenance costs. Our VMS signs can also increase safety, prevent accidents, and ultimately save more lives. Imagine signs that are activated when the train arrives at unguarded railway crossings. Reliable and at reasonable costs,” explains Hans-Ivar Olsson, CEO of Triplesign System, which exports its innovative VMS signs to some 40 countries around the world.



Fast updates in changing traffic environments

In today's traffic environment, an increasing amount of information is generated via sensors. Triplesign's prismatic VMS can be integrated with various existing systems. The company's intelligent signs can also in turn be equipped with sensors that collect data on temperature, humidity, current traffic flow, etc. For example, if dangerous flood levels occur, Triplesign's VMS can be updated with flood warning messages in less than three seconds.

“The power consumption to display traffic messages is zero as reflective sheeting is used to display the message. The energy consumption including communication is as low as 1Wh, which corresponds to a fraction of the energy consumption of an LED VMS.

“This gives our VMS a clear competitive advantage over electronic signage systems, which are both significantly more energy-intensive and more sensitive to external influences, such as harsh climatic conditions,” comments Olsson.

Exceptional product lifetime

Triplesign's VMS systems are robust and reliable. They are engineered for enduring performance in challenging climates like extreme heat, strong winds,

or extreme cold. A Triplesign boasts an impressive lifetime, with a minimum life expectancy of 20 years and minimal maintenance requirements. Moreover, employing a straightforward patented method to replace active components can further extend the system's service life for an additional 20 years.

“We are continuously developing our world-leading technology. We are currently developing traffic signs that are even more energy-efficient than their predecessors, which means that the sign's energy supply can be managed using solar panel foil that is integrated in the sign frame,” explains Olsson.

Since Triplesign's VMS do not require a stationary power supply, which in turn requires costly wiring, the installation cost is up to 90% lower compared to other traffic sign systems on the market. Due to a short and efficient installation time with limited impact on traffic flow, a new Triplesign VMS can be up and running within a few hours. The innovative solar and battery solution means that a Triplesign is immune to power outages. The low power consumption also minimizes the cost of running the sign.

Sustainable traffic solution

“Information from prismatic VMS contributes to lower environmental impact through fewer accidents and more efficient traffic flows. Since Triplesign's VMS is the most energy efficient, is the easiest to install, requires the least maintenance and has the longest product lifetime, it is the most sustainable product in all aspects,” comments Olsson.

“The affordability of both signs and installation combined with a straightforward installation process, provides the opportunity to deploy additional signs with traffic safety information exactly where they are needed. This initiative aims to establish a secure traffic environment, ultimately saving more lives,” he adds.

Recent use cases

In Belgium, the local government opted to implement temporary speed limitations during rush hours in specific areas to enhance traffic safety. The client sought a sustainable solution, and Triplesign



Above: A solar-powered variable speed sign installed in Belgium

presented an ideal option that was not only cost-effective but also had a minimal CO₂ footprint. While many clients typically request LED VMS, this customer chose the more sustainable Triplesign VMS.

The installed signs operate based on a programmed annual calendar, changing the sign face at specific hours and designated days of the week. Beyond being fully autonomous, these signs offer superior visibility with an extensive viewing angle compared to LED VMS, which has a limited viewing range. Opting for this sustainable solution involves a modest investment that can result in saving numerous lives. [n](#)

€60,000
The estimated savings achieved over a 25-year lifespan when opting for a Triplesign VMS instead of an LED VMS