# LED VARIABLE MESSAGE SIGNS

## TRENDSETTING LED SIGNAL TECHNOLOGY


**SWARCO FUTURIT** is one of the world's leading producers of LED-based signalling and lighting technology. Traffic lights, variable message signs and street lights form the portfolio of energy-efficient, sustainable, long-life products for road safety and traffic control.

System integrators and traffic authorities in more than 70 countries trust SWARCO FUTURIT's outstanding quality made in Austria in production, service and personal consultancy. The award-winning company works with quality and environmental management systems according to EN ISO 9001 and EN ISO 14001. SWARCO FUTURIT is one of the key companies of the international traffic technology corporation SWARCO of Austrian entrepreneur Manfred Swarovski.

www.swarcofuturit.com

### SWARCO I FIRST IN TRAFFIC SOLUTIONS.

**SWARCO** is a growing international group providing the complete range of products, systems, services and solutions for road safety and intelligent traffic management. With almost five decades of experience in the industry, the corporation supports the growing mobility needs of society with turnkey systems and solutions in road marking, urban and interurban traffic control, parking, public transport, infomobility and street lighting. Cooperative systems, V2I communication, electromobility, and integrated software solutions for the Smart City are latest, future-oriented fields in the group's portfolio.

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**SWARCO** | First in Traffic Solutions.


# TRENDSETTING

## IN THE FIELD OF LED SIGNAL TECHNOLOGY

Variable message signs by SWARCO FUTURIT are certified to EN 12966 by the international accredited certification body SGS. All displays provide brilliant readability, high energy efficiency and excellent luminosity of the light points.

The patented front-mounted optics of the LEDs are pressed directly into the front panel. The unique design prevents reflection. Even at low sun (< 10°) all contents of the display are excellently readable. SWARCO FUTURIT carries a broad product portfolio of VMS, tailor-made to the individual customer requirements.



# BENEFITS

- Variable message signs by SWARCO FUTURIT provide highest level of reliability and availability due to the low load on all components, resulting in significant advantages with respect to MTBF (Mean Time Between Failures, failure frequency), maintenance costs, spare parts and energy consumption. The low overall cost (Total Cost of Ownership) consisting of procurement and maintenance over an operating period of 15 years coupled with constant quality of the optical appearance (luminous intensity, contrast, colour) are considered as benchmark in the industry worldwide.

- Use of patented LED optics:
  - ensures the highest optical efficiency
  - focuses LED light to where it is needed
  - allows the reduction of the operating current by more than 90% complying concurrently with all optical specifications, even at 60° beam width (class B7 according to EN 12966) during the overall lifecycle of the VMS – consequently resulting in improved availability and lowest possible energy consumption

- compliance with EN 12966: more than 100 different combinations with different colours, contrast values, and beam width when using different LEDs, tested and approved with the issuance of the CE certificate; the wide selection of approved pixel pitches from 12 mm to 30 mm allows the tailor made adaption to the respective requirements

- the operating system of the variable message sign permits the constant diagnosis and monitoring of the functions and reliably reports all faults to the control centre

- Variable message signs can be integrated into all types of traffic management systems worldwide, using a wide variety of traffic management system interfaces and protocols for data exchange.



# OUTSTANDING OPTICAL CHARACTERISTICS

- one front lens system for each full-colour light spot
- highly visible and legible
- high luminance thanks to the proven FUTURIT LED lens system
- unbeatable high contrast – especially during low sun angle
- no aging effect of the LEDs as a result of the very low operating current
- robust lens system made of high-quality material with highest translucence
- best value for OPE * – the key figure for evaluating optical efficiency, energy consumption, operating costs, lifetime, perceptibility and durability

* OPE: Optical Performance Efficiency



# SUSTAINABILITY AND LONGEVITY

Through the experience with the production of variable message signs since the middle of the 80s (LED technology since the 90s), SWARCO FUTURIT is regarded as a world-wide technology leader for new developments.

The sustainability and longevity of the products are the focus of the environmental policy of SWARCO FUTURIT and relate to all phases of the product life cycle. To achieve this goal, eco-design methods are used in many areas of the product design. The constancy of performance of the variable message signs is achieved by means of accompanying production control in the accredited in-house lighting technology laboratory.





# HERMES

## SOFTWARE FOR CONTROL

Hermes is a software-tool to control variable message signs of SWARCO FUTURIT from one central controller PC. An easy to use graphical user interface (GUI) enables the operation of the system without in-depth training. The user interface can be used independently of the operating system.

Application examples: seaports, airports, exhibition centres, parking management etc.




# TECHNOLOGICAL HIGHLIGHTS

## ILLUSTRATION OF TECHNICAL POSSIBILITIES WITH LED

Variable message signs by SWARCO FUTURIT meet the highest requirements of the European Standard EN 12966 and the American standard NEMA TS4 for all relevant quality criteria such as luminance, contrast, beam width, colour, uniformity, protection class, wind load, electromagnetic compatibility (EMC), impact- and shock loads, extended lifetime, sustainability and availability.

Besides transport technology applications, the display of pictures in the highest quality and brilliance is also possible.