

SWARCO

THE WAY FORWARD.

INTELLIGENT LED VARIABLE MESSAGE SIGNS.



The Better Way. Every Day.



TRAVEL SAFELY. ARRIVE SAFELY.

Thanks to dynamic displays from SWARCO.

The journeys we make every day are varied. Whether driving through towns and cities or on motorways, we all want mobility which takes us to our destination safely, quickly and conveniently. Flexible and dynamic traffic signalisation is often the best tool to achieve this.

SWARCO's LED variable message signs help in this way all around the world. They give information and warnings, provide directions, prevent accidents and control the flow of traffic. Not only are they good for road safety and the environment, they ultimately benefit us all in our daily mobility.

Our LED displays impress customers on all continents with brilliant optical performance. Moreover, the small, medium or large sized signs are:

DURABLE SUSTAINABLE
 INTELLIGENT EFFICIENT
SAFE
 COMPATIBLE FLEXIBLE INNOVATIVE
 HIGH-QUALITY WEATHERPROOF



EXPERTISE FROM A PIONEER.

Top-quality trailblazing solutions.

"Made in Austria" quality has been tried and tested on the roads of our planet over decades. Even since the 1980s, our variable message signs have been showing the way all around the world. They have also been showing the way forward. Our hallmarks since the beginning have been energy efficiency, durability and sustainability.

Innovation in dialogue
with our partners.

One of the biggest safety risks for road traffic is the failure of traffic management systems. This is why we attach great importance to the systems' robustness, reliable operation and durability when developing and manufacturing our LED variable message signs.

Working in dialogue with our customers, our experienced engineers develop solutions based on cutting-edge technology. Using precise manufacturing to meet the highest quality criteria, we can create variable message signs to safely manage traffic over many years, to the satisfaction of their operators.

To live up to our claim of being a technological leader, we invest over EUR 1 million into research and development every year. This means that our customers can be sure to get the most advanced product with the best performance and long service life, even in the age of digital transformation.

Static signs become increasingly dynamic.

As a pioneer in developing and manufacturing displays for changing traffic situations, we set technological benchmarks from as early as the 1980s and successfully established ourselves in this field.

1980s:
Here to stay

Digital and programmable displays are developed.

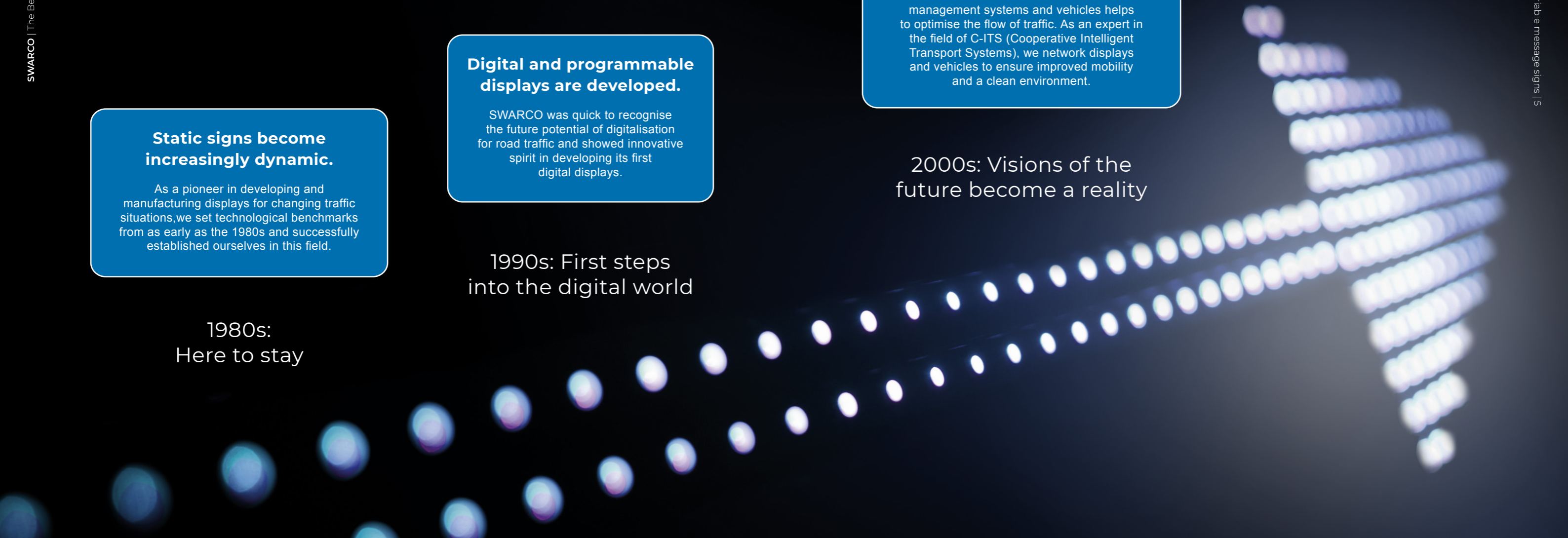
SWARCO was quick to recognise the future potential of digitalisation for road traffic and showed innovative spirit in developing its first digital displays.

1990s: First steps
into the digital world

Freely programmable, fully graphic, networked systems.

Communication between traffic management systems and vehicles helps to optimise the flow of traffic. As an expert in the field of C-ITS (Cooperative Intelligent Transport Systems), we network displays and vehicles to ensure improved mobility and a clean environment.

2000s: Visions of the
future become a reality



HIGHEST QUALITY IN EVERY RESPECT.

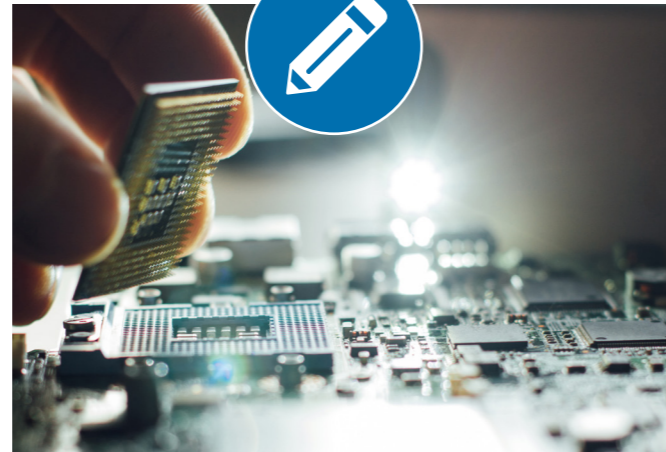
From the initial concept through to series production.

A good feeling that the SWARCO team always is there for its customers and always ready for listening. This means that they can implement customer requirements in tailor-made hardware and software solutions for digital traffic management. We use smart processes, from the concept through to manufacturing and maintenance of our intelligent variable message signs.



Ideas with a future.

Our R&D department combines implementing specific customer requirements with meeting the future needs of traffic management. We use our decades of experience to develop hardware and software concepts for a wide range of applications. With a future-oriented concept and a modular structure, our technology provides stable functions over many years and is suitable for sensors, detectors and C-ITS applications.



Development with a pioneering vision.

SWARCO always thinks one step ahead. Our variable message signs have been setting benchmarks with respect to quality, efficiency and optical performance for decades. Moreover, our solutions for controlling and operating the displays are trendsetting. Finally, performing maintenance on the road signs couldn't be easier thanks to our coherent development strategy which always puts customers and their requirements at the heart of everything.



"Made in Austria" quality.

Our innovative concepts and ideas for tailor-made customer solutions from SWARCO are subject to a stringent, internal process which ensures maximum quality. We have fully digitalised methods and processes in the development of our products and these allow us to efficiently move from the initial testing of a new product to series production. This means that the products with the highest levels of reliability and data security are made available to customers. The fact that we have installed systems and can count satisfied customers all around the world is strong evidence of this.



Reliable operation.

Whether in frosty, hot, dusty, wet or windy conditions – our variable message signs are robust and designed to withstand weather conditions around our planet. Their high operational readiness is demonstrated every day, from Oslo to Dubai and from Sydney to Los Angeles. However, should maintenance work or a replacement part be required, our systems' standardised, modular structure will make the work easier, meaning that there is minimal disturbance to the flow of traffic.

PERFECTLY ADAPTED TO HUMAN EYES.

Our innovative LED lens system.



Sometimes, the sun is low in the sky or your view is impaired by fog and rain. At the very latest, human eyes will be working very hard at nightfall. We want to relieve the strain on drivers' eyes.

Our LED variable message signs are designed so that they are easy to read and quickly understood in any weather condition and at any time of day. The innovative SWARCO LED lens system ensures high luminance and optimum contrast, particularly when the sun is low in the sky or in diffused light conditions. At night, the light intensity of the displays is dimmed, preventing glare.

Many illuminating reasons.

The hallmarks of our LED variable message signs are safety and visibility, compatibility and durability, energy efficiency and sustainability. However, there are concrete facts and figures behind these characteristics and these demonstrate our high quality standards.



Safe

Highest optical performance
Best values for readability and legibility according to EN 12966
High contrast even when the sun is low



Visible

High luminance thanks to the SWARCO LED lens system
Front lens system for every full colour light dot
High-quality lens system with maximum efficiency



Energy-efficient

LED current reduced by up to 95%
No ageing effect on the LEDs thanks to the low operating current
Low CO₂ equivalence



Cost-effective

Minimal total cost of ownership
from acquisition, through to operation, maintenance, servicing and any spare parts purchased



Sustainable

Service life of 20 years
Corporate social responsibility (CSR) put into practice
Carbon neutral production
Best value for OPE*

*) Measure for assessing optical performance, energy consumption, operating costs, service life, CO₂ emissions, visibility and durability

SUSTAINABILITY PUT INTO PRACTICE AROUND THE WORLD.

Created by our specialists.



At the ferry harbour in Stockholm, a fully graphic, full colour management system assists with the loading of passenger vehicles and lorries with its high-resolution graphics, 12 mm pixel pitch and very large beam angle. It measures approx. 3,000 mm × 600 mm.

The fully graphic traffic information boards on the Prague ring road, measuring approx. 6,000 mm × 1,800 mm. A total of 16 million colours are available for road signs with a 25 mm pixel pitch. The information is displayed in white text with a 20 mm pixel pitch.



When driving through the tunnel of the Norra Länken motorway in Stockholm, you may be amazed to see a fully graphic artwork with changing colours. The fully graphic installation of moving images boasts 16 million colours with a 16 mm pixel pitch on an area measuring approx. 4,500 mm × 6,100 mm, as well as featuring 288,768 LEDs with a power consumption of just 700 W.

Protecting our climate is our shared responsibility and we are always working hard in this area. We use environmentally friendly manufacturing processes and create groundbreaking, energy-efficient products – playing our part in establishing more sustainable traffic management around the world.

A company that takes responsibility.

Corporate social responsibility (CSR) is a key area of our daily focus. Our innovative technological concepts and materials make our products particularly energy-efficient when used on roads, helping to protect the environment and climate. Our manufacturing processes meet the highest quality standards and are characterised by sustainable resource management and systematic waste prevention.

We are an Austrian company that pays attention to ensuring optimal working conditions, health and safety, and respect for human rights. We regularly participate in training courses to keep up to date. In addition, we have standardised processes thanks to our ISO-certified quality and environmental management systems. We believe that "Made in Austria" is not just a mark of origin but also represents a commitment to sustainable values.

Extensive knowledge of international standards.

SWARCO variable message signs can be found on every continent. Our global presence means that we have extensive knowledge of all commonly used international, regional and even country-specific norms and traffic standards. Our experts will ensure that your customised solution complies with standards, as well as being sustainable.

The original stands out.

SWARCO variable message signs mean that you are ready for the future. Our experts can draw on their decades of experience and therefore deliver the right concept for every traffic situation. Everything is possible, from static solutions through to full colour, dynamic displays. In addition, we can use cooperative intelligent transport system (C-ITS) solutions to network our variable message signs with vehicles, providing real-time information and reducing congestion.



Two strong product lines.

With its PREMILUM LED variable message signs product line, SWARCO offers customised displays made entirely to customers' requirements. Moreover, the CUBILED product range allows modules to be combined to form a variable message sign.

The parking guidance system in Coventry (UK) uses a fully graphic, full colour, high-resolution display to give drivers information about the nearest car parks. Its display area measures around 2,100 mm × 1,800 mm.

PREMILUM

YOU WANT IT, WE'LL MAKE IT.

Customised LED variable message signs from SWARCO.



SWARCO PREMILUM variable message signs can be specifically adapted to any traffic situation and have been groundbreaking all around the world for a number of years. We ensure that these systems perform consistently during our production testing at our in-house laboratory.

Whether on the motorway or driving through towns or cities, you will find our LED variable message signs wherever dynamic traffic management controls mobility. Our PREMILUM product range adapts to your specific needs.

We manufacture the tried-and-tested system to meet the precise requirements of your traffic situation on the ground. It can be customised with respect to pixel pitch, colours, beam angles, dimensions, maintenance access, interfaces and much more besides.

All SWARCO PREMILUM variable message signs are certified according to EN 12966 and offer high contrast values, brilliant readability, optimal energy efficiency and an excellent luminance ratio. They can be flexibly integrated into every type of traffic management system all across the world and boast high levels of availability and durability.

Customised technology.

Our patented lens technology, which offers an unrivalled performance, ensures the best visibility even in adverse conditions, especially when the sun is low in the sky. The external dimensions, mounting, service access, electrical supply and data interface can be flexibly adapted to meet the requirements. The lower power consumption for all freely programmable and full colour applications means that operating costs and CO₂ emissions are reduced by up to 90%, ageing effects are prevented and maintenance and spare parts costs are minimised.

PREMILUM Product specifications.

Light source:	Top-quality LEDs from well-known manufacturers
IP protection classes:	IP45–IP65
Temperature range:	-40 °C to +60 °C
Pixel pitch:	12/16/20/25/30 mm
Supply voltage:	110–230 VAC/400 VAC/12–48 VDC
Power consumption:	Max. 80 W/m ² / typ. 15 W/m ²
Standard:	EN 12966:2014 + A1:2019



CUBILED MODULES WITH SYSTEM.

Standardised LED variable message signs from SWARCO.



SWARCO CUBILED variable message signs save time and money. The modular design means that the system is quick and easy to construct and can be flexibly adapted at a later stage for other applications.

Brilliantly simple, simply brilliant: Our CUBILED product combines all the advantages of SWARCO LED variable message signs with the convenience of a modular system. It is the cost-effective solution for flexible applications and short delivery and installation times.

Standardised LED cubes, compatible function modules and a set of mechanical components for the frame are all you need to construct a scalable display system for traffic management. The part's intelligent "plug and play" design makes installation and maintenance easy.

Moreover, CUBILED offers other benefits. Its modular design means that the system can be temporarily used in one system and then reused in other configurations at a later stage. Throughout its service life, CUBILED is always the optimal solution.

Variable module design.

CUBILED stands out thanks to its compact design. This not only enables on-site installation and thus offers local added value, but also leads to lower transport costs. The full colour and fully graphic cubes have been developed for simple installation and for extending individual LED variable message signs. They can be used several times, assembled in any combination and, thanks to quick-release fasteners, can be easily mounted on the frame. CUBILED builds on the cutting-edge and most efficient optic system. The patented optics enable the lowest power consumption and therefore optimally improve the variable message signs' durability. Needless to say, all SWARCO CUBILED components comply with the specifications for EN 12966.

CUBILED Product specifications.

Light source:	Top-quality LEDs from well-known manufacturers
IP protection classes:	IP45–IP65
Temperature range:	-40 °C to +60 °C
Cube dimensions:	320 × 320 × 100 mm
Pixel pitch:	20 mm
Supply voltage:	110–230 VAC/400 VAC/12–48 VDC
Power consumption:	Max. 80 W/m ² / typ. 15 W/m ²
Standard:	EN 12966:2014 + A1:2019

SWARCO | The Better Way. Every Day.

You encounter us every day on the roads of our planet. At the traffic light, on the motorway, in a car park, at the charging station, or on board public transport. Our products, systems, services and turnkey solutions offer orientation, information, safety and convenient travelling – all as environmentally sound as possible.

We improve quality of life for all people on the move. SWARCO's over 3,800 traffic experts look forward to elaborating upon and jointly implementing solutions that really meet your individual requirements. What can we do for you today?

www.swarco.com

