



The Better Way. Every Day. **swarco** 

#WeAreSWARCO

Explore the world of SWARCO.

www.swarco.com

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COMPANY OVERVIEW

THE WORLD OF SWARCO*

THE BETTER WAY. EVERY DAY.

The Better Way. Every Day. **swarco**

FOUNDED BY MANFRED SWAROVSKI

OUR HISTORY BEGAN IN 1969
WITH THE PRODUCTION OF
REFLECTIVE GLASS BEADS.
HALF A CENTURY LATER SWARCO
IS AMONG THE WORLD LEADERS IN
ROAD SAFETY AND INTELLIGENT
TRAFFIC MANAGEMENT.

SWARCO IS A PASSIONATE PARTNER

GOING THE EXTRA MILE
TO INNOVATE THE TRAVEL
EXPERIENCE.

SWARCO IS A TECHNOLOGY LEADER

DRIVING THE CHANGE
FOR THE FUTURE.



SWARCO IS A STRONG AND WORLDWIDE PLAYER

WITH LONG-TERM STABILITY.
(826+ MEUR TURNOVER IN 2020)

SWARCO PRODUCTS, SYSTEMS AND SERVICES KEEP
TRAFFIC IN MOTION IN
80+ COUNTRIES
AROUND THE WORLD.

*ROAD SAFETY & INTELLIGENT TRAFFIC MANAGEMENT

SWARCO MYCITY
CLOUD BASED & MODULAR
URBAN MOBILITY MANAGEMENT

CONNECTED DRIVING
PARKING SOLUTIONS
PUBLIC TRANSPORT SOLUTIONS
E-MOBILITY SOLUTIONS

ROAD MARKING SYSTEMS

SWARCO'S 5,300+ MOBILITY EXPERTS

AROUND THE WORLD ARE PEOPLE
ON A MISSION:
THEY SUPPORT THE BUSINESS
PARTNERS IN BRINGING
MODERN MOBILITY SOLUTIONS
SAFELY ONTO THE ROADS.

OUR LEADING IDEA



We improve quality of life
by making the travel experience
safer, quicker, more convenient and
environmentally sound.

THE SWARCO AG EXECUTIVE BOARD



Michael Schuch

Speaker of the Board
Chief Executive Officer (CEO)



Günther Köfler

Chief Administrative Officer (CAO)



Günter Kitzmüller

Chief Financial Officer (CFO)

THE SWARCO AG SUPERVISORY BOARD



Günther
Apfalter

Chairman



Markus
Vatter

Vice Chairman



Michael
Innerbichler

Member



Elisabeth
Swarovski

Member



Manfred
Swarovski Jr.

Member



ONE BRAND. ALL SYSTEMS.

SWARCO Traffic Solutions.

SWARCO smart mobility solutions respond to the needs of society in the digital age and make the travel experience quicker, safer, more convenient and environmentally sound. With integrated and value added services derived from analytical methods based on high quality and trusted data sources.

SWARCO public transport solutions

improve quality of life by helping passengers find the best connection in a convenient and stress-free manner. With integrated systems for public transport priority, fleet monitoring, ticketing and real-time passenger information.

SWARCO e-mobility solutions

improve quality of life by providing fast and reliable charging solutions. With an easy-to-use charging infrastructure, convenient payment solutions, status information and route planning.

SWARCO road marking solutions

improve quality of life by showing the way worldwide and saving lives every day. With our high quality systems and services, we safely direct traffic from A to B, day and night. On all roads, in any weather. Today, SWARCO has grown into the world's largest system provider for road markings. Jump in and drive with us.

SWARCO parking solutions

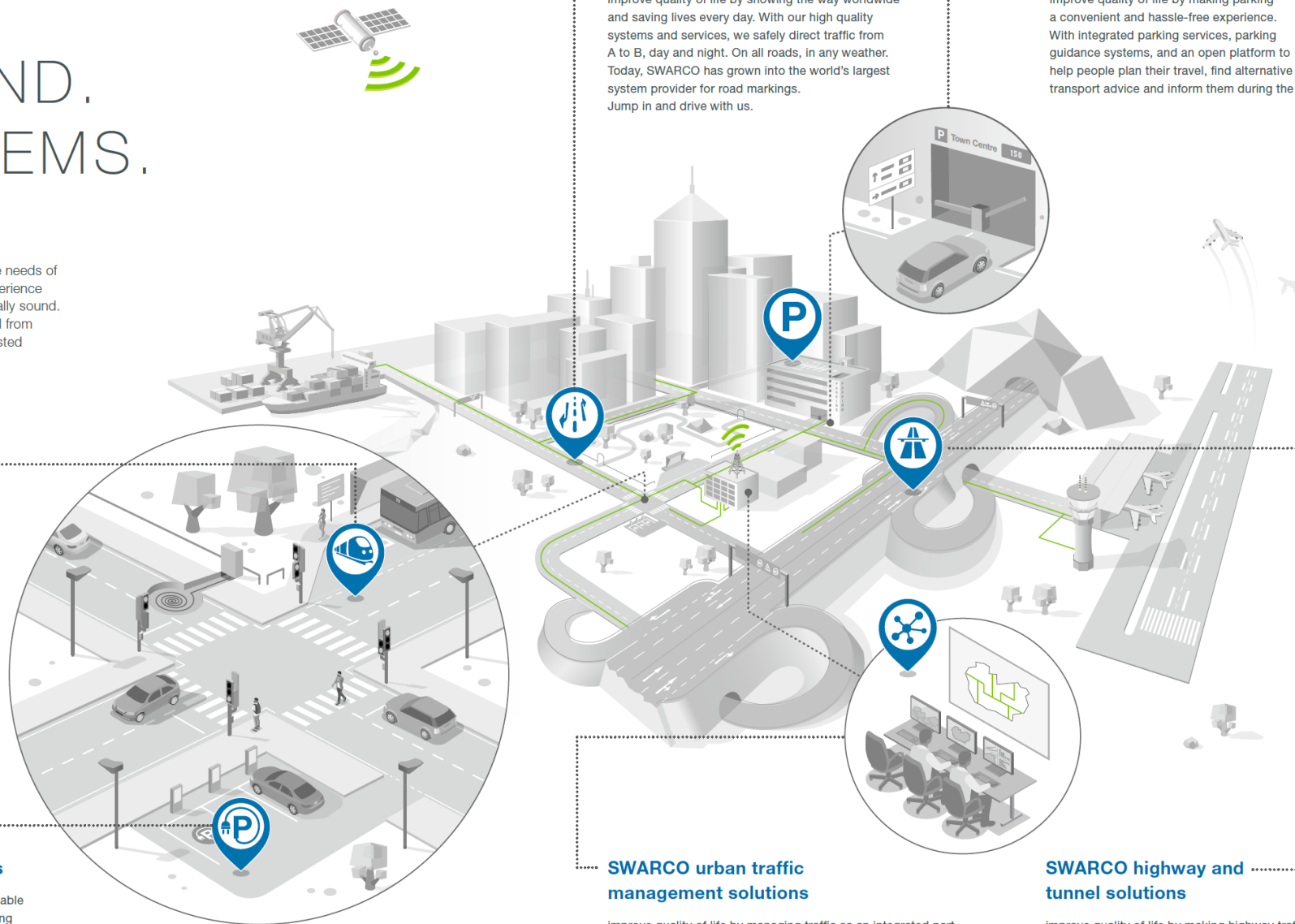
improve quality of life by making parking a convenient and hassle-free experience. With integrated parking services, parking guidance systems, and an open platform to help people plan their travel, find alternative transport advice and inform them during the trip.

SWARCO urban traffic management solutions

improve quality of life by managing traffic as an integrated part of the city's transportation system to keep travelling convenient and hassle-free. With integrated systems for harmonizing traffic flows, prioritizing means of public transport, and with a special focus on bicycles and pedestrians.

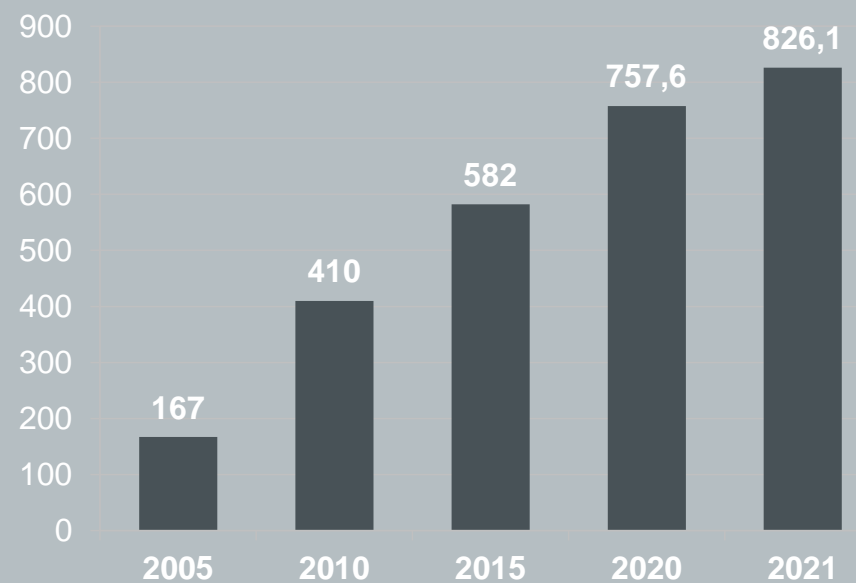
SWARCO highway and tunnel solutions

improve quality of life by making highway traffic safer, more fluid, and more environmentally friendly. With integrated systems that quickly provide accurate, easy to understand and real-time information to travellers and operators.

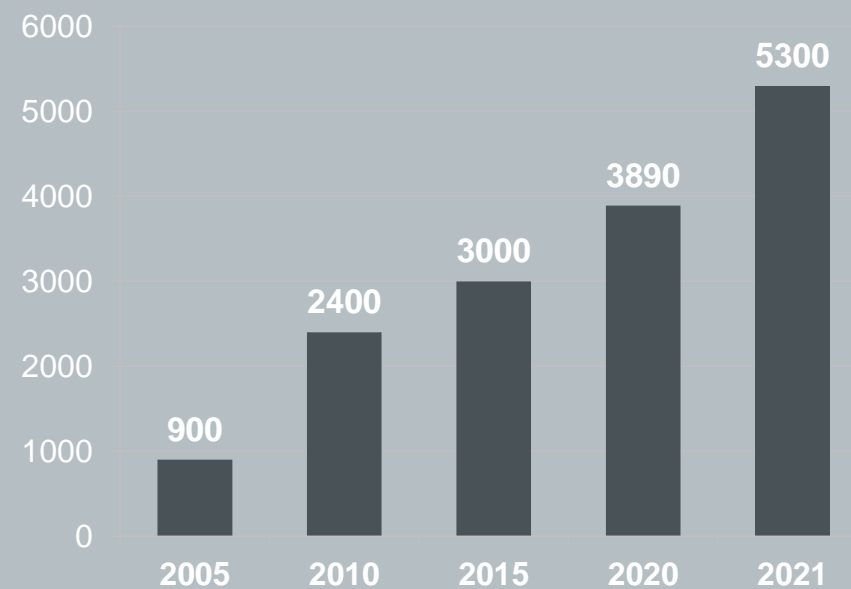


A GROUP WITH STRONG POSITIVE GROWTH

TURNOVER DEVELOPMENT (M€)

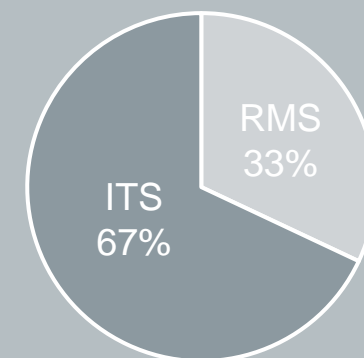


HEADCOUNT DEVELOPMENT



DIVISION SHARE
IN TOTAL

GROUP TURNOVER



MARKET & DIVISION

SWARCO DIVISIONS | PORTFOLIO

ROAD MARKING SYSTEMS (RMS)



ROAD MARKING
GLASS BEADS



ROAD MARKING MATERIALS,
PAINTS, TAPES & THERMO



ROAD MARKING SERVICES



GLASS BEADS FOR
INDUSTRIAL APPLICATIONS
(NON-TRAFFIC SEGMENT)

INTELLIGENT TRANSPORT SYSTEMS (ITS)



URBAN TRAFFIC
MANAGEMENT
SOLUTIONS, SOFTWARE,
PRODUCTS & SERVICES



HIGHWAY & TUNNEL
SOLUTIONS, SOFTWARE,
PRODUCTS & SERVICES



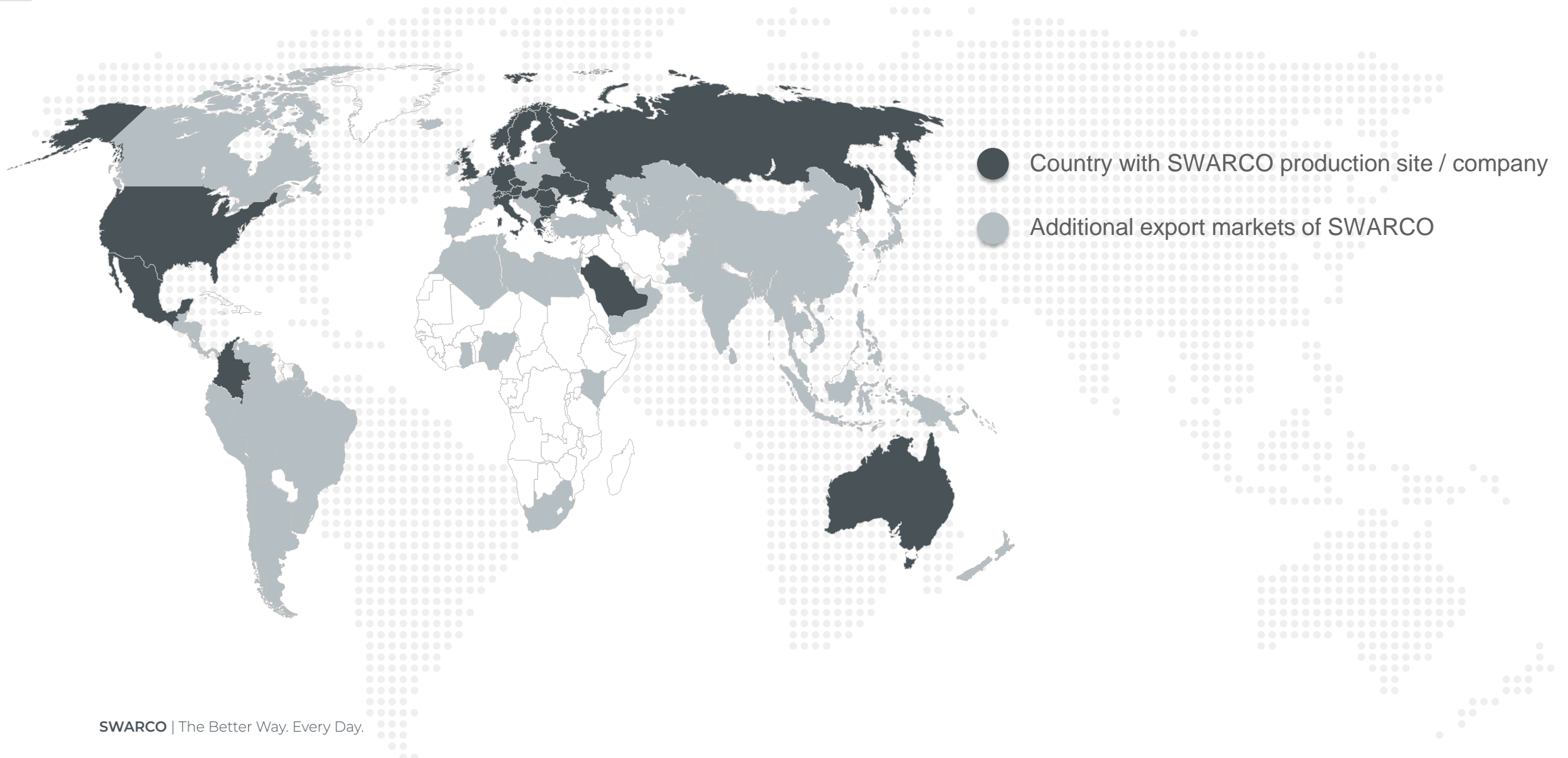
PARKING
SOLUTIONS, SOFTWARE,
PRODUCTS & SERVICES



PUBLIC TRANSPORT
SOLUTIONS, SOFTWARE,
PRODUCTS & SERVICES

SWARCO IS PRESENT IN 80 COUNTRIES

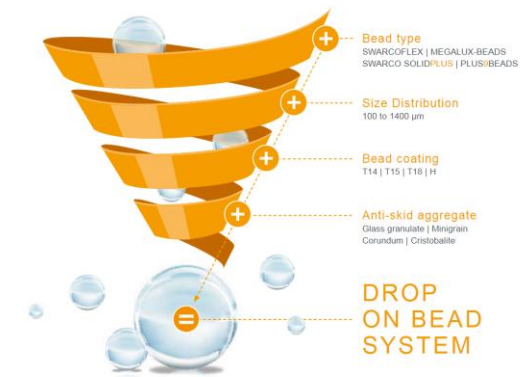
85% of value creation in Austria is exported.



ROAD MARKING SYSTEMS DIVISION

SWARCO ROAD MARKING SYSTEMS DIVISION

- The business SWARCO started with and today remains very successful in reflective glass beads, road marking materials and road marking applications.
- Generates 1/3 of SWARCO's revenues
- Unique three-fold competence as bead producer, manufacturer of road marking materials, and road marking contractor in selected countries (Germany, Austria, Hungary, Bulgaria)
- Center of Competence for Glass Technology and Road Marking Systems in Amstetten/Austria (R&D shared with all companies of the RMS division)
- Glass bead factories in
 - Austria (Amstetten)
 - Germany (Recklinghausen, Schönborn)
 - USA (Columbia, TN and Mexia, TX)
 - Saudi-Arabia (Riyadh)
- Factories for the production of road marking materials
 - Germany (Diez, Recklinghausen)
 - Romania (Targoviste)
 - USA (Columbia/TN, Mexia/TX, Aurora/CO)



ROAD MARKING SYSTEMS



LANE MARKINGS



CYCLE PATHS



ROAD WORK ZONES



PARKING LOTS



AIRFIELDS



INDOOR MARKINGS



PLAYGROUNDS



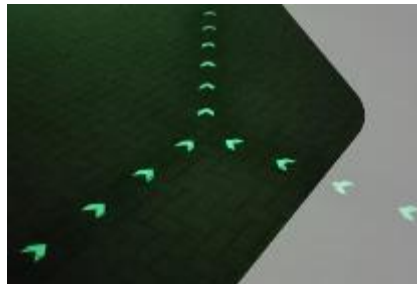
RACE COURSES



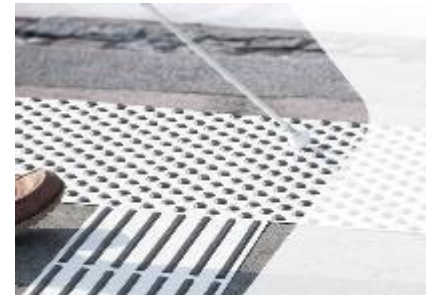
SPORTS GROUNDS



SPECIAL SYSTEMS



AFTERGLOW SYSTEMS



TACTILE MARKINGS

SWARCO ROAD MARKING SYSTEMS DIVISION

- Advanced Industry Systems – the non-traffic segment of SWARCO

Use of glass beads for industrial applications in

- Surface treatment (blasting beads)
 - Paints / Varnishes / Coatings
 - Building Materials
 - Plastics & Composites (filler beads)
 - Additive Manufacturing (3D printing)
 - Water treatment (filter beads)
-
- Active collaborator in standardisation working groups on road markings on European and American level
 - Memberships in IRF, ERF, ATSSA, DSGS, ZVÖ



INTELLIGENT TRANSPORT SYSTEMS DIVISION

SWARCO INTELLIGENT TRANSPORT SYSTEMS DIVISION

- Business started in 1986 with acquisition of a traffic light producer in Austria (FUTURIT)
- Today SWARCO is the largest LED traffic light producer in the world (factories in Austria and Mexico)
- In 2003 start of traffic management business in Scandinavia
- Diversification of business into
 - Traffic signalling
 - Urban Traffic control
 - Software development
 - Parking guidance
 - Highway and Tunnel Management
 - Sensors and Detection
 - Public transport fleet management
 - Electro mobility
 - Installations, service and maintenance
 - Infrastructure-to-vehicle communication (C-ITS)
 - Software as a service, hosted cloud-based services
 - System integration
- Division generates 2/3 of SWARCO revenues



SWARCO INTELLIGENT TRANSPORT SYSTEMS DIVISION

- Production sites in
 - Austria (traffic lights, VMS)
 - Germany (traffic controllers, static signs, detection equipment, software development)
 - Denmark (traffic controllers)
 - Italy (software development and project business)
 - USA (traffic controllers, cabinets, software)
 - Mexico (traffic lights)
- System integration / country offices in
 - Norway, Sweden, Finland, Denmark
 - Germany, Austria, Switzerland
 - The Netherlands
 - UK
 - Czech Republic
 - Slovenia
 - Italy
 - Romania
 - Greece
 - Russia
 - Saudi-Arabia
 - USA
 - Colombia
- Memberships in ERTICO, ITS America, ATTC



INTELLIGENT TRANSPORT SYSTEMS



URBAN TRAFFIC MANAGEMENT

- SWARCO MyCity urban mobility management
- Traffic control centres
- Intersection control
- LED traffic lights
- Detection
- Emission reduction concepts
- Prioritization of emergency vehicles
- C-ITS / I2V communication
- Traffic Light Assistant
- Micromobility



HIGHWAY & TUNNEL

- Highway guidance systems
- LED Variable Message Signs
- Lane control signs
- Use of hard shoulder
- Automated incident detection
- Tunnel operation and monitoring software
- WIM integration
- Truck parking
- C-ITS / I2V communication



PARKING

- On-street parking
- Off-street parking
- City-wide parking guidance systems
- Access control
- Single space monitoring
- Parking & Charging
- Parco App
- Corporate parking solutions
- Markings for parking
- License plate recognition
- Payment solutions



PUBLIC TRANSPORT

- Fleet management
- Real-time passenger information
- Terminal management
- Priority at intersections
- On-board units
- Security and monitoring
- Payment schemes

SWARCO MYCITY – URBAN MOBILITY MANAGEMENT



REFERENCES

PROJECT REFERENCES

50

YEARS OF
PROJECT
EXPERIENCE

LONDON
BARCELONA
MOSCOW
STOCKHOLM
OSLO
ROME
BERLIN
HAMBURG
FRANKFURT
TURIN
SAN FRANCISCO
LOS ANGELES
SAN DIEGO
ABU DHABI
BUCHAREST
ATLANTA
SYDNEY
BOGOTÁ

...



URBAN TRAFFIC MANAGEMENT



BUCHAREST & CLUJ ROMANIA

THE CHALLENGE

Optimize traffic (reduce congestion/pollutant emissions/fuel consumption, increase traffic safety), interlink different systems/services

SERVICE

Project planning and execution

TECHNOLOGY

OMNIA ITS integration platform featured with UTOPIA adaptive traffic control strategies, new traffic control center, ITC-2 type controllers Public transport management system (FLASH), video surveillance (CCTV), fault management (FMS), network management (LMS), performance monitoring (PM), traffic information interface (TTII)

PROJECT DURATION

Bucharest: 2007-2008

Central Software Upgrade 2019

Cluj-Napoca: 2008-2009, with extension in 2011, Central Software Upgrade 2018



LOS ANGELES UNITED STATES OF AMERICA

THE CHALLENGE

The City of Los Angeles wanted to replace old traffic control cabinets with new cabinets that meet new ATC standards and are connected vehicle ready

SERVICES

Provide advanced traffic control (ATC) signal cabinets, local and central traffic management system software solutions, adaptive signal control solutions, hardware and software training; maintenance agreement and ongoing technical support

TECHNOLOGY

1500 McCain ATC Cabinets,
Models 351, 352, 356, 357

PROJECT DURATION

2018 - 2022



HAMBURG GERMANY

THE CHALLENGE

Generate precise forecasts for each individual vehicle and ensure compatibility with legacy systems

SERVICES

Development, execution

TECHNOLOGY

Individual prediction algorithm based on real-time online analysis of current signaling and detection data via SWARCO Central Traffic Light Forecast (TLF) system

PROJECT DURATION

2017 - 2018



MONTEVIDEO URUGUAY

THE CHALLENGE

Making traffic flow better in Montevideo by reducing travel and waiting time at intersections

SERVICES

Supply, installation, configuration and commissioning + software warranty and technical assistance services

TECHNOLOGY

OMNIA ITS integration platform featured with UTOPIA adaptive traffic control strategies, MISTIC infomobility platform & VMS management, ITC-2 traffic controllers, LED VMS

PROJECT DURATION

December 2015 - March 2017
since 2018: ongoing extensions to the whole city



LUDWIGSBURG GERMANY

THE CHALLENGE

Ensure that rescue services can pass intersections fast and safe with minimum impact on traffic

SERVICES

Integration of Roadside Unit (RSU) for each intersection and Onboard Unit (OBU) for each of the fire engines;
Add a prioritization program to the intersection; Installation and maintenance service

TECHNOLOGY

ACTROS Traffic Light Controller with C-ITS/V2X extension

PROJECT DURATION

September 2018 - April 2019



TIMISOARA ROMANIA

THE CHALLENGE

Improve road safety & security and traffic efficiency; Reduce accidents, travel time and congestion on the major roads of Timisoara

SERVICES

Design, supply, installation, system integration, commissioning and maintenance of a new automated traffic management system

TECHNOLOGY

OMNIA ITS integration platform featured with UTOPIA adaptive traffic control strategies, MISTIC infomobility platform & VMS management, FLASH public transport management system

PROJECT DURATION

April 2015 - October 2016



KUWAIT

KUWAIT CITY

THE CHALLENGE

Deploy a new Intelligent Traffic System that will work with existing traffic equipment and provide control to more than 300 signalized intersections throughout Kuwait's capital city

SERVICES

Implement an adaptive traffic management software controlling 300 signalized intersections with intelligent transportation solutions that will work with different type of NEMA controllers and additional smart city functions

TECHNOLOGY

OMNIA ITS integration platform featured with UTOPIA adaptive traffic control strategies (for > 300 traffic controllers);
UTOPIA Traffic Management Software with SPOT license and pre-emption Software

PROJECT DURATION

2014 - 2016



HIGHWAY & TUNNELS



MUNICH GERMANY

THE CHALLENGE

Keep traffic in motion during construction work, wide re-use and refurbishment of existing motorway guidance system components

SERVICES

Design, supply, installation, commissioning, maintenance

TECHNOLOGY

PRIMOS® road station TLS 2012, traffic guidance panels (prism and LED)

PROJECT DURATION

2014 - 2016



KUWAIT

KUWAIT CITY

THE CHALLENGE

Implement one out of two Weigh in Motion (WiM) systems for the Main Link directly onto a bridge; a challenging task due to vibrations on the bridge and the limitation of available asphalt

SERVICES

Planning, execution, logistics

TECHNOLOGY

gantries with LCS, VSS & VMS, SWARCO Hermes Software

PROJECT DURATION

June 2018 - February 2019



HIGHWAYS UNITED KINGDOM

THE CHALLENGE

Improve road safety and the journey experience on the UK's strategic road network

SERVICES

Supply, installation and commissioning

TECHNOLOGY

LED full colour matrix motorway variable message signs

PROJECT DURATION

2015 - 2019



SYDNEY AUSTRALIA

THE CHALLENGE

Deliver very large, high-resolution, highly energy-efficient LED variable message signs and a user-friendly operating and control system

SERVICES

Planning, design, production, logistics and installation

TECHNOLOGY

LED VMS, up to 22m wide, with 750,000 LEDs, for high resolution graphics at lowest energy consumption; intuitive control software

PROJECT DURATION

2016 - 2018



ORESUNDSBRON SWEDEN-DENMARK

THE CHALLENGE

Interurban traffic management for highway and tunnel, interfacing with SCADA system from AcobiaFlux

SERVICES

Development, planning and execution

TECHNOLOGY

PRIMOS® Central software to control and monitor all traffic guidance systems, 145 VMS, barriers, weather stations, on the bridge and in the tunnel

PROJECT DURATION

2012 - 2015



OSTWESTFALENDAMM GERMANY

THE CHALLENGE

Need for a single system to manage traffic control and operations

SERVICES

Planning, execution

TECHNOLOGY

PRIMOS® Tunnel Control
central software

PROJECT DURATION

December 2016 - December 2017



VÄRTAHAMNEN HARBOUR SWEDEN

THE CHALLENGE

Create highly efficient and safer port logistics

SERVICES

Planning and implementation of a smart port control system

TECHNOLOGY

Smart Port Control System,
Automated Vehicle Management,
ANPR, Gates for length and
height measurements, VMS,
automated damage control for
trucks

PROJECT DURATION

2013 - 2016



PUBLIC TRANSPORT



NUR-SULTAN KAZAKHSTAN

THE CHALLENGE

Implement an intelligent transport management system with all relevant equipment aspects

SERVICES

Planning and execution of a fleet management, information and e-ticketing system for 750 buses

TECHNOLOGY

FLASH/FLASHNET public transport management and real-time information system, AFCS (automated fare collection system) solutions

PROJECT DURATION

2014 - 2016

since 2018 - ongoing (system extension to more than 1,300 buses)



RIGA LATVIA

THE CHALLENGE

Supervising and monitoring fleets with up to 700 vehicles with high degree of complexity; Integration of several systems with different technology to ensure a frictionless infomobility service for the city of Riga

SERVICES

Delivery, execution and operation of ITS solution designed and customized in accordance with PT operator and customer requirements

TECHNOLOGY

FLASH/FLASHNET public transport management and real-time information system

PROJECT DURATION

2014 - 2018



ÖREBRO SWEDEN

THE CHALLENGE

Develop a complete cloud-based priority solution with virtual detectors to improve traffic flow

SERVICES

The Smart Priority system, with bus and emergency vehicle priority, is both hosted as a cloud solution and offered as a service (SaaS). This includes maintenance, software updates and operations. The customer also upgraded from OmniVue to Omnia, which is an on-premise solution.

TECHNOLOGY

Smart Priority and Omnia

PROJECT DURATION

2018 - 2019



SARDINIA ITALY

THE CHALLENGE

Turnkey supply of the completion of the Integrated Ticket and Monitoring System for the ARST automotive fleet and railway infrastructure

SERVICES

Analysis and executive design of integrated system of e-ticketing and fleet monitoring system; Supply and installation of hard- and software; Integration and interoperability of the system with ARST existing systems Training, warranty and technical assistance during the maintenance period of 42 months

TECHNOLOGY

FLASH/FLASHNET public transport management and real-time information system integrated with AFCS system

PROJECT DURATION

2014 - 2017



PARKING

BUDAPEST HUNGARY

THE CHALLENGE

Implement a comfortable and complete parking and e-mobility solution with innovative payment and parking guidance system

SERVICES

Planning, development, installation, commissioning, after sales service, maintenance

TECHNOLOGY

SWARCO SignelPark parking payment and guidance software, data capture, over 300 ultrasonic sensors, 8 dynamic parking guidance signs (full-matrix LED technology)

PROJECT DURATION

2014 - 2015



ABHA KINGDOM OF SAUDI ARABIA

THE CHALLENGE

Implement a new Parking Guidance System in the biggest and most traffic challenged shopping mall in the southern region of the Kingdom

SERVICES

Supply, Installation and configuration of Parking Guidance System equipment (Sensors/LED Displays and Control Center Software)

TECHNOLOGY

Single Space Parking Guidance System consisting of Ultrasonic Parking Sensors, LED Indicator lights, Indoor and Outdoor LED Displays, Parking Management Server with Software

PROJECT DURATION

2016 - 2017



DUNDEE SCOTLAND

THE CHALLENGE

Provision of large scale eMobility charging hubs

SERVICES

Planning and execution

TECHNOLOGY

30 DC Rapid Chargers,
110 AC Fast Chargers,
Energy Storage and
Solar Car Port solutions

PROJECT DURATION

2012 - ongoing



THUN SWITZERLAND

THE CHALLENGE

Implement a modern parking guidance system to be completely hosted and flexible to adapt to temporary or permanent changes in the traffic infrastructure (e.g. road works) and upgradable to a traffic management system. 20-30 large events in Thun need event specific traffic and parking signalization

SERVICES

Turnkey project implementation including design, parking guidance as-a-service (hosted system) and civil works for foundations and cabling for power supplies of 23 LED displays

TECHNOLOGY

SWARCO parking guidance and traffic information system, data capture from 12 parking facilities via web interface, 23 dynamic parking guidance signs (full-matrix LED technology) with full content flexibility, data transmission by 4G LTE

PROJECT DURATION

2016 - 2018



Thank you for your attention!

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