SMART MOBILITY NEWS

ISSUE 5 · NOV 2024

SPACE FOR LIFE

Regardless of a city's size or population, every person deserves to live in a clean, quiet, and healthy environment.

SWISSTRAFFIC is committed to intelligently managing the rapid growth of cities and developing modern transportation solutions that combine quality of life and sustainability.

The Smart City of the future offers mobility and space to breathe and thrive. The transformation has already begun - let us work together to create innovative solutions for smarter, more livable cities.

TOPICS

THE NEXT GENERATION TAKES ON RESPONSIBILITY

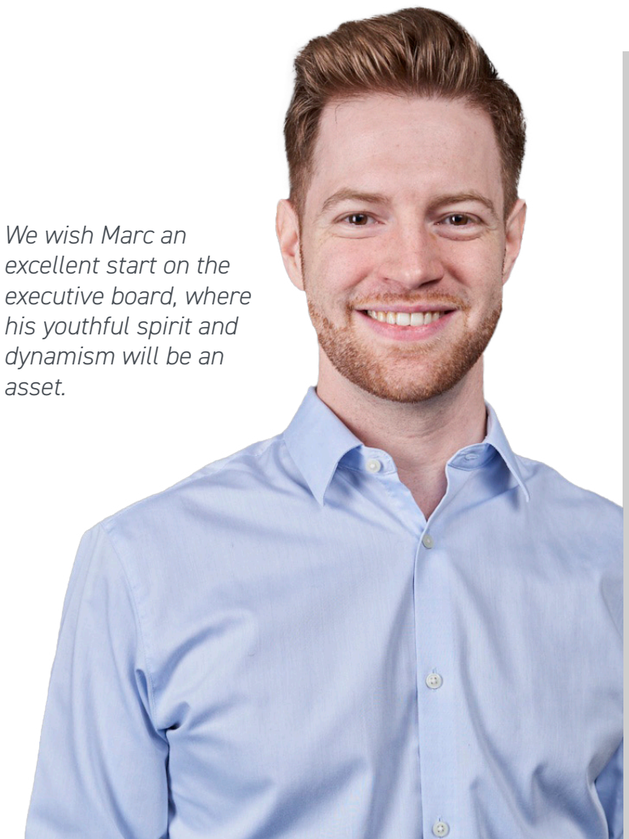
MARC BÜTZBERGER,

the 33-year-old son of founder and chairman Alain Bützberger, joined SWISSTRAFFIC this year and, following comprehensive onboarding, will assume a position on the executive board as Chief Operating Officer (COO). His predecessor and executive board member, Silvan Sturzenegger, will be Chief Analytics Officer (CAO).

Marc, an industrial engineer focused on „Engineering and Management Innovation," completed his MBA in Business Administration this summer. He has experience in mobility within the public sector, having previously worked with Lufthansa and SBB.

Marc is both a thinker and a doer; his positive energy brings great vibes to the team.

We wish Marc an excellent start on the executive board, where his youthful spirit and dynamism will be an asset.



SWIROO SLOWENIA GATEWAY TO EASTERN EUROPE

Following our successful launch in France, with over twenty completed projects - including implementing an intelligent traffic management system (AI) across the greater Strasbourg area - our Slovenian subsidiary is now gaining impressive momentum!

CEO Damijan Ferk brings exceptional expertise in traffic engineering and a strong ability to execute projects efficiently and with a clear focus. The heart of SWIROO Slovenia beats in Ljubljana under the experienced leadership of Damijan Ferk. Additionally, our Slovenian office also manages projects in neighboring countries.

With the integration of SWIROO Slovenia, the SWISSTRAFFIC Group strengthens its position as a leader in intelligent mobility, traffic planning, traffic safety, and multimodal traffic surveys.

SWIROO
PART OF SWISSTRAFFIC

DAMIJAN FERK
CEO SWIROO Slovenia

46 YEARS OLD

MARITAL STATUS
Married, 2 children

HOBBIES
Cycling
Hiking
Running

SKILLS
Traffic Planning
Traffic Modeling
Traffic Surveys

EDUCATION
Degree in Traffic Engineering

NOISE**PATROL**

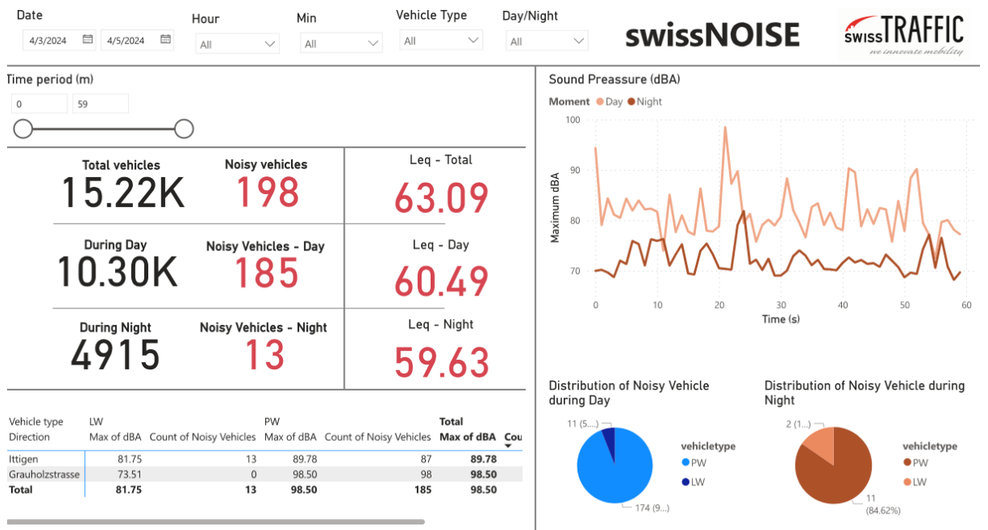
Our Solution Against Unnecessary Noise

NOISE**PATROL** is the innovative solution we developed in partnership with Grolimund & Partner to eliminate unnecessary noise. Built on our swissNOISE AI, this solution enables municipalities and cantons to take active measures against noise pollution caused by loud cars and motorcycles.

The knowledge alone that excessively loud vehicles can be detected leads to a rapid change in behavior, resulting in reduced noise emissions and a quieter living environment.

NOISE**PATROL** not only combats unnecessary noise from loud cars and motorcycles but also provides precise statistics for impact monitoring.

A summary report enables municipalities to transparently communicate the success of their measures to both citizens and policymakers.



Professional Dashboard: All insights are available for comprehensive evidence collection.

POSERS

swissNOISE AI instantly identifies excessively loud vehicles, allowing police to summon vehicle owners for follow-up inspections promptly. This approach effectively helps to calm traffic in heavily impacted areas.

LEGISLATION

In alignment with current traffic regulations, swissNOISE AI provides precise evidence of excessive noise under Article 42, setting it apart from other products.

EVIDENCE

Our sophisticated algorithm allows swissNOISE AI to identify vehicles causing avoidable, excessive noise and to record evidence.

*Eliminate Unnecessary Noise with swiss**NOISE***

Simulation before permanent LiDAR installation

HOW LiDAR TECHNOLOGY CAN PREVENT ACCIDENTS

Enhancing Road Safety

As traffic accidents remain one of the leading causes of death across Europe, the need for innovative accident prevention technologies is greater than ever.

One of the most promising technologies that has gained increasing importance in recent years is LiDAR (Light Detection and Ranging).

This technology enables precise environmental detection and detailed analysis of near-accidents to better understand their causes.

swissLiDAR AI uses 3D environmental analysis to automatically identify near-accidents in various situations and display them in real-time on a dashboard, including short video sequences represented as point clouds.

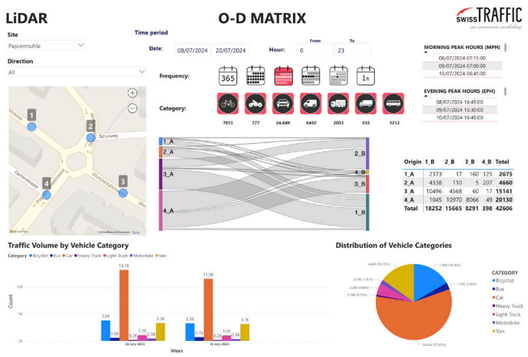
Compared to other technologies like radar or cameras, LiDAR offers several advantages. It provides high-resolution data in all weather conditions and can detect pedestrians up to 90 meters and vehicles up to 150 meters. Additionally, LiDAR delivers a more detailed representation of the environment.

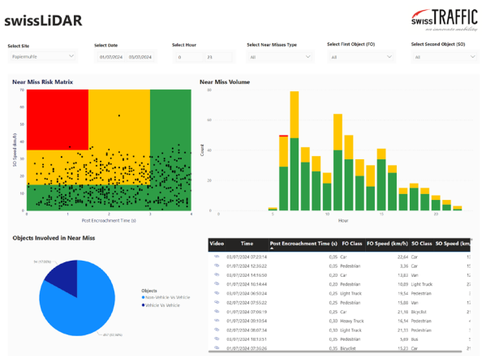
In the future, LiDAR will play an even more significant role in traffic management. With the ongoing development of autonomous vehicles and smart traffic systems, this technology is set to become a standard in smart cities, making a major contribution to reducing traffic accidents.

LiDAR TECHNOLOGY HAS THE POTENTIAL TO SIGNIFICANTLY IMPROVE ROAD SAFETY.

By capturing 3D environmental data and precisely identifying near-accidents, LiDAR technology can significantly help prevent collisions. One thing is certain: LiDAR will play a key role in traffic safety in the years ahead.

Mobile LiDAR version for short-term deployments and greater flexibility.





LiDAR-Dashboards.

swissANPR AI

PROJECTS

With swissANPR AI, we tackle complex projects, such as the freight traffic and license plate survey in the Canton of Solothurn (April-May 2024).

Over two weeks, at 18 locations, we evaluated seven vehicle classes, analyzing origin, destination, and transit traffic per survey point, as well as route choices and travel times.

Another exciting project involved the survey of hazardous goods transport at the Coeur Haut-de-France highway rest area. Over two weeks, we collected data at the entry and exit points, capturing all road freight traffic and hazardous goods, including hazard numbers and empty signs. We also recorded entry and exit times to calculate stop durations.

SOFTWARE

Using our in-house analysis software, the raw data from license plate surveys is processed to produce the following insights:

- Origin-Destination Relations between survey points
- Route Choices
- Travel Times
- Proportions of Origin, Destination, and Transit Traffic
- Dynamic Definition of Time Limits for Transit Traffic
- Daily and Hourly Data
- National, Cantonal, and Municipal Affiliation

TRIPLE ENCRYPTION

Our proprietary triple encryption process ensures the complete anonymization of the captured license plates:

1. THE LICENSE PLATE NUMBERS ARE HASHED (ENCODED).
2. ALL LICENSE PLATES ARE ADDITIONALLY ENCRYPTED AND STORED IN A FILE.
3. THE ENTIRE FILE IS ENCRYPTED AGAIN.

This multi-layered process prevents third-party access to the data, guaranteeing anonymity and privacy at all times.

License plate recognition with 100% data protection compliance.

Incident ordinance: our artificial intelligence also detects empty hazardous goods signs.

swissCARPOOLING AI

FLEXIBLE AND HIGHLY ACCURATE SWISS SYSTEM FOR AUTOMATIC VEHICLE OCCUPANCY DETECTION WITH ARTIFICIAL INTELLIGENCE

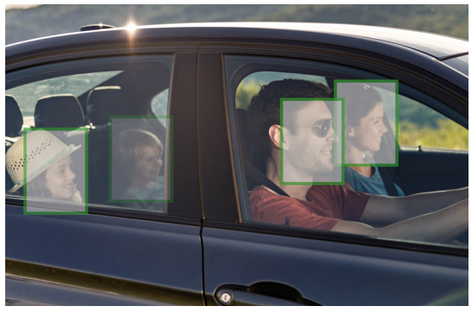
Carpooling refers to the shared use of a car by multiple people traveling on similar routes. Passengers share the travel costs, such as fuel and toll fees. Typically, carpooling is used by individuals commuting to work, school, or traveling longer distances.

The primary goal of carpooling is to reduce the number of cars on the road, which leads to less traffic, lower environmental impact and reduced individual transportation costs. Carpooling can be organized informally among friends or colleagues or through dedicated platforms and apps that facilitate ridesharing.

Our system detects vehicle occupants in both the front and rear seats with extremely high precision: 99.2% vehicle detection accuracy, and 98.3% accurate occupant counting (Cerema pilot project, France, 2023).

Thanks to our proprietary patented anonymization technology, no individuals are identifiable in any captured images.

The system is designed to detect vehicles traveling at speeds of 20 to 180 km/h – excluding stop-and-go traffic. It can identify vehicle types (motorcycle, car, bus, truck) and count individuals on motorcycles as well. The system is already operational at the Geneva border crossing.



Carpooling is available as both a mobile solution and a fixed installation (totem).

swissDISPLAY AI

Intelligent Traffic Management with AI for Cities and Municipalities

The integrated swissTRAFFIC AI camera enables multimodal counting of up to 17 object classes, including pedestrians and bicycles, while automatically monitoring traffic flow.

BICYCLE COUNTER

With the swissTRAFFIC AI Camera integrated into the LED display, data is directly shown on the high-resolution LED screen. The collected data can be instantly transmitted to the desired server or platform and/or stored on the onboard memory.

FLEXIBLE INFORMATION FLOW

Information such as detours, warnings, or public announcements can be displayed via the control room platform or managed by local control algorithms.

YOUR EYE ON THE ROAD

In emergencies, accidents, or for monitoring general traffic flow, live video footage is accessible (restricted to law enforcement authorities).

SLIP HAZARD WARNING

swissDISPLAY AI measures road temperatures and automatically displays slip warnings when needed. These warnings can also be sent to the control centre.

COMPREHENSIVE SENSOR DATA

Equipped with a powerful controller, swissDISPLAY AI supports various sensor types and can be expanded with additional sensors. Data can be transmitted in real-time or stored for up to 12 months. The controller also manages external devices such as barriers, signals, or lighting.

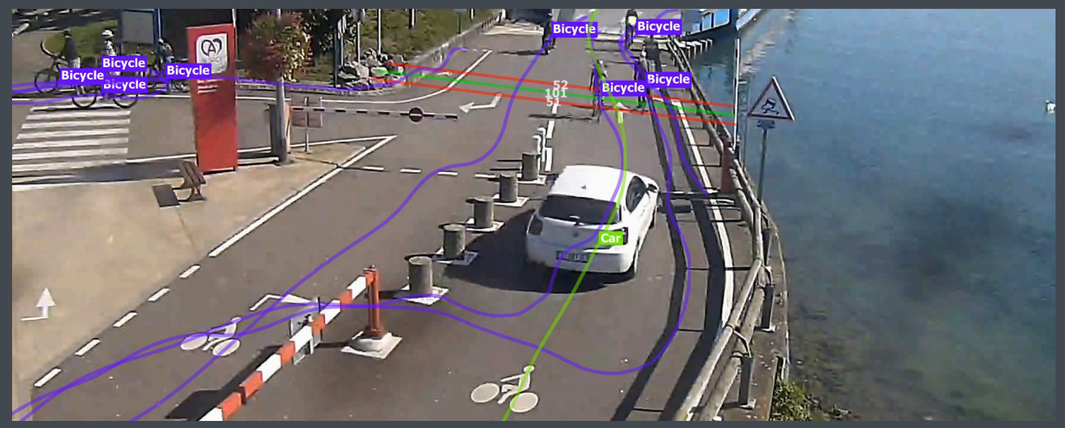
TYPICAL SENSORS

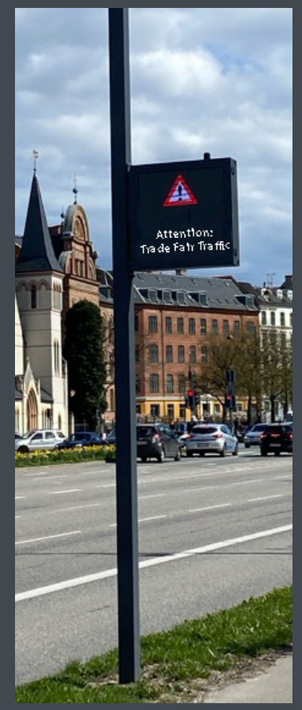
- swissTRAFFIC AI Camera
- Road and air temperature sensors
- Air quality sensor
- Speed radar

ONLINE OR OFFLINE

Thanks to its advanced internal controller, swissDISPLAY AI can function as a standalone device, in edge mode, or as an online device. Connectivity is supported via 4G, LAN, or WAN.

DIFFERENTIATES UP TO 17 OBJECT CLASSES





High-resolution, multifunctional AI display with an integrated AI camera.

swissSCOUT AI IN CANTON TICINO

ON MAY 15, THE 20TH EXPERIENCE EXCHANGE MEETING OF THE „PEDESTRIAN AND BICYCLE TRAFFIC MONITORING“ NETWORK TOOK PLACE IN BELLINZONA.

At this event, the representative of Canton Ticino showcased our swissSCOUT AI. The canton now owns six swissSCOUT AI systems and has been using them almost continuously.

This year, the focus is on calibrating Ticino's cantonal traffic model for 2024.

A total of 154 mobile deployments using swissSCOUT AI will be carried out, each capturing traffic data for 48 hours, resulting in a total of 7,392 hours of mobile traffic counts.

In the Lugano region, 70 deployments will be conducted by SWISSTRAFFIC within just two weeks. The remaining 84 deployments will be managed by the Canton Ticino itself. Additionally, 20 more deployments are planned for ongoing cantonal projects.

swissSCOUT-installation in Bellinzona, TI

TOWARDS CLIMATE-NEUTRAL SMART CITIES WITH INNOVATIVE MOBILITY

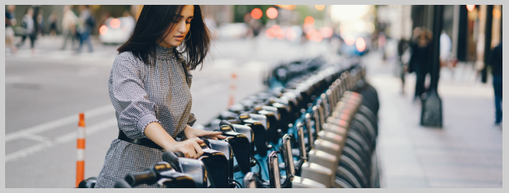
Rapid population growth, limited financial resources, increasing mobility demands, and growing political pressure to demonstrate results are creating significant challenges for cities and municipalities to meet their mobility and climate goals.

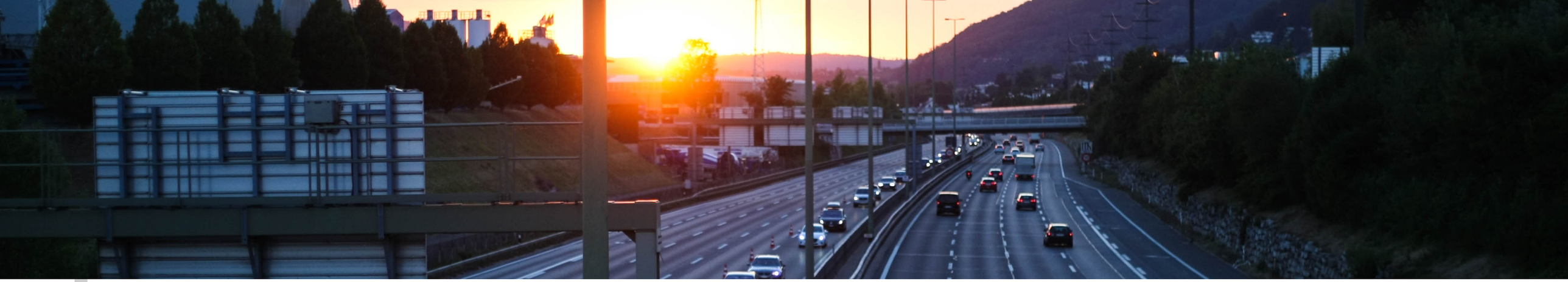
SMART UND CLIMATE-NEUTRAL

Through digitalization and the use of innovative mobility solutions, land consumption and traffic emissions can be reduced without compromising the efficiency of the transport system.

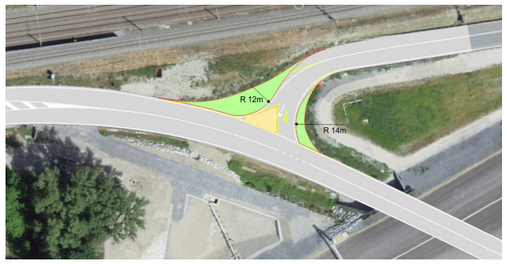
SWISSTRAFFIC TAKES THE FOLLOWING APPROACHES:

- Leveraging Big Data and artificial intelligence to optimize traffic and reduce emissions.
- Promoting collaborative mobility based on renewable energy sources.
- Using autonomous electric vehicles for public transport and urban logistics.
- Integrating multiple transport modes to enable seamless transitions for users.
- Gradually expanding successful pilot projects and innovative mobility solutions across the entire city.





VARIOUS PROJECTS
A brief overview of current projects



ASTRA Thun
TRAFFIC SAFETY

We will continue to support the ASTRA branch in Thun in the areas of traffic safety and planning over the coming years.

Our responsibilities include conducting or assisting with ISSI (Infrastructure Safety Management Tools), such as Road Safety Audits (RSA), Road Safety Inspections (RSI), Black Spot Management (BSM), and Network Safety Management (NSM).

We plan and implement measures derived from these traffic safety projects (e.g., from RSI, BSM, or non-motorized traffic) and assist clients with traffic engineering questions.

ASTRA A1
TRAVEL TIMES

In autumn 2024, ASTRA has installed a GHGW system (speed harmonization and hazard warning) on the A1 motorway between Birrfeld and Dietikon. We support this important project with comprehensive travel time measurements and congestion analyses.

We collect data before, during, and after the installation to evaluate the impact on congestion levels and travel times. Our measurements are carried out at six locations using BlueScan technology. Additionally, we analyze accident data to identify potential correlations between travel times and accident rates.

With this data, we contribute to optimizing traffic safety and efficiency on the A1.

Rapperswil-Jona
SPEED LIMIT 30 ZONE ANALYSIS

In a comprehensive study, SWISSTRAFFIC used the swissRADAR system to measure traffic volumes and speeds at 34 selected road sections. Each cross-section was monitored for one week, providing critical insights into driving behavior.

A key analysis parameter was the V85 – the speed value that 85% of vehicles adhere to.

This metric offers valuable insights into actual driving speeds and forms the basis for further safety analyses.

The findings were documented in 42 “light reports,” which analyzed the respective sections for safety, noise pollution, and current traffic conditions.

The goal of these reports is to provide a well-founded assessment of whether reducing the maximum speed on the analyzed sections is a proportionate and effective measure.

SWISS TRAFFIC
we innovate mobility

SWIROO
PART OF SWISSTRAFFIC

WHERE TO MEET THE SWISSTRAFFIC GROUP AT UPCOMING EXHIBITIONS?

Our participation in international exhibitions allows us to connect with experts worldwide and opens doors to valuable partnerships. We look forward to meeting you in person to better understand your needs and challenges in sustainable and intelligent mobility.

salon des maires et des collectivités locales

19 – 21 November 2024
Porte de Versailles - Paris

Congrès ATEC ITS FRANCE
LES RENCONTRES DE LA MOBILITÉ INTELLIGENTE

21 – 22 January 2025
Paris

ERTICO Presents
ITS EUROPEAN CONGRESS

19 – 21 May 2025
Seville

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