

























SMART MOBILITY SOLUTIONS

PRODUCT CATALOGUE



ARTIFICIAL INTELLIGENCE BY SWISSTRAFFIC INC.

| | |
|---|---|
| AI: | Artificial Intelligence |
| ANPR: | Automatic number plate recognition |
| API: | Application Programming Interface; interface for automatic data transmission from sensor to a server in real-time |
| D: | Days |
| GDPR: | EU General Data Protection Regulation |
| GSM: | Global System for Mobile Communications; fully digital mobile communications network |
| IMT: | Individual motorised traffic |
| IoT: | Internet of Things |
| LoRa: | Long Range Wide Area; enables energy-efficient data transmission over long distances without LTE (see also SIGFOX) |
| LTE: | Long Term Evolution; a mobile communications standard for 4G, 5G etc |
| NMT: | Non-motorised traffic, cyclists and pedestrians |
| MTH: | Months |
| Multimodal: | Use of different transport modes during a certain period |
| o-d: | origin-destination |
| PT: | Public transport |
| SIGFOX: | Proprietary global communications network for low-energy wireless connection of objects to the internet (see also LoRa) |
| WK: | Weeks |
|  | Public transport (PT) |
|  | Safety |
|  | LED display |
|  | Violations |
|  | Parking |
|  | Services |
|  | Dashboard |
|  | Artificial Intelligence |
|  | Data protection compliant |
|  | Mobile installation |
|  | Fixed counting station |
|  | Pedestrian |
|  | e-Scooter |
|  | Cyclist |
|  | Motorcycle |
|  | Car |
|  | Car with trailer |
|  | Bus, coach |
|  | Van |
|  | Van with trailer |
|  | Articulated van |
|  | Lorry |
|  | Lorry with trailer |
|  | Articulated lorry |



The future of mobility is defined by seamlessly meshing of our work life, home life and leisure time. Just getting from A to B will no longer be enough. What will truly matter in a multi-mobile world are: experience, sustainability and health.

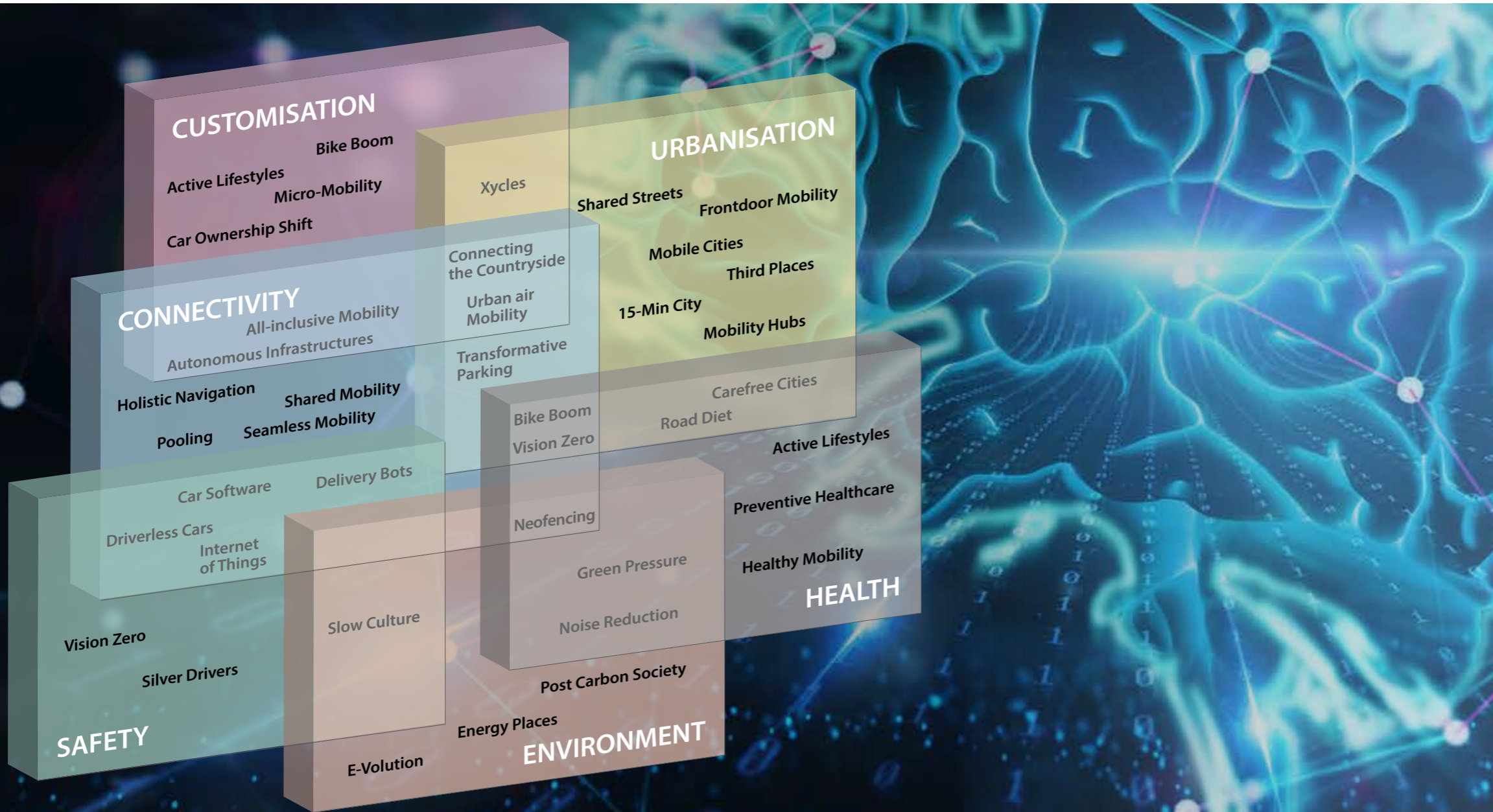
At SWISSTRAFFIC, we believe that mobility is one of the key areas affecting sustainability. All over the world, new products and services are evolving faster and faster, opening up a seemingly endless range of possibilities. But companies, governments, cities and other actors must still draw the right conclusions. Our aim is to support customers and to apply an integral approach to addressing this highly complex issue.

With over 20 years of expertise in mobility, we are your partner for innovative and sustainable mobility solutions.

Alain Bützberger
 Founder & Chairman of the Board

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| Welcome Foreword by Alain Bützberger | 03 | 24 SWISSLASER Logs individual motorised traffic across 2 lanes, also during congestion |
| Smart Mobility Vision What the future of mobility looks like | 06 | 26 SWISSPED Counts pedestrians in zones with a width of 32 metres |
| Topic search Tailored products | 08 | 28 SWISSRADAR Counts individual motorised traffic and speeds |
| SWISSTRAFFIC AI+LoRa AI-based fixed installation for multimodal counting | 10 | 30 SWISSBIKE+PED LIGHT Counts pedestrians and cyclists on footpaths, at events and in parks etc. |
| SWISSSAFETY AI AI-based detection of violations and misconduct | 12 | 32 SWISSNOISE AI AI-based directional noise detection |
| SWISSSCOUT AI AI-based mobile sensor for multimodal counting | 14 | 34 SWISSTRAVEL Real-time logging of travel times and delays |
| SWISSBIKE+PED CROWD Counts cyclist, e-scooter and pedestrian traffic across a width of 4 metres | 16 | 36 SWISSPARKING AI End-to-end AI-based smart parking solution |
| SWISSTRAFFIC+BIKE Counting station for individual motorised traffic or cyclists | 18 | 38 SWISSSERVICES Consulting, analysis, measures, concepts |
| SWISSANPR AI AI-based system to origin, destination and transit traffic as well as hazardous goods etc. | 20 | 40 SWISSDASHBOARD Modern, interactive dashboards with prediction and API |
| SWISSDRONE AI AI-based monitoring and counting of multimodal traffic | 22 | 42 Product overview A comparison of all products |

SMART MOBILITY VISION - HUMAN-CENTERED






THE FUTURE OF MOBILITY




People are longing for peace of mind. Quality of life is becoming an increasingly precious commodity. Cities should be clean, green and quiet.





Experience is now more important than possession. Flexible access to an array of mobility options is the name of the game. Reality is shaped by diversity instead of routine. Seamless mobility blends personal and public concepts.

Autonomous driving is transforming the role that cars play. Driverless concepts reduce the need for parking spaces, expanding time spent in the car.

Cars are increasingly withdrawing from the cities. Bicycles will shape the future of mobility more and more.

| APPLICATION AREA | ← FIXED COUNTING STATION | 📱 MOBILE | |
|--|--|---|--|
|  | Counting pedestrians in pedestrian zones | 10 - SWISSTRAFFIC AI+LoRa 26 - SWISSPED | 14 - SWISSSCOUT AI |
| | Counting pedestrians and cyclists | 10 - SWISSTRAFFIC AI+LoRa 16 - SWISSBIKE+PED CROWD | 14 - SWISSSCOUT AI |
| | Counting pedestrians and various other transport users (multimodal) | 10 - SWISSTRAFFIC AI+LoRa | 14 - SWISSSCOUT AI |
| | Counting tourists, hikers, cyclists and cross-country skiers etc. | 10 - SWISSTRAFFIC AI+LoRa 16 - SWISSBIKE+PED CROWD | 14 - SWISSSCOUT AI 30 - SWISSBIKE+PED LIGHT |
|  | Counting cyclists and various other transport users (multimodal) | 10 - SWISSTRAFFIC AI+LoRa 18 - SWISSTRAFFIC+BIKE | 14 - SWISSSCOUT AI 18 - SWISSTRAFFIC+BIKE |
| | Counting cyclists and pedestrians | 10 - SWISSTRAFFIC AI+LoRa 16 - SWISSBIKE+PED CROWD | 14 - SWISSSCOUT AI |
| | Preferential treatment and shorter waiting times at the traffic lights | 10 - SWISSTRAFFIC AI+LoRa | |
| | Cyclist behaviour | 10 - SWISSTRAFFIC AI+LoRa | 14 - SWISSSCOUT AI |
|  | Individual motorised traffic (IMT) | 10 - SWISSTRAFFIC AI+LoRa 24 - SWISSLASER | 14 - SWISSSCOUT AI 28 - SWISSRADAR |
| | Transit traffic and rat-running traffic | 20 - SWISSANPR AI | 20 - SWISSANPR AI |
| | Travel times | 20 - SWISSANPR AI 34 - SWISSTRAVEL | 20 - SWISSANPR AI 34 - SWISSTRAVEL |
| | Nodal flow analyses | 10 - SWISSTRAFFIC AI+LoRa | 14 - SWISSSCOUT AI 22 - SWISSDRONE AI |
| | Shares of electric, hybrid, petrol or diesel vehicles | 20 - SWISSANPR AI | 20 - SWISSANPR AI |
| | Segmental speeds | 34 - SWISSTRAVEL | 34 - SWISSTRAVEL |
| | Noise emissions, impact analyses for 30 km/h speed limits | 32 - SWISSNOISE AI | 32 - SWISSNOISE AI |
| | Speeds | 10 - SWISSTRAFFIC AI+LoRa 28 - SWISSRADAR | 14 - SWISSSCOUT AI 28 - SWISSRADAR |
| | Parking with origins | 20 - SWISSANPR AI 36 - SWISSPARKING AI | 14 - SWISSSCOUT AI 20 - SWISSANPR AI |
| Traffic signal optimisation, traffic flow | 10 - SWISSTRAFFIC AI+LoRa | | |

| APPLICATION AREA | ← FIXED COUNTING STATION | 📱 MOBILE | |
|---|--|---|--|
|  | Transfer relationships | 10 - SWISSTRAFFIC AI+LoRa | |
| | Counting passengers | 10 - SWISSTRAFFIC AI+LoRa | |
|  | Analyses of near-accidents | 10 - SWISSTRAFFIC AI+LoRa | 14 - SWISSSCOUT AI 22 - SWISSDRONE AI |
| | Impact analyses (before, during, after) | 10 - SWISSTRAFFIC AI+LoRa 34 - SWISSTRAVEL | 14 - SWISSSCOUT AI 34 - SWISSTRAVEL |
| | Hazardous goods transports | 20 - SWISSANPR AI | 20 - SWISSANPR AI |
|  | LED pedestrians and/or cyclists | 10 - SWISSTRAFFIC AI+LoRa 16 - SWISSBIKE+PED CROWD | |
| | LED compliance with noise limits | 32 - SWISSNOISE AI | 32 - SWISSNOISE AI |
| | LED travel times: information about delays | 10 - SWISSTRAFFIC AI+LoRa 34 - SWISSTRAVEL | 34 - SWISSTRAVEL |
| | LED segmental speeds | 20 - SWISSANPR AI | 20 - SWISSANPR AI |

| APPLICATION AREA | PRODUCT | |
|---|---|----------------------|
|  | Failure to give way, disregard of stop signals. Unauthorised parking, wrong lane or direction of travel, cyclist behaviour at roundabouts | 12 - SWISSSAFETY AI |
|  | End-to-end solution with occupancy rate, payment app, reservation, automatic detection and payment | 36 - SWISSPARKING AI |
|  | Consulting, analysis, measures, end-to-end traffic concepts, solutions, maintenance, installations | 38 - SWISSSERVICES |
|  | Interactive online display of results in real-time, with predictions | 40 - SWISSDASHBOARD |



CLOUD SOLUTION

Customer can install the camera. Dual use as a safety camera. Outstanding accuracy, even for congested objects in urban environments.

Easy use of already existing cameras possible. Encrypted data transmission and analysis in the cloud. API available.

BOX SOLUTION

Additional hardware box is installed directly with the camera. Data transmission possible via GSM or LoRa. Easy use of current cameras possible. On-site data analysis. API available.



Customer can install the camera. Can be used simultaneously as a safety camera.



Automatic detection of traffic flow for all moving objects without storing video or image data.



Data visualisation in a neatly arranged dashboard with separate customer portal.

AI SWISSTRAFFIC AI



AI-based fixed installation for multimodal counting in real-time. Use of existing camera infrastructure, if installed. SWISSTRAFFIC AI+LoRa complies 100% with GDPR data protection requirements.



IDEAL APPLICATION AREAS

- Counting IMT, cyclists, persons
- Counting tourists, hikers
- Traffic signal optimisation
- Cyclist behaviour
- Nodal flow analyses
- Traffic flow
- Transfer relationships
- Analyses of near-accidents
- Impact analyses

TECHNICAL FEATURES

- Multimodal
- 9 object classes
- Accurate lane tracking
- Real-time data
- Congestion-resilient
- Speeds
- Simple installation
- GSM or LoRa
- Parking

COMBINABLE PRODUCTS

- Page 12 swissSAFETY AI
- Page 36 swissPARKING AI
- Page 38 swissSERVICES
- Page 40 swissDASHBOARD





AI SWISSAFETY AI



AI-based detection of violations and misconduct in road traffic. Improved safety for the most vulnerable transport users – pedestrians and cyclists. Can be connected to police caution or fine correspondence.

IMPROVED SAFETY AT PEDESTRIAN CROSSINGS ALONG SCHOOL ROUTES

AI- and radar-based system to improve safety by the automatic detection of pedestrian crossings and failure to give way. Signals with special interior lighting and yellow strips attached to the poles can light up immediately during use of the pedestrian crossing to improve visibility, especially at night.

In addition to flashing, an alarm sound can also be emitted in potential “pedestrian-driver” conflict situations or if pedestrians are inattentive (staring at their phones). In case of violations, a brief video sequence can optionally be stored in the system to help with police investigations. As a fixed or mobile installation.



Pedestrians are distracted and tend to notice dangers too late.

PREVENTING ACCIDENTS

AI technology to analyse trajectories and speeds for the detection of near-accidents at intersections involving pedestrians, cyclists and vehicles or to analyse cyclist behaviour at roundabouts. As a fixed or mobile installation.



Automatic detection of failures to give way at pedestrian crossings in real-time and warnings for road users.

AWARENESS RAISING IN THE EVENT OF VIOLATIONS

Downstream installation of LED displays, can sensitise transport users to their misconduct in real-time as a contribution to targeted improvement of road safety.



AI improves safety along school routes and at pedestrian crossings.

IDEAL APPLICATION AREAS

- Improving safety, preventing accidents
- Safety on school routes
- Failure to give way at pedestrian crossings
- Cyclist behaviour at roundabouts
- Detection of near-accidents
- Disregard of stop signals
- Unauthorised parking
- Wrong lane or direction of travel

TECHNICAL FEATURES

- Fixed or mobile counting station
- Autonomous for up to 7 days if mobile
- Counting IMT, cyclists, persons
- Speeds
- Can be connected to an LED display for awareness raising
- Accurate lane tracking
- Real-time data
- Floating car data

COMBINABLE PRODUCTS

- Page 20 swissANPR AI
- Page 38 swissSERVICES
- Page 40 swissDASHBOARD





AI REVOLUTION IN MOBILE TRAFFIC DATA COLLECTION

swissSCOUT AI is revolutionising mobile traffic data collection. The integrated AI software enables on-site multimodal traffic analysis in real-time, without having to save videos or images. The analysed data is uploaded directly to the cloud, where it is then available for visualisation on the swissDASHBOARD.

swissSCOUT AI is the first mobile traffic data collection system with full GDPR compliance.

Please check the swissSCOUT website for further information: www.swisscout.com



Mobile camera system with integrated AI analysis software for real-time evaluations and presentation on a proprietary dashboard.



Swiss quality. Hardware and software from a single source.

AI SWISSSCOUT AI



The mobile camera system for multimodal counting is 100% compliant with the GDPR thanks to integrated AI and allows autonomy of up to 7 days. The data is analysed in real-time.

IDEAL APPLICATION AREAS

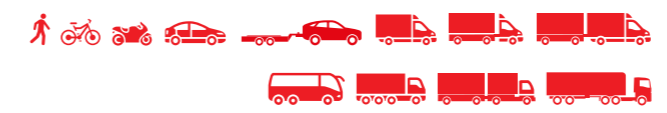
- Counting IMT, cyclists, persons
- Counting tourists, hikers
- Cyclist behaviour
- Nodal flow analyses
- Parking with origins
- Impact analyses
- Safety analyses

TECHNICAL FEATURES

- Multimodal
- Mobile solution with up to 7 days of round-the-clock autonomy
- Real-time data
- Speeds
- Accurate lane tracking
- Congestion-resilient
- Simple installation
- 12 object classes

COMBINABLE PRODUCTS

- Page 12 swissSAFETY AI
- Page 36 swissPARKING AI
- Page 38 swissSERVICES





SOPHISTICATED LASER TECHNOLOGY

The sensor uses a “laser curtain” that is defined during installation to log the cross section in a sequence of consecutive scans (every 16 ms). The laser uses this information to generate a 3D image that is analysed by the algorithms to determine the correct classification. The system accurately registers the direction of travel by detecting which of the 4 laser planes the cyclist, e-scooter or pedestrian reaches first.

The sensor is equipped with a CPU. All signals from the laser scanner are processed directly. A 4G modem is also installed in the laser to transmit text data (no images) to a server in real-time.



A cloud of points indicating a bicycle and an e-Scooter. The sensor software is able to distinguish cyclists, e-scooters and pedestrians.



A typical system for counting bicycles consists of a laser scanner and an LED display.



swissBIKE+PED CROWD has a neatly arranged, proprietary dashboard.

AI SWISSBIKE+PED CROWD

Simultaneously counts cyclists and pedestrians in all directions on paths with a width of up to 4 metres. Combinable with an LED display. Counts also e-scooters.

IDEAL APPLICATION AREAS

- Counting cyclists, persons
- Counting tourists, hikers
- Counting e-scooters

TECHNICAL FEATURES

- Laser technology
- LED display
- Solar fixed counting station
- Accurate lane tracking
- Real-time data
- Proprietary dashboard

COMBINABLE PRODUCTS

Page 38 swissSERVICES





PIEZO INSTEAD OF INDUCTION

Counting with piezo strips is far more accurate than using induction. An electromechanical pulse is triggered by the pressure applied by an object as it crosses the strip, which is then analysed by the system. Passing vehicles or cyclists are detected very accurately, even during congestion when a vehicle may be stationary on the piezo strip.



Mobile/temporary counting station with tubes



Installation of a fixed counting station with piezo technology. Only on smooth surfaces, no paving. Up to 5 m maximum width per lane.



Can count cyclists and pedestrians at the same time and identify their direction of travel.

AI | SWISSTRAFFIC+BIKE



Uses induction loops, a thermal sensor or piezoelectric strips to count mixed traffic either temporarily or permanently.

IDEAL APPLICATION AREAS

- Counting cyclists
- Counting IMT

TECHNICAL FEATURES

- Fixed or mobile counting station
- 3 months autonomous if mobile
- Speeds
- Accurate lane tracking
- Congestion-resilient
- Simple installation
- 5 vehicle classes
- Free analysis software
- Piezo or induction loops

COMBINABLE PRODUCTS

Page 38 swissSERVICES



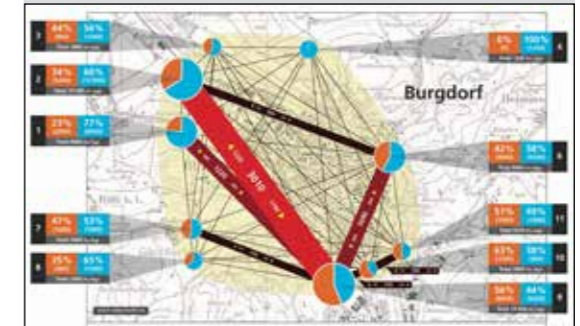


SMART LICENSE PLATE RECOGNITION

Detection rates of at least 98% – even for mobile deployments in Switzerland and abroad. Different vehicle types are distinguished and matrices are generated per vehicle type, which can be directly incorporated into a traffic model. Graphic visualisation of the results facilitates interpretation.

SEGMENTAL SPEEDS FOR IMPROVED SAFETY

Average speed detection along a certain section of road – e.g. for school route safety – can be combined with an LED display to sensitise errant motorists. Optionally, the system can be used for the issue of fines by the police.



Graphical visualisation of the origin, destination and transit traffic through a city, municipality or neighbourhood with different vehicle types.



Identification of the share of electric, hybrid, diesel, petrol vehicles and their origins (country, canton, town)



Automatic registration of hazardous goods transports and their cargo types.

AI | SWISSANPR AI



Precise traffic detection thanks to the use of the latest generation of smart license plate detection cameras with high data quality. swissANPR AI complies 100% with GDPR data protection requirements.

IDEAL APPLICATION AREAS

- Destination, origin and transit traffic
- Rat-running traffic
- Travel times and routes
- Proportion of electric, hybrid, petrol or diesel vehicles
- Hazardous goods transports
- Segmental speeds
- Traffic models and scenarios

TECHNICAL FEATURES

- Fixed or mobile counting station
- Autonomous for 5 days if mobile
- LED display
- Accurate lane tracking
- Real-time data
- Congestion-resilient
- Origins: country/canton/town
- SWISS10 (10 vehicle classes)

COMBINABLE PRODUCTS

- Page 12 swissSAFETY AI
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- Page 34 swissTRAVEL
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AI SWISSDRONE AI



Aerial observation and counting of multimodal traffic situations. Detection of movement patterns for all transport users across a wider perimeter. Prevention of near-accidents.

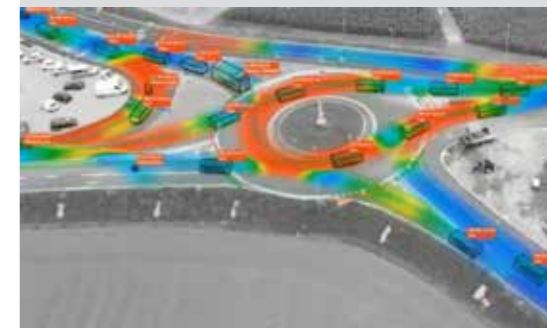
ALSO COVERS WIDER PERIMETERS

At a suitable height, drones enable coverage of a wider observation perimeter, along with precise tracking and counting of all movements within it. The high resolution of the mounted camera enables visualisation of even the smallest objects such as pedestrians or cyclists using our AI software. All data protection requirements according to the GDPR are observed.

Special drones that receive power via a cable to the ground are deployed for assignments lasting more than 60 minutes.



Routes of travel are also determined, in addition to counting. Provides aerial analysis of how long parking procedures last as well.



Observation and counting of multimodal traffic in wider perimeters and identification of near-accidents (safety deficits).



Autonomous for 60 minutes. Can be extended to several hours if necessary.



IDEAL APPLICATION AREAS

- Observation and counting of multimodal traffic
- Nodal flow analyses
- Traffic flow
- Parking
- Analyses of near-accidents

TECHNICAL FEATURES

- Multimodal
- Autonomy for 60 minutes
- Speeds
- Accurate lane tracking
- Congestion-resilient
- Simple installation
- 9 object classes

COMBINABLE PRODUCTS

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TECHNOLOGY

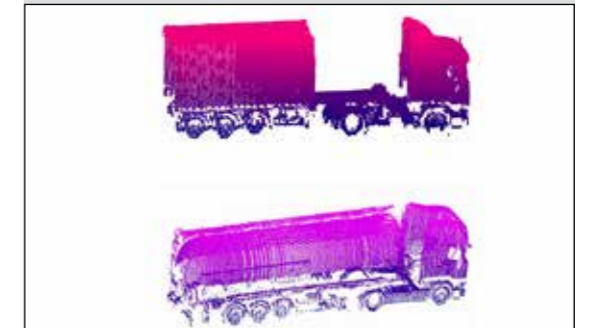
The laser technology emits up to four beams. These are invisible to the human eye and harmless. The point cloud they create replicates the vehicle shape with the exact vehicle dimensions, enabling both precise classification and identification of any height and width restrictions.

The laser can be mounted either at the side or overhead. It also provides highly accurate speed measurements if the "Radar" option is enabled.

The laser complies with data protection requirements, as it does not record or transmit images. Precise laser detection distinguishes between the lengths and profiles of vehicles.



Two lanes can be covered simultaneously if the system is mounted at a height of around 8 m.



The laser point clouds map the precise vehicle shape and therefore differentiate up to 10 vehicle classes.



swissLASER has a neatly arranged, proprietary dashboard.

AI | SWISSLASER



swissLASER was specially developed for directional counting of individual motorised traffic and to satisfy even the most rigorous accuracy requirements in an urban environment. swissLASER is able to distinguish up to ten vehicle classes according to SWISS10.

IDEAL APPLICATION AREAS

- Counting IMT
- Detection of congestion
- Parking

TECHNICAL FEATURES

- 2 lanes simultaneously
- Real-time data
- Congestion-resilient
- No lane encroachment
- Simple installation
- SWISS10 (10 vehicle classes)
- Laser Class 1
- Proprietary dashboard

COMBINABLE PRODUCTS

- Page 36 swissPARKING AI
- Page 38 swissSERVICES





PRECISE COUNTING IN PEDESTRIAN ZONES

This unique sensor enables precise counting of pedestrian traffic in pedestrian zones, even in dense crowds. Among its most outstanding features is the wide coverage of up to 32 metres with just a single sensor.



The use of laser technology ensures compliance with all data protection requirements.



4x laser curtain for reliable counting and up to 98% accuracy.



Mounted at a height of up to 20 metres for counting zones with widths of 32 metres.

AI | SWISSPED



Counts city centre pedestrians in zones with a width of up to 32 metres. SWISSPED complies 100% with GDPR data protection requirements.

IDEAL APPLICATION AREAS

Counting pedestrians in pedestrian zones

TECHNICAL FEATURES

- Laser technology
- Width of up to 32 metres
- Mounted at a height of up to 20 metres
- Real-time data
- Simple installation
- Fixed counting station

COMBINABLE PRODUCTS

- Page 38 swissSERVICES
- Page 40 swissDASHBOARD





TECHNOLOGY

swissRADAR is characterised in particular by its capability for prolonged autonomous operation of up to three weeks without replacing the battery. Can be equipped with Solar and 4G modules to generate real-time data as a permanent counting station. Un-suitable for locations with congestion or stop & go traffic, as these factors distort the results.



Up to 3 weeks of continuous operation possible.



Extended mounting height of between 1 and 8 metres.



Automatic calibration. Data export via Bluetooth.

AI | SWISSRADAR



A lateral radar device for intermittent and/or regular traffic counts, the identification of road sections with excessive vehicle speeds and for the collection of data used in urban traffic development plans.



IDEAL APPLICATION AREAS

30 km/h zones
Counting IMT
Speed detection



TECHNICAL FEATURES

Fixed or mobile counting station
Autonomous for up to 3 weeks
if mobile
Speeds
Accurate lane tracking
Simple installation
4 vehicle classes
GSM



COMBINABLE PRODUCTS

Page 12 swissSAFETY AI
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TECHNOLOGY

The boxes use digital heat detectors. These components act like miniature thermal imaging sensors.

They concentrate infrared heat radiation when people cross the sensor beam. Digital analysis of this signal can be used to count the number of objects and determine their direction of travel. The speed is also used to distinguish between people and cyclists. These boxes are simple, small, adaptable to any environment and operate autonomously.



Automatic transmission of numerical data by LTE or SIGFOX. Counter visualisation on Android or iOS smartphones.



Counts cyclists and pedestrians.



Installation at the edge of a footpath (1 sensor integrated in a wooden post) possible.

AI SWISSBIKE+PED LIGHT



This IoT sensor is specifically designed for the needs of tourist facilities such as parks and trails or for natural settings and is used to count hikers and cyclists, for social clubs or events without ticketing etc.



IDEAL APPLICATION AREAS

Counting tourists, cyclists, hikers, cross-country skiers, people attending events
Pavements

TECHNICAL FEATURES

Autonomous for 1 year
Real-time data in the app
Simple installation
Counting widths of 1–6 metres
2 object classes
SIGFOX, GSM and LoRa
Plug & count

COMBINABLE PRODUCTS

Page 38 swissSERVICES
Page 40 swissDASHBOARD





NOISE MEASUREMENT USING ARTIFICIAL INTELLIGENCE

The highly sensitive sensor detects ambient noise and uses integrated machine learning software to analyse its profile. This distinguishes between cars, motorbikes and lorries. The sensor also recognises the direction of travel and speed based on the noise emission.

The LED information panel raises awareness and encourages noise-conscious driving. Practical experience has shown significant success in reducing noise at locations fitted with SWISSNOISE AI.

There are plans to extend detection capabilities to also include electric vehicles and electric bicycles.



The LED information panel raises awareness and encourages noise-conscious driving.



The highly sensitive sensor detects ambient noise and uses integrated AI machine learning software to analyse its profile.



SWISSNOISE AI has a neatly arranged, proprietary dashboard.

AI | SWISSNOISE AI



AI-based measurement of traffic noise from different directions. The downstream LED display raises awareness and encourages noise-conscious driving, which leads to a significant noise reduction in most cases. In turn, this improves quality of life considerably.

IDEAL APPLICATION AREAS

- Impact analyses for 30 km/h speed limits
- Recording of noise emissions
- Awareness raising among vehicle owners

TECHNICAL FEATURES

- Fixed or mobile counting station
- Solar-powered if mobile
- Accurate lane tracking
- Real-time data
- With LED display
- Simple installation
- Proprietary dashboard

COMBINABLE PRODUCTS

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- Page 38 swissSERVICES





TIME IS A PRECIOUS COMMODITY

Receiving early information can improve the mobility patterns of transport users. Reliable predictions can be made regarding journey times and delays by incorporating AI together with the measurement of real traffic events.

TARGETED IMPACT ANALYSES

Gains (or losses) in travel times are the best and most effective way of substantiating statements about the impact of infrastructure projects or accompanying measures over a longer period.



Real-time determination of journey times and delays on various routes and optimisation of the traffic flow.



LED display indicating delays.



SWISS TRAVEL has a neatly arranged, proprietary dashboard for travel times.

AI | SWISS TRAVEL



SWISS TRAVEL logs journey times and delays in real-time for both personal transport and cycling. This enables deficiency analyses to be performed and the optimisation of traffic distribution and connections.

IDEAL APPLICATION AREAS

- Analysis of journey times and delays
- Segmental speeds
- Impact analyses

TECHNICAL FEATURES

- Bluetooth and WiFi MAC-addresses
- Fixed or mobile counting station
- Autonomous for 7 days if mobile
- Speeds
- Real-time data
- LED display
- Simple installation
- 3 vehicle classes
- Proprietary dashboard

COMBINABLE PRODUCTS

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AI SWISSPARKING AI



End-to-end solution for the public sector, private enterprises and private properties. From the issue of access rights and a reservation system, to barrier authentication and automatic shuttle buses, this product supports all of your parking requirements.

IDEAL APPLICATION AREAS

- Municipal parking facilities
- Tourist or event parking
- Company parking
- Property parking
- On-street or off-street car parking

TECHNICAL FEATURES

- End-to-end hard- + software solution
- Payment app, dynamic parking fees
- Issue of access rights
- Parking space reservation
- Authentication at the barrier
- Automatic parking buses
- Origins: country/canton/town
- Fixed or mobile solution
- Proprietary dashboard

COMBINABLE PRODUCTS

- Page 10 swissTRAFFIC AI+LoRa
- Page 12 swissSAFETY AI
- Page 20 swissANPR AI
- Page 24 swissLASER
- Page 38 swissSERVICES

PUBLIC

The professional, cloud-based platform gives municipalities an end-to-end solution for parking management. swissPARKING AI improves the capabilities of your traffic infrastructure, limits congestion and reduces the search for parking spaces. Car parks must be accessible at all times and well frequented. 85% is considered a benchmark for optimum occupancy.

The price is an effective instrument for controlling occupancy levels in car parks. A carefully selected fee structure balances demand and minimises unnecessary traffic. Prices can be adjusted flexibly to prevent bottlenecks or stimulate use. This means that pricing should certainly be dynamic.

PRIVATE

Companies sometimes struggle with the increasing scarcity of parking spaces and long waiting lists. Digital parking solutions help them to manage this problem and provide facilities for their staff both easily and efficiently.

In today's world, smart IoT technology and innovative software and app solutions create innumerable opportunities to make better use of available parking capacities. Aside from standard elements like number plate recognition, visitor reservations and an array of app functionalities, swissPARKING AI offers additional modules to enhance your end-to-end solution. swissPARKING AI can even be integrated into existing systems.



Automatic reservation and navigation to free parking space with customisable visitor and employee attributes.



Automatic authentication at the barrier entrance enables entry to the parking space without stopping using automated payment.



swissPARKING AI has a neatly arranged, proprietary dashboard.





WE HELP YOU ACHIEVE STRATEGIC MOBILITY OBJECTIVES – FOR SMART MOBILITY IN TOMORROW’S WORLD.

Our company has a highly qualified pool of specialists. It goes without saying that we operate consistently at the cutting edge of technology and strive to build green and economically viable solutions.

As traffic engineers, we deliver expert planning and competent advice. Professional technology and state-of-the-art technology are used in the execution of all our assignments.

Our engineers have developed processes for mobility intelligence analytics that enable the real-time evaluation of big data. We make use of open data and also collect our own information.

This means we can offer a full service – from planning to implementation – from a single source based on more than 20 years of experience. You are in safe hands with us.



As traffic engineers, we deliver solution-oriented planning and competent advice.



Planning and achievement of strategic mobility objectives.



Installation and maintenance of sensors by qualified SWISSTRAFFIC staff.

AI | SWISSSERVICES



Our mobility experts assist you from planning to implementation. We offer everything from a single source, including consulting, data collection and collaborative development of a solution.

IDEAL APPLICATION AREAS

- Traffic flow simulations
- Development planning
- Technical traffic studies
- Performance capability analyses
- Accident analyses
- Reconstruction concepts
- End-to-end parking solutions
- Holistic traffic concepts
- Safety analyses

TECHNICAL FEATURES

- From identifying the problem to creating the solution
- Mobility engineers & fitters
- Over 20 years of experience
- State-of-the-art technology
- Installation and maintenance

COMBINABLE PRODUCTS

- Pages 10-35 all swissSENSORS
- Page 12 swissSAFETY AI
- Page 36 swissPARKING AI
- Page 40 swissDASHBOARD



AI SWISSDASHBOARD



Modern, interactive, customisable, multimodal dashboards with predictions and APIs that map multimodal mobility in real-time.

IDEAL APPLICATION AREAS

Pairing clarity with KPIs for optimised ease-of-use.

TECHNICAL FEATURES

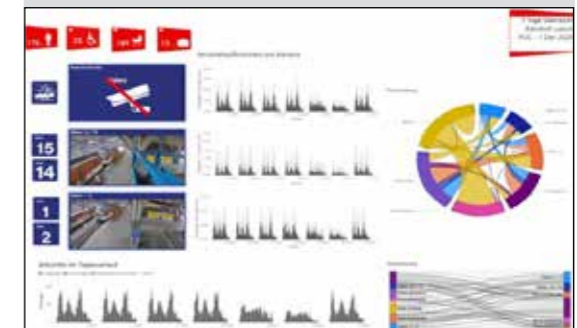
- APIs for your own dashboard
- Customisable
- Expandable
- All data exportable
- Predictions
- Meteo

COMBINABLE PRODUCTS

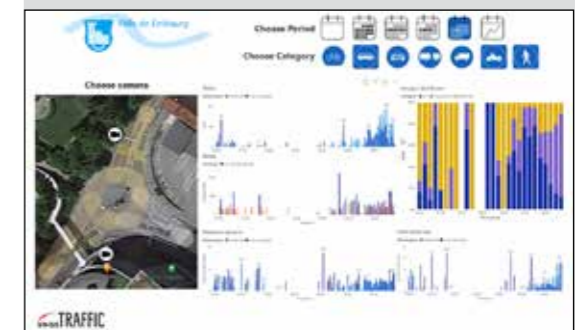
Pages 10-35 all swissSENSORS



You select the parameters that matter to you and receive the data neatly arranged in real-time – accessible anytime, anywhere.



Presentation of the transfer relationships and occupancy rates for passenger trains at a railway hub.



Dashboard for traffic experts. A variety of neatly arranged performance indicators are displayed per period and object class at the push of a button.



PRODUCT OVERVIEW

| PRODUCT OVERVIEW | COUNTING | MOTORIZED TRAFFIC | CYCLISTS | PEDESTRIANS | ORIGIN-DESTINATION, TRANSIT | SPEED | PARKING | LANE RECOGNITION | REAL-TIME | CONGESTION RESISTANT | EASY TO INSTALL | DASHBOARD | LED DISPLAY | PERMANENT COUNT LOCATION | MOBILE INSTALLATION | NUMBER OF VEHICLE CLASSES | AUTONOMY WHEN MOBILE | ADDITIONAL USES |
|----------------------|----------|-------------------|----------|-------------|-----------------------------|-------|---------|------------------|-----------|----------------------|-----------------|-----------|-------------|--------------------------|---------------------|---------------------------|----------------------|--|
| SWISSTRAFFIC AI+LoRa | ● | ● | ● | ● | ◐ | ● | ● | ● | ● | ● | ● | ✓ | ✓ | ✓ | | 9 | | 4/5G, TURN OFF RELATIONS |
| SWISS SAFETY AI | ● | ● | ● | ● | | ● | ● | ● | ● | ● | ● | ✓ | ✓ | ✓ | ✓ | | 7 D | RIGHT OF WAY, RED LIGHTS, ILLEGAL PARKING |
| SWISS SCOUT AI | ● | ● | ● | ● | ◐ | ● | ● | ● | ● | ● | ● | ✓ | | | ✓ | 10 | 7 D | |
| SWISS BIKE+PED CROWD | ● | | ● | ● | | ◐ | | ● | | | ◐ | ✓ | ✓ | ✓ | | 3 | | LED DISPLAY, + E-SCOOTERS |
| SWISS TRAFFIC+BIKE | ● | ● | ● | | | ● | | ● | | ● | ◐ | | | ✓ | ✓ | 5 | 3 MTH | |
| SWISS ANPR AI | ● | ● | ◐ | | ● | ◐ | ● | ● | ◐ | ● | | ✓ | ✓ | ✓ | ✓ | 10 | 5 D | ORIGIN, E-VEHICLES, E-CAR, CO ₂ |
| SWISS DRONE AI | ● | ● | ● | ● | ● | ● | | ● | | ● | ● | ✓ | | | ✓ | 9 | 1 HR | |
| SWISS LASER | ● | ● | | | | ◐ | ● | ● | ● | ● | ● | ✓ | ✓ | ✓ | | 10 | | SWISS10 |
| SWISS PED | ● | | | ● | | | | | ● | | ◐ | ✓ | ✓ | ✓ | | 1 | | PEDESTRIAN ZONES |
| SWISS RADAR | ● | ● | | | | ● | | ● | ◐ | ● | ● | ✓ | | | ✓ | 4 | 3 WKS | 4/5G |
| SWISS BIKE+PED LIGHT | ● | | | ● | | | | ● | ● | ● | ● | ✓ | | ✓ | ✓ | 2 | 1 Y | |
| SWISS NOISE AI | ● | ● | | | | | | ● | ● | ● | ● | ✓ | ✓ | ✓ | ✓ | 10 | SOLAR | E-VEHICLES |
| SWISS TRAVEL | ◐ | ● | ◐ | | ◐ | ● | | ● | ● | ● | ● | ✓ | ✓ | ✓ | ✓ | 3 | 7 D | DELAY TIMES |
| SWISS PARKING AI | ● | ● | | | | | ● | ● | ● | ● | ◐ | ✓ | ✓ | ✓ | ✓ | | 5 D | |
| SWISS SPEED | | ● | | | | ● | | ● | ● | ● | ● | ✓ | ✓ | ✓ | ✓ | | SOLAR | LED TEXT-DISPLAY, 4G |

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2023/Version 1.5



SCAN ME



**NOTHING
HAPPENS
UNTIL YOU
MOVE**