

# Multimodal Counter 4.0



Counting with added value

We shape the mobility of the future



## Glossary

3D	.	.	three-dimensional
AI	.	.	artificial intelligence
ANPR	.	.	automatic number plate recognition
API	.	.	application programming interface
App	.	.	smartphone application
BI	.	.	business intelligence
Broadcasting	.	.	television transmission
CO <sub>2</sub>	.	.	carbon dioxide
Full HD	.	.	1920 × 1080 pixels
IoT	.	.	internet of things
IP67	.	.	dustproof and protected against temporary submersion (up to 1 metre in depth for 30 minutes)
LoRa	.	.	long-range radio
Lux	.	.	luminous intensity
MIT	.	.	motorized individual traffic
Mobility Analytics	.	.	software for mobility analysis
EU	.	.	european union
o-d	.	.	origin/destination traffic
POD	.	.	telescope camera
Pixel	.	.	image resolution
Tracen	.	.	trace
RFID	.	.	identification by means of electromagnetic waves (radio-frequency identification)
Swiss10	.	.	differentiation of 10 vehicle classes
V85	.	.	speed, which is not exceeded by 85% of the measured values

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# SWISS ANPR



Mobile license plate recognition with added value and high data quality.  
Swiss solution from a single source that complies with EU and Swiss  
data protection guidelines.

## Services

Destination, origin and transit traffic

Travel times and routes

Speeds

Brand, model, colour

Country, canton affiliation

Accuracy >98%

## Added value

Impact analyses BEFORE-DURING-AFTER

Congestion lengths and times

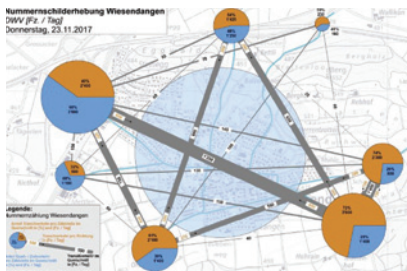
Crossroad flows incl. pedestrians

Average day, morning and evening peak

Optional: Traffic model with traffic  
scenarios (VISUM, VISSIM)

Mopeds, e-bikes, motorbikes, cars, trucks, tractors

Measurement during min. 48 h





# SWISS Laser



Up to 20 vehicle class distinctions are possible due to the laser-accurate recording of vehicle lengths and vehicle profiles. Ideal for bicycle and pedestrian counting.

## Services

Mobile or permanent counting station

Vehicle lengths and profiles (W × L × H)

Speeds

Accurate lane detection

Accuracy >95%

## Added value

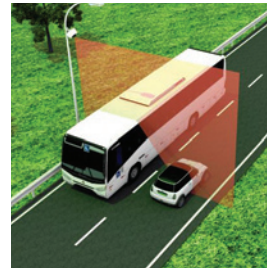
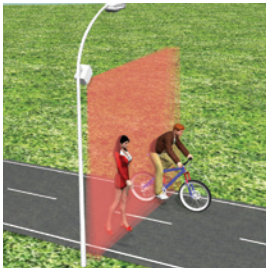
Detects up to 20 vehicle classes (e.g. with or without trailer) Swiss10+

Counts cyclists and pedestrians separately

Automatic toll payments depending on vehicle size

Detection of congestion

Real-time data transmission



# SWISS 3D Sensor Ai



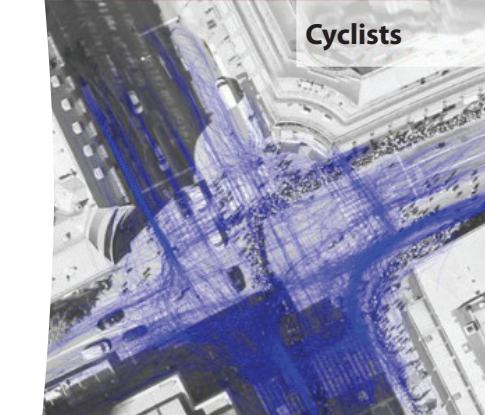
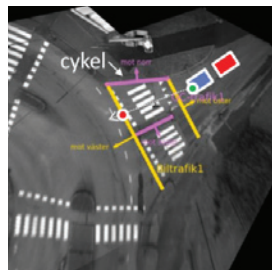
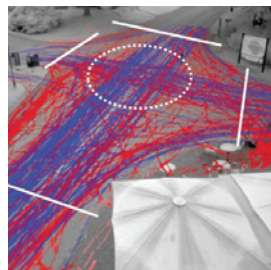
Ultra-modern, three-dimensional sensor for multi-day safety and conflict analyses with integrated artificial intelligence AI, which is required to meet the highest standards.

## Services

- Safety and conflict analyses
- Counting and tracing in real-time
- Measures time gaps and distances
- Integrated artificial intelligence AI
- Accuracy >98% in heavy traffic

## Added value

- Multimodal safety analyses
- Behavior while red light switching
- Behavior while pedestrian crossings
- Ideal for multi-day safety and conflict analyses at accident black spots
- With optional recommendations for measures
- Evaluation by certified safety auditors



# SWISS Camera Ai



Our specially developed POD cameras with telescopic antennas up to 8 m height meet the highest quality requirements for any form of multimodal traffic and crossroad flow counting.

## Services

Can count for up to 2 weeks without battery change

Integrated artificial intelligence AI

Electronically stabilised to minimise motion blurs

Image resolution up to 1280 × 960 pixels

Extremely high light sensitivity (0.01 Lux) for night recordings

Speeds

Accuracy >95%

## Added value

Counts ALL road users at crossroads incl. cyclists and pedestrians

Detects up to 10 vehicle classes Swiss10

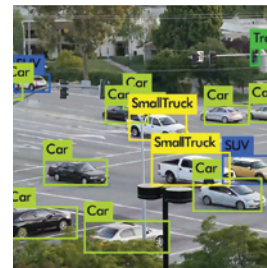
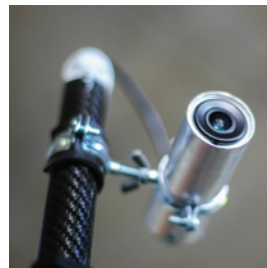
Automated evaluation with AI

o-d matrix at intersections or roundabouts

Real-time data transmission with integrated remote monitoring

Rapid provision of results

Optional: Graphical presentation of the results





“Observe” the traffic situation from above through the drone and automatically count and trace it using the integrated “Artificial Intelligence” solution.

## Services

Measurement up to one hour

Speed profiles

Measures time gaps and distances

Integrated artificial intelligence AI

Certified drone pilots

Accuracy >98% in heavy traffic

## Added value

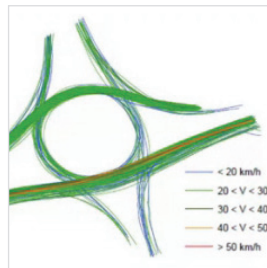
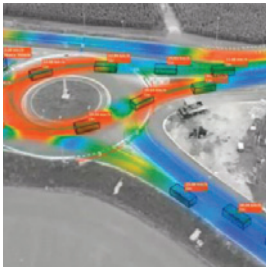
Counting and tracing

Ideal for short-term safety and conflict analyses at accident black spots

Use at intersections or roundabouts

Detailed capacity analyses

Consultation by experienced traffic engineers





EASY • QUICK • PRECISE • COMPELLING • LOW-COST

# SWISS Radar



The Swiss Radar is the ideal counting device for traffic counting due to its simple installation and autonomy of up to 3 weeks without battery change.

## Services

Can count for up to 3 weeks without battery change

Speeds

Real-time data transmission

Accuracy >95%

## Added value

Can count up to 5 vehicle classes

Captures the speeds (V85)

Ideal for 30 km/h zone reports





The multimodal “plug & count” IoT radar also transmits the counting data via the LoRa network.

## Services

Counts pedestrians, cyclists, motorized vehicles

Mobile or permanent counting station

Integrated API

Indoor and outdoor solution IP67

Accuracy >90%

## Added value

Ideal for traffic counts

People-flow measurements

Facility management, walking paths etc.

Plug & count

LoRaWan enables cost-effective data transmission





The people counter is notable for its very simple “plug & count” installation. Ideal for counting pedestrians along narrow passages or walkways.

## Services

Counts people at narrow passageways, doors or walkways

Autonomy up to 6 months

Mobile or permanent counting station

Accuracy >95%

## Added value

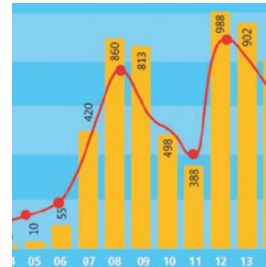
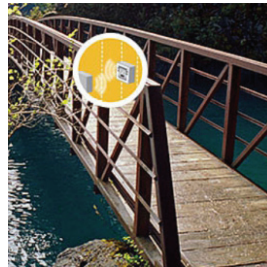
Counts pedestrians, visitors, customers, hikers etc.

Plug & count

LoRaWan enables cost-effective data transmission

Indoor and outdoor

Real-time data transmission



# SWISS IoT-Parking Ai Bi



Smart parking solution with integrated "Artificial and Business Intelligence" tools that automatically identifies the size of parking spaces.

## Services

From detection to software and apps

LoRa sensors or camera

Installation – operation – maintenance

Integrated AI and BI tools

Enforcement solution

## Added value

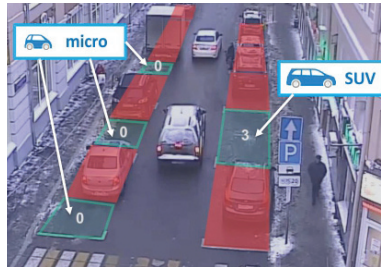
Cost-effective and efficient Smart Parking solution

Detects lengths of free parking spaces

Navigation to the nearest free parking space

Optional: Parking guidance system with LED displays

Optional: Reservation system





# SWISS Broadcasting



Low-cost broadcasting for the live transmission of a race or event at various locations along the course on screens at the finish and start for supervisors and family members.

## Services

Runs fully autonomously

Real-time transmission

Electronically stabilised to minimise motion blurs

Full HD image resolution

Extremely high light sensitivity (0.01 Lux) for night recordings

## Added value

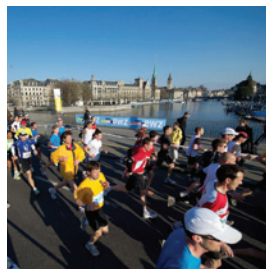
Affordable live broadcasting of your event

Can also be used as a monitoring tool to ensure the safety of participants (control centre)

Swiss solution – everything from a single source

Optional: Can also be equipped with RFID to check passageways

Optional: Can also count





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# BlueScan



The multimodal mobility patterns of all traffic participants are anonymously “observed” over a longer period of time.

## Services

At least 2 weeks to several years

Differentiation between MIT, cyclists, pedestrians and public transport users

Travel times, loss times, dwell times

o-d matrix

Accuracy >90%

## Added value

Impact analysis of spatial designs

Destination, origin and transit traffic

Optional: Traffic model (VISUM)

API for easy integration into app

Real-time display with map-supported web application

Integrated mobility analytics tools





# MetroCount



A single counting system for motorised and bike traffic that meets the highest demands. Professional analysis and management software is included free of charge.

## Services

Autonomy up to 6 months  
(mobile counting)

Consulting, installation, operation and  
maintenance from a single source

Mobile or permanent counting station

Speeds

Accuracy >95%

## Added value

Detects up to 10 vehicle classes in accordance  
with Swiss10

Counts cyclists, skaters and pedestrians separately

Free analysis software

Solar operation possible



# Sensys IoT



Induction loops become obsolete with Sensys. IoT sensors are installed within 20' and traffic is counted instantly – without any wiring.

## Services

Autonomy up to 7 years

Detects up to 5 vehicle classes  
+ cyclists

Accurate lane tracking

Speeds

Accuracy >95%

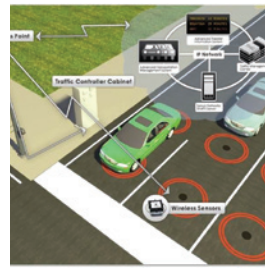
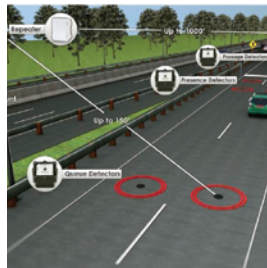
## Added value

Plug & count fixed counting station

Presence detection at traffic light system;  
also cyclists

“Green wave” for cyclists

Traffic congestion detection,  
ramp management





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# Features



	Pedestrian traffic	Cyclists	Motorized vehicles	Public transport	Accurate lane tracking	Real-time data	Accuracy	Simple installation
SWISS ANPR		■ ■	■ ■ ■	■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■
SWISS LASER	■ ■ ■	■ ■ ■	■ ■ ■		■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■
SWISS 3D-SENSOR	■ ■ ■	■ ■ ■	■ ■ ■		■ ■ ■	■ ■ ■	■ ■ ■	■ ■
SWISS CAMERA	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■		■ ■ ■	■ ■ ■
SWISS DRONE	■ ■ ■	■ ■	■ ■ ■	■ ■	■ ■ ■		■ ■ ■	■ ■
SWISS RADAR	■	■ ■	■ ■ ■		■ ■	■ ■ ■	■ ■	■ ■ ■
SWISS IoT-RADAR	■ ■	■ ■	■ ■ ■		■ ■	■ ■ ■	■ ■	■ ■ ■
SWISS IoT-INFRARED	■ ■ ■	■ ■				■ ■ ■	■ ■	■ ■ ■
SWISS IoT-Parking			■ ■ ■		■ ■ ■	■ ■ ■	■ ■ ■	■ ■
SWISS Broadcasting	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■
BlueScan	■ ■	■ ■	■ ■	■ ■ ■		■ ■ ■	■ ■ ■	■ ■
MetroCount	■ ■	■ ■ ■	■ ■ ■		■ ■ ■	■ ■ ■	■ ■ ■	
Sensys IoT			■ ■ ■		■ ■ ■	■ ■ ■	■ ■ ■	■ ■ ■

# Application possibilities

	Counting	Destination, origin, transit	Conflict analyses	Speed	LED display
SWISS ANPR	■ ■ ■	■ ■ ■		■ ■ ■	■ ■ ■
SWISS LASER	■ ■ ■			■ ■ ■	■ ■ ■
SWISS 3D-SENSOR	■ ■ ■	■ ■	■ ■ ■	■ ■ ■	■ ■ ■
SWISS CAMERA	■ ■ ■	■ ■	■ ■ ■	■ ■	
SWISS DRONE	■ ■ ■	■ ■	■ ■ ■	■ ■ ■	
SWISS RADAR	■ ■ ■			■ ■ ■	
SWISS IoT-RADAR	■ ■ ■			■ ■ ■	■ ■ ■
SWISS IoT-INFRARED	■ ■ ■				■ ■ ■
SWISS IoT-Parking	■ ■ ■				■ ■ ■
SWISS Broadcasting	■ ■ ■				■ ■ ■
BlueScan	■ ■	■ ■ ■		■ ■	
MetroCount	■ ■ ■			■ ■ ■	■ ■ ■
Sensys IoT	■ ■ ■			■ ■ ■	■ ■ ■



# Counting with added value

Counting – evaluation – consultation, coupled with the highest quality standards by qualified traffic engineers with over 20 years of experience.

Mobile or permanent counting stations always possible

Variable energy supply: fixed connection, solar kit or battery

Indoor and outdoor counting

Data transmission WiFi, 4G/5G, LoRaWan, NB-IoT

Integrated and personalisable cloud solution

Rapid provision of results

Remote maintenance incl. alarms

Highest data quality

Compliance with EU and Swiss data protection guidelines

Very large stock of state-of-the-art counting devices

Constant system development by our traffic engineers

Swiss solution – everything from a single source

**EASY – QUICK – PRECISE – COMPELLING – LOW-COST**





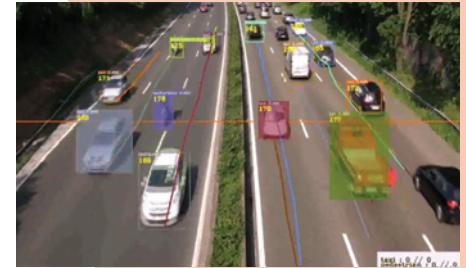
# Examples



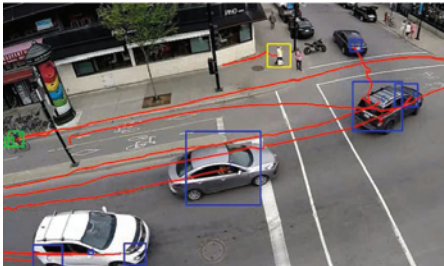
Drone tracing of individuals: paths, speeds etc.



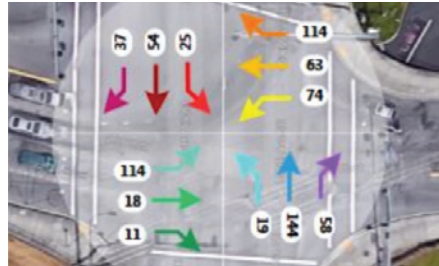
Density of people in real-time



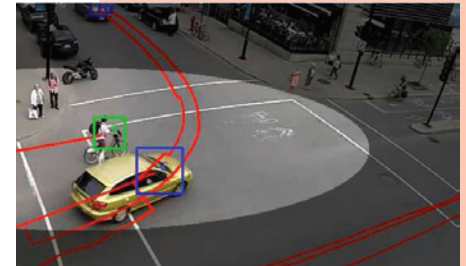
Real-time counting and vehicle classification, also with ANPR detection



o-d matrix at crossroads



Counting and o-d in real-time



Automatic conflict analysis

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**EASY – QUICK – PRECISE – COMPELLING – LOW-COST**

 **SWISS TRAFFIC**

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