SWARCO

GECKO-IR

SYSTEM DESCRIPTION

GECKO-IR

SOLAR-POWERED TRAFFIC COUNTING WITH IoT INTEGRATION

IN COOPERATION WITH ADEC TECHNOLOGIES

GECKO-IR_SYSTEM_DESCRIPTION_10

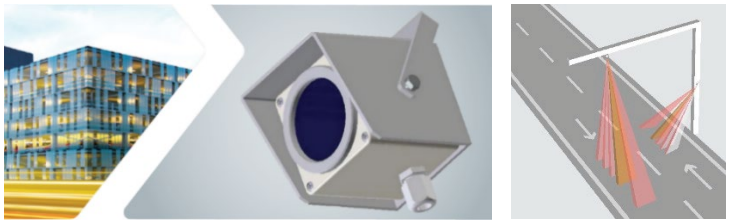
The Better Way. Every Day. swarco

Contend

1 Solar-Powered Traffic Counting

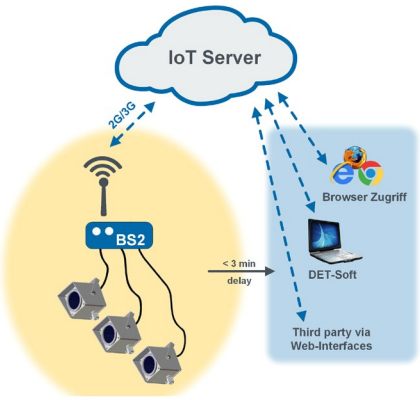
It is a common problem in traffic planning that models are often not well suited to assist in planning new road construction or adding / changing capacity of the existing road network. This is not because the models are not good, but because their input data are inaccurate or purely based on assumptions.

The basis for investment decisions could be much better: temporary or permanent counting stations provide valuable data for optimized analysis. Likewise, without traffic measurements, no before-and-after analysis can be made. There is a multitude of other areas of application.



2 Internet-Accessible Traffic Data

The BS2-TS device is a solar-powered, battery-operated station that collects traffic data from up to four TDC1-PIR traffic detectors. The detected traffic data is transmitted to the IoT server via 4G mobile radio.

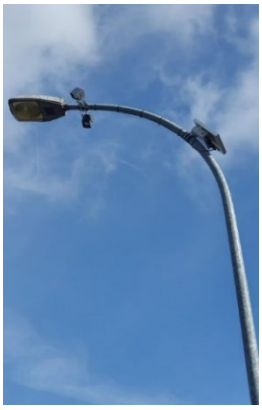


TDC1-PIR traffic detectors stand out thanks to their high accuracy and wide mounting range between 5.5 m and 18 m (max. offset 45° from detector's mounting location to the center of the observed lane). The detectors can be mounted overhead or on the side of the road e.g. on streetlight poles, gantries or overpasses.

The IoT server provides access to the traffic data via a browser, and any software can directly retrieve the data via JSON/REST web interface.

3 Typical Applications

- Temporary, mobile or permanent vehicular traffic counting
- Traffic counting where power is not readily available
- Counting to assess road construction or expansion needs
- Temporary counting during road constructions or large events and festivals
- Obtain counts and speeds to assess traffic flow to optimize traffic lights cycles
- Update traffic models to include new realities
- Assess pollution and noise impact based on traffic volume



4 Unique Features

- Non-intrusive
- Quickly and easily deployed
- Browser-based management and data access
- Easy integration to third-party applications such as traffic modeling software through web-interfaces
- Powered by solar or locally available power source, even if intermittent
- Works with preferred mobile operator
- Simple plug & play setup
- Full integration in SWARCO MYCITY

5 Completely Autonomous Data Collection

5.1 BS2 - IoT Gateway

- Solar-powered / battery-operated
- Autonomous operation of four detectors for up to five days without sun
- Integrated charging circuitry with option to power via intermittent power source such as streetlights
- On-board 4G-modem
- Software updates via 4G mobile communication (over-the-air OtA)
- 555 x 345 x 90 mm @ 5.2 kg
- Designed to be installed and operated with IoT server, also supports data transmission to 3rd party server

5.2 TDC1-PIR Traffic Detector

- 5-channel PIR sensor array
- Monitors a single lane of traffic
- Classification into three length-based vehicle classes
- Wide mounting range of 5.5 m to 18 m from monitored lane
- Mounting overhead or side of the road
- Detection of standing vehicles (queue)
- Detection of wrong-way drivers
- Optimal performance in all weather conditions

SWARCO TRAFFIC SYSTEMS GMBH

Niederkircher Straße 16

D-54294 Trier

detection@swarco.de