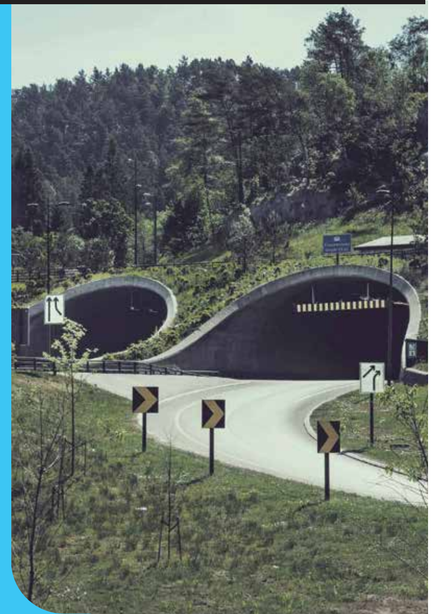
Who's behind Trafsense?

Trafsense is the result of an R&D partnership between Trafsys, NORCE (Norwegian Research Centre) and BTO (Bergen Technology Transfer). The key to success has been and still is the perfect blend of Trafsys' vast experience in ITS and software development and NORCE's in-depth knowledge of fiber optic sensing systems. The different parts of the development project have received financial support from Innovation Norway and the Research Council of Norway.

Are you our next pilot customer?

Trafsys is looking for pilot customers who want to test Trafsense in the field. We can offer tailored solutions developed in close cooperation with the customer to meet specific requirements and needs.



Do you want to know more?

Visit our website:

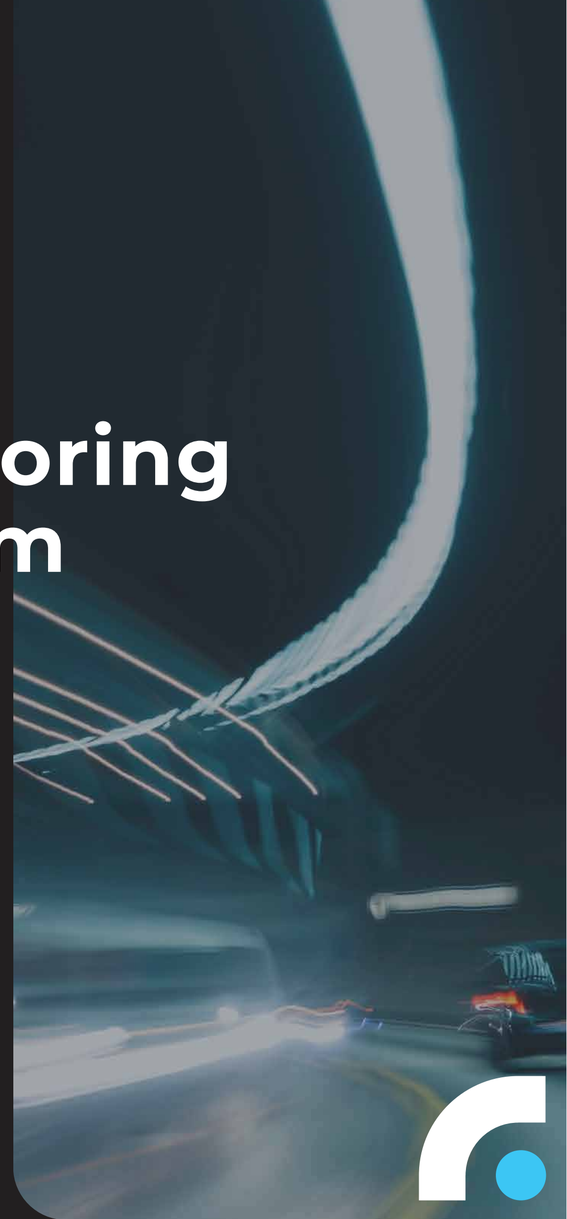
Headquarters in Bergen
Fjellsdalen 3, 5155 Bønes, Norway
Telephone: +47 55 20 86 90
E-mail: post@trafsys.no

Office in Sweden
Solna Torg 19, 5F, 171 45 Solna, Sweden
Telephone: +46 8 558 033 20
E-mail: info@trafsys.se

trafsense

Road Monitoring System

A new solution based on fiber optic sensing technology



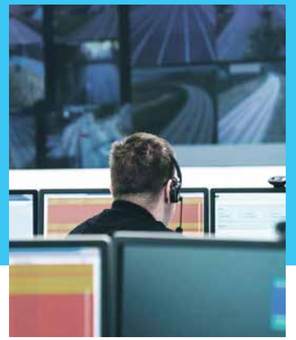
trafsys.no

Why install hundreds of sensors when one is enough?

Trafsense is a road monitoring system based on fiber optic sensing technology that has been developed by Trafsys, a leading Nordic company in the Intelligent Transportation Systems (ITS) industry. By capturing the vibrations triggered by the rumble of wheels, Trafsense tracks the speed and position of vehicles travelling on the road and sets off alarms when incidents occur. It utilizes a standard telecom fiber as the sensor element, thereby enabling several kilometers of road to be covered by a single sensor.
The system comprises the Trafsense Interrogator Unit and the sensor element, which is nothing but a standard single mode telecom fiber. Depending on the application, there are two possibilities for fiber deployment: the fiber optic cable can either be laid in an off-roadway duct or, for even better results, be trenched down into the asphalt layer itself.
Provided the fiber cable is not damaged when the roadway is resurfaced, there is no need for further roadwork after the fiber cable has been laid. The only maintenance required thereafter is periodic inspection of the Trafsense Interrogator Unit, which is located in a technical building next to the road.

A wealth of possibilities

In addition to providing travel statistics data, such as speed and the number of vehicles within user-defined zones, the system can detect incidents and raise alarms at any point along the fiber cable. Currently the following events have been implemented:

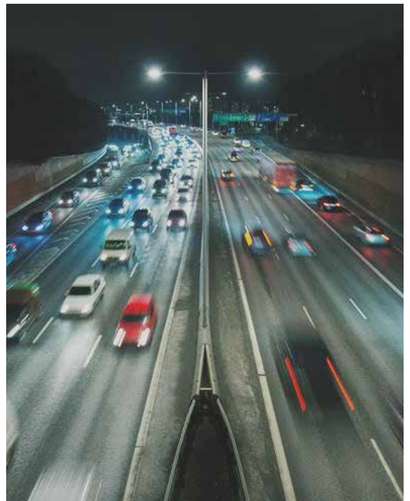


- Stopped vehicle
- Queue formation
- Vehicle driving in the wrong direction (“ghost driver”)

It’s our intention to add more applications in the future meeting our customers’ needs while further exploiting the extensive capabilities of the Trafsense real-time data.

System Integration

Trafsense can easily be integrated with the SCADA system the customer wishes to use. Alternatively, Trafsys can offer integration with Trafvision, the Traffic Management system developed by Trafsys and used by the Norwegian Public Roads Administration to control and monitor more than 500 road tunnels and bridges.



Advantages compared to other technologies

- Cost saving due to low installation costs and the fact that several kilometers are covered by a single fiber optic sensor. Moreover, the sensor is virtually maintenance-free.
- Highly distributed monitoring using a fiber cable as the sensor element. Hence, the entire stretch of road along the fiber is covered without any blind spots.
- The system’s performance is not influenced by poor weather conditions, smoke or air pollution.
- Lack of electrical or mechanical components in the sensor element.
- Functionality independent of the layout of the road, whether straight or curved.
- No risk of interference with other roadside electromagnetic equipment.
- Eliminated need for roadwork that jeopardizes the safety of field staff.