

# Intelligent Transportation Systems (ITS)

Smart system solutions aimed at improving traffic safety

Presentation at VI Warmian-Masurian Road Forum  
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by  
Jan Arpi, Trafsys

*Solutions created by knowledge and needs*

**TRAFSYS**

## Company highlights

- Norwegian ITS System Integrator & Developer
- 30+ years in the industry
- 300+ projects, mostly tunnels
- Customized end-to-end solutions
- Participates in all project phases
- Considerable investments in R&D

### Core competencies

Automation

Software Development

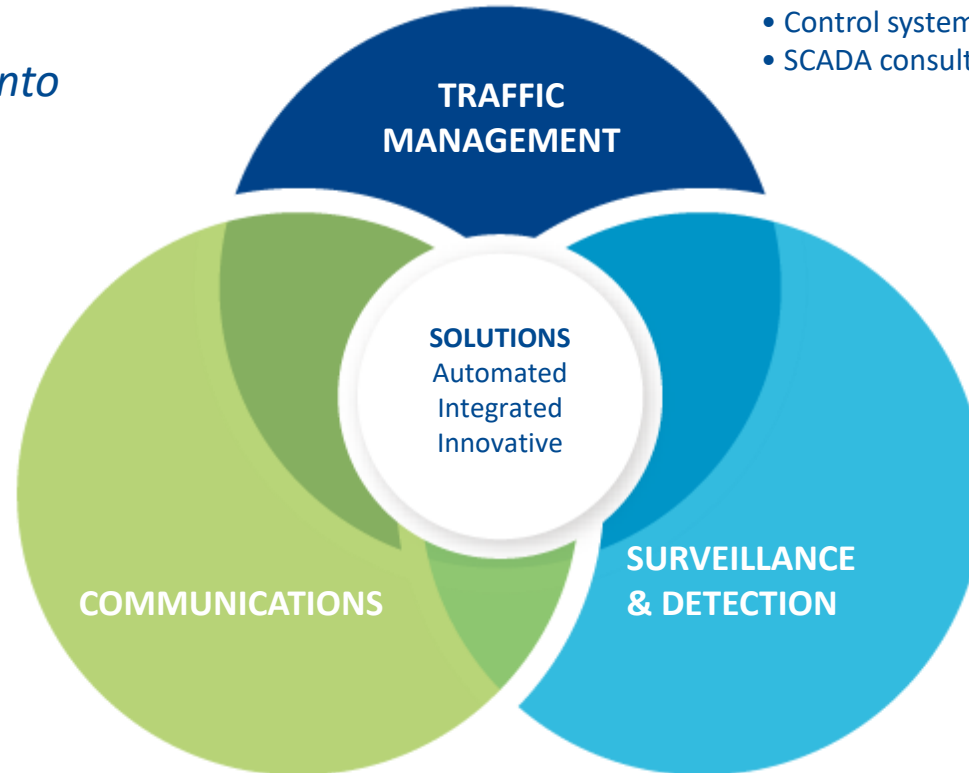
System Integration



- Offices in Bergen (HQ), Oslo, Stockholm and Örebro
- ~40 employees

*"We are experts on the most safety-critical systems and can integrate different subsystems into a reliable, well-functioning and cost-effective total solution"*

- Norphonic emergency telephones
- Radio communication
- Data communication
- Traffic information
- Evacuation system – **Evacsound**



- Trafvision - Intelligent Control & Monitoring System
- Control systems for VMS, road barriers, fans, etc. (PLC based)
- SCADA consultancy & PLC programming services

- Video surveillance (CCTV)
- Automatic Incident Detection (AID)
  - Video
  - Radar
  - Fiber optic sensing - Trafsense

# Trafvision – Intelligent Traffic Management



Software based

Modular

Flexible

Scalable

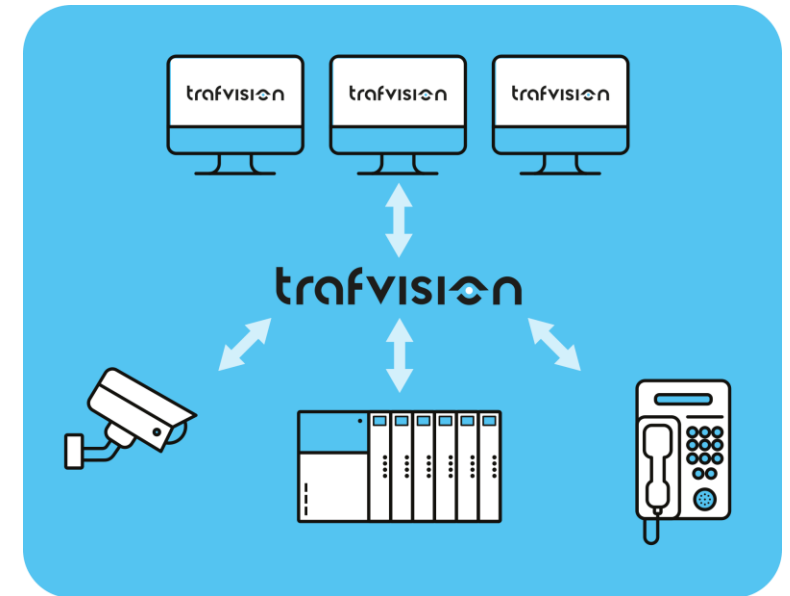
Trafvision is used to manage more than

- 500 tunnels, bridges and mountain passes
- 30 000 separate objects
- 50 % of the total length of tunnels in Norway

~ 50 000 events registered daily

~ 2 million analog readings

More than 20 control systems from external suppliers have been integrated



Continuously developed for more than 20 years

**TRAFSYS**

&

**NORCE**



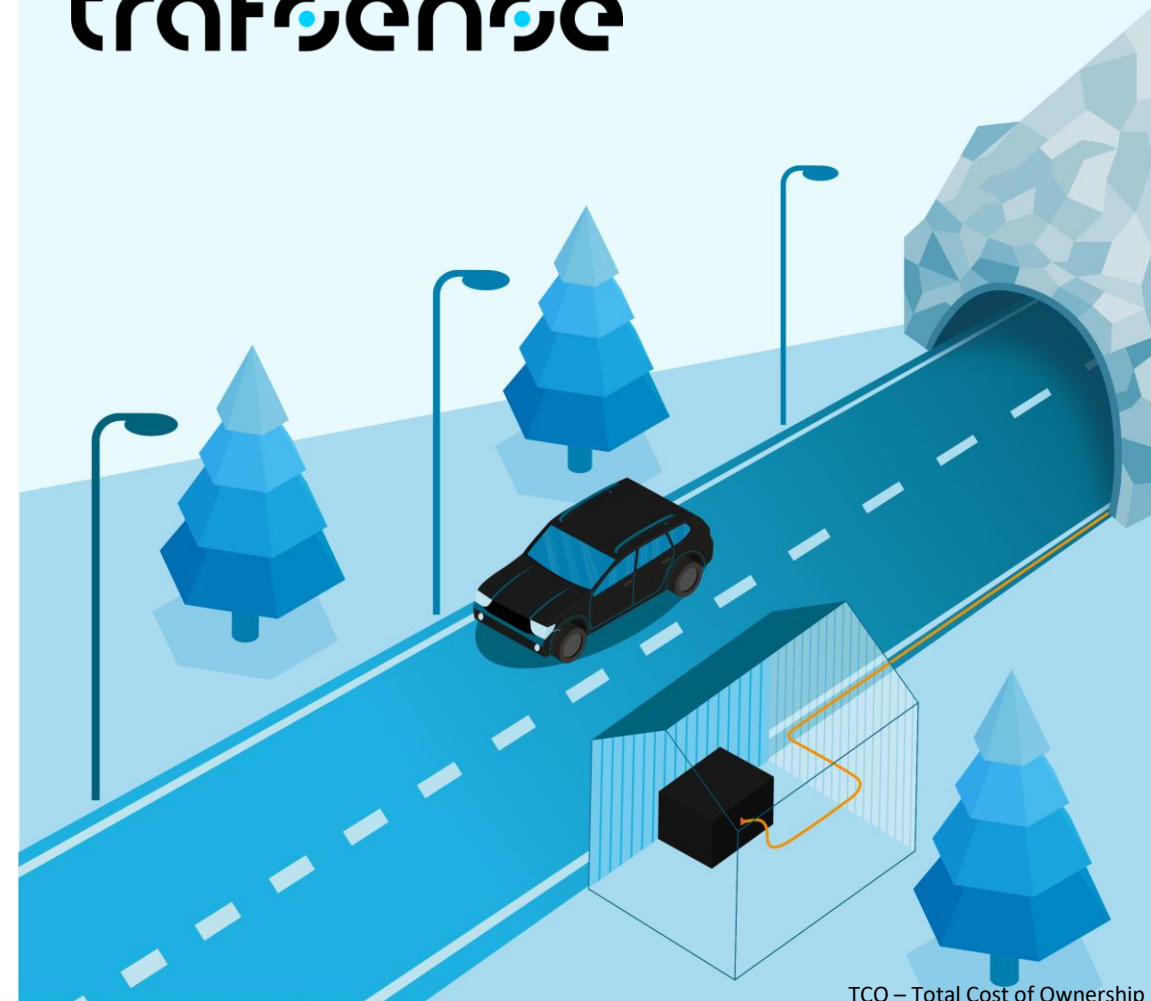
Statens vegvesen



Innovasjon  
Norge



**trafsense**



TCO – Total Cost of Ownership

# Trafsense – Optical-based Long Range Road Monitoring System

**TRAFSYS**

- Automatic detection of stopped vehicles, “ghost drivers” and queue formation
- Continuous real-time monitoring of
  - number of vehicles / traffic flow
  - position and speed of individual vehicles
- Monitoring of roadside infrastructure without the need to send out staff
- Not affected by curves, pollutants, weather conditions or EMI

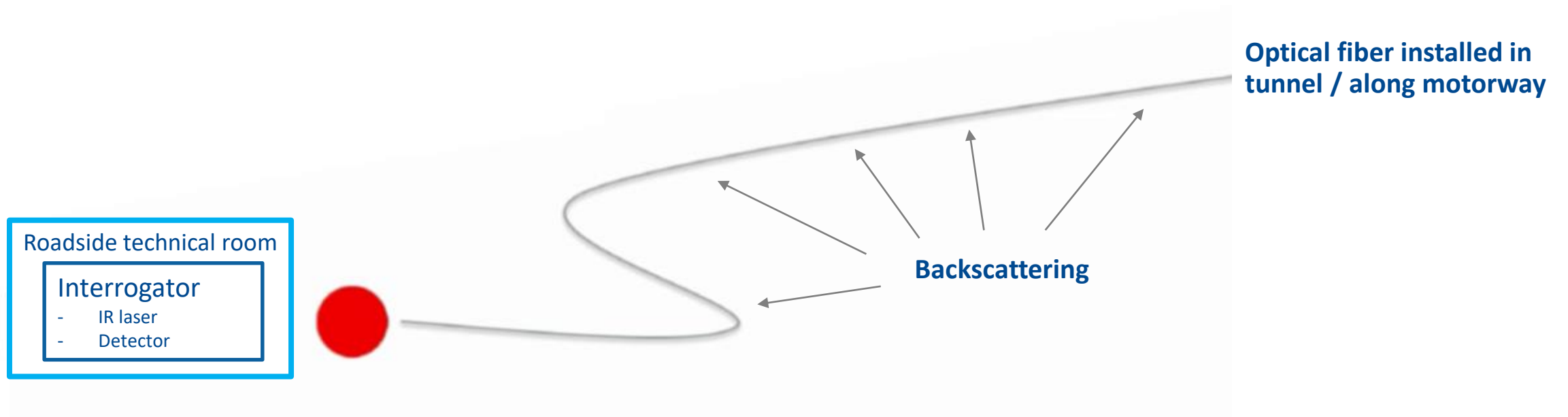
**Long life – Low installation & operating cost –**

**Environmentally friendly**



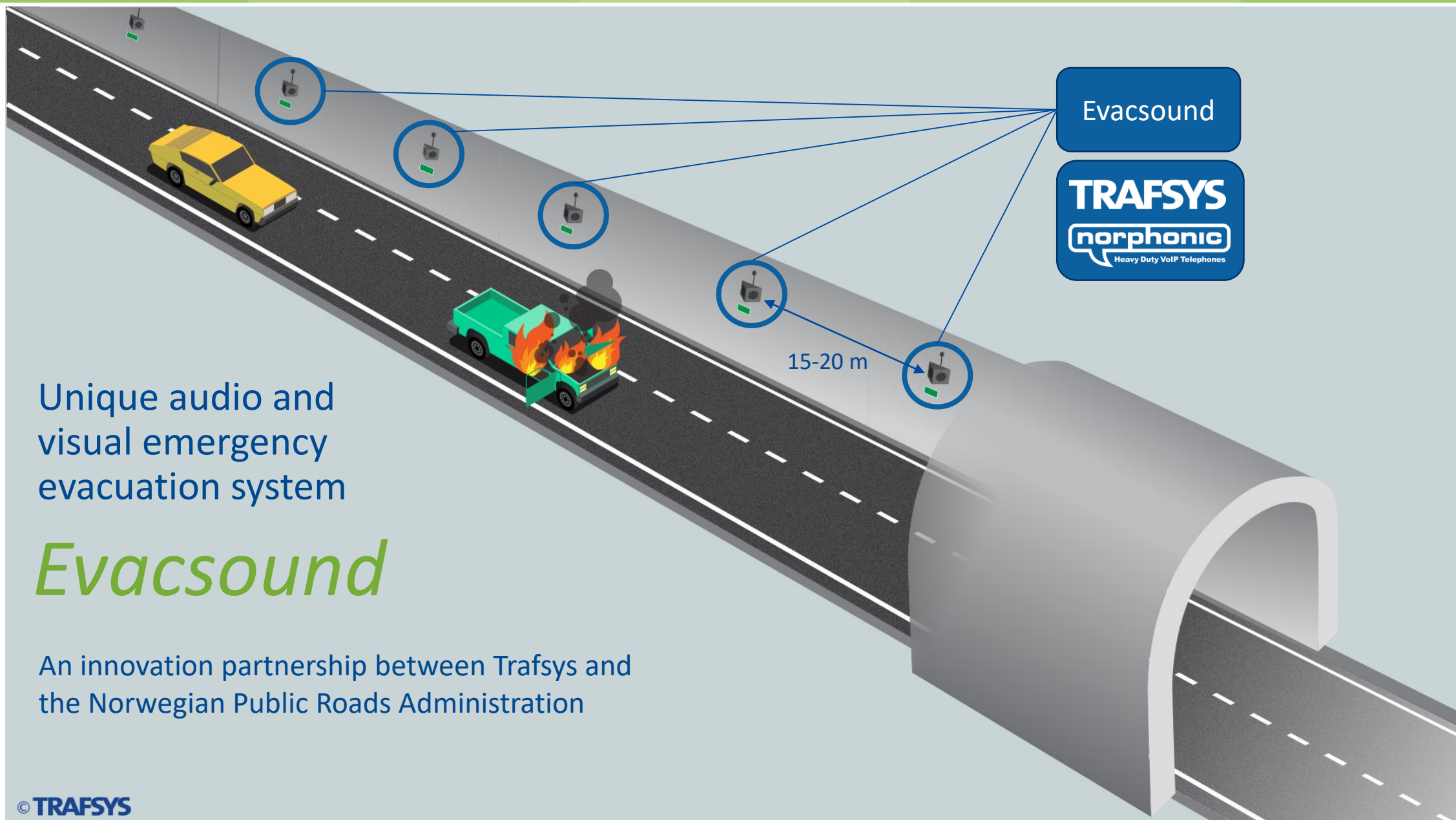
TCO – Total Cost of Ownership

# The principle



Why install hundreds of sensors when **ONE** is enough?



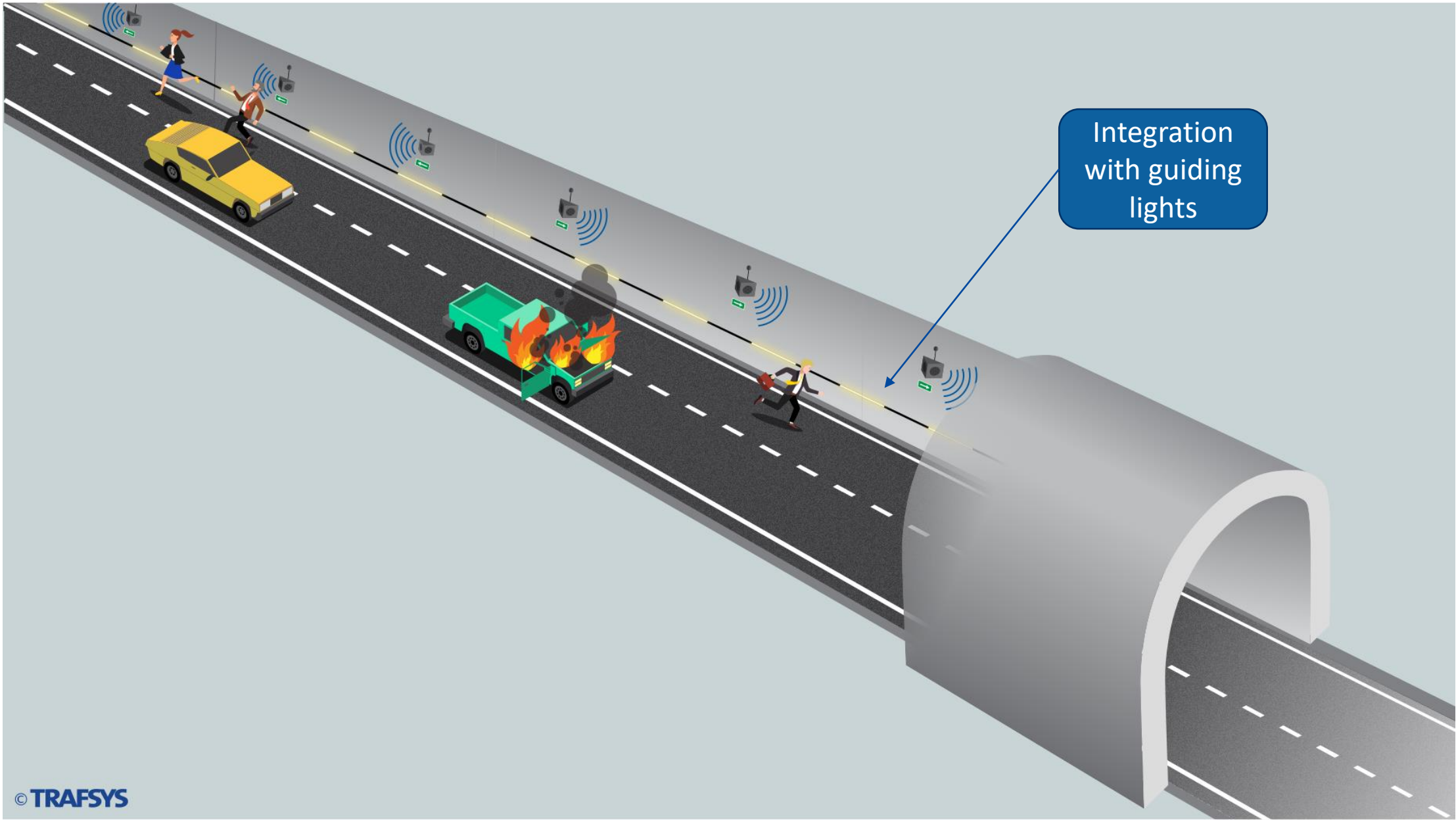


Unique audio and  
visual emergency  
evacuation system

# Evacsound

An innovation partnership between Trafsys and  
the Norwegian Public Roads Administration

TMC requests evacuation away from the fire



Integration  
with guiding  
lights

# Ryfast – Norway's largest road project

## Ongoing deliveries to Bravida and Roxel Infra

**The Ryfylke Tunnel: 2 x 14.4 km, undersea**

**The Eiganes Tunnel: 3.7 km**

**The Hundvåg Tunnel: 5.5 km, partly undersea**

Trafsys' scope:

- Control system
- Video surveillance (CCTV)
- Automatic Incident Detection (AID)
- Emergency Roadside Telephones (ERT)
- Radio system
- Main switch board & cabinets
- Communication network

*The world's longest undersea road tunnel!*



# Thank you for your attention!

## Breadth

Spectrum of products and solutions

## Competence

Knowledge and experience that makes a difference

## Innovation

Breaking new ground in finding new solutions

## Partnership

Embracing new opportunities with joined forces

**Solutions created by knowledge and needs**

**Complete**

**Integrated**

**Automated**

**Dependable**

[trafsys.no](http://trafsys.no)

*Solutions created by knowledge and needs*

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