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Assisted self rescue system for road tunnels
Norwegian Tunnel Safety Conference - Stavanger 2017

08.09.2017

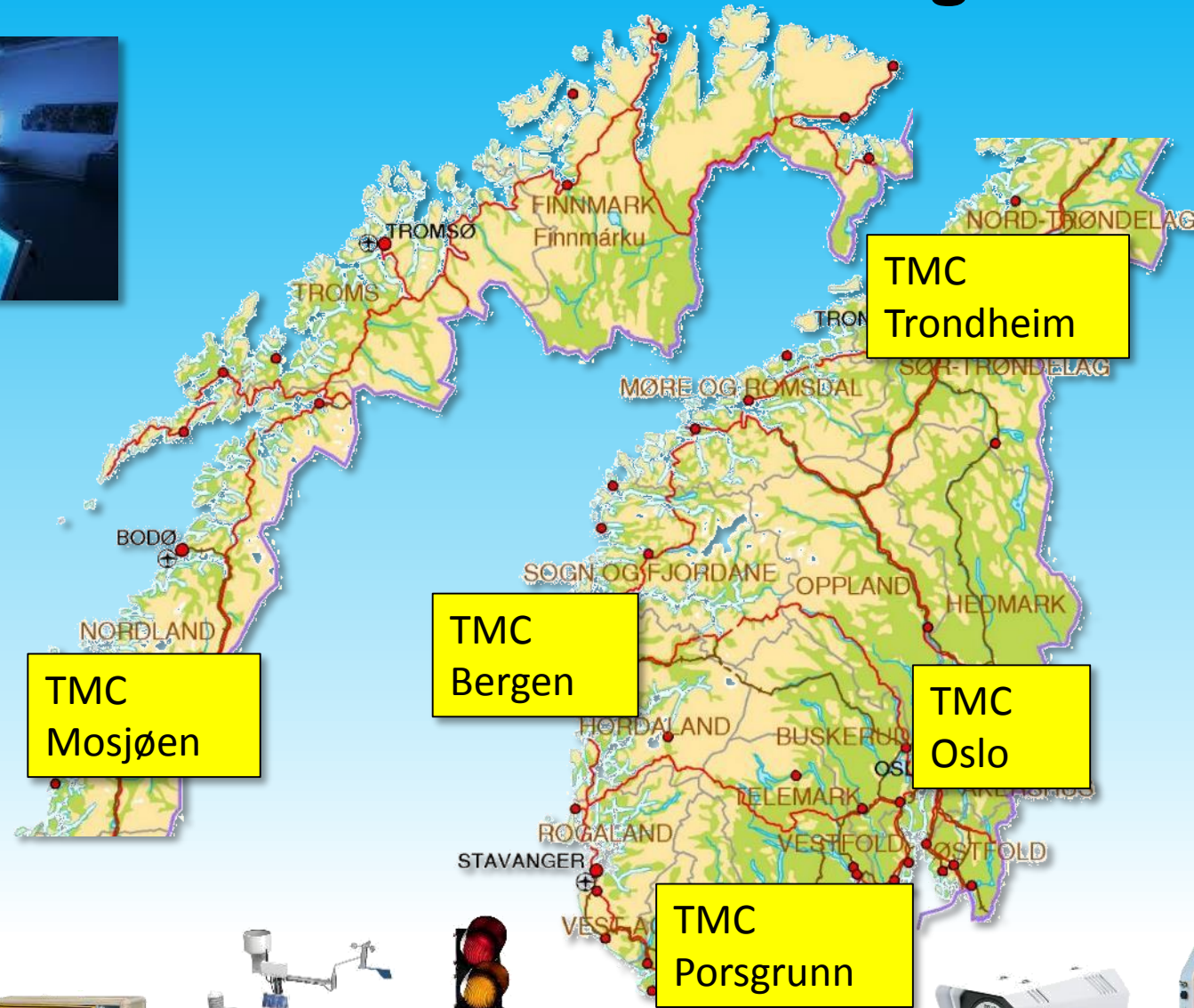**ROAD AND RAIL** **ENERGY AND ENVIRONMENT** **OIL AND GAS**

We make tunnel automation

- Main switches
- Control cabinets
- Ventilation & Light
- Radio & Emergency
- SOS Cabinets
- Emergency Phone System
- Pumping Station
- Barrier & Signs
- Video/AID
- Network & Communication
- PLC/Control & Monitoring
- Electro Technical Equipment

Project management – Engineering – Integration – Installation – Service & Maintenance

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We send tunnel data to the Traffic Management Centers (TMC)

TMC Trondheim

TMC Bergen

TMC Mosjøen

TMC Oslo

TMC Porsgrunn

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Tunnel self rescue: In case of fire, save yourself and your loved ones

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# People have no clue of what to do when it starts burning in a tunnel

People have no clue of what to do when a fire breaks out in a tunnel:

- Some seek shelter behind the concrete lining or other crawl spaces they might find.
- Some think the SOS phone booths are emergency shelters.
- Others drive in one direction or the other, often causing collisions and personal injuries.
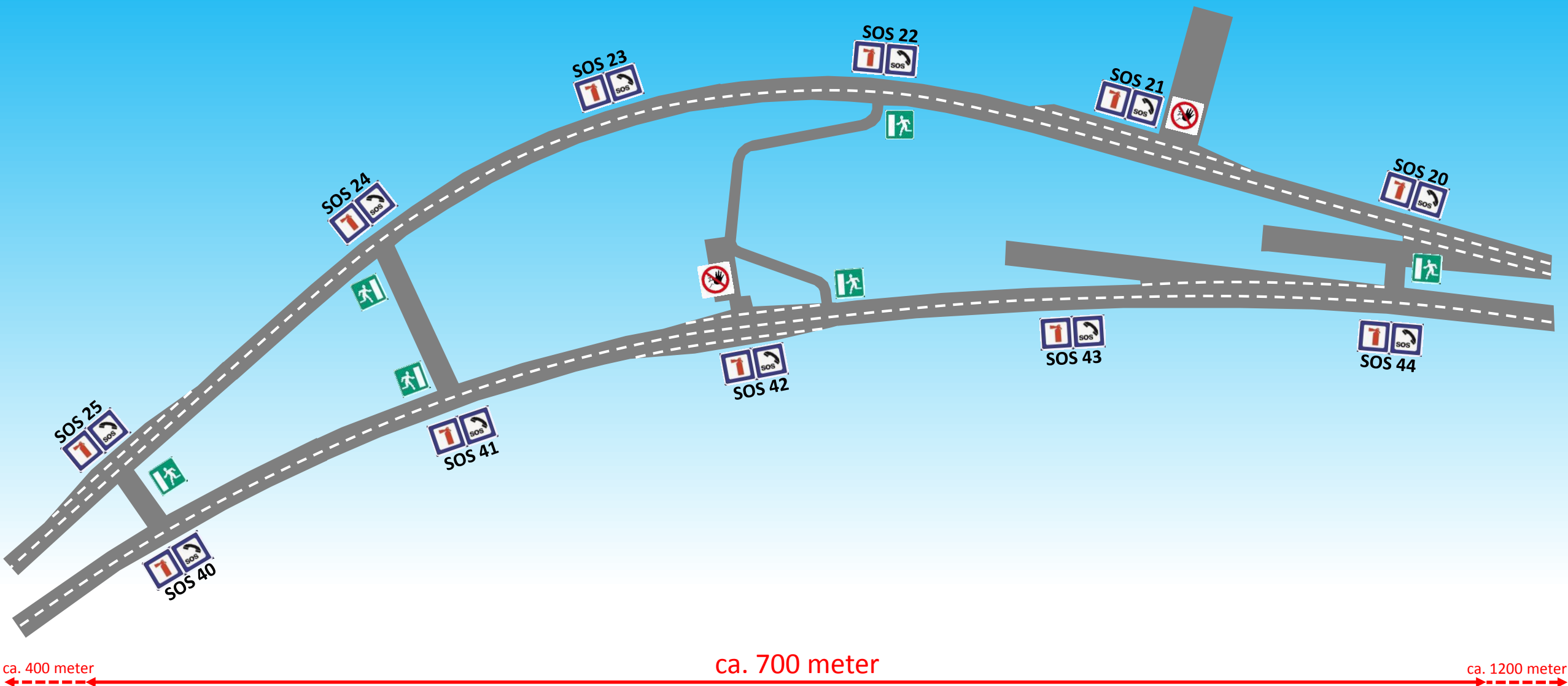- In addition many remain passive, waiting for instructions from the authorities.

An example from one of our ongoing tunnel projects
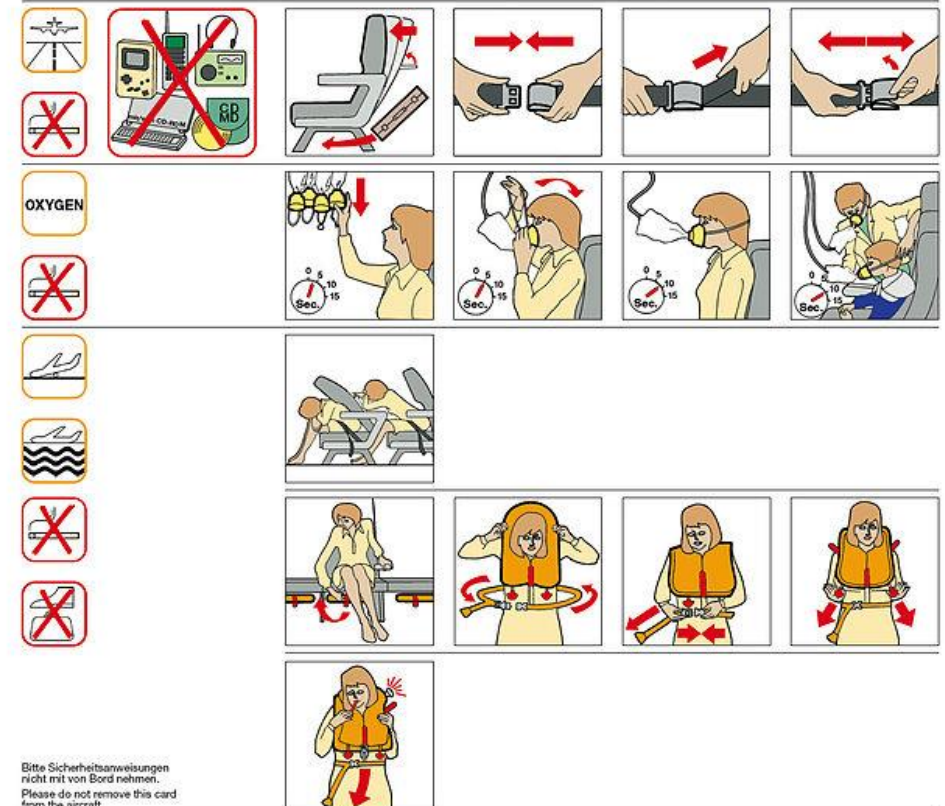
Note: This tunnel is used in this presentation for illustration purpose only.

A simplified map of the tunnel

SOS 22

SOS 23

SOS 21

SOS 20

SOS 24

SOS 25

SOS 41

SOS 42

SOS 43

SOS 44

SOS 40

ca. 400 meter

ca. 700 meter

ca. 1200 meter

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Intuitive self rescue app
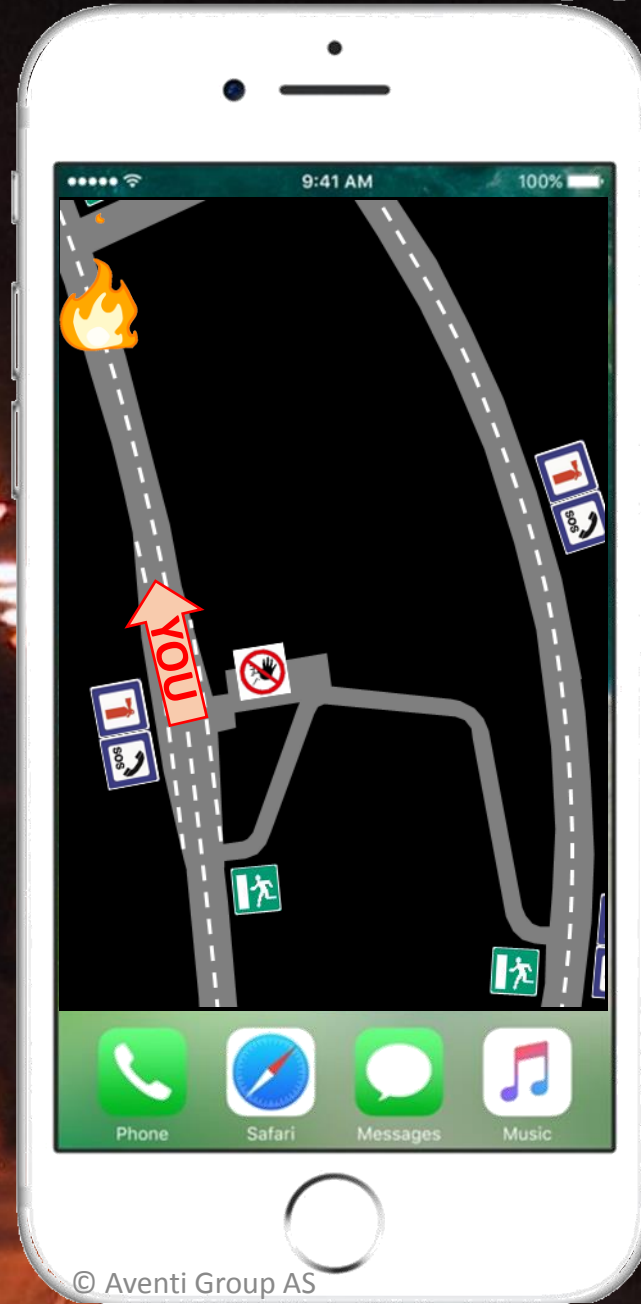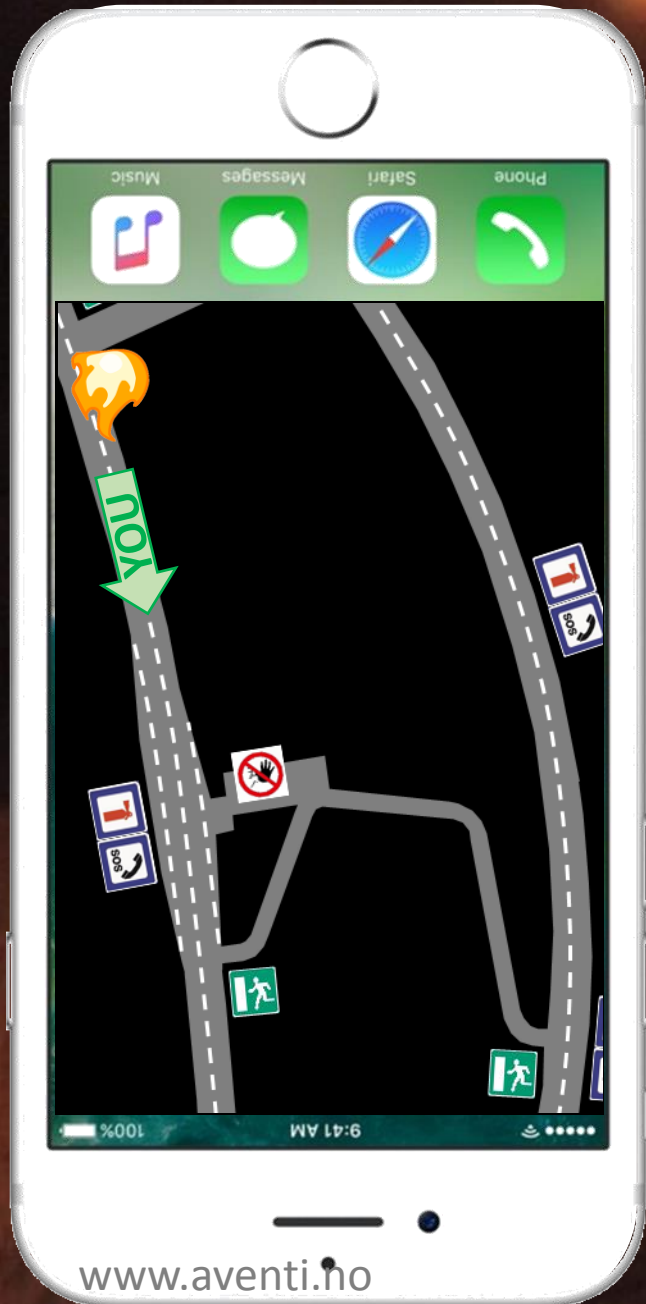
- The indoor positioning system for tunnels helps your phone detect your location.
- **Red arrow** and voice warning if you move towards danger.
- **Green arrow** and voice confirmation if you move towards safety.

www.aventi.no

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At the TMC and the PSAP

TMC = Traffic Management Center
PSAP = Public Safety Answering Point

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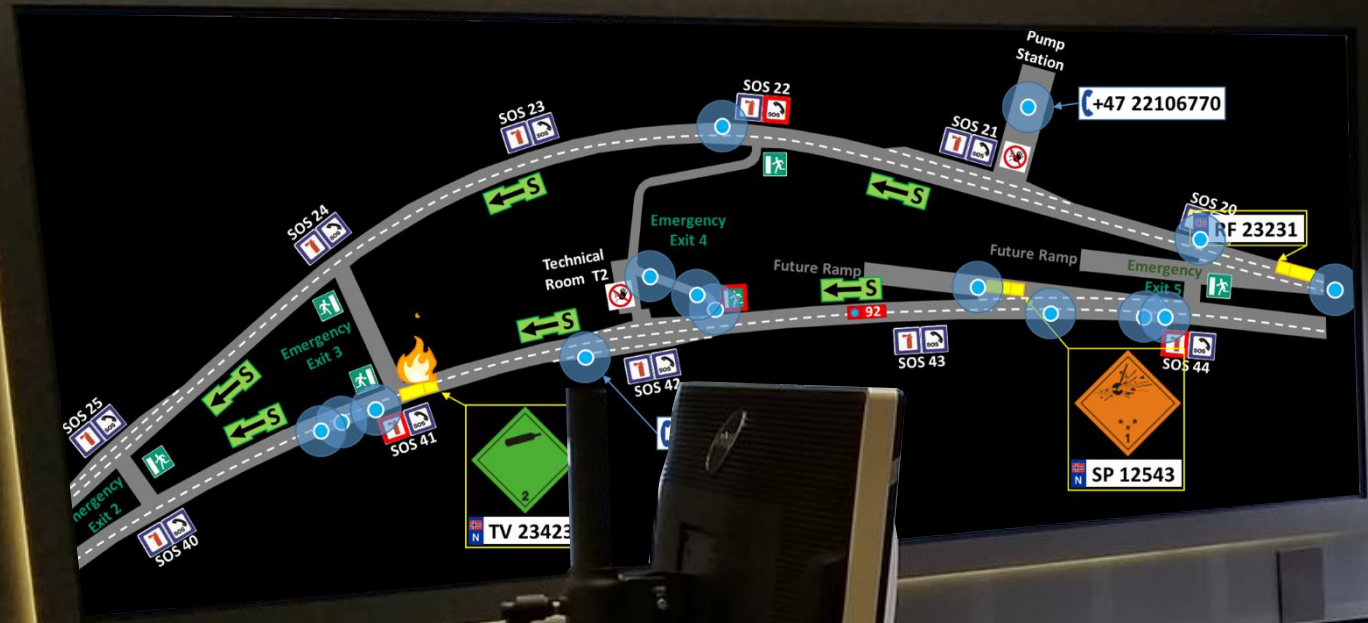
Location data recorded for people exposed to the fire

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Tracking data saved for analysis and training

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Future option: Pattern recognition can provide early warnings

This and several other photos from www.pixabay.com

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