Status in Norway
Test arena Kongsberg
Focus areas – Learn and build
Potential Next step
**NORWAY – EARLY ADAPTOR OF TECHNOLOGY – MOBILE PHONES AND ELECTRICAL VEHICLES**

- Shares of Norwegian inhabitants between 9 and 79 years with a smart phone.
- Norway has been hugely successful in introducing electric cars and aims to sell only zero-emission new vehicles by 2025.

**Status in Norway** | **Test arena Kongsberg** | **Focus areas – Learn and build** | **Potential Next step**
---|---|---|---

**NORWAY – EARLY ADAPTOR OF TECHNOLOGY OF INTERNET**

- Frequency of internet use, 2016 (% of individuals aged 16 to 74)
- Individuals who ordered goods or services over the internet for private use in the 12 months prior to the survey, 2012 and 2016 (% of individuals aged 16 to 74)

**Status in Norway** | **Test arena Kongsberg** | **Focus areas – Learn and build** | **Potential Next step**
---|---|---|---
Once fully operational in 2020, YARA Birkeland will be the world's first fully electric, autonomous, and zero-emission container ship.

https://www.youtube.com/watch?v=4Ogg4_ge0f8

https://www.youtube.com/watch?v=DgXdvI-Bm_M
Minister of Transport and Communications Ketil Solvik-Olsen and Olav Madland the engine behind the new law that permits autonomous driving with the driver outside the vehicle.

Svein-Olav Toro, Kongsberg Innovation, Olav Madland, Applied Autonomy and Major of Kongsberg Kari Anne Sand try one of the vehicles without a wheel in Test arena Kongsberg.

**Status in Norway**

Test arena Kongsberg

Focus areas – Learn and build

Potential Next step

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**..COMPARSED TO OTHER EUROPEAN NATIONS**

<table>
<thead>
<tr>
<th>Country</th>
<th>Can the Autonomous vehicle drive with the driver outside the vehicle?</th>
<th>Prerequisites to start driving Autonomously</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>YES</td>
<td>Risk assessments of the routes. An operator have to take the juridical responsibility</td>
</tr>
<tr>
<td>Germany</td>
<td>NO</td>
<td>The new legislation allows them to road-test vehicles in which drivers will be allowed to take their hands off the wheel and their eyes off the road to browse the web or check e-mails while the vehicle handles steering or braking autonomously.</td>
</tr>
<tr>
<td>Sweden</td>
<td>YES</td>
<td>The driver must be inside or outside of the vehicle</td>
</tr>
<tr>
<td>Denmark</td>
<td>NO</td>
<td>GEAR 2030</td>
</tr>
<tr>
<td>Italy, an rest of South Europe</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>Finland</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td>UK</td>
<td>YES</td>
<td></td>
</tr>
</tbody>
</table>

KONGSBERG INDUSTRIAL CLUSTER
SUPPLYING HIGH CRITICALITY SOLUTIONS TO MANY INDUSTRIES

Status in Norway | Test arena Kongsberg | Focus areas – Learn and build | Potential Next step

TEST ARENA KONGSBERG, . . .

Test Arena Kongsberg
The main test arena is 2.2 kilometre long route in mixed traffic
Different types of vehicles will be included
Partnership
New innovative solutions, all green and based on C-ITS standards will be used.
Piloting will be supported by KONGSBERG and Applied Autonomy in other cities

Status in Norway | Test arena Kongsberg | Focus areas – Learn and build | Potential Next step
Telenor 5G

Autonomous minibuses

Autonomous electrical bicycle

IOT and Sensor platform

Fleet Management

Autonomous agricultural robot

Status in Norway
Test arena Kongsberg
Focus areas – Learn and build
Potential Next step

.... SOME OF OUR PARTNERS

Lab office and meeting space
Mini seminars, events and workshops

Open city lab
Closed lab
Open labs in other cities
Control room and remote operations

Status in Norway
Test arena Kongsberg
Focus areas – Learn and build
Potential Next step
Other projects that we support and their timeline

Test Arena Kongsberg (2018 -)
- Test Arena Gjøvik (2018)
- Test Arena Østfold (2018)
- Test Arena Helsinki (2018)
- Test Arena Tallin (2018)
- Test Arena Hedmark – Hamar, Elverum og Ringsaker (2019)
- Test Arena Vestfold (2019)
- Other test arenas (2019): Denmark, Latvia and Poland

What do we like to export

1. Control Room functionality for fleets of autonomous cars
2. Big Data Platform for Intelligent Road and Autonomous Vehicles
3. How to implement advanced autonomous driving as part of a Seamless Shared Mobility as a Service