

FERNRIDE

Success Story – Autonomous & teleoperated driving

FERNRIDE develops software solutions for autonomous driving, especially for teleoperation. The objective is, to enable a future, in which accidents, time wasting, emissions from road transport and unequal access to mobility is a thing of the past. In order to driverless vehicles, FERNRIDE is building the leading teleoperation software platform. The first autonomously driving buses of the FERNRIDE-customer AuveTech are already in series production. Driverless logistics vehicles are a major growth market. We are extremely proud of the fact that our NetModule routers are used in such a ground-breaking project by FERNRIDE.

The project

FERNRIDE develops software solutions that make autonomous driving through the combination of artificial and human intelligence safer and greener. In particular, it is a question of supporting autonomous vehicles in situations that cannot be solved 100% by autonomous systems and require human decision-making power. The technology for this is called teleoperation and allows people to use the remote intervention via the mobile network.

After initial tests with consumer LTE routers were successfully implemented, routers were needed that have the requirements in the field of road transport and had the appropriate approvals. Certification is particularly important in road transport, as certain requirements for the installed components have to be met.

To ensure that the autonomous vehicles are safely and redundantly connected to the software, appropriate connectivity is required. A simultaneous LTE connection is required to ensure long-term communication from the vehicle to central cloud control.



«The decision for the cooperation with NetModule has been made because of its great experience, as well as the for road traffic approved products.»

Hendrik Kramer
Co-founder & CEO
FERNRIDE GmbH



Requirements

- Stable connection
- Robust device
- All required road approvals
- The ability to use simultaneous backup connections on a router

Solution

In the test vehicles the original consumer routers were replaced by the NetModule routers. The devices of the NB2800 series have been installed. A permanent communication from the vehicle to the central cloud-control was ensured by simultaneous LTE-connections.

Due to the dual LTE-modem usage common telecommunications services can be used in parallel on different channels, with just a few configuration steps. The user data transfer is fully encrypted with VPN technology. The installation of the NetModule routers initially took place in the first vehicle on the test site in Munich.

Subsequently, there were four further installations in autonomous buses of Auve-Tech in Estonia, which also connect passenger connectivity via WiFi by NetModule routers. In Greece, the first buses run autonomously and tele-operation-controlled on public roads.



Another area of activity of FERNRIDE in logistics, in which topics of IoT and Enterprise 5G networks, autonomous driving and teleoperation is of great importance are currently being greatly expanded. FERNRIDE is already in pilot projects with some of the largest vehicle manufacturers and logistics companies in Europe and now wants to scale these solutions.

Conclusion

The mentioned NetModule routers bring the necessary approvals and expertise of connectivity in road transport. Furthermore, Net-Module, with its support department and the possibility to set up appropriate VPN's, can positively influence the efficiency of the project.

Due to the positive cooperation between NetModule and FERNRIDE, further tele-operations projects are developing in the field of agriculture and logistics, in which the latest 5G routers of NetModule will be used.