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Fire and Rescue Service Academy

Pilot project in Bocholt: The rescue service of the future

The new "5G campus network" has now gone into operation at the Bocholt site of the Westphalian University of Applied Sciences. This is particularly pleasing for those responsible for the pilot project "5G-TeleRescue", because the extensions to the range of applications for the tele-emergency doctor developed within the framework of this research project can now be tested with the help of this state-of-the-art communication technology.

Representatives of the nine institutions and companies involved in the project (for a list, see the last paragraph of this press release) found out how this will be done at an on-site meeting on the Bocholt campus. Also present were District Administrator Dr. Kai Zwicker (the district of Borken is responsible for the local rescue service and "lead partner" of the project), Bocholt's mayor Thomas Kerkhoff and the president of the university, Prof. Dr. Bernd Kriegesmann.

Further training for emergency services

In connection with the presentation, some of the 14 emergency paramedics in total were already able to put their newly acquired knowledge to the test during a one-week further training course at the "Feuerwehr- & Rettungsdienstakademie Bocholt (FRB)". In addition to the training at the FRB, which was accompanied by the Aachen Institute for Rescue Medicine and Civil Safety (ARS), a part was also to be completed online as e-learning via the platform of the company Learn 2 Rescue (L2R).

The telenotary system introduced in the district of Borken in 2021, which enables the forces working on the ground in rescue operations to have an immediate, safe and reliable consultation with an emergency physician located in a telenotary centre, is to be further improved according to the will of those involved. The mobile phone standard 5G offers the potential to significantly expand the possibilities of diagnostics and, if necessary, therapy within the scope of the emergency doctor's range of operations, emphasised District Administrator Dr. Zwicker. This, in turn, could sustainably improve emergency medical care, especially in rural areas, while at the same time relieving scarce emergency physician resources. The project, which costs a total of 4.2 million euros, is funded by the Federal Ministry for Digital Affairs and Transport with about 3.5 million euros. The testing, evaluation and validation phase will last until the end of the project at the end of 2024. The first test results are expected in spring 2024.

The new campus network forms the basis for the measurements and tests of state-of-the-art communication technology as well as specialised and application-optimised systems necessary for development, optimisation and testing to take place. In this way, the necessary tests can be carried out under "ideal conditions" before the system can be tested and used in the "real laboratory", i.e. on the roads in the district.



This shows that we are on the right track to further develop Bocholt as an innovation centre.

Mayor Thomas Kerkhoff



A 5G network for the university campus

The "5G campus network" set up by the company TRIOPT from Moers can be operated independently of the publicly available network. On the one hand, it can be customised for a wide range of test cases. On the other hand, it can be used to simulate special operating conditions such as critical reception conditions, high network utilisation and changes of radio cells without affecting others. This enables the developers to precisely record and analyse the respective reaction of the network and the connected terminals in order to design the future live operation in a safe, robust and efficient way.

Important here: thanks to the decoupling from other networks, it is ensured that sensitive data always remain in the own area. Another very positive aspect is that the campus network can also be used for other applications at the Westfälische Hochschule-Campus Bocholt, such as machine control, due to its flexible application possibilities. Therefore, in the future it will be available for other (research) projects, for example from the regional economy, under the responsibility of the university.





More info on the pilot project

The focus of the development is the integration of mobile sonography under telemedical guidance into the rescue service. In addition, further medical equipment, such as a respirator, will be integrated into the telenotary system. Furthermore, it is being tested how "smart glasses" (data glasses in which information can be added to the user's field of vision) can be used to improve the communication possibilities of the rescue forces working in the field.

The following institutions and companies, which have joined together to form a project consortium, are involved in the project:

- Aachen Institute for Rescue Medicine and Civil Security (ARS)
- South Westphalia University of Applied Sciences
- L2R GmbH
- Klinikum Westmünsterland
- Kreis Borken (District Development and Rescue Service) as "Lead Partner" of the district
- Oculavis GmbH
- umlaut - Part of Accenture
- WEINMANN Emergency Medical Technology GmbH + Co. KG
- Westphalian University at the Bocholt site
- "Fire and Rescue Service Academy Bocholt" as an associated partner

More info

Further information on the project is available on the Internet at www.5g-telerettung.de. [↗](#)

Source: [District of Borken](#) [↗](#)