



LMT and LVR Fleet showcase first-ever fully-functioning 5G maritime connectivity concept

On July 11, 2024, Latvian mobile innovator and telco operator [LMT](#), in collaboration with Latvian port technical services provider [LVR Fleet](#), conducted a successful 5G maritime connectivity concept demonstration. It showcased fully functioning 5G network connectivity from shore to ship, between ships, and between ships and drones. This concept enables the deployment of seamless connectivity at sea. The demo was held in the Port of Riga and was the first known full-scale demonstration of such a solution.

The demonstration showcased the 5G multi-hop principle as it ensured communication between several LVR Fleet vessels. A pilot boat, DORE, delivered stable 5G network connectivity, which was demonstrated through DORE's communication with a Latvian icebreaker ship, VARMA. Additionally, a floating drone, OTTER, broadcast seabed measurements and remote video of what was happening on the water. LMT's aerial 5G drone carried out the video transmission, providing added visibility. The established 5G connectivity also enabled the transfer of large amounts of data in real-time, which is essential for the maritime industry.

Demonstration attendees observed the metrics of the established 5G network connectivity from the VARMA deck. Among the observers were local industry representatives and guest delegations from Lübeck, Kiel, and Hamburg ports. Several maritime logistics companies and European ports have expressed interest in cooperating with LMT and LVR Fleet to develop the 5G maritime connectivity solution further.

“The sea presents a challenge for high-quality, high-speed communications that can be successfully addressed with 5G-powered technologies. The deployment of maritime 5G networks and solutions has the potential to enable fast data transmission in circumstances where vast amounts of data need to be transmitted from ship to ship or from ship to port in a short time, as traditional data transmission methods do not allow the necessary speed. It's our immense honor to be the first to present this innovative technology and witness interest from potential export partners already.” – Juris Binde, President of LMT

Within the 5G maritime connectivity concept, the 5G network signal is passed from one ship to the next, enabling shore-to-ship and ship-to-ship communication in the sea. The concept foresees a 5G network and 5G base station deployed on the ship. Combined with short-range networks from land stations and 5G non-terrestrial networks to cover international waters, it can enable many new 5G use cases, making traffic, travel, and transport on the open waters safer and more efficient.

This demonstration followed earlier trials in 2023, when the 5G maritime connectivity concept was successfully tested on the Daugava River in Riga, Latvia. Additionally, the solution was tested in the Baltic Sea, delivering a stable 5G connectivity as far as 53 km from the 5G base station. The recent demo was held within the scope of a collaboration memorandum between LMT and the LVR Fleet, signed in June 2022.

About LMT

LMT is a leading mobile telecommunications operator, integrator, and IT company in Latvia, currently among the world's most efficient mobile data networks. The company believes the future to be mobile-only and builds pioneering solutions based on cutting-edge wireless technology. LMT is 5G-ready – it's actively developing technologies that could be advanced by 5G, such as smart cities, mobility, drone technologies, public safety, and more.

About LVR Fleet

LVR Fleet (LVR Flote) is a technical services provider for the ports of Latvia. It successfully operates in areas of hydrography, maintenance of aids to navigation, ice breaking, vessel charter, and port infrastructure management.