

Many years of VIRVE,

As far back as 1998, Finland began building the TETRA-based VIRVE public safety network, one of the world's first to replace aging analogue technology with digital. Now, a major upgrade and extension to meet the needs of the country's railways are set to enable VIRVE to meet changing needs far into the future.

The Finnish government's radio network VIRVE continues to evolve, with the government having signed the latest upgrade contract with Airbus Defence and Space.

Created to give authorities their own nationwide and secure radio network, planning for VIRVE began in the early 1990s, a time when analogue authority networks were considered to be expensive to maintain and when the demands on authority communications were growing. Construction began in 1998, with the network achieving nationwide coverage in 2002.

Today there are more than 60,000 users and about 1,300 base stations across the whole country. It serves users from all public safety and security services - police, fire, social, health and ambulance services, as well as the armed forces. Without doubt, VIRVE is an essential tool for ensuring the country's security, guaranteeing its users uninterrupted network performance and quality of service.

Keeping its edge

Finland continues to invest in TETRA technology, ensuring VIRVE remains an example of a modern authority network.

Airbus Defence and Space has been asked to modernise VIRVE through a 30 million euro project to renew about one third of the network's elements and to update software over the next five years. The goal is to ensure the high functionality and performance of the radio network far into the future.

The renewal covers the exchange of crucial components of the network, including 450 base stations. A "disaster recovery solution" will allow even better functioning in extreme conditions, such as storms and flooding, which might cause damage to the network's hardware or transmission lines.

Jarmo Vinkvist, CEO of VIRVE operator Suomen Virveverkko Oy, part of the State Security Networks Group, says: "Finnish emergency and security services



Timo Lehtimäki (right), CEO of State Security Networks Ltd and Hans Holmberg, CEO of Airbus Defence and Space Oy, signing the VIRVE frame contract.



Image: VR Group



many more to come

rely heavily on the communications systems provided through VIRVE. TETRA will remain our technology for mobile voice communications in the public safety sector for years to come. Thus, we are continuing our investment efforts in this technology.”

Railways join the party

In a move aimed at rationalizing its radio systems, the Finnish Government recently decided that country’s railways will move from its own GSM-R based network to VIRVE for train communications.

Finnish Rail currently uses a GSM-R train radio communications system known as the RAILI network. This needs replacing due to its age and because of the interference it is causing with commercial 3G networks.

The Finnish Government has calculated that moving from GSM-R to the VIRVE TETRA service will provide significant savings. The additional initial investment in the TETRA network, as well as the operating costs to meet the railway’s needs, will be significantly less than the costs needed to support two separate networks.

The board of directors wants to switch to the VIRVE TETRA network as soon as possible and is hoping to complete the full transformation by the end of 2018.

At the end of the project, Finnish Rail will be able to communicate through the reliable, secure and proven shared TETRA based VIRVE network, bringing all its benefits to the railway and its staff.