

Finland's public safety Broadband network initiatives

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Munich, Germany

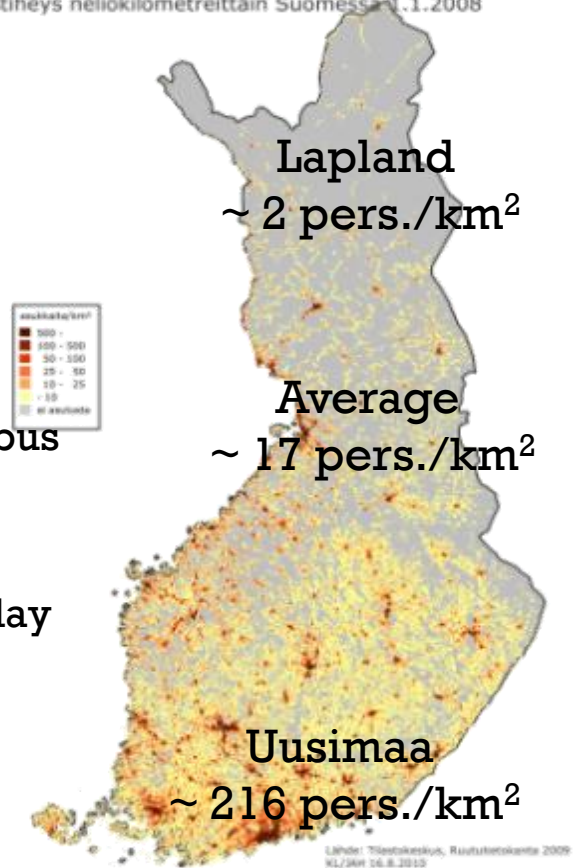
Antti Kauppinen, Development Manager

VIRVE operator, part of Erillisverkot Group, Finland

Facts of Finland and VIRVE

Asukastiheys neliökilometreittäin Suomessa 1.1.2008

- Geographical area: 338.000 km², population: 5,5 million
(~ 95 % of the size of Germany with 81 million people)
- Member of EU; 1.340 km Schengen border with Russia
- VIRVE (TETRA Narrow Band) network:
 - 100 % owned by State of Finland
 - 1.350 Base Stations, 17 Switches, vendor: Nokia/ Airbus
 - All security authorities in one common network
 - 38.000 subscribers
 - ~150.000 group calls and ~ 7,5 milj SDS messages/ day



All security authorities in one common TETRA network



www.erillisverkot.fi/en

... also (Security of Supply) Companies

- Energy , Telecom and Security Companies
- Helsinki capital area public transport companies: Metro-, Bus and Tram
- Decision on Jan 9th, 2015 by the Ministry on Transport and Communications: **VIRVE selected as radio system for trains**
<https://www.lvm.fi/en/-/virve-selected-as-radio-system-for-trains-797015>

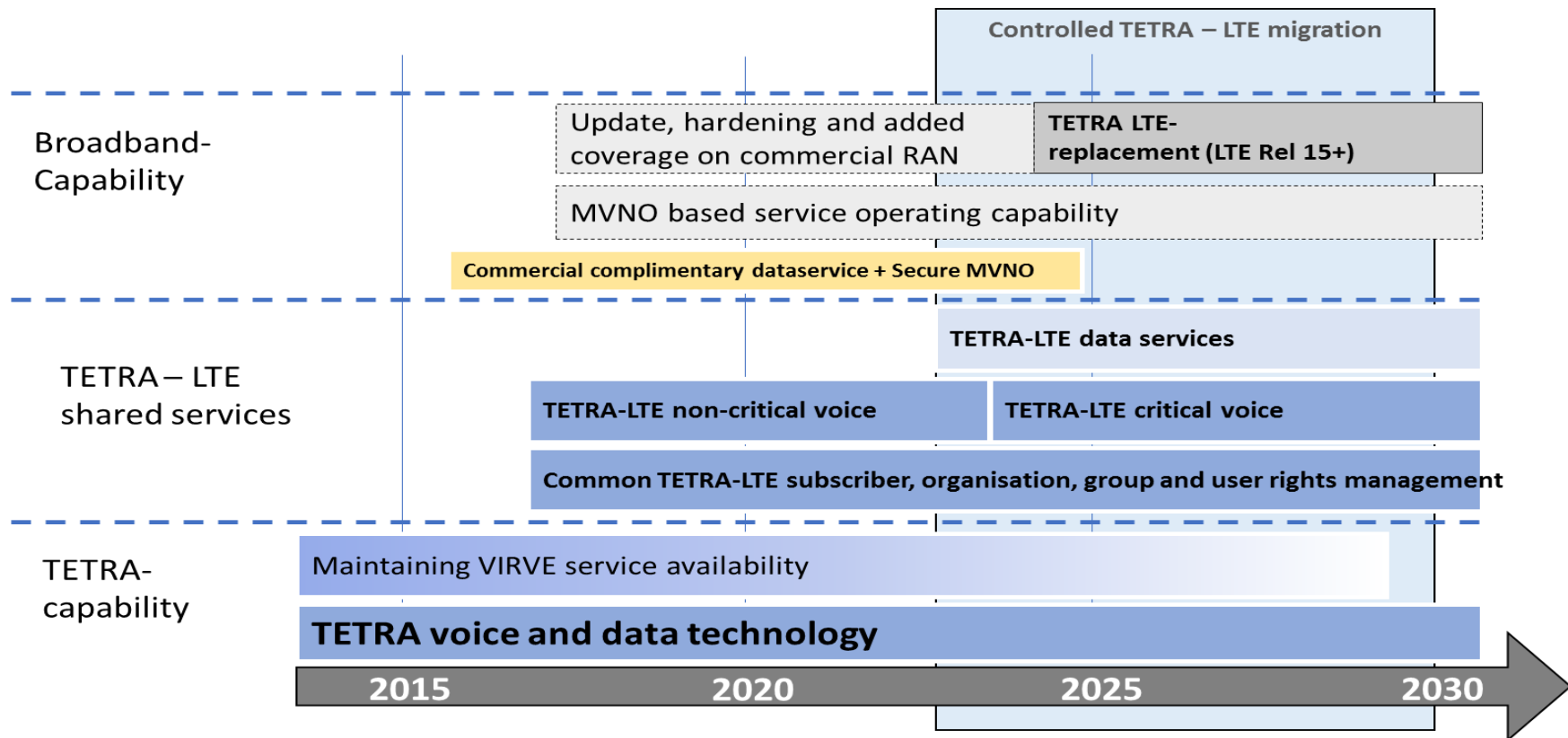


Current Broadband Events

- 700 MHz frequency was actioned to Commercial Operators – no dedicated allocation to PPDR
 - RAN access to PPDR will be provided by commercial operator(s)
- Ministry of Finance will appoint the service operator



VIRVE Steps to Broadband -timeline

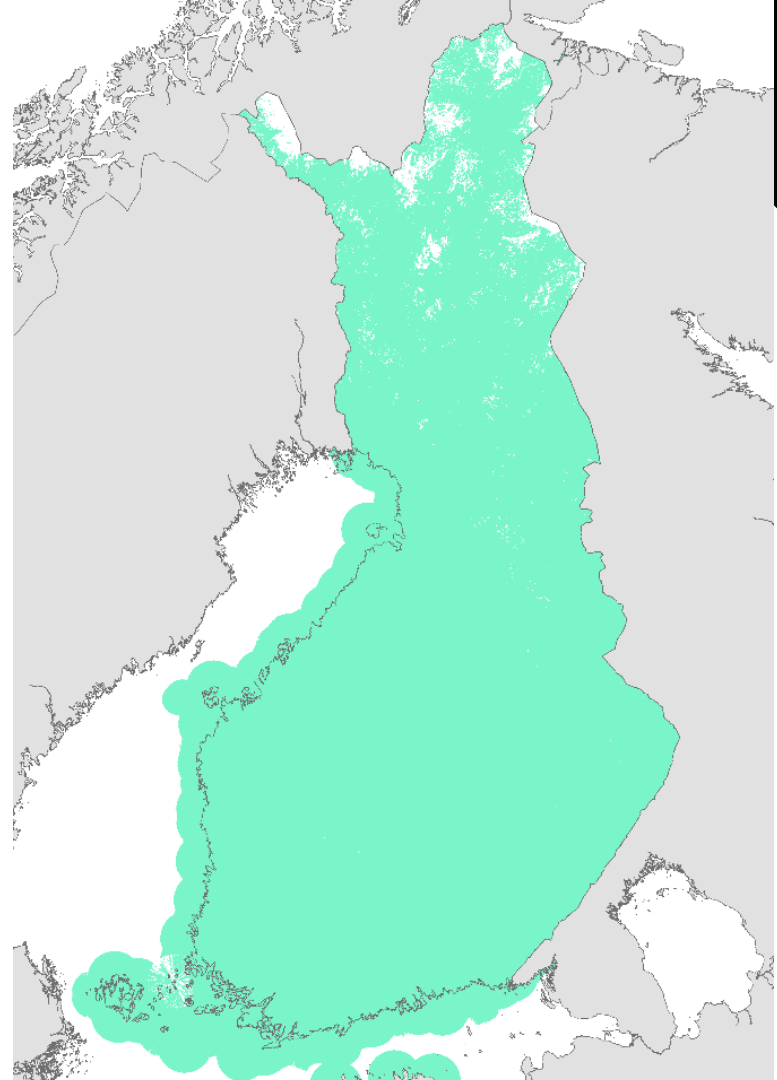


Are Commercial Networks Ready for PPDR?



Study on coverage: Finland

- Aim of the study was to find out if the geographical coverage in 3 commercial networks is as good as VIRVE coverage.
- 2 commercial operators share 3G/LTE RAN ~50% of the territory
- Geographical vehicle radio coverage:
 - Virve Tetra network 95.7%
- gHow to build up the Gap (narrow band or BB?) if security authorities are having one communication & management model?



Ministry of Finance Task Force

Service Operator for Public Safety Users



The Finnish PPDR solution in nutshell 1/2

mutual understanding as a starting point for further consideration

- + Approach is based on utilizing the LTE-networks of commercial telecom operators
- + One commercial operator will be selected via public tender, the access networks of the selected operator will be used and improved with PPDR capabilities
- + Prioritization (for example priority access to the network) of PPDR communication and restricted possibility to access class barring will be allowed in order to ensure sufficient capacity for the situation critical use of PPDR authorities

The Finnish PPDR solution in nutshell 2/2

- + National roaming to other networks allowed in situations of non-availability of the primary network
- + Possible implementation of PPDR capabilities (e.g. prioritization) in other operators networks will be pursued via commercial agreements
- + Service operator, the more exact notion and role of which is currently under scrutiny of the task force (results for summer 2017), will operate between the end-users (/PPDR authorities) and the commercial operators
- + The necessary amendments to legislation, the public tender procedure and the implementation phase will start from 2018

Thank you!

April 28th, 2017 Antti Kauppinen



Thank you!