# International Public Safety Forum

**Tuesday, 27\(^{th}\) November 2017**

**Chair**

Tero Pesonen, Chairman TCCA/Critical Communications Broadband Group

## Participants

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Peter Wüthrich</td>
<td>Head of Telematics, BABS</td>
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<tr>
<td>Hannu Aronsson</td>
<td>TCCA Applications Working Group chair</td>
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<tr>
<td>Barbara Held</td>
<td>Head of Directorate Operations, BDBOS, Germany and TCCA</td>
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<tr>
<td>Harald Ludwig</td>
<td>TCCA Technical Forum chair</td>
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Theme for debate
Preparing for change

Peter Wüthrich
From dedicated networks to utilisation of commercial RAN – can we trust it?

Hannu Aronsson
Can applications speed up operational change?

Barbara Held
The German Approach to Radio Terminal Equipment

Harald Ludwig
Sustainability - interoperability
From dedicated networks to utilisation of commercial RAN – can we trust it?

Peter Wüthrich
Head of telematics
Federal Office for Civil Protection, Switzerland
International Public Safety Forum debate session
PMRExpo 2018, 27th November 2018

Secure Mobile broadband Communication - Switzerland

Peter WÜTHRICH, Head of Telematics
Vice President Federal Commission of Telematics for Rescue and Safety
Secure Mobile broadband Communication - Switzerland

Where do we stand?

*Measurements Street Parade'18 Zurich*

**Public networks**
Overload

**Prioritisation of data**
Only with LTE available,
Throughput low to medium

**Own network**
Always working

August 11th 2018
1'000'000 visitors

*LTE = Long Term Evolution*
Secure Mobile broadband Communication - Switzerland

Where are we going?

Measurements Street Parade'18
Overall score

Theoretical follow-up
Prioritisation in 5G networks

Further measurements
Large events 2019
→ what is the benefit of prioritisation of public networks?

Further trials with LTE-733 MHz
Availability, throughput, coverage
Swiss Federal Office for Civil Protection, FOCP

Bundesamt für Bevölkerungsschutz, BABS

www.polycom.admin.ch

www.bevoelkerungsschutz.admin.ch

www.protpop.ch

www.polyalert.admin.ch

youtu.be/NMWZwkv0qto

Office fédéral de la protection de la population, OFPP
Thank you!
Can applications speed up operational change?

Hannu Aronsson
TCCA Applications Working Group chair
Can Apps Speed up change?
TCCA Apps working group

Apps for **everyone** in the field:
Clear trend with amazing results.
Apps success with **bottom-up** innovation.
Apps: Nice to have → **Mission Critical**.

**Hybrid** TETRA & Smartphone: Apps can use all networks and devices today.

TETRA can do **more apps today**.

Next **10-15 years** is hybrid:
Worth doing and starting today.

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<table>
<thead>
<tr>
<th></th>
<th>Mission Critical</th>
<th>Not working %</th>
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<tbody>
<tr>
<td>Broadband</td>
<td>90%</td>
<td>⬤⬤⬤⬤⬤⬤⬤⬤⬤⬤⬤</td>
</tr>
<tr>
<td>BB multi/priority</td>
<td>95%</td>
<td>⬤⬤⬤⬤⬤⬤⬤⬤⬤⬤</td>
</tr>
<tr>
<td>TETRA</td>
<td>98%</td>
<td>⬤⬤⬤⬤⬤</td>
</tr>
<tr>
<td>Hybrid BB+TETRA</td>
<td><strong>99.5%</strong></td>
<td>⬤⬤⬤⬤⬤⬤</td>
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Apps can do hybrid **today**: Start operational change with apps.

**Speed up change with apps:**
TETRA + smartphone.

% varies, similar situation exists in most countries
The German Approach to Radio Terminal Equipment

Barbara Held
BDBOS and TCCA
The Future of Critical Communications
The German Approach to Radio Terminal Equipment

PMRExpo 2018, Cologne
Barbara Held, BDBOS
The German Public Safety Network

- „Digitalfunk BOS“ is the world's largest network based on TETRA
- More than 4 600 base stations | 99% radio coverage of German territory
- Over 800 000 subscribers | up to 50 million calls per month
- Availability of 99.97% (average over past 3 years)
- Various large-scale events (e.g. G20 summit with 25 000 terminals)
FUTURE HYBRID NETWORK – Data

additional services via Roaming by commercial providers

Usage of existing commercial providers’ infrastructure with our own 700-MHz-spectrum

Basic network with 450-MHz-spectrum

TETRA-digital radio for Critical Communications - Voice
Radio Terminal Equipment – Current Status

• Two different radio terminals for voice and future data communication
  – TETRA radio terminal (current services)
  – Commercial smartphones (new services)
• Different regional solutions based on commercial networks
• Regional procurement
Design Challenges For Hybrid Network Radio Terminal Equipment

• TETRA functionalities must be guaranteed
• Interaction security requirements must be met
• One MMI for future services and TETRA
• Reducing the number of terminals per user
• Centralisation of procurement and parameterisation
• Reuse of accessories
Vision – National Hybrid Solution

• TETRA Base Module
  – Blackbox with harmonised interfaces
  – Support for further development of national TETRA services

• Hardened commercial smartphone
  – Control panel for TETRA Base Module
  – Guaranteed availability of TETRA functionalities
  – Support of future applications
Thank You For Your Attention!

Contact

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Federal Agency for Public Safety Digital Radio
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E-Mail: poststelle@bdbos.bund.de
Website: www.bdbos.de
Pictures: Feuerwehr Berlin, Fotolia, IMK NRW
Sustainability and interoperability

Harald Ludwig
TCCA Technical Forum Chairman
Sustainability - Challenges

- Project Rollout Duration
- 3GPP Standardisation Speed
- Procurement Processes
- Device & Software Lifetime
- Lifetime of LTE Devices
- Lifetime of TETRA Devices
- Contract Time
- Technology Evolvement
Standards & Interoperability

- Use of Standard-based Technologies
- Use of Open APIs
- Test, Test & Test Compliance & Interoperability
- Build Interoperability into Tenders
Harald Ludwig
TCCA Technical Forum Chairman
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www.tcca.info
Time for wrap-up
Bonus theme
Paradigm shifts in public safety eco-system
– can there be any?
Cry for help via Facebook instead of 112 call

Virtual Emergency Response Center via Twitter und Facebook

Video upload prior to emergency call

Trend: Always on-line
Multisensing and augmented reality

Project Glass by Google
Open mobile platforms and crowd sourcing

Our Vision  Be a real alternative.

We believe there is a clear need for a modern and independent mobile OS that enables free competition and innovation, without predominant control by a single player.

Sailfish brings and fosters innovation to offer unique differentiation and a competitive advantage for OEMs and ODMs, chipset providers, operators, application developers and retailers.

A real alternative
Sailfish OS is set out to be a real alternative. It is independent, open, partner friendly, and created by a team with credible track record, now working at Jolla Ltd. Jolla is set to create an ecosystem unlike others around Sailfish OS and welcomes everyone to join the voyage.

www.sailfishos.org
Tero Pesonen has been involved in various management and leadership tasks in global positions involving strong customer intimacy, strategic business orientation and wide-ranging solution development. He has been involved with the Professional Mobile Radio communication business since 1997 and in particular with promoting and organising TETRA Interoperability activities. Over the years he has acquired and developed a deep understanding of the models to use public safety applications.

Tero Pesonen has been involved in ground breaking work related to new opportunities in mission critical high speed data. Tero works closely with major public safety and critical infrastructure customers in creating advanced solutions to meet mission critical requirements.

Since September 2014 he is the chairman of the TCCA Critical Communications Broadband Group (CCBG) where he is strongly involved in bringing different stakeholders together to create a common critical broadband future. He is also TCCA Director and a Board Member.

Tero Pesonen holds Master of Science degrees in Electrical Engineering and in Economics. He is also co-author of the “You and Your TETRA Radio” book that explains, in a down to earth manner, the essentials of TETRA.
PMRExpo 2018
27. bis 29. November 2018 in Köln
www.pmrexpo.de

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