

PSCE Conference Report

Munich, 4-5 May 2017

Public Safety Communication Europe (PSCE) Forum held its 16th conference on **4-5 May 2017** in Munich. The conference was preceded on the 3rd of May by a workshop organized as part of the EPISECC project.

Around 60 delegates from more than 30 organisations attended across the 3 days to discuss the future of public safety communications.

The transition to new technologies has opened a realm of new possibilities in the field of Public Safety Communications. The Internet of things, future broadband and the use of UAVs are creating the conditions for enhanced communication and improved responsiveness in emergency situations. Mobile Apps are being developed by public authorities and PPDR organizations to assist the general population, facilitate the work of first responders or quickly alert citizens in the event of a crisis. However, these developments have not come without new challenges. The information conveyed in emergency scenarios is often very sensitive and has ethical, social and legal implications that need to be taken into consideration. This enhanced transmission of information also means an increased exposure to cyber threats and the necessity to find new ways of mitigating associated risks.

Against this background, the PSCE conference provided updates on a platform enabling better information exchanges with regular upgrades for all possibly interested organisations and effective interactions among projects and between different communities.

The conference in Munich focused on the following questions:

- **ELSI guidelines:** What are the ethical implications of the exchange of information in PPDR?
- **Future Broadband:** What are the implications of future broadband for public safety?
- **IoT:** What are the potential uses & benefits of IoT for public safety?
- **Cybersecurity:** What are the cyber threats related to broadband transition and how to mitigate them?
- **Redundancy & Resilience:** What are the synergies between Public Safety communications technologies and how can the digital transformation of public safety benefit public authorities?
- **PPDR Apps:** What are the functions and benefits of the Apps developed for public safety.
- **UAVs:** What potential uses for UAVs (drones) in public safety missions?

The event featured a diverse programme composed of interesting debates, roundtable discussions, and networking possibilities.

Posters and Booths

PSCE invited project posters while other promotional materials were provided by the EU-funded projects EPISECC, BROADMAP & EMYNOS. In addition, HW communications, SwissPhone and StreamWIDE organised their booths informing participants of their services in public safety communications. The University of Lancaster organised a stand to inform conference delegates of the ethical & legal issues embedded in the exchange of information in PPDR. This took the form of an interactive game that encouraged participants to share new ideas.



Formalities, Opening and Bavarian Red Cross perspective

The conference began on the 4th of May with the general assembly meeting. This is where PSCE reports the activity of the organisation to its members and seeks approval on a number of operating issues such as previous minutes, actions and budgets. A joint presentation was delivered by PSCE President Andrea Nowak and Marie-Christine Bonnamour, PSCE Secretary General, on recent political developments as well as activities. Moreover, the minutes of the previous general assembly were approved. Ms. Nowak delivered a presentation on the activity of the PSCE. She mentioned that PSCE will continue to work and contribute to strengthen the voice of end-users/practitioners. In addition, PSCE is taking part in the Community of Users animated by the European Commission by DG Home and follows the development of 5G by DG Connect.



The budget for 2017, presented by PSCE Vice-President Manfred Blaha was approved.

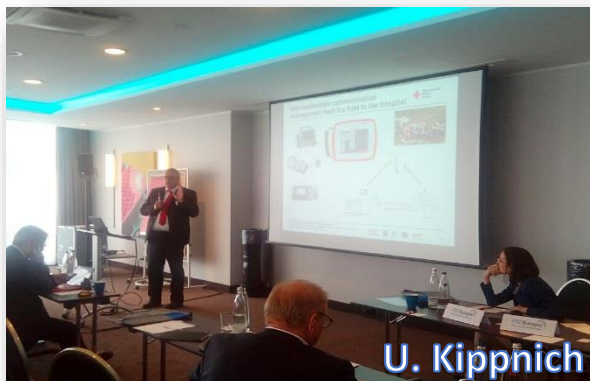
Following the General Assembly Meeting, Ms. Nowak formally opened the conference welcoming the delegates. Mr Johannes Richert, Vice President of the German Red Cross, kicked the conference off with a keynote speech about the importance of improving emergency preparedness given the current climate of uncertainty. This was followed by a short word from Mr Leonhard Stark who warmly welcomed all conference delegates in Bavaria.



Public Safety from the perspective of the Bavarian Red Cross

After this introduction, Mr. **Üwe Kippnich** made two presentations to show Public Safety from the perspective of the Bavarian Red Cross. **The first presentation** was an overview on Critical Communications with reference to the Integrated Command Center 112 and the cooperation with German Aerospace Center. Mr Kippnich described the daily activities on the Bavarian Red Cross involving Critical Communications including daily emergencies & multi-casualty incidents. He further explained the standard operating procedure in the event of a disaster.

The second presentation was related to the potential offered by Social Media in the field of disaster response. Social Media are an important tool and source of information when disasters occur, and their importance is still increasing. When anticipating disasters and crises relief organizations as emergency and civil services face new and ambivalent conditions concerning crucial information. Today there is a flood of unstructured real-time information yet the secure and fast validity of the information is usually missing. In the context of the BMBF (German Federal Ministry of Education and Research) research project K3 (Information and communication concepts for crisis and disasters) Uwe Kippnich presented how these challenges have evolved over the last few years and how this will be faced conceptually by the German Red Cross.



Focus 1. ELSI guidelines

Mrs **Monika Buscher** emphasized that the exchange of information in the context of emergency communications comes with ethical, legal, and social risks that go beyond the guidelines of any individual agency or organization. The role of ELSI guidelines is to offer guidance for addressing ethical, legal, and social issues in PPDR communications. This took the form of a prototype open community platform which contains guidance, principles, and examples of issues and best practice.

The ELSI platform was further presented to conference delegates in a way that promote and stimulates engagement. The ELSI stand was set up to explain the role of ELSI guidelines while at the same time welcoming external contributions.

Focus 2. Future Broadband

Mr David Lund (HW Comms) started the topic by presenting the Broadmap project which just came to an end on April 30th 2017. Mr Lund went through the main objectives of the project and presented its specific features. It was concluded that what Europe needs today is a pan-European broadband network to facilitate interoperability amongst EU countries and ultimately improve PPDR response. Then, **Mr Antti Kauppinen** shared Finland's perspective on Future Broadband. Mr Kauppinen started with some interesting facts about Finland and emphasized that all emergency services operated under a single tetra network. He further mentioned that in the future, PPDR communications would be prioritized on the network in order to ensure sufficient capacity in situation of crisis. Finally, **Mrs Barbara Held** presented the results of a hybrid study carried out by TCCA dealing with the use of commercial and dedicated networks for delivering Mission Critical Mobile Broadband Services. The study is concluded by numerous conclusions including the necessity for Critical Communication users to get involved to safeguard their interest in the framework of the shift to 5G.





Focus 3. Internet of Public Safety Things

Mr Ali Helenius (Airbus) introduced the IoT topic by discussing the mega technology ecosystems that are shaping the future. He then described the IoT, its main applications and addressed possible issues with standardization. Further, Mr Helenius explained 5G Key content, potential use cases in critical communications and the related challenges & opportunities. **Mr Ivan Gojmerac** presented the numerous opportunities arising with the IoT and discussed the current challenges of IoT-enabled public safety use cases. He also highlighted the interoperability and command & control barriers which have to be overcome in order to put IoT solutions into productive use in the coming years



Focus 4. Cybersecurity

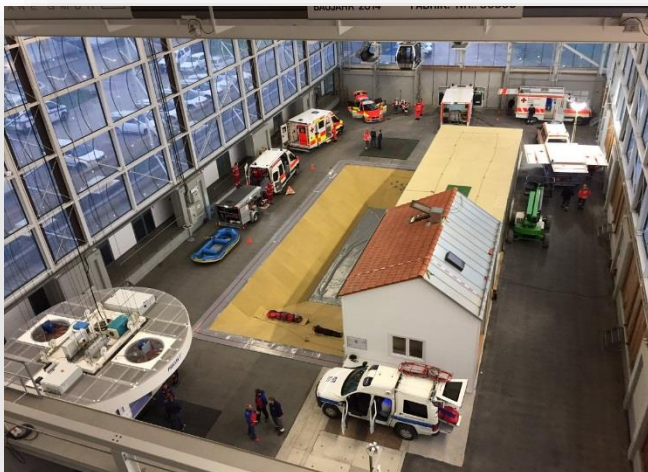
Mr Jérôme Brouet (Thales) explained why cyber is a serious issue to tackle for future PPDR systems. He then provided examples of cyber-attacks on 4G networks from commercial and private networks and identified the vulnerabilities of future PPDR systems at different levels (network, terminal, communication). Finally, Mr Brouet showed example of design principles & solutions to mitigate cyber-threats on future PPDR systems. Mr **Philippe Cotellet** (Airbus) continued the Cybersecurity through a presentation on risk analysis. Mr Cotellet mentioned the

SPICE initiative, designed to identify disaster scenarios affecting operational capabilities related to a cyber-event. He then evaluated the probability of occurrence of cyber-threats, assessed the financial costs and discussed the lessons learnt from past experiences. Finally, **Mr David Lund** concluded the topic with a collaborative session with the objective of identifying the key cybersecurity risks. This took the form of the six following questions. What assets need protecting? Why may these assets be vulnerable? What threatens these assets? What are the consequences when these assets are compromised? What can we do to mitigate these threats/vulnerabilities? What's the worst that can happen?



Social Event: Visit of a Mountain Rescue Simulation Centre

This year was marked by a fascinating guided tour in a mountain rescue simulation center in the vicinity of Munich, which allowed conference delegates to immerse in real life emergency situations and receive precious feedback from first responders volunteering for the Bavarian mountain rescue.





Focus 5. Redundancy & Resilience in Public Safety

Mr Rainer Buchmann (Control Center Saarland) presented the Integrated Control Center Saarland (RZV Saar) which combines POCSAG alerting infrastructure with LTE capable devices that are both connected to the alerting network and to the public cellular networks. He emphasized that leveraging the synergies between the two technologies allows the coverage of the alerting network to be increased where needed. To maximize reliability in case of a crisis, the alerting network is completely self-reliant thanks to several fall-back modes. Additionally, the hybrid approach combining both POCSAG and LTE allows an overall increased system redundancy by providing a fallback scenario for the TETRA voice communication infrastructure. After that, **Mr Pascal Beglin & Mr Eric Lebegue** (StreamWIDE) presented a new technology to address the challenges of the demanding public safety and military environment: Team on Mission. Team on Mission features voice, data, video, interoperability and location services all bundled in one solution in real time. This technology also enables a smooth transition from PMR to MCPTT with the reliability and assurance that communications will be there when and where needed. The presenters demonstrated how *Team On Mission* provides a process and task management platform that will enable secure digitalization across an entire organization providing a comprehensive team management technology mainly for police and emergency entities.



R. Buchmann



P. Beglin & E. Lebegue

Focus 6. PPDR Apps

Mr Chaim Rafalowski (Israeli Red Cross) presented **My MDA**, an app developed by the Israeli Red Cross. On the one hand, the app is usable by the general population which can generate a direct contact with the medics and paramedics at the dispatch center by pressing a simple button on their device. The dispatchers automatically receive and detect the location of the caller. On the other hand, the paramedics and other first responders can use the app to quickly gain access to citizens' important medical information such as chronic diseases, allergies, allergy to medications, EEGs, last illness summary and more. Access to this information will significantly help to shorten the dispatcher's questioning protocols and improve emergency response.

Mrs Delphine Arias-Buffard (Deveryware) presented two APP systems. The first broadcasts geolocalized messages & alerts to a listed targeted population. This application also features an optional acknowledgement validation from the part of the receiver. The second system presented was the **SAIP**, which stands for "système d'alerte et d'information des populations" (public alert and information system). SAIP is the French Government's location-based alert app designed by Deveryware to provide citizens with information in the context of various emergency scenarios (terrorist attacks, bomb alert, natural disasters or kidnapping). The SAIP allows French public authorities to quickly establish contact with the population, to convey official information or broadcast safety instructions to citizens. The geolocalized alert to the public with smartphones fits into an entire technological ecosystem and tackles many of the barriers encountered so far (mobility, multilingualism, massive notification, etc.).

Mrs Andrea Nowak (AIT) presented two apps developed by the Austrian Red Cross & the Austrian Institute of Technology (AIT). The Austrian Red Cross and AIT worked alongside to develop novel IT Services to improve the resilience of society. The apps target especially young people and volunteers by using the untapped potential of social and new media information. Approaching local citizen crowds directly with mobile technologies allows to provide reliable real-time information and utilizing sensor data and observations to enhance public safety operations. The two applications are characterized by an easy-to-use interface and a powerful background engine for the interaction between emergency managers and citizens.

Mr **Abubakr Magzoub** (HW Comms) presented the WI-MoST application developed by HW Communications. The WI-MoST application is a proof-of-concept mobile app that demonstrates a sophisticated and innovative means to exchange and share sensitive content between practitioners, in different contexts, between different agencies, with the aim to improve information sharing during crisis situations. The advanced technology provides novel end-to-end encryption techniques combining high levels of protection with user selective sharing capability, without the need for centralised access controls. The tool features geo-fence browsing, coordination sharing, rich information and short message exchange among many other features. This application was developed as a key contribution to the EU-funded EPISECC project.



Focus 7. UAVs in Public Safety

Mr **Thomas Griesbeck** (Bavarian Mountain Rescue) showed how UAVs are used in Bavarian mountain rescue operations. Mr Griesbeck shared his thought & experiences after 7 years of experimenting with. The Bavarian Mountain Rescue currently has more than 80 people working with drones in at least 15 different platforms. He emphasized the importance to look ahead to match up with upcoming technologies and game changing trends. Finally, **Mr Alexander Schelle** (Bundeswehr University) punctuated the conference with a presentation on gesture-based communication with UAVS. This newly developed technology features photography/photogrammetry, electro-optical lens, light detection and ranging, infrared,

hyperspectral and thermal recognition capabilities. The technology does not require additional hardware on the ground, possesses an autonomous feature to search for people in dangerous weather conditions and is entirely operated by a gesture-based communication.

