

## PSCE Conference, Oxford, 8-10 December 2015

Public Safety Communication Europe (PSCE) Forum held its 2nd conference of 2015 on **9-10 December**, hosted by Cyber Security Oxford at The University of Oxford. In parallel, PSCE also organised a Horizon2020 brokerage event on Dec. 8<sup>th</sup>.



More than 80 delegates attended across the 3 days, representing public safety stakeholders consisting of public safety communication end users, ministries, network operators, technology developers and research organisations. Participants from 51 organisations travelled from 16 European countries to debate the future of public safety communications.



The key conference themes were:

- 1) **Debating the results of WRC'15** - Is 700MHz going to be available for Public Safety, by what means, and by when?
- 2) **What is the roadmap for PPDR 4G?**
- 3) **Will 4G transition to 5G?** Do we have to start again? What new benefits will 5G bring for Public Safety?
- 4) **The increasing deluge of Social Media, and Information Exchange for Emergency Management:** What are the challenges from a social, legal and ethical perspective?
- 5) **Key challenges for the security and resilience** of next generation mobile broadband for PPDR.

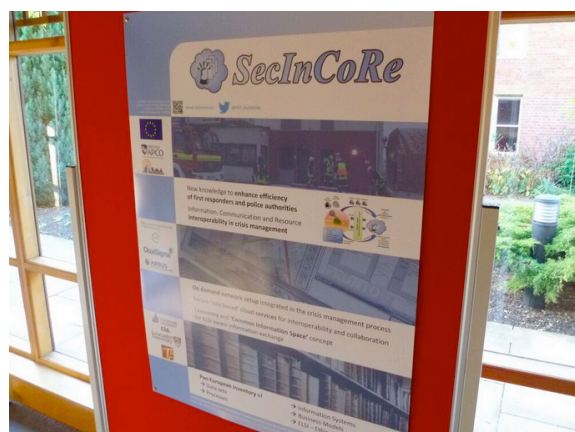
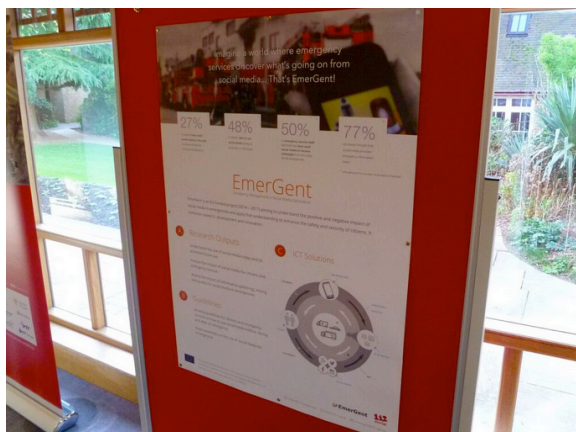
### Sponsors

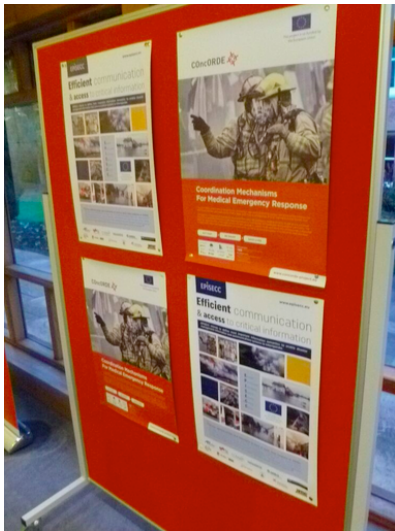
The PSCE event was sponsored by Airbus Defence and Space, ESRI and Motorola Solutions.



### Posters

For the first time, PSCE invited project posters to be displayed during the two days conference. Posters were provided by the EU funded projects CONCORDE, EmerGent, EPISECC, SAMI2 and SecInCoRe.





### Exhibition

The technologies of the SAMI2 project were demonstrated during a two days dissemination event. SAMI2 presented live demonstrations of their video analytics and social media technology.



### Horizon2020 Brokerage

The conference was preceded on the afternoon of 8<sup>th</sup> December with a brokerage event focused on the possibility to solve problems through the funding streams available from the European Commission. This is the first time that PSCE has operated a brokerage in this way, which was considered useful to delegates to learn more about Horizon 2020 and the topics currently open in the ICT LEIT, IoT and Secure Societies programmes.

Delegates were invited to prepare project ideas and present them for open discussion. Project presentations were made, each attracting warm and active discussion with strong evidence of new partnerships being formed both during the session and over coffee.

A key message delivered during PSCE's presentation of Horizon2020, related to the stronger emphasis on the procurement actions which are intended to help translate research outcomes into live systems.

An additional result of the session was that ICT topics are very generic and do not really fit with PPDR requirements. PSCE will check if special topics for PPDR could be included into the ICT calls.



### Formalities and Opening

The conference began on 9<sup>th</sup> December with the general assembly meeting. This is where PSCE reports activity to its members and seeks approval on a number of operating issues such as previous minutes, actions and budgets. Chaired by President David Lund, the minutes of the previous general assembly were approved. Secretary General, Marie-Christine Bonnamour, presented the activity of PSCE since the last meeting. Andrea Nowak, Vice President and Treasurer, informed about the status of income and expenditure until end of Q3-2015, and a budget proposal for 2016, which was approved. New members, Trilateral Research and Lancaster University were invited to briefly introduce their organisation and interests.



### Presentations and Round Table sessions

Following a coffee break PSCE President David Lund formally opened the conference welcoming delegates. Michael Goldsmith then welcomed participants as our local host from Cyber Security Oxford, from the University of Oxford. Poster presenters gave a short overview of their posters, inviting delegates to learn more about their work during the breaks.

### Spectrum

The first presentation session and roundtable discussed the favourable outcomes of WRC'15 with regard to PPDR use of 700MHz spectrum, and also the further steps required for each country to decide how this allocation will be implemented in each country. We learned about spectrum allocation already made in France, which is made in advance of the possible roll out of broadband mobile in France, which is expected to go live in 2017. A lively discussion with the auditorium closed this session.

## Roadmap to PPDR 4G

After lunch on the 9th, the conference investigated the roadmap to deploy interoperable broadband mobile for PPDR across Europe. Results of an existing research project (SALUS) were presented which will yield demonstration activity in the coming months, and technology demonstrations recently made in preparation for the new Emergency Services Network in the UK; the suppliers of which were formally announced in parallel to the conference. PSCE presented "BROADMAP", a project proposal which intends to formalise the requirements, specifications and transition roadmaps for the procurement of next generation interoperable broadband applications, services, networks and devices. An invitation was made to all end users to contribute to this activity should the project go ahead in the new year.

## Will 4G transition to 5G?

In the final session on the 9th, a roundtable discussion was held to debate the opportunities and technological developments surrounding the highly active research aiming to define 5G. We learned of a number of ongoing activities from 3 speakers, but most importantly that 5G will likely be an evolution from 4G. Whilst new radio technologies are in development for 5G, discussion led to the understanding that new approaches to implement new 'digital fabric' aims to bring together existing radio technologies into heterogeneous networks. 'Slicing' of network resources allows for sharing of infrastructure to provide appropriate services levels, mapping to the requirements of the end user applications. End user applications are placed at the centre of the service orchestration, with network function optimisations aiming to achieve the most efficient use of resources in the achievement of fulfilling the needs of end user applications.

## Gala Dinner

In the evening, the delegates attended the banquet dinner held in St Peter's College dining hall. Festivities proceeded for many as they slowly made their way back to the St Anne's residences via one or two pubs, sampling local ales along the way.

## Coffee and Collaboration



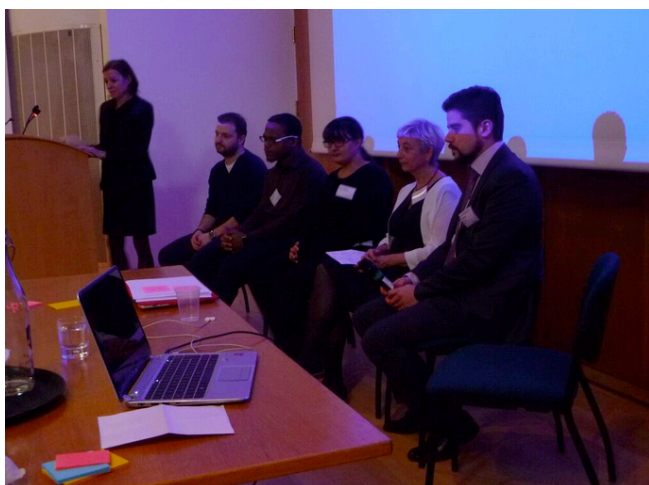
The morning of the 10th began in a collaborative mode. PSCE seeks to facilitate delegates to interact and get to know each other through regular collaborative sessions where delegates are set tasks in small groups. The session began with feedback from collaborative tasks carried out in the last two conferences in Paris (Nov'14) and Graz (May'15). PSCE presented the outcome of the collaborative work to identify 'What's in the Public Safety App Store?'. 50 apps were originally brainstormed by delegates in the Paris'14 conference. In Graz'15, delegates grouped and refined the detail of these 'apps' into a final

list of 36, covering 7 key groups: App Store, context assurance, Mobile Field Office, Mission and GIS Apps, Citizen Engagement, Equipment Monitoring, Infrastructure Interfacing, E-Training. Further analysis brought to the fore some primary aspects relating to sensitivity of information, latency, and bandwidth demands expected of broadband PPDR 'apps'. PSCE are planning to run a workshop in 2016 to bring together and discuss the work of other fora in consideration of PPDR apps. For Coffee and Collaboration in Oxford, we set a list of 8 questions for delegates to debate in groups of 5-7. Questions were posed surrounding the topics of the conference, and the prospect of interoperable broadband for PPDR. Delegates recorded and handed back their discussion and answers. Results of the discussions are being collated into a white paper which will be made available on the PSCE website and presented in a webinar, early in the new year.



### Social Media and Information Exchange for Emergency Management

After coffee, the conference proceeded with 4 presentations and a roundtable discussion covering the use of social media, information exchange in emergency management and the associated ethical, legal and social (ELSI) aspects which must be considered. Techniques for video and social media analytics were presented to allow for early detection of threats. Availability of tools for preparedness and response were studied, giving a comprehensive view of available tools, their capabilities and limitations. Trustworthiness of openly sourced social media information was widely discussed. The roundtable discussion sought to understand how the technological capabilities that were presented could be brought in to live use, and how ELSI should be properly handled, and not considered as a barrier.



## Security and resilience of next generation mobile broadband for PPDR

After lunch, 3 presentations were made covering how the perspective of security and resilience should focus on the system as a socio-technical system, rather than as an isolated technical consideration. Future emerging cryptographic techniques were presented offering immunity to future threats to crypto, such as quantum computing and Shor's algorithm. The prospect of quantum threat to crypto is evolving. Key activities in NIST were presented which guide on the protection of current and new networks and systems from such potential threat to crypto. The session concluded with a presentation stressing that resilience and service availability of broadband mobile networks is key to supporting PPDR operations. Focus was given to published statistics of poor system implementations and configurations. A method for 'Resilience by Design' was presented with an aim to improve consideration for future mobile broadband applications, services, networks and devices for PPDR.

This session concluded the conference on the afternoon of 10<sup>th</sup>. President Lund thanked delegates, speakers and sponsors for their participation and contribution and closed the event.