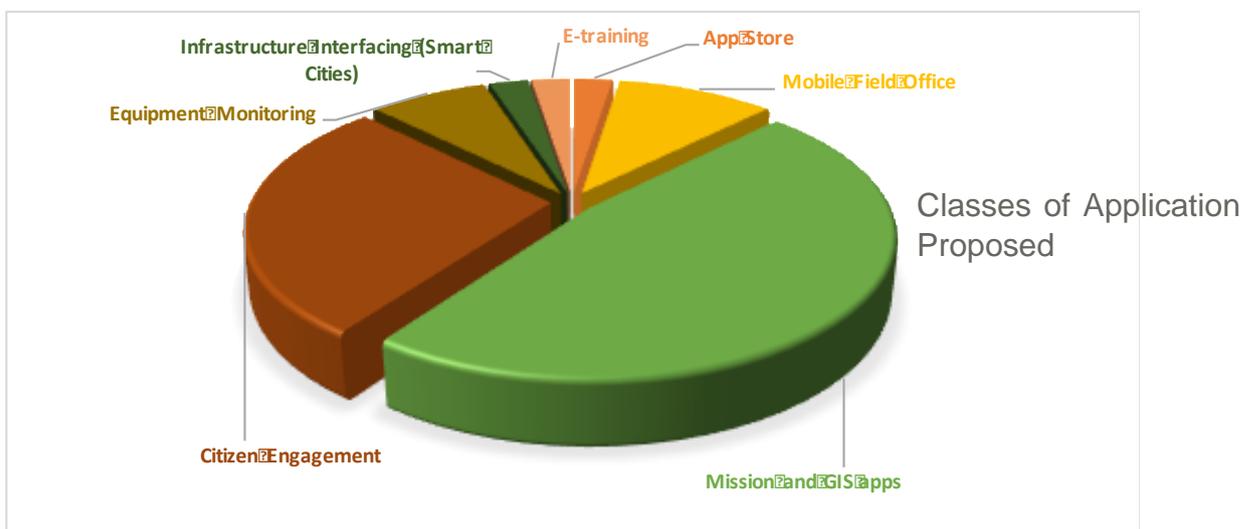


‘Apps’ for Public Protection and Disaster Relief (PPDR)

This white paper is based on a series of collaborative sessions held during PSCE Conferences in 2015 and 2016 on the use of ‘Apps’ in Public Protection & Disaster Relief (PPDR).

Throughout these sessions, which gathered PPDR end-users, researchers and industry members, 40 Apps were proposed and distributed into common topics. A set of criteria for assessing PPDR Apps was then developed. Finally, participants identified potential impediments to the adoption of PPDR Apps and proposed ways to overcome these limitations.

The mobile Application (Apps) ecosystem is one of the fastest growing markets in Europe and is considered an essential element within the European Commission’s Digital Single Market Strategy which is primarily focused on providing a better access to goods and services across Europe¹. Therefore, a review of the role that Apps could play with relation to PPDR operations is long overdue. While the prospective users of PPDR Apps could be anticipated to most likely revolve around the citizen, rather than PPDR end-users, public safety organisations are nonetheless increasingly faced with requirements and offers for Apps to function with the smart-devices and terminals of the future PPDR broadband radio systems. Eventually, these new Apps should contribute to improve PPDR communications from all perspectives (from citizen to PPDR-organisation, between PPDR-organisations and from PPDR-organisations to citizens).



¹ A Digital Single Market for Europe,
http://europa.eu/rapid/press-release_IP-15-4919_en.htm

Applications proposed

Citizen Engagement	Equipment Monitoring	Mission and GIS Apps	
<ul style="list-style-type: none"> • B-Awareness <ul style="list-style-type: none"> ○ Bystander data collection from incident ○ Situation alerts to citizen • B-Prepared • Reassure Beloved • Panic Button • Situation App for Citizen • Nearest Public Shelter • Crisis Data 	<ul style="list-style-type: none"> • BA-T2 Whistle • Vehicle Incident Telematics • Gun App 	<ul style="list-style-type: none"> • Accident Maps <ul style="list-style-type: none"> ○ Preparation • Physical (Building and Terrain) Maps/Plans • Crowd Movement • Crime Density • Historical Density of Fire • Mountain App • <u>Localisation of Victims</u> • Weather • Avalanche Forecast • Rescue Info 	<ul style="list-style-type: none"> • Medical Response <ul style="list-style-type: none"> ○ E-triage ○ Where is the response, availability of response (personnel etc.) ○ Patient Medical Data Telemetry, Health Stat Monitor ○ Video Streaming-Ambulance Head up Display, Traffic Cameras ○ Traffic or Transport Routes

App Store	Mobile Field Office	E-Training	Infrastructure Interfacing (SC)
<ul style="list-style-type: none"> • Apple Store, Google Play • Could/Would they deliver • Responsibility, Assurance • Internal/External Approval • Guidance on most Appropriate App 	<ul style="list-style-type: none"> • Document Reader • Procedure Handbook 	<ul style="list-style-type: none"> • Standard Ops, Illustrative examples • Reflective Scenarios 	<ul style="list-style-type: none"> • Traffic Light Control

App Proposals

PSCE sought new and creative ideas for PPDR Apps through collaborative activities during its conferences, while also attempting to identify any potential obstacles to their implementation. During the first phase, participants representing users, researchers and industrials in PPDR, congregated to brainstorm ideas for new Apps.

During the first phase, 40 Apps were proposed, covering a wide variety of topics within the different phases of crisis management (preparedness, response, recovery). The Apps were divided in the following common topics as shown on the first page: App Store, Mobile Field Office, E-Training, Infrastructure Interfacing (Smart Cities), Citizen Engagement, Equipment Monitoring, Mission and GIS Apps. As it is shown, a large portion of the proposed Apps fell under the Mission and GIS and Citizen Engagement topics.

App Specifications

During the second phase, participants developed a set of criteria for assessing new proposals, which took the form of the 10 following questions:

1. What information does this App use, gather or produce?
2. Where is the information sourced?
3. What type of device will this App run on?
4. Is the information freely available, or obtained commercially?
5. Is the App sensitive to;
 - a. Latency
 - b. Available bandwidth
 - c. Data transfer set up time
6. Is the information used sensitive or classified?
7. Who should Approve this App, and using what criteria?
 - a. No Approval needed
 - b. Approval of
 - i. Accuracy of information
 - ii. Timeliness of information
 - iii. User interaction
 - iv. Other aspects
8. Does the App require low, medium or high levels of information processing?
9. Can you anticipate barriers to adoption of this App?
10. Are there innovation gaps to impede availability of these Apps? Do they already exist?

Potential barriers – Data sensitivity

It emerged from the sessions that making PPDR Apps from inception to production is a relatively easy and cost-effective process. For example, over 90% are produced from cottage house industries i.e. individuals working from home. The restrictive aspects that demand closer consideration are in fact related to the nature and sensitivity of information shared through the PPDR App in question. For example, if a PPDR App records medical history or information that is sensitive to an individual's medical situation and would have very strict guidelines on data usage and privacy. However, if a PPDR App simply informed a user of their heartrate (without recording) or instructed of healthy lifestyle options, these Apps would be considered lifestyle Apps and therefore would have to adhere to less restrictions compared to mHealth Apps. It would ultimately come down to the function of the App before assessing the rules and regulations it must adhere to. The main possible limitations to the adoption of future Apps include:

- **GDPR** (General Data Protection Regulation): GDPR are currently being reformed and will be enforced in 2018. These reforms are immensely important as they revolve around user's data and consent. If a user is looking to download the App they may be required to provide personal data and information – therefore that clear consent must be given by the user alongside providing the user with their legal rights with regard to retrieving and deletion of their data.
- **Privacy and Data ownership:** As mentioned previously, privacy will be an extremely important factor with regards to PPDR Apps as sensitive information may be conveyed. Some of the data could be either protected by privacy laws or expensive to obtain.

- **Data localization:** With relation to privacy, data localization would prevent member states from sharing data. Therefore, it would be in the interest of real harmonization and standardization to oppose data localization.

The lack of versatility in data sources, possible driver distraction and user acceptance issues were mentioned as additional potential hindrances. Concerns were also expressed with regards to the accessibility and distribution of the Apps. Therefore, the roll out of 5G should constitute a massive factor for the success of PPDR Apps.

What's next?

In the light of these elements, there is a need for quality control and standard operating procedures for the Approval of Apps based on their function, quality of service, level of security, cross-border usability and EU-wide certification. In addition, Legal gaps and EU-wide regulations should be carefully examined and considered with respect to the role of Apps in conveying information from citizens to PPDR-organisations in emergency situations.

Conclusion

The flourishing of Apps in recent years has undoubtedly created new challenges and opportunities for public safety organisations. It has been argued that the main barriers in developing new Apps for PPDR do not stem from a lack of ideas or excessive costs, they are in fact related to the nature and sensitivity of the data conveyed, touching sensitive issue areas such as personal data, copyright, GDPR and ePrivacy. For that purpose, new guidelines are needed with regards to EU-wide Ethical, Social and legal requirements. These guidelines should standardize the understanding and guide towards a procedure under which new Apps are assessed, with the final objective of making data exchange through PPDR Apps smoother. Indeed, a fluid and swift exchange of information is the foundation for more effective and adequate responses in emergency situations.