



5G Technology in Mission Critical Communication Applications: The case of Closed VPN solution in RESPOND-A

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EIGHT BELLS at a glance 1/3

Our Company



Eight Bells (8BELLS) is a 4-years old **SME** based in Nicosia, Cyprus. In 2020 8BELLS established a **new branch** in Athens, Greece.



Delivers customizable solutions that enhance existing communication technologies relevant to **5G, Cloud Computing, Internet of Things, Cybersecurity**. Specializes **also** in modelling and analysis for businesses.



Has participated in more than 20 EU and national projects that have attracted more than €4 million.



Preparation, Execution, Management of R&D projects (mainly H2020), analysis, and quantification of results. Business and Technical Consulting.

EIGHT BELLS at a glance 2/3

Research Expertise & Consulting Services

Customizable solutions that enhance modern communications relevant to the area of 5G Mobile Technology

5G
communications



Knowledge on Network Function Virtualization (NFV) and management solutions for Cloud infrastructures.

NFV
Cloud service



Portfolio of cybersecurity solutions that can be used for risk assessment, cyber-hygiene, anomaly detection, and threat remediation.

Cybersecurity
solutions



Delivers special advisory services in ICT that help clients understand the market dynamics and profit from the ever-changing landscape. Advise and support other companies and organizations in every step of the process.

Advisory
services



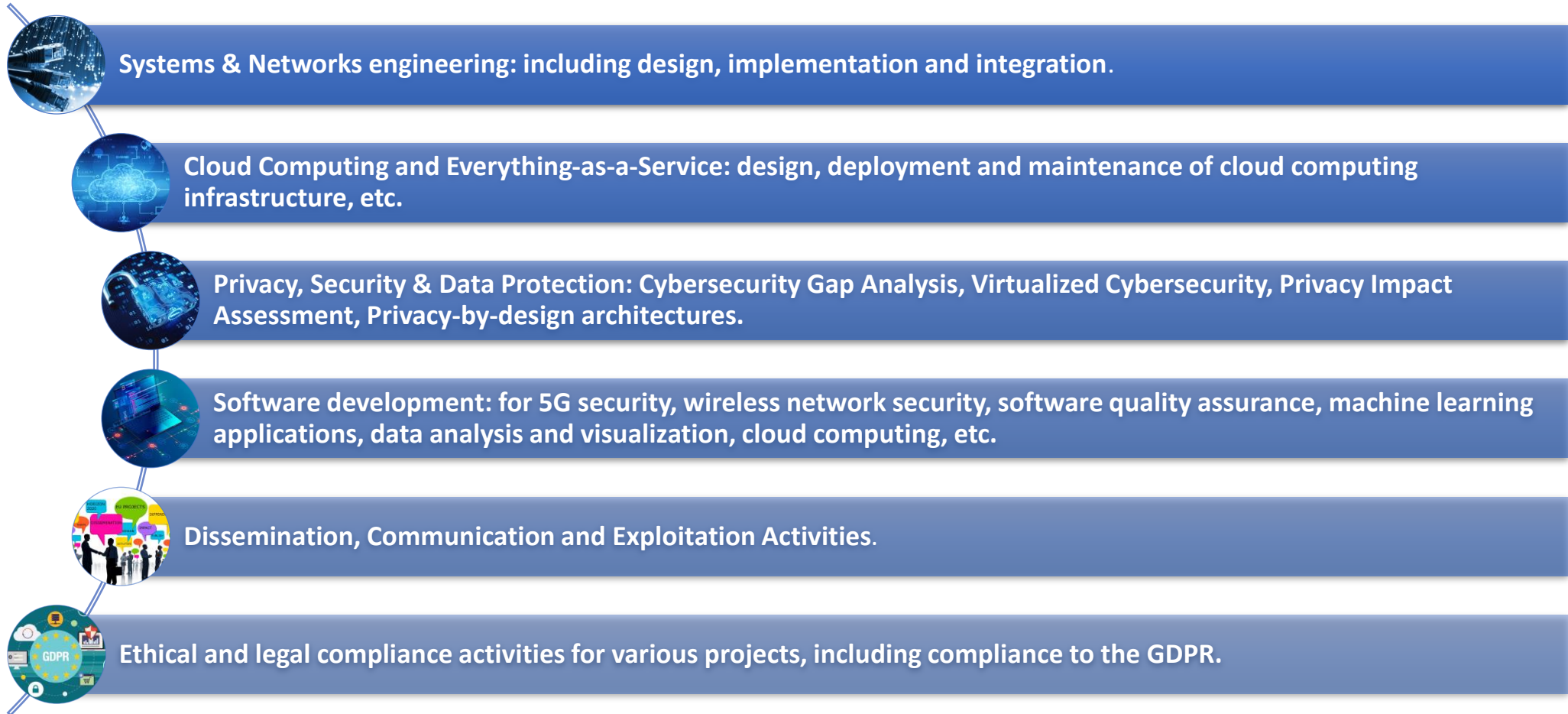
Business consulting includes also innovation management, technology transfer and exploitation (including market analysis, patenting, licensing, etc.).

Consulting



EIGHT BELLS at a glance 3/3

Technical Capabilities



Our Projects



RUNNING

FINISHED



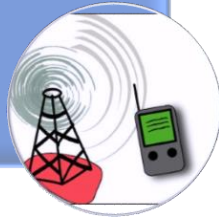
RESPOND-A overview



State-of-the-Art

Private Mobile Radio (PMR) legacy technologies, such as TETRA and TETRAPOL provide very reliable Push-To-Talk (PTT) services for group communications, but are limited to voice, short messages and narrowband data services.

Mission-critical communications



4G technology doesn't meet the requirements of the communication between first Responders, because it cannot guarantee the required services, capacity and availability for PMR usage, especially in a crisis situation.

4G Connectivity



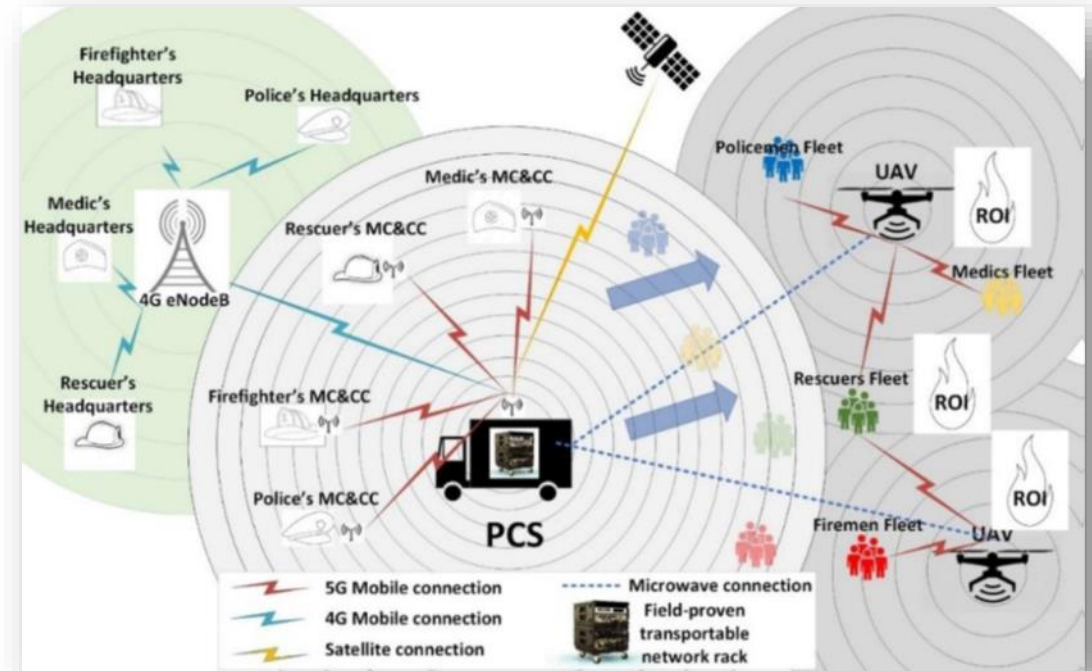
4G connectivity is much slower and less reliable than 5G, which means it is unlikely for these systems to support the high-end Public Safety and Situational Awareness applications of RESPOND-A.

Need of 5G



5G connectivity in RESPOND-A

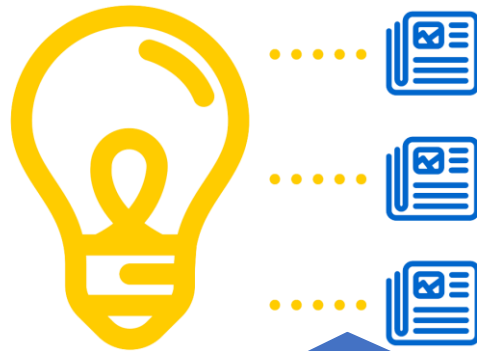
- RESPOND-A will provide 5G (next-generation) capabilities to First Responders for protecting the public and themselves more efficiently and effectively.
- Portable Communication System (PCS) will support the communication needs of First Responders completely autonomously at any location and environmental condition (i.e. without the need for connecting to external network infrastructures).
- PCS will be equipped with 5G New Radio (NR) which will be close to the First Responders and their Mobile Command and Control Centres (MC&CC), in order to maximise the communication coverage and service provision locally.
- UAVs equipped with 5G NR small-cells will be coordinated completely autonomously to fly over Regions of Interest (ROIs) in constellations for optimal radio coverage with respect to First Responder positions.
- 5G connectivity is going to be implemented by NCSR



Role of 8BELLS 1/4



Participate in the definition of the overall RESPOND-A system architecture as well as to the specifications for the individual tools



Participate in the use cases and application scenarios



Contribute to the pilot planning evaluation methodology and setup

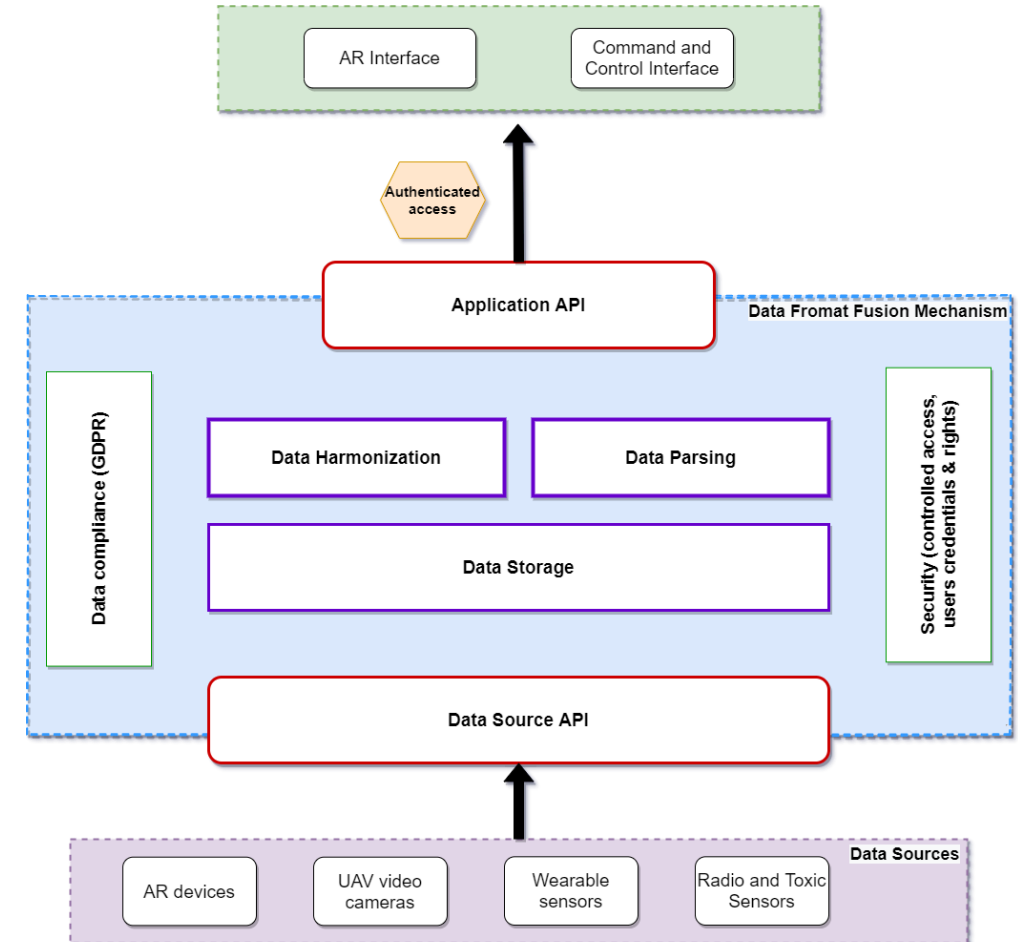
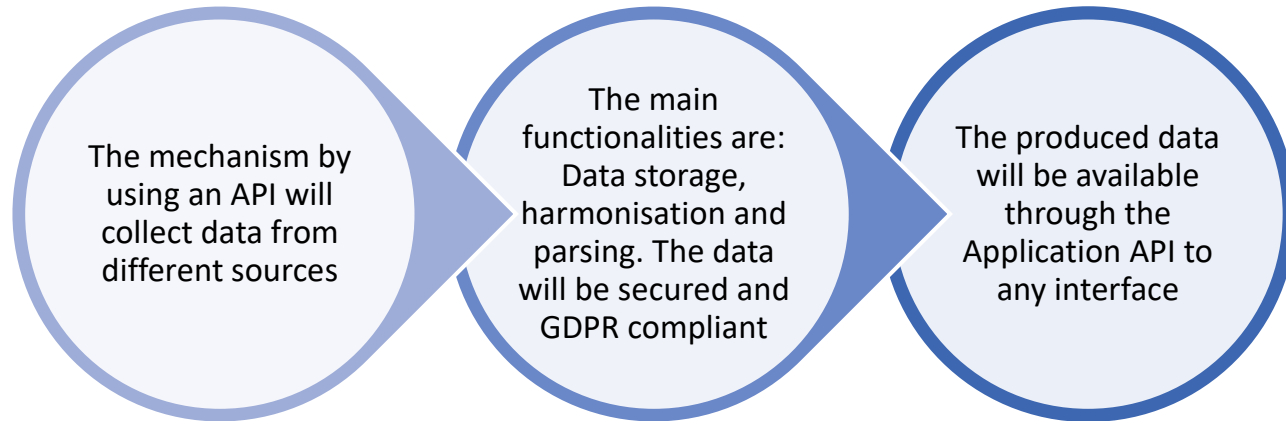


Assist in the evaluation analysis and lessons learnt

Role of 8BELLS 2/4



Data Format Fusion Mechanism



Role of 8BELLS 3/4

X/BELLO



A VoIP and instant messaging (IM) application provided for Android and iOS.



Supports voice chat, real-time video calling and multimedia transmission over the Internet



Dedicated to authenticated and authorized users identified by the company's administrator.

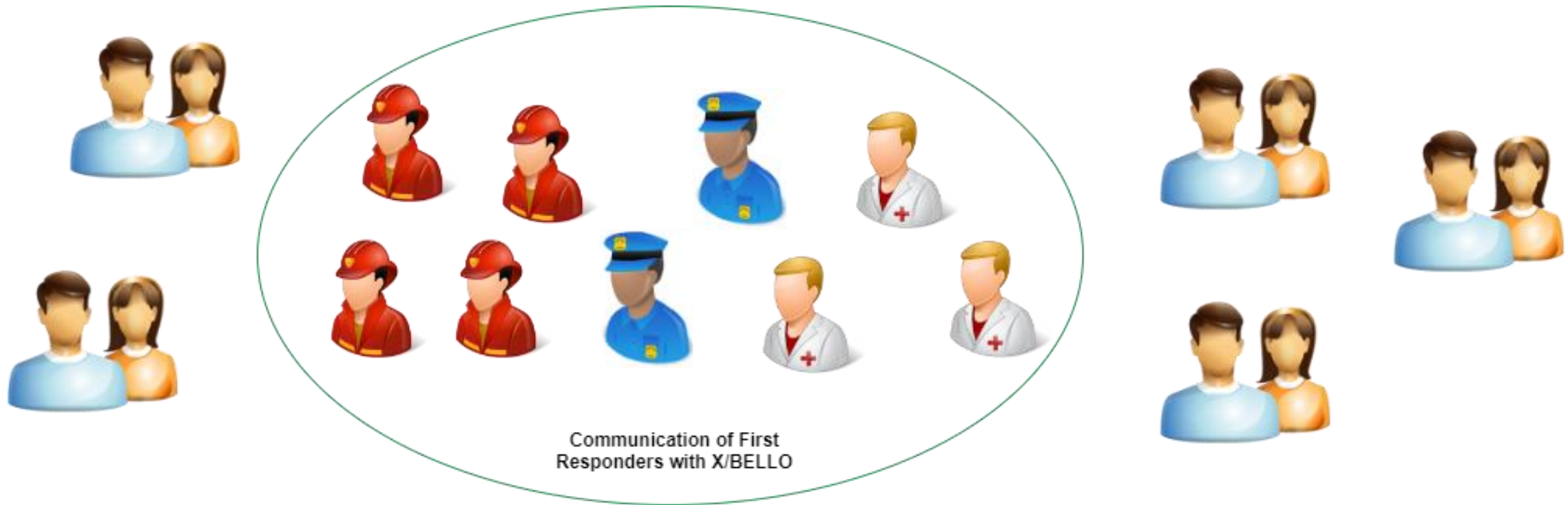


Supports data encryption, data privacy, user authentication and user management

Role of 8BELLS 4/5



Use of X/BELLO in the RESPOND-A project



Role of 8BELLS 5/5



Contribute to the dissemination, communication and standardisation plan

Create a market analysis and SWOT analysis

Contribute to the exploitation plan and knowledge transfer





Thank you!

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