



*Next-generation equipment tools and  
mission-critical strategies for First  
Responders*

# RESPOND-A, An Introduction

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RESPOND-A is funded by H2020-SU-DRS02-2018-2019-2020 - Technologies for first responders.

A 36-month project that started in June 2020.



# Aim

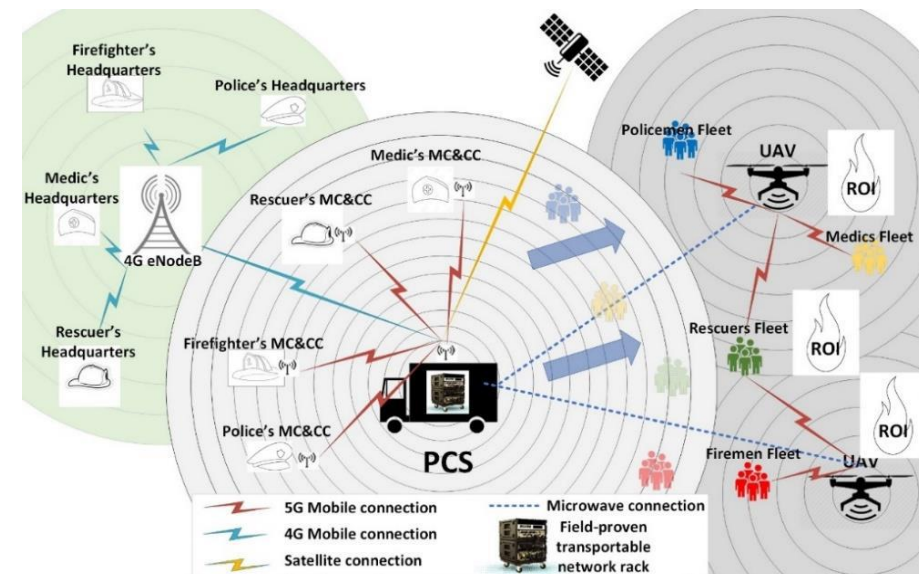
- The main aim of RESPOND-A is to leverage First Responders efficiency and safety by introducing a joint technological and conceptual framework for maximal Situational Awareness in terms of boosting:
  - ✓ Early Assessment
  - ✓ Safety Assessment
  - ✓ Risk Mitigation capabilities
  - ✓ Clear Common Operational Picture
  - ✓ Optimal management of operations at any scaling and complexity of disasters.

-  Belgium
-  Bulgaria
-  Cyprus
-  France
-  Germany
-  Greece
-  Italy
-  Montenegro
-  Netherlands
-  Spain
-  Sweden
-  Portugal
-  United Kingdom



# Objectives

1. RESPOND-A will provide 5G (next-generation) capabilities to First Responders for protecting the public and themselves more efficiently and effectively.
2. One of the main aims of the project is also to design a discreet, light-weight, “wearable chest band or clothing”
3. Three sets of sensors will be employed:
  - (i) Health sensors
  - (ii) Environmental sensors
  - (iii) Emergency activated sensors (that will provide feedback in case of a fatal accident or an injury)



# Methodology

- Perception, Network, Processing, Comprehension, and User Interface layers, which can be flexibly elaborated to support multiple levels and types of customization, so as, the intended technologies and practices can adapt to any EEA-type disaster scenario.



# Training as a tool to engage End Users



- RESPOND-A First Training session was successfully held online the 10th and 11th of December 2020 under a virtual environment due to #COVID-19 restrictions. A total of 69 attendees participated in the presentations, exercises and discussions. The first training session was focused on addressing maritime accidents in coastal and port areas by using novel technologies adapted to port and maritime authorities protection plans.



# Ways of testing and promoting exploitation - 3 Pilots



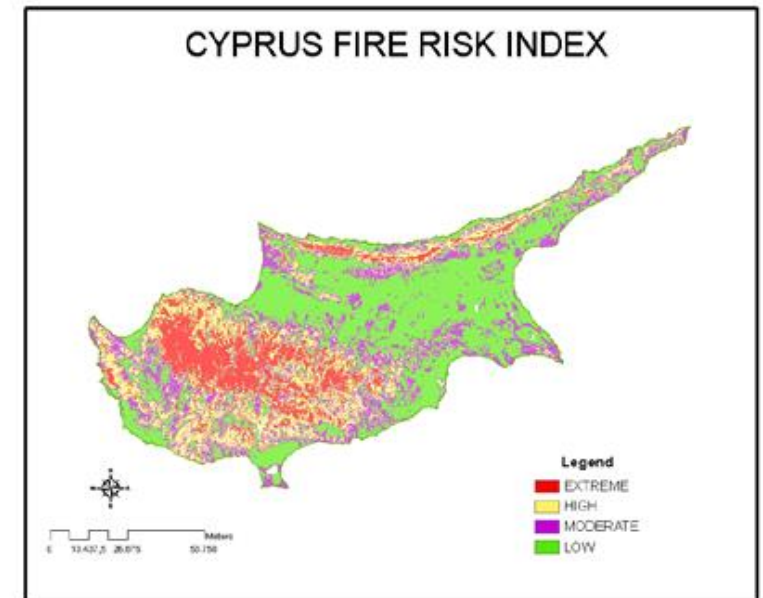
- **Case 1 – FIRE (Cyprus)**
- **Case 2 – EARTHQUAKE (Greece)**
- **Case 3 - SAR OPERATION (Spain)**



# Pilot (1) - Cyprus

## ■ CASE 1 – FIRE

- ✓ Enhanced Situational Awareness (Cyprus) / Weather-related EEA classified hazard.
- ✓ Through this pilot, we plan to:
  - Reduce time needed for mobilizing the necessary First Responders matching needs with skills and specialties and for setting up the emergency logistics supply chain.
  - Test protective means for First Responders that will allow them to operate in complex environments with multiple threats such as fire, smoke, toxic ingredients, having protection against all of them above the average.
  - Test new communication technologies that will allow high quality, uninterrupted communication between Command Centers (including mobile ones) and First Responders cooperating with drones, robots, and sensors.
  - Improve or establish new Standard Operating Procedures (SDOs) for complex emergencies



# Pilot (2) - Greece

## ■ CASE 2 – EARTHQUAKE

- ✓ Professional Communications and Crowdsourcing through 5G (Greece) / Geophysical EEA classified hazard.
- ✓ Through this pilot, we plan to:
  - Access the deployment time of 5G portable telecommunication systems
  - Validate that the infrastructure can be deployed simply and autonomously at any location and environmental condition, e.g., without the need of specialized technicians.
  - Ensure the simultaneous operation of voice and high-quality video calls at high quality for mission critical services, for at least a specific duration of time.
  - Validate the support from the broadband network of the simultaneous operation of many data-rich services, e.g., Virtual Reality, Augmented Reality, etc.
  - Test 5G network coverage at both indoor and outdoor locations, and if it offers the requested capacity in cases of congestions, e.g., many of First Responders gathered around a ROI.



# Pilot (3) - Spain

## ■ CASE 3 – SAR OPERATION

- ✓ AR applicability in maritime SAR operations (Spain) / Technological EEA classified hazard.
- ✓ Through this pilot, we plan to:
  - Establish a Safety Assessment and Early Warning framework that protects First Responders.
  - Validate the ability to setup a robust 5G private mobile network in the area of the incident.
  - Assess 5G capability to provide sufficient bandwidth and low latency for video transmission from drones and for First Responder smart glasses.
  - Plan a more efficient stakeholders' coordination in case of an emergency, by sharing health, position and situation parameters in real-time between officers of same (or different) First Responders' organizations.

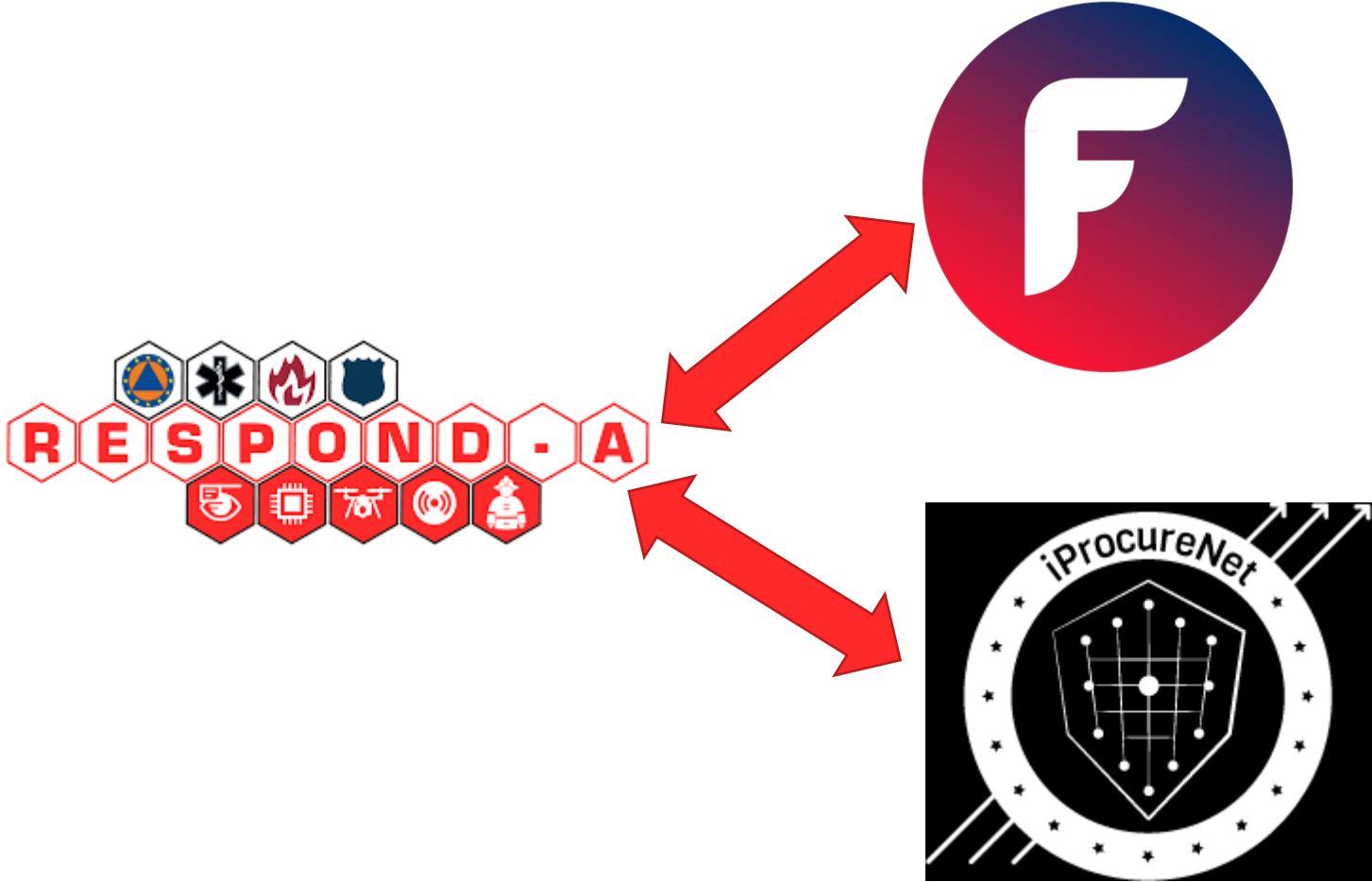


# RESPOND – A Exploitation

- The commercial roll-out model that will focus on the roadmap to commercialization and deployment of the overall solution and integrated framework to be delivered by the end of RESPOND-A. It will require agreements between Partners, performing activities together in specific tasks and establishing measures for joint exploitation. The final outcomes of RESPOND-A are expected between **TRL3** and **TRL6** which requires further efforts and investment from Partners before commercialization can be achieved.
- The incorporation of individual research results into already existing products at the respective individual market of each Partner. As a result, industrial Partners and research institutes are going to have significant benefits by commercializing their individual R&D results, through their integration with current solutions that they maintain.



# RESPOND – A Partnerships (month 10)



# Consortium - Partners

- The Consortium consists of 34 partners:
  - 6 large Industries: ADS, ZII, ROB, HI, STX, VPF
  - 8 First Responders: PLV, CFS, MoE, BDI, AMSPM, HMOD, PJ, UMHAT
  - 14 SMEs: ATM, MSP, ATH, OINF, MDS, PRO, 8BELLS, SID, CLS, VAL, CSI, SC, IEIT, IANUS
  - 6 Research Institutes and Universities: EUC, NCSR, VICOM, i2CAT, PCF, PSCE





# Thank you



RESPOND-A has received funding by the European Union's Horizon 2020 – Research and Innovation Framework Programme, under grant agreement no 883371.





WEBSITE

[www.respond-a-project.eu](http://www.respond-a-project.eu)



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