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FASTER: First responder advanced technologies for Safe and Efficient Emergency Response

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GROUP OF COMPANIES



Outline

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 - vision
 - use cases
- UC1 description
- Network architecture for UC1
- UC1 pilot in Megara
- Conclusion



FASTER project

First responder Advanced technologies for Safe and efficient Emergency Response

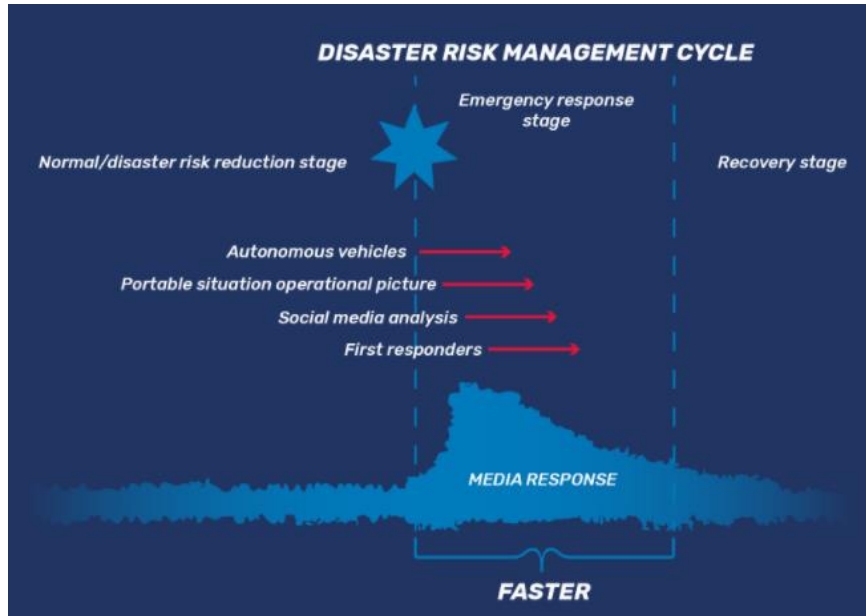


- H2020-EU.3.7.5. - Increase Europe's resilience to crises and disasters
- 22 partners
- <https://www.faster-project.eu>

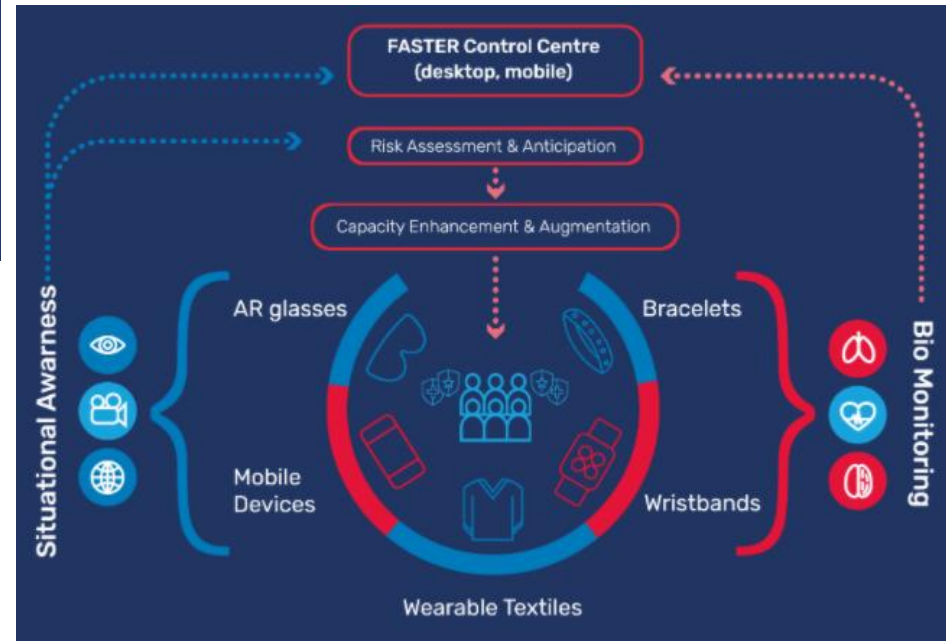




FASTER vision



- *protection of first responders in hazardous environments*
- *enhancing their capabilities in terms of situational awareness and communication*





Use Cases

– Use Case 1: Earthquake in Madrid, Spain

- **Event:** An earthquake of 7.3 degrees on the Richter scale strikes Madrid, affecting a populated area.

– Use Case 2: Flooding in Moncalieri, Italy

- Flooding scenario based on an incident that occurred in November 2016 in the Municipality of Moncalieri, located south of Torino in Italy's Piedmont Region.
- The Population of Moncalieri is more than 55.000 inhabitants. The affected population, mainly concentrated in the southern neighborhoods (Tetti Piatti, Borgata Tagliaferro, Santa Maria and Borgo Mercato), is approximately 5.000 people.

– Use Case 3: Terrorist event in Kajaani, Finland

- **Event:** A fire is set off by a man-made explosive in a school in Kajaani, Finland. The school has 800 primary- and secondary school children inside, in addition to 120 children in nursery. It covers 12.665 m². The school has library and kitchen facilities as well. The building was constructed in 2017.

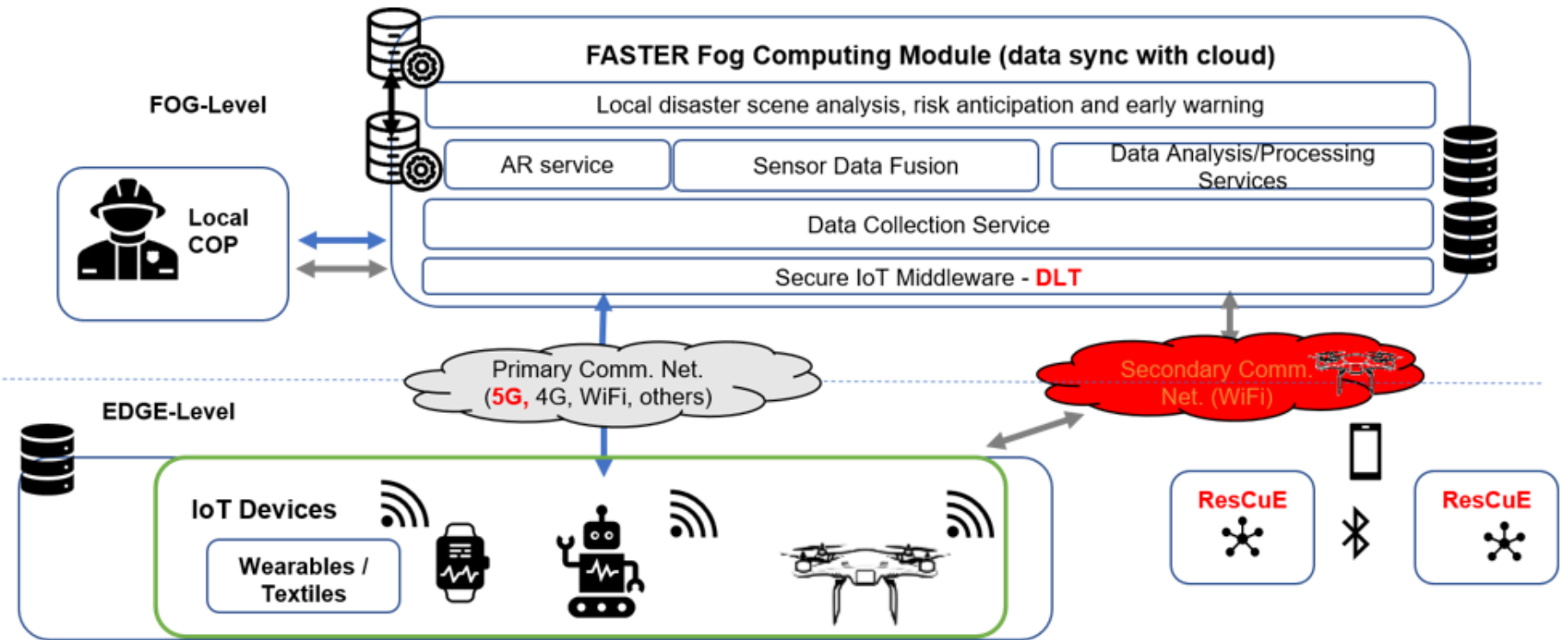


UC1 description

- An earthquake of 7.3 degrees on the Richter scale, affecting a populated area
- First responders in the field wear personal protective equipment.
 - **Smart textiles** – measure and track biometric information
 - **Smart wearables** – measure and track environmental conditions
- Set up **5G-enabled communication infrastructure**
 - a reliable communication ‘bubble’ in the affected area for responders
 - low-latency
 - Allows for near-instant transfer of sensor data from the smart wearables
 - high bandwidth
 - allows for sharing large amounts of data from the FASTER tools (3D mapping data, AR, for example).
- Portable Control Centre

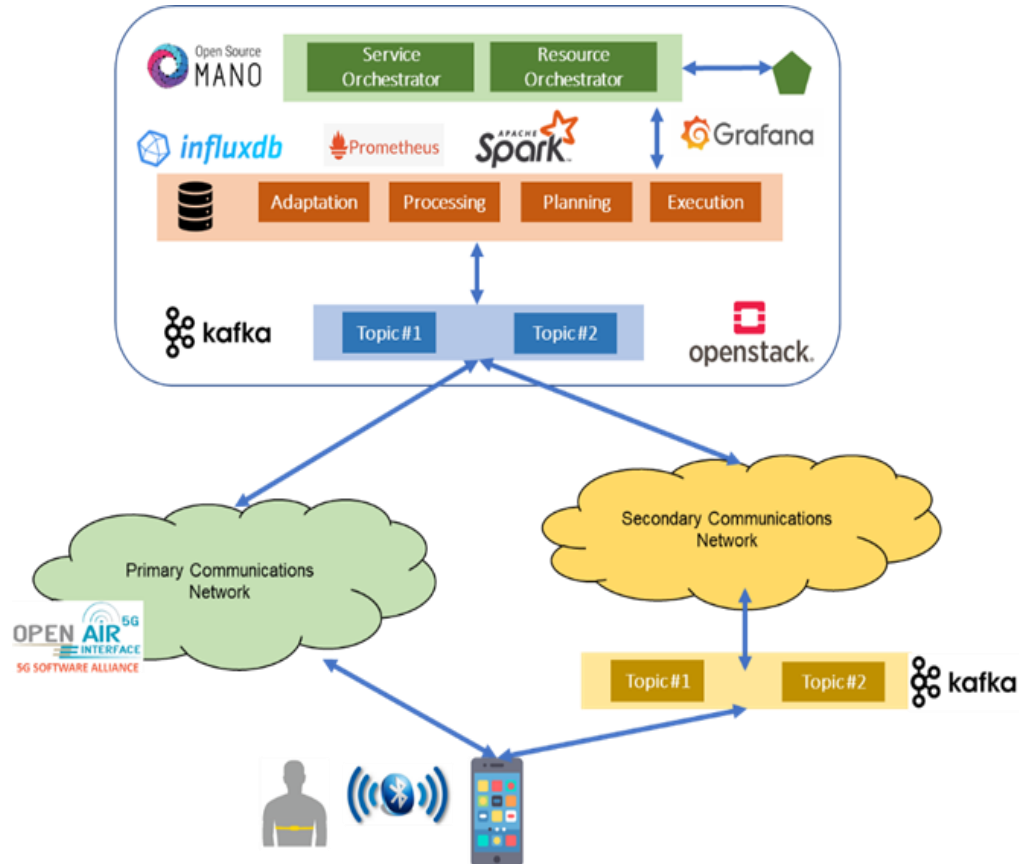


Network architecture for UC1





UC1 demonstration





UC1 pilot in Megara 1/2

Ote set up a local wireless network via OpenAirInterface, working on a local environment in order to ensure the connection and interoperability of the devices needed by all other tools, including laptops, smartphones and wearables. Connections were tested using OpenAirInterface. Also Wi-Fi was installed for the connection of the local devices.





Conclusion

- *Early identification of operational risks enhancing first responder's safety*
- *Enhanced situational awareness for first responders through augmented reality technologies*
- *Highly ergonomic tools for first responders' operations*
- *Robust and resilient emergency communication and cooperation infrastructure*
- *Employing autonomous vehicles, as units or in swarms, for risk identification and physical mitigation*



Thank you