FASTER NEWSLETTER
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> **Dear reader,**
>
> **We are pleased to welcome you to the newsletter of the FASTER project.**
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> **This is the first issue of a biannual newsletter that will allow the readers to stay in touch with the progress of the project.**

First responders Advanced technologies for Safe and efficienT Emergency Response – FASTER, is an international research and innovation action project funded by the European Commission under the Horizon 2020 programme in Secure Societies Challenge addressing the SU-DRS02-2018-2019-2020 (Technologies for first responders) topic.

FASTER's main objective is twofold: to help and protect first responders during their operation and to enhance their capabilities in terms of situational awareness and communication. Technology has an important role in improving both the safety of first responders and the effectiveness of their operations and FASTER is developing state-of-the-art tools to face the three phases of emergency response: mapping the area, search and rescue and risk mitigation.

User-centered design is a key aspect of the project, with research and development carried on in collaboration with first responders, in order to build the new tools around their needs and requirements. This is a focal point of FASTER, and we are always pleased to welcome new organizations in our community.

If you'd like to join the project stakeholder group please click at www.faster-project.eu/stakeholders/, choose your language and fill the form. ■
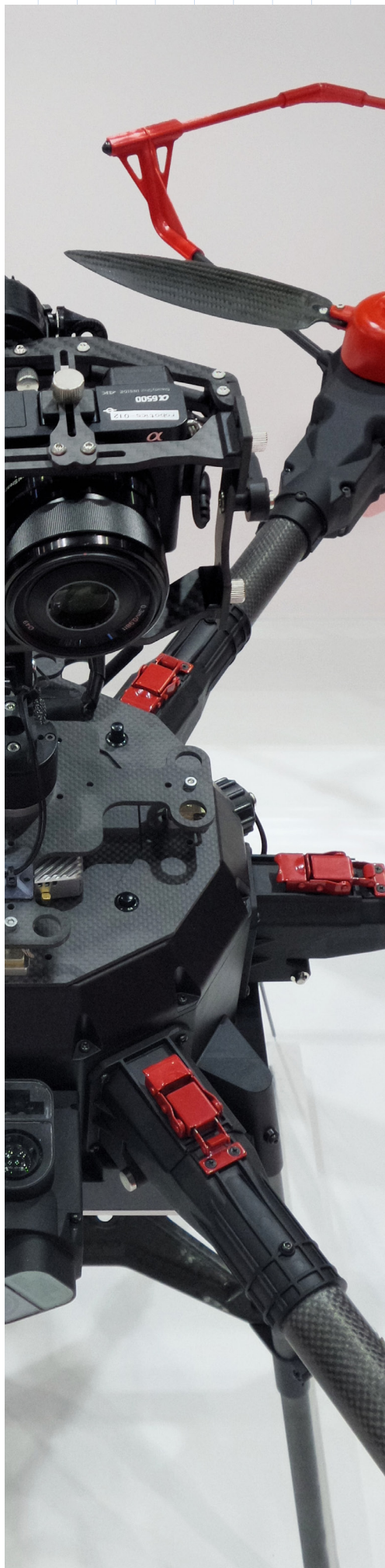
HOW TECHNOLOGIES CAN HELP TO TACKLE DISASTERS

Due to their nature, disasters deriving either from natural phenomena, technological accidents or human actions are often unpredictable. It is a matter of fact that devastation of infrastructures and human life is an increasing problem both in Europe and worldwide. During the response phase of any disaster, first responders are often operating in risky and hazardous environments, being exposed to visible and non-visible threats. Moreover, lack of proper communication, coordination and resources in such environments, can lead to sub-optimal interventions.

FASTER is a European H2020 three-year project involving 22 European and one Japanese partner and the team consists of 8 experienced academic/research partners, 3 industries, 4 SMEs and 8 First Responder organizations including LEAs, firefighters, medical emergency services, K9 units, disaster response teams and civil protection.

FASTER aims to address this challenge collecting data coming from multiple sources on the field and developing novel methodology and technology to face the operations during the emergency. These include drones for mapping the disaster area, autonomous vehicles for inspection of the area and to mitigate the suffering of victims, wearables and sensors to locate the practitioners (including K9 units) and collect biometric data, body and gesture user interfaces to reduce equipment clutter, augmented reality glasses to provide additional information to first responders, 5G technologies, drones and emergency communication devices to provide resilient communication.

Moreover, FASTER will gather data from the field and social media content to extract information and to provide an enhanced common operational picture to the first responders teams using Portable Control Centres. ■
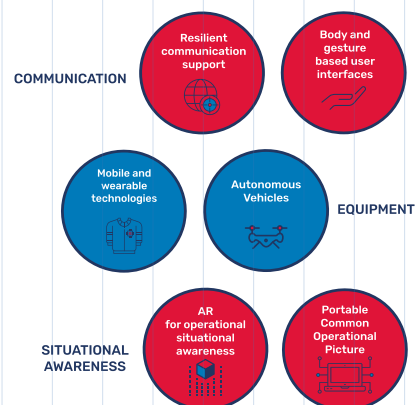
1. FASTER TOOLS
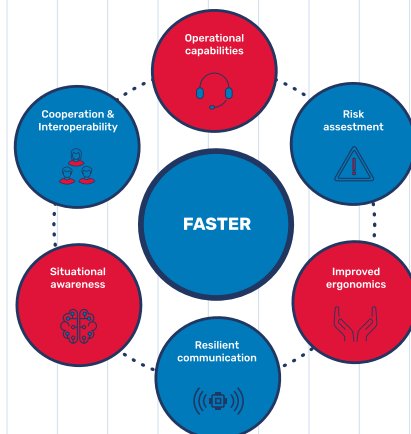
2. FASTER FOCUS AREAS

FIRST 6 MONTHS AND PROJECT MILESTONES

During the first 6 months of the project (from May to October 2019) a lot of work has been done to achieve the first project milestone: identifying user requirements and determining the use-case scenarios where FASTER's tools will be tested and evaluated.

Furthermore, the common legal framework for FASTER's consortium to take into consideration during research and realization phases of the project has been defined. It provides guidance on compliance with privacy and data protection issues that might arise during the project, taking into consideration the use of diverse technologies in FASTER. Regulations pertaining to medical devices were also studied, in order to explore their possible relevance to the use of smartphones and wearables for vital signs monitoring.

Additionally, ethical and societal concerns that are likely to emerge are anticipated and described. This initial framework will be further specified based on the data collected from FASTER's partners at the future stages of the project.

Since the start of the project, FASTER has been presented in several events such as IFAFRI (International Forum to Advance First Responder Innovation), EHAL (European Association of Health Law), Preventica, MSE (Mediterranean Security Event), international workshop "Data Protection and Security in Emergency Situations". In addition, a cluster with four DRS-02 projects (ResponDrone, INGENIOUS, CURSOR and ASSISTANCE) has been established with the aim of exchanging experiences and exploiting synergies for dissemination and exploitation purposes. ∎

FASTER MILESTONES

May 2019	FASTER start
October 2019	User requirements and use cases
April 2020	System architecture design and components specified
October 2020	First integrated tool and Components Versions Delivered
January 2021	First Pilots Completed
October 2021	Updated Technologies based on the first Pilot
January 2022	Start of final Pilots
May 2022	Official presentation of the FASTER system

FIRST 6 MONTHS ACHIEVEMENTS

August 2019	Social, Legal, Ethical and Policy Frameworks
September 2019	Communication material presented
October 2019	User requirements and use cases submitted; Dissemination plan submitted

EUROPEAN ASSOCIATION of HEALTH LAW

International Forum to Advance
FIRST RESPONDER INNOVATION

MEDITERRANEAN
SECURITY
EVENT 2019

LISTENING TO FIRST RESPONDERS' NEEDS: THE KEY OF EFFECTIVENESS

FASTER is an end-user-driven project striving to develop tools that add value to response operations. The FASTER consortium has a strong end user group with practitioners with diverse background: police, fire services, urban search and rescue, K9 teams, civil protection organizations and municipalities. The end users have a lot of response experience and are used to collaborate with other agencies. Furthermore, they are actively involved in project discussions, asking questions and sharing ideas.

On the other hand, FASTER's impressive collection of technical partners contribute with ideas for technical solutions offers many ideas for technological solutions, while remaining open to input and new ideas from the end users. The majority has experience in security-related projects already and all are familiar with the notion of developing tools that are useful in practice, creating tools that responders will want to adopt at the end of the project. The first six months of the project were focused on defining the user requirements according to each partner's role:

• **End users** gave feedback on how to make the tools most suitable to responders and the complex environments they work in. The user requirements form the basis of the technical development and they will be translated into technical specifications. As the tools mature, they will be tested by end users for evaluation and feedback, which may lead to the update and refinement of user requirements.

• **Technical partners** presented the design concept and expected functionality of the tools they will develop, answering the following:

1. What specific purpose is it for? What is the goal of this tool?

2. Who will use this tool? Is specialized training needed?

3. How is it used?

4. What is the input / output of this tool? (Data, images, text, alarms)

5. What advantages does it offer over existing technology? What makes it innovative?

6. What are the limitations of the tool?

7. How far along is it in development? How do you see this tool at the end of the project (long research trajectory vs market ready)?

8. How can end users help to shape development? ∎

ON FIELD DEMONSTRATION: A CORNERSTONE OF THE PROJECT

At the end of the development phase, a complete overview of the FASTER development will be presented for the first time, in a demo version, to the European Commission.

Moreover, the prototype of the system will be demonstrated and tested in three use cases (November 2020 - January 2021) describing realistic scenarios covering different types of disaster and response environments (rubble, wide outdoor area, and indoors) and of hazards. The choice of different use cases focused on different types of hazards will ensure an adequate test of tools and procedures and will contribute in highlighting gaps, good/ best practices and application fields in the real world, fostering the effectiveness of the project.

• **Use Case 1:** earthquake in Madrid (SP)

The scenario of this use case involves an earthquake of 7.3 degrees on the Richter scale, which strikes Madrid at 17:00 local time, affecting a populated area. International assistance is requested due to the magnitude of the disaster in the country. Urban search and Rescue (USaR) teams are needed and follow INSARAG guidelines throughout the demonstration. The storyline goes through the intervention preparation, the establishment of safe worksites, and the SAR operations

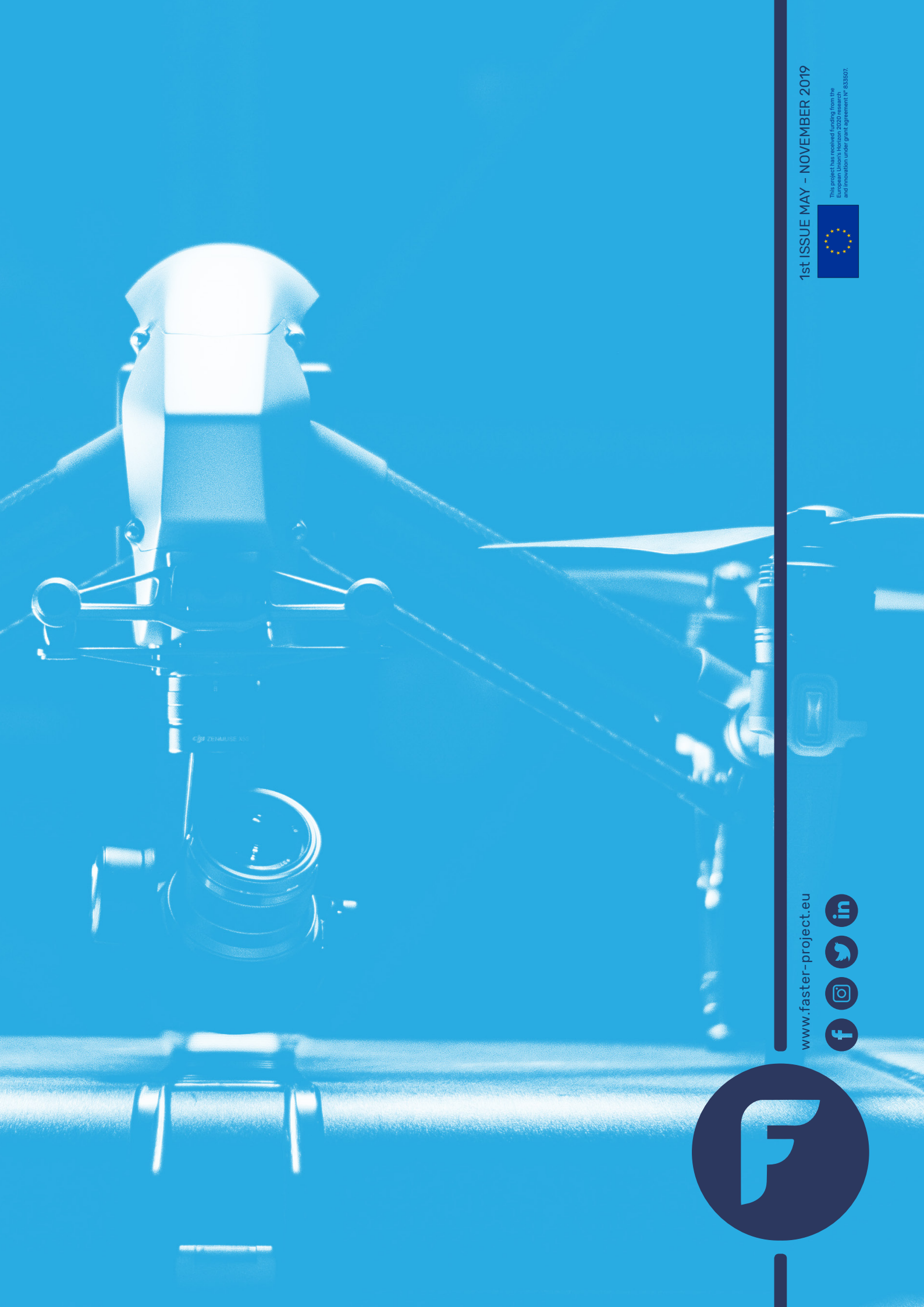• **Use Case 2:** Flooding in Moncalieri (IT)

Flooding in Moncalieri (IT) Use Case 2 involves a flooding scenario based on a flooding incident that occurred in November 2016 in the Municipality of Moncalieri, located south of Torino in Italy's Piedmont Region. It includes the pre-event preparations and evacuation in the days and before the peak of the flooding, as well as the rescue efforts. The Use Case covers an affected area across the municipality of Moncalieri, a city with a population of more than 55.000 inhabitants. The affected population, mainly concentrated in the southern neighbourhoods (Tetti Piatti, Borgata Tagliaferro, Santa Maria and Borgo Mercato), is approximately 5.000 people.

• **Use Case 3:** Terrorist event in Kajaani (FI)

Terrorist event in Kajaani (FI) The scenario follows a terrorist attack, taking place inside of a school building. The storyline begins when a fire is set off by a man-made explosive in the building, which has people inside and goes through immediate response activities, securing of the perimeter, locating the suspect, evacuation and rescue operations.

The results of these demonstrations will provide feedback to tune the technical specification and update the FASTER tools regarding effectiveness, usability, and robustness before the final demonstration of the system (January 2022 – April 2022). ■

www.faster-project.eu