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MAGAZINE

FBK unveils and tests in Venice the latest technologies against floods, fires and extreme weather

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I-REACT project marks the end of the research and implementation phase, funded by the European Commission, and inaugurates the breakthrough of the technologies into the market

9th May 2019, Venice (Italy).

Drones that go in the air to offer an overview of the extent of a flood. Wearables that locate and monitor the status of fire responders. Updated and actionable satellite information to better assess how a fire, a flood or heavy rains may evolve. Or the 100 m risk assessment of natural disasters for the whole Europe developed by FBK. These are some of technologies that emergency responders will now be able to use, thanks to the Big Data platform developed by I-REACT. The results of this project, funded by the European Commission, were presented on a workshop that took place in Venice, on the 9th and 10th of May, at the UNESCO Regional Bureau for Science and Culture in Europe. The workshop gathered European Civil Protection agencies, researchers and emergency management experts from around Europe.

During the two-day workshop, the attendees were able to test the tools first-hand, through a series of training sessions, in-field simulations of a flood scenario and a final feedback session on the functionalities of the system: a centralized, modular and interoperable Big Data platform. It combines data from multiple information sources such as weather predictions at different scales, models for climate projections and early warning forecasts for flood, fires and extreme weather events. The platform also incorporates a social media engine that uses natural language processing and machine learning to filter information from Twitter, providing real-time insights of the situation. “Big Data and Artificial Intelligence are the main strengths of the project, as they allow us to transform raw data into useful information”, explains Dr. Claudio Rossi, researcher of the Mobile Solution research area at the LINKS Foundation of Torino, Italy, and technical coordinator of the I-REACT project. “This is extremely helpful nowadays, since Social Media has turned each citizen into a source of information.”

In addition, the project also features a mobile app that enables citizens to share geolocalised photos and information on disasters.

“This event represented an excellent opportunity to show the results of more than three years of hard work and close collaboration between 20 European partners”, adds Rossi. “All the technologies are now available for Civil Protection Agencies, emergency managers and insurance companies. Our tools are modular, easily integrated with the existing services, and enable a multi-agency, cross-border disaster management.”

This two-day workshop is hosted by the UNESCO Regional Bureau for Science and Culture in Europe and will serve as a turning point for I-REACT, marking the end of the research and implementation phase, funded by the European Commission, and inaugurating the breakthrough of the technologies into the market.

Key facts:

- Big Data to process information in real-time during disasters, Artificial Intelligence applied to language filtering and a mobile app to alert citizens are some of the technologies presented.
- FBK has developed a 14 days heat wave forecast system and risk assessment for flood, fire and heat waves on a high resolution scale for the whole Europe.
- On 9th and 10th of May, experts in disaster management from around Europe will meet in Venice to introduce the tools developed by the I-REACT project.
- The solutions are the result of a three-year European project that now starts its new stage as a company.

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