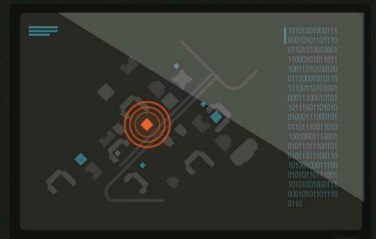
1 PREVENTION
ADVANCED ANALYSIS SYSTEM

I-REACT will provide greater emergency anticipation through accurate weather forecasts that, coupled with historical knowledge, satellite and risk maps, crowdsourced reports, and social media information will allow predicting extreme weather events.

ONLINE GRAPHICAL DASHBOARD

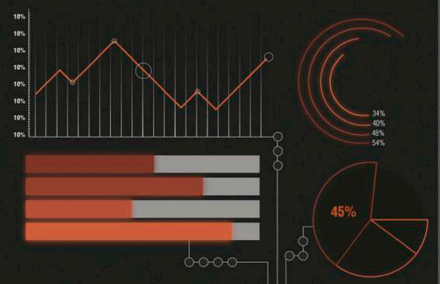
Simulated scenarios



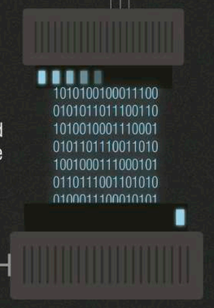
Seasonal & annual weather forecast.

Real-time information

Historical data



A decision support system will be created to suggest to decision makers appropriate actions for disaster risk reduction



2 PREPAREDNESS
EARLY WARNING SYSTEM

To allow greater anticipation to emergency situations, I-REACT will monitor existing emergency management services, extract data from satellite earth observations, analyse data from social media streams, and develop a cross-platform application for mobile devices to report incidences and provide awareness information.

CITIZENS

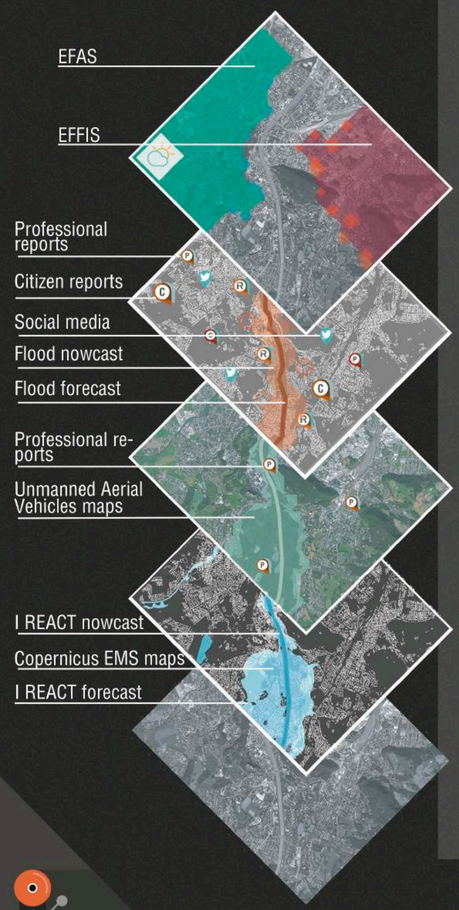
Citizens will play an active role and they will be engaged through gamification approaches.

FIRST RESPONDERS

i REACT

Improving Resilience to Emergencies Through Advanced Cyber Technologies

An innovation project to create a system for disaster risk reduction acting at the key phases of the emergency cycle.



I-REACTOR

Danger forecasts such as the European flood danger forecasts (EFAS), European fire risk maps (EFFIS) together with weather forecasts will be integrated in the platform.

Crowdsourced information from social media and reporting from first responders or citizens will add real-time in-field information.

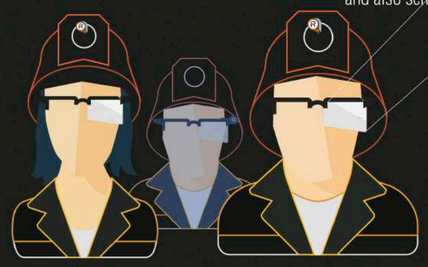
Improved maps will be achieved through the use of drones (UAVs) and wearables with advanced GPS will provide more accurate positioning.

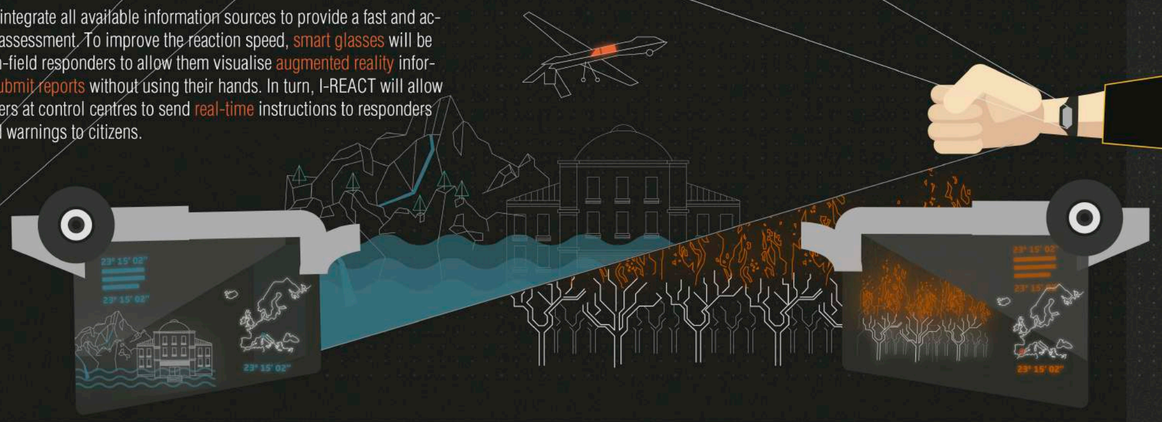
Satellite data from The European Earth Observation programme Copernicus will be a vital resource for I-REACT.

Historical records. I-REACT will analyze available historical data about past emergencies and also store all data generated within the platform to improve future emergencies response.

3 RESPONSE
EMERGENCY RESPONSE SYSTEM
FIRST RESPONDERS

I-REACT will integrate all available information sources to provide a fast and accurate status assessment. To improve the reaction speed, smart glasses will be provided to in-field responders to allow them visualise augmented reality information and submit reports without using their hands. In turn, I-REACT will allow decision makers at control centres to send real-time instructions to responders and also send warnings to citizens.





THE PROJECT IN NUMBERS

FUNDED BY:
THE EUROPEAN COMMISSION.
SECURE SOCIETY WORK PROGRAMME (DRS-1-2015)

Italy, France, Spain, Germany, Finland, Austria, United Kingdom, Norway, Serbia

6.3 MILLION €
9 COUNTRIES
20 PARTNERS
3 YEARS

12 SME´s
3 Research centers
2 Universities
2 Public Companies/Institutes
1 UN body

2016
2017
2018
2019

TECHNOLOGIES

Social Media data streams

I-REACT will implement a system to extract valuable information about ongoing disasters from the messages published on Twitter.

I-REACT app

The project will develop a cross-platform application for mobile devices to report incidences and provide awareness information.

Big Data

I-REACT will integrate several open data sources coupled with all the information the own reporting system will provide.

Earth Observation

Satellite networks (Copernicus Sentinel-1 and Sentinel-2) will be used to obtain almost real-time information and maps.

Augmented Reality

Smart glasses will be provided to professionals, who will be able to visualize real-time information and submit reports without using their hands (speech to text).

Unmanned Aerial Vehicles (UAV)

Will provide real-time contextual information of affected areas.

Wearables

To improve geo-targeted information, advanced positioning systems with a Galileo ready receiver and EGNOS/EDAS will achieve better accuracy.