



# I REACT

Ευρωπαϊκή πλατφόρμα (I-REACT) για  
την ενσωμάτωση δεδομένων διαχείρισης  
έκτακτης ανάγκης

Μιχάλης Χάλαρης  
Επίκουρος Καθηγητής Δι.ΠΑ.Ε  
Υποστράτηγος Π.Σ. ε.α.



10,000

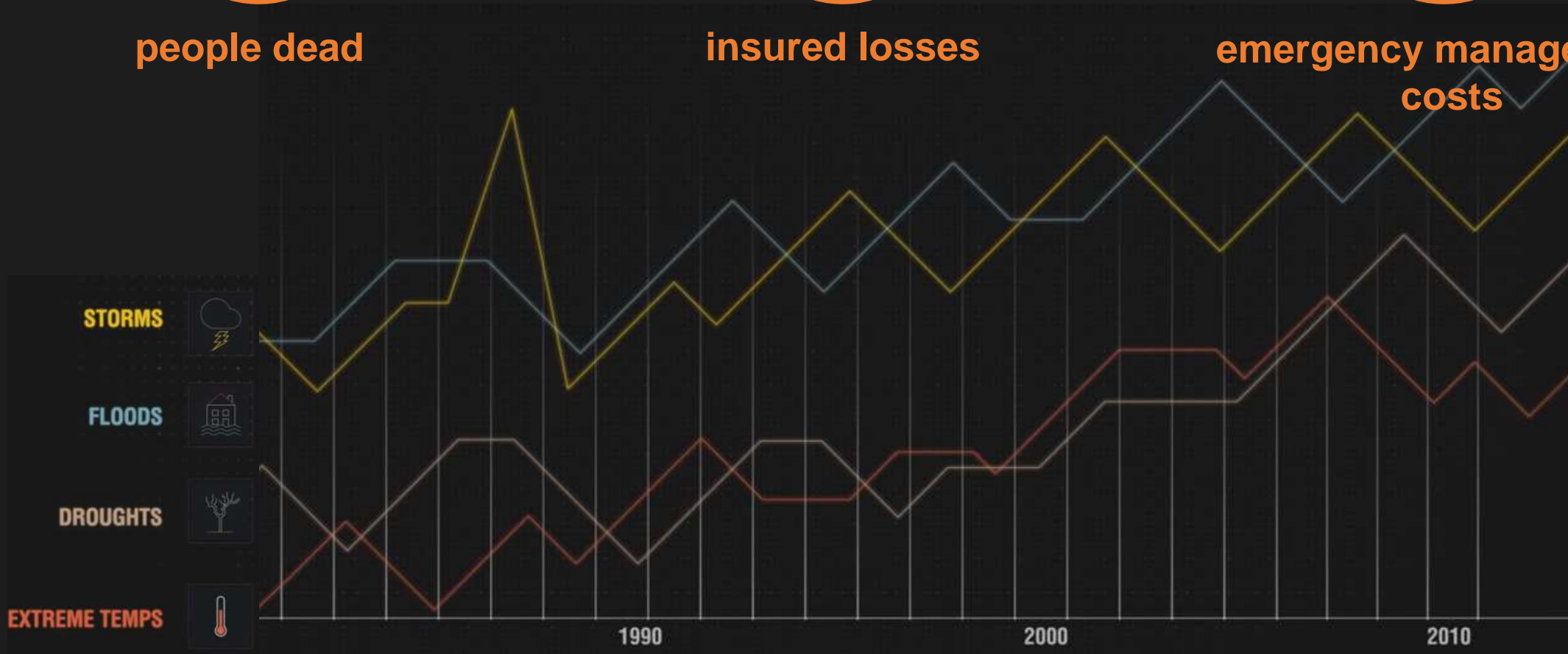
people dead

\$306  
Bn

insured losses

\$88  
Bn

emergency management  
costs





## EMERGENCY RESPONDERS

Long response times  
High costs  
Multi-agency coordination



## INSURANCE INDUSTRY

Fraudulent claims  
Lack reliable data



## COMMERCIAL & ENERGY

Disruption  
Large fines  
High insurance costs



**\$7.4 Bln**

Total Available Market (TAM)

# EXISTING EMERGENCY MANAGEMENT SYSTEMS

## NOT REAL-TIME

Are based on modelled predictions and not real time-information

## NOT PEOPLE-FOCUSED

Fail to use valuable data from people and issue effective warnings

## SINGLE HAZARD

Do not offer insight on multiple hazards

## SINGLE AGENCY

Are not designed for use by different agencies working across jurisdictions and borders



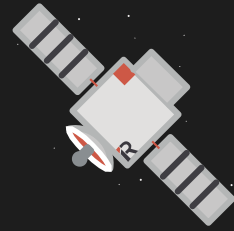
# I REACT

I-React is the first **multi-hazard** solution to integrate and analyse data coming from **multiple sources** to provide a **real-time** emergency management and intelligence platform.

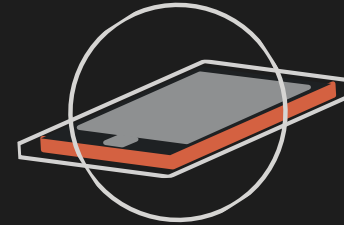
# RISK MODELS

## EARTH OBSERVATION

Copernicus, Sentinel-1 and Sentinel-2



## SMARTPHONE APP

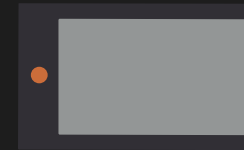


## DRONES



## I-REACTOR

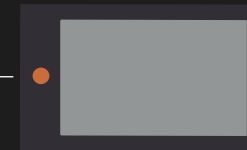
## PROFESSIONAL APP



## SOCIAL MEDIA DATA STREAMS



## WEB INTERFACES





# IREACT



Take a picture of the situation



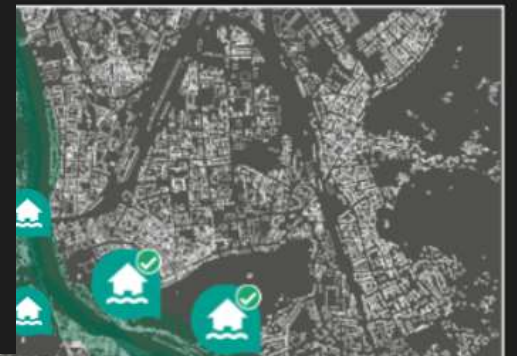
Select the type of hazard



Add relevant information



Send the report!





## TWO-WAY REPORTING

Bi-directional communication for improved warnings and intelligence



## I-REACT SOCIAL

Crowdsourced info for real-time intelligence



## VIRTUAL CONTROL ROOM

All the information in one place for better decision making



SATELLITES



DRONES



WEATHER FORECAST



HISTORICAL DATA







# I-REACT SOCIAL

I REACT



- EVENTS
- REPORTS
- ALERTS/W...
- MISSIONS
- MAP REQUESTS
- AGENT LOCATIONS
- SOCIAL**

LIVE • 08/26/2019 12:00 AM - 09/25/2019 11:59 PM Map Center Lat: 51.576, Lng: -1.293

English Non-geolocalized  Hazards  CLEAR ALL  ^

30m 1h 2h 4h 6h 12h 24h  Tags  Info types   Retweets

Keywords  Unwanted keywords

300 Geolocalized

**AZ4x4OffRoadRecovery**  
@Az4x4recovery · 09/25/2019 6:04 PM

We are heading to Lake Pleasant to get a truck that was washed off the road by a Flash flood. This one sounds interesting

Lake, GB

- Flood
- Infrastructures
- Lake
- Informative
- No panic

**TheRealCireUamak**  
@kamauwawangari · 09/25/2019 6:05 PM

@TheTweetOfGod Send a flood, could do with a swim  
Send, GB

- Flood
- Send
- Informative
- No panic

**UGOTS**  
@UGOTSs · 09/25/2019 6:06 PM

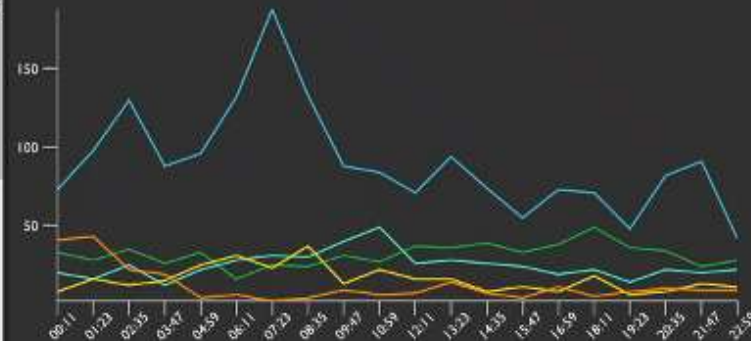
weather earthquake

@WXHAZAR...	162	120.6...	32	29
@EASAlerts	140	153.9...	15	355
@EMSC	119	205.9...	3	21.96K

Top #hashtags

- #earthquake
- #fire
- #rain
- #quake
- #weather
- #lorenzo

Top 5 #hashtags trend



Info Type

50 Non-geolocalized

**Dennyg2**  
@dennyg2 · 09/25/2019 11:56 PM

@NBCNews Not at all. Easy to sleep knowing the liberal media is assuring Trump a landslide victory in 2020! 😊

- Landslide
- Uninformative
- No panic

**Mark - UM VOTE BLUE!**  
@Mark85639054 · 09/25/2019 11:56 PM

@IvanArielCorrea @WindaWester @MSNBC @DeadlineWH @NicolleDWallace It'll be a tremendous landslide, he's going to get buried!

- Landslide
- Affected individuals
- Informative
- No panic

**Jen Wixson**  
@ChickenJen · 09/25/2019 11:56 PM

I checked the rain gauge and we received 2' of rain during our pounding thunderstorm yesterday evening. FYI @WesternMEwx



# TWO-WAY REPORTING

I REACT



**EVENTS**

All Reports 🔴 ☰

**REPORTS**

8 Reports Date desc

- 1 RESOURCE** 08/10/2019 10:35 AM  
ympanisto.fi ✔️
- 3 MEASURES** 08/02/2019 4:38 AM  
Explorer 👍 0 🗨️ 0
- 1 MEASURE** 08/02/2019 7:37 PM  
EXTREME WEATHER Sentinel 👍 0 🗨️ 0
- 1 MEASURE** 08/02/2019 6:02 PM  
EXTREME WEATHER Explorer 👍 0 🗨️ 0
- 1 MEASURE** 08/02/2019 6:00 PM  
EXTREME WEATHER Explorer 👍 0 🗨️ 0
- 1 MEASURE** 08/02/2019 5:51 PM  
EXTREME WEATHER Explorer 👍 0 🗨️ 0
- 1 MEASURE** 08/02/2019 5:45 PM  
FLOOD Explorer ✔️
- 1 MEASURE** 08/02/2019 5:45 PM

LIVE • Lakeland Village 08/24/2019 12:00 AM - 09/23/2019 11:59 PM 🗓️ ✕ 📍 Map Center Lat: 33.576, Lng: -117.285

Map showing various neighborhoods including Rancho Capistrano, Wildomar, Bear Creek, La Cresta, Santa Rosa West, Murrieta, and Linda Rosa. A blue water drop icon is visible on the map.

© OpenMapTiles © OpenStreetMap contributors



# VIRTUAL CONTROL ROOM

I REACT



- EVENTS
- REPORTS
- ALERTS/WARNING
- MISSIONS
- MAP REQUESTS
- AGENT LOCATIONS
- SOCIAL

09/20/2019 12:00 AM - 09/27/2019 11:59 PM

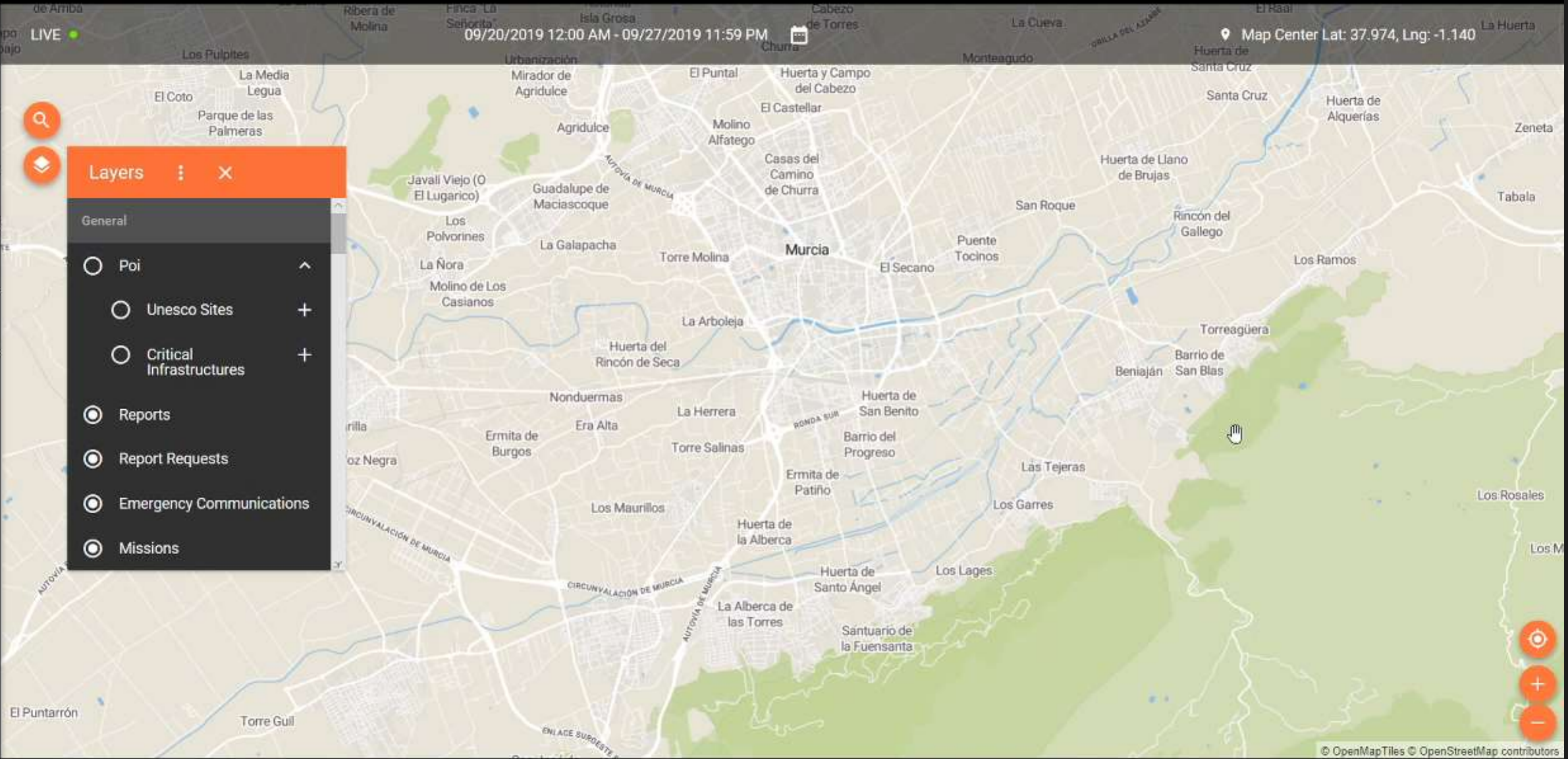
Map Center Lat: 37.974, Lng: -1.140



**Layers** [Close]

General

- Poi
- Unesco Sites
- Critical Infrastructures
- Reports
- Report Requests
- Emergency Communications
- Missions



## REACTING SMARTER



1. <https://www.i-react.eu/>
2. <http://project.i-react.eu/>
3. <https://www.aquobextechnologies.com/>

