Contact and Information

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Project website:
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Big Data

A large collection of data sets of different types ranging from Twitter to Traffic Flow Sensing and Mobile Phone Data will be investigated by the project partners. Their value will be enhanced by the development of novel data analysis and data fusion techniques.

Geographically and socially correlated aspects will be taken into account by novel methods for streams, parallel data handling, and data analysis. Data will be enriched by pro-active social computing with incentives and prepared for different usages.

INSIGHT aims at a participatory ap-proach for the automated management of resources and to improve emergency response in smart cities and countries.

Partner

HELLENIC REPUBLIC
National and Kapodistrian University of Athens

TECHNION
Israel Institute of Technology

Fraunhofer

Baile Átha Cliath
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technische universität
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Federal Office
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SEVENTH FRAMEWORK
PROGRAMME

INSIGHT

Intelligent Synthesis and Real-tIme Response using Massive StreaminG of HeTerogeneous Data

Challenges

A disaster response operation can be separated in four phases: Decision making – implementation in the field – evaluation of the results – making new decisions.

To have the right situational awareness is the key issue for decision makers especially in emergency and crisis situations. Therefore the operator has to analyse information from the past and predict the situation for the future when their decision will be taken in action.

During the implementation in the field the operator has to evaluate the results. Real time learning and optimization are the challenges in this phase of an operation.

Besides the official information sources the informal are getting more and more important. A lot of affected people are using the internet to spread their situation. Not using this information source would be an omission which could lead to the loss of human lives.

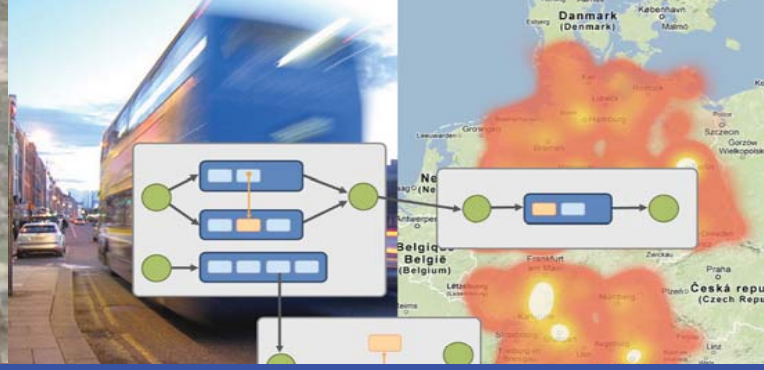
Situation

The instrumentation of the world with diverse sensors, smart phones, and social networks acquires exascale data that offer the potential of enhanced science and services. In particular, a better societal management of the overall cycle of disaster monitoring and response becomes possible, citizens may now become involved in decision making and data acquisition (crowd-sourcing), and advanced planning can economise resources. Current systems are limited in three important elements:

(i) there is a lack of methods for handling heterogeneous data streams in real-time,

(ii) there is limited integration of big data analytics and social computing,

(iii) real-time prediction and alarm capabilities have not yet been incorporated into the infrastructure for intelligent management.



Goal

The goal of the INSIGHT project is to radically advance our ability of coping with emergency situations in smart cities by developing innovative technologies, methodologies and systems that will put new capabilities in the hands of disaster planners and city personnel to improve emergency planning and response.

It brings together a strong group of researchers with domain experts in three representative case studies of urban transportation, flood manage-ment, and emergency response.

Test beds are for the local application of the findings the City of Dublin (Ireland) and for a nationwide application the northern part of Germany. The disaster scenario for both cases is a major flooding.