



Risk & Resilience in the Face of Global Change

Aspen, Colorado
November 30 - December 5, 2015

Enhancing Societal Resilience in European Urban Infrastructure

Table of contents

- Timeline of Disasters in Europe (past 20 years)
- The Society and External Pressures
- Risk Analysis Approach and the Move to Resilience
- Shortcomings of Current Resilience Approaches
- Societal resilience and Strategies for Enhancing Societal Resilience
- Future Analytics Consulting and Work on Risk and Resilience
- Other active EU organisations in the Resilience sphere
- Questions
- Contact us

Number and Impacts of disasters in Europe have increased...



1998

Floods in Central Europe - over €20bn damages



2003

Terrorist attacks in London - 56 fatalities & more than 700 injured



2009

Terrorist attacks in Paris - 129 fatalities

Toxic Waste Spill in Aznalcollar (Spain) - €377m remediation costs

2002



Heat Wave in Western and Southern Europe - more than 70,000 fatalities

2005

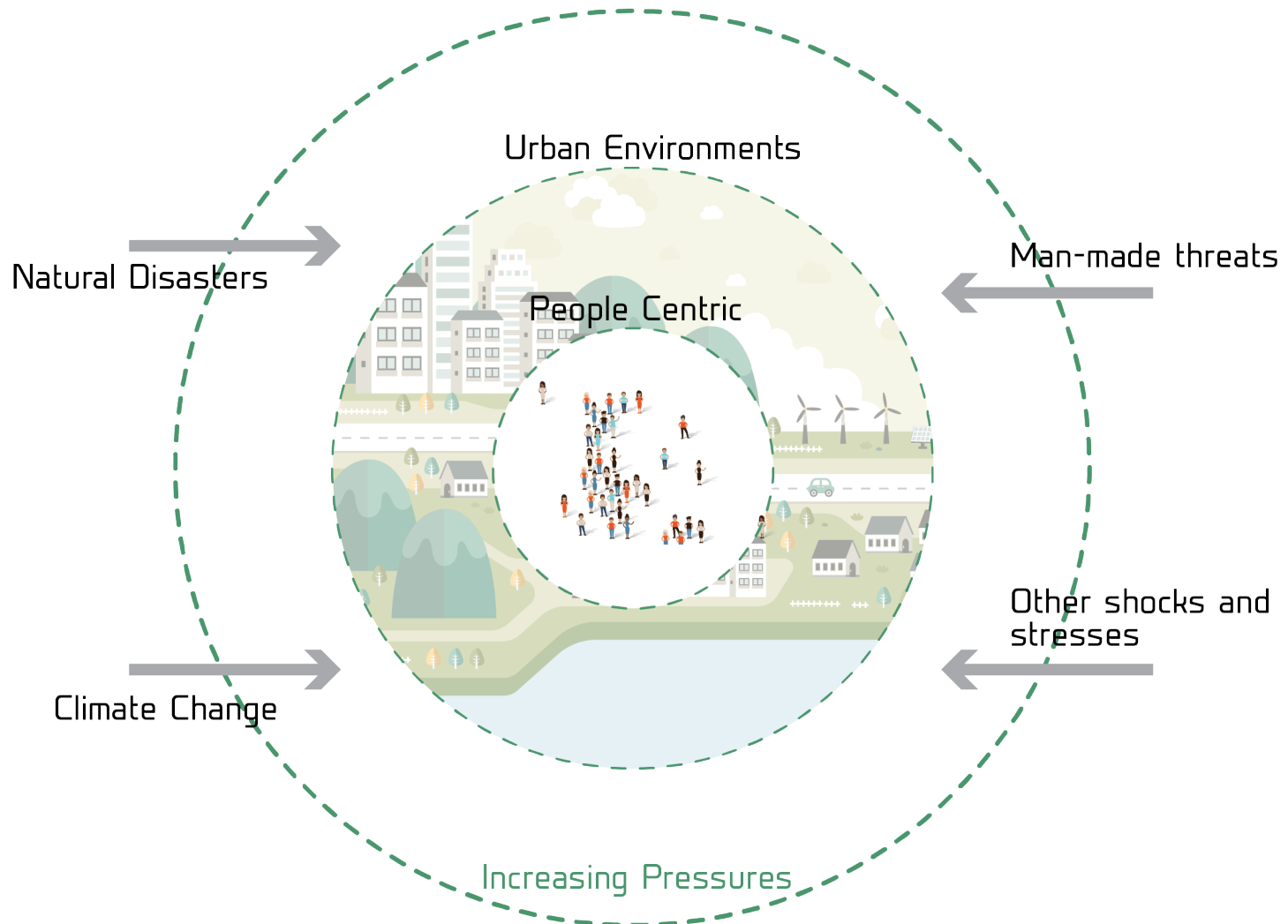


Earthquake in L'Aquila (Italy) - 302 fatalities & €2bn damages

2015



Society – the reason for urban infrastructures



Hazards have mainly been tackled from a risk analysis perspective

ISO 27001 Risk
assessment & treatment

+

ISO 31000 Risk
management



Global Climate Change
phenomena

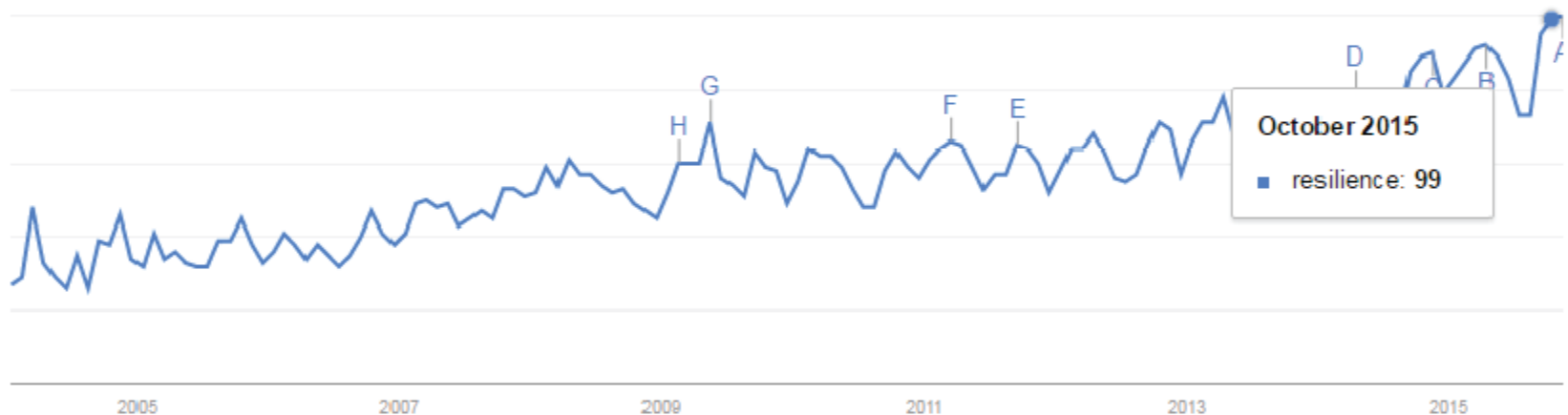


Unexpected and
unplanned events

With these uncertainties a call for a different approach is essential

The resilience approach...

- Resilience emerged as a fusion of ideas for a new risk management approach in the early 2000's
- 'Resilience is the bridge beyond protection...' (R. David, IFIP CIP conference 2015, March 2015)



The use of Google Analytics to assess the trends in the term "Resilience"

Shortcomings/limitations in the current resilience approach...

Understand Urban, regional and CI functions, and (inter) dependencies.



Focus mainly physical infrastructure – oriented resilience



Model, Simulate and Analyze.

Increase Preparedness, Protection and Resilience,



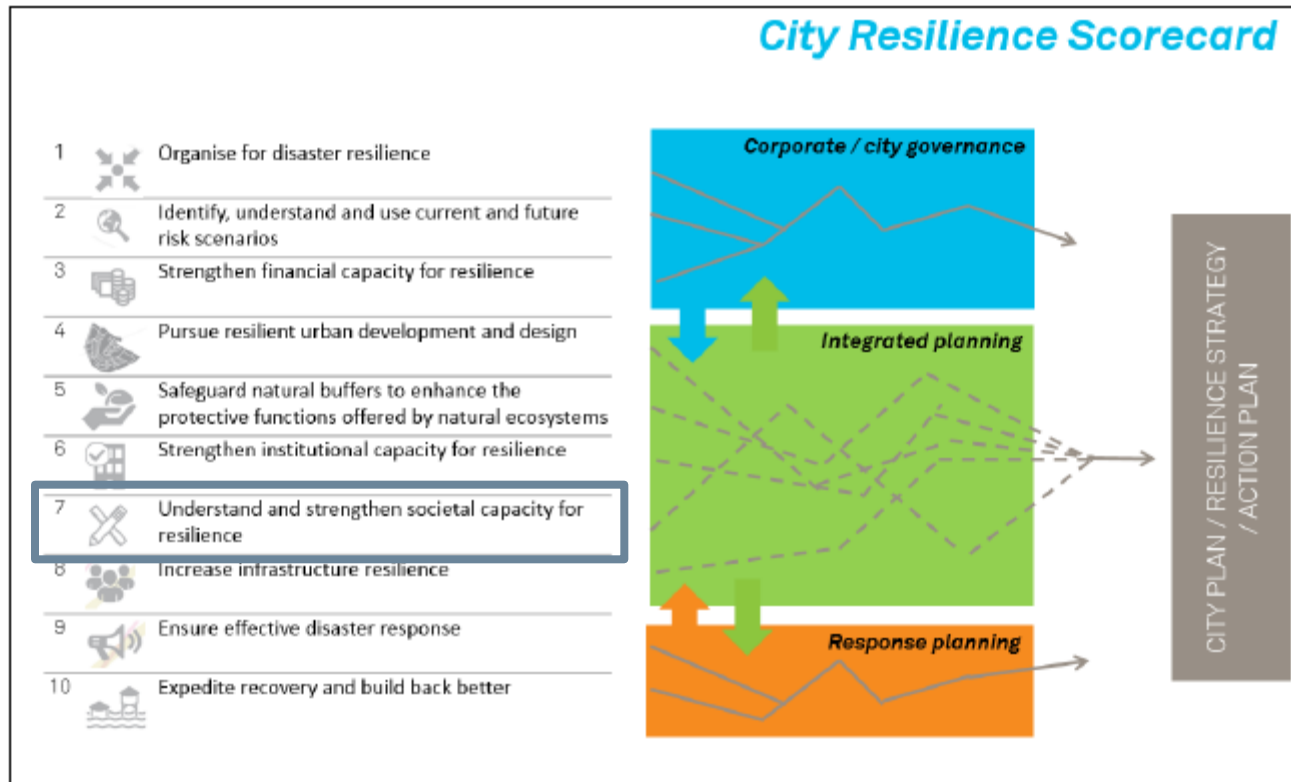
Limited practical experiences of societal (community) resilience in Europe

Research indicates that “...the established ways of organising for critical decision-making will not suffice in the case of a catastrophic breakdown effective response will depend on the adaptive behaviour of citizens ...” Boin & McConnell, 2007)

- Most current approaches are concentrated on:



A little more on the UNISDR-IBM-AECOM scorecard



Source: UNISDR Disaster Resilience Scorecard for Cities (2015)

A little more on the UNISDR-IBM-AECOM scorecard



7. Understand and strengthen societal capacity for resilience

It identifies how:

- *The coverage and effectiveness of grass roots organisations;*
- *Social Connectedness and cohesion;*
- *Private sector and business continuity planning; and*
- *Systems of engagement in place*

.... can play an important role in bolstering societal resilience after a disaster.

Societal resilience



Nepal Earthquake April 2015

- The resilience of a society in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need (**UNISDR, 2014**).

Why enhance societal resilience?

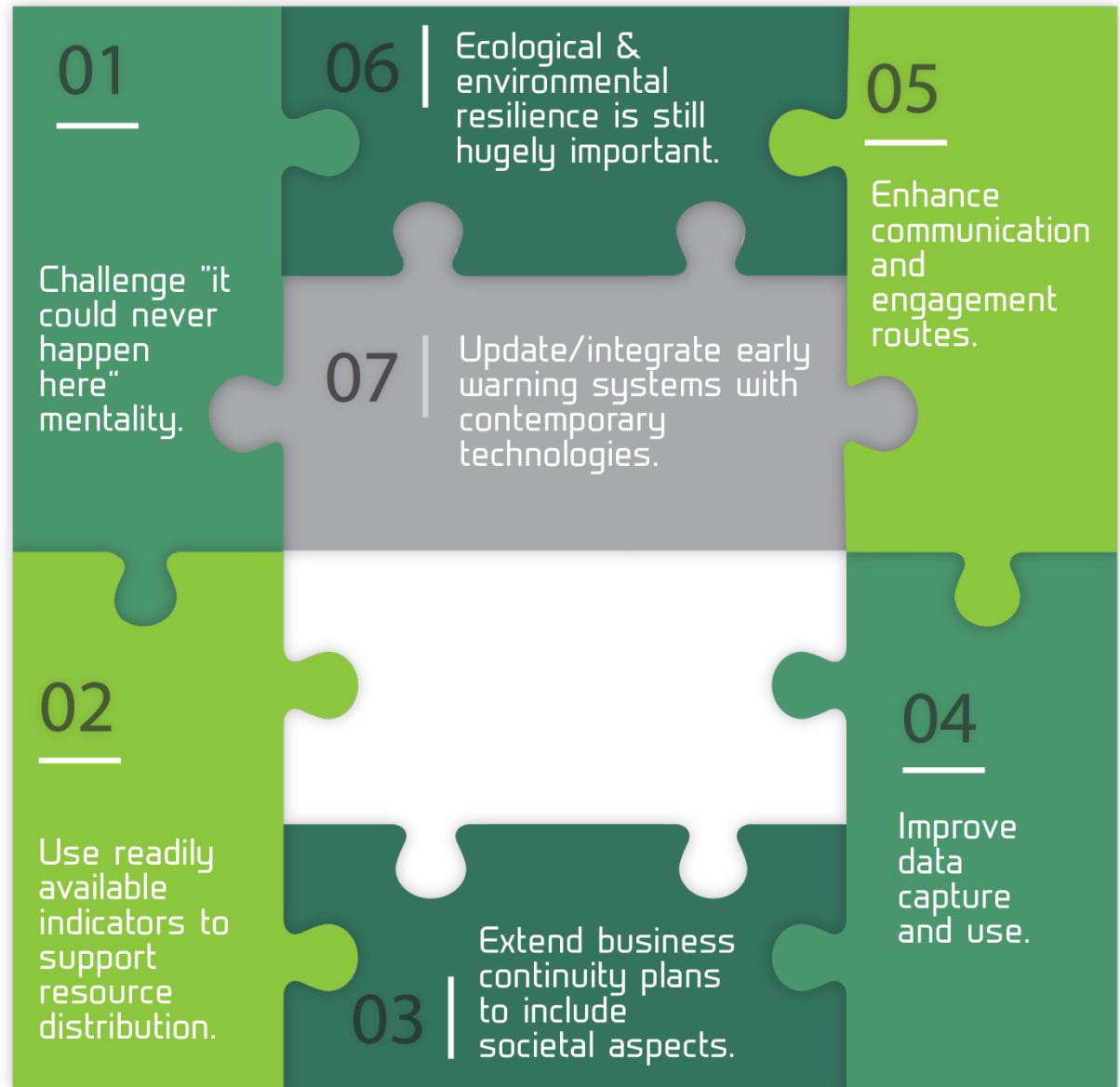


The keys are:

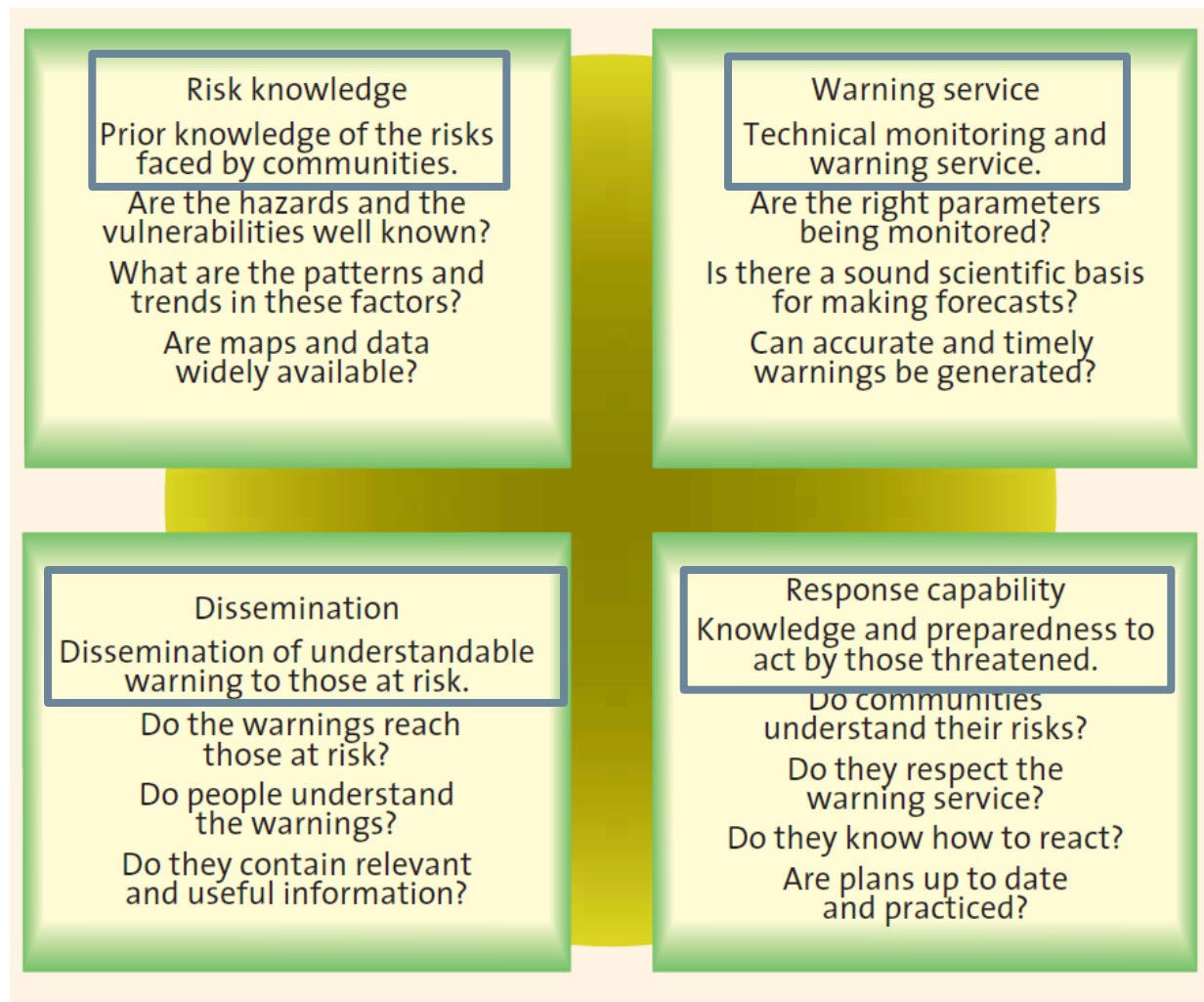
- Key is to prevent **Depopulation**
- Plan for **Urbanisation**
- Ensuring **Progressive Enhancement**

Strategies for enhancing societal resilience

These strategies should be viewed as an incremental approach towards enhancing societal resilience, which require further research and as yet have not been fully tested in practice.



People-centric approaches for improving societal resilience – strands to consider



Source: de Leon et al., 2006. Entwicklung & Ländlicher Raum

Risk analysis in Europe compared to the US

- Perceived divergence around the application of 'Precautionary Principle'

Claims and counter-claims

Europe



More precautionary
than US

Think



Society centric welfare
state structure

+

€



Free market
capitalisation

And that US...

\$



Solely business
centric approach

Reality:

Neither the US nor
the EU can claim to
be categorically
'more precautionary'

(Wiener & Rogers, 2002,
J. Risk Res. 5)

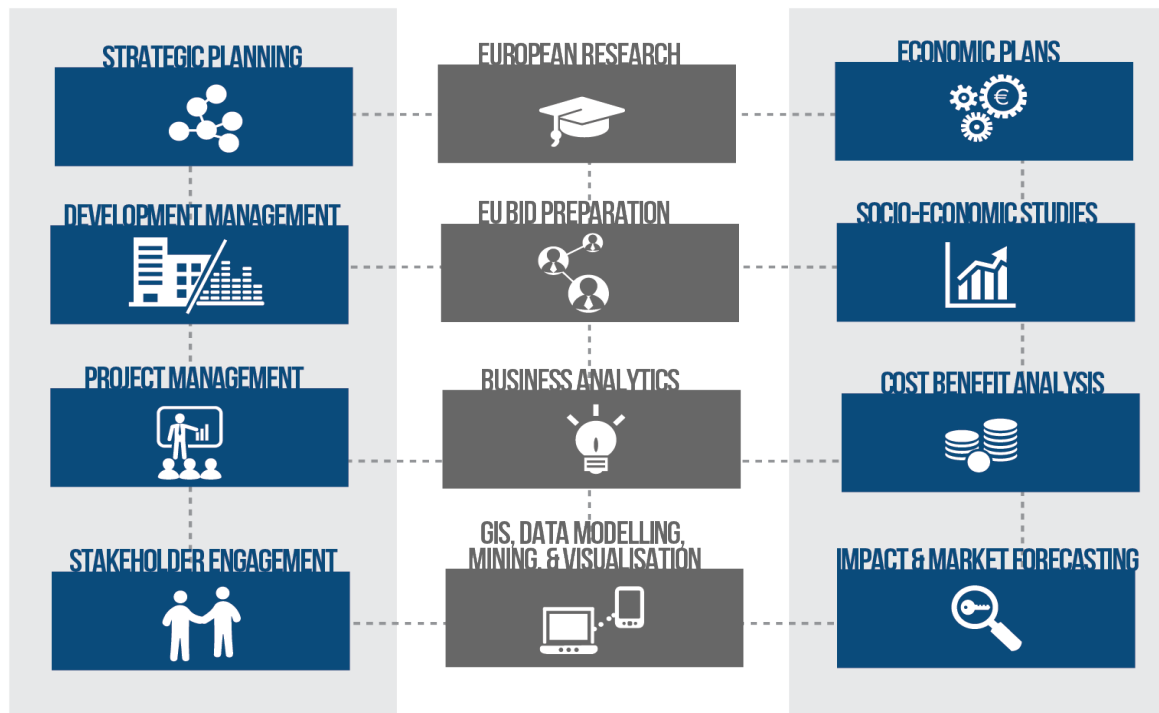
Real pattern is
complex and
risk-specific.

EU research projects (FP7 & H2020)

Expanding expertise in resilience research and operationalisation e.g.

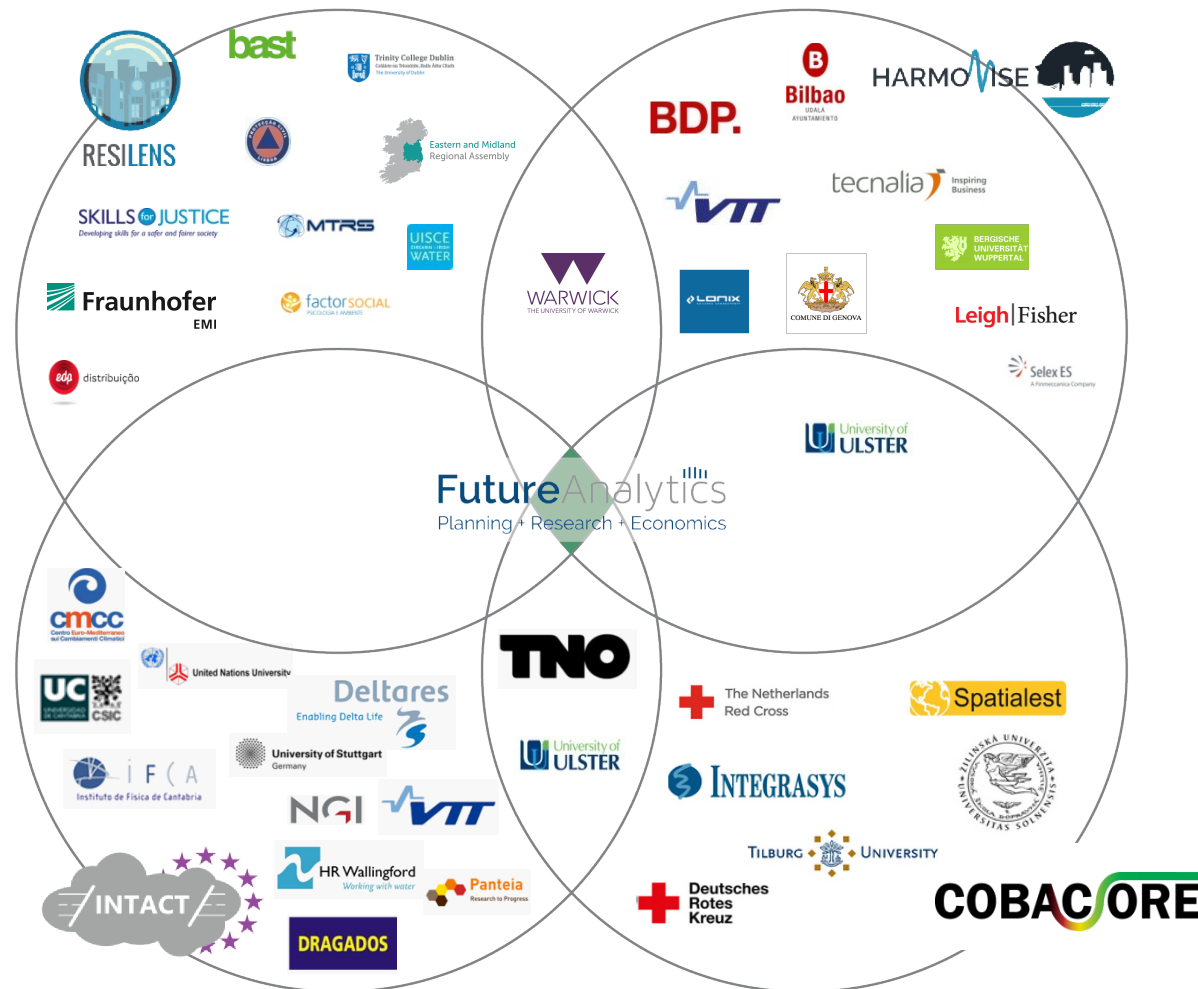


Future Analytics Consulting



Multi-disciplinary expertise and positive solutions based on a real life understanding of market conditions

FAC, EU Resilience Research and EU resilience expertise



Other EU institutions active in societal resilience research.

The list is growing...

- **Institute for the Protection and Security of the Citizen (IPSC)**, Ispra, Italy (European Commission joint Research Centre-JRC)
- **German Resilience Centre Mainz**, Johannes Gutenberg University Mainz (Germany)
- **Institute for Societal Resilience**, University of Amsterdam (Netherlands)
- **Institute of International Sociology** of Gorizia (Italy)
- **DIALOGIK** Non-Profit Institute for Communication and Cooperative Research, Stuttgart (Germany)
- **Centre for Societal Resilience**, Lund University (Sweden).
- **Lancaster Environment Centre**, Lancaster University (United Kingdom)

...

THANK YOU FOR YOUR
ATTENTION.

QUESTIONS?

Contact Us

FutureAnalytics
Planning + Research + Economics

Address: 23 FitzwilliamSquare, Dublin 2, Ireland

Phone: +353 (0) 1 639 4836

Website: www.futureanalytics.ie

Email: william.hynes@futureanalytics.ie