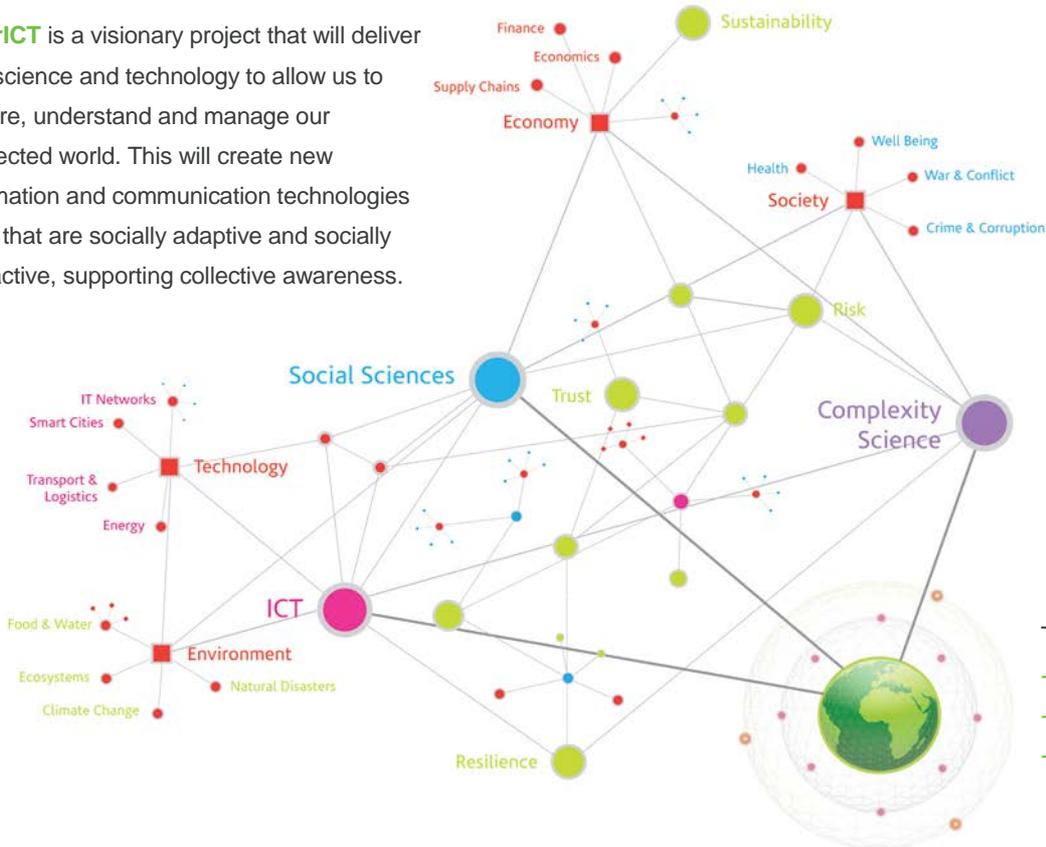


FuturICT is a visionary project that will deliver new science and technology to allow us to explore, understand and manage our connected world. This will create new information and communication technologies (ICT) that are socially adaptive and socially interactive, supporting collective awareness.



- The FuturICT Platform:
- Planetary Nervous System
 - Living Earth Simulator
 - Global Participatory Platform

Crisis Management Observatories

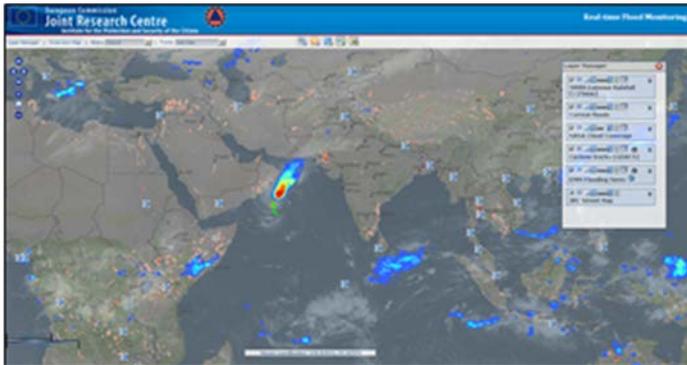
The world is entering a phase of unpredictable impacts driven by exponential technological developments and dependence, globalisation, rapid and uneven population and economic growth, poverty, migration and climate change. The impacts of accidental, natural and man-made disasters are likely to increase due to the increasing connectivity of society, infrastructures and services. Making sense of all the incoming multi-disciplinary data, information and knowledge is one of the most challenging aspects of crisis management.

FuturICT will build a sophisticated framework for simulation, visualisation and participation. A suite of models forming the Living Earth Simulator will power Observatories, to detect and mitigate crises plus identify opportunities in specific areas. The Observatories will support decision-making of policy-makers, business people and citizens, through a Global Participatory Platform. Exploring interactions among society, technology, environment and the economy will promote innovation. The Observatories take advantage of the increasing availability of real-time remotely sensed geo-located and audio-visual data, written text and advances in network-enabled physical and mathematical models, data fusion and visualisation techniques. It will integrate physical information with social and digital information to provide timely situational awareness tailored to emerging information needs to support more effective early crisis threat detection and decision-making.

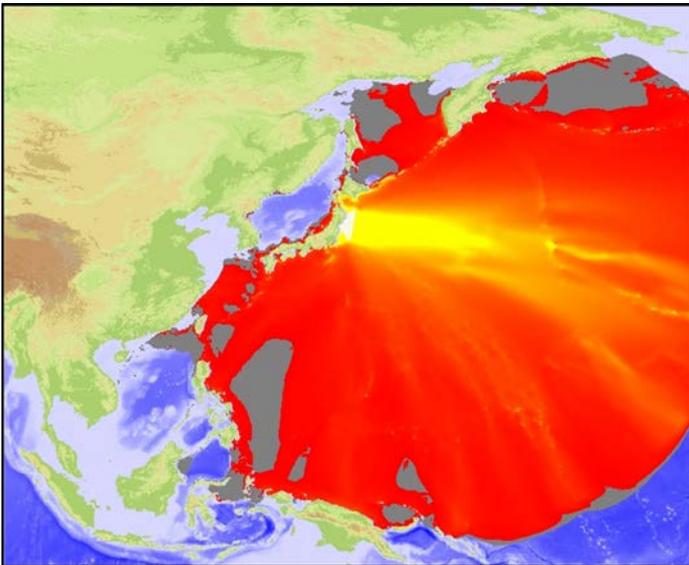
Impact Modelling through Physical and Social Remote Sensing

Data and models are becoming available at an increasing rate, providing a realistic model of local situations with global coverage. While observation data is traditionally linked to a specific discipline and managed and stored by dedicated organisations using a myriad of standards, this silo approach to data is being transformed by the dropping cost of data storage and transfer, making less-efficient but more standard storage strategies cost-effective. Cloud services and web services also allow models and data mining processes to be run in real-time on-line, making them available as Interoperable web processes that can be integrated in a higher level complex system.

One of FuturICT's aims is to automate the process of deriving actionable knowledge from the masses of available data. Tools will be developed to assist analysts with formulating their questions, finding appropriate processes or models and finding required data sources. The design of these tools will be based on experience with existing multi-hazard early warning systems, e.g. Global Disaster Alert and Coordination System, on information mining techniques for mass and social media and on emerging standards for interoperable web processing and data standards.



Integrated view of open data sources on rainfall, floods and cyclones taken from satellite, in-situ and media sources (source: Joint Research Centre)



Complex models, such as tsunami propagation models, are available at increasing accuracy, in time for effective action (source: Joint Research Centre)

Participatory Platforms

The high level of interactivity of the Observatories will contribute to a new dimension of crisis management. Collaborative Visual Environments featuring intuitive tools for exploring scenarios, projections and models, will assist dialogues to identify imminent local, national and international actions.

The Observatories are designed to meet the challenges of a new 'polycentric' governance landscape, no longer confined to the territorial boundaries, by providing a platform for data access on and visualization of linkages between geographical scales and interconnectedness between governance arrangements at different management levels.

Expected impacts of these FuturICT developments are a new generation of situational awareness systems for crisis management, of which the core features are adaptability, interoperability and resilience. Such systems will allow more accurate and timely information, also in unpredictable situations, that can warn government agencies, individual citizens, etc., anticipate threats, offer advice, retrieve pertinent information from past crises events, inform about the urgency, severity and location of expected damage or impact.

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