



Unique in Europe...created in Provence-Alpes-Côte d'Azur...

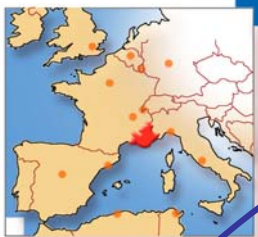
THE RISKS CLUSTER

Risk management and land vulnerability

■ The 'Risks Cluster' brings together, in Provence-Alpes-Côte d'Azur and Languedoc-Roussillon regions, players from industry, research and education around cooperation-based innovative projects in the area of risks (natural, industrial and technological, urban in the Mediterranean area) and integrated systems and transversal technologies.

■ The Cluster's aim: to favour the emergence of innovative technologies to conquer new markets

By supporting its members' R&D projects, the Cluster facilitates the development of new projects and services which are highly competitive and which meet the needs of a market which is now globalized. It offers those SMEs involved the possibility of new outlets to the international market place.



Key figures

- The Cluster's area of activity currently represents **7,500** jobs of which 3,500 are in R&D
- Over **100** companies in the risks sector
- **1,200** researchers in **57** research units
- **79** courses on the environment, risk and sustainable development
- Over **100** R&D projects bringing companies and research units together
- **1,000** potential jobs per year

Differentiating assets

■ A unique pole in France and in Europe

➔ In the risks sector, putting research and companies together is a unique initiative in Europe.

■ Provence-Alpes-Côte d'Azur: an extensive track record in risk management

➔ Exceptional due to the quality of their living environment, the various areas within Provence-Alpes-Côte d'Azur are both very different and fragile. This region, which holds over 35% of the country's refining capacity and hosts several SEVESO II sites, aims to be on the cutting edge of industrial and chemical risk management.

■ A growing Mediterranean market

➔ Risk management is a major stake for sustainable development. It is of fundamental importance for Mediterranean regions whose environmental characteristics require new and adapted solutions.

■ Recognized international prestige

➔ France, and the Provence-Alpes-Côte d'Azur region in particular, through its companies and civil defense system, has world-renowned capabilities and know-how.

■ A wide field of experience

➔ The Cluster focuses on the management of the various risk phases: know-how, prevention, warning, crisis management and recovery. Close cooperations are developed with the competitiveness clusters: SCS (Secure Communications Solutions) and Sea.



The Cluster's key contributions

New synergies

The Cluster facilitates relations between the companies and the research laboratories through an essential cooperation and exchange tool: **the AGORA collaboration platform**.

Specific projects

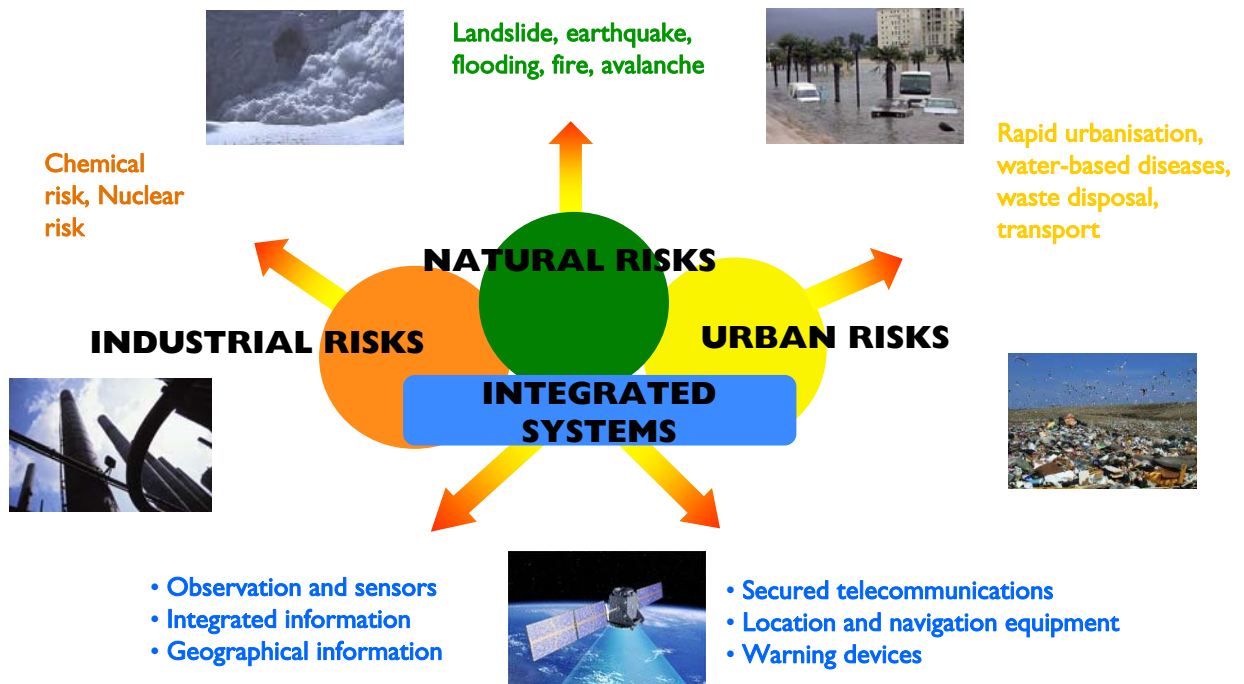
The Cluster contributes to making its chosen innovative projects happen. As a general rule, the Cluster encourages its partners to adopt an innovation-based outlook.

Hand-holding, training

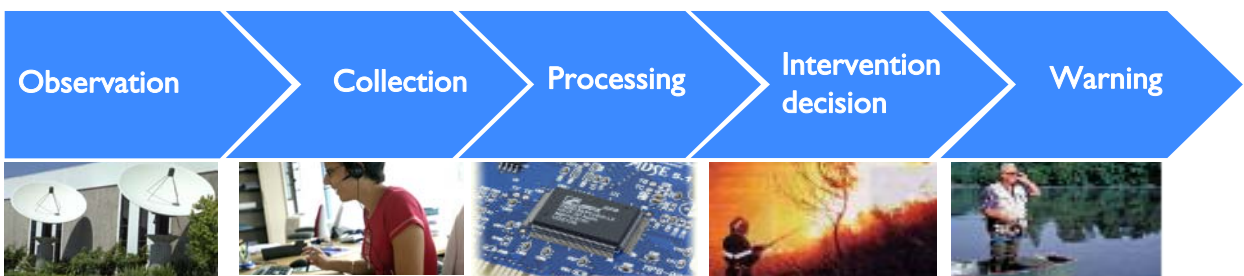
The Cluster accompanies project leaders and helps them identify sources of funding available. It also teaches SMEs to better understand and deal with the demands of their markets. Mastering the techniques of business intelligence lets them optimise their organisation and their relationships with partners.

Convergence dynamics

The Risks Cluster is responsible for **bringing different sectors together**: from the environment to telecommunications, as well as optics and marine technologies... Thanks to new observation and surveillance technologies (satellites, ground sensors, secured telecom liaisons, drones, etc.), Cluster members are now capable of **modelling risk** to evaluate it better.

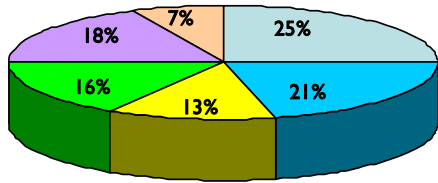


Intervention stages



Commitment from all players

Over 120 members: companies, research laboratories and higher education bodies are involved in the projects.



- SME
- Large firms
- R&D
- Training
- Professional associations
- Other



Training

Concerning the environment, risks and sustainable development, some course examples are shown below:

- ➔ BA in Earth Sciences, Geo-sciences, Geo-risks, Geo-resources
- ➔ Master in Earth Sciences and Management
- ➔ BA in Risk Management
- ➔ Master in Technological nuisances and risk prevention
- ➔ Master in Risk Sciences
- ➔ Master in Industrial Safety and Risk Management
- ➔ Master in Industrial Safety and the Environment
- ➔ Quality, Safety, Environment Management



Research

The highly diverse public and private research units have privileged relationships with the industrial world:

BRGM, CEA Cadarache, INERIS, IRSN, ONERA, CIRAD, INRA, CEREGE, CEMAGREF, Alès mining school, IRD, France Télécom R&D ...

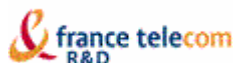
At the Arbois Europole, the 'Institut Fédératif de Recherche' groups **more than 15 essential and applied research laboratories and bodies** which specialise in accidental and serious risks.

The research units federation **ECOREV** has, at a regional level, an R&D network **on the earthy environment**.

Companies

Several regional companies have developed cutting-edge capabilities and rare know-how in the area of risks.

Among these firms, several acknowledged leading companies have joined the Cluster, including:



LA QUALITÉ, UNE CONQUÊTE DE CHAQUE JOUR





Cluster's innovative projects: a few examples

MEISOH

Measurements of internal erosion in the ground of hydraulic structures

Quantification of the risk of flood walls breaking due to internal erosion (widening of an existing hole - burrows, roots - due to the flow of water).

SEDIC

Securement of regions, management of environmental risks and development of the sensors industry

Tools, which are meant for the municipal authorities, to foresee and simulate in real time the risks which could damage natural resources (air, ground, water, organic and inorganic matter, biodiversity).

GIRELLE

Management of the water table in littoral and coastal areas

Development of 'pilot sites' with autonomous soil instrumentation, modelling of flows with a view to going back on use (and therefore short and long-term management of water resources).

CEMER

Introduction of a regional platform with the purpose of implementing joint measures and facilitating the development of risk management applications around innovative tools in the area of Earth observation, modelling and cartography.

CLARA II

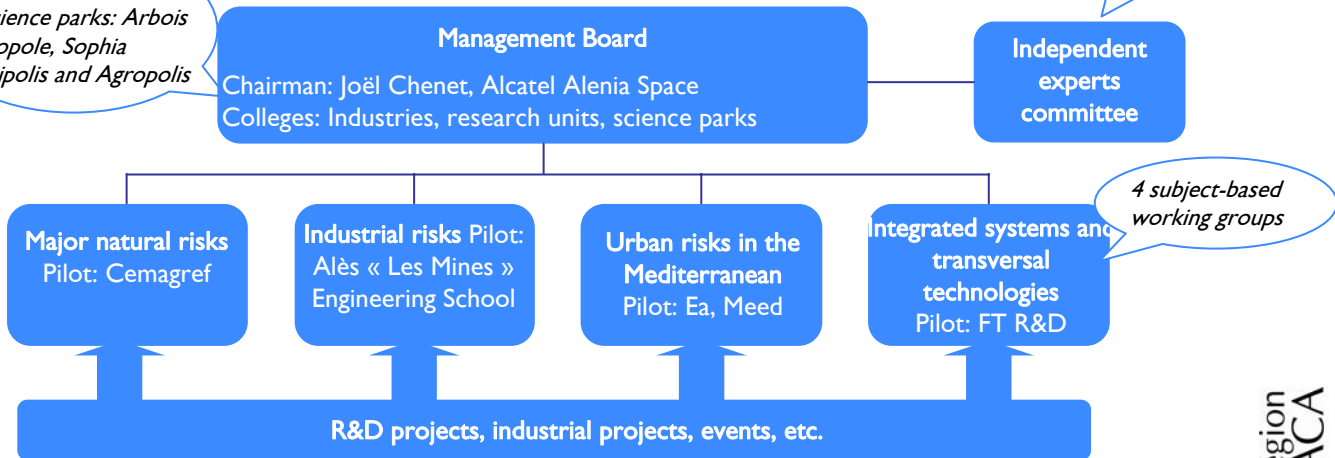
Development of an operational computer software for modelling accidental spills of petroleum products: Calculation Linked to Aquatic Rejections in the Mediterranean Sea.

ECLAIR

The aim of the project is to develop a behaviour model based on the physico-chemical, mechanical and ecotoxicological characterizations of a steel slag used in a public works scenario, within the frame of a research approach integrated in the comprehensive problems of the better knowledge about steel slag.

An organisation at the service of project leaders

Risks Cluster relies on 3 science parks: Arbois Europole, Sophia Antipolis and Agropolis



A strategic committee provides an outlook on the markets and determines the suitability of projects.

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