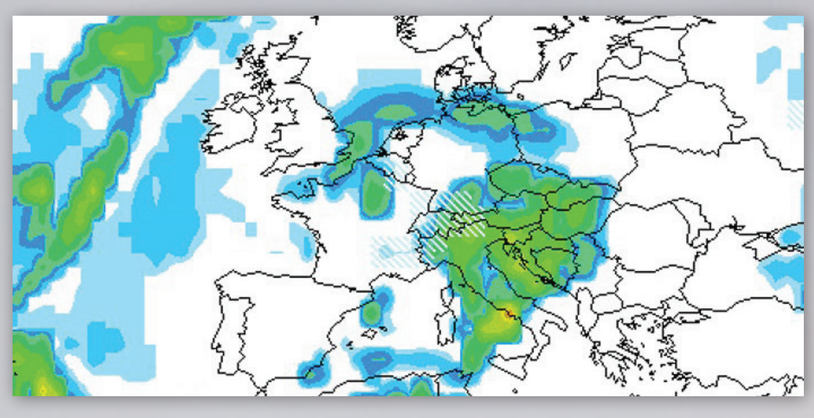
RINA CONSULTING

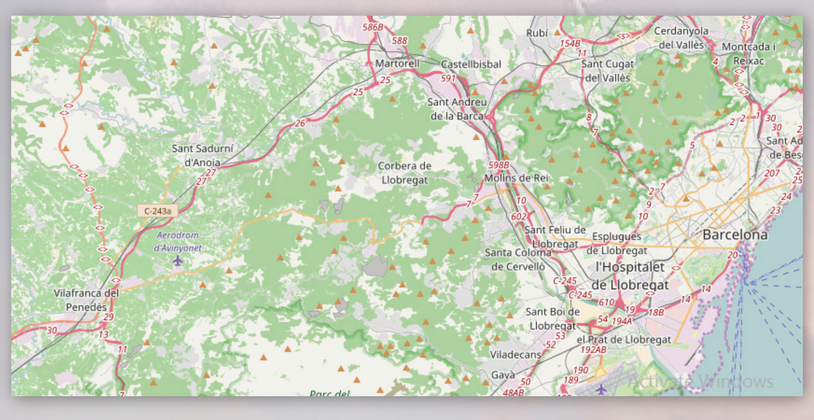
ANYWHERE

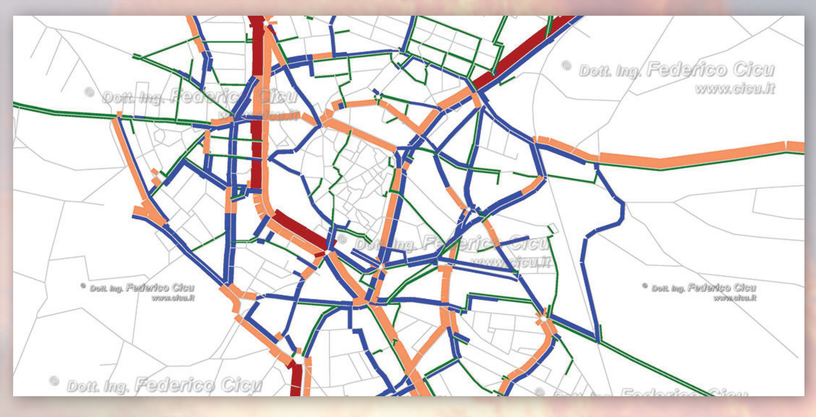
Enabling self-response of the logistic platforms of the food distribution companies during severe weather

During severe weather events, the roads can be affected and their capacities collapsed in critical points. In these situations, the **food distribution** is considered in many EU countries among the priorities services. A specific product service will be designed for the logistic platforms of food distribution companies adapted to high impact snow events in the southern Europe roads, that will be developed and implemented in the pilot site of Catalonia.

The service will be based on the **forecasts of snowfall** coming from various ANYWHERE tools (MH-EWS). These forecasts of accumulation of snow in the territory will be crossed with a representative **model of the road network** recognized according with the extension of affected area and in particular of the network capacity.





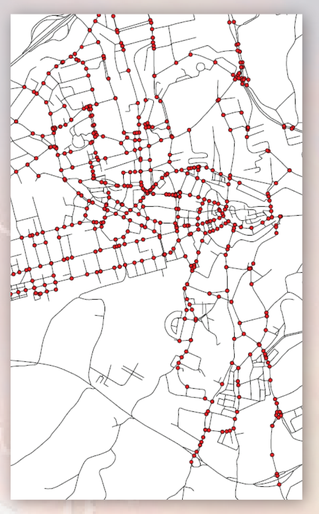


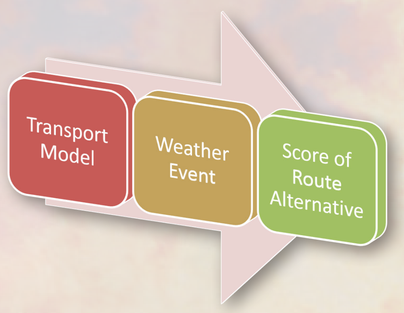
How we do it

The product service to be offered is a set of tools for the advanced simulation of multi and intermodal transport scenarios, for freight and passenger, in urban and national context. The service is based on a macroscale transport chain planner that foresees in input the definition of the demand (one or more Origin/Destination (O/D) matrices in terms of total freight/user movements) and of the supply (a multimodal transportation network represented by a series of graphs of monomodals and monodirectional oriented links). It allows simulating and evaluating different transport scenarios and logistic configurations, analysing the demand assignment, the modal diversion, considering a multi and intermodal supply.

The outcome will be indications for logistics-related companies (i.e. food distribution) useful to find or choose the best route (i.e. alternative road, multimodal path) between two locations. The platform underlying the service is conceived as support to companies dealing with distribution tasks.

The basic objective of route planning that we are considering here is to find or choose the best route for a road between two locations





In the transport model, the links of the road graph, according to the weather model, can be modified.

So we will have different routes.

Benefits

Operational: Planning and management are allowed on the basis of multiusers demand (freight and passengers), in regional and urban context with intermodal and multimodal supply. Interface possibility: product can be linked with the database and GIS system. No affection nor changing of procedures and legacy systems in place.

Economic: Supply chain entities will be able to lower overall operating costs, create and test newer business models, develop and maintain a higher standard in customer service and attain unsurpassed efficiency (i.e. better shipping options, reduced operational costs, predictive operations, etc.).

Enabled Applications

- **Scenarios comparative analyses** in urban, regional, national and international context
- **Influence and efficiency of road** (and area pricing policies) on the users behaviour
- Evaluation of the **effects of new infrastructures and transport policies** on the mobility and on the demand
- Detailed **analysis of the use of intermodal resources** (ports, inter-ports, parking places, stations, logistic nodes, etc.)

Who does what

RINA CONSULTING	Coordination, traffic model, alternative routes
hydis	Early Warning Systems
Generalitat de Catalunya Departament d'Interior	Risk analysis and forecast
UNIVERSITAT POLITÈCNICA DE CATALUNYA	Integration of hydro-meteorological model in Decision Support System
FINNISH METEOROLOGICAL INSTITUTE	Interpretation of weather models (when is there the weather alert?)
CEDAC Consell d'Empreses Distribuïdores d'Alimentació de Catalunya	Support in data collection and in the integration of the application in their logistic platform