



# Brief presentation of the company

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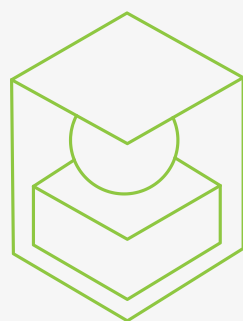
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TerrAria Srl

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**TerrAria boasts over twenty years of experience in the platform development at the service of the environment.** The multifaceted ability and experience gained by the SME ranges from the offer of advanced solutions in the development of tools, methodologies and processes, with specific energy-environmental skills.



**TerrAria collaborates and is a member of several Cluster of Lombardy Region supporting innovation**

Today it can count on the contribution of a close-knit and multidisciplinary team of 25 collaborators with articulated skills

Who we are?

**TerrAria was founded in Milan in 1999, innovative SME since 2016**



**Giuseppe Maffeis  
CEO**

What do we do?

The company is structured in three areas



## Governance and Environmental Energy Models

It evaluates the interaction between project scenarios and environment, through the implementation of forecasting models and energy-environmental balances, supporting decision-making paths for defining spatial strategies, using the modelling approach.



## Software Design and Development

The IT area develops decision support systems (DSS), engineers open source and multi-platform solutions; the WebGIS represents the ideal platform and channel for the provision of georeferenced services (thematic maps).



## Research and Development

TerrAria is very active in networking and building partnerships for European and Regional calls. In fact, it has participated and participates with other partners (ARPA, universities, private companies, etc.) in LIFE, IEE, Interreg, FP7 projects, MIUR funding, FESR and other national and European calls.

# OUR EXPERTISE: MOST RELEVANT R&D PROJECTS

2015

IRIS  
LIFE



Adaptation measures  
Climate risk  
Industrial sectors  
Risk assessment  
Screening

2018

UTAQ  
CAMS



Air quality  
Urban tool  
CAMS use case  
Forecast  
Model

2018

AIR-HERITAGE  
UIA



Air quality  
Citizens  
Pervasive monitoring  
DSS  
Urban scale  
Forecast

2020

EPICO19  
ESA



AI  
Machine learning  
Satellite images  
Health care  
Forecast

2021

REMY  
LIFE



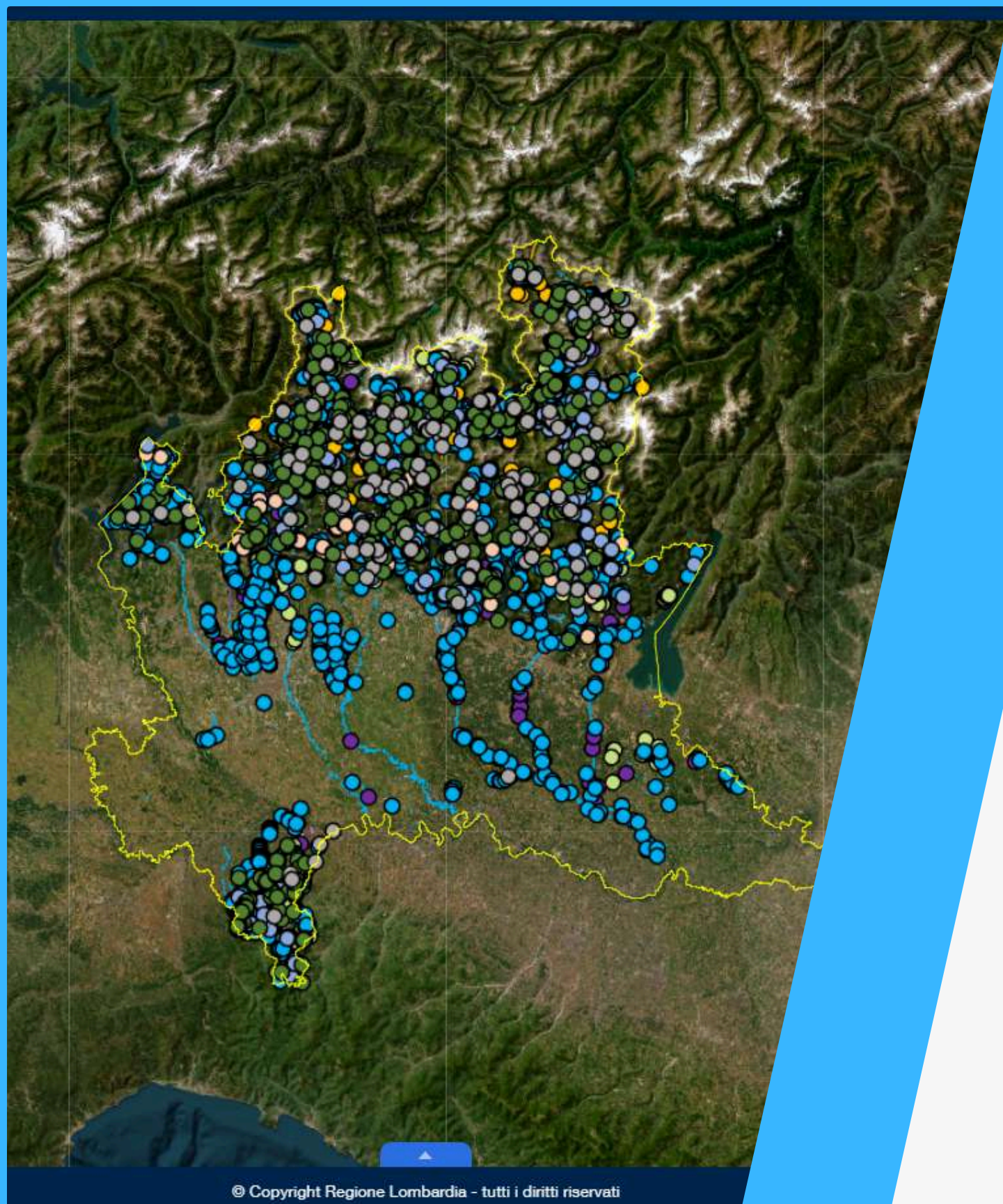
Air quality  
Guidelines  
Modelling  
Uncertainty assessment

2023

MASAI  
ESA



AI  
Machine learning  
Satellite images  
Humanitarian crisis  
Building damage



## Web platforms

TerrAria is a **leader in developing WebGIS solutions** for geo-referenced services (thematic maps). Thanks to the ability to analyse the energy-environmental sustainability of processes, through the analysis and processing of data and above all through the **modelling and artificial intelligence approach**, TerrAria has gained specific transversal skills in the development of **Decision Support Systems (DSS)**.

WebGIS

## Web platforms and agriculture

**ViGIS** is a **satellite-based agricultural field monitoring and support platform** for the entire life cycle of different crops, customised for the needs of Corteva Agriscience technicians and customers. It is a downstream service platform for the Copernicus programme (Sentinel-2). ViGIS provides the mapping of **spectral indices** for the study of the health of crops, making it possible to highlight any punctual criticalities and to facilitate the intervention of agronomists directly in cultivated fields. Seeding plans and fertilisation plans can be defined.

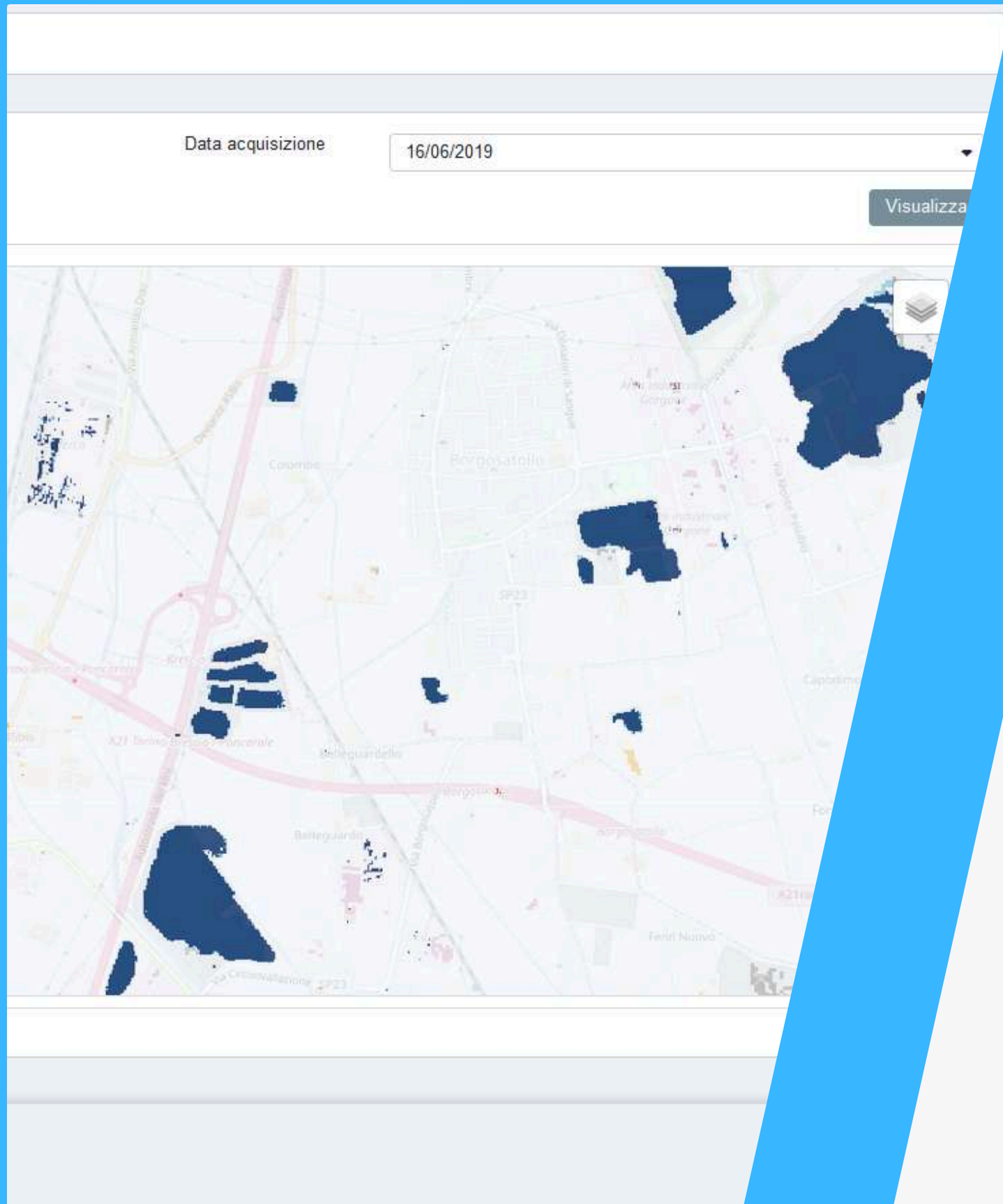


ViGIS



## WebGIS and Civil Protection

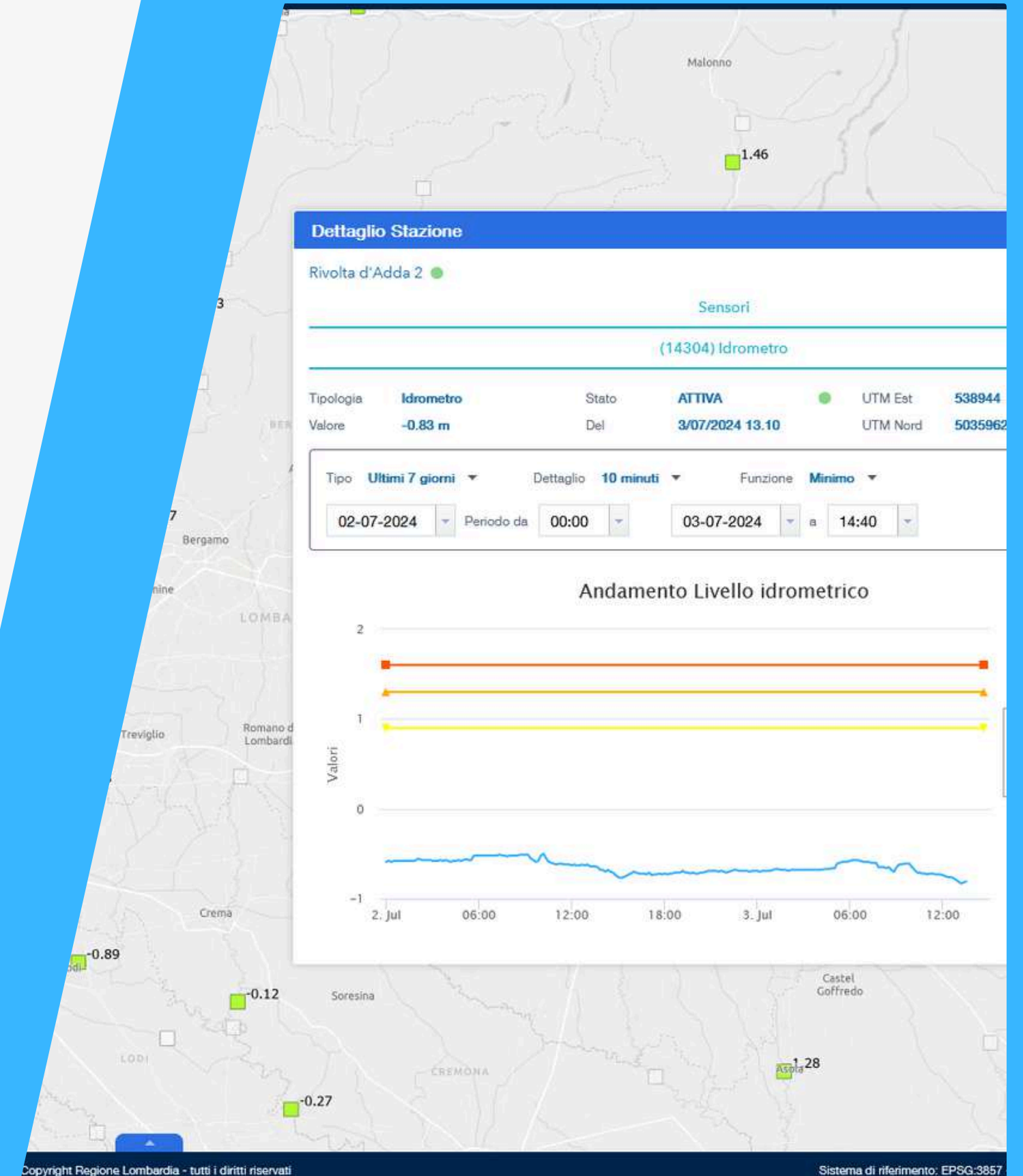
**SIMULATOR-ADS** (integrated modular system for hazard management and prevention - enriched with satellite data) is an innovative platform and **DSS** for local PAs in the direction of a **Civil Protection 2.0** that responds to the real needs to **secure the population and the wealth of the territory** and to **protect and optimise regional infrastructure systems**. The system is implemented to **manage risks** due to natural or man-made causes (technological and chemical/industrial accidents).



WebGIS

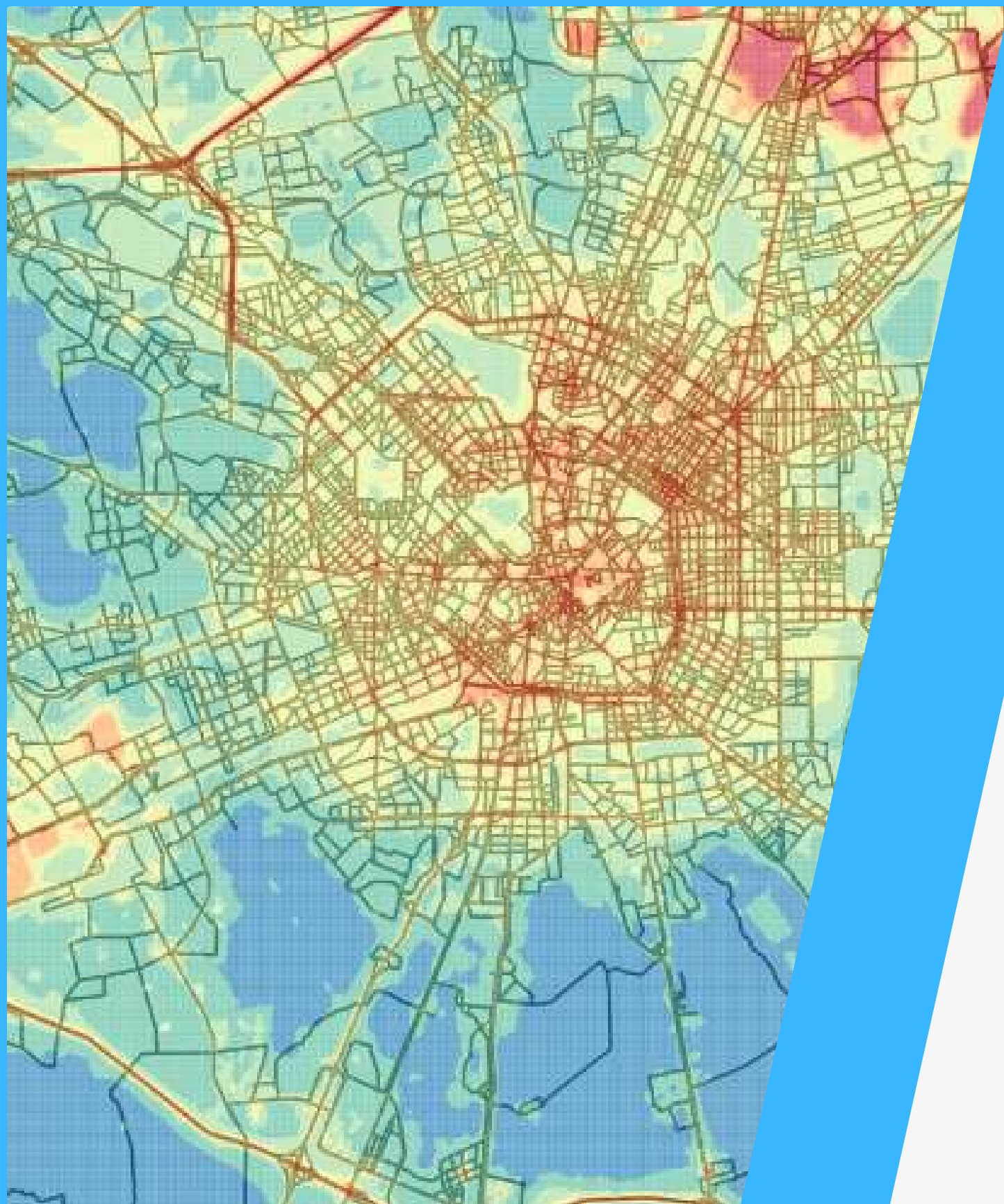
## WebGIS and Civil Protection

Concerning the **assessment of risk-adaptation** with respect to the **climate change**, TerrAria in collaboration with **ARIA** has designed and is developing the new version of **SINERGIE**, the DSS for the Civil Protection of the Lombardy Region, for the **management**, both in the monitoring and forecasting phases, of criticalities deriving from **natural hydrogeological and hydraulic risks**, for the regional operations room and for the structures that must ensure the first response activities to emergencies.



**SINERGIE**





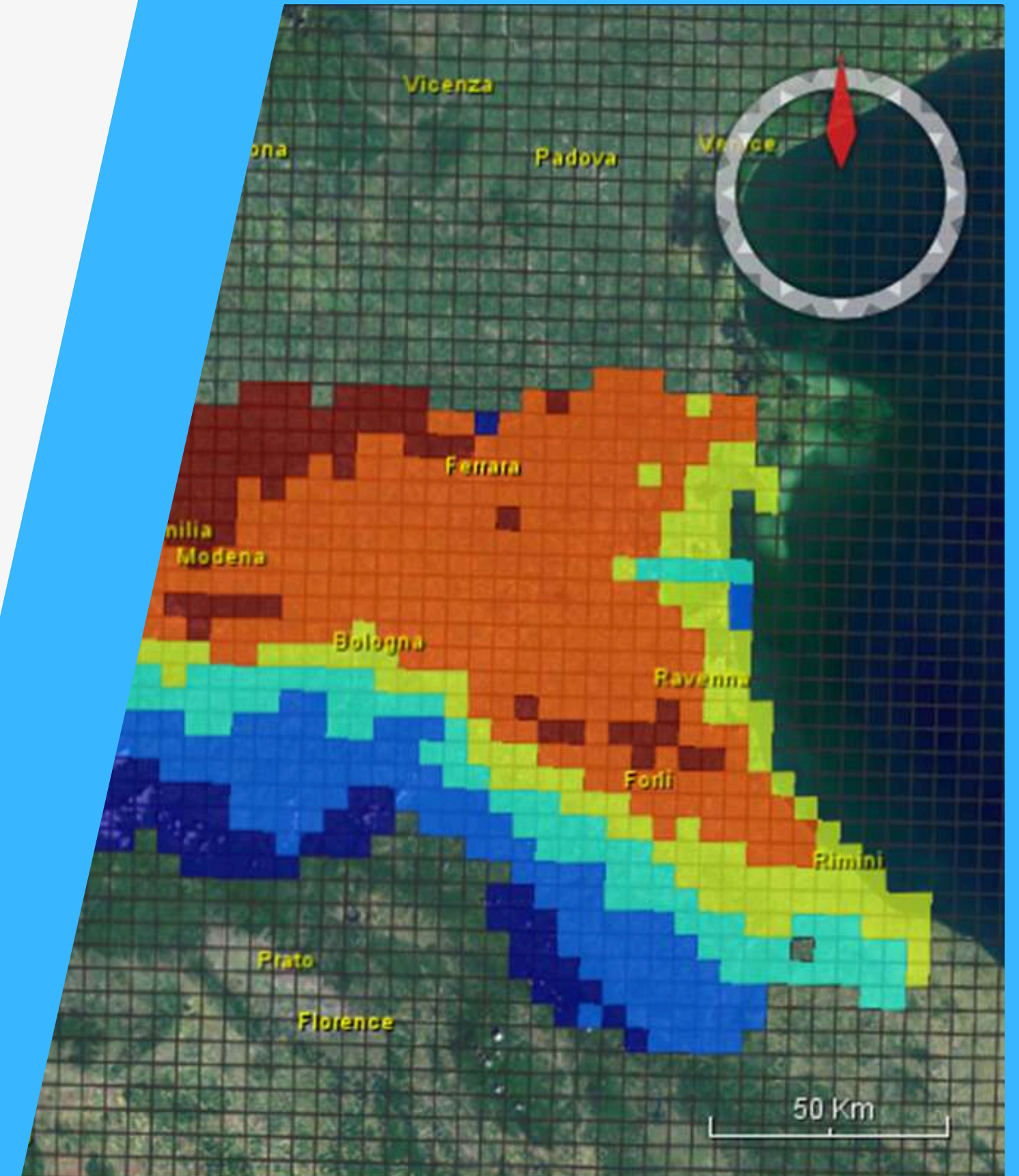
## Air Quality

TerrAria deals with the estimation of the **environmental impacts** of human activities on **air quality and health effects**, supporting policy makers in defining policies for reduction, mitigation and compensation of pollution and energy consumptions, through the **modeling approach** at regional and local scale.

TerrAria also developed **UTAQ**, a tool to evaluate the **air quality in urban areas at high resolution**, and several web platforms to enable the simulation of air pollutant dispersion processes.

## DSS for Air Quality Plans

TerrAria developed **RIAT+ (Regional Integrated Assessment Tool PLUS)**, a regional integrated assessment modelling application developed during the **OPERA** project that **supports decision-makers and technicians** in identifying emission reduction measures to improve air quality at minimum cost by exploiting source-receptor functions (**regression and neural networks**). The system allows to choose between two different decisional paths: scenario analysis and optimisation.



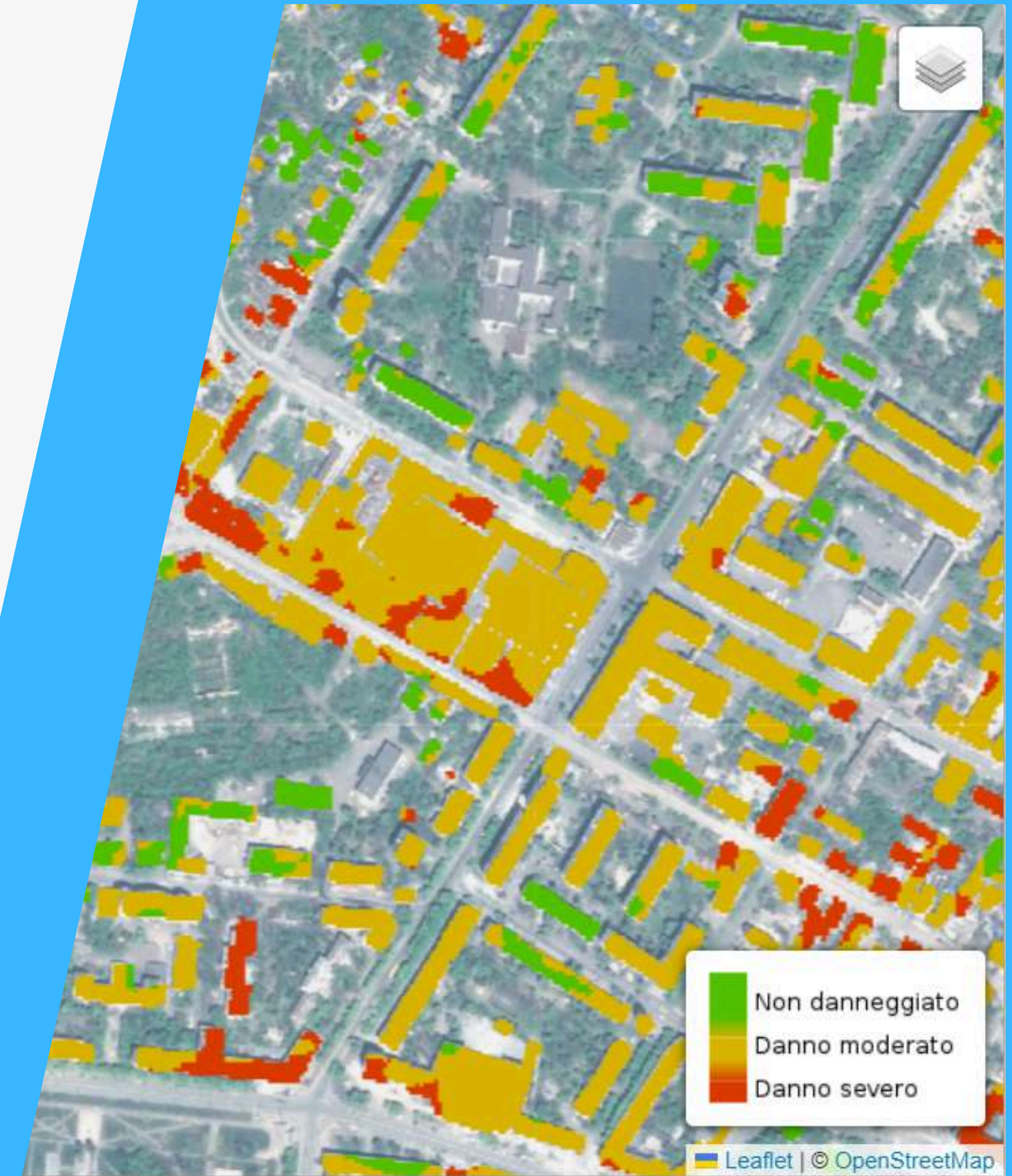


## AI and Satellite Images

In response to the **COVID-19** emergency, TerrAria developed **EPICO19** thanks to **ESA**, a web application designed to support public health technicians and decision-makers in **forecasting the ongoing pandemic**, in terms of cases, hospitalisations and defining the most effective restrictive measures to contain the contagion. It is a **WebGIS with a DSS based** on an epidemiological engine trained by **Machine Learning** that provides forecasts on the spread of the epidemic.

## AI and Satellite Images

During the **MASAI** (Map for Damage Assessment with Satellite Artificial Intelligence) project, in response to the humanitarian crisis in Ukraine, thanks to ESA TerrAria developed a web platform that uses **Artificial Intelligence** (AI) techniques to identify damaged areas and assess the **degree of damage** to buildings and infrastructure in support of regional, national and international organisations intervening in emergency situations.



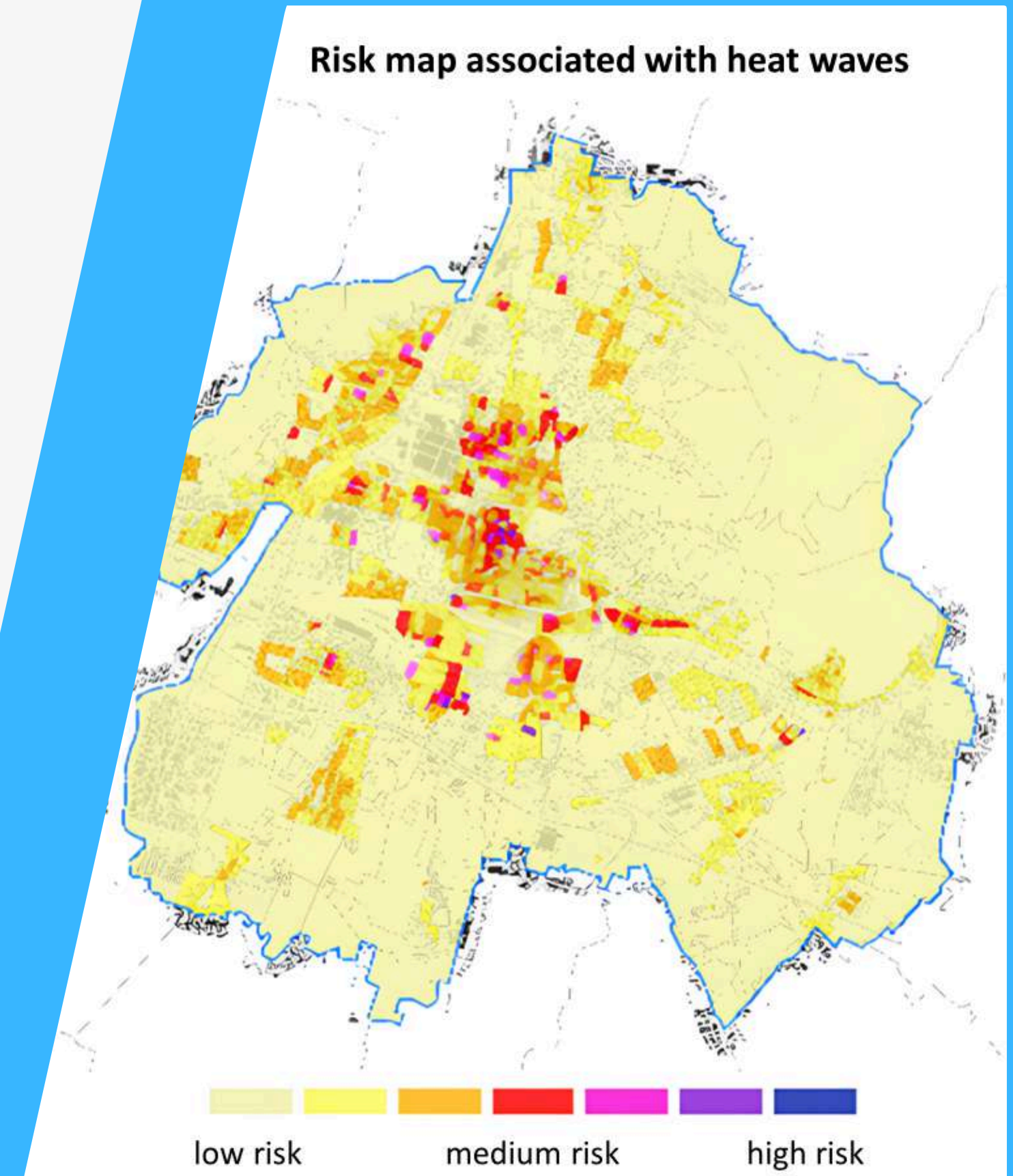


## Climate Change Adaptation Measures

TerrAria has been working on climate change adaptation measures for years. During LIFE IRIS project, TerrAria developed **CAST** (Climate Adaptation Support Tool), a **screening tool** to support companies to **assess their main vulnerabilities to Climate Change (CC) risks**, let to identify adaptation measures and evaluate their effectiveness in order to **improve the industrial sector resilience** through methods and solutions transferable in all EU countries by **promoting CC adaptation** actions in synergy with environmental policies.

## Climate Transition Strategy for the territories

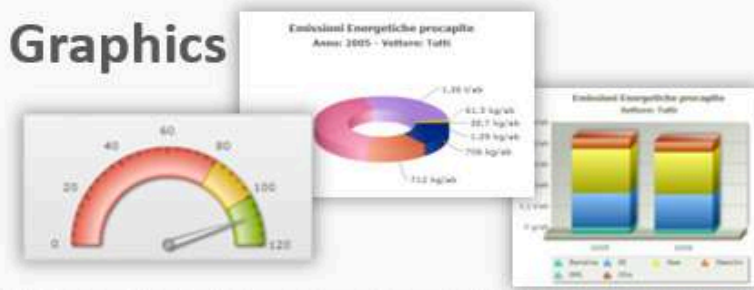
TerrAria has been selected by Fondazione Cariplo as Technical Assistance for the construction of the **Climate Transition Strategies** for the territories of Brescia and Bergamo, co-financed within the Call for ideas Climate Strategy. TerrAria also dealt with the **Regional Strategy for Adaptation to Climate Change** of the Apulia Region, providing technical support for the identification and definition of a set of **pilot actions** for **climate change mitigation and adaptation of cities**.



Climate Transition Strategy



### Graphics



### Report



### Maps



## Energy manager & CO20

TerrAria, as Energy Manager, provides energy efficiency consulting to **support local administrations. We support adherence to the Covenant of Mayors**, through the CO20 software developed by TerrAria in 2011, used by over **300 municipalities throughout Italy** for the definition of their **SECAP** (Sustainable Energy and Climate Action Plan), the creation of energy emission inventories, and the definition of concrete actions to reach the objectives set by the EU.



## ERGAPP

ERGapp is a TerrAria cloud service that **supports Energy Manager in all phases of the energy audit**: in analysis of consumption, in calibration of energy model and in definition of efficiency actions. It is connected to a pre-existing **energy consumption monitoring system** or proposed in combination with the sw, through which display data in real time, set alarm thresholds and benchmark KPIs. To date, TerrAria has provided **more than 50 energy diagnoses**, using ERGapp, pursuant to **Legislative Decree 102/2014**.



ERG  
APP

[www.ergapp.it](http://www.ergapp.it)



# CURIT

**CATASTO UNICO  
REGIONALE  
IMPIANTI TERMICI**



[www.curit.it](http://www.curit.it)

## CURIT

TerrAria, in collaboration **with ARIA**, manages the development and maintenance of the unique regional register of thermal installations (CURIT), the Lombardy Region's database for the **collection and management of data on all thermal plants** in the region. Thanks to the platform, it is possible to **monitor in real time the evolution of the regional thermal plant park**, serving residential/tertiary buildings, both in terms of consistency and energy and environmental performance.

## CENED & CEER

TerrAria, in collaboration **with ARIA**, designed and developed the graphic interface of the **Lombardy Region application CENED+2.0**, used by energy certifier to produce the Energy Performance Certification (EPC). Moreover, we manage the development, maintenance and technical assistance services for the energy register of buildings (CEER), tool designed to collect the EPCs and create statistical analysis based on the data collected.





CER

## Renewable Energy Community

TerrAria promotes the establishment of Renewable Energy Communities (RECs) and coordinates their subsequent management, working with the various actors involved to **produce, share and consume renewable energy** locally, supporting energy **self-sufficiency, reducing CO2 emissions** and increasing **environmental awareness**. TerrAria has also developed **decision support software** for assessing the feasibility of RECs and their subsequent management.

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