

SV² = Smart Visions * Smart Villages



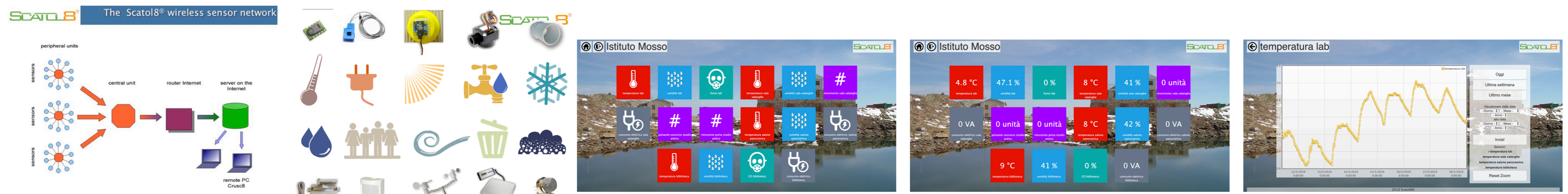
Lo Scatol8 per la Sostenibilità srl
Riccardo Beltramo
riccardo.beltramo@unito.it



Scatol8 per la Sostenibilità srl (briefly, Scatol8 srl) is an **academic spin-off** of the University of Turin and an **innovative start up** of Regione Piemonte. It works in the fields of **clean technologies and environmental monitoring**. Its activity concerns the development, production and marketing of innovative products and services with a high technological value, and more specifically the development, production and marketing of integrated electronic systems and networks for the collection of variables - in particular environmental - and data analysis through intelligent dashboard, primarily intended for agricultural, commercial and industrial activities.

Product innovativeness is due to the **development of specific algorithms that allow the application of methodologies (Business Intelligence & Organizational Intelligence)** traditionally reserved for corporate information to environmental and energy data.

These products have a high technological value because of the **specifically developed software, which makes them modular and highly customizable**; in particular, it allows both a simple connection to pre-existing environmental management systems, and complete technological integration with sensor and actuator networks (**Internet of Things**).



From Scatol8's background:

This collage highlights several Scatol8 projects and applications:

- Mountain Huts & Tourist accommodations:** Monitoring variables that affect the quality of living in interior and the relations with environment and landscape in terms of material and energy consumptions, indoor environmental quality, solid and liquid waste production.
- GRASS:** A system oriented to monitor and improve pastures and supply chains that provide mountain products. It monitors localization, field moisture, soil temperature, air temperature, humidity, and UV radiation.
- Baril8:** A system oriented to monitor and improve environmental and economic management of the wine supply chain, balancing the multifunctionality of vineyards, lending value to mountain wines and derived products.
- Education:** A customizable itinerary to watch the environment and deepen the relations between daily activities and environmental quality that is a system conceived to promote the active learning and to found assumptions on data analysis, from Primary School to University; a source for teachers, available in e-learning mode.
- A Scuola con Lo Scatol8:** Network of Schools of Mountain Villages.
- IoT 4.0 per il Turismo montano:** Prof. Riccardo Beltramo, Ing. Paolo Carlini, PhD.
- #HACKUNITO:** Digital insulation of the elderly: e-healthcare in the mountains.
- Environment & Health:** Internet of Things for natural Risk Management: a management system, IoT based, developed considering environmental and economic dimensions of identifying, preventing, managing and restoring mountain areas affected by landslides and avalanches hazards.

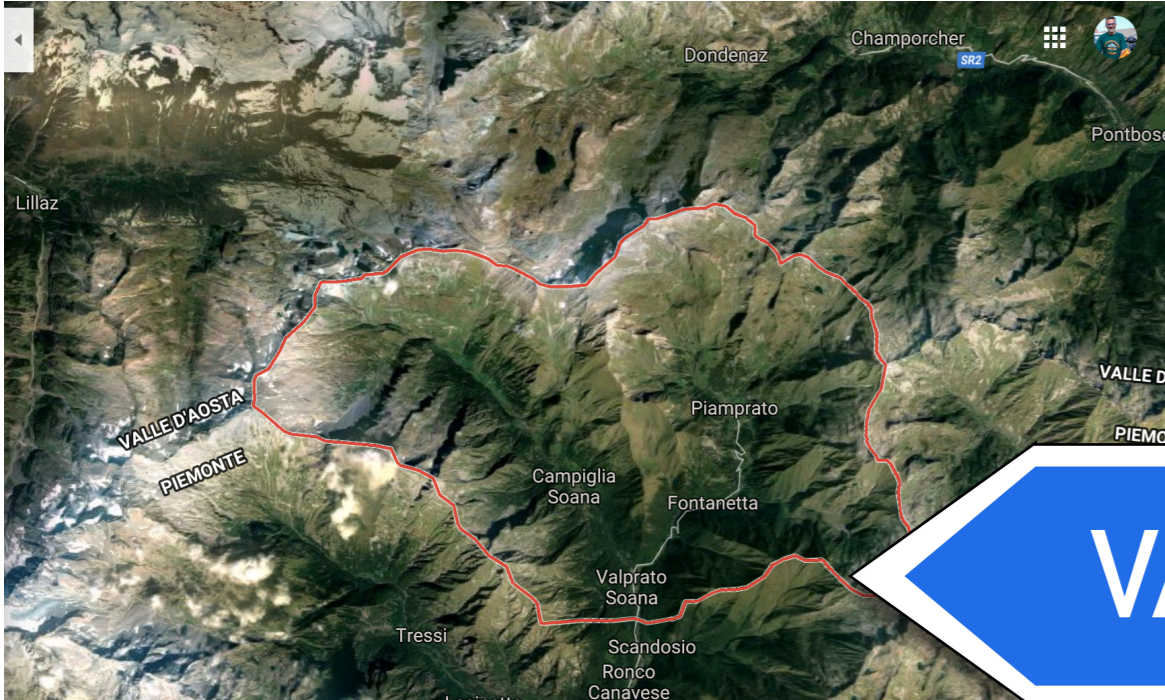
The proposal

Life takes advantage from a safe and healthy environment and from availability of services, able to provide satisfactory answers to citizens' needs.

Smartization springs from the analysis of lives in the environment, and becomes real from the **combination of natives' culture**, shaped by centuries of interactions with mountain realities, and **possibilities provided by new technologies and improved and fast connections**.

Though technologies play a crucial role in finding appropriate answers, their introduction comes after the **identification of needs, an accurate, iterative and resource-demanding planning phase that involves humans beings, institutions and stakeholders**. A **bottom up** itinerary builds up the design process: from one side, a solicitation of needs, a verification of data sharing availability and, from the other, the design of a distributed network, able to find answers which could influence habits of individuals and collectivity.

Elder, active and young people engaged in their activities, performed in **normal, abnormal and emergency conditions** will feed the knowledge base of an **Artificial Neural Network (ANN)** technologies designed, trained and used to obtain algorithms able to tune the improvement of quality of life IN monitored and improved environmental and landscape conditions.



In order to consider the **wide diversity of situations** under the umbrella of "smart village", our proposal is currently in the phase of defining the specifications in equally diversified territories, through dialogue with local players: the Municipality of **Valprato Soana** and the **Monterosaski** area.



VALPRATO SOANA MONTEROSASKI