The ADRIARadNet project: ADRIAtic integrated RADar-based and web-oriented information processing system NETwork to support hydro-meteorological monitoring and civil protection decision

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ADRIARadNet is the name of the project positively evaluated by European Commission under IPA Adriatic Cross Border Cooperation Programme and currently ongoing. It aimed at creating an innovative decision support system to enhance the response capacity to extreme weather events affecting the security of people in the Adriatic areas.

In this respect the main four ADRIARadNet objectives are: 1) determination of Adriatic cross-border guidelines and policies to support warning emission and risk management; 2) testing of low cost weather radar systems, combined with satellite data processing systems and conventional ground networks sensors, for Adriatic severe weather monitoring; 3) development of an early warning system, based on coupled hydro-meteorological numerical modeling and observational data assimilation, tuned to the local territory; 4) implementation of a flexible ICT platform for data sharing and consultation, based on the interoperability paradigm so that data sources can be easily augmented in the future.

It worth mentioning that information and communication technology (ICT) has proved to be an essential tool to develop and finalize applications of public usefulness due to its capability to handle complex scenarios and integrate inhomogeneous components. It will enhance the staff capabilities to handle data and processes for hydro-meteorological hazards prevention and assessment.

Two pilot areas (Marche/Abruzzo regions and Croatia/Albania territories) are identified as test-bed where experimenting the decision support system in order to be exploited after the ADRIARadNet project accomplishment by Civil Protection agency. In these areas four new low-cost, X-band radar systems will be installed and tested also through the development of algorithms able to process raw radar data, enhance their quality, extract from them accurate products useful for initializing hydro-meteorological numerical model.