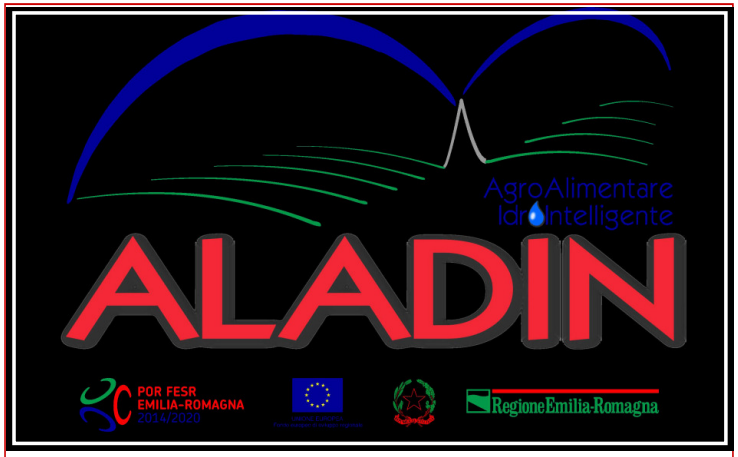
La ricerca nel piatto.
Nuove ricette per un'industria agroalimentare sicura e sostenibile



HYDRO-SMART AGRICULTURE

Renzo Valloni

University of Parma - CIdEA

Cesena - January 31, 2017

Partnership

Associates

Companies

OBIETTIVI

ALADIN in the context of Sustainable Precision Agriculture
Integration of operational protocols and new technologies for variable-rate irrigation

The project's objective is the optimal irrigation of maize and tomato intensive crops by integrating IT and irrigation technologies

ALADIN aims to implement a service for automated precision irrigation, which identifies homogeneous crop areas with respect to water demand within individual small-sized fields, and produces the corresponding sequence of commands to govern irrigation

ATTIVITA'

DATA ACQUISITION	Remote surveys	Satellite (Sentinel-2) and aerial (drone)		
	Ground surveys	Topography and soil sampling	Crops phys. monit. and soil sensors	Sin-flyght physiologic monitoring of crops
TECHNOLOGICAL INNOVATION	Sensors and UAV	Lightweight dedicated drones	Electromagn. waves, gas and gamma-ray	
	ICT and services		Integraton into *IrriNet* irrigation expert system	Distributed system and special-purpose electronics
	Irrigation devices			Gun with adjustable working speed and sector angle; Boom nozzles with variable flow
ACTIVITY	type / phase	1	2	3

APPLICAZIONI INDUSTRIALI

- Ground-based gamma ray, electromagnetic and gas sensors & airborne sensors for soil moisture and NDVI measurement
- ICT platform for integrating water-demand data in the IrriNet expert system which output is a water-prescription map
- Distributed system and special-purpose IT for interfacing water-prescription maps to variable-rate irrigation devices
- Automated irrigation equipment with variable flow rate and adjustable working speed and sector angle