



WEAM4i

Water & Energy Advanced
Management For Irrigation

WEAM4i Conclusions and next steps

**Jornada: El regadio de Bardenas de Aragón
y Navarra en la cuenca del Ebro**

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WEAM4i opportunities, barriers and challenges

WEAM4i: summary conclusions

- Lessons learnt: interoperability
- Opportunity: Optimisation services for irrigation sectors
- Challenge: Modelling the Canal de Bardenas system
- Opportunity: Expansion of the observation and forecasting services
- Challenge: the ICT platform sustainability
- Opportunity: Policy Brief and regulatory barriers
- Final Workshop announcement





WEAM4i lessons learnt: interoperability

Water Metering and standardisation

- EAFRD Article 46 about the eligibility conditions for the investments in irrigation: *Paragraph 3. Water metering enabling measurement of water use at the level of the supported investment shall be in place or shall be put in place as part of the investment.*
- More than 50% of the irrigation systems are equipped with water meters (estimation for ES)
- However, from the WEAM4i experience, there is a poor return of this information, and often it is only used for billing purposes. Moreover, the automated extraction of the metering information for added value applications is difficult to implement.
- WEAM4i has adapted and implemented a **WaterML (OGC Standard)** format for water metering, soil moisture probes, etc





WEAM4i opportunities for coming season

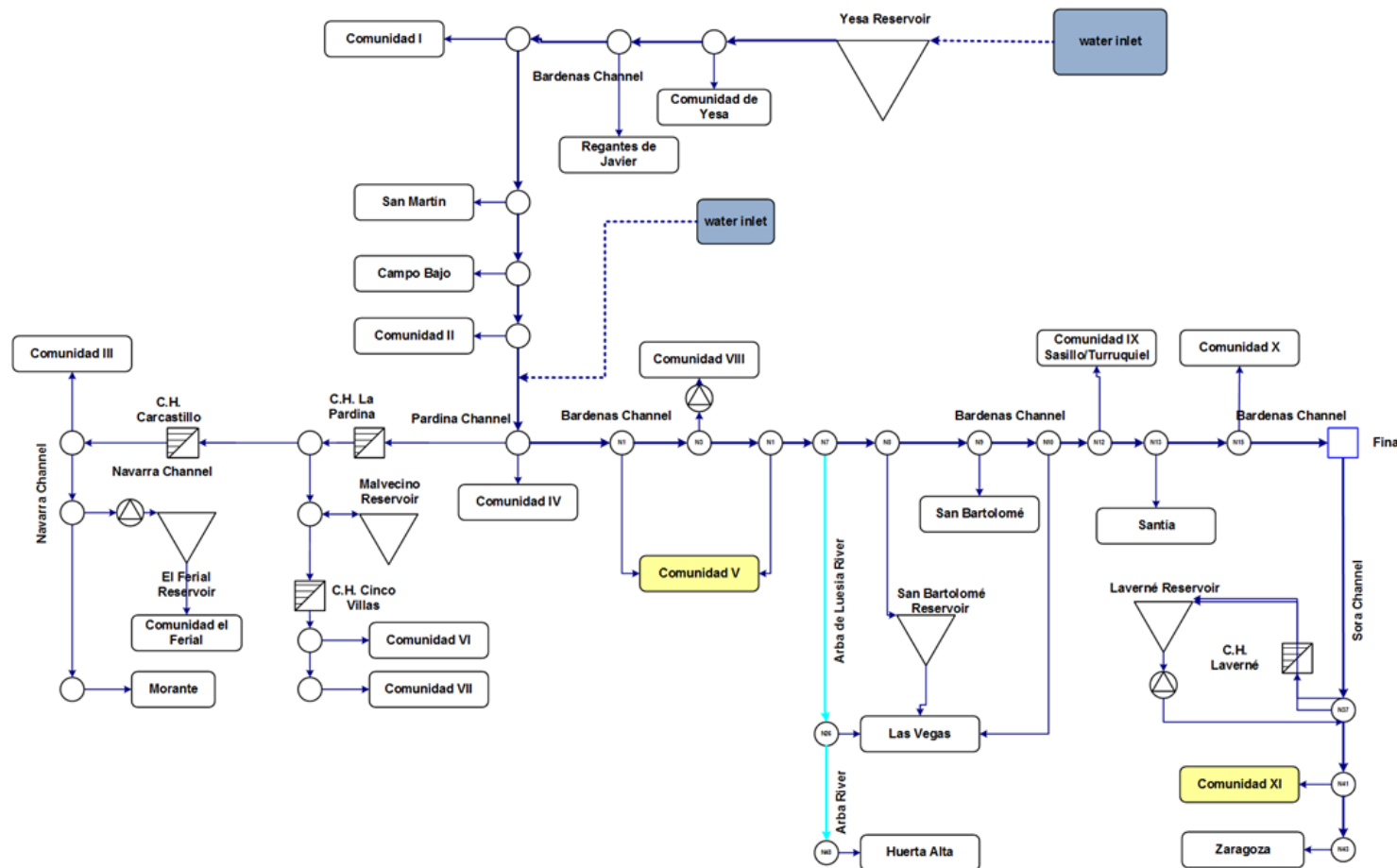
Optimisation services for irrigation sectors

- From current WEAM4i experience:
 - Solutions for increasing the energy efficiency
 - Hydroptim tool for the optimisation of irrigation sectors
 - And the knowledge provided by energy sector companies
- WEAM4i partners are in position for providing optimisation services for the coming irrigation season:
 - assessment of the % of potential improvement, both in terms of energy efficiency and cost savings
 - evaluation of the potential measures to be adopted in order to achieve the expected savings



WEAM4i challenge: Canal de Bardenas system

- We are modelling the whole Bardenas 'macro' model

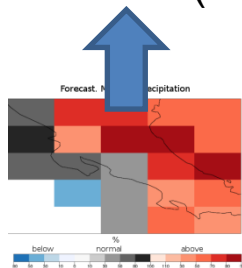


WEAM4i challenge: Canal de Bardenas system

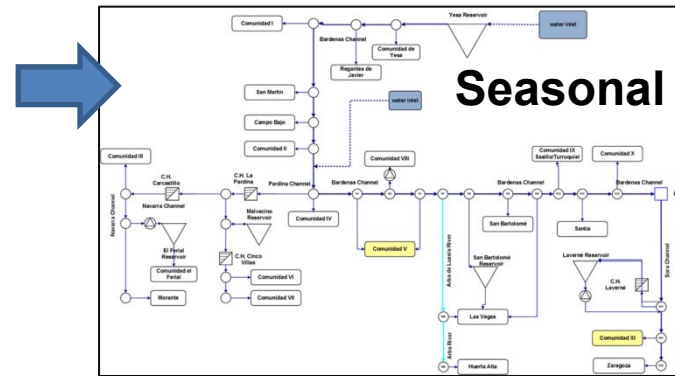


- in order to develop 2 scenarios for decision making

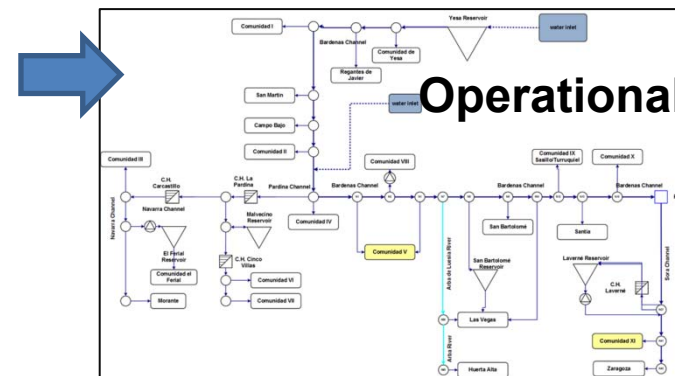
Demand = expected monthly volumes including climatic forecast (temp., rain)



Demand = volumes requested by communities



Horizon = Irrigation season
Resolution = Month
Execution = Month

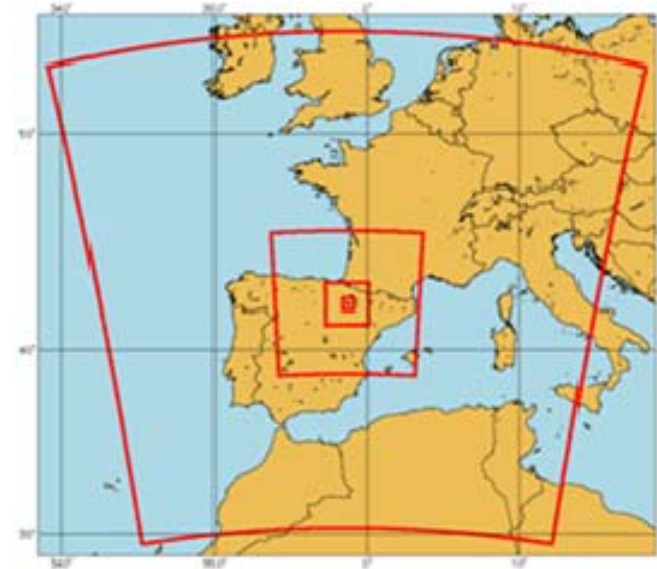
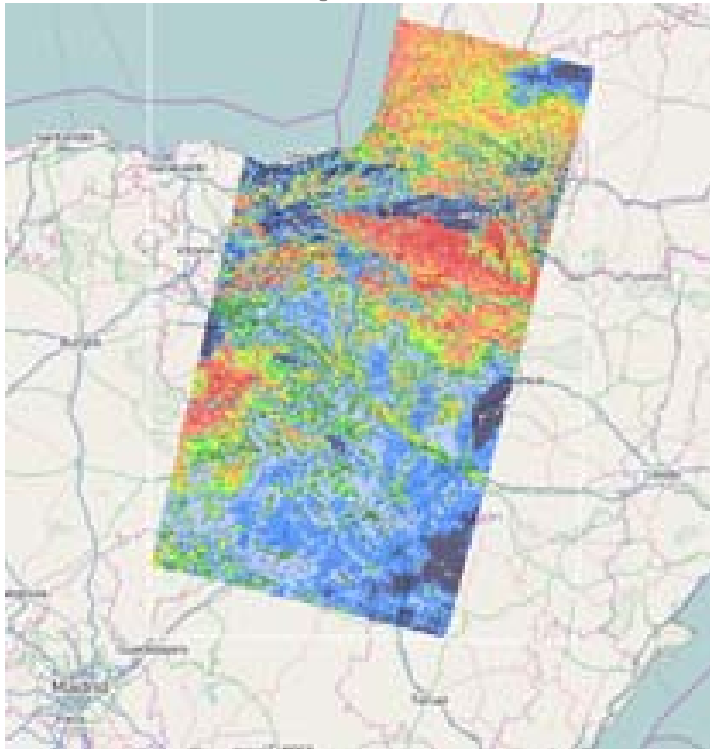


Horizon = Week
Resolution = Hour
Execution = Day



WEAM4i opportunities: forecasting services

Replication and expansion of the observation and forecasting domains



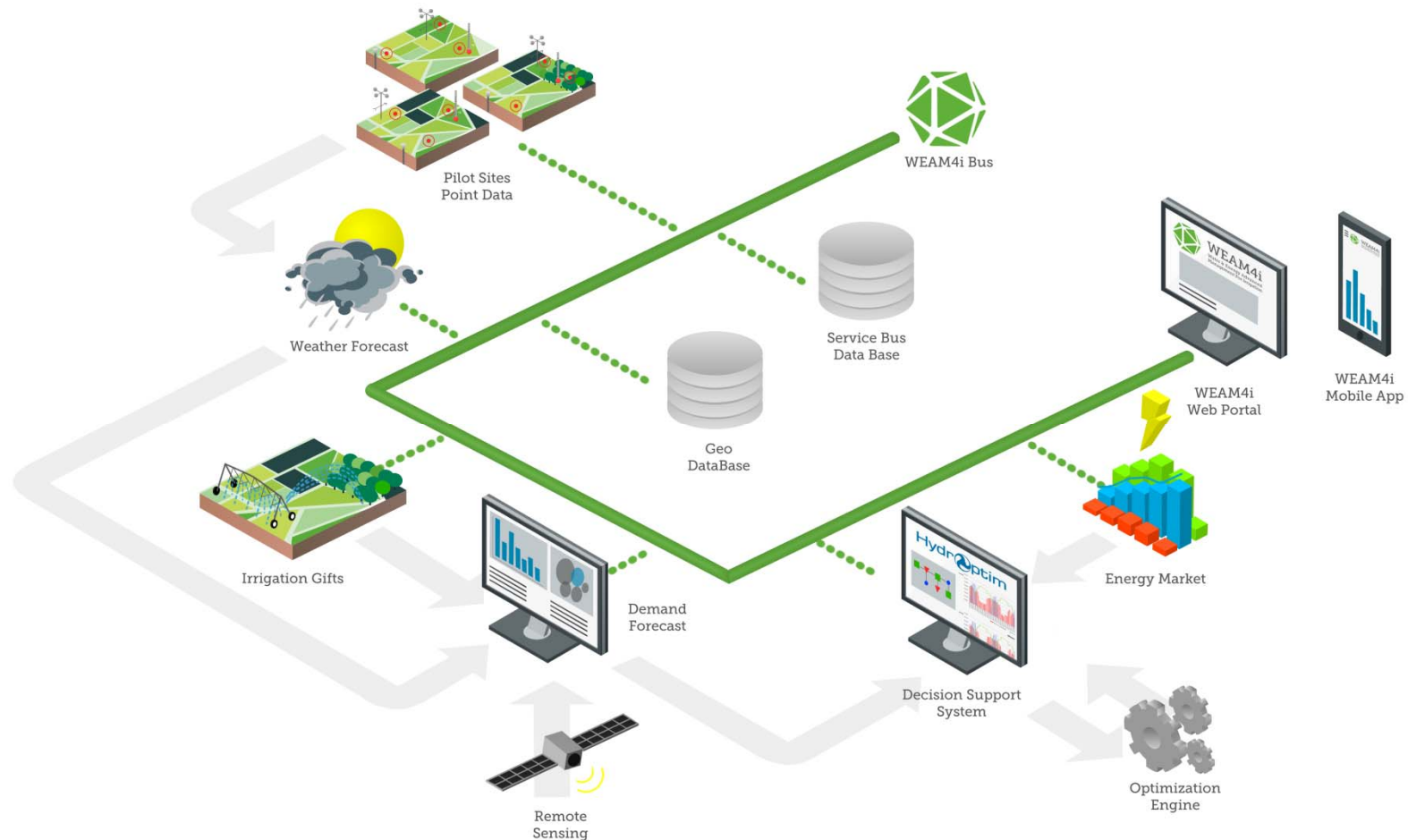
- Canal de Navarra and Canal de Aragón y Cataluña can be covered by the remote sensing and weather forecast services





WEAM4i challenges: the ICT platform

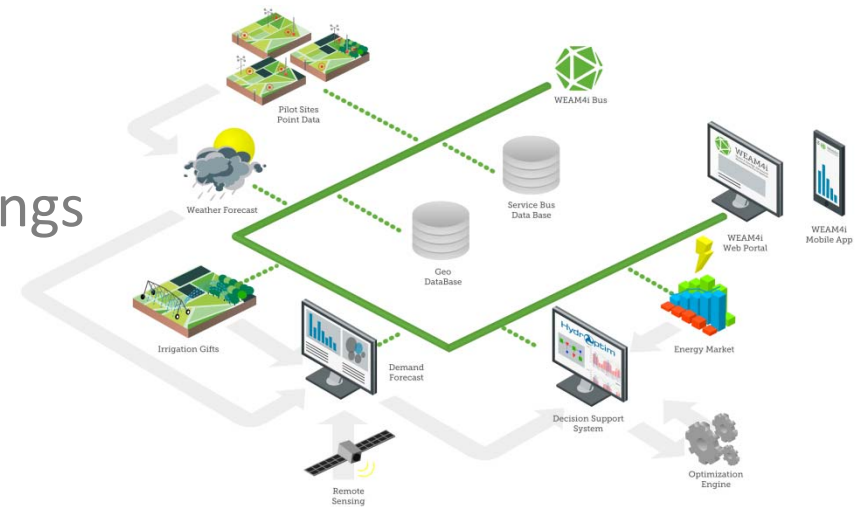
- Operational system integrating distributed data sources



WEAM4i challenges: the ICT platform

Key question: Economical sustainability

- How to deploy the platform providing operational benefits to communities, savings for irrigators and sustainable business for companies ???



- Business model: Information as a Service (IaaS) model. The subscription model will be analysed, among others
- but ...
- how to achieve the **critical mass** of users willing to afford x€/ha/season that will contribute to the initial deployment of the services ??



Water Policy Advisory Board

- Experts from different domains providing strategical advice to the consortium:
 - Operador del Mercado Ibérico (ES + PT)
 - European Union of Water Management Associations (EU)
 - Water Supply and Sanitation Technology Platform (EU)
 - Confederación Hidrográfica del Ebro (ES)
 - COPA-COGECA (EU)
 - EnergyVille (BE)
 - Ministry of Food, Agriculture and Consumers Protection Lower-Saxony (DE)
 - MAGRAMA and SEIASA (ES)
- **Policy brief** to be prepared and submitted to the European Commission, including:
 - **Regulatory barriers** and potential measures
 - Organisational and technical recommendations

Consultation phase by December 2016, feel free for contacting





WEAM4i key messages

- In recent years, important water savings have been achieved, without taking care of energy aspects, resulting in some cases on a significant increase in energy consumption.
- 11 projects granted within FP7-ENV-2013-WATER INNO&DEMO: only WEAM4i included optimization of irrigation and minimization of Energy costs.
- Transversal objectives of FP7-ENV-2013-WATER INNO&DEMO:
 - Promote innovative solutions for water-related challenges
 - Help creating new market opportunities for the European industry, in particular for SMEs, facilitating market-uptake and stimulating demand-side measures





WEAM4i key messages

WEAM4i has faced important challenges:

- Bring together 17 partners from 5 different countries, overcoming cultural and language differences
- Integration of the work carried out by every partner avoiding overlappings
- Management of 3 demo-sites with different characteristics and different technologies to be applied
- The Project will be finished within 7 months: intensive work to obtain results from demo-sites





WEAM4i key messages

- We want to show our gratitude to the demo-sites:

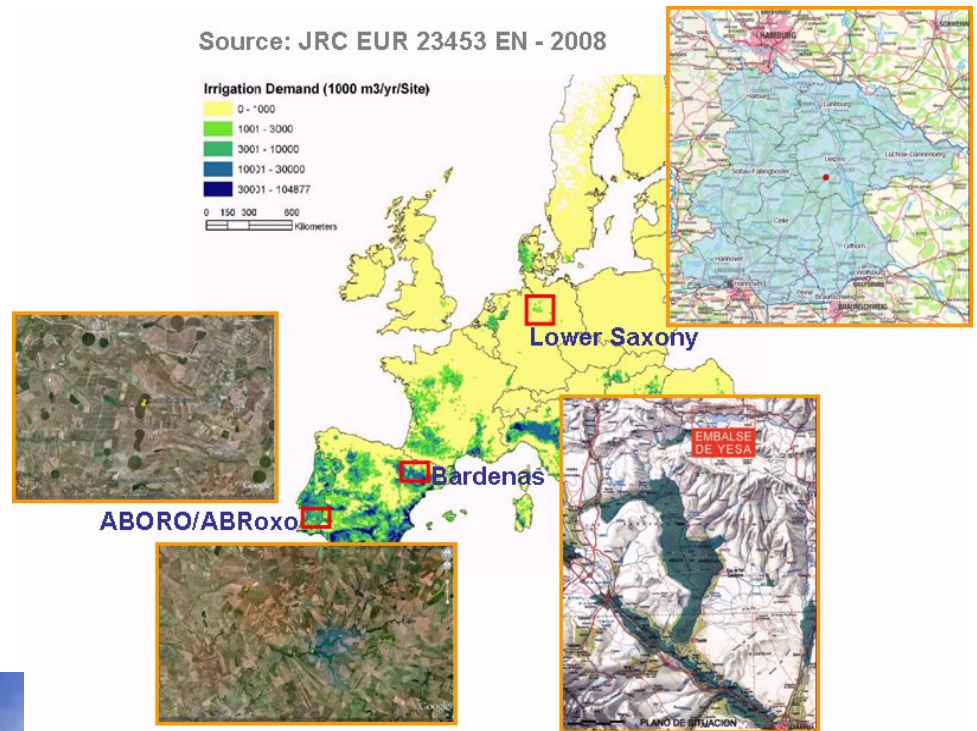


Comunidad General de Regantes del Canal de Bardenas

Landwirtschaftskammer Niedersachsen

ASSOCIAÇÃO DE BENEFICIÁRIOS DO ROXO

A.B.O.R.O. Associação de Beneficiários da Obra de Rega de Odivelas





WEAM4i final Workshop

YOU ARE INVITED TO OUR

WORKSHOP

(BARCELONA, APRIL 2017)



THANK YOU VERY MUCH FOR YOUR
KIND ATTENTION!!



WEAM4i

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