



ZINNAE: Zaragoza Urban Cluster for Efficient Water Use

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Type of tool: technology

Issue: cities

Location: Zaragoza, Spain, Europe

Challenges

The city of Zaragoza has made important collective efforts to increase efficiency in water use in all social sectors. The combined process of institutional and technological change and adoption has led to the creation of specialised companies and to accumulated experience. **The city has become a space for permanent demonstration and innovation for projects related to urban water use.**

Zaragoza:

- a) Concentrates a varied critical mass of companies linked to the water cycle, covering different activities related to the efficient use of water (supply, treatment, products, green areas, etc.).
- b) Public administrations in Zaragoza have been engaged in water quality improvement and water demand reduction.
- c) It has research and training centres linked to water and energy efficiency with an important international tradition.
- d) The demonstration project “Zaragoza, Water Saving City” has been developed in the city since 1997, the purpose of which is to save water and to use it efficiently in the city through changes in both behaviour and technology.

The city was the venue for the Expo Zaragoza 2008 exhibition, which had the motto “water and sustainable development”. The event reinforced the brand of the city in relation to the efficient use of water.

There was a need to realise synergies and maximise potentials for companies in Zaragoza and nationally. In 2009, several organisations fostered the creation of an Urban Cluster for the Efficient Use of Water, focused on boosting the innovative business sector linked to water use efficient in urban areas, thereby creating employment in the city. In addition, a new variable to this initiative is to be introduced: the energy efficiency linked to the urban water cycle.

The drivers/ opportunity for creation of the cluster





Two external global trends guarantee the timeliness of this initiative:

- The water market is one of the first five markets of the world, with a turnover reaching US\$400 billion and an annual growth rate of 7%, according to data disseminated by Watertech Online.
- Global water demand will continue to increase, largely due to the growth of urban population (in 2020 “over 50% of the population in developing countries will be urban”).

The approach

Defining the mission and the vision

The Urban Cluster for the Efficient Use of Water in Zaragoza was created with the following **mission**: To promote efficient and sustainable use of water as well as associated energy consumption in urbanised areas of Zaragoza, getting different public and private actors to collaborate, starting with knowledge generation, demonstrative projects and innovative solutions.

And with this **vision**: To become a leading international collaboration, knowledge and innovation example for efficient and sustainable water use in urbanised areas as well as a driver of quality employment for Zaragoza.

Establishing strategic targets

These mission and vision were translated into **three strategic targets**:

1. To boost **efficiency** and **sustainability** in **water** use and management as well as in the associated **energy consumption** of the city of Zaragoza.
2. **To position the AEI** on a national and international level as a collaboration, knowledge and innovation referent for efficient and sustainable water management in urbanised areas and for the reduction of the associated energy consumption.
3. To turn water use efficiency into a **driver of quality employment** for the city.

Establishing membership

In 2011 ZINNAE includes twenty six public and private entities which take part in the hydrological cycle management in the urban area. They are all part of the water efficiency sector in Zaragoza:

Business Sector (17 members):



- Alfredo Sanjuan
- Aquagest
- Aqualia
- Barrabes
- Brial
- Contazara
- DAM
- ESHYG
- Griferías Grober
- Grupo Raga
- IDATA
- Jacob Delafon
- Libelium
- Mann+Hummel
- Sopesens
- Veolia Agua
- Zeta Amaltea

Regional and Local Authorities (4 members):

- Ayuntamiento de Zaragoza
- CHE
- INAEM
- Gobierno de Aragón

RTC Centers (2 members):

- CIRCE
- Universidad de Zaragoza

Other members (3):

- ECODES
- Ecociudad Valdespartera
- Feria de Zaragoza

Implementing actions

ZINNAE has four axes of action:





1. Demonstrative projects

- Research on urban water demand in Zaragoza
- Demonstrative projects for the improvement of urban water demand efficiency and sustainability

2. R+D+i, new technologies and experimentation

- Fostering and supporting R+D+i projects
- Identifying and disseminating new knowledge and emerging technologies

3. Development of the innovative business group

- Dynamising the local sector
- Exploring opportunities to collaborate with external agents, both nationally and internationally

4. Sectoral development

- Favouring the local establishment of actors belonging to the sector (projects, entrepreneurs, institutions, companies, etc.)
- Building capacity for the professionals of the sector (architects, installers, tradesmen, etc.)

Partnering for implementation

ZINNAE members participate actively in the cluster's activities. The cluster's priority initiatives are defined annually in the Assembly, identifying projects and actions for which working groups and commissions are created. Depending on the aims and contents/subjects of the projects, each member is represented in the working groups or commissions by the Area or Department that best defends its interests: Environment, Marketing, I+D+I Department, or other.

As well as specific Cluster projects, ZINNAE promote active cooperation among its members, facilitating bilateral or multilateral initiatives which contribute to the overall targets established in the Strategic Plan 2010-2013.

Lessons learnt from implementation



The general lessons learnt from implementation are:

- A cluster must be mainly composed of business and the RTD sector (linked to water in ZINNAE), but it is crucial to launch the initiative with the collaboration and support of regional and local authorities, to attract the most innovative agents.
- It is necessary to articulate and organise the participation of the RTD Sector. It usually runs many initiatives relevant to the business sector but they often not known.
- The cluster secretary must analyse its members' activities and priorities individually in order to promote active cooperation among the cluster members to launch multilateral initiatives.

Approach	Lessons learned
Formulation of Strategic Plan	The Strategic Plan formulates the mission and vision of ZINNAE. This is essential to set up a multisectoral organisation such as a cluster.
Identification of 13 possible cooperation projects	The technical secretariat of the cluster, which organises the initiative, analyses the activities and priorities of each member. This is necessary to promote cooperation between the different partners and to launch the multisectoral initiatives.
Commissions and Project Groups	The urban water cycle covers a wide range of companies. Many of these companies do not compete, but are complementary. The key for achieving cooperation between the different members is to facilitate and stimulate bilateral meetings between these members.
The three sectors that are integrated in the cluster are: research community, private sector and public administration	To attract the most innovative agents, a cluster must include companies and research centres, but it is also crucial to gain support of the local and/or regional public authorities.
Two of the main research centres of Zaragoza joined the cluster	Water-related initiatives are often isolated and not shared between the public and private sector. It is essential that the research community and technical sector participate in the cluster.
Recruitment of members	ZINNAE does not focus on the recruitment of new members, but aims to deepen the collaboration with existing members. Still, the number of members has doubled in the two years since its foundation. It should be the members who set the pace of growth of the cluster, combining the joint activities with the recruitment of new members.
Launch of the Waterlabs:	Although there are already examples in Zaragoza of demonstration



identifying urban spaces for innovative experiments	and innovation via “living” laboratories, it is critical to count on the research community and technical sector to systemise the results of these demonstrations and innovations.
Workshop Waterlabs: national experiences with innovation through the Living Labs methodology	All living labs at the national level start with a large initial investment to ensure the monitoring and analysis of results. In Zaragoza we have to use the existing platforms (Ecocity Valdespartera, Brial experiences in hotels, Switch experience in Actur) if we want to implement a "living laboratory" for products and services related to water.
Implementation and leadership of projects 2011-2012 The Strategic Plan defines 13 cooperation projects. The first year started with Waterlabs, a proposal from the technical secretariat. In the second year (2011-2012) we will initiate two other projects (one as a continuation of Waterlabs), led by two member companies.	The companies know the need for action and innovation in the water sector and are the engine of the cluster and of the cooperation projects that they set into motion.

Follow up for scaling up

In 2010 the Waterlabs project was established, based on Living Labs methodology for innovation. The project aims to boost Zaragoza as an experimentation site in order to test the effectiveness of existing practices, solutions and technologies for efficient and sustainable water use, in terms of water consumption and energy. WATERLABS’ targets are:

- To fit out and facilitate settings for permanent experimentation in the city.
- To attract the most innovative agents of both the sector and complementary sectors to R+D+i projects in Zaragoza.
- To boost R+D+i of products and efficient solutions for water and energy (associated to the water use) consumption.
- To develop new technological solutions that are marketable on both national and international levels.





Both the cluster development and Waterlabs project should increase the innovation potential of the business sector, and identify RTD projects for the Research Centres. This is relevant for developing countries in two ways:

- Launching Research and Technology Development projects for water solutions.
- Favouring the cluster working methodology which involves joining efforts between the research sector, business sector and local and regional authorities.