



DesignACT

Impact Evaluation Plan

Alexandra Neyts, Leif Magne Sunde

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Preface

The impact evaluation plan is a deliverable under the management activities of the 6th Framework Programme Design Study DesignACT, as specified in Annex 1 of the contract nr. 0011978. The report relates to the impact the project has had on a strategic, economic and political level. It also aims to estimate the potential impact of the planned research infrastructure on innovations in sea-based aquaculture.

1. Introduction

The expected impact of the DesignACT project was to translate the needs and demands of the European aquaculture stakeholders for technology and engineering developments into facilities and services, taking into account the local environment. On a time scale extending beyond the period of the project, the results will be directly used towards the construction of a European large-scale aquaculture engineering research infrastructure. Its aim will be to facilitate interdisciplinary research and to generate high-quality data leading towards the development of new tools, instruments, systems, management and operational methods that can foster:

- a more efficient production of fish and shellfish
- the production of safer and high-quality products
- better animal welfare
- a safer working environment
- lower impact on the surrounding marine environment (for example through reducing the risk of escapes)
- the use of the best suitable production sites, including those in exposed areas
- a better monitoring and documentation of the production processes
- the development of European standards for sustainable sea-based aquaculture

Whereas it is impossible for Europe to become the largest aquaculture producing region in the world, it is the ambition to obtain the leading position when it comes to development and manufacturing of sea-cage aquaculture engineering tools and instruments. The opportunities offered at the new research infrastructure will be of great significance in this process.

2. Commercial outcome

On 12 May 2006, a new company, called AquaCulture Engineering AS (ACE AS), was founded as a direct spin-off from the DesignACT project. The company had a total value of about 328 750 € in the form of 2630 shares worth 125 € each. The main owners are institutional, such as the municipalities of Bjugn and Ørland, the county of South-Trøndelag and the Fosen Regional Council. Other owners are NTNU and SINTEF Fisheries and aquaculture AS, two different banks and regional energy suppliers and developers. Towards the end of the project period, an emission process where SINTEF and NTNU will take over the majority of the shares has been prepared. This will strengthen the research and training profile of the infrastructure and will open the company towards a stronger international involvement. The daily manager of AquaCulture Engineering AS collaborated tightly with the DesignACT management team throughout the project and used its results directly in the quest for the necessary funding to construct and operate the planned facilities. A joint effort resulted into the acquisition of licences to produce 2340 tons salmon annually, which in itself has a market value of almost 10 million €. It is anticipated that, once the first construction stage is finalised, the research infrastructure will have a fixed staff consisting of 5 persons.

3. Internal impact

The project activities were carried out by staff belonging to the two project partner institutes, NTNU and SINTEF. Due to the interdisciplinary character of the project, researchers with a wide range of expertise were involved, such as marine and building engineers, biologists, economists, architects and designers. About 30 % of the contributing persons were younger than 35 years, one of them having delivered an MSc thesis within the field of architecture. The share of female staff involved in the project was almost 30 %, and the general management of DesignACT was also in the hands of a female staff member.

Both issues are considered to be important in the field of aquaculture engineering.

Recruitment of young persons is becoming a growing hindrance for the further development of the sector.

The DesignACT project had a positive impact on recruitment through creating interest in aquaculture engineering among young persons, females and researchers from other scientific fields. This impact was merely limited to the partners of the project. It was nevertheless experienced that, since the start of the project, the partners as well as the field of aquaculture engineering obtained a clearer position in the European aquaculture research landscape.

Both partner institutions supported the design study through considerable own efforts. The planned aquaculture engineering research infrastructure was included in the strategy plans and in the list over prioritised laboratories at both NTNU and SINTEF. An ownership of 5 % each of the company ACE is about to be extended to 51% for SINTEF and 16 % for NTNU. This illustrates the dedication of both partners to the project vision and its realisation.

4. Collaboration

Throughout the project, meetings among the members of the management team took place approximately once a week. At these occasions, different issues related to the daily running of the project were discussed, such as the status of the project tasks, the time schedule of the planned activities, the quality of the obtained results and draft deliverables, possible dissemination actions, and potential collaborations. This resulted in a stronger cooperation between the two partner institutes, NTNU and SINTEF, not only among the management team and Project Monitoring Group (PMG) members, but also on the director's level. During the course of the project, the institutions developed a common strategy, with the aim of being among the world's five top research and education centres in the field of aquaculture engineering. The establishment of a unique large-scale test facility fits well into this strategy. Input from other European regions and stakeholder groups was delivered through the involvement of the International Advisory Group (IAG). Besides the designated IAG meetings that were organised at three occasions during the project, its members were informed about the project results through e-mail communication, the web site and personal encounters at aquaculture conferences or workshops. The feedback provided by the IAG was highly valued. It also stimulated a more structuring collaboration, resulting in joint initiatives towards the European Commission's 7th Framework Programme (CASAqua), the European Aquaculture Technology Platform, the Offshore Aquaculture Technology Platform and the European Strategy Forum for Research Infrastructures (ASSA).

5. Impact on policy

On a national level, the project has led to a strong involvement of the Norwegian Research Council in the structuring of existing and planned aquaculture research infrastructures. The “Advanced Sustainable Sea-based Aquaculture” (ASSA) initiative for the formation of a consolidated European aquaculture research infrastructure network was endorsed by the Norwegian Ministry of Research and Education. The suggestion to raise a national fund of which 100 mill € could be used annually to support the creation of necessary research infrastructures and the upgrading of existing ones was launched. The aquaculture initiative taken by NTNU and SINTEF would in this case receive a prioritised position on the national roadmap for research infrastructures.

The process of obtaining licences for the large-scale production of salmon for RTD purposes was both long and complex. A tight communication with the Directory of Fisheries, which is the national institution in charge of licence supplies, was required to achieve the necessary result.

A coastal development plan for the Mid-Norwegian region was developed. In this plan, the new research infrastructure for aquaculture engineering was given a central position, due to its potential impact on the region’s labour market, activity level and general attractiveness. The new company ACE has already received considerable financial support from the state owned company Innovation Norway, which offers products and services intended to help boost innovation in business.

6. Feedback from potential users

The project’s first work package was principally dedicated to a mapping of the aquaculture stakeholder’s needs and requirements regarding technological development. The results of the inquiry were used as a basis for the definition of the facilities and services to be offered at the new research infrastructure. With an even spread between respondents from the industry and from the research community, and with representatives both from Northern and Southern European countries, the results were considered as representative for the potential users of the future research infrastructure.

The members in the IAG and PMG were engaged into the project in order to fill the role of evaluators and input providers along the different stages of the project. They represented different stakeholder groups (industry, research community, organisations, educational institutions), European regions (Eastern and Western Mediterranean, Southern and Northern Atlantic), and fields of expertise (aquaculture, marine technology, biology, ecology, energy, production design). Discussions with the IAG resulted amongst others in the proposal to establish satellite facilities for engineering experiments for species.

Elaborations on the outcome of the design study at scientific and branch conferences have proven to be an efficient way to collect feedback from potential future users. During the international conference AQUA 2006 in Florence, Italy, a specific DesignACT forum was organised during the Open ocean aquaculture session. A major part of the seminar was dedicated to debate and discussions regarding the technological needs and challenges in sea-based aquaculture, providing an important input to the project at an early stage.

The arena of the European Aquaculture Technology Platform was also very valuable in this respect. Together with a member of the IAG, the project manager was proposed to chair the specific Working Group on research infrastructures, which is expected to start its activities during the course of 2009. The Working Group would be a considerable contribution to a further structuring of the aquaculture European Research Area, and thus to a better and more efficient use of unique research facilities. Other networks that have supplied occasions for significant input from stakeholders are the European project Consensus¹ and the Norwegian arena for aquaculture engineering and technology discussions, Tekmar².

¹ <http://www.euraquaculture.info/>

² <http://www.tekmar.no/>