



BY PATRICK SMITH

Hitting the target

Engagement between academic research and industry will hasten next generation products

European aquaculture production provides direct employment to more than 65,000 people and has a turnover of approximately three billion Euros per annum.

However, the lack of authorised veterinary medicinal products, and the consequent disease outbreaks in farmed fish species, costs the sector approximately 20 per cent of its production value.

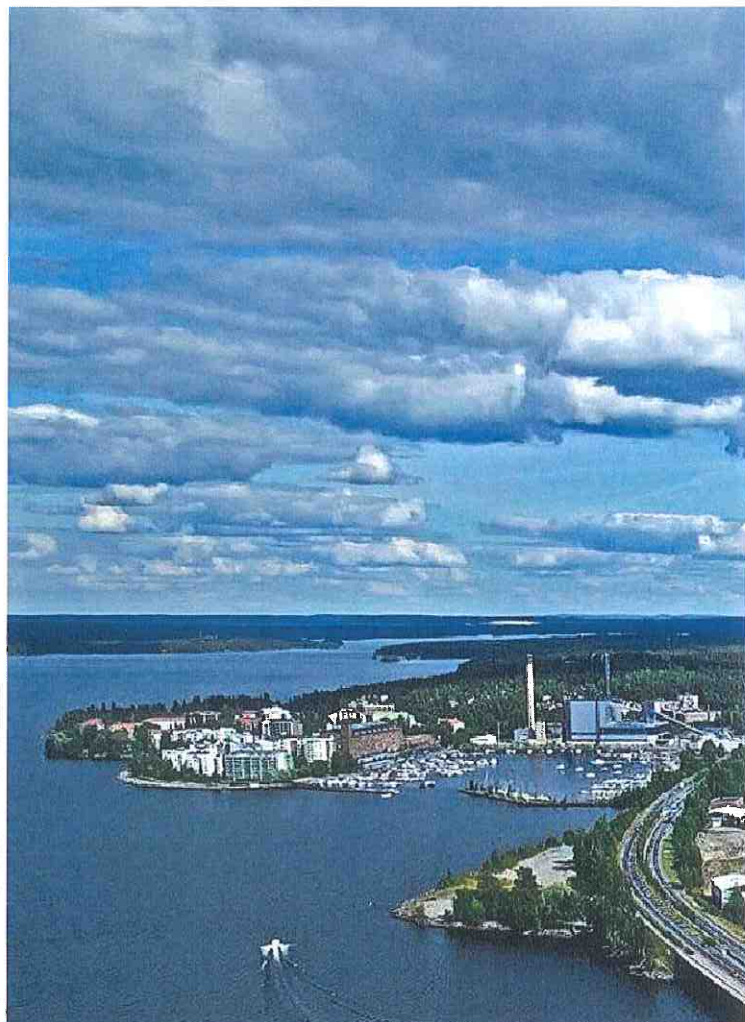
The most appropriate method for disease control, both on economic and ethical grounds, is disease prevention by vaccination.

An EU-funded project – TargetFish – addresses this problem by improving existing, and developing new, prototype vaccines against the most socio-economically important viral and bacterial pathogens of farmed species such as Atlantic salmon, rainbow trout, common carp, sea bass, sea bream and turbot.

The project is developing targeted vaccination strategies for currently sub-optimal and for novel vaccines. Improved vaccines will be brought closer to industrial application by addressing practical issues such as efficacy, safety and delivery route.

TargetFish is also establishing a knowledge and technology base for the rational development of 'next generation' fish vaccines.

To achieve these challenging goals, the TargetFish project has brought together 29 partners from 11 EU member states, two associated countries and one international cooperation partner country (ICPC).



Above: Tampere, Finland

In this large multi-disciplinary consortium, an approximate equal number of RTD and SME partners are cooperating closely, while keeping close communication with the large aquatic animal health and nutritional industries via an industrial forum.

Specifically, TargetFish aims to: generate knowledge by studying antigens and adjuvants for mucosal routes of administration while analysing and underpinning protective immune mechanisms; validate this knowledge with response assays for monitoring vaccine efficacy and study safety aspects, including those associated with DNA vaccines; approach implementation of prototype vaccines by optimising vaccination strategies, thus; shortening the route to exploitation.

As such, this project will greatly enhance targeted disease prophylaxis in European fish farming. The industry co-ordinator for the TargetFish project is Tethys Aquaculture.

The first TargetFish industry forum was held at the 16th international conference of the European Association of Fish Pathologists (EAFP) in Tampere, Finland, in September 2013.

The forum was well attended by representatives from both the aquaculture and the aquatic animal health industries and provided networking opportunities between academic researchers and those working in the commercial sector.

It was held after the commencement of the TargetFish project, and therefore performed the function of informing industry of the presence of the project and providing more detailed information on the structure and membership of the consortium and details of the various work packages under the umbrella of the project.

The second industry forum, which will be held on September 10 as a workshop at the 17th international conference of the EAFP, will be three years into the five-year project, and at a time when a number of significant findings crucial to the development of new vaccines and vaccine delivery systems have been made.



“The forum comes at a time when a number of significant findings crucial to the development of new vaccines have been made”

It is envisaged that the forum will encourage engagement between academic researchers in the TargetFish project and industry, and speed up the bringing of new products to market and improve existing products- and help to make EU-funded projects more efficient in their outcomes.

EAFP facts

The 17th international conference of the European Association of Fish Pathologists (EAFP) is to be held in Gran Canaria from September 6-11, 2015.

The EAFP was established in 1979 and has positioned itself as the major applied association in the field of fish pathology/fish diseases, with close links between academic researchers and both the aquaculture and aquatic animal health industries.

Such close links between academia and industry have allowed the association to provide much needed impact to research.

Despite the name ‘European’ in its title, the EAFP is a truly global organisation, with 900 members from 37 countries worldwide.

Some of the key features of the international conferences are: the

venue; the social get-togethers; and the relaxed atmosphere, which allows strong networking between attendees.

The association offers a limited number of student grants, which provide travel bursaries to allow students to attend the conferences and meet experts in particular fields.

Other grants are also available to fund visits to chosen laboratories to learn new techniques, or attendance at more specialised conferences or workshops.

The topics covered during the course of the international conference include: bacterial, viral and parasitic diseases; vaccine and therapeutic development; nutritional diseases; epidemiology; and emerging diseases – all with a very applied theme. There are oral presentations, a large poster session and workshops covering more specific topics.

In addition to the international conferences, which are held once every two years, many of the member countries hold local EAFP branch meetings, where more localised fish disease issues are discussed.

The EAFP also publishes a regular bulletin, which prides itself on rapid turnover of short articles and announcements of recent findings, allowing a more rapid dissemination of new discoveries and thus enhancing the practical and applied aims of the EAFP.

Attendance at the 17th international conference in Gran Canaria is open to both members and non-members, and the association is particularly keen to recruit members by offering a modest membership fee.

For more information on TargetFish email patrick.tethysaquaculture@gmail.com. Details of the EAFP’s 17th international conference can be found at www.eafp.org

Professor Patrick Smith is vice-president of the EAFP and heads Tethys Aquaculture. ■