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GAIN

Green Aquaculture Intensification in Europe

Grant Agreement Number 773330

GAIN Deliverable 6.5
Business to business web-based platform

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Lead beneficiary: Longline Environment Limited (LLE)
Authors: Ferreira, J.G.; Lopes, A.S., Lencart-Silva, J.

WP 4 – Eco-Intensification of aquaculture
Task 4.5 – Setting the compass for good fish

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Summary

GAIN is an EU-funded research project that brings together partners from academia, industry and associations with the primary aim of supporting ecological intensification of aquaculture in the European Union (EU) and the European Economic Area (EEA). The core focus of GAIN is to increase production and competitiveness of the industry, while ensuring sustainability and compliance with EU regulations on food safety and the environment.

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Introduction and objectives

This report describes the dissemination and exploitation activities and initiatives of the Business to Consumer (B2C) and Business to Business (B2B) apps developed in GAIN task 4.4. Deliverable 4.5 (D4.5) details the technology and features of GoodFish (B2C) and SailFish (B2B).

The GoodFish and SailFish applications integrate the knowledge acquired in previous work packages. These applications were designed as tools to improve the traceability of farmed aquatic products and aim at giving consumers more information about aquaculture products in the case of B2C, as well as levelling the playing field in the seafood market in the case of B2B.

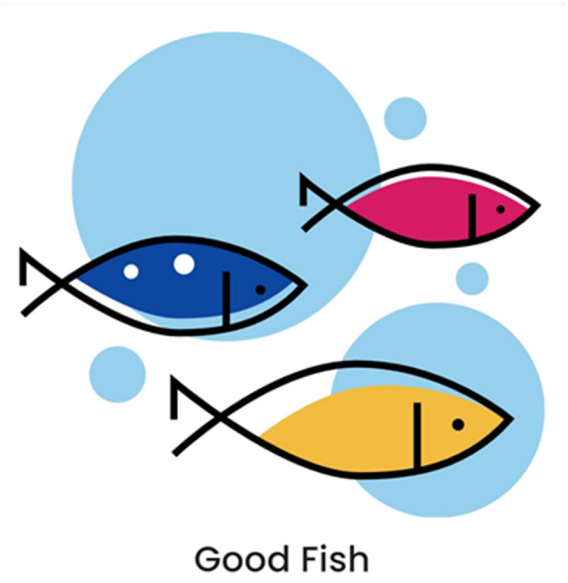

Figure 1. Intro screen for GoodFish.

GoodFish was launched in the final phase of the project in a public virtual conference in the World Food Day, organized by GAIN and co-organized by the 2030 cities project.

GoodFish B2C application

Public initiatives

The '*Good Fish Good Food – drive the transformation towards sustainable food for all'* online conference organized by GAIN, and co-organized by the 2030Cities project, was the launching venue for the GoodFish B2C app.

The virtual conference was held in October (16.10.2021) during on World Food Day, and had the participation of the GAIN community, as well as invitees from other projects, institutions as well as a celebrity chef.

The application was presented to users and a trial run was conducted. A demonstration of the features (detailed in D4.5) was done in the presentation, and a Q&A was held.

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The core objective of GoodFish – connect consumers to aquaculture products – was promoted during the venue, and the higher-level vision of GAIN, aquaculture eco-intensification, is also disseminated by GoodFish.

The GoodFish meeting had been a cornerstone of the GAIN dissemination strategy, planned to bring together industry practitioners such as farming companies, feed producers, and celebrity chefs, the specialty press, and scientific and technology representatives for a 2-3 day meeting to be held at an emblematic location such as the Veta la Palma farm in the Doñana National Park, Spain. GAIN partner LLE and GAIN supporting celebrity chef Chris Haatuft (Lysverket Restaurant, Bergen, Norway, http://lysverket.no) visited that location just prior to the submission of the GAIN proposal in order to discuss with the management the concept of a multi-actor meeting celebrating GoodFish.

The narrative was (and is) simple, as presented by LLE in the virtual meeting on World Food Day 2021:

What is a good fish?

A good fish can be farmed or wild-caught. Four things define a good fish:

Consumer Experience: how does it taste, how can you cook it, is it good for specialty dishes like sushi, sashimi, or ceviche?

Nutrition and Well-Being: is it rich in Omega-3 oils, zinc, manganese, biotin? Is it good for brain development in children? Joint pain or cholesterol in older people?

Figure 2. GoodFish presentation banner.

Environmental Sustainability: is this fish good for the environment? Is it grown sustainably, in harmony with the world around it?

Welfare: did this fish live a happy life, eating well, with water conditions suitable for its habitat?

A TED talk combining the experience of Prof. Patrick Sorgeloos, GAIN scientific adviser, and the charisma and enthusiasm of Chef Chris Haatuft, was planned to be one of the high points of the Veta la Palma meeting.

Unfortunately, the expected projection of high quality aquaculture, which included tasting menus prepared by top chefs from Europe and North America, was cancelled because of the COVID-19 pandemic and ensuing lockdowns and travel bans.

As a result, the majority of the funding was redirected towards the AquaPet work, described in Deliverable 6.9, an additional deliverable to designed to provide an exploitation route for

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GAIN products (in this case secondary products for bass and bream and the use of partial hydrolysates for petfood), and which was agreed as part of the Grant amendment approved in early 2021.

Nevertheless, the GAIN GoodFish application was developed as planned, and has been showcased to potential users in the consumer food sales sector. The target markets are high-end retailers with a fresh fish counter, fishmongers, fish restaurants, particularly those with display cases, and online seafood retailers.

Here again, COVID-related restrictions to travel and presential meetings, prolonged restaurant closures, supermarket access restrictions, and other obstacles have been less than helpful in disseminating the application—as was found recurrently in the latter half of this project, there were significant challenges in taking forward the results to target audiences.

This does not mean that GoodFish will not be projected as part of the GAIN legacy programme, and some headway has already been made in discussions with retailers.

Collaboration with retail

To date, two very large European retailers have been contacted in order to establish a collaboration for deploying the GoodFish application in the fresh fish counters of their stores.

El Corte Inglés is the third department store group worldwide, and number one in Europe (https://www.abc.es/economia/abci-corte-ingles-sube-podio-mundial-grandes-almacenes-201808290103_noticia.html), with a turnover of over ten billion euros, and an EBITDA of 142 million €. The group's stores commercialize a wide variety of products, and include specialty, high-end supermarkets that sell wild-caught and farmed fish and shellfish.

The Spanish group was the first to be approached by LLE to present GoodFish, and an interest was shown by the group to implement and use the QR codes and app in their fresh counters. Figure 3 shows one of their counters—the tag for the turbot on display refers only that the fish are cultivated in Spain.

Throughout Europe, consumers only have access to the following information at a fresh fish counter: species name, type of origin (aquaculture/capture) and geographic origin (country, ICES region), which is extremely limiting.

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Figure 3. Cultivated turbot and gilthead bream for sale in El Corte Ingles (Lisbon area, Portugal).

The GoodFish app aims to place an additional piece of information on the tag. The text below is abridged from the documents discussed with both El Corte Inglés and the second group with whom we are presently in contact, Jerónimo Martins, a Portuguese vertically-integrated supermarket group with a turnover of 12 billion €.

The first key action point is this connection, i.e. establishing whether there is mutual interest in deploying such an app, generating the QR codes for the retailer to do the labelling, etc.

Following this step, we can discuss in more detail where this would be tested – we would tentatively prefer to focus on one store, to gauge customer uptake.

At a further development stage, if we were able to link up with one of your farms, we could introduce a more detailed connection in some cases, showing animal welfare for scores e.g. for suitability re: water temperature, establishing that the animals were reared sustainably, which is a key metric for Generation Z and Millennial consumers.

Fig. 1. Scan the QR code to learn more.

Figure 4. An excerpt from the text discussed with Corte Ingles and Jeronimo Martins for deployment of the GoodFish app. The QR code shown in the figure is fully functional and can be scanned and browsed with any smartphone camera.

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Jerónimo Martins operates the largest supermarket chain in Portugal (Pingo Doce), and owns the Biedronka supermarket chain in Poland. In addition, the group runs the Ara chain in Colombia, with a turnover of 854 million euros (https://www.jeronimomartins.com/pt/sobre-nos/onde-estamos/jm-na-colombia/).

Our contacts with El Corte Inglés were with supermarket managers and with the director for food quality, Portugal. With Jerónimo Martins, GAIN met with the director of IT for the whole group, and the materials prepared are currently being reviewed by the marketing head for Pingo Doce, the market leader in Portugal (432 stores).

At a second stage (part of the legacy programme) a testing location for the application is to be decided. We envisage a link to farms owned by Jerónimo Martins Agro (part of the larger group); because the group is vertically integrated, it is easier to implement farm to fork traceability, potentially combining the AquaSense platform (see Deliverable 6.6) with GoodFish to display environmental sustainability and animal welfare scores based on data retrieved by sensors and modelled growth and environmental effects.

In this context it is worth noting that environmental effects such as feed waste and undigested food are difficult and expensive to measure, and therefore well-tested and validated models are extremely valuable tools to provide indicators of sustainability.

Appeal of GoodFish to retailers

A lot of effort was put into the design and functionality of GoodFish to make it appeal not only to consumers but also to retailers themselves. This is a fundamental aspect of retailer onboarding, since supermarkets and other targets will only deploy this application if they see a clear benefit to their business.

Figure 5 shows an example of this functionality. The nomenclature of the items shown is that of the nutritional database referred in D4.5, and businesses are able to see detailed information on each product and to download the respective QR code.

There are a number of benefits to retailers, which were discussed in the meetings that have taken place to date. At present, supermarkets are unaware of the buying record of customers for specific products, except in cases where backend software uses credit or loyalty card systems to associate with purchases. Even in those cases, there are no comparative ratings for goods bought, apart from frequency and quantity, and certainly no knowledge of whether the cooking and eating experiences were positive.

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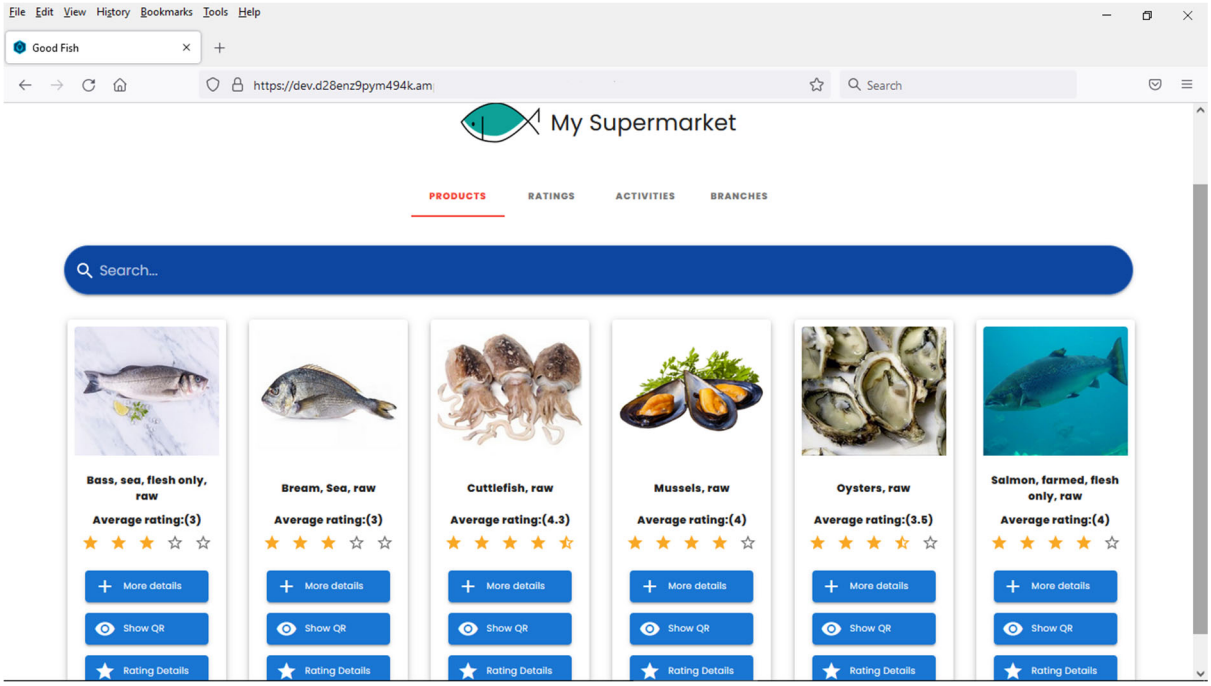

Figure 5. View of business intelligence platform (cloud backend) of the GoodFish app.

This means that in a world of social media thumbs up and star ratings, supermarkets have no idea whether a particular product was highly rated by a customer or not, and the GoodFish app provides a path to increase that knowledge. Retailers can also compare scores from different branches and see how often a particular product is rated and how long it has been since it was last rated.

The challenges involved are also non-trivial, since consumer data protection is a very important issue. This means that decoupling the data collected from the individuals who supplied it is a very important consideration.

Perhaps most important for data retrieval, is the concept that the data are supplied by the consumer, who understands that rating a good fish will help improve product quality, and who in the process becomes more familiar and knowledgeable about the food he or she eats.

As always, the details of bringing the concept close to market are an interesting challenge, but it is only by increasing consumer awareness about the seafood products offered that there can be a paradigm shift in the way we view the fish we eat.

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SailFish B2B application

Overview

Dissemination and Exploitation of the SailFish application is very different from the B2C situation. Interaction between buyers and sellers is a confidential commercial operation, and in supply chains (or more properly supply webs) the upstream and downstream links of the chain nodes (i.e. intermediaries) are known only to themselves. Adjacent nodes are deliberately excluded from this information, in order to avoid the potential elimination of the intermediary or 'middle-man'.

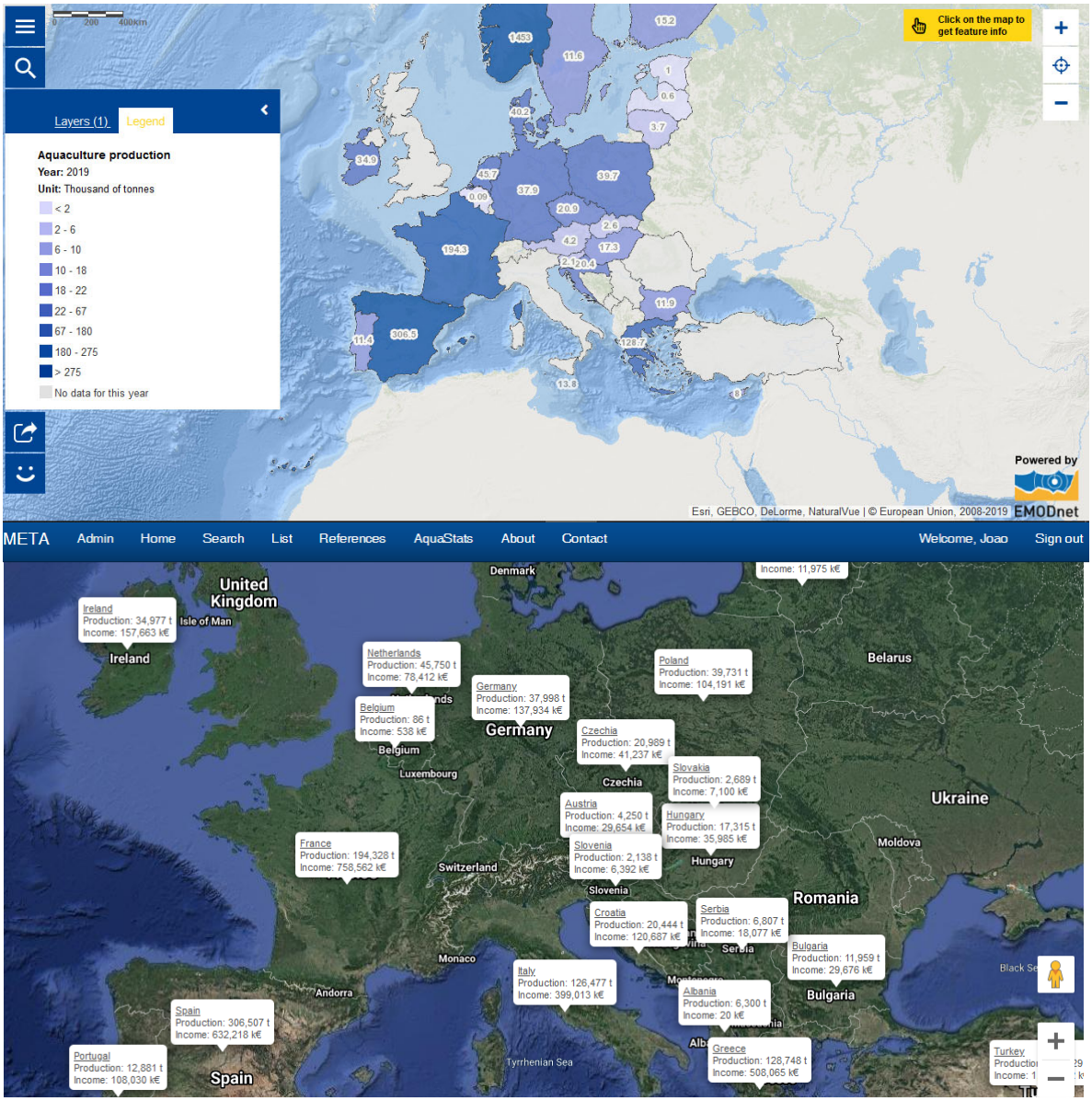

Figure 6. Presently available mapping of European aquaculture (upper pane: EMODNET, lower pane: META[1].

[1] META online application: https://longline.co.uk/meta

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In the seafood industry, this generates long supply chains that dilute value and increase product cost. One of the advantages of the intermediary is the confidence relationship between adjacent nodes of the chain, so that the supplier at the base of the chain is confident of getting paid, and the buyer verifies the quality of the product—although the success of this arrangement is variable.

In order to reduce market 'stickiness', which results in long supply chains and costly goods, GAIN relies on making public in a way that is easy to use, both the origin of different aquaculture products, and the pricing of these products.

Market connection

The first step in the process is to make available the information concerning who is producing what, and where.

At present, there is, as far we were able to ascertain, no mapping solution to help a European buyer access this information. Figure 6 shows two representations of bulk data, i.e. European aquaculture production, one from EMODNET and the other retrieved from the META platform developed by LLE, one of the GAIN partners, using Eurostat web services and Google Maps.

A major step in connecting the opposite ends of the market is the awareness of where production actually takes place. One key challenge for this platform is maintaining a database of producers, given the market is fluid with respect to consolidation, bankruptcies, new investments, and takeovers.

We believe that producers will be interested in being represented on such a map, and will contribute metadata and correct wrong data, if e.g. a company has been bought out or relocated. LLE has extensive experience working with the industry, and GAIN has a number of of industry partners, as well as institutions such as AFBI that work closely with industry. Dissemination of the platform has been taking place through this network, although as with the B2C GoodFish platform, the lack of presential industry meetings has severely hampered this process. Despite the currently common expression of a 'post-pandemic world', we are not entirely confident that this kind of forum, which is of paramount importance for this kind of 'word-of-mouth' dissemination, is now occurring as normal—very few have taken place so far, not least because industry itself is struggling to get back on its feet after an economically challenging period.

Nevertheless, we will leverage forthcoming events such as the 7th edition of the Dutch Shellfish Conference (https://schelpdierconferentie.com) to publicise SailFish and encourage participants to browse the https://aquamart.tech site where it is hosted.

The existence of the SailFish app, both for mobile and desktop platforms, will allow buyers further along the supply chain to understand the origin of seafood products, and to make contact with producers, at the very least for enquiries. We recognise that this will take place as part of the GAIN legacy, but Longline is committed to maintain the platform and has

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developed a business strategy in order to succeed in this objective, by including it in a framework where producers can choose to become users of AquaPrime (see D6.8) to improve their business management. Some of those users in turn will be interested in either deploying sensors on their farms or associate existing sensors with the AquaSense application (see D4.5 and D6.5).

In combination, this framework will be a powerful instrument in attracting other players to the market, and our ambition will be that there will be an increase in direct sales that reduce supply chain length and costs. During the pandemic, a number of producers began selling directly as supply chains halted, and this paradigm shift will help SailFish be successfully exploited as an eco-intensification tool.

Conclusions

The main objective of this brief report was to outline our vision for dissemination and exploitation of two GAIN products that aim to bring aquaculture closer to both consumers and business users, to explain how we have tried to set a course toward that aim despite the difficulties of the past year and a half, and to provide an overview of the various key steps that we believe must be taken as part of the GAIN legacy to make these objectives come to fruition, explicitly considering the fact that with project funding limited to the grant period, we must develop financial vehicles to support these goals. LLE will be responsible for taking this forward as part of the GAIN legacy, and we have a proven track record in successfully developing and maintaining applications that have consistently improved the interaction between the aquaculture industry and cutting-edge technology based on sound science.

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