Innovation Fund continues to support a sustainable future for UK Seafood Sector

£7.6 million from the UK Seafood Innovation Fund has been awarded to 57 projects hoping to transform the future landscape of the UK seafood industry. The most recent round of funding supported 26 projects and offered insight into a resilient, innovative industry looking beyond the challenges of the Covid-19 pandemic.

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The UK seafood sector has experienced an influx of innovation, as the second round of projects funded by the UK Seafood Innovation Fund are underway. More than £3.3M was awarded during the latest round of funding from the UK government programme. Each of the 26 projects have been awarded between £24,900 and £250,000, to support innovative ideas designed to improve the sustainability and resilience of the UK fishing, aquaculture, and seafood sectors.

Professor Fiona Lettice, Chair of the UK Seafood Innovation Fund Steering Group and Pro-Vice Chancellor of Research and Innovation at the University of East Anglia said:

> *"We were overwhelmed with the number and diversity of applications we received to our second funding call. Through a highly competitive process, we have funded a brilliant group of innovative projects that we hope can make a significant contribution to the future sustainability, profitability and efficiency of the UK seafood sector."*

The successful projects address diverse issues across the UK industry – with ten focusing on innovation in aquaculture, eight tackling the future of UK fisheries, and six aiming to improve seafood processing and the supply chain. Other projects are investigating sustainable energy for the fishing and aquaculture sectors, challenges in the underdeveloped seaweed market, and seafood product traceability.

Many of the projects are hoping to use new and emerging technology to improve the sustainability, profitability and efficiency of the UK's £987 million fishing industry. A feasibility study led by Two Brothers Fishing in Devon has investigated the extent to which the inshore fishing industry could be powered by electric and solar energy – reducing the industry's reliance on diesel for fuel. Fishing out of Brixham Harbour, this sustainability-focused enterprise has been trialling the use of an electric motor on their inshore vessels. They have also been investigating the feasibility of more eco-friendly traditional Cornish

crab pots, made using responsibly-sourced willow. The concept of a dual sustainable fishing system, whereby steps are taken to improve the environmental credentials of both energy use and fishing gear, has been tested and proven to have great potential for inshore vessels. The ability to fish with lower fuel costs whilst fetching higher market prices could lead to an improved economic situation for many inshore UK fishers.

Fisheries Minister, Victoria Prentis said:

> *"The Seafood Innovation Fund plays an important role in ensuring we have a profitable and sustainable fisheries industry for generations to come.*
>
> *"These projects highlight the diverse range of innovative ideas from all across our fishing, seafood and technology industries. I look forward to seeing these exciting projects come to life."*

Another project, led by the University of St Andrews, is working with the Scottish inshore fishing industry, and hopes to perfect a prototype device that uses machine learning to automatically identify the size and sex of brown crabs and lobsters. Once finalised, the team aims to install the device on Scottish inshore vessels so they can collect data about the stocks of these shellfish, and ultimately inform future fisheries management decisions.

To support the burgeoning UK aquaculture industry, projects funded by the UK Seafood Innovation Fund are investigating innovative aquaculture solutions, with many seeking to improve the health of farmed fish and shellfish. A team led by the University of Wales in Bangor have determined how precision nutrient strategies – optimising feeding regimes on aquaculture farms – could boost immunity and improve health of farmed fish. By profiling the microbiomes inside fish digestive systems, the group have determined that fish feeding patterns do indeed impact fish health, and by optimising the fish-feed conversion ratio, the efficiency of aquaculture farms can be improved.

Transporting sustainable UK seafood to the plates of consumers in an environmentally friendly way is often an overlooked part of the process, and there is continual scope for innovation within this sector. The UK Seafood Innovation Fund has funded several forward-thinking seafood processing and supply chain projects. One such collaborative project led by Emagine Packaging, based in Kent, has been searching for a viable alternative to expanded polystyrene foam and expensive eco-innovative packaging alternatives. The team have tested packaging characteristics, such as thermal performance and physical properties, and have co-created a distinctly innovative biomaterial with thermally insulating properties and novel structural design features. The team additionally conducted a life cycle analysis to compare the carbon footprint of this novel material with those currently in use.

To improve the accuracy of shelf-life labelling, BlakBear Ltd are developing an innovative low-cost sensor that can be incorporated into seafood packaging and can measure the freshness of seafood. The project hopes the sensors will ultimately extend seafood's shelf-life, therefore reducing food waste and

minimising associated environmental impacts, whilst improving economic returns for the seafood industry.

Since its inception, the UK Seafood Innovation Fund has now supported 28 feasibility studies in testing novel, innovative ideas at the early stages of development. Five of the 14 feasibility projects funded in the first round in 2019 have demonstrated excellent potential to benefit the UK seafood sector – with the creation of new markets and jobs, and improved productivity through sustainable methods. An additional £1.2million has now been awarded across these five projects, to continue their research and development over the next 12 to 18 months.

One of these projects, led by R3 IoT Ltd, a Glasgow based communications technology provider, are developing a smart, web-based platform that enables precision fish farming. The team hopes to use the technology to turn large amounts of raw sensor data from fish farms into valuable, actionable intelligence to better inform management decisions. The combination of farm sensor data and external datasets, including satellite imagery, will provide the highest quality information for aquaculture sites.

To work towards the continual improvement of the UK Seafood Innovation Fund throughout its life, an independent evaluation is being conducted alongside the full 3-year programme. Spring 2021 marks the second anniversary of the launch of the programme, and the evaluation team have recently delivered recommendations to guide the programme's evolution. Though it is currently too early to assess the full impacts of many projects, initial findings are positive and evidence from consultations across the sector indicate that the innovations awarded funding are delivering the anticipated objectives - kick-starting a step-change in innovation across the UK seafood industry.

At the start of 2021, 31 newly-funded projects joined the cohort, which now totals 57 projects funded by the UK Seafood Innovation Fund over the past two years. This wide-ranging compilation cements the UK government's programme as a key driver behind innovative research and development, focused on transforming the future of seafood.

Visit the UK Seafood Innovation Fund Website to learn more about these exciting projects: www.seafoodinnovation.fund/projects.

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Notes to Editors:

- The UK Seafood Innovation Fund is administered by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) on behalf of the Department for Environment, Food and Rural Affairs (Defra), for the UK Government.
- See the UK Seafood Innovation Fund Twitter account from 24th to 31st May, for a series of films celebrating the innovations made possible by the fund.

- Details of all projects funded in 2019 and 2020 are available on our website: https://www.seafoodinnovation.fund/projects/
- If you require additional images, please contact us.
- Communications for the UK Seafood Innovation Fund are provided by Mindfully Wired Communications, a small but mighty communications consultancy focused on blending art with science to share a story of sustainability and inspire change. https://www.mindfullywired.org/