INFOFISH speaks to …

GABRIEL GOMEZ CELAYA

***General Manager**, Marine Instruments (Spain)*

It was reported that Marine Instruments received recognition at the European Business Awards in 2017 (Growth Strategy of the Year), and the Ernst and Young Innovation Award in 2019. Innovation seemed to be a central theme in your presentation at the INFOFISH 16th Tuna Conference held in May 2021, at which time you spoke about several remote electronic monitoring tools that the company has developed with the aim of increasing trust and transparency in tuna fisheries. This question is in two parts:

(a) In your opinion, how does technology contribute to sustainability?

GGC The impact of technology on sustainability is decisive and it would be a long conversation, but what is very clear to me is that technology makes us more productive while spending fewer resources. It's fairer for everyone. At Marine Instruments we have developed a new way of approaching the oceans and their valuable ecosystems, innovating in technology to ensure they remain intact. Just as we talk about smart cities and smart homes, we now talk about smart oceans. Our technology at Marine Instruments, for example, enables more efficient and selective fishing, ensuring sustainable exploitation of the same fishery resources over time.

(b) If you had to choose one remote electronic monitoring tools in terms of innovative design and its efficacy, which would it be, and why?

GGC It may seem opportunistic but I really have to mention MarineObserve, the tool we designed and market at Marine Instruments. MarineObserve is an electronic monitoring system that allows you to record all fishing operations safely and efficiently. The system is based on the recommendations of the European Fisheries Control Agency (EFCA). It has been developed jointly with Archipelago, a leading company in global monitoring programs. It includes a GPS receiver, supports multiple sensors and has up to eight cameras to register fishing operations, catches, bycatches, illegal fishing, transhipments, etc.

It is not easy to create such a complex system for such a complicated environment as the maritime one, and I really think we have succeeded.

What is your opinion about cameras replacing observers on-board?

GGC There is no doubt that cameras are an effective alternative to reinforce monitoring and scientific observation in the fleet. It is realistic to say that it can help to solve a problem that exists; for example, the difficulty that the Spanish tuna fleet is experiencing to embark observers during this pandemic.

In the final analysis, this is a data collection mechanism that provides independent observations of a scientific nature to experts, often with more precision than the human eye, and that helps them and gives them versatility in their planning. So I really think that electronic monitoring is a fantastic way to increase or complement the coverage of observation and certainly results in long-term savings for all parties.

Apart from marine environments and sustainable fishing, we read that the company has begun to diversify into aquaculture as well as security and defence. Could you brief readers on the equipment which have been produced so far for the aquaculture and security sectors, as well as what to expect in the coming years?

GGC As I said before, as the internet of things, smart cities or industry 4.0 are on everyone's lips, we like to talk about smart oceans, a concept that we also apply to aquaculture and drones.

As part of its diversification strategy, Marine Instruments began its foray into the aquaculture sector by developing a smart feeding system with acoustic detection. Since its launch in 2019, the system has been successfully installed in several shrimp farms in Ecuador. This smart feeding system, called the Marine Acoustic System (MAS), is adaptable to most feeders on the market, allowing the traditional feeder to be

transformed into smart equipment. Its utilisation in shrimp ponds highly increases the shrimp growth rate and shortens its production cycle. This way, we have managed to improve the profitability of shrimp ponds by up to 40% and recover the investment in less than two cycles.

Marine Instruments also recently entered into the Spanish security and defense market as part of its diversification strategy. We developed Tunadrone for tuna fishing, then we adapted that technology as we realised it has many things in common with Intelligence, Surveillance, Reconnaissance (ISR) needs. Accordingly , we developed one of our most innovative and pioneering products, the fixed-wing solar powered drone. Its versatility, great autonomy and small size allows the use of these drones in multiple military operations such as surveillance and security, protection and border control, sea search and rescue, maritime protection, environmental management, animal observation, ground reconnaissance and surveillance missions, and target search.

The fixed wing drone, marketed as being useful for military operations, is an adaptation of the Tunadrone which was developed for tuna fishing.

I believe that the great challenge in the coming years will be from artificial intelligence and the use of big data, new ways of dealing with realities that will help us to be more efficient and sustainable, and offering added value to information. But even with everything that is coming, our path will continue to be the same as the one we started out on: to provide clients with solutions adapted to their current and future needs.

Another theme that you touched upon in your presentation was partnerships and working together towards a more sustainable and cleaner ocean. What are the global initiatives that Marine Instruments is involved in and who are your main partners? Also, which of the Sustainable Development Goals are key considerations in the company's corporate planning?

GGC We are involved in numerous activities with different partners and different approaches. I highlight at this moment the one we have with Archipelago in the monitoring strategy mentioned above and also with AZTI, the scientific and technological centre that develops high-impact transformation projects. In specific projects, we have collaborated with NOAA, with NGOs such as Friend of the Sea and The Nature Conservancy, and The Pacific Community (SPC), to name a few that come to my mind at the moment.

I think we are aligned in many ways with the Sustainable Development Goals, being specialists in marine environment goals as we provide cutting-edge and value-added products and technologies grounded in sound science and research. In addition, in 2020 we started the Marine Ecolife project that consists of the implementation of a series of actions and internal and external measures, as well as the support of initiatives and projects for the reduction of plastics in the oceans.

Still on the subject of partnerships, one can assume that private-public collaborations are most effective when they resolve an issue that is seen as critical to business continuity as well as for broader goals - in other words, the collaboration must be good for society and good for business. What do you see will be Marine Equipment's evolving role in contributing towards corporate ocean responsibility in accordance with Vision 2050?

GGC At Marine Instruments, I like to remind my team that when we talk about sustainability, we are not only talking about the environment, there is also a social and an economic derivative. How can we be more efficient and effective, without raising costs, so that everyone has the same access to sources, to food, and to information. I believe that this is a perspective that is in line with Vision 2050 and it is one that we at Marine Instruments are continually thinking about.

And finally, in your opinion, how can companies do more to help in creating a more environmentally and socially resilient fisheries industry (resources, markets, people) not only during this pandemic, but also potentially the next major global challenge?

GGC To be honest I feel more comfortable talking about what is really in our hands at Marine Instruments, and what we ourselves can do to help achieve more sustainable fishing; this is a commitment that must be constant. At this point I feel confident that our products help in one way or another to conserve marine resources, and that we are talking about tangible and measurable results. For example, the buoys we produce help to catch tuna more efficiently and reduce the carbon footprint, the electronic monitoring equipment helps to increase trust and transparency, the drone helps to reduce fuel consumption, and our oceanographic software allows for more efficient fishing.