

# 5 QUESTIONS TO REAR ADMIRAL PETER SPARKES, ACTING CEO AND NATIONAL HYDROGRAPHER, UK HYDROGRAPHIC OFFICE (UKHO)

## Hydrography Sector Should Have Stronger Focus on Customers' Needs



*Hydro International spoke to five leading experts about the present and future of the hydrographic industry. In this interview, Rear Admiral Peter Sparkes (UKHO) talks of the exciting period of innovation and technological development that we are currently going through, and how important it is to embrace change and adapt to thrive.*

***2020 has been an extraordinary year.***

***What are the impacts of Covid-19 on the hydrographic industry, and what other factors have influenced the business?***

Covid-19 had a significant impact on the hydrographic industry and the wider maritime sector, with so many factors creating a real risk of disruption. This could have had serious consequences for all those who rely on accurate hydrographic data – first and foremost for the safety of life at sea. Despite these challenges, I have seen extraordinary resilience within the international hydrographic community as experts across the profession have continued to support the safety of seafarers. The impressive collective response in the aftermath of the catastrophic explosion in Beirut evidences this well.

For the [UKHO](#), the sudden need to change how we work was a significant challenge. Notwithstanding this, and despite the extremely difficult circumstances, over 80% of staff were working successfully at home just three days after the UK government's social distancing measures came into force. Working alongside our partners, we have been able to provide a continuous service to those who depend on us, including commercial shipping, the Royal Navy and marine communities around the world. I'm immensely proud of the professionalism, dedication and ingenuity of all our staff who have worked tirelessly to support the maritime community during a most demanding year.

***When it comes to technological developments, how would you describe the current state of the hydrographic industry?***

We are witness to an exciting period of innovation, with an increased focus on our marine economies and the oceans, driving technological development across the industry. Significant advances in remote, airborne and vessel-based sensors are helping to improve the timeliness, quality and quantity of data, supporting a better understanding of the marine environment. Through our own programmes, we've been able to use many of these outputs to conduct, or help our partners conduct, automated habitat mapping of features such as mangroves and kelp, as well as assist in coastal resilience planning, environmental protection and sustainable development.

Advances in satellite-derived bathymetry are also opening up remote, inaccessible or hazardous areas to surveying. This is significant, as we can now generate new insights and offer better decision support to some of the world's most isolated coastal communities.

I sense that we are only just beginning to realize the benefits of these new technologies. As our innovation, protocols and processes develop further, the pace of these advances may accelerate.

***How do you expect hydrography to evolve over the coming years?***

More governments and regulators around the world are recognizing that our inshore waters and oceans are critical to many aspects of our day-to-day lives. In tandem, there is a growing understanding that hydrography will be fundamental to helping us improve the way in which we use and protect our fragile marine environment.

With this growing understanding, I would expect demand for hydrographic and oceanographic expertise to increase, as this expertise plays a key role in initiative development, policy definition and action, which can transform our relationship with the sea. We have already seen this with the [UN Decade of Ocean Science for Sustainable Development](#), where hydrography and marine geospatial data will play a foundational role in supporting the responsible use of our coasts and oceans, protecting at-risk marine environments, fish stocks and vulnerable coastal communities.

With this increased demand, I hope to see increased investment in the industry, and for technology to continue to develop at pace. This is hugely exciting and, over the coming years, we will see the role of marine geospatial data expand as we enhance our surveillance capabilities and efforts, embrace new technologies and enhance maritime decision support.

#### ***In what ways can the hydrography sector learn from other industries?***

Much like other established industries, hydrography is witness to a world that is changing at pace. Those that embrace change tend to thrive, so it's important that we continue to evolve: becoming more agile, willing to embrace innovative ideas, and even more responsive to the needs of our customers. This last point is crucial; we need to continue to respond positively to the challenges that lie ahead, developing our skills and services to meet the ever-changing needs of those who work in the maritime environment.

The arrival of autonomous vessels and the requirement for high definition, machine-readable navigation products, coupled with the advent of the S100 ecosystem of products and services are some of the key developments that will require this forward-thinking approach. This may be an uncomfortable period for some, especially for those who find it difficult to relinquish legacy practices, products and services. We must acknowledge this and help the maritime community to embrace this inevitable change. As an 'ancient mariner', I am really enthused by what the future has in store for the sailors, data scientists and surveyors of tomorrow.

#### ***What opportunities and threats do you see for our profession?***

The core challenges facing hydrography today relate to how we can handle, process and assimilate the vast quantity of data we are now gathering; it represents a step change in the volume and quality of data we have handled in the past.

This is where we must embrace the role of emerging data science. Artificial intelligence and machine learning are automating manual processes and increasing our ability to analyse data more rapidly and efficiently. These technologies allow teams to focus more on scrutinizing and adding value to the data we collect, so that we can enhance the decision support we provide to the mariner, while still maintaining the highest standards of quality and accuracy.

The threat is inertia – a reluctance to change. If we do not adapt, other industries will and our collective authority as a profession and the utility we provide will be usurped.

*Rear Admiral Peter Sparkes is interim chief executive and national hydrographer at the UK Hydrographic Office (UKHO). Peter leads this world-leading centre for hydrography and marine geospatial data, working with the Executive Leadership Team, staff and partners to ensure that the organization supports 'safe, secure and thriving oceans'.*



*Rear Admiral Peter Sparkes, Chief Executive at UK Hydrographic Office.*