



## **Nippon Foundation Alumni Seminar 2023**

### **Rear Admiral Angus Essenhigh, UK National Hydrographer, UK Hydrographic Office**

- a. Good morning, everyone. My name is Rear Admiral Angus Essenhigh, and I am the UK National Hydrographer.
- b. It is a great pleasure to be here in London representing the UK Hydrographic Office for the IHO-Nippon Foundation Alumni Seminar, which brings together past participants of the International Hydrographic Organization's nautical cartography course.
- c. Like all of you, we believe that the course is instrumental in helping train and develop cartographers working for hydrographic offices around the world who turn data into maritime charts and products that support safety of life at sea. Myself a mariner, I have first-hand experience of the importance of quality data you can depend on for efficient and safe navigation.
- d. It's wonderful to see you all here today for the start of the three-day event, for what I am sure will be a thought provoking and insightful seminar.
- e. I would like to take this opportunity to welcome some of our esteemed speakers; Rear Admiral Luigi Sinapi, IHO Director; and Dr. Diane Dumashie, FIG President to London and Mitsuyuki Unno San, Executive Director of The Nippon Foundation, who, on behalf of us all, I would like to extend our collective thanks in supporting this project and the prestigious alumni.
- f. The UK Hydrographic Office are proud to deliver a course that supports the GEOMAC Project and makes a significant difference to Hydrographic Offices around the world. The course, was set up to provide nautical cartography education and training for technical personnel, enabling them to build their skills and knowledge in



navigational chart production. These skills and knowledge learnt are still relevant today in an evolving maritime environment.

- g. We are thrilled to host this seminar, giving past participants – who as well as being part of the IHO-Nippon Foundation Alumni community, are members of the UKHO family – the opportunity to come together once every three years to spend time with friends, former classmates, and fellow alumni members, sharing in experiences and future aspirations.
- h. It is also an opportunity to celebrate your successes; since taking the course, many of you have flourished in the world of hydrography and cartography – and some of you have taken up leadership roles in your pursuit to improve our industry.
- i. Your collective achievements are driving the future of navigation and helping maritime stakeholders to develop more sophisticated digital products, better ways of data sharing and enhanced training programmes.
- j. Since its inception in 2009, GEOMAC has grown into a global community of cartographers with 90 fellows from more than 50 countries. As members of this community, your contribution to hydrography and to helping overcome the navigational challenges that seafarers face can never be underestimated. Your ability to create incredibly detailed charts using hydrographic data enables mariners to sail the world's oceans as safely as possible.
- k. We must also acknowledge that the vital role cartographers play is, like all aspects of maritime, being reshaped by digitalisation.
- l. The use of traditional paper charts that many of us are used to is declining sharply as shipping companies become increasingly reliant on digital navigational tools. We are also seeing some incredible technological advancements such as AI and autonomous vessels, which promise to further transform our sector.



- m. How we gather and share data that supports the development of the blue economy, maritime security and environmental protection initiatives is also changing. The transformation is supported by the implementation of the S-100 data standard, the International Hydrographic Organization's next generation framework for marine data products such as high-resolution bathymetry, surface currents, marine protected areas and electronic navigational charts.
- n. The UKHO is playing an active role in implementing S-100, which supports a range of maritime data applications, including imagery and gridded data, high-density bathymetry, under-keel clearance management, surface currents, marine GIS, web-based services, and much more. It also provides enhanced situational awareness and improved marine traffic management, helping seafarers to make better navigation decisions enabled by the improved granularity of bathymetric data.
- o. Irrespective of how marine data changes in the coming years, understanding its value is intrinsic to UKHO's core purpose. It's why we believe so passionately in the capacity building and training that we are set to discuss over the next three days.
- p. The challenges will be large, but the opportunities are endless. We are already starting to see how nautical cartographic skills will underpin the transformation of the ocean economy, such as in the development of digital twins.
- q. A digital twin provides a virtual model of a physical environment and uses live data feeds to accurately replicate conditions in near real time. This can provide Hydrographic Offices with virtual environments, such as a port, to test new ideas without the need for disruptive and costly physical tests.
- r. At the UKHO we continue to explore digital twins as we believe these models will play a key role in supporting maritime innovation. Digital twins will help us to further understand the marine environment, it is significant to acknowledge that the



GEOMAC course program now includes an introduction to digital twins and explores Autonomous Shipping.

- s. In addition to this, the UKHO helped launch the UK Centre for Seabed in 2022. The UK CSM, set up by the UK government and administered by the UKHO, has been created to spearhead a coordinated approach to the collection, management, and sharing of seabed mapping data, and to champion a more integrated marine geospatial sector in the UK.
- t. I mention these projects and initiatives because all of them have been driven at a foundational level by the fundamentals of good nautical cartography and demonstrate the importance of collaboration. The skills that all of you have learned and implemented within your organisations are what will drive our sector forward to the future.
- u. I thank you for joining us. And, to underscore what I said earlier, as Nippon Alumni you are all very much part of the UKHO family. So, be welcome here, and I wish you a productive and enjoyable three days. Thank you.