

5 QUESTIONS TO €. THOMAS DEHLING, HEAD OF NAUTICAL HYDROGRAPHY DEPARTMENT AT THE GERMAN FEDERAL MARITIME AND HYDROGRAPHIC AGENCY (BSH)

Autonomy Leads to More Requests for Hydrographers



Hydro International spoke to five leading experts about the present and future of the hydrographic industry. In this interview, Thomas Dehling (BSH) focuses on the impact that the Covid-19 pandemic is having on hydrographic offices. He also draws attention to the very real cybersecurity threat facing data-intensive industries.

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?

The Covid-19 pandemic has significantly changed the working procedures of hydrographic offices (HOs), whose services range from hydrographic surveying to nautical charting, water level forecasts and many other tasks that all have to be kept running to ensure the safety of navigation and the protection of the environment. This has become even more essential due to the importance of the maritime infrastructure in the current pandemic situation. In addition to the official HO tasks, the protection of the physical health of all our colleagues working at sea and in the office is a main priority. This has become even more pressing because of the difficulties in coordinating work with private demands from our families, such as home schooling children. However, employed by a federal agency, our personnel do not have to worry about losing their jobs.

BSH introduced a flexible system that allows its staff to work remotely from home or at the office. This meant a rapid change in the way we work, and of course an enormous increase in the use of video conference systems (VCS), changing the way that we communicate with each other dramatically. The focus is to keep the machine up and running, which is possible as HOs already have a high level of digitalization.

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

While developments are of course taking place in sensors and other hydrographic equipment, I see more potential in the areas of alternative data collection, data processing and data dissemination.

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

The methods that we use to obtain hydroacoustic measurements are going to change. Furthermore, crowdsourcing will become more important and could compliment professional surveys. The introduction of open data policies implies new demands in the management of big data, and new ideas to make use of such data for more than navigational products will lead to new software solutions.

The navigational services related to the inauguration of the S-100-compliant products will change significantly. The phrase ‘dynamic nautical chart’ describes perfectly the situation where different S-100-based products are displayed together and are interoperable. New data types will also be used that make it possible to customize the information provision, offering greater flexibility and combinations of information. Hydrography, route planning and route monitoring will be interlinked to a much greater extent, which will also support the IMO e-navigation concept and autonomous shipping. Also, the use of hydrographic data for non-navigational services will evolve significantly.

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

Hydrography has several distinguishing characteristics compared with other industries, but has similarities with fields that also make use of geospatial data, such as land surveying and remote sensing. The hydrography sector can look for synergies with other fields in which

innovation is taking place, such as aviation, car manufacturing, telecommunication, car racing and entertainment.

What opportunities and threats do you see for our profession?

The growing automation in shipping or the autonomy in navigation will lead to more requests for hydrographers, their products and services. This is both an opportunity and a threat. The recruitment of junior staff members will become more and more demanding due to demographic developments, and it will be of paramount importance to increase the visibility of our interesting profession. However, as the use and availability of geodata increases, it might become easier to attract people to hydrography.

One point made by several intelligence services is the very real threat of cybersecurity, which could have a negative impact on all steps in the data cycle, from data collection to data provision.

Thomas Dehling is head of the Nautical Hydrography Department at the German Federal Maritime and Hydrographic Agency ([BHS](#)) and the national hydrographer of Germany. He is chairman of the German Hydrographic Society (DHG), Chair of the Inter-Regional Coordination Committee (IRCC) of the IHO, a Member of the 'Experts in Maritime Boundary Delimitation', and a lecturer in Hydrography at HafenCity University Hamburg.

<https://www.hydro-international.com/content/article/autonomy-leads-to-more-requests-for-hydrographers>
