HYDRO INTERNATIONAL INTERVIEWS MIKE ROBINSON OF UKHO

UKHO Strives for Worldwide Leadership in Hydrographic Information

In about eight years from now business for the United Kingdom Hydrographic Office originating from digital charts will exceed business from paper charts. But according to Mike Robinson, CEO with the UKHO, paper charts will never become extinct. The big challenge ahead lies in leading the organisation in that shift towards working database-based and at the same time gaining leadership in the digital world. Robinson shares his views on e-navigation, the shift from paper to digital, and to charge or not to charge for data.

How do you see the profession of the hydrographer develop in the future. Will it change much?
I heard Mark Webber being interviewed on the radio recently. He was asked if the profession of a Formula 1 driver changed much over the last few years. He answered that although the technology has changed, the basics of driving an F1 car haven't. I think this goes exactly the same for hydrography. The technology has obviously changed but the basic role of hydrography and the hydrographer haven't changed and won't change in the future.

What will be the biggest change in technology to have an impact on the daily life of the hydrographer?
The volume and density of data, the pace with which you can process data after acquiring it and getting it to the mariner in a usable form, will be the biggest changes in technology. Nowadays, we handle files that are two to three terabytes. But in the future those files might grow to maybe a hundred terabytes for a single survey. Together with that increase, we also want to process data much faster in order to make it available - in near real-time - to mariners.

Do you see a change in perspective of the role of hydrography and the hydrographer?
There is a growing recognition of the role of hydrography in governments around the world. There are more Hydrographic Offices than ever and the membership of the International Hydrographic Organization is increasing. The IHO has done a great job of ensuring that SOLAS requirements and the importance of navigational aid are given due recognition. Large parts of the seas have not been surveyed according to modern standards and although there has been a recession going on in large parts of the world and some aspects of hydrography are being automated, I think that the role of the hydrographer will grow in importance to support a safe and efficient shipping industry.

How has the recession impacted the UKHO?
The biggest customer of the UKHO is the Royal Navy and wider intelligence departments of governments. They saw overall cutbacks in funding which will have an impact on the UKHO. On the commercial shipping side of business we saw some interesting patterns in trade but all in all they have not affected the volume of business. For example, the nature of sea trade has changed: vessels are rerouting much more often, but shipping companies are not cutting back on safety. So overall, that increased the need for charts. For next year, however, we are expecting a delayed effect because of less new build ships coming on to the market. Although order books are pretty healthy, there will be a dip next year.

As UKHO you have been surveying almost all waters of the former British Empire, do you still feel responsible for charting those far away seas outside of the UK?
What would happen if the admiralty charts ceased to exist overnight? The effect would be comparable to switching off GPS all of a sudden. Our products still add tremendous value to the international community of mariners and we remain the only recognised charting authority. We want to support the IHO's ENC capacity building programme by offering our support and expertise to other HOs where required. There will be a continuing demand for a consistent series of high quality navigational charts in English and our vision holds that we want to be world leader in hydrographic information and services. So yes, we will continue to chart the world to help drive the quality of chart data available to mariners.

When will paper charts become extinct?
They won't. Of course we'll see a fast transition to digital. Mandatory carriage of ECDIS starts in 2012 and phases through to 2018 affecting around 30,000 of the 50,000 international vessels. By 2018, 60% of vessels will be using digital navigation. Regulation says only vessels with adequate back-up and independent power supply can go paperless, but even they will still have to carry a set of so-called 'get-me-home-charts'. Newly built vessels are generally delivered with a standalone ECDIS, so quite a proportion of those 30,000 will still use paper for back up. Of the other 20,000 vessels which can choose between paper or digital, a lot of them will still use paper.

When will you reach the tipping point of earning more from digital than paper?
My estimated guess is that the sale of digital charts will exceed the sale of paper charts in 7 or 8 years from now. But we do see quite a tail of paper charts existing through into the far future.

How do you anticipate accelerating that shift?
The challenge for us and other HOs is to rebuild our production process totally, using database technology. The starting point needs to be assessing data and then being able to use it in different ways to meet different customer needs. For example, one could produce a range of different charts for different users at the push of a button. But this approach will need not just a lot of in-house training for our cartographers, but also for the mariners. We are working on both fronts: we are supporting Hydrographic Offices in capacity building and training professionals all over the world.

How have the new regulations under SOLAS on safe navigation and ECDIS and the IHO standards S-100 been useful to you?
The new SOLAS regulations have seen more governments signing up to the IMO directive, and recognising their duties in producing updated charts and carrying out regular surveys. The regulations themselves helped define what electronic navigational charts are. Together with S-100, which clarifies the definition of an ECDIS, they regulate the need for back-up and independent power supply and they have proved major drivers towards digital navigation. The UKHO has been heavily involved in developing S-100 IHO. In this new standard, we've been listening to users and the industry, where earlier standards were often written by committee. The user input will help push forward ECDIS technology by adding increased usability and user-friendliness.

The next concept is already around the corner: e-navigation. Is this concept impacting UKHO's strategy?
IMO's concept of e-navigation means using integrated data on the bridge. There won't be a standalone ECDIS anymore but one system which brings together data on currents and weather and all data needed to get safely from point A to B, laid over charts. We have already gone live with Admiralty e-Navigator, a platform which is able to bring current data and weather data in the charts. So, yes, we have built e-navigation into our strategy. But the truth is that 90% of our users will still be moving data around from one computer to another, limiting the amount of data they are taking. The products that are being developed will demand ever more bandwidth and I really see that as a constraining factor because the costs of internet are so high. Communication technology is crucial to the success of e-navigation.

Do you see room for pay-per-use products in electronic navigation?
Here again, communication technology is one of the constraining factors. There's only so much data you can take to the bridge. But of course, if customers really want pay-per-use so that they have all charts on the bridge and only pay for those cells they have used, we will look into it. Another issue is that not all countries' ENCs can be sold in this way. Talks are ongoing between PRIMAR and the IC-ENC to harmonise these differences, and deliver a simpler solution to mariners.

You have been talking about the perils of unofficial data over the years. Did you reach different views on this subject?
Definitely not. Privately produced data should not be used as a navigation tool on the bridge of a sea tanker, for example. The IHO, IMO and all Hydrographic Offices have the same standpoint. There is no assurance of the quality of the data used for unofficial digital charts. I do see a role and market for unofficial charts, in fishery or leisure for instance. But as more and more ships adopt the mandatory carriage of ENC's, unofficial charts will be a thing of the past. In the meantime, and until then, we will working hard in continuously educating the market on the difference between the two.

Brussels rules through INSPIRE that governments should share data for free. Is UKHO complying to that policy, while parties have to pay for data?
The UK Government absolutely supports INSPIRE, but has argued though that if a trading fund like UKHO, but also the Met Office and Ordnance Survey, wants to charge for certain amounts of data, it should be allowed to. Data sets will be free of charge, but for enriched data or products, we are still allowed to charge. Licensing fees are not collected for the majority of our data and where we are charging it is only for companies doing more that EUR100.000 revenue year. Licensing income is therefore only a small proportion of our total income. We do little to be INSPIRE compliant but that's only because our standing policies are making us compliant to INSPIRE already.

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