

THREE YEARS OF THE LATIN AMERICAN BRANCH OF THE INTERNATIONAL CENTRE FOR ELECTRONIC NAVIGATIONAL CHARTS (LA RENC)

By Capt. N. Roscher, LT A. Mileze, SO I. M. de Brito and SG B. Pinheiro
Brazilian Directorate of Hydrography and Navigation (DHN)

On 21 July 2016 the Directorate of Hydrography and Navigation (DHN) established in its headquarters a full operational Regional Electronic Nautical Charts "Validation Office" for Latin America (LA-RENC) under the infrastructure and guidance of the International Centre for Electronic Nautical Charts (IC-ENC). This was supported by the IC-ENC Members during its 16th Steering Committee (SC) Meeting in 2015. In its first year of operations, the LA-RENC was visited by the IC-ENC Chair, Capt Mark van der Donck (Netherlands) and by the IC-ENC General Manager, Mr James Harper (UK) (Figure 1).



Figure 1: the 2016 Visit from the IC-ENC (from left to right: Capt Pinto, Admiral Palmer, Capt Roscher, Mr James Harper, PO Bruna Pinheiro, Capt Mark van der Donck and Mrs Claudia Bon.

The IC-ENC is a Regional ENC Coordinating Centre (RENC) which supports the IHO Worldwide ENC Database (WEND) principles. It is a low cost, not for profit organization which was set up in 2002 with a remit to assist ENC Producers in harmonizing the production and distribution of high quality ENCs. This is achieved through ENC validation and distribution processes always with the mariner in mind. Brazil is an IC-ENC member since 2006 and has been working to maintain the quality standard of its products, in order to meet the requirements of IC-ENC's ENCs. As part of this effort, an ISO-9001 certification exists in the Navy Hydrographic Center (CHM) since 2008.

The current membership of IC-ENC stands at 45 Member States (with new mem-

bers joining on a regular basis): Argentina, Australia, Bahrain, Bangladesh, Belgium, Brazil, Chile, Colombia, Cuba, Denmark, Ecuador, Egypt, Germany, Greece, Netherlands, Slovenia, Spain, Solomon Islands, Iceland, Italy, Israel, Malaysia, Malta, Mexico, Mozambique, Nigeria, New Zealand, Oman, Panama, Pakistan, Peru, Philippines, Portugal, Romania, Russia, Saudi Arabia, South Africa, Suriname, Tunisia, United Kingdom, United States, Uruguay and Venezuela (<http://www.ic-enc.org/Membership.html>).

There are four IC-ENC Offices in different parts of the world as seen in **Figure 2**:

- IC-ENC UK (HQ) - based in Taunton, UK
- IC-ENC Australia - based in Wollongong, Australia
- IC-ENC Latin America - based in Niteroi, Brazil
- IC-ENC North America - based in Washington, USA



Figure 2: location of the four IC-ENC Offices (yellow stars)

The LA-RENC's mission is to ensure that the validated ENC's are compliant to the international standards, consistent across the global data-set and readily available for use so that shipping can navigate safely, efficiently and confidently whilst ensuring that other maritime users are using the same available data. To this end the validation team operates policies based on ISO-9001/2015 to assist ENC Producers and to harmonize the production and distribution of high quality ENC's. The final aim is to ensure safe navigation by assessing any non-conformities that may impact the safety of navigation.

A great deal of challenges, hard work and dedication happened in the past three years after the creation of the LA-RENC. This dedication was rewarded with the improvement of the quality of the cells and the confidence generated in the Latin American countries, resulting in improved navigation safety.

In order to prepare for this challenge, in 2015 the DHN sent two of its Staff to a Silver training in Panama and to a Gold training at the IC-ENC headquarters, in Taunton-UK. These trainings led to improvements to the Validators' skills to work autonomously at the regional office, in a different time zone and giving support in Spanish, for most of the Latin American countries. In a next step

the LA-RENC started to validate cells from countries outside Latin America, such as Denmark, Germany, Iceland, Italy, Malaysia, New Zealand, Philippines, Portugal, Spain, Russia and United Kingdom.

On completing its third anniversary on 21 June this year, the LA-RENC had validated more than 4 000 ENC's, of which almost 3 000 from Latin American countries. Complementarily to the validation of the ENC's, the LA-RENC Team assisted many of the Latin American hydrographic services on their ENC's production and on the understanding of the validation reports. The proximity and the small differences in time zones contributed to this support. The team currently is composed of three Validators, one being also the Technical Manager.

To maintain the quality of the services offered, the IC-ENC monitors the ENC validation process at the LA-RENC operation by conducting audits and providing trainings. The IC-ENC ensures high quality hydrographic services structured around the Quality Management System (QMS). In July this year, the IC-ENC Senior Validator Aaran Champion delivered a two-week training to update the validation team (**Figure 3**), contributing with his experience to improve the validation processes of LA-RENC.



Figure 3: Two-week training in 2019 (from left to right SG Bruna Pinheiro, Mr Aaran Champion, LT Ana Mileze and SO Isaías de Brito).

The quality assurance and the support to ENC Producers are reflected in the improvement of the quality of the ENC produced by the IC-ENC, especially in Latin American countries. This was observed, on detecting fewer errors in each new validation of the Charts, and this way contributing to offer safer and more reliable end-user products delivered to the Maritime Community. To further contribute to the IC-ENC's objectives, the LA-RENC also hosts Capacity Building activities of the IC-ENC. In **Figure 4** the 2018 training in Niteroi, Brazil.



Figure 4: the 2018 LA-RENC Training Course (Niteroi, Brazil)