



IIC Technologies: Regional Capacity Building

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SWPHC17

SWPHC 2019: Niue Brief

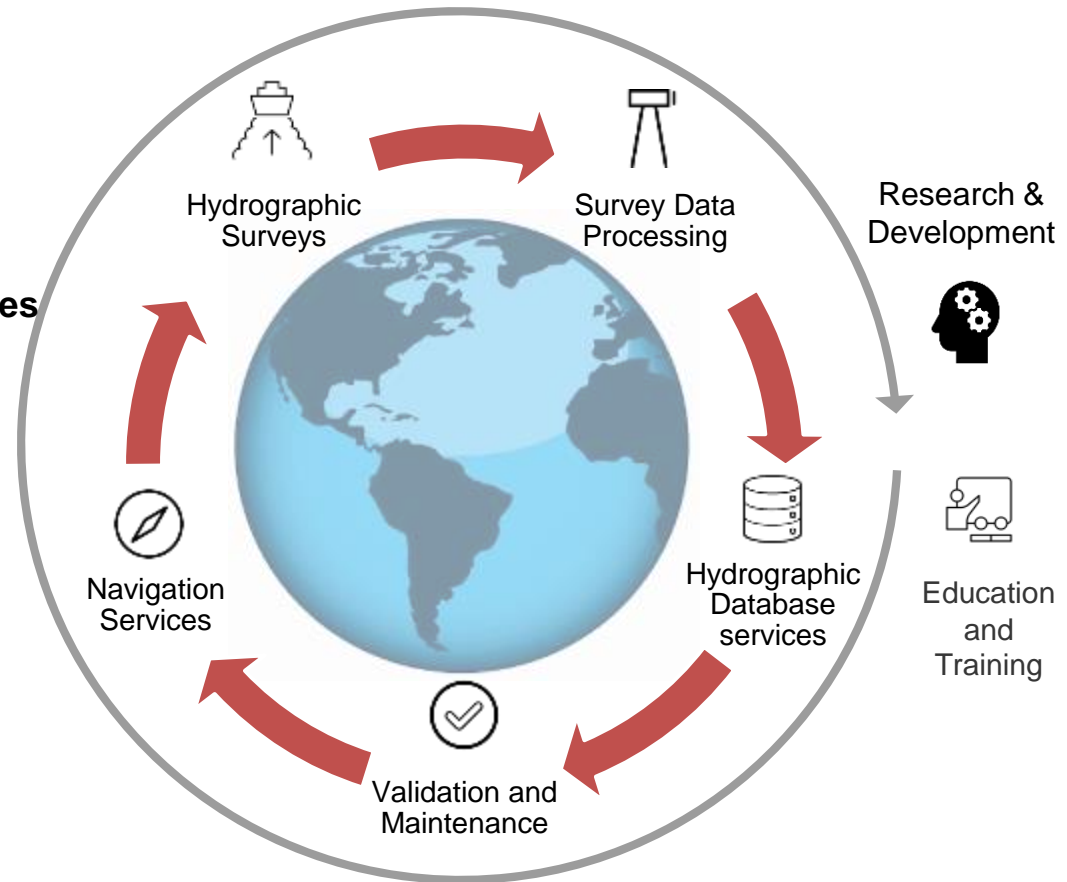


Turnkey Surveying, Mapping, and Charting Solutions Company

- Established in 1993
- More than 1500 employees
- ISO Accredited
- NATO Secret Facility
- 8 offices, 4 continents
- 25+ National Authority Customers

Six Divisions, focused on Geospatial Sciences

- Terrestrial Services and Solutions
- Geo Surveys
- Geospatial Engineering
- Innovation Centre
- Marine Services and Solutions
- IIC Academy





NEW PATHS. NEW APPROACHES

CONTENTS

- Introduction
- 2019 in Review
- Technical Review
- IHO S5-B to Australasia
- Questions

Regional Activity

2019

- SDB Training:
 - National Authority
 - Industry
 - Academia
- ENC and chart Production
 - LINZ
 - AHO
- MBES Survey
 - Carnival - Vanuatu
- Development work:
 - LINZ

2020

- Chart Production & Maintenance
- Technical Reviews
- Training
- Personnel Embed
- MBES Survey/s in Pacific
- ?



Global Activity

- Bathy Surveys
 - MBES survey in Finland
 - 2 x MBES and 3 x ALB for CHS
 - ALB River Pilot Study USGS
- ENC and Chart Production
 - CHS
 - UKHO
 - NOAA
 - SHOM
- Personnel embed
 - CHS
 - UKHO
 - NOAA
- Processing
 - Lidar - SHOM

Consultancy & Development:

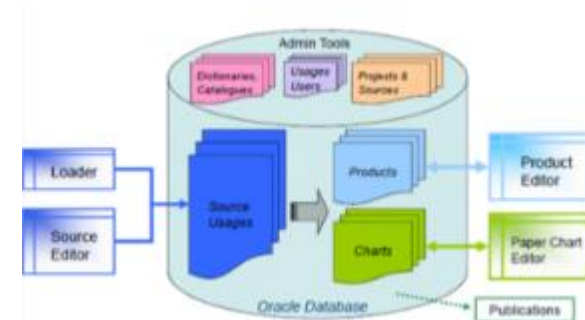
- Korea
- Taiwan
- Brazil
- NGA
- CHS

Training – bespoke:

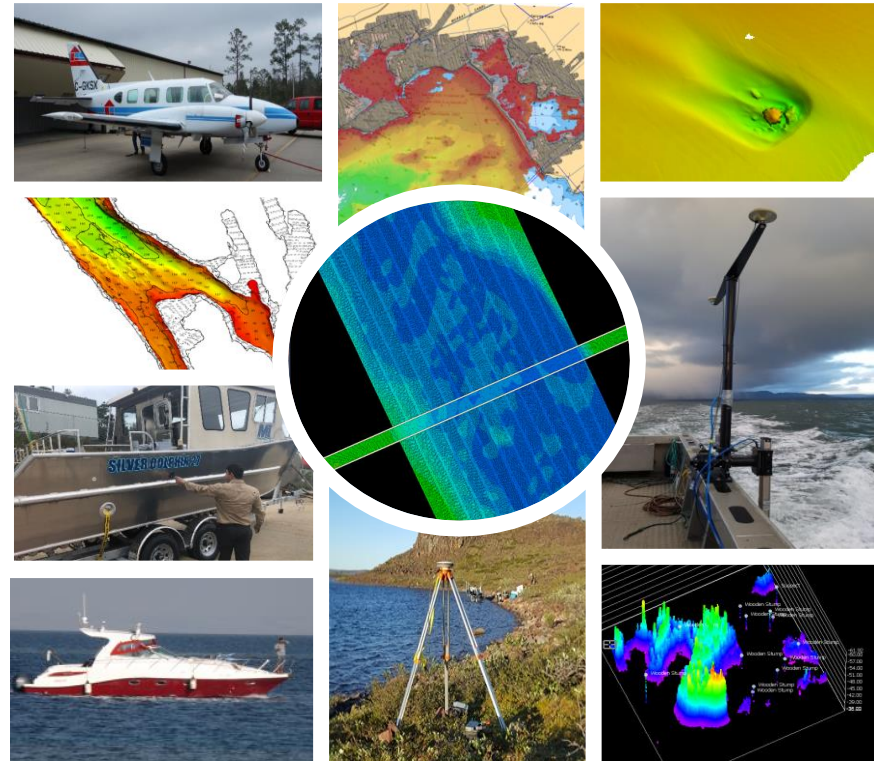
- CHS
- Brazil
- Denmark

S5-B and S8-B:

- Training
 - Korea
 - CHS
 - NGA
- Submission Support:
 - Korea



- Visit by IIC SME's
 - Often paired with training and/or stakeholder engagement
- Develop Understanding of:
 - Directed and desired Outcomes
 - Current capability
- Outcomes:
 - Gap analysis
 - Proposed resolves
 - Road Map
 - Indicative costs.

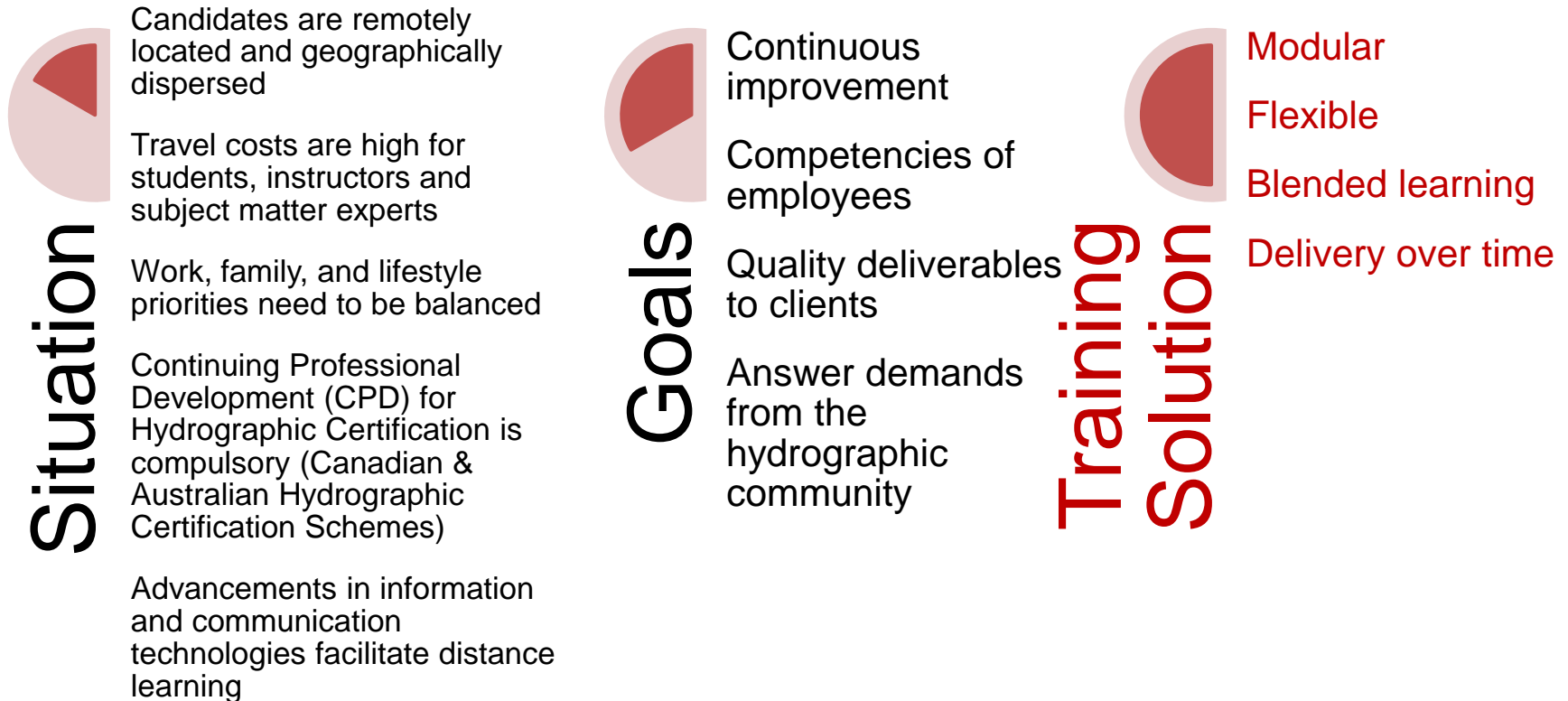


- Conducted for a number of National Authorities:
 - LINZ
 - Brazil
 - Taiwan
- Several more planned in region in 2020.

Development work for LINZ resulted in Global Business Transformation Award



Motivation to Acquire IHO IBSC Recognition



Program Overview

Theory

Classroom : 11 weeks

Distance Learning: Complete within 6 months

INTRODUCTION – 6 days
Introduction to Hydrography
Introduction to GIS
Introduction to Surveying

COMPUTATION TOOLS – 10 days
Math, Physics and computer sciences re-fresher

NAUTICAL SCIENCE – 6 days
Nautical Science Theory

ENVIRONMENT – 4 days
Earth and Environmental Sciences

POSITIONING – 6 days
Geodesy, Horizontal and Vertical Positioning

UNDERWATER ACOUSTICS – 6 days
Theory, SBES and SSS
Swath Systems

WATER LEVELS – 4 days
Water Levels, Tidal Theory

QA/QC – 4 days
Quality Assurance Quality Control

REMOTE SENSING – 3 days
Remote Sensing, LiDAR, SDB

HYDROGRAPHIC PRACTICE – 3 days
Survey Projects, Introduction to survey operations
Legal Aspect (law of the sea, liability)

Practical 5 weeks

POSITIONING – 5 days (4 field, 1 class)
Positioning Practice

WATER LEVELS – 2 days (field)
Setting up tide gauge

NAUTICAL SCIENCE – 4 days (boat)
Boatmanship

ENVIRONMENT – 1 day (boat)
Environment sciences field operations

HYDROGRAPHIC PRACTICE – 10 days (6 boat, 4 class)
Hydrographic survey planning and set-up (boat)
Calibrations and correction (boat)
Real time acquisition and control (boat)
Data Processing and analysis (class)
Hydrographic survey documentation (class)

HYDROGRAPHIC DATA MANAGEMENT – 3 days (class)
Debrief on hydrographic practice
Data Organisation and Presentation

Final Field Project
minimum 4 weeks

Web-based Learning Approach



Webinars

Instructor led



Presentations

Contents

Videos

Self-paced reading

Instructor monitors
progress time



Quizzes

Short Tests

Self-paced

Instructor monitors
re-takes
Instructor validates
results



Assignments

Exercises

Interaction with
instructor

Instructor corrects
and guides



Forum

Instructor
moderated

Instructor assesses
student participation



Tutoring
(if required)

Instructor led
Individual students
or small groups

Where to from here?

- Strong interest from regional academia, training providers, professional bodies and National Authorities.
- Achievement will require:
 - Buy-in by hydrographic community and academia
 - Approx. 10-12 students per course (from any location)
 - Local partner/s to provide learning environment and equipment for Field Labs and assessment phase
- *Sponsors:*
 - *Students (Capacity Building program?)*
 - *Equipment, facilities, trainers?*
 - *Funding support to offset cost to students*



If you are interested in being involved then let me know.




Thank You

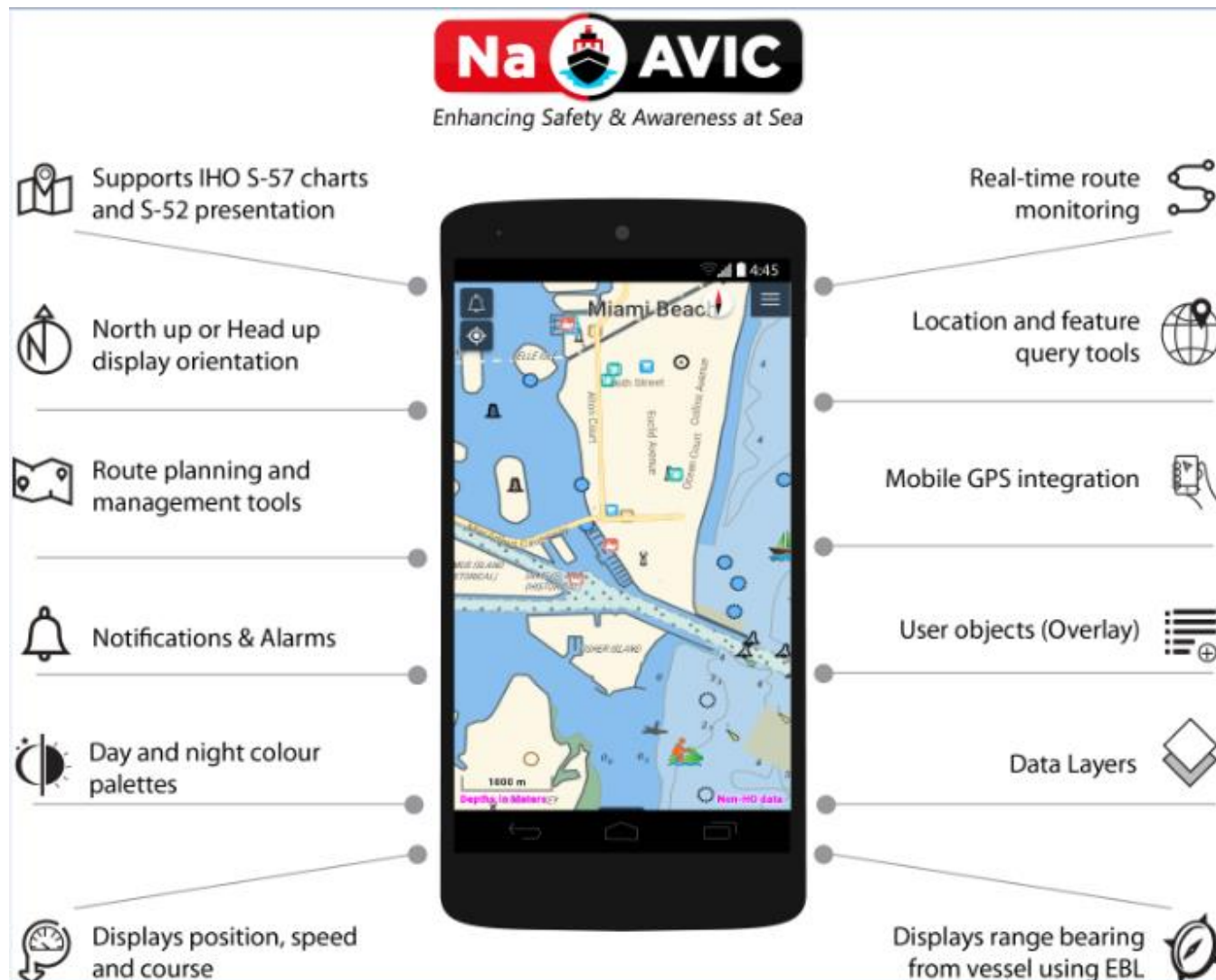
NEW PATHS. NEW APPROACHES

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- Australian Hydrographic Service (AHS)
- Land Information New Zealand (LINZ)
- UK Hydrographic Office (UKHO)
- UK Ordnance Survey (UK OS)
- UK Ministry of Defence (MOD)
- Canadian Dept. of Defence (DND)
- Canadian Hydrographic Service (CHS)
- Natural Resources Canada (NRCAN)
- Norwegian Hydrographic Office
- Geolnt New Zealand (GNZ)
- Finnish Transport Authority
- NOAA
- US National Geospatial Intelligence Agency (NGA)
- US Army Corps of Engineers (USACE)
- Brazilian Navy Hydrographic Office
- General Commission for Survey, Saudi Arabia (GCS)
- Danish Geodata Agency
- Indian Hydrographic Office
- Indian Survey & Mapping Organization
- Government of Chile (Latitude)
- French Hydrographic Office / Navy
- Panama Canal Authority



NaAVIC, is a **free and downloadable mobile app** and it represents a new approach to an ECS where the electronic **chart data does not physically exist within the onboard computer.**

The data for this particular form of ECS goes well beyond the traditional ENC content and **consists of an output from a database consolidating many different data products currently available in the marine domain.**

NaAVIC attempts to thrust the sailing experience several steps further by **enabling all members of expeditions to engage in the voyage and share that voyage to fellow “marine friends”.**