Unique Group
Strength in Depth

The process of knowledge transfer enabling the SA Navy to be at the forefront of Hydrography, Marine Cartography and Training in Africa

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Discussion Points

- Who is the Unique Group?
- The Project Team
- The Rejuvenation of the South African Navy Hydrographic Capability
- Project Training Goals
- Unique Hydra Training Plan
- The Knowledge Transfer Journey
- SA Navy Training Vision – **Commander Theunissen**
- What is the future? **Open for discussion**

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The Team

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The Rejuvenation of the South African Navy Hydrographic Capability

SA Navy Hydrographic Capability:

- Upgrade to SA Navy Hydrographic Offices at Silvermine (SANHO)
- 3 x New Survey Motor Boat (SMB)
- 1 x New Hydrographic Survey Vessel (HSV)

Unique Hydra's Vision:

- Selecting our OEM partners based on their alignment with our core values
- Common platforms to enable transition, support, maintenance and repairs
- Latest technology available to meet specifications from world renowned suppliers
- Local system design and integration team with full support from OEM partners
- Ongoing support and training plans developed in collaboration with OEM partners

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PHASE 1
SANHO Upgrades

- Training Centre
- Trainers Office
- MREA Facility
- Back-up Power
- Cooling
- POD Facility
- Network
- Server
- NAS
- Software
- Training

PHASE 2
SMB

- MBES
- SBES
- SVP
- SVS
- Software/HWS
- Position, Heading and Attitude
- SSS
- IT Infrastructure
- Bottom Grab

PHASE 3 (1)
HSV (ISS)

- MBES Medium
- MBES Shallow
- SBES
- SVS
- Software/HWS
- Position, Heading and Attitude
- SBP
- SSS
- IT Infrastructure
- MDM/K-SYS
- ADCP
- Gradiometer
- Bottom Grab
- XSV
- Graviprobe
- CTD
- Scanfish
- Survey Ashore

PHASE 3 (2)
HSV (INS/IBS)

- DP1 K-Pos
- ECDIS
- AIS
- BNWAS
- Autopilot
- Operator Stations
- VDR
- S-Band and X-Band
- K-Bridge
- K-Pos
- iXBlue Hydrins
- Attitude and Position
- Fanbeam

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Survey Motor Boats (SMB)

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Workstations (3)

DPS 112

Seapath 130

Server

3048 Switch
4032 Switch
Server #1
SAN#1
KVM#1
UPS#1
UPS Battery #1
NAS 8GB / NAS 24GB
Server #2
SAN #2
4032 Switch
3048 Switch

ISS Rack

HWS MBES – EM2040
PU MBES – EM2040
HWS SBES - EA440
WBT SBES – EA440
HWS SSS - 4125
PU SSS - 4125
3710 Demodulator
DPS 112 DGPS
UPS #2
UPS Battery #2

Edgetech 4205 SSS

miniSVS

MGC-R3

EA440 SBES Transducer

EM2040 MBES Transducer

miniSVP

Bottom Grab

HWS

EM2040 PU

EA440 WBT

SSS PU

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Hydrographic Survey Vessel (HSV)

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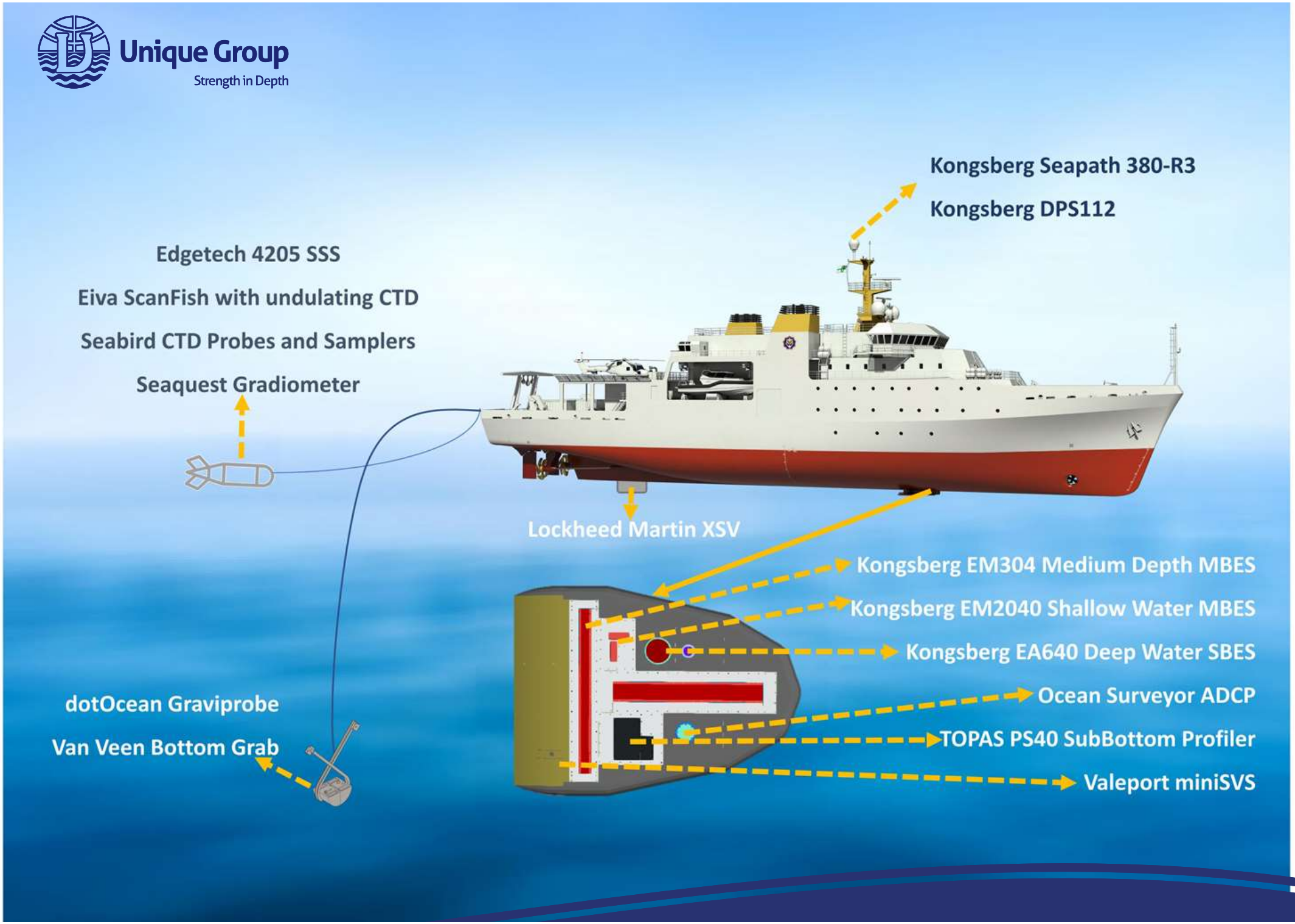

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Training Goals

What do we need to make this a world class centre of excellence?

- The layout and structure of the training centre
- The presentation tools
- The high end workstations
- The connection of the workstations to the server using redundant fibre connection
- The robust, high end redundant server – located in a secure and environmentally protected room
- The use of the leading software in Nautical Cartography
- The use of the leading RDBMS's in the industry
- The training material
- And last but certainly not least – **the trainers**☺

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Project Training Plan

The following requirements had to be achieved:

- Upskill the SA Navy team by transferring skills and experience
- Managing the training implementation and the new production flow process
- Guiding the team through change management
- Creating a knowledge sharing environment
- Teaching not only skills, but the ability to troubleshoot
- Offering unwavering support
- Supporting all parties with retraining or day to day problem solving
- Setting in place systems and tools that can be used to facilitate operation and future training

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KONGSBERG

Training - Kongsberg

Duration - 5 Weeks

Location – Horten, Norway

Skills acquired - Kongsberg first line support for the ISS for the SA Navy

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Training - Kongsberg

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Training - Kongsberg

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Training - Kongsberg

Training - CARIS

Duration - 2 Weeks (Summarized training)

Location - Den Bosch, The Netherlands

Skills gained - CARIS first line support for the processing system at the SANHO

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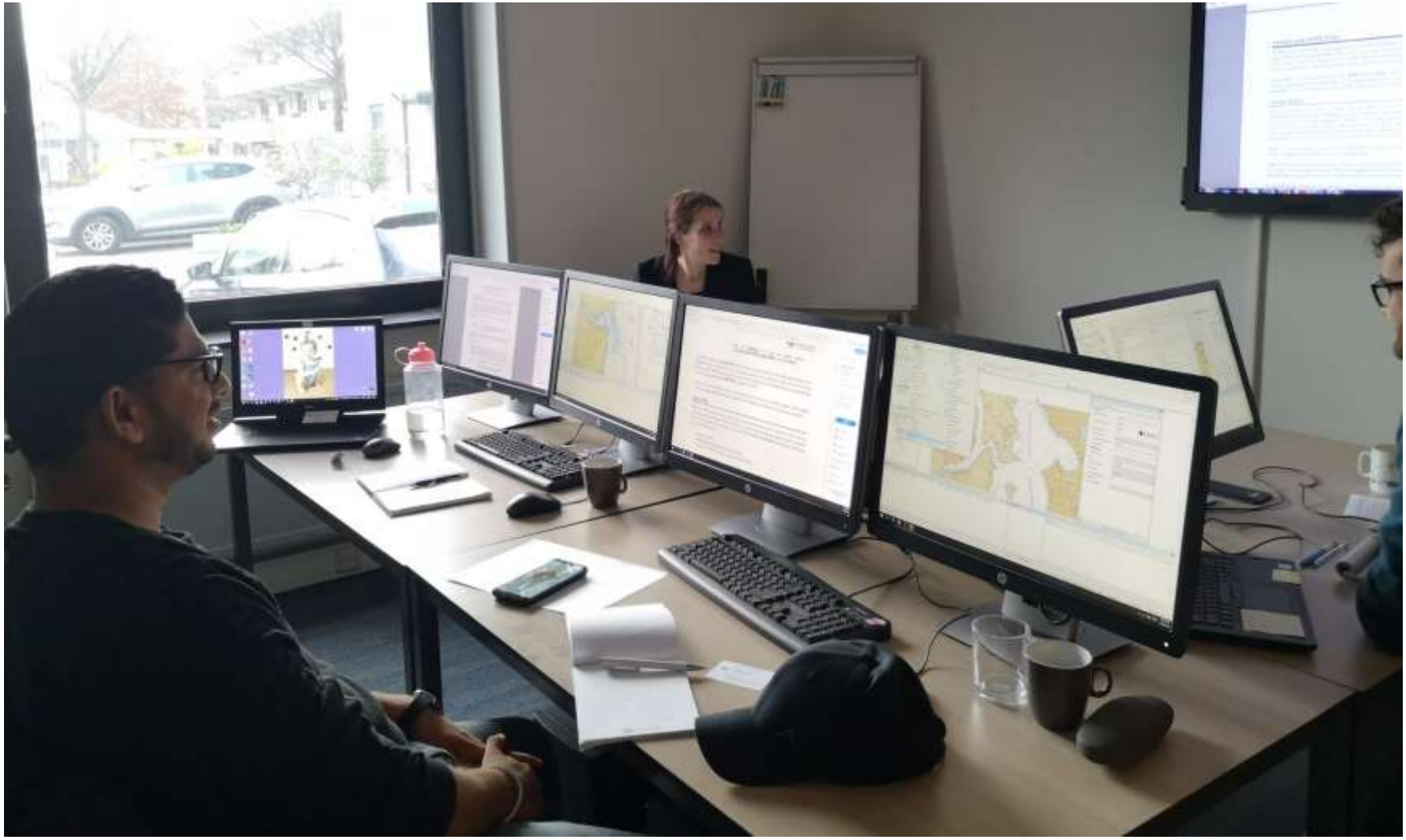
Training - CARIS



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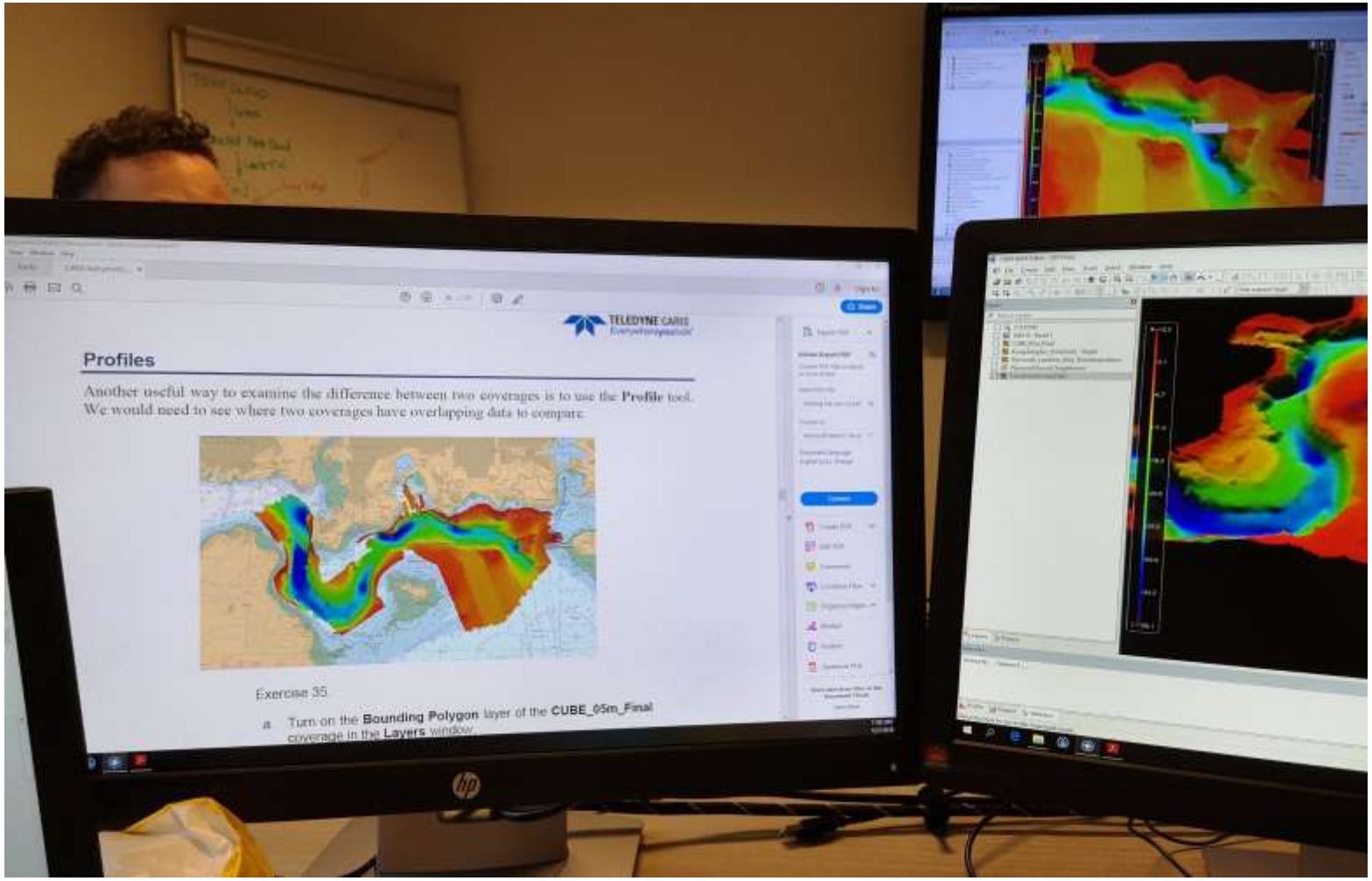

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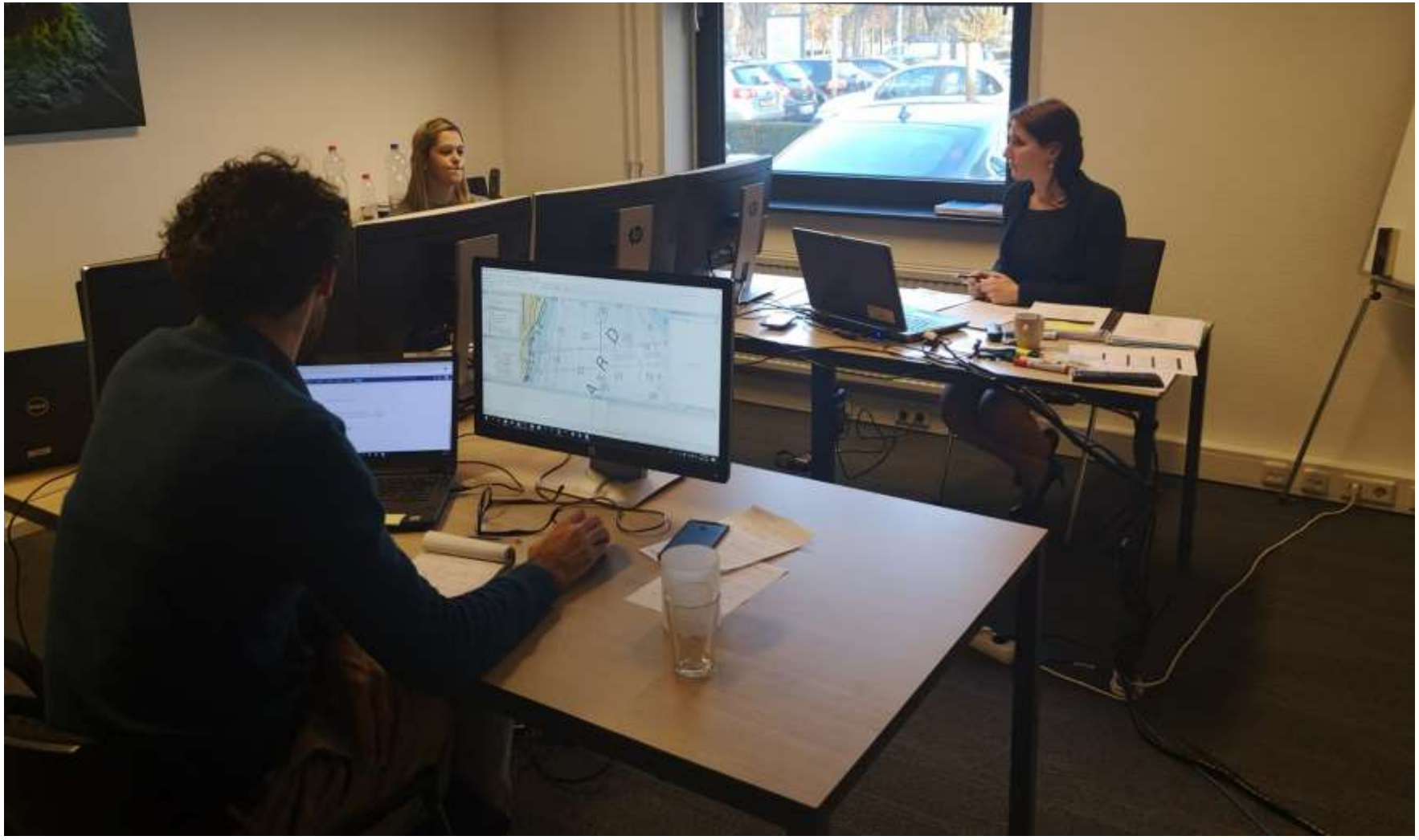

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Training - CARIS

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The Knowledge Transfer Journey

Divided based on skillset

1. Facilities and Server training for first line support and maintenance
2. ISS Training – Theory
3. CARIS Software Training, Set-up and Existing Data Migration
4. ISS Training - Practical

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Facilities and Server Training for first line support and maintenance

Duration – 4 days

Target Group – Facilities Management, SANHO personnel, SITA and MIT

Presented By – Unique Hydra, Oswald Engineering and GIST

Content – Basic operation, support and maintenance of the newly installed systems

gist
Your IT partner

OSWALD
Professional Engineers

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Facilities and Server Training for first line support and maintenance

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Survey System Training

KONGSBERG

Duration – 10 days Theory and 10 days Practical

Target Group – Hydrographic Surveyors, Radio Radar Operators and Electrical Engineers

Presented By – Unique Hydra (Genevieve Hornby)

Content – Basic operation, support and maintenance of the SBES, MBES, SSS, GPS and all supporting software packages. This course was focussed on basics and troubleshooting. It will be followed by intense practical training, instilling the training received in theory.

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EdgeTech
The Leader in Underwater Technolog

KC Denmark A/S

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Survey System Training

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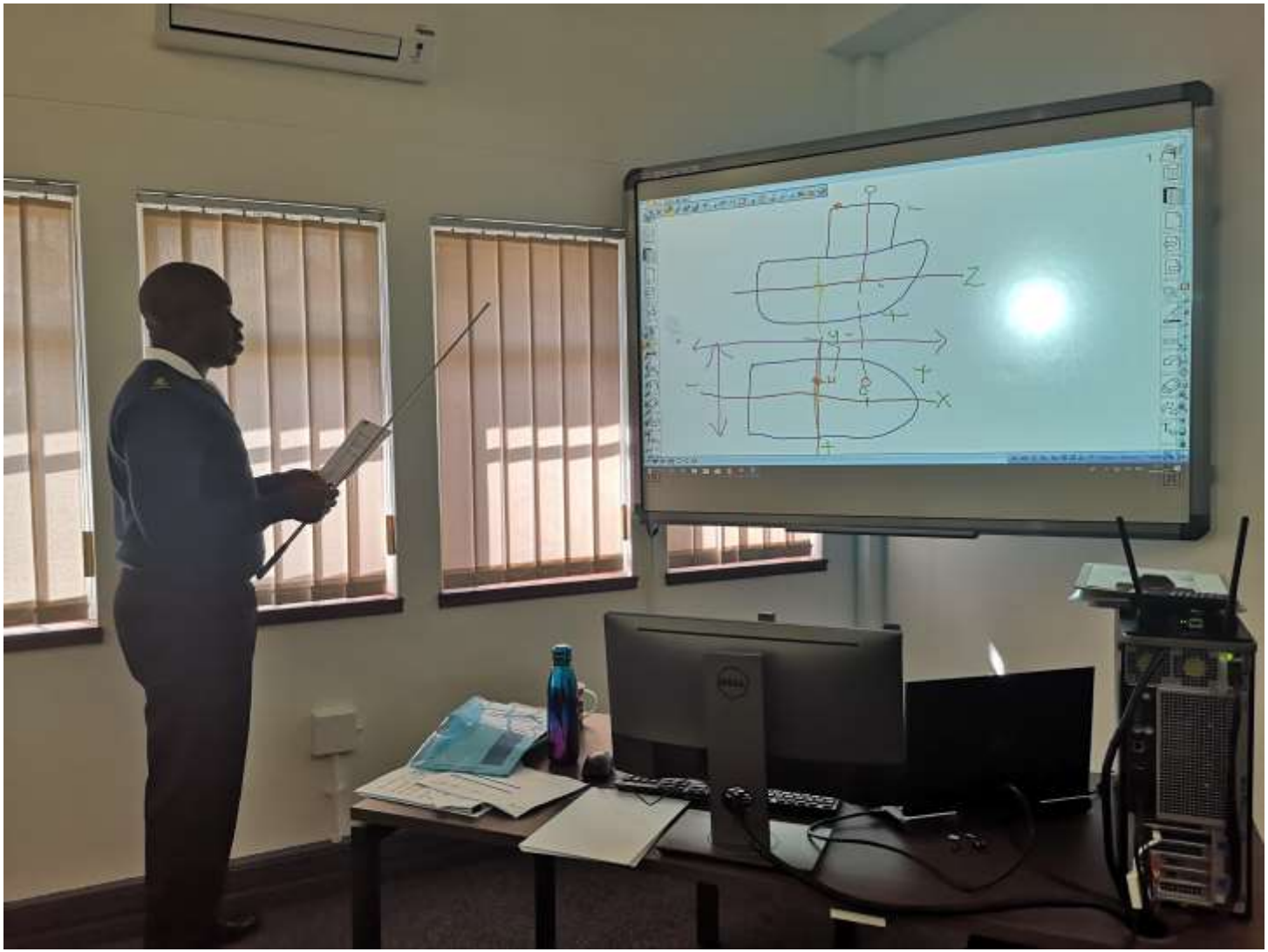

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Cartographic Software Training

Duration – 70 days (including set-up and migration of data)

Target Group – Hydrographic Surveyors and Nautical Cartographers

Presented By – CARIS (supported by Unique Hydra – Genevieve Hornby)

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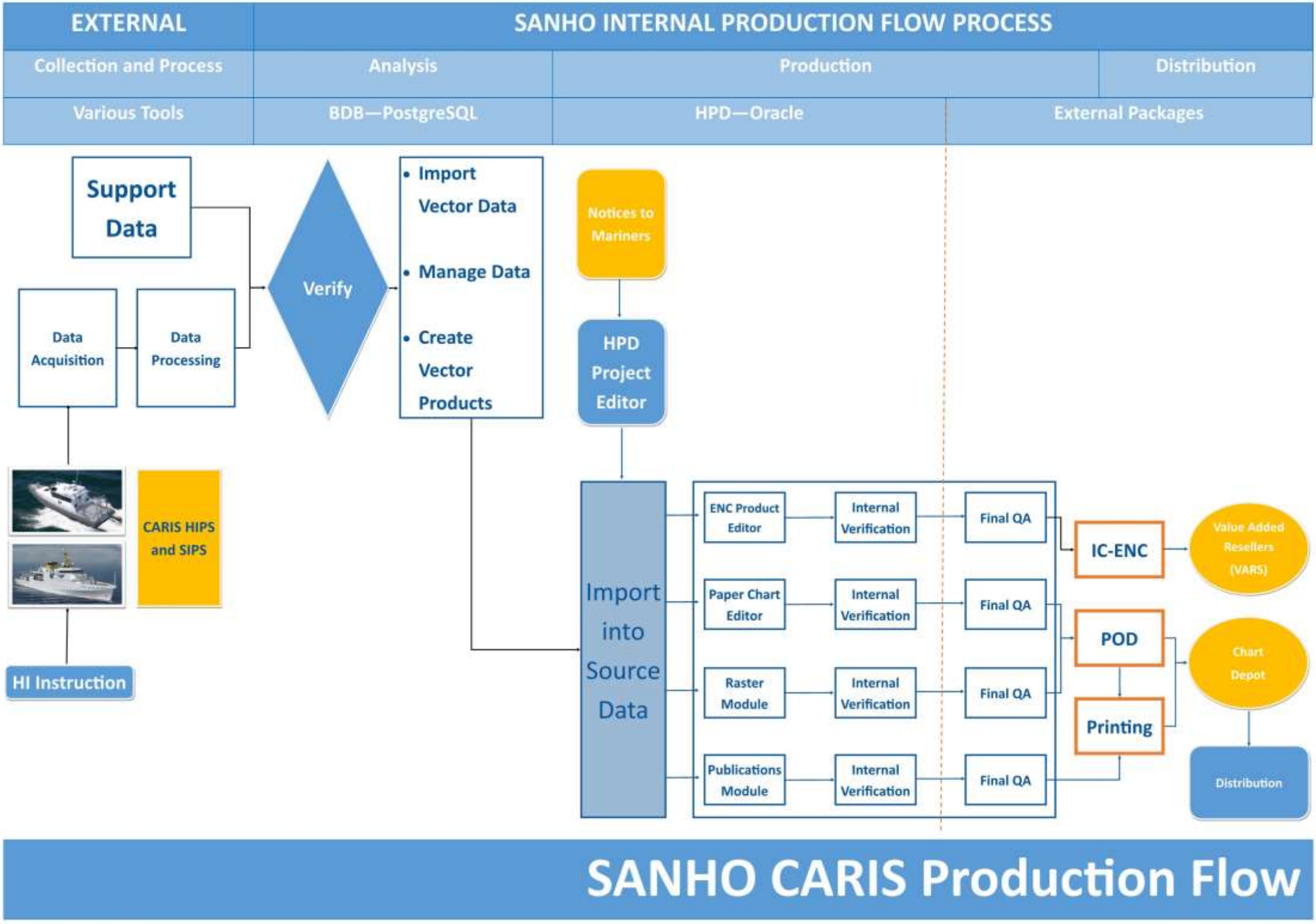
TELEDYNE CARIS

Cartographic Software Training

Block	What	Duration in Days	Location	Type	Environment	Who
	SANHO					
	CARIS Software Installation	1	Unique Hydra	Installation	Production & Training	IT/DBA/CARIS Supervisor
	Setup CARIS Bathy DataBASE Server – including PostgreSQL	2	Unique Hydra	Installation, Set up & Training	Production & Training	IT/DBA/CARIS Supervisor
1	Setup CARIS HPD Server – including Oracle	2	Unique Hydra	Installation, Set up & Training	Production & Training	IT/DBA/CARIS Supervisor
	CARIS BASE Editor	4	SANHO	Training	Training	Hydro/Carto
	CARIS Bathy DataBASE Server	1	SANHO	Set up	Production	Hydro/Carto/DBA
2	Legacy Bathymetric Data Migration into Bathy DataBASE	5	SANHO	Migration	Production	Hydro/Carto
	CARIS HPD Source Editor	5	SANHO	Training	Training	Carto
	CARIS HPD Product Editor	2	SANHO	Training	Training	Carto
	CARIS HPD Server	1	SANHO	Set up	Production	Carto/DBA
3	ENC Migration into HPD Source Editor	2	SANHO	Migration	Production	Carto
	CARIS HPD Paper Chart Editor	4	SANHO	Training	Training	Carto
	CARIS HPD Raster Module	3	SANHO	Training	Training	Carto
	CARIS HPD Paper Chart Editor Setup	1	SANHO	Set up	Production	Carto
4	Existing Paper Chart Migration into raster module	2	SANHO	Migration	Production	Carto
	CARIS HPD Paper Chart Editor Setup II	2	SANHO	Set up	Production	Carto
	Existing Paper Chart Migration into raster module II	3	SANHO	Migration	Production	Carto
5	CARIS HPD Finalize Setup	5	SANHO	Set up	Production	Carto
	CARIS HPD Publications Module	3	SANHO	Training	Training	Carto
6	CARIS HPD Publications Module Setup	7	SANHO	Set up	Production	Carto
	Survey Motor Boat (SMB) 1					
	CARIS HIPS and SIPS Professional (including SANHO QA)	6	SANHO/SMB 1	Installation & Training	Production	Hydro
7	CARIS S-57 Composer for AML Production	4	SANHO/SMB 1	Installation & Training	Production	Hydro/Carto
	Hydrographic Survey Vessel (HSV) and SMB2 & 3					
8	CARIS HIPS and SIPS Professional	5	SANHO/HSV	Installation & Training	Production	Hydro
	Total	70				


EXTERNAL
SANHO INTERNAL PRODUCTION FLOW PROCESS
Collection and Process
Analysis
Production
Distribution
Various Tools
BDB—PostgreSQL
HPD—Oracle
External Packages
Support Data
Data Acquisition
Data Processing
Verify
Import Vector Data
Manage Data
Create Vector Products
Notices to Mariners
HPD Project Editor
CARIS HIPS and SIPS
HI Instruction
Import into Source Data
ENC Product Editor
Paper Chart Editor
Raster Module
Publications Module
Internal Verification
Internal Verification
Internal Verification
Internal Verification
Final QA
Final QA
Final QA
Final QA
IC-ENC
POD
Printing
Value Added Resellers (VARS)
Chart Depot
Distribution
SANHO CARIS Production Flow

Cartographic Software Training

The split of the time for training and consultation was a necessary split to assist the SANHO and the team with the change management.

It is a perfect mix of learning and guiding the team into the new system allowing space for learning from mistakes and challenges.

The classroom training was conducted on a training dataset.

The production training was conducted on the SANHO dataset and is done so in an environment where things can be tested and lessons learned without fear of loss of data.

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Cartographic Software Training

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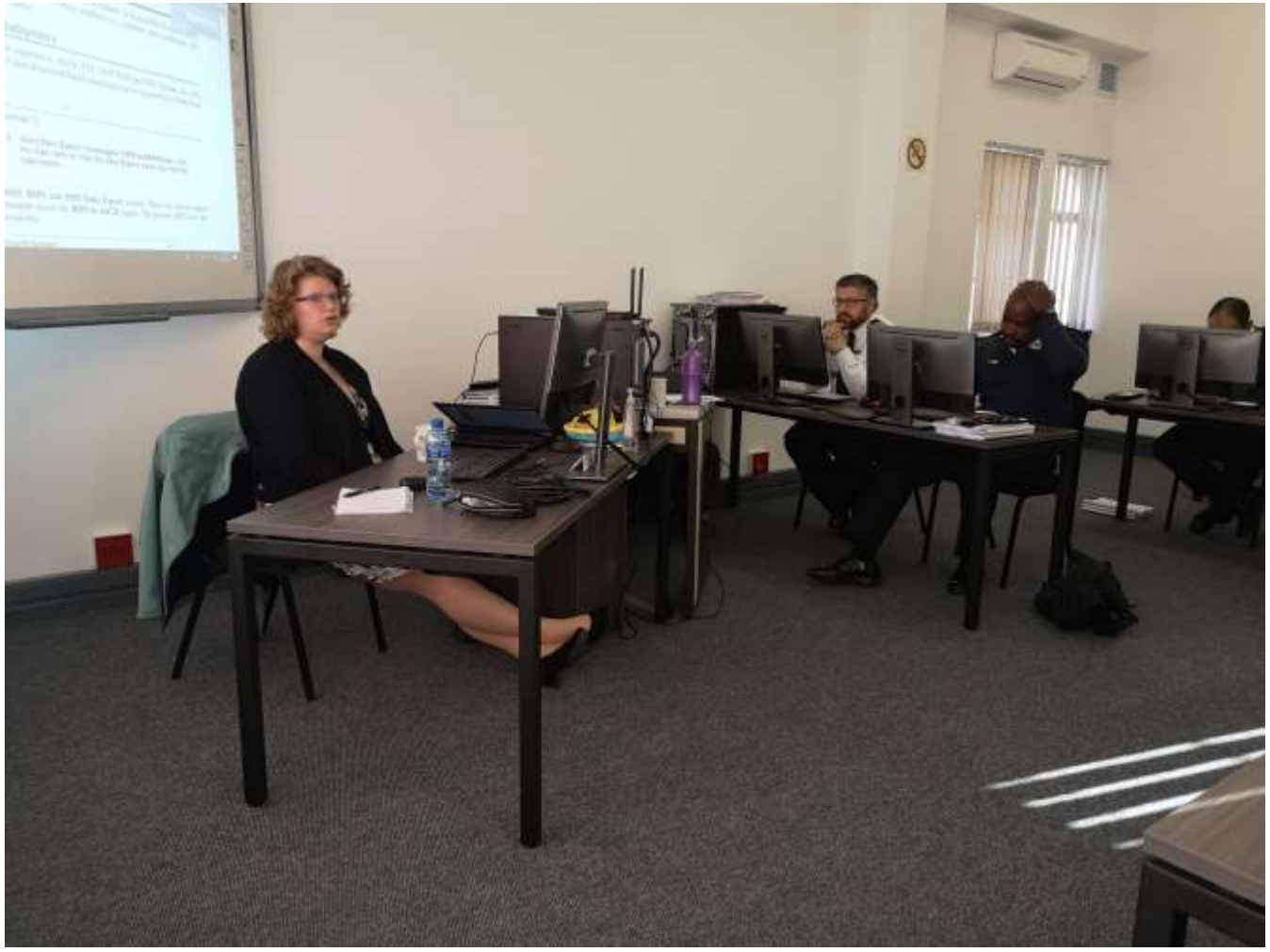
Cartographic Software Training



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Cartographic Software Training

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Cartographic Software Training

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Hydrographic Software Training

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SA Navy Hydrographic Office

Training Vision

Commander Theunissen

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SA Navy Hydrographic Office Training Vision

Centre of Excellence for training in Africa

- It is the aim of the SA Navy Hydrographic Training Facility to become the Centre of Excellence for training in Africa.
- Accomplished by providing hydrographic and basic cartographic training not only to members of the SA Navy but to international learners from across the continent.
- Embarking on IHO/FIG Category B Hydrographic Survey accreditation.

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SA Navy Hydrographic Office Training Vision

Current Training Provided

- SA Navy Hydrographic Training Facility currently presents the following courses:
  - * Survey Recorder Part 1 (Basic Operator Level)
  - * Survey Recorder Part 2 (Intermediate Operator Level)
  - * Survey Recorder Part 3 (Advanced Level) / Basic Hydrographic Survey for Officers

• Survey Recorder Part 3 (Advanced Operator Level) / Basic Hydrographic Survey for:

- * Officers envisaged to be IHO/FIG Category B Hydrographic Survey accredited.

- SANHO Training curriculum aligned to IHO curriculum.

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SA Navy Hydrographic Office Training Vision

Training Infrastructure

- SA Navy Hydrographic Training Facility is utilised for all theoretical and basic operator level training.
- Practical training on simulated survey operations using CARIS acquisition and processing software at the Training Facility.
- Further practical training conducted in the field: Hydrographic Instruction issued and learners conducting the survey by means of Training Facility infrastructure and SAS PROTEA survey equipment, including the survey motor boats.

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SA Navy Hydrographic Office Training Vision

Proposed eLearning

- SA Navy Hydrographic Office embarking on an eLearning project.
- Internet based training package that will enable interested parties to conduct basic hydrographic awareness training, as well as Maritime Safety Information (MSI) training.
- eLearning for basic hydrographic awareness training aimed at basic operator level hydrographic surveyors, while the MSI training will be aimed at both National NAVAREA Coordinator as well as operator levels.
- Availability of MSI eLearning package aimed at first quarter 2020 for comment and input.

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Open Discussion and Questions

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Thank You