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CAPACITY BUILDING AND COLLABORATION
PROGRAMS FROM KONGSBERG MARITIME

Going deep into the learning of hydrographic tools

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Going deep into the learning of hydrographic tools

Capacity building and collaboration programs from Kongsberg Maritime



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Introduction

Hydrospatial Technologies

Language

Training modes

Training Levels

Collaboration programs



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The Ocean has been one of the least explored frontiers on the planet so far. However, efforts have been made worldwide thanks to the Seabed 2030 Program, which have led to many studies and technological developments.

This global effort requires many properly trained professionals, working together for this common goal.

Hence, the business sector must join the efforts, and not only providing technology but also training solutions and professional growth options, that helps to achieve this goal successfully.





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The evolution of technology
has provided many
specialized tools for the
study of our oceans.





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Technology Development



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Evolution of systems



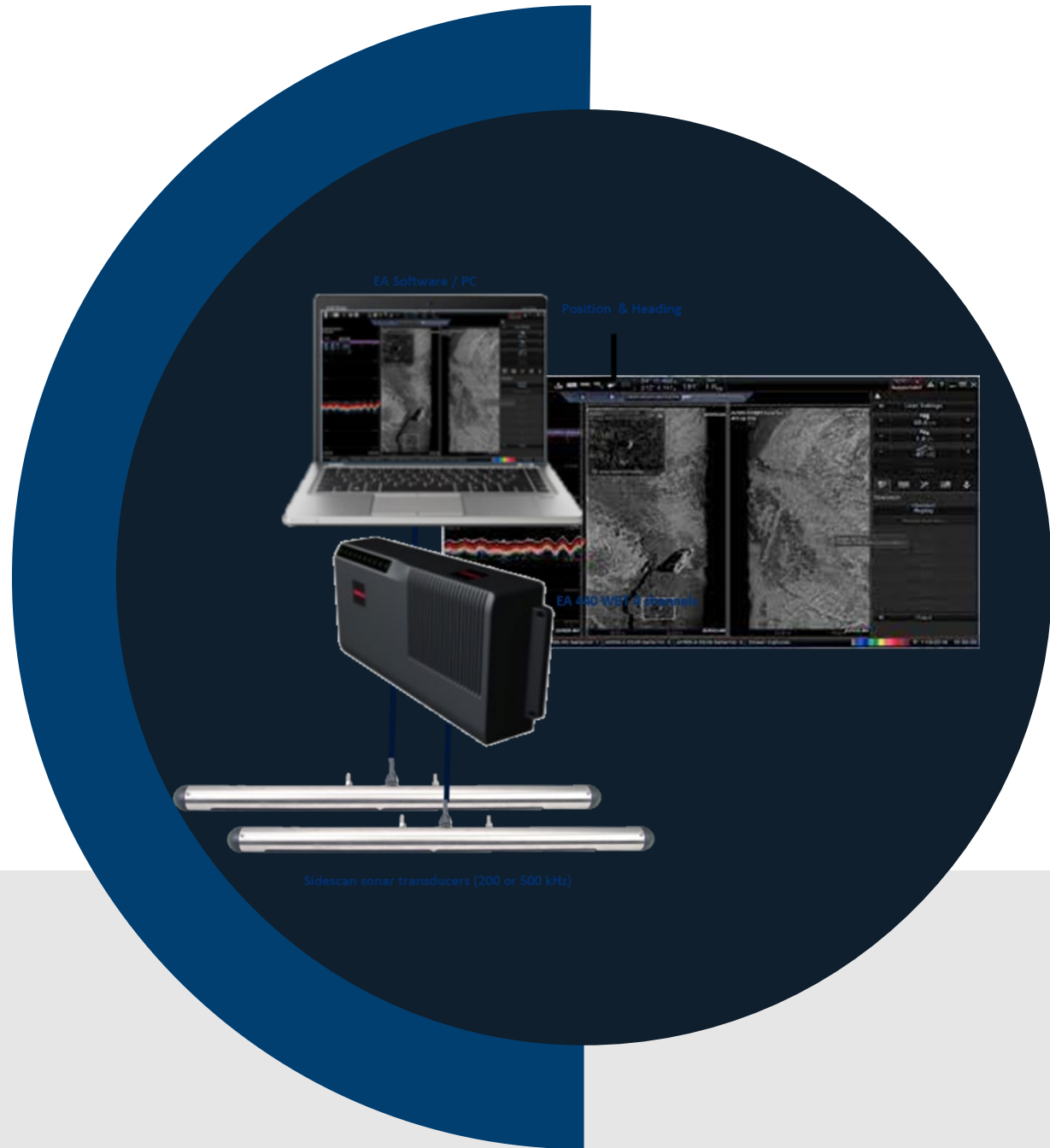
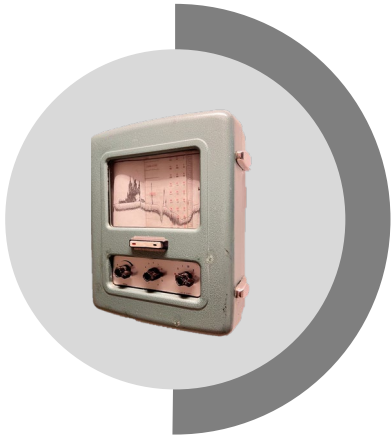
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Singlebeam Echosounder



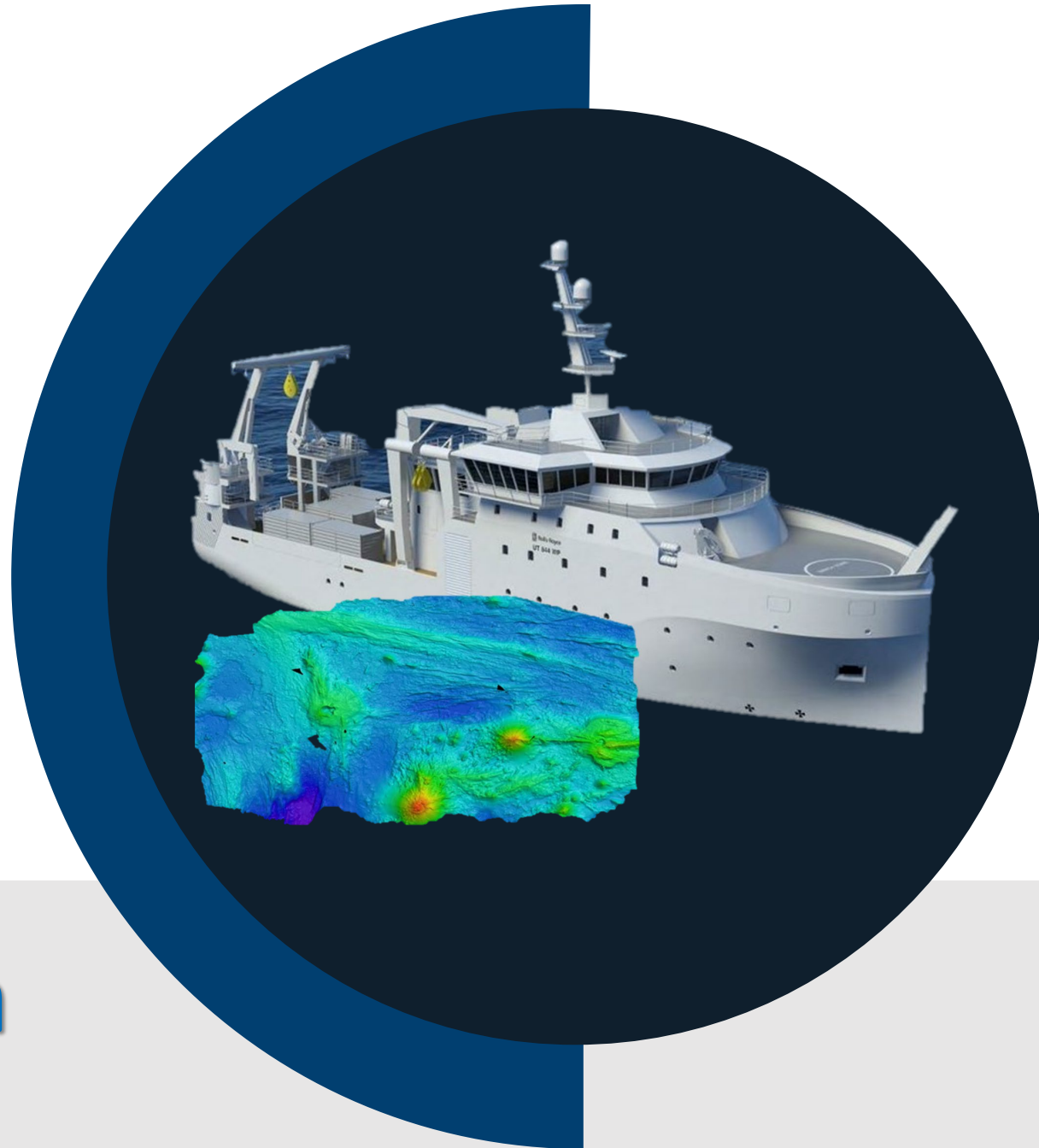
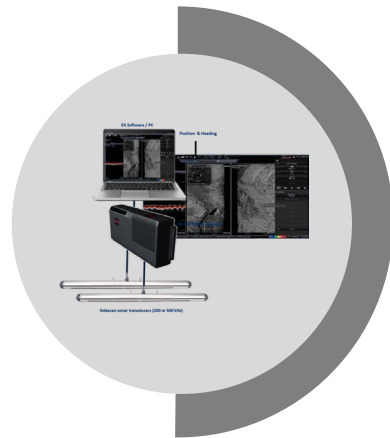
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Side Scan Sonars



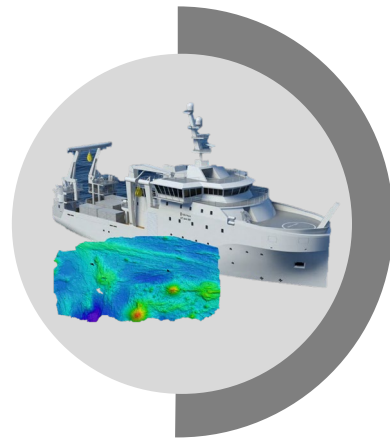
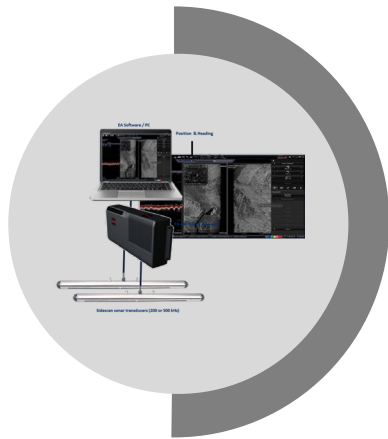
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Deep-water multibeam



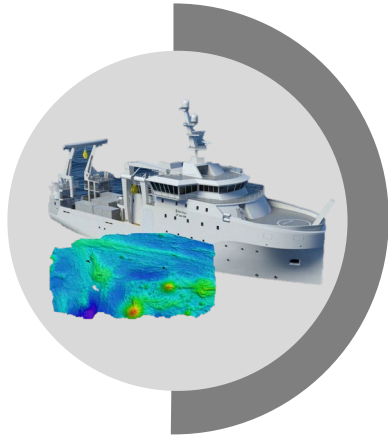
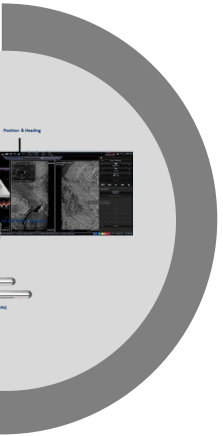
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Portable multibeam



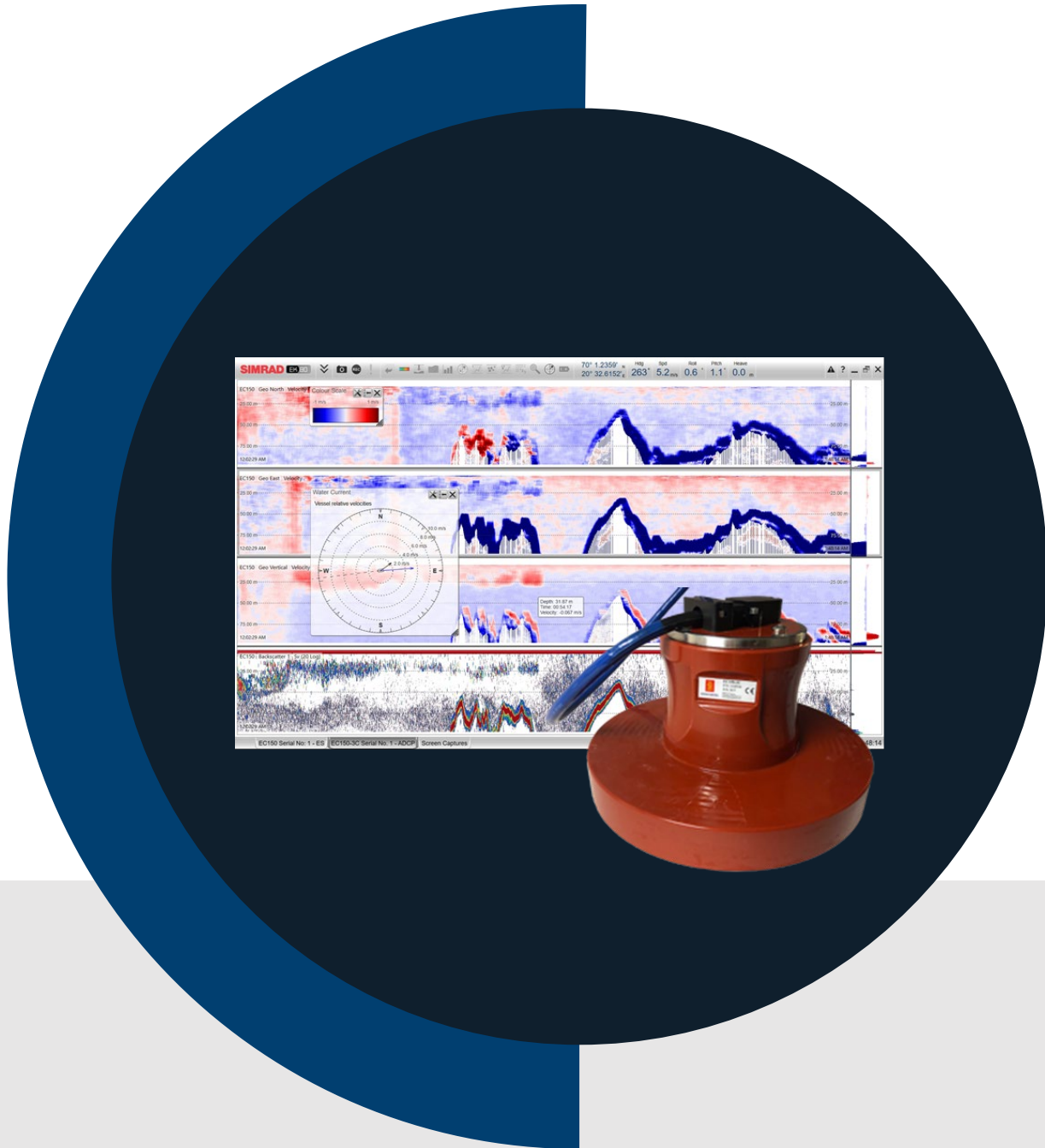
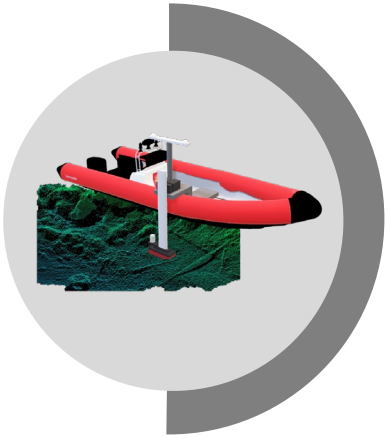
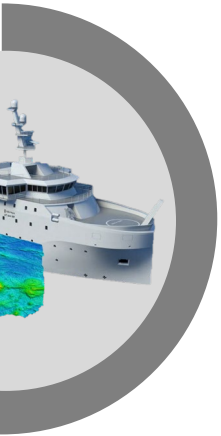
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Motion and Position systems



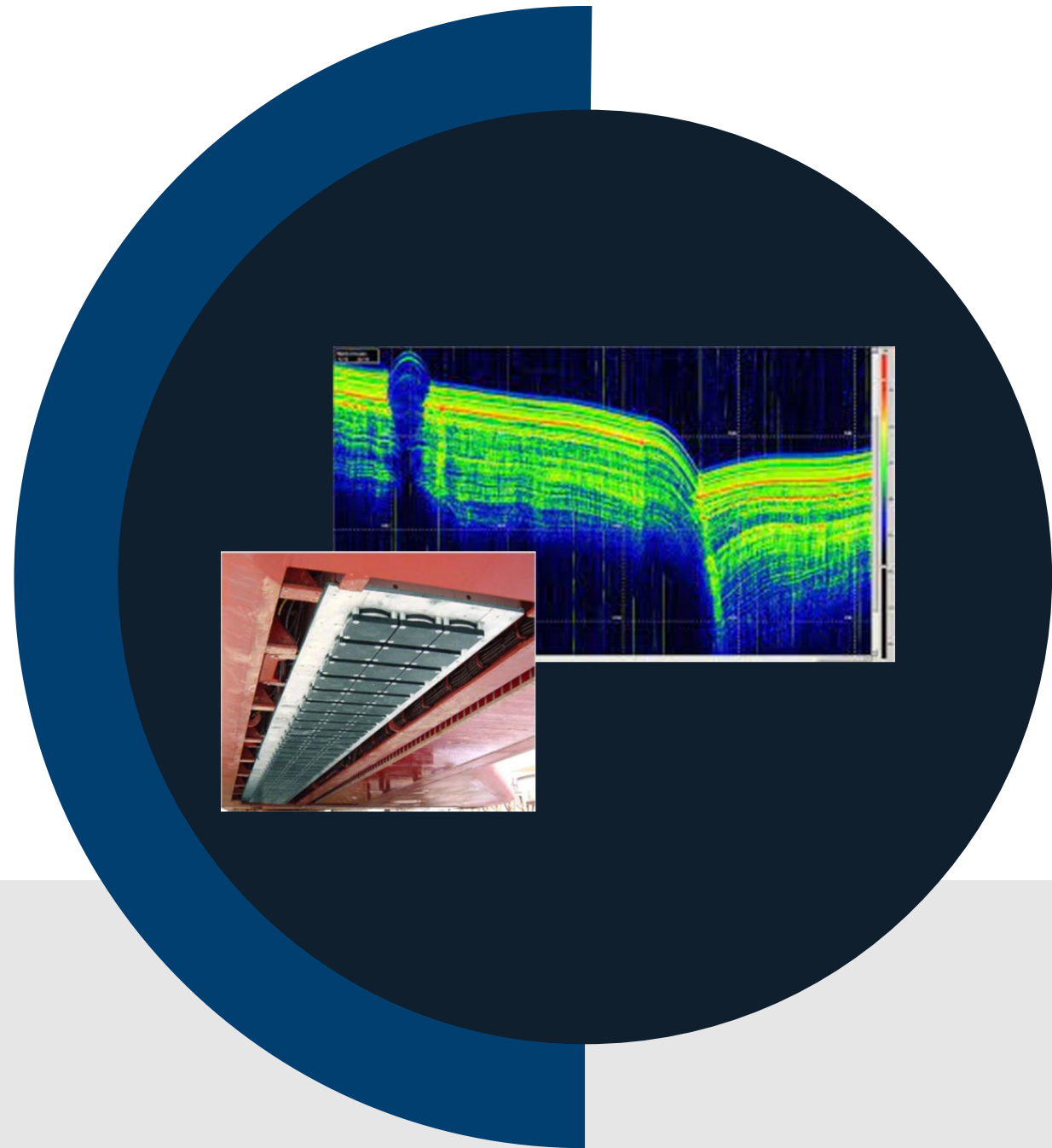
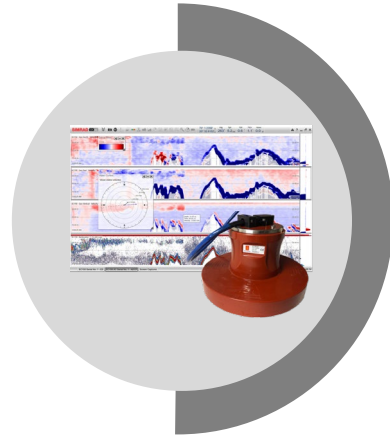
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ADCP



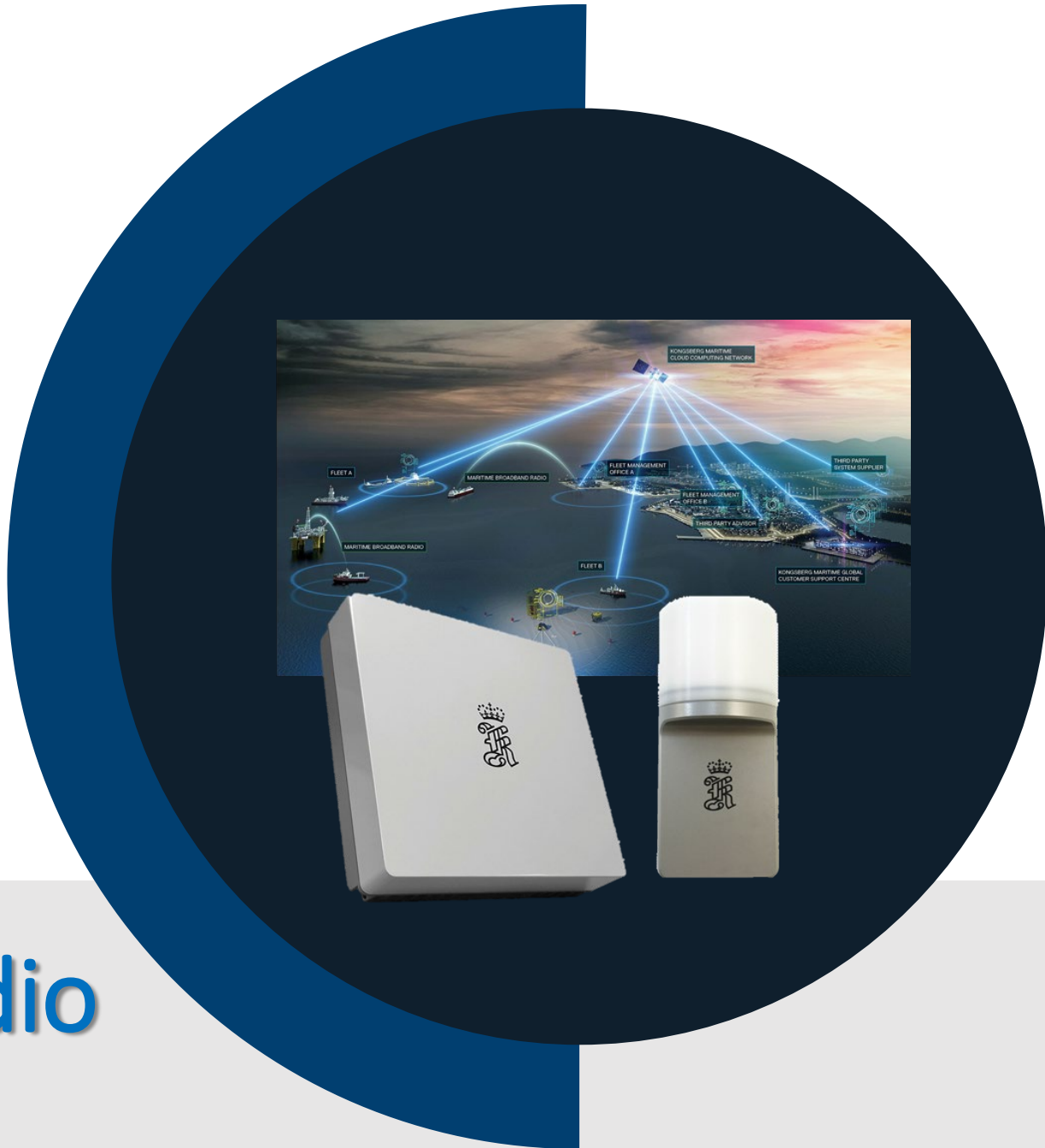
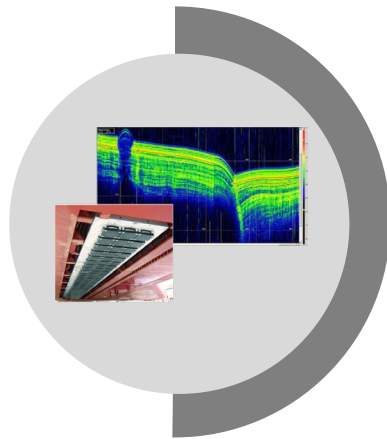
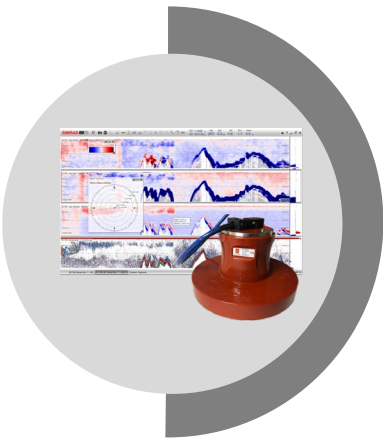
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Sub-Bottom Profiler



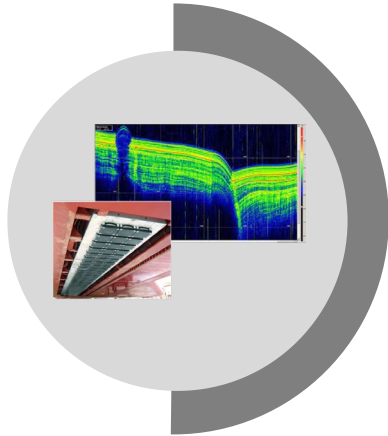
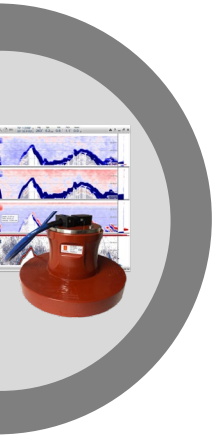
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Maritime Broadband Radio



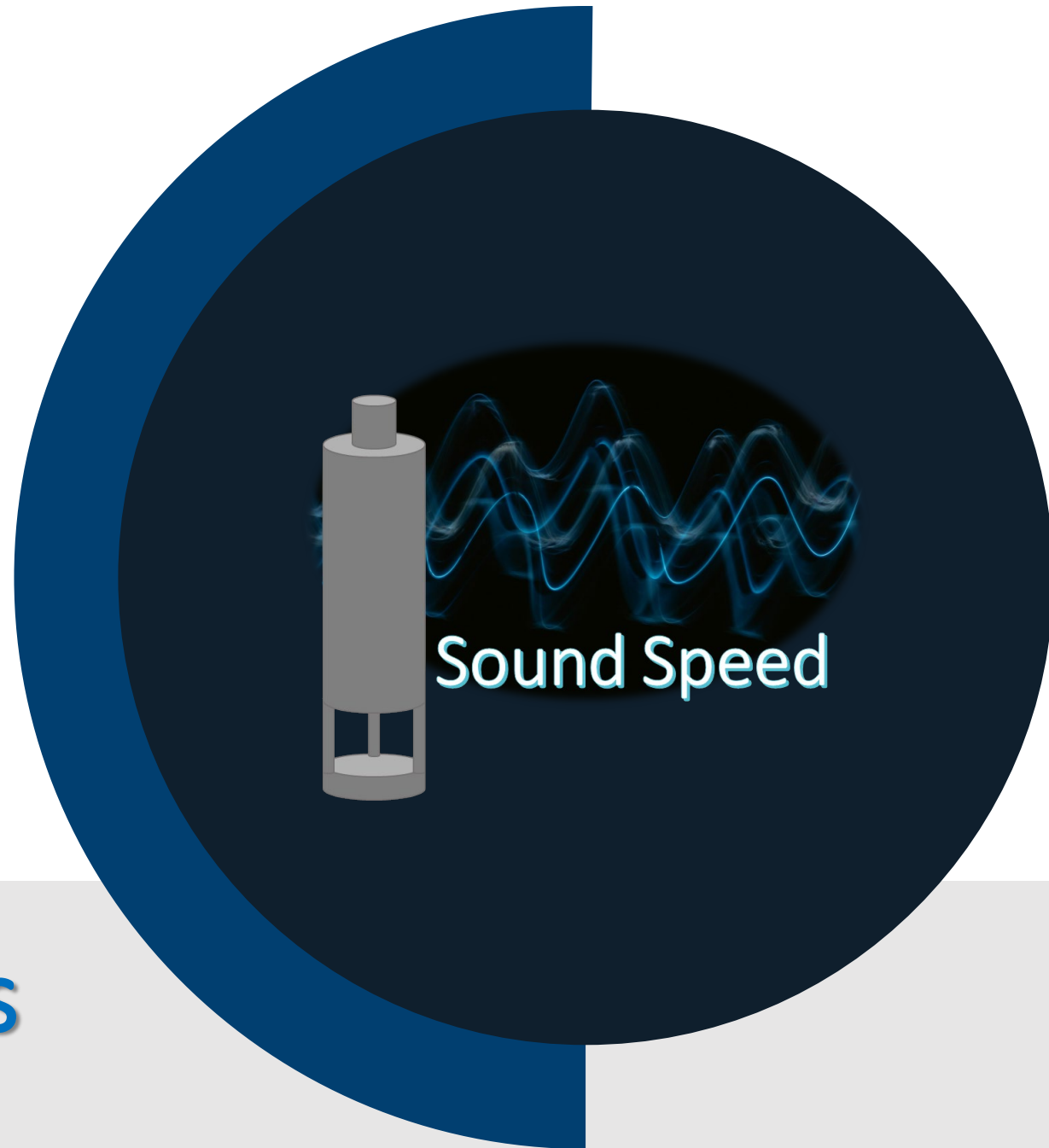
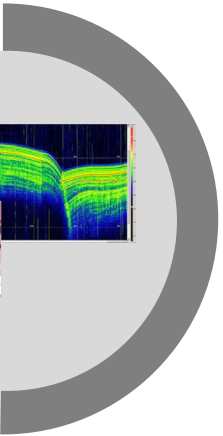
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Remote/Autonomous Operations



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Sound Velocity Sensors



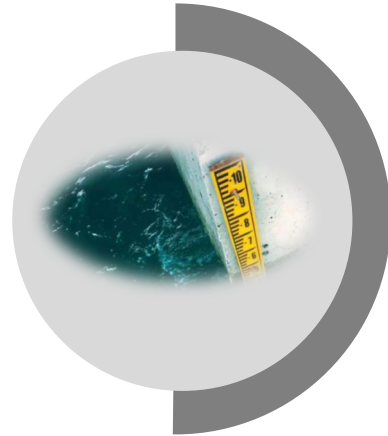
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Tide sensors



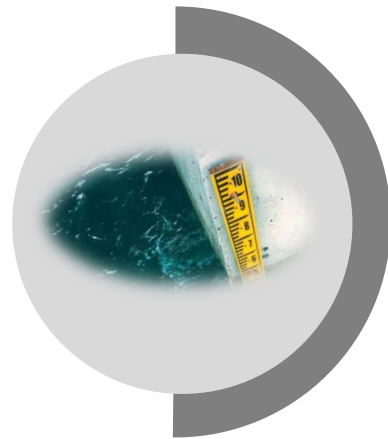
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Post-processing Software



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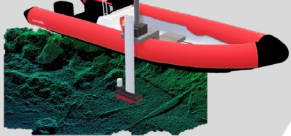
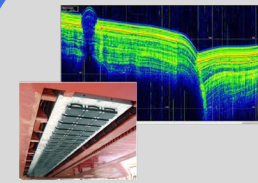
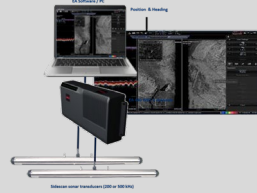




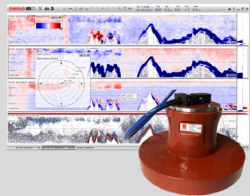
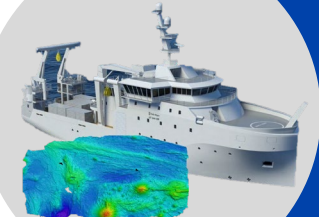
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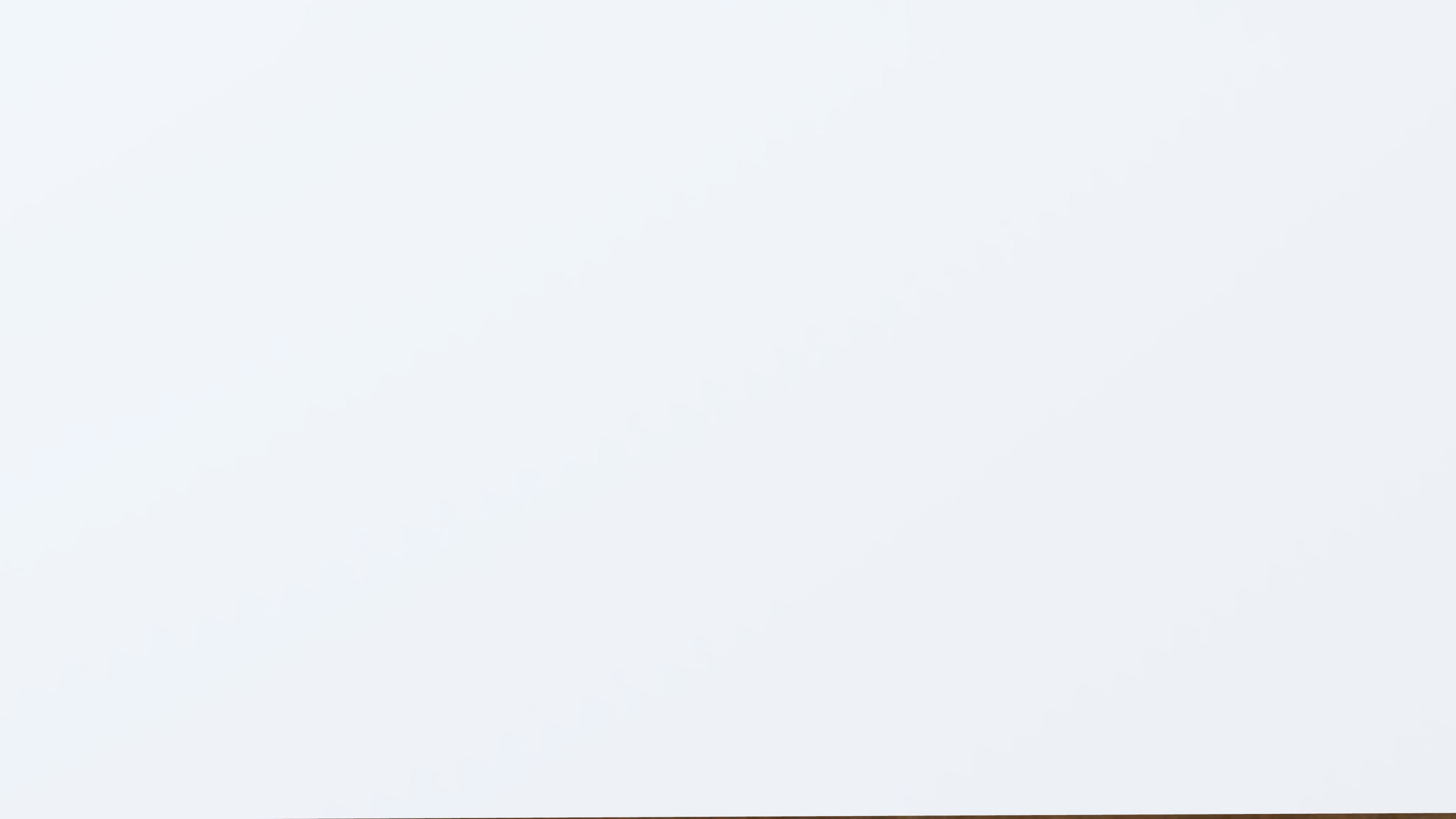


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Hydrography is a complex science that integrates different areas of knowledge, with an enormous responsibility at the strategic and security level. Therefore, professionals in this science must have the best tools and knowledge for their good performance.







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Tools



Reliable

Robust *Intuitive*

Efficient

Time saving *Constant*

Cost saving

Better Data Quality



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Tools + *Knowledge* = Success



Tools alone are not capable of building majestic sculptures

Each Tools require the hands of skilled craftsmen for the construction of masterpieces

To have skilled craftsmen requires a lot of learning and time to developed those skills



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Training modes

Classroom Training

Onsite Training

Remote Training

E-learning Training



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Classroom Training



- Good for familiarization or refreshment courses
- May not require Vessel time
- Include predefined exercise under controlled conditions
- Does not have real experience
- Does not involved the customer system





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Onsite Training



- Is the most effective training mode
- Includes Classroom and hands-on training sessions
- Include real exercise of hands-on training under customer local conditions
- Involve travel expenses
- Require vessel time





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Remote Training



- Cost efficient
- Good for refreshment sessions and familiarization
- Best and almost the only option during pandemic
- Does not include hands-on session
- Limited time for training sessions
- There is a risk of problems with connection or with simulator





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E-learning Modules



- Available every time
- Cost efficient
- Good for familiarization
- Limited number of modules can be done as e-learning
- Students don't have the option for questions and interaction
- Hard to follow the participation of students
- E-learning courses requires tremendous efforts on development





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Language



We are aware that language is a key factor in all learning process.

We noticed that some end user and operators of hydrographic equipment only speak their native languages.

Hence the importance of provide training in their language.



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Professional growth is vital in any work sector.

As in the naval career, where there is a detailed academic program that accompanies each rank promotion, our surveyor requires of constant training at different levels to grow as hydrographer.

That is why Kongsberg has focused its efforts on defining different levels and training options that accompany operators throughout their professional training.





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Level 0

Pre-Project Training

For new user we have developed remote training sessions to discuss all the details of the new acquisition and considerations for the installation process.

- Installation requirements
- Handling and storage of systems
- Mounting options
- Shipyard/customer task and supply
- Best practice for installation
- Others



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Basic Training

Level 1

This level is defined for complete operator training course, that start from the most basic theoretical concepts up to the operational aspects and maintenance requirements.

In most cases participants of this level have no previous experience on operator of hydrographic equipment.



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Level 2

Advance Training

After the initial training, users start having experience with the system and then question and doubts will appear.

Then, providing a second level training courses that goes into advance details will increase the level of the operators.



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Level 3

Assessments

Sometimes customer are requiring to “certified” that their surveyors can operate the hydrographic systems according to the manufacturer's recommendations.

We have defined a series of exercise during real operations to assess the knowledge of the participants.



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Level 4

Customer Designed

Some customer already have training programs or requires some specific application training.

In those cases, we have been working together with the customer in designing new training courses.



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Collaboration Programs

Remote Training on operations



Collaboration programs has been designed for the hydrographic offices with training and certification programs for hydrographers.

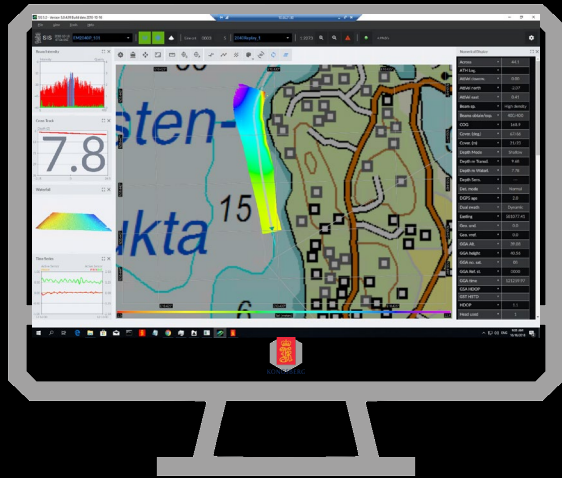
Kongsberg can provide remote training sessions to the students of hydrographic programs, on the operations of our solutions systems.



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Collaboration Programs

Software License



We can provide temporary license of most of operator software with simulator modules.

The students of Hydrographic programs will have the chance to gain experience and be familiar with the system before they go the boat.



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Collaboration Programs

Equipment



We have a set of demo and rental equipment available.

In case of emergency or natural disaster the equipment's are available to be sent to local hydrographic office if needed.



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User Conference

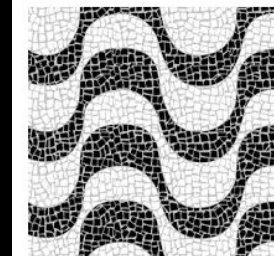
FEMME

26 - 29 SEPTEMBER 2023

[Femme 2023 - Kongsberg Maritime](#)



KAMPUS - Latin America
TBD 2023



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A word cloud of gratitude expressions in various languages. The most prominent words are "Thank You" and "Gracias". Other visible words include "Mamana", "Grazie", "MERCIE", "Obrigado", "Arigato", "Salamat", "Maahe", "Mochchakkeram", "Matur Nuwun", "Chokrane", "Maahe", "Mochchakkeram", "Matur Nuwun", "Chokrane", "Maahe", "Mochchakkeram", "Matur Nuwun", "Chokrane".





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**Thanks
Gracias
Obrigado**

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