



ECS PT

Update Since PT1

25th September 2023



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- › IHO Sub-ordinate group of the ENC WG (chaired by Tom Mellor) , established at HSSC 15.
- › Chair of the group is Andrew Richardson (UKHO) and the secretary is Dearbhla Campbell (UKHO)
- › First project teams meeting was held in Bristol on Tuesday 18th July 2023.
- › The first hybrid meeting was for Hydrographic Offices of which there were over 50 countries across the world represented with roughly 100 delegates in attendance on the day.

Objectives for the group

- › To identify and prioritize ECS navigation requirements.
- › To analyse their impacts on current IHO hydrographic standards.
- › To develop a set of recommendations/issues to be addressed by existing IHO bodies, external Organisations, and Member States.





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INTRODUCTION

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• Why ECS?

- ECS (SubECDIS) is used to describe any user group that does not use ECDIS for both primary and back up navigation.
- In response to the market trend toward digital navigation, we are looking at how we can support safe navigation for the ECS market.
- ECS is not looking to force all users onto ECDIS
- ECS is not looking to remove compliance for paper charts – it adds to the mariners' options





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WHY USE ECS?

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Maritime Risk

- Mariners increasingly using unofficial data and non-compliant digital hardware for navigation.
- Paper charts increasingly carried solely for compliance
- Growing gap in regulations with ECS mariners wanting the efficiency and feature rich digital products but who don't want or can't have ECDIS.
- An alternative to paper for official navigation is required both now and for the future when paper chart coverage is reduced.





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UKHO – UK SUB-ECDIS MARKET RESEARCH

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• Methodology

- Conducted market research in Jan & Feb 2023 on the sub-ECDIS market in UK coastal waters.
- Three key segments were identified to research in more detail – Commercial vessels below 3000 GT, Small commercial craft and Fishing vessels.
- Manufacturers & Distributors: Conducted 20 in-depth interviews with some manufacturers and distributors. These interviews were cloaked so we receive honest feedback.
- End users: Partnered with 6 trade associations to conduct an online survey to its members. Received c300 responses. Included End-users (onboard and ashore) in the segments identified above.

Manufacturers & Distributors findings

- The market wants leadership.
- There's customer anxiety - What are the new regulations? What will the alternative solution be?
- Common concerns about install an ECDIS – cost, lack of space, appetite, training, satisfying different users.
- Customers are not resistant to digital. Some said that the software isn't the issue, it's the hardware. They don't want to re-learn things. Feel electronic navigation today isn't far off from what we need.
- Mixed opinions on having a standardised vs. bespoke product.
- Need entry level solution – software that can be used on as regular PC/laptop, possibly tablet and smartphone.
- Any future regulation 'must look forward', able to evolve and adapt, and satisfy different end users.
- Concerns that more regulation will increase prices and make the solution less appealing and accessible.

End-users findings

- Most use a mix of paper and electronic charts. A sizable volume only use electronic.
- Over two-thirds had one ENC installed. A quarter had two. Chart plotters dominated, followed by ECDIS or ECDIS-like systems.
- In terms of updating systems, over half said they update weekly (less for fishing segment). Updated either by internet access onboard within the chart system, or an internet download and a manual transfer to the ECS.
- What's important when considering an ECS? Integration with other sensors/systems, reliable, compatible, chart updates published frequently and easy to update, rich functionality
- Tidal and port information appears frequently in current chart data packages. The following scored highly on the 'wish list' - navigational warnings, notice to mariners, radio service information and weather.
- GPS, AIS and compass/heading device are components that are frequently connected to the chart system. Approx 50% have radar and echo sounder connected to the chart system.



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INITIAL TASK LIST AGAINST TORS

DRAFT – ECS PR WORK PLAN 2023 – 2024

- a. to identify and prioritize ECS navigation requirements.
- b. to analyse their impacts on current IHO hydrographic standards; and
- c. to develop a set of recommendations/issues to be addressed by existing IHO bodies, external organisations, and member states.

A	TO IDENTIFY AND PRIORTISE ECS NAVIGATIONAL REQUIREMENTS	
	A-1 (A)	Review and analyse any historical user research, studies or trials and their corresponding findings within the ECS sector to date.
	A-2 (B)	Existing national regulations identified (below ECDIS National Regulatory Requirements and below ECDIS requirements but within SOLAS requirements). Determine what information we need from regulators, in what format and where it can be stored?
	A-3 (C)	Agree vessel segmentation – below ECDIS SOLAS requirements across member states – <u>similar to the UK segmentation</u> – by tonnage – down to pleasure craft – requirements mapped across to vessel types.
	A-4 (I)	Engage with organisation developing ECS hardware standards. Work with organisations (such as RTCM) to develop refence in ECS hardware standards.
	A-5 (F)	Create list of Expert Contributors to support work activities.
	A-6 (G)	Plan engagement activities around where, <u>how</u> and what we want to engage with Stakeholders on.
B	TO ANALYSE THIR IMPACTS ON CURRENT IHO HYDROGRAPHIC STANDARDS	
	B-1 (D)	S-57, S-100, or dual fuel concept for ECS solution. – focus on s-100 parts -
	B-2 (H)	Gap analysis of current data provided under regulation against unofficial ECS data and Paper Chart Coverage - ENC vs paper (chart coverage requirements -Regional Hydrographic Commissions input needed)
	B-3 (E)	Future requirements for coverage for all vessel types outside of SOLAS shipping lanes. Where are ECS craft navigating? (AIS type B?)
C	TO DEVELOP A SET OF RECOMMENDATIONS / ISSUES TO BE ADDRESSED BY EXISTING IHO BODIES, EXTERNAL ORGANISATIONS AND MEMBER STATES	
	C-1	Create summary document of the PT recommendations for potential ECS solutions
	C-2	Conduct the 2023 and 2024 meetings of the PT and its sub-group(s)



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OEM AND REGULATOR SURVEY

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Stakeholder Engagement Survey

- Engaged with the UKHO market research team to create an initial series of surveys for Hydrographic Offices and Maritime Administrations.
- Future surveys for OEMs, End users and Trade Bodies required next.
- Project is still in the discovery phase, and I believe many of the tasks are reliant on stakeholder feedback which the following surveys will help address.
- Surveys will be posted onto the IHO ECS Project page for review imminently before next PT meeting.
- The surveys (HO and Regulator) will (hopefully) be approved by the PT at the next ECS PT Meeting (VTC)
- I have used the PT discussions from the first meeting to ensure the questions being asked align to tasks list of the PT.
- Surveys will be sent out via the IHO using a SurveyMonkey link with a 3-week timeframe for recipient completion.
- The results can then be analysed and I will chase recipients separately who do not respond.



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HYDROGRAPHIC OFFICE SURVEY

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- › Survey to the regulators focuses on:
 - › 1. Migration from paper products to digital
 - › 2. Digital data provision.
 - › 3. Future S-I00 delivery timelines.
 - › 4. Future uptake of digital navigation.

<p>Q15</p>	<p>Has your maritime administrator (national regulator) provided guidance on data standards for ECS navigation?</p> <ul style="list-style-type: none"> • Yes • No • Understand they have started discussions about it • Understand they are waiting for other countries to move • Don't know <p>If yes, please provide details:</p> <p><i>Text box</i></p>	<p>Q23</p> <p>To successfully transition to digital navigation in your areas of charting responsibility, what are the three most key factors to consider? <i>Please tick up to 3 answers</i></p> <ul style="list-style-type: none"> • Cost (to purchase and install equipment) • Cyber security • Ease of transition - educating and support • Complete geographical coverage • Internet connectivity • Regulatory change • Training • Other, please specify
<p>Q16</p>	<p>Has your maritime administrator (national regulator) agreed or proposed timeframes to set regulatory change for ECS navigation?</p> <ul style="list-style-type: none"> • Yes - currently in place • Yes - within 2 years • Yes - 2-5 years • Yes - 5+ years • Yes - but no timeframes given • No - waiting for international regulations before acting • No - not a priority for us • Don't know 	<p>Q24</p> <p>Please explain why you gave those answers in the last two questions (on barriers and factors to consider)?</p> <p><i>Text box</i></p>
<p>Q17</p>	<p>Within your areas of charting responsibility, is your organisation aware of any physical gaps in your ENC coverage that would affect users? For example, ENCS not covering smaller ports etc.</p> <ul style="list-style-type: none"> • No - have suitable coverage for all users • No - not aware of any gaps • Yes - aware of gaps and have a plan to fill them • Yes - aware of gaps and have no plans to fill them • Don't know 	<p>Q25</p> <p>What do you think the ideal regulated ECS solution should be?</p> <p><i>Text box</i></p>
<p>Q18</p>	<p>Within your areas of charting responsibility, is your organisation aware of any data gaps for the ENC users? For example, the scale of published ENCs etc.</p> <ul style="list-style-type: none"> • No - have suitable coverage for all users • No - not aware of any gaps • Yes - aware of gaps and have a plan to fill them • Yes - aware of gaps and have no plans to fill them • Don't know 	<p>Q26</p> <p>What support does your organisation need from international bodies to enable necessary future change?</p> <p><i>Text box</i></p> <p>Q27</p> <p>Has your organisation completed any market research on the ECS market? If yes, please provide your or the appropriate colleague details so the IHO ECS project team can follow up.</p> <p>Name: <input type="text"/></p> <p>Email address: <input type="text"/></p> <p>Q28</p> <p>Can the IHO ECS project team contact you in future to discuss your feedback or invite you to participate in other market research?</p> <ul style="list-style-type: none"> • Yes • No



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REGULATOR SURVEY

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- › Survey to the regulators focuses on:
 - › 1. Working relationship with the associated HO.
 - › 2. Regulatory change timeframes
 - › 3. Future requirements
 - › 4. Potential barriers and key considerations in a future solution.

Q7 On a scale of 1 to 5, with 5 having a strong relationship, how would you describe your organisation's relationship with your national hydrographic office(s)?

1 Poor relationship	2	3	4	5 Strong relationship	Don't know
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Why did you give this score on your organisation's relationship with your national hydrographic office(s)?

Text box

Q8 Before we start talking about the digital navigation, it would be good to understand a little about your [organisations](#) regulatory framework.

Does your organisation apply a different regulatory framework to different types of vessels [i.e.](#) vessels of different size or tonnage, commercial or leisure/pleasure?

- Yes
- No
- Don't know

Q9 Are you aware of vessels navigating on data not provided by hydrographic offices? For [example](#) crowdsourced data in ECS.

- Yes
- No
- Don't know

Q10 Have you regulated any navigational products that are not supplied by hydrographic offices?

- Yes
- No
- Don't know

If yes, please provide [examples](#)

Text box

Q13 Has your organisation proposed timeframes to set regulatory change for compliant digital navigation for the ECS user?

- Yes – currently in [place](#)
- Yes – within 2 [years](#)
- Yes – 2-5 [years](#)
- Yes – 5+ years
- Yes – but no timeframes [given](#)
- No – waiting for international regulations before acting
- No – not a priority for [us](#)
- Don't know

Q14 Within the countries you are responsible for, what do you think are the three main barriers ship owners or mariners will have to move to digital navigation?

Please tick up to 3 answers

- Do not think any barriers [exist](#)
- Cost to purchase and install [equipment](#)
- Cyber security
- Ease of transition
- Geographical coverage
- Internet connectivity
- Regulatory change
- Training
- Other, please specify

Of the three barriers you selected, which one is the most important? Please provide reasons for selecting this barrier.

Text box

Q15 When does your organisation think that [particular barrier](#) will be removed?

- In less than 5 years
- In 5-10 years
- More than 10 years
- Don't know

- › The UK MCA has been used as a trial audience to help ensure the first draft is asking the right questions.



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WHAT NEXT?

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- OEMs and end user surveys to be drafted.
- Widen meeting audiences and set up sessions to engage with OEMs and regulators.
- A shared document with contact details needs to be created and filled out by members of the ECS PT esp. for regulators.
- Start to map hardware and data requirements for ECS to broad shipping segments.
- Contact IMO to see if they have a register or regulators and contact details.
- Review actions log of first PT.



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OTHER ENGAGEMENT

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- RIN (Royal Institute for Navigation) have requested a meeting as they believe they can help provide input to the 25m and under category.
- Schedule a meeting with Australian HO and AMSA (Australian Maritime Safety Authority)
- Indian HO and Cayman Islands PSI visits to UKHO.
- Continued Input to RTCM SC-109 on ECS hardware standard and S-100 integration updating.
- CIRM overview presentation next week in Turkey to ECDIS OEMs on ECS PT.



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Any questions ?



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9. Next Meeting

VTC Wednesday 25th October



Segmentation – UK waters

Segment	Categories	Requirements	Regulation/s
1	Commercial: <ul style="list-style-type: none"> • ≥500GT Passenger Ships (PAX) Date of Build (DoB) ≥1/7/2012; • ≥3,000GT Tanker DoB ≥1/7/2012; • ≥10,000GT Cargo DoB ≥1/7/2013; • ≥3,000GT Cargo DoB ≥1/7/2014. • Fishing Vessels ≥24m 	Paper or ECDIS	SOLAS / The Merchant Shipping (Safety of Navigation) Regulations 2020 FV ≥24m: MSN 1873 A1(F)
2	Any (commercial or pleasure) over 150GT but less than category 1	Paper, ECDIS or 'official ECS'	The Merchant Shipping (Safety of Navigation) Regulations 2020
3	Non-cargo but vessels for sport or pleasure in commercial use		Ref. para 1 of the Code of Practice for Intended Pleasure Vessels in Temporary Commercial Use at Sea (IPV Code), which differentiates the commercial use (outside of the pleasure vessel definition). Further relevant references in MGN 597, 598, 599 etc.
4	Fishing vessels ≥15 to <24m		FV ≥15 to <24m: MGN 628; MSN 1872 A1(F); and
5	Fishing vessels <15m		FV <15m: MGN 268; MSN 1871 A2(F); MGN 293; MGN 319;
6	Pleasure vessels under 150GT	No charting requirements	MGN 599 (Pleasure vessels - Regulations and exemptions - Guidance and best practice advice)