

**S-129 UKCM Project Team Meeting
Record of Meeting**

1330 – 1700, 26 September 2019
IHO HQ, Monaco

1. Welcome and introductions

The Chair opened the meeting at 1330.

A list of attendees is at attachment 1.

2. Acceptance of the agenda

The draft agenda was accepted, noting that the start of the meeting was delayed from 1000 to 1330 to permit key attendees to participate in the closing stages of IHO's S-100 TS meeting. The draft agenda is at attachment 2.

3. Summary of testing and testing opportunities to date

a. Practicalities and specifics for testing (all):

This was discussed within some of the other agenda items rather than specifically.

b. Data transmission, file sizes etc.

Discussions resulted in the following suggestions:

- S-129 file sizes when compressed could be around 80kb,
- Edge computing in the future might be able to help reduce files sizes,
- information and guidance on S-129 file sizes will best be addressed in the S-129 technical service specification (yet to be developed).
- Chris Hens (OMC) advised that their experience with DUKC, indicates file sizes are typically 2 MB before compression and 0.5 MB before/after compression.

c. Test data sharing – IHO mechanism?

This was not specifically addressed. However, the Chair will discuss with the IHO secretariat whether the IHO website could be used to host test data sets.

<u>ACTION 1</u> – Chair to seek advice from IHO secretariat via email
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d. Work flow - how will vessels request S-129 data?

Issue - UKCM user workflow. A discussion was had about the way that users will engage with UKCM service providers. For example, after planning a passage when UCKM areas are discovered along the intended route, there needs to be a way for users to learn how to engage with the UKCM service. It was agreed that the S-129 technical service specification would be a good place to cover UKCM workflow.

The outworking of this for the way that ECDIS will operate is something that will need further development and testing.

e. How to obtain end-user feedback?

A discussion was held about how end user feedback on testing could be arranged.

- Suggestions offered included making use of the following:
- pilot bodies,
- OMC has several marine pilots in their employ,
- pilots that use OMC UKCM systems (e.g. Australian coastal pilots),
- training organisations,
- upcoming stakeholder engagement events (e.g. NI and CIRM event at INMARSAT in Nov 19 and IHO event at the next HSSC meeting in Bristol (week of 11 May 20)).

ACTION 2 - It was agreed that those who could engage in discussions with end users to elicit feedback would do so. In particular, Ed Weaver (WR systems) would take up opportunities with US pilot organisations. Seojeong Lee (KMOU) would canvas students at KMOU.

Suggestions were also made to use online surveys such as Survey Monkey, Google surveys, etc.

5. Presentation from Chris Hens (OMC) and Svein Skjaeveland (ECC/Primar, Norway) with OMC on a test case for S-129

Svein Skjaeveland (PRIMAR) provided a presentation updating on the development of S-102 and a project to combine several S-100 information types, including:

- ships route information
- water management and Marine Spatial Planning
- cruise ship specific risk assessments
- surface currents - S-129 UKCM is going to be overlaid on the test to display surface current of Karmsund Strait provided by VTS.

The project uses routes provided by the Norwegian Coastal Administration and the scope covers a maritime planning process, management planning, risk assessment. The risk assessment is tested at the Carnival cruise simulation centre in Stavanger, Norway.

The project has good potential for testing S-129 since one of the aims is to take the demonstration to end users. Svein indicated that Torres Strait and the UKCM system in place there, may be able to be included within their project.

In discussion, a few more busy traffic areas were proposed where UKCM could be tested (e.g. Svinesund, between Norway and Sweden, and the northern Norwegian Straits).

Primar and OMC will explore chances to collaborate which could result in opportunities to test S-129.

Chris Hens provided information about the mechanism OMC uses for their DUKC service.

ACTION 3 - Chris Hens and Svein will meet to discuss options and possibilities and report back to the S-129 PT in due course.

6. KHOA topics (KHOA):

a. Report on recent S-129 tests in Korea

Yong Baek (KHOA) presented the S-100 portrayal test on their survey ship in late August, 2019 at the S-100 TSM sea trials. It was mentioned that Julia Powell (S-100 WG Chair) and Tom Mellor (ENCMWG Chair) participated in the sea trials.

Symbols for several S-100 product specifications were tested including S-129 UKCM, however the information of S-129 UKCM was not fed in real time, but control points and non-navigable and almost non-navigable areas were predefined for use in the sea trials.

b. Visualisation demonstration of S-129 data

Dongwoo Kang (KRISO) showed an example of S-129 UKCM portrayal which was completed as part of KHOA's experimental testing. Screen shots from the testing are included in attachment 3.

c. Options to test S-100 based products

KHOA will open a website after the next IHO Council meeting (late October 19) on which IHO member states and organisations can test several S-100 based products online.

For the S-129 UKCM test, Yong Baek may be able to open this site before the council meeting. Chris Hens will send software APIs to KHOA. Nick Lemon advised that some S-129 test data and the Torres Strait ENC have previously been made available via email.

d. Improvement of S-129 symbols

KOHA provided a demonstration of initial portrayal which prompted discussion that concluded a starting point for portrayal should be the use of coloured, transparent

hatching. Varying width of hatching could differentiate no-go and almost no-go areas.

A known issue with ECDIS is that very small or point dangers (e.g. small, isolated no-go or almost no-go areas) should display at a minimum, visible size so as to be obvious to users when viewing displays at smaller scales.

KOHA kindly offered to use their online S-100 web viewer (after it is agreed to be made more broadly available at the next IHO Council Meeting in October) to prepare examples of S-129 portrayal and symbology. The intention is that the results will be able to be used by the S-129 PT to repetitively test and refine S-129 portrayal and symbology. The Torres Strait ENC and examples of S-129 data produced by OMC will be used in these tests.

Testing of proposed visualisation of non-navigable and almost non-navigable areas (e.g. are the colours and transparency OK? Clear identity of control points?) should consider the following:

- deciding any specific colours to display areas for S-129 UKCM is not easy as colours cannot be identified as the original ones by different background colours and different circumstances
- in the case of dusk or night mode, somehow applying patterns for those areas like hashes is better than displaying with any colours, however, hashes are not identified as a pattern when the scale is too small to display them.
- to reduce this issue, particular grids could be recommended to use the pattern, but it is also not a proper solution as every user has a particular scale to prefer depending on specific waterway circumstances.

It was felt that there would be role for the S-129 UKCM technical service specification (based on IALA's guideline G1128), including a baseline on user interfaces which the pilot and the OOW should both use.

7. How to deal with “not assessed” areas of waterways? (OMC)

Issue – what to do with un-assessed areas?

Initially, a new ‘non-assessed’ area was suggested by OMC to reduce confusion about areas that could not be assessed, either because the quality of the bathymetry is poor or they lay well outside areas normally traversed by ships.

After discussion it was concluded that the UKCM service provider should include out of channel, un-assessed areas within the no-go area. The requirement to do this should be included in the technical service specification, but it may also need to be reflected in S-129.

8. Security and encryption requirements and methodologies (all)

Issue – security/encryption.

This will be significant issue, although not one the S-129 PT needs to address. In discussion it was agreed that S-421 (routes) and S-129 will both require use of security/encryption. Use of official certificates for encryption will need to be arranged for use by issuers of S-129 data.

[Note: The Chair separately received information from the Chair of IEC TC80, about work being undertaken to develop an IEC document on Maritime Navigation and Radiocommunication Equipment and Systems – Data Interface. Part 2 of this document covers the secure exchange and communication of S-100 based products (SECOM)]

ACTION 4 – chair to provide information on SECOM to S-129 PT members.

9. UKCM technical service specification documentation

a. Issue – the need for a technical service specification for S-129 based on IALA guideline G1128 (e.g. S-124 technical service specification example)

After introducing the topic, including mention of the existence of a technical service specification for S-124 (MSI), it was agreed that the S-129 PT should start work to prepare a technical service specification for S-129.

ACTION 5 - The chair will provide members with a copy of IALA's guideline on technical service specifications (IALA G1128) and the S-124 technical service specification.

The group recognised and agreed to this work.

b. Establishing a communications conduit – Swedish work could provide a viable way ahead

There was a short discussion on this topic that included keeping the emerging VHF Data Exchange System (VDDES) as a key candidate.

10. AOB

a. S-129 Data Quality

A discussion on data quality took place to share information about the typical way UKCM products will be produced and shared. The discussion facilitated greater understanding of the difficulties likely to be involved. Members were directed to section 13 of S-129 Ver 1.0. The chair of the DQWG, Rogier Broekman, offered to undertake a review of S-129 from a data quality perspective. This will be put on the agenda for the next DQWG meeting in Feb 2020. The chair of the DQWG will report the outcome of the review to the S-129 PT.

ACTION 6 - Rogier Broekman to undertake a review of S-129 from a data quality perspective.

b. Correction needed to S-129 Ver 1.0

In the preceding S-100 TS meeting, Svein had identified that S-129 Ver 1.0 needed a correction to address the cancellation feature (ref. to Svein's PowerPoint presentation at the S-100 TS meeting), which he and Seojeong Lee will look into and action.

Further, S-100 version 5 will be released in mid-2020 which is anticipated to revise the description guideline for metadata. The group recognized that S-129 UKCM PS ver.1.0 will need to be updated to align with S-100 Ver 5.

ACTION 7 - Svein and Seojeong to provide an update to the affected sections (i.e. notes for 19.1 and 19.4). It came up in discussion that S-129 will need minor amendments when S-100 Ver 5.0 is delivered.

c. Reforming the S-129 PT for testing and development

The Chair proposed to reform the S-129 PT and to invite members of the current S-129 team to nominate whether they wanted to be part of the re-formed S-129 PT. The meeting agreed this would be helpful and add clarity as to who was actively part of the further development and test of S-129.

11. Next meeting – potentially NZ in May 2020

There is an opportunity to convene a meeting in May or June 2020 in New Zealand to align with a meeting of the S-101 ENC WG. Such a follow-up meeting would serve to monitor progress of tests and consequential updates to S-129 ver 1.0, the development of an S-129 technical service specification and development of S-129 display symbology.

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Agenda

1. Welcome and introductions (chair)
2. Acceptance of the agenda (chair)
3. Summary of testing and testing opportunities to date (all)
4. Practicalities and specifics for testing (all):
 - a. Testing of proposed visualisation of no-go/almost no-go areas (e.g. are the colours and transparency OK? Clear identity of control points?)
 - b. Data transmission, file sizes etc.
 - c. Test data sharing – IHO mechanism?
 - d. Work flow - how will vessels request S-129 data?
 - e. How to obtain end-user feedback?
5. Presentation from Chris Hens (OMC) and Svein Skjaeveland (ECC/Primar, Norway) with OMC on a test case for S-129
6. KHOA topics (KHOA):
 - a. Report on recent S-129 tests in Korea
 - b. Visualisation demonstration of S-129 data
 - c. Options to test S-100 based products
 - d. Improvement of S-129 symbols
7. How to deal with “not assessed” areas of waterways? (OMC)
8. Security and encryption requirements and methodologies (all)
9. UKCM service specification documentation
 - a. Supporting IALA G1128 specification of e-navigation technical services – developing a technical service specification for S-129 UKCM (S-124 technical service specification example)
 - b. Establishing a communications conduit – Swedish work could provide a viable way ahead
10. AOB
11. Next meeting – NZ in May 2020

List of participants

Participant	Organisation	e-mail
Nick Lemon (Chair)	Australian Maritime Safety Authority (AMSA)	nick.lemon@amsa.gov.au
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DRAFT

Korean demonstration of symbology testing capability

