



14th Meeting of the Hydrographic Services and Standards Committee

S-100 ECDIS Dual Fuel Mode Governance Document Update

Agenda Item 05.1G

HSSC-14, Denpasar-Bali Indonesia, 16-19 May 2022



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S-100 ECDIS GOVERNANCE DOCUMENT.

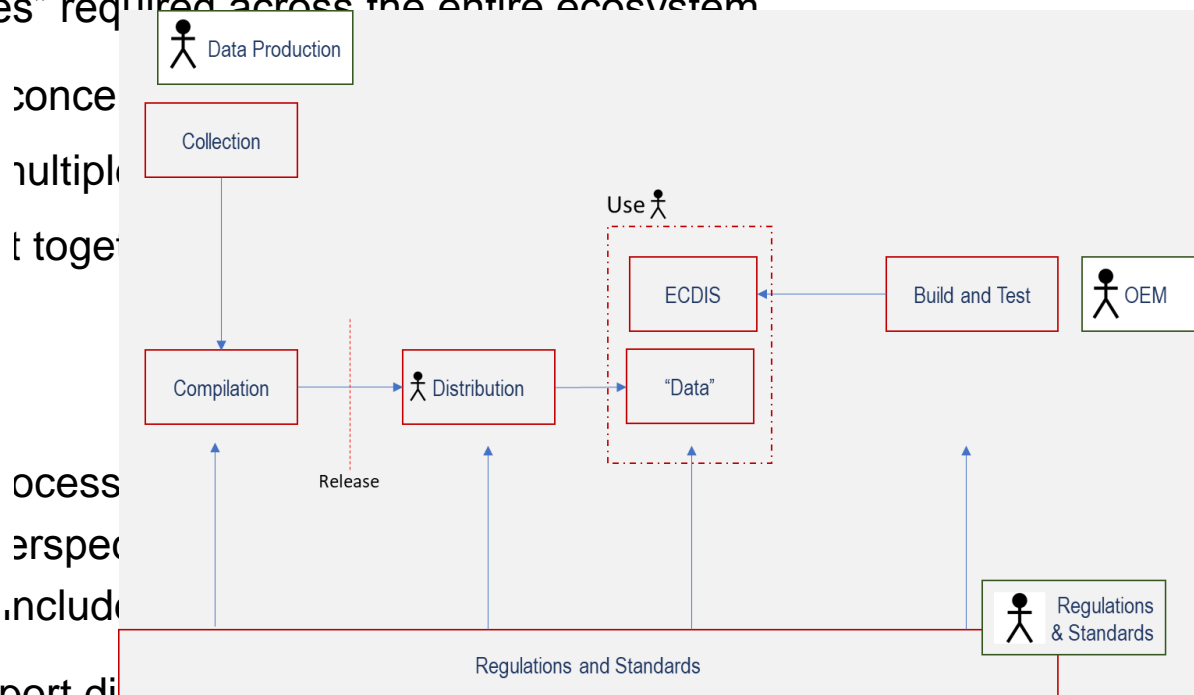
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The Governance Document has the following aims:

1. Recognise and define each of the stakeholders and end users of the S-100 ECDIS Capture all the relevant details at a high level and describe the “changes” required across the entire ecosystem

The Governance Document has the following aims:

1. Identify Stakeholders and their needs
2. For the first time, look in **detail** at how S-100 ECDIS will operate in practice
3. Form an authoritative, joined up picture of Dual Fuel Mode
4. To identify any gaps in its concept, operation and support
5. Suggest useful actions to address gaps where possible
6. Communicate with all stakeholders



5. Define how primary supporting bodies can support distribution and any likely changes.
6. Define summary information suitable for communication with IHO member state stakeholders and the community defining S-100 ECDIS focused on the IMO Performance Standard



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PROJECT EXECUTION

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- Series of workshops held for
 - OEMs
 - Data Producers and IHO Member States
 - S100WG Technical Representatives
 - Additional sessions
- Production of Draft
- Stakeholder and S100WG Review and Comment

- Final Version 1.0 Production



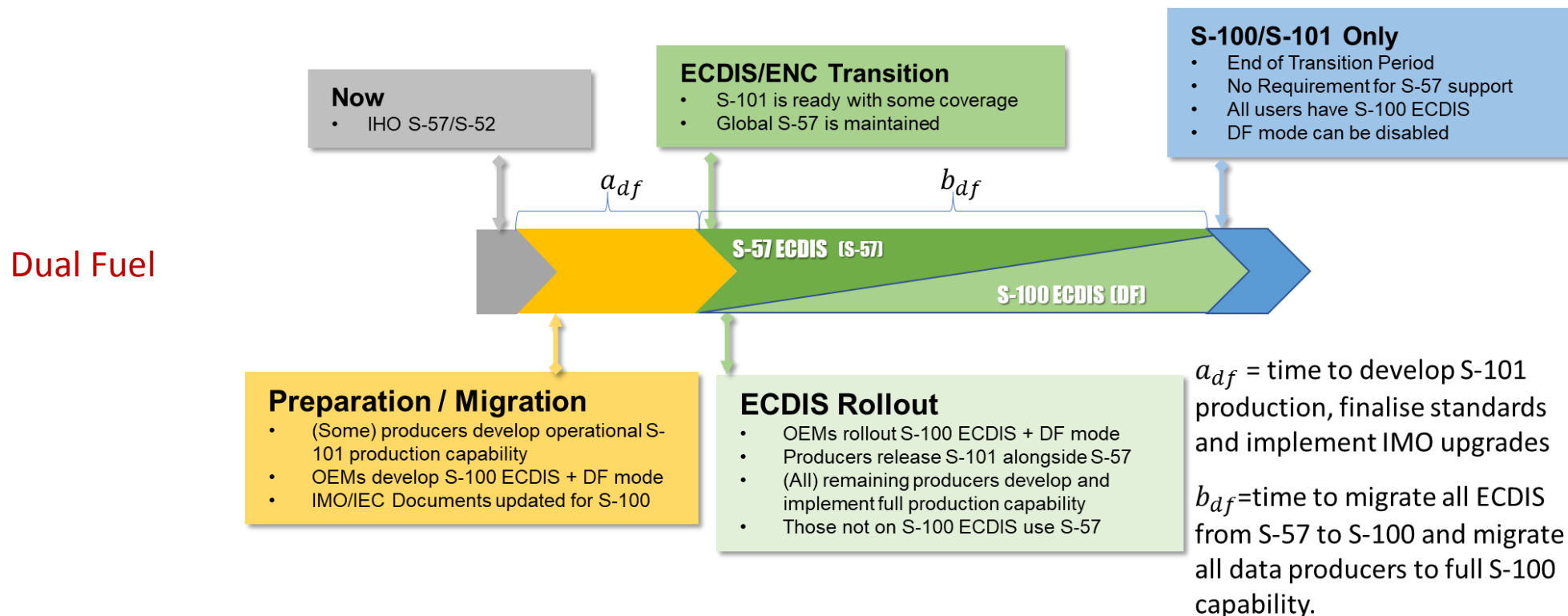
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WHY DO WE NEED DUAL FUEL?

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The rationale of Dual Fuel Mode as the means of delivering transition from S-57 to S-101 charts is that:

- The challenge of migrating ENC chart production from the S-57 form to the new S-101 form, is simply not perfect nor complete
- Waiting until all data producers have fully transitioned to S-101 entails substantial delays for both data producers, OEMs and end users.



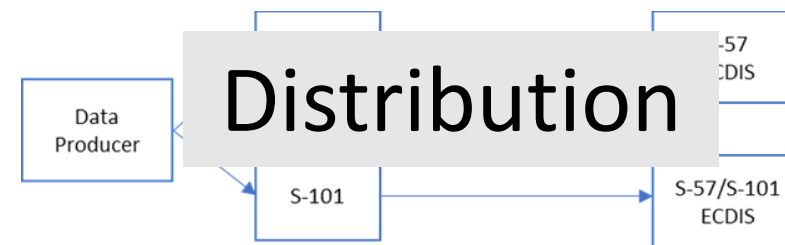
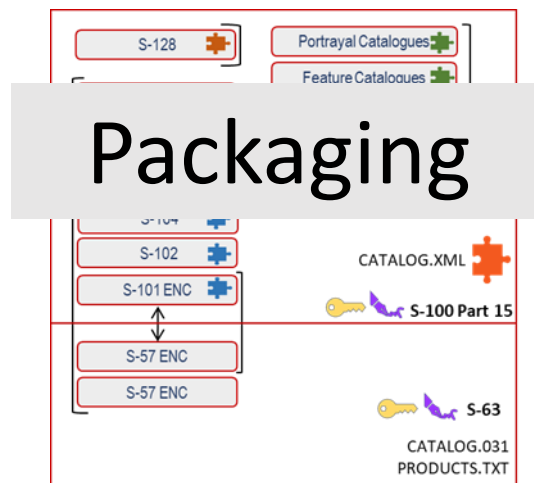
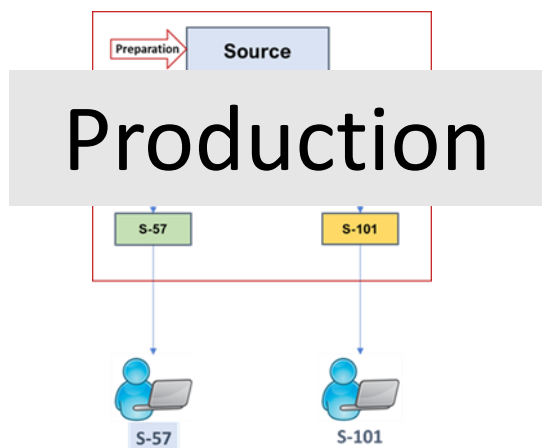


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WHAT IS DUAL FUEL MODE?

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Production and use of both S-57 and S-101 ENC during the transition period.
Applies across the whole chain



On the ECDIS it applies vertically as well as horizontally



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DUAL FUEL MODE SUMMARY

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- There are no substantial technical objections to DF mode operation on the ECDIS. Most OEMs have implemented multiple data portrayal/operation before with other data products
- Many unknowns are around support and clarifications of how it is to work in practice
- There are still some areas which remain to be worked out, notably loading strategy, the equivalence of charts between S-57/S-101 and how a single user interface can be presented (instead of two). There remain significant dependencies as well.
- Operation of DF mode needs to be enhanced to define vertical as well as horizontal priorities
- S-98 Annex C contains initial guidance on Dual Fuel operation. This can be refined with S-98 v1.0.0 testing



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IDENTIFIED AREAS FOR DEVELOPMENT

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- A number of areas have been identified as “gaps”
- Where action is required by S-100WG or for input to IMO/IEC processes
- These presented as an Annex in the governance document
- They can be categorised and grouped
 - Those concerned with S-100 ECDIS operation (the foundation for DF mode)
 - Those concerned with actual DF mode itself
- Some require documentation, some discussion and others development and incorporation into standards
- S-98, S-100 Product specifications, IHO support, auxiliary documentation



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AREAS FOR DEVELOPMENT S-100 ECDIS OPERATION

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- **Overall Scope of Implementation for OEMs.** How much of S-100 is required for ECDIS?
- **Core S-100 ECDIS operating model.** Needs holistic description. Distribution, Import, Selection, Portrayal and Use.
- **Number of revisions to support on ECDIS.** How many revisions of product specs to support (≥ 2 ?) and process for their rollout to end users (and stakeholder consultation process)
- **What Overlays what?** Can all producers overlay ENC's or should it be restricted. Should the ENC layer be S-57 and S-101?
- **Categorisation of Product Specifications.** ENC's, ENC enhancement, Nautical Publications proposed. Needs assignment of categories and statements of equivalence
- **Impacts of enhanced functionality.** New features on ECDIS need thorough testing by end users and data producers.
- **Impact of changes on end user.** Governance of changes rolled out to the user during (and after) transition period.
- **How to update S-100?** Is edition 5.x.x the last version of S-100 for ECDIS
- **S-128.** Crucial position for revision control / catalogues.



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IDENTIFIED AREAS FOR DEVELOPMENT

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Specifically Dual Fuel

- **Loading Strategy.** Currently incomplete for ENC's and non-ENC data
- **Dataset Versions.** No defined mapping between “S-100 version of a corresponding S-57 cell”
- **Revision of IMO Documentation.** In progress
- **ENC Co-Production Strategies.** Much work focused on initial conversion rather than ongoing production strategies.
- **Support for S-100 community.** Likely to require a step change in support, test data, guidance documentation and distribution of S-100 machine readable schemas. Support to OEMs required. Testbed availability.
- **Phasing out S-57.** Detailed plan



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FORWARD PLAN

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- Draft available to all.
- Updated following initial release
- Aim is to update as actions are completed
- S-100WG will focus on addressing the gaps identified through workplan, including
 - Correction / Clarification of S-100 edition 5.0.0
 - Testing of S-98 Annex C v1.0.0
 - Development and update of PS to edition 5.0.0
 - Conversion Guidance Document development and test
 - Liaison with NIPWG and other groups