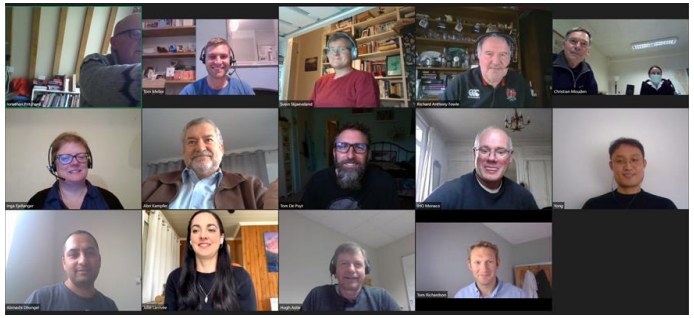
ENC Conversion (sub)

ENC Conversion WG

- Formed following ENCWG online meeting
- Participation from member states and RENCs
- First meeting Oct 7th 2020
- Focused on delivering useful guidance and practical advice for data producers faced with:
  - Initial migration of data to S-101
  - Ongoing production of S-101 and S-57 data.



Outputs:

1. Help Member States prepare existing S-57 ENCs for conversion to S-101.
   - Identify possible conversion issues
   - Improve consistency of existing S-57 ENCs so that a large percentage of data can be converted automatically.
   - Produce a first version of this guidance within 6 months.
2. Help Member States prepare their global data for conversion to S-101 in conjunction with their own plans and rollout of S-101 during the transition period. This second item will be treated with a lower level of priority.

Timeline

Now
- IHO S-57/S-52

Transition
- S-57 and S-101 cells available
- S-101 and S-57 capable ECDIS

S-101 Only
- End of Transition Period
- No Requirement for S-57 support
- OEMs or data producers

Preparation
- **Standards**
- **Regulatory**
- **COTS products and Services**
- **ECDIS Development**

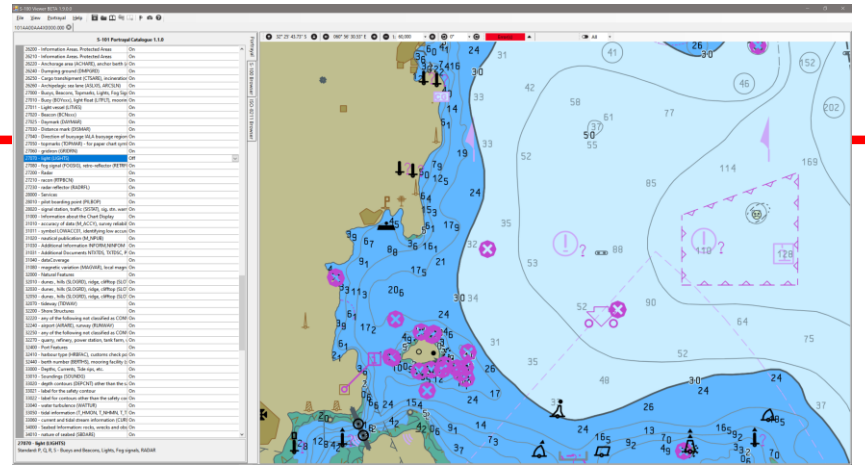
Rollout
- **Producers begin rollout of co-produced S-101 and S-57**
- **S-57 only ECDIS continues**
- **New ECDIS can support S-57 and S-101**

20. In order to maintain ECDIS devices already installed on SOLAS vessels which are technically not ready nor required to be upgraded to S-101 ENC compatibility, and to comply with the applicable IMO regulations pertaining to existing navigation equipment, identical coverage will be provided for S-57 ENCs and S-101 ENCs for a transition period until there is no significant number of legacy systems in the field and all ECDIS in operation have become S-101 compatible. This situation is expected near the end of the decade, but will be continuously monitored to enable a decision to be made by the responsible IMO body.

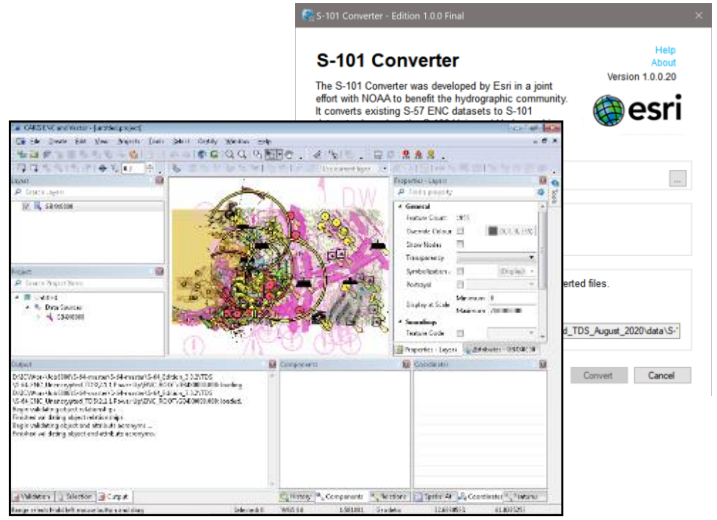
21. As a consequence, new ECDIS systems to be brought into the market at the time when S-101 ENC coverage starts (2024) will have to be capable to process both transfer standard formats: S-57 ENCs and S-101 ENCs.

22. Safety of navigation will be maintained by cartographic content of both S-57 and S-101 standards. From the user's perspective, presentation of cartographic and functional features to meet the IMO mandated content in a mixed environment of S-57 ENCs and S-101 ENCs in one ECDIS device will be seamless and presented under the identical presentation regime for charted features and navigational objects.

Where are we?

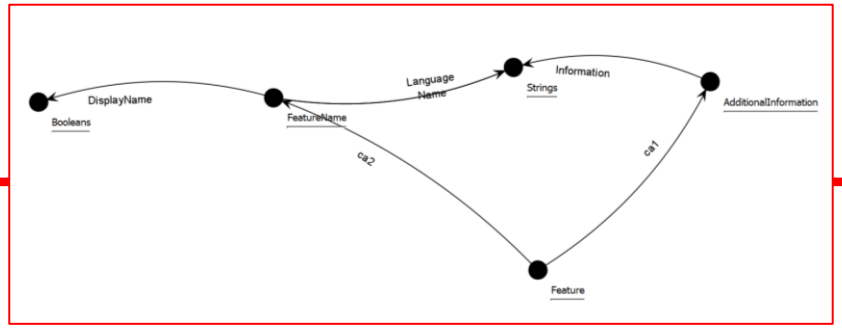


- There are currently a number of items which can help:
  - Tools for data conversion and management. Some already exist.
  - Feature Catalogues / Schemas – The IHO Schema in progress but good enough to make and display inital test datasets
  - Test Data - Initial (Phase 1)S-64 test datasets available for review/update (https://github.com/iic-tech/S-164). Also contains text dumps of contents.
  - Guidance - Documentation from IHO, Spreadsheet of modifications to features, attributes, primitives etc…



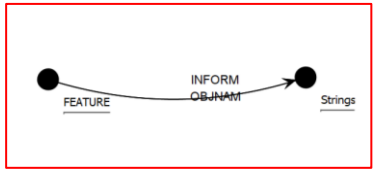
- We are working to put together an approach which works with available tools and which helps data producers come up with an approach for conversion of their data to a form which is “S-101-capable”.

Types of Conversion

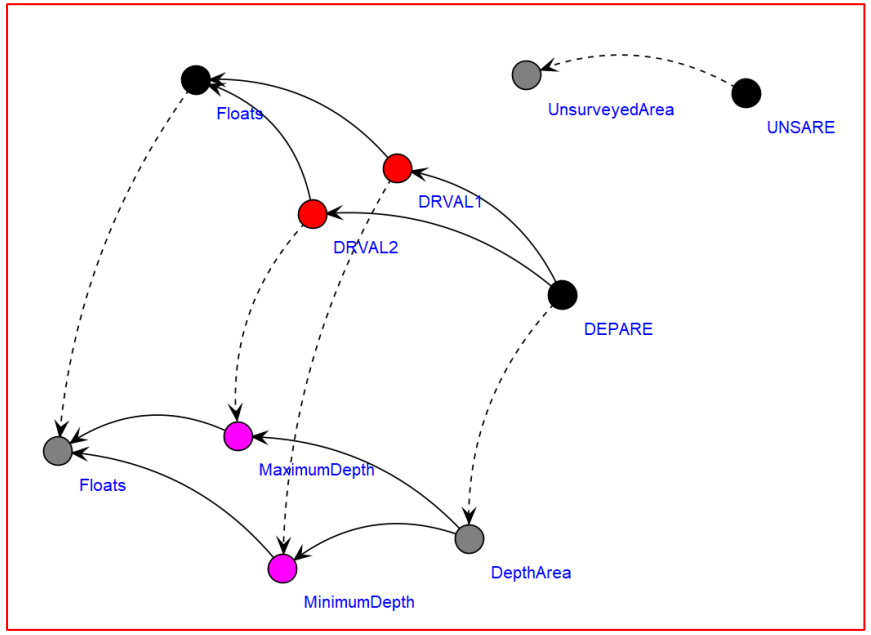


- We have identified some categories of conversion

- **Simple dictionary conversion**
  - Where feature and attribute bindings don't change and are just re-labelled
  - Mapping from feature->feature and attribute->attribute
  - 80% of content (?) of current ENCs



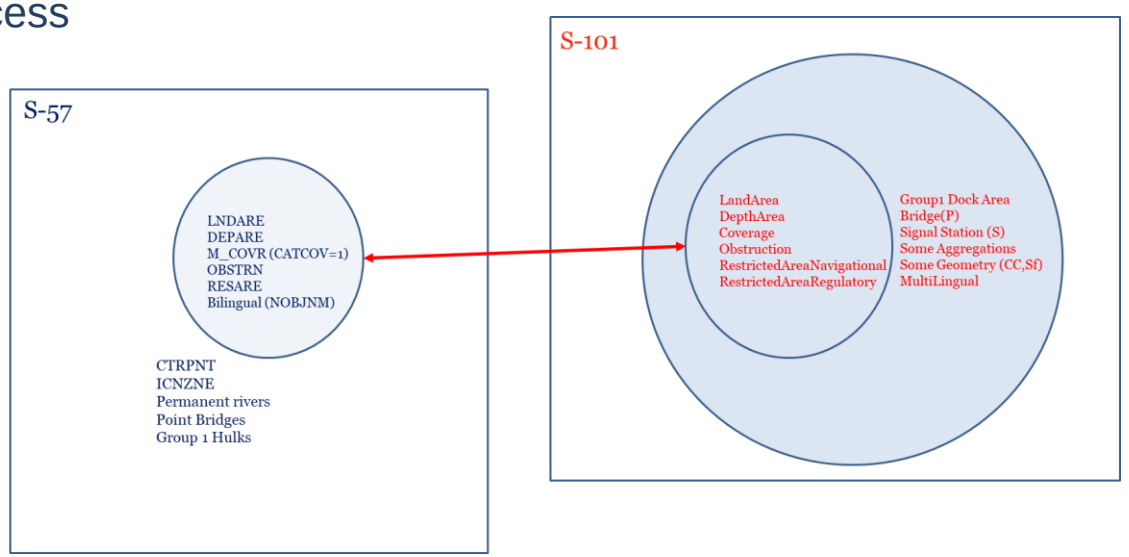
- **"Edge Cases"**
  - Geometric primitives which have changed/dropped
  - Changes to enumerations / meanings
  - Changes to feature/attribute bindings
  - New/Dropped features
  - Richer relationships between features
  - Skin of the Earth Features
  - It is possible to use INFORM to control what is being defined/populated



- **Special considerations**
  - Hazards / Alerts features
  - Where portrayal may be different
  - Where manual intervention may be required
  - UPDATES

Some common themes from the meeting

- The conversion process is a “moving target”. It will change as equivalents to S-58 and S-64 become available and as S-101 develops and matures
  - **Development of these standards is a top priority**
- There is enough material to make a good start though
- A stable DCEG and matching Feature Catalogue are crucial to Success
- Different data producers have different encoding practices and data consistency which needs to be taken into account



- Our initial work item list:
  1. **What constitutes a cell which is “ready for conversion”?**
  2. **Elaborate a mapping Dictionary with exact specifications.**
  3. **Identify Edge Cases with textual descriptions and elaborate test data sets.**
  4. **Need resources and guidance on how we will carry on the testing and use the tools.**
  5. **Drafting, Assembling and Reviewing group outputs.**
- We would LOVE to have help
  - Resource from interested data producers. This can also be a training experience
  - Access to data
  - Access to encoding guides to help inform the process
- We have a GitHub site and a meeting structure defined.

Thank You
Please get in touch

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