
Execution Plan – initial view.

1 Project summary:

The concept of the project is to build, execute and report on a conversion “pipeline” comprising data and software tools. A programme of test conversions will be executed which will analyse the ENC conversion document and provide feedback on its content.

1.1 Detailed Description of Project “Data Pipeline”

The pipeline should comprise the following stages:

1. Data Assembly. Gathering together of representative ENC data which is capable of thoroughly testing all aspects of the conversion document. A pre-requisite to this will obviously be identification of correct versions of feature catalogue, DCEG and a number of software tools required (converters, S-57 and S-101 editors and visualizers, validation tools). The number of converters available has not been defined yet – this will be done at the outset of the project.
2. The concept of the project is to “*test the S-57 to S-101 Conversion Guidance document*” – therefore data must be complete and representative, exercising all clauses, conditionals and branches which the document identifies. For this reason, whilst it may be possible to test the Conversion Guidance Document with existing ENC data, it will also be necessary to create additional data or construct specific datasets to test conversion of certain scenarios. These should be defined based on chapters or subsections of the Conversion Document (itself based on the UOC structure). Tools exist which can be re-purposed to make such datasets and the existing S-101 test datasets (S-164) can also be used for specific test cases.
3. For each dataset identified
 - a. Preparation. Using the Conversion Guidance Document and its mappings from source to destination forms, and the assessment of the individual dataset content, any manual preparation necessary to prepare the cell for the conversion should be done, noting resources used and time taken.
 - b. Assessment of its content, assurance of S-58/UOC conformance and noting which elements are required to be tested.
 - c. Conversion. Execution of conversion from S-57 to S-101 using all tools available in the infrastructure.
 - d. Validation of S-101 data using the validation tools available.
 - e. Post-conversion S-101 editing, as required and mandated by the Conversion guidance document. Any resources required should be noted.
 - f. Re-Assessment, Validation (and Cross Validation). The cell should be checked for validation against “S-58” (or whatever subset of S-58 is available for validation of the S-101 cell itself). The cell should be evaluated against the expected results from the conversion guidance document and DCEG, then a process of cross-validation should establish whether conversion has been “correct” according to the guidance document

and the original source S-57. Cross Validation will ensure no data has been lost or mis-translated and that the essential safety elements are still present in the S-101 dataset created.

4. Assessment across all datasets – an assessment should be done once all datasets are converted and enough coverage over the complete guidance document has been done to form a balanced view of the whole programme, its effectiveness and the output data. This should combine elements learnt from multiple tests, datasets and converters and be a combination of their results to form an overall picture.
5. In addition to the “initial” conversion an assessment should be made of the requirement to update datasets simultaneously, and individually, using the available tools. This is used to assess the resource implications for data producers for DF production. A report summarising these elements will be produced during a supplemental phase of the project.
6. Construction of final outputs and proposals to the IHO Conversion Sub-Group for edition 2.0 of the conversion guidance document, any outputs for the S-101PT (and DCEG) and initial guidance on resource expectations and technologies for co-production of updates. At this point a summary of the project’s activities and findings should also be compiled and assessed.

This process is illustrated in the following diagram (this diagram does not show the creation of the pipeline itself, nor the assembly of tools required for its operation):

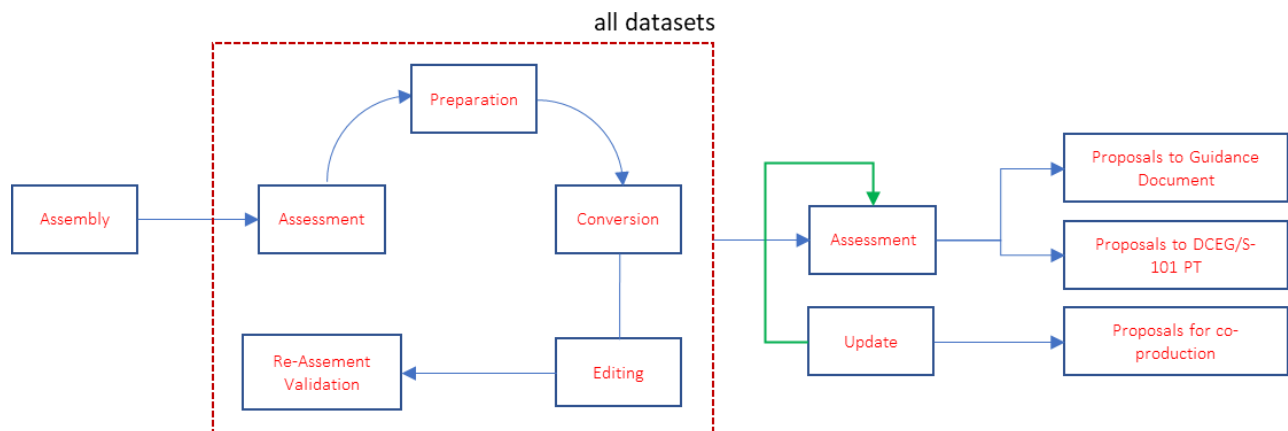


Figure 1: Workflow for project

From this process the key deliverables of the project (from the initial proposal) should be defined. The project description outputs are below. These could be supplemented with others, particularly outputs to any commercial software providers and others.

2 Summary of project deliverables and phases:

2.1 Initial Phase:

- Full documentation on scope and content of testing performed within the project.
- Commentary on the existing S-57 to S-101 Conversion Guidance Document 1.0 and its recommendations

- Impact Analysis document
- Sample datasets showing:
 - Description of the dataset
 - Testing results, scope achieved
 - Any issues encountered together with recommendations for resolution
- Results of validation testing carried out
 - Recommendations for production documentation.
 - Recommendations for tool providers on implementation of Guidance Document.

Key pointers/headings for the assessment and conversion should be:

1. Group 1 changes
2. Metadata features
3. Conversion of INFORM into correct features
4. Edge Cases (new features / new attributes and their correct creation)
5. IMO mandated mappings (e.g. alarms and indications) and mandated functionality
6. Creation of correct relationships
7. Cross-validation of content (nothing missing, nothing mis-translated)
8. Validation against DCEG
9. Validation against feature catalogue.
10. Customization of the converters due to different national practices

2.2 Supplementary phase – Co-production and updates.

Once the initial phase of conversion tests is complete, a summary should be prepared of the operational aspects of the pipeline with the aim of producing guidelines for co-production. This should recommend initial guidance for data producers of how ENC services and updates can be produced using software tools during the period of Dual fuel co-production.

This element is not in the scope of the conversion guidance document but is a key element for implementing data producers and a successful strategy certainly has its roots in the conversion described by it.