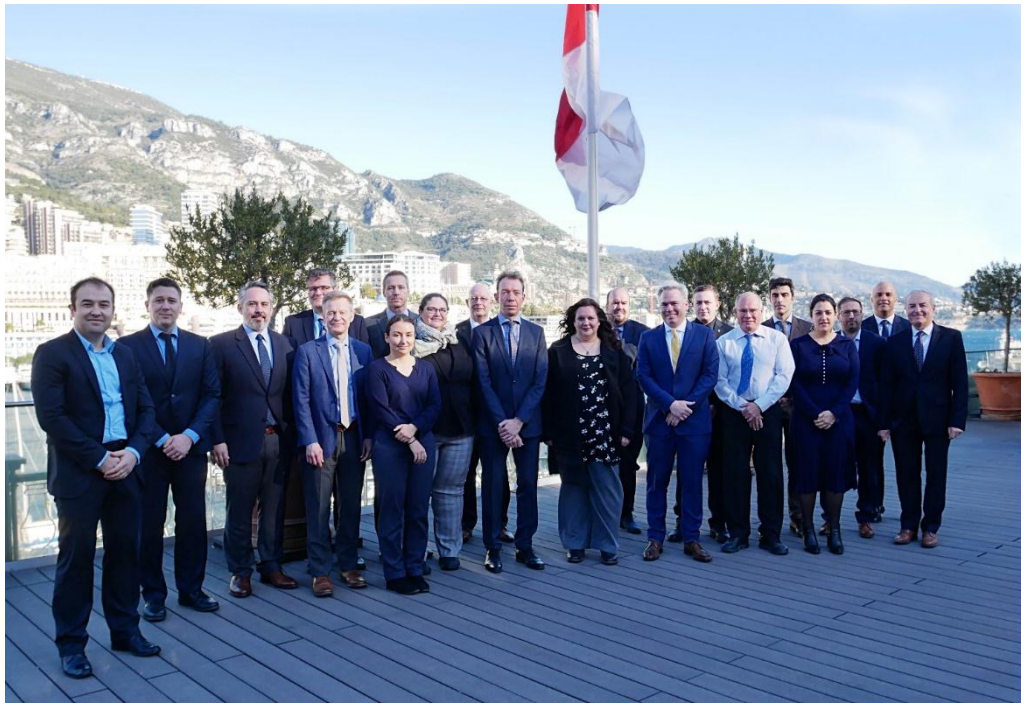
S-101PT5 Meeting

Report and Proposals from the Data Quality Working Group

Agenda Item 13

VideoTeleConference, 15 – 16 Sep 2020

INTRODUCTION



- **DQWG-15, 4-7 Feb Monaco**:

10 IHO Member States

2 RENCs (IC-ENC, PRIMAR)

4 Expert Contributors (Esri, SevenCs, Teledyne-Caris, UNH)

2 Stakeholders (CSMART[1], INTERTANKO)

[1] Carnival's Center for Simulator Maritime Training

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DQWG KEY PRIORITIES

ENSURE THAT DQ ASPECTS ARE ADDRESSED IN AN APPROPRIATE AND HARMONIZED WAY FOR ALL S-100 PS

1. Periodically review S-100 based product specifications to ensure the data quality aspects have been taken into consideration and provide input papers for WGs and PTs condiseration if deemed necessary

2. Provide data quality educational material for the use of mariners

3. Develop a conditional visualization methodology of quality of bathymetric data (ref task HSSC11/50)

REVIEW OF S-100 BASED PRODUCT SPECIFICATIONS

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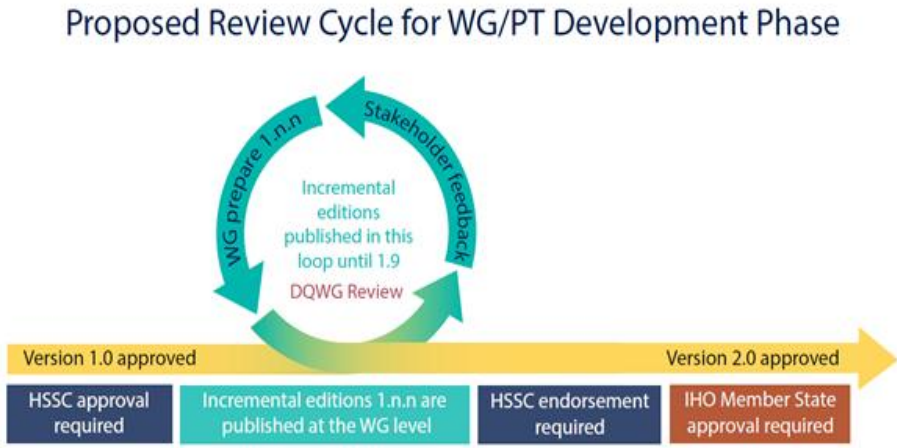
- Review of S-101 FC against DCEG

- S-101 FC_1.0.0_20190409.xml translated into a readable pdf format (-> iho.int -> HSSC -> DQWG -> Reference Documents)
- Review alsmost complete
- DQWG Letter 01/2020 scheduled for correspondence by members
- Final result reported back to S-101PT (end October 2020)



EDUCATIONAL MATERIAL FOR THE USE OF MARINERS

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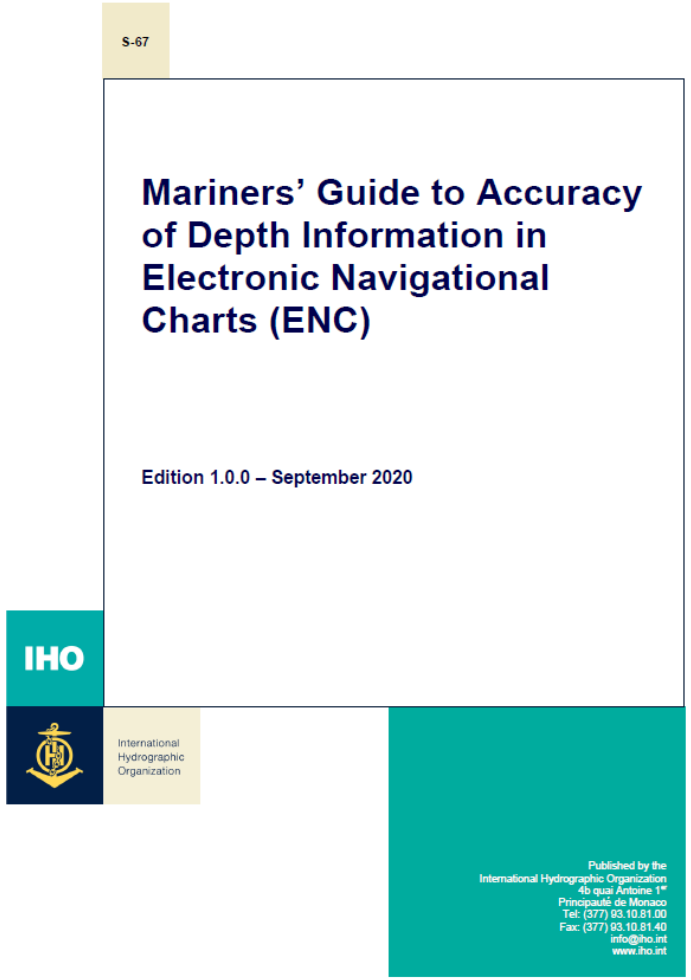
- S-67 Mariner's Guide to Accuracy of Depth Information in Electronical Navigational Charts (ENC)

- Initial draft by Australia (2017)
- Review by correspondence by DQWG, ENCWG and NCWG
- 323 comments by 17 different organizations
- Finished at DQWG15 by subWG (lead Jeff Wootton)
- Now approved by all Members States (CL 33/2020)
- Also serves as a guidance/training for HOs
- Edition 1.0.0 now available at www.iho.int



CONDITIONAL VISUALIZATION METHODOLOGY

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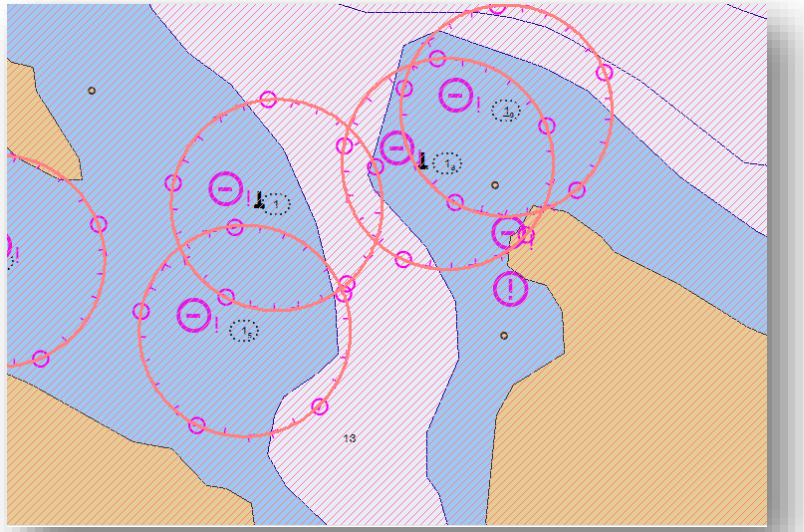
- Develop methodology for the display of quality of bathymetric data.

- Concept tested by DK, FI, IN, IT, ID, NO, SE, UK.
- Examples demonstrated by Italy, Finland and Norway.
- Demonstrated the potential of data quality indicators for improving safe navigation but also highlighted the complex situations in some coastal areas.



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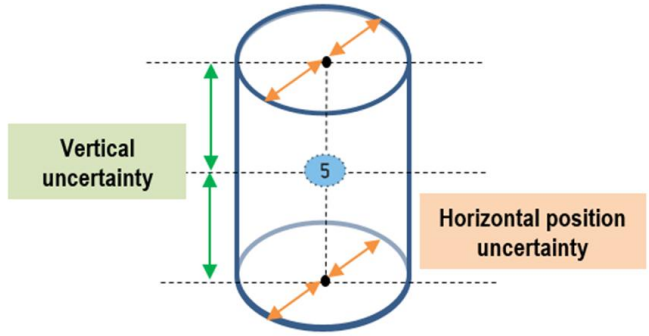
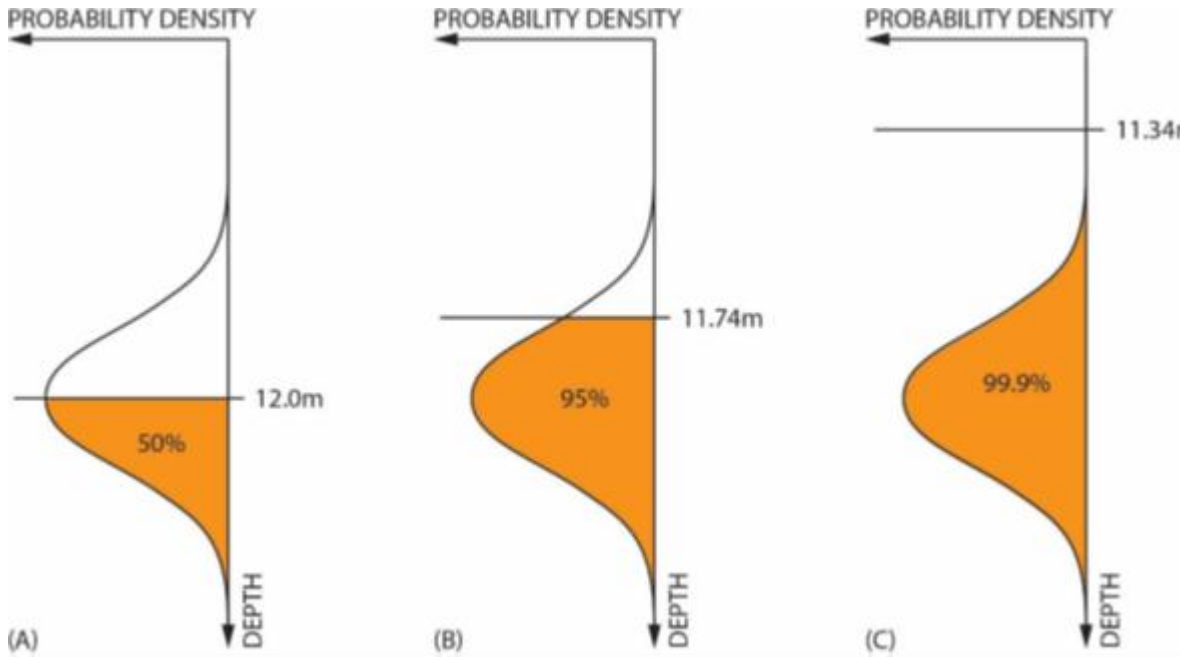
CONDITIONAL VISUALIZATION METHODOLOGY

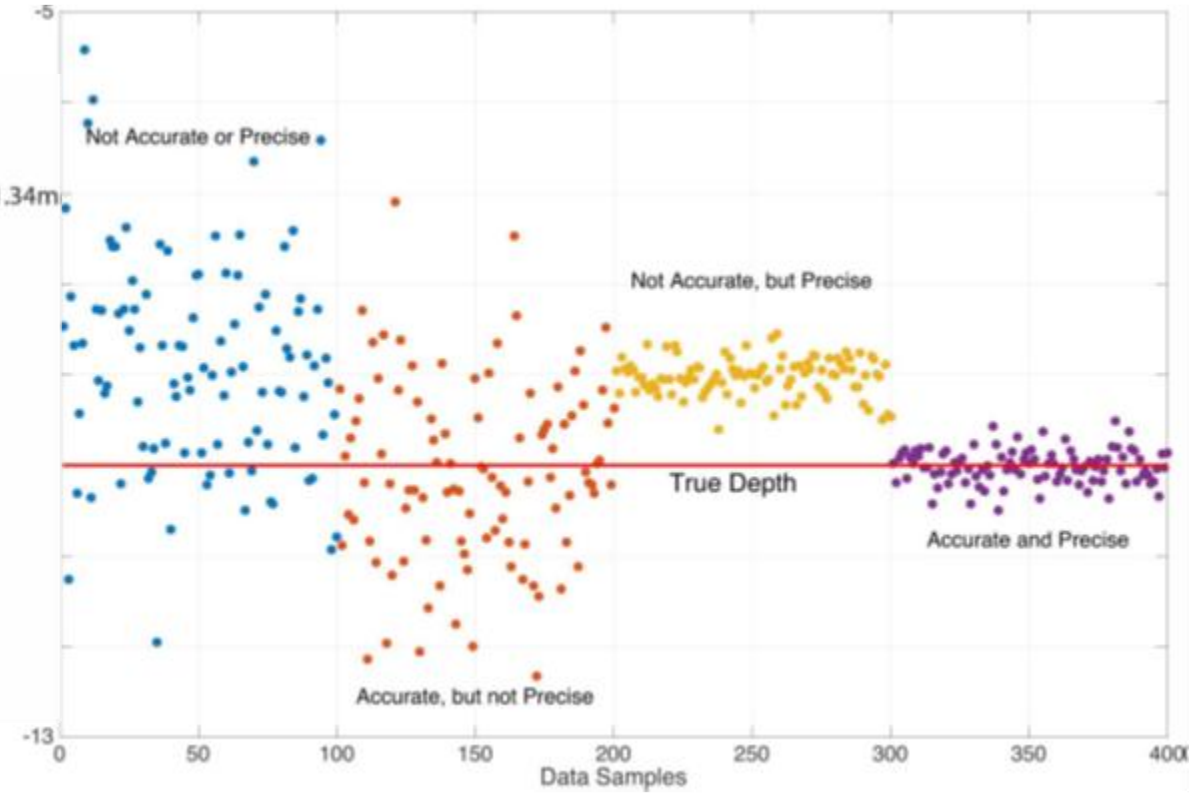
- ECDIS expected performance:



- Overlay (ON/OFF switch) shows the horizontal positional uncertainty isolated dangers
- ECDIS route checking generates a warning when ships safety framework is to cross:
  - uncertainty circle of an isolated danger
  - non-dangerous feature breaching safety depth (e.g. safety depth = 7m, UWTROC = 7.5m with vertical uncertainty of ± 0,8m)
- These warnings must be easily differentiated from the ones generated without condisering any uncertainty values. This includes portrayal and reporting

ROUNDING OF DEPTHS





- In the example above the average shape of the seabed has a valueOfSounding = 12.0 m
- When the 95% uncertainty margin is applied, the portrayed depth becomes 11.74 m
- When the 99% uncertainty margin is applied, the portrayed depth becomes 11.34 m
- S-4 article B-412 states:
  - to the nearest decimeter between 0.1 and 21m
  - to the nearest half metre between 21 to 31 m
  - thereafter, to the nearest meter.

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ACTIONS REQUIRED OF THE S-101PT

1. Note this report
2. Request a review on the FC/DCEG upto Ed. 1.9
3. Avoid discrepancies between S-67 and S-101 DCEG
4. Consider renaming QoBD into Zone of Confidence
5. Note paper HSSC12-05.5C
6. Ensure that horizontalPositionUncertainty and verticalUncertainty are available for Obstruction, Sounding, Underwater/awash rock and Wrecks
7. Discuss the issue of rounding of depths and provide recommendations when using S-101 and S-102 simultaneously

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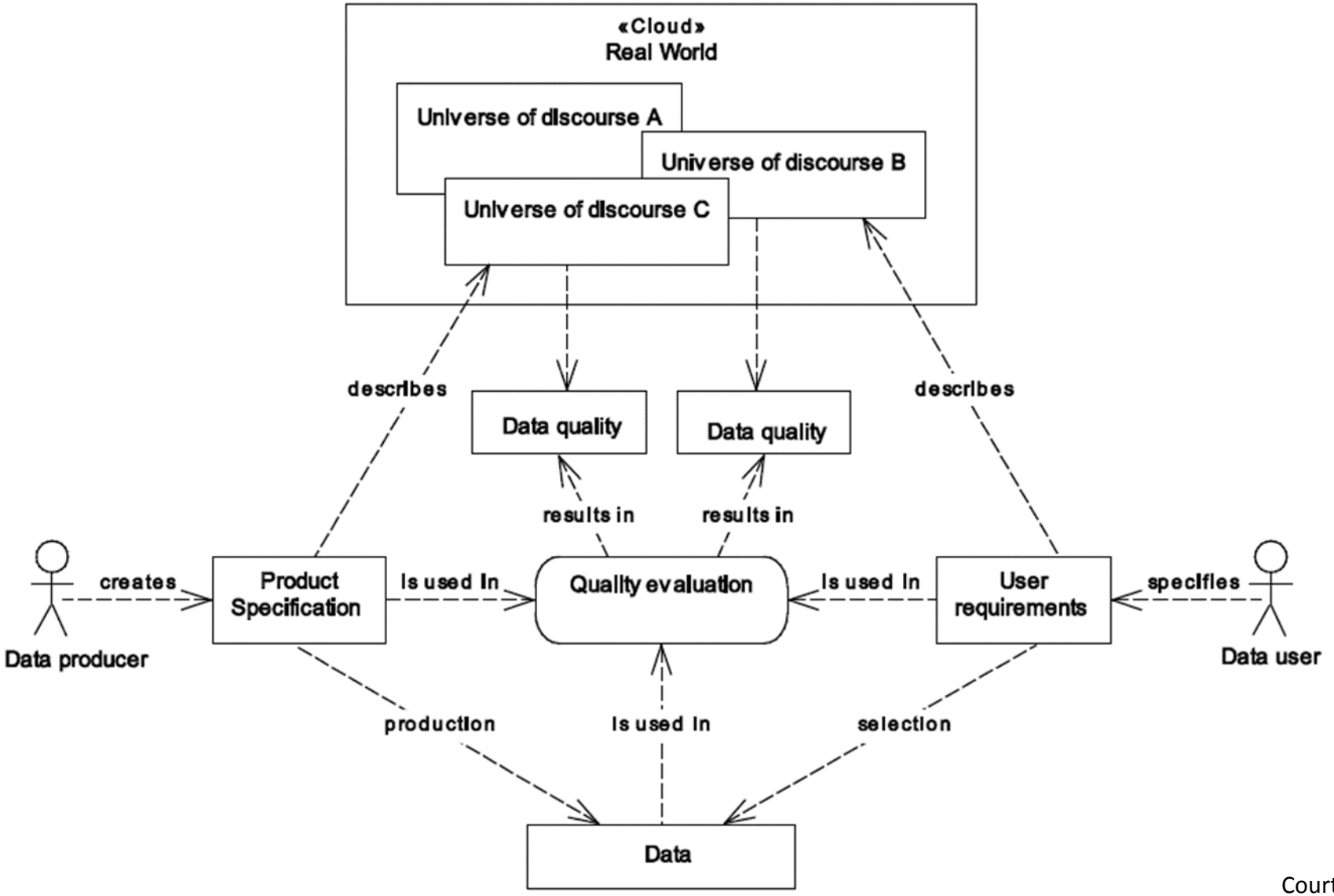
THANK YOU



Courtesy of ISO-19157