IHO S-101PT

S-100PT4 meeting S-101 ENC conversion

Presented by KHOA



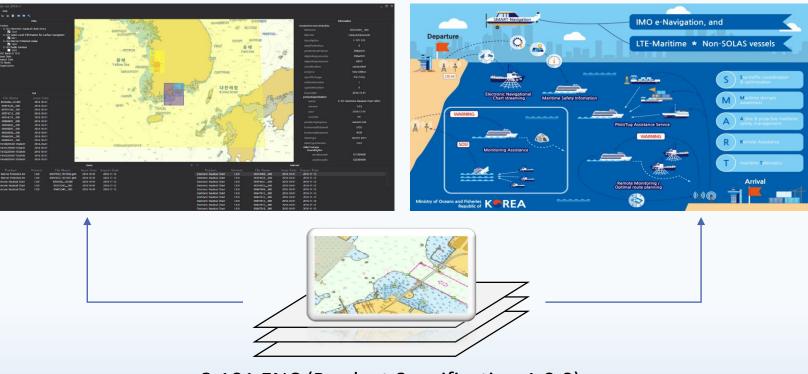
International Hydrographic Organization Organisation Hydrographique Internationale

S-100PT4, Monaco, 13 June - 14 June 2019



Purpose

- For KHOA S-100 Test Bed ENC Test Dataset
- For "SMART Navigation Project" (2020" Test Operation)
- For prepare produce S-101 ENC



S-101 ENC (Product Specification 1.0.0)

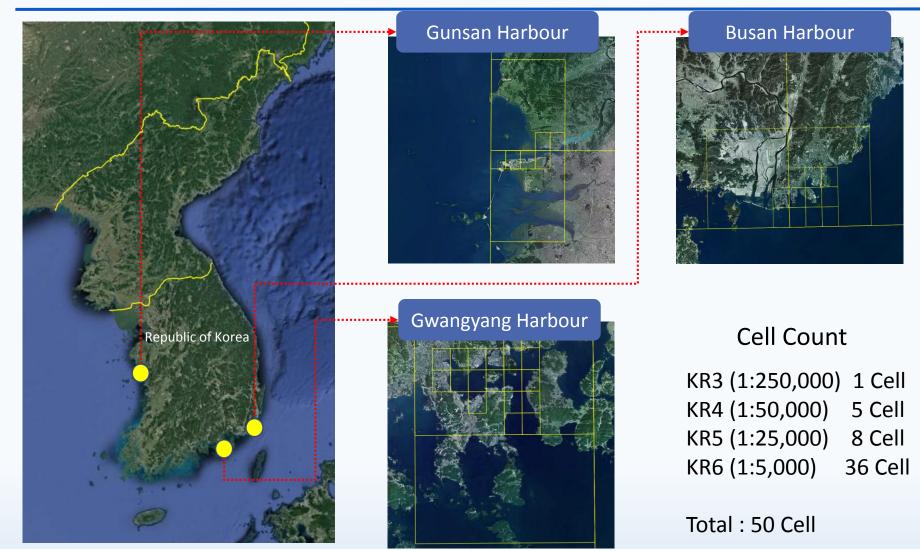


International Hydrographic Organization Organisation Hydrographique Internationale

S-100PT4, Monaco, 13 June - 14 June 2019



Produced Area





International Hydrographic Organization Organisation Hydrographique Internationale

S-100PT4, Monaco, 13 June - 14 June 2019

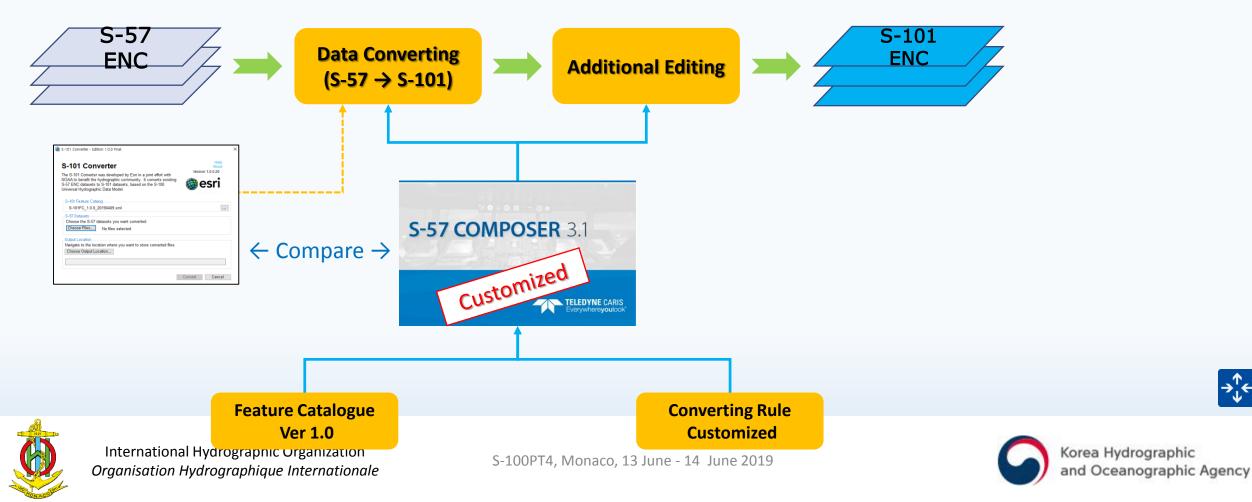


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ENC conversion

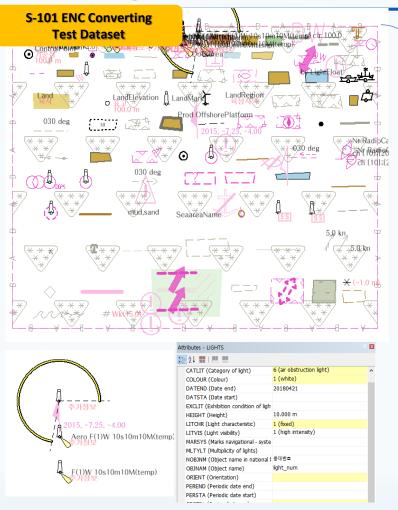
Convert & additional edit's Goal

- Mapping all object according to KHOA S-101 Consistency guide ٠
- All attribute convert of each object ٠



⇒∱€

Converting result



KHOA ENC use 118 objects of S-57.



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<S-101 Converter 1.0.0.5 (S100WG) 2018.10> S-101 S-57 Acronym Complete Converting Feature Matching Note ratio count count count S-101 131 81% 118 106 side Ignored INFORM, NINFOM to Nautical Information <S-57 Composer 3.1.1 (Customized by UST21) 2018>

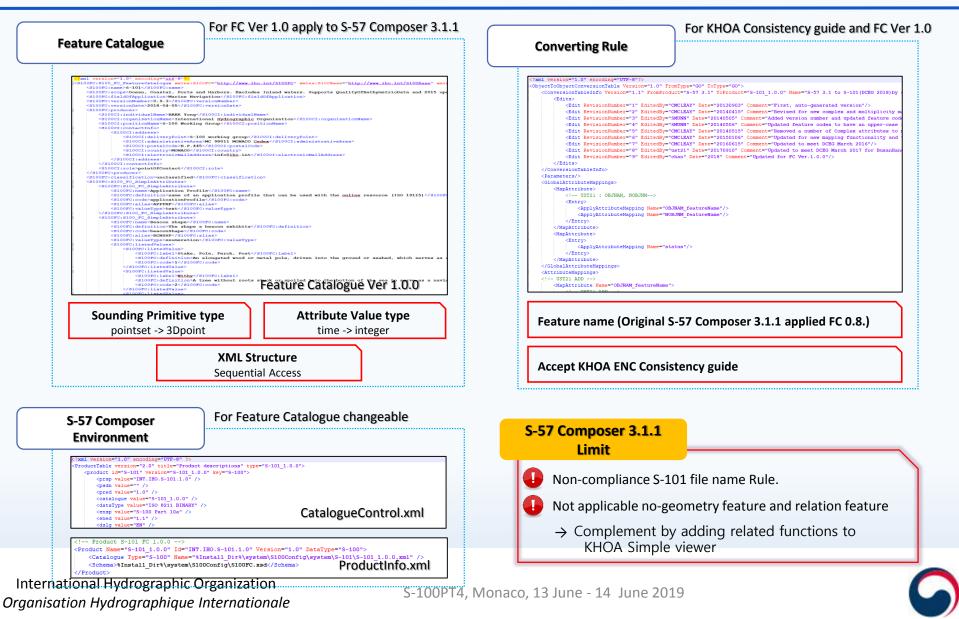
S-57 Acronym count	S-101 Feature Matching count	Complete count	Converting ratio	Note
118	131	127	97%	S-101 side

Result

- Both tool did not lose critical feature and attribute.
- S-101 Converter can automatically conversion the relation set.
- S-57 Composer allows editing of converting rules so that it can be optimized
 - for ENC conversion of each HO.



S-57 composer customize



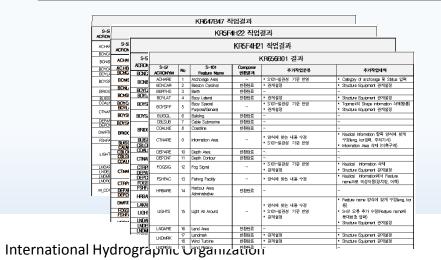
Korea Hydrographic and Oceanographic Agency

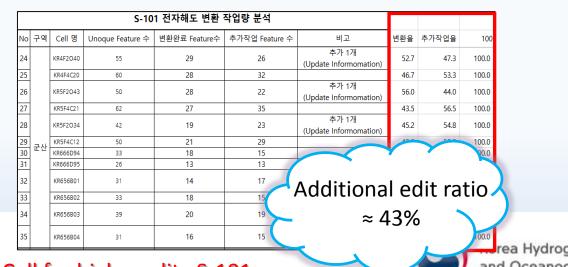
Result and Issue

Result

- Completed convert and produce of S-57 ENC 50 cell to S-101 ENC 50 cell.
- But feature insufficient for conversion process needs further editing.

Additional edit	Variable according to the ENC encoding guide of each HO
Attribute edit	 Feature name - S-101 form from DCEG – language & Display name About text string & form Etc
According to S-101 KHOA Consistency guide	 Fairway name Light admin No Notice to mariners (T) Support file naming rule
Relation	 Structure/Equipment Traffic Separation Scheme Bridge Aggregation



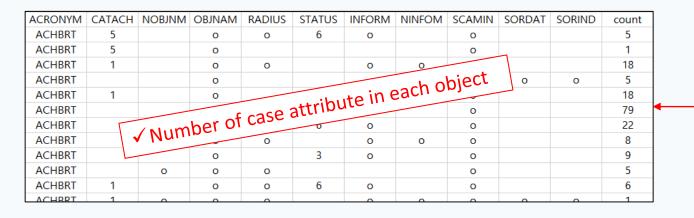


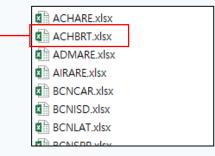
Organisation Hydrographique Actemption of each ENC Cell for high quality S-101

and Oceanographic Agency

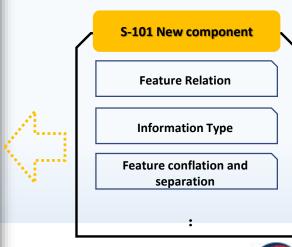
Add-Analysis S-57 all object in KHOA ENC

* S-57 Object in KHOA ENC (Total 118)





KHOA ENC is using 118 objects of S-57.





Korea Hydrographic and Oceanographic Agency

No.S-57 ACRONYMS-101 FeatureType*#30#245# 111ACHAREAnchorage Areap.s012ACHBRIAnchorage Areap.s012ACHBRIAnchor Berthp.s013ADMAREVessel Traffic Service Areas014AIRAREAirport/Airfieldp.s015BCNCARBeacon CardinalP016BCNISDBeacon Isolated DangerP017BCNLATBeacon Special Purpose/GeneralP019BERTHSBerthp.c.s0110BOYICARBuoy Cardinalp0111BOYINBBuoy Isolated Dangerp0112BOYIATBuoy Solated Dangerp0113BOYLATBuoy Solated Dangerp0114BOYSAWBuoy Solated Dangerp0115BOYSDEBuoy Special Purpose/Generalp0114BOYSAWBuoy Safe Waterp0115BOYSDEBuoy Special Purpose/Generalp01	No. ACRONYM S-101 Feature Type 책성여부 11± 21± 비고 1 ACHARE Anchorage Area p.s o i iii 2 2 ACHBRI Anchor Berth p.s o iiii iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	(HOA ENC Object usage analysis			S-57 Object / S-101 Feat					
1 ACHARE Anchorage Area p.s o 2 ACHBRI Anchor Berth p.s o i 3 ADMARE Vessel Traffic Service Area s o i 4 AIRARE Airport/Airfield p.s o i 5 BCNCAR Beacon Isolated Danger P o i 6 BCNISD Beacon Isolated Danger P o i 7 BCNLAT Beacon Special Purpose/General P o i 8 BCNSPP. Beacon Special Purpose/General P o i 9 BERTHS Berth p.c.s o i 10 BOYCAR Buoy Cardinal p o i 11 BOYISD Buoy Installation p o i 13 BOYLAT Buoy Lateral p o i 14 BOYSAW Buoy Safe Water p o i	1 ACHARE Anchorage Area p,s o		No.		S-101 Feature	Туре	작성여부	-	-	비고
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Add-S-101 consistency guide by KHOA

Make S-101 encoding guide for KHOA ENC consistency

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Attribute st ee text numeration oot teger oded string	약여 L S E F I A	미리 경의된 값들을 리스트에서 하나 또는 두 개 이상 선택 일반격인 Text 형태 미리 경의된 값들을 리스트에서 하나만 선택 부동소수검 경수 미리 경의된 형태의 Text 형태		3 4 5 6 7 8.57 6 7 8.57 7 8.57 7 8.57 7 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 7 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8.57	무선국의 종류 송신 여상 범위 (단위:M)	5-57 속성 입력 현황	List Float	Public Ref - 의부감조 (101CCC 여사: 가: - [Pearure S-101 Mate Radio S No.	nark 작일을 입력할 경우 대 CXXXXXXXX EEE) E KR001_E1.TXT - hame] 또는 [Information The section S-57 Acronym	- 101 : Product돃, CCCC: Age > 101KR000010E100.TXT (* _" ation] 입력시 [language] 항목 텔 S-101 숙성 Attribute 	, 는 0으로 변경 수 입력(eng도) 대칭 Mult.	t) Ekor) Type Value
Attribute tt ee text umeration bat teger oded string	약여 L S E F I A	미리 경의된 값들을 리스트에서 하나 또는 두 개 이상 선택 일반적인 Text 형태 미리 경의된 값들을 리스트에서 하나만 선택 부동소수정 경수		3 4 5 5 7 8-57 6 RDOSTA 7 Acronym CATROS ESTRING OBINAM	무선국의 종류 승신 여상 범위 (단위:M) 무선국 영칭(영문)	5-57 속성 입력 현황	List Float Free te×t	Public Ref - 의부검조 (101CCC 이사: 가: - [Feature S-101 Mat Radio S No. 1	nark 수입을 입력할 경우 다 CXXXXXXXX EEE) & KR001_E1.TXT - k KR001_E1.TXT - thing Eation S-57 Acronym CATROS	- 101 : Product돃, CCCC: Age > 101KR000010E100.TXT (* _* * ution) 입력시 [language] 항목 웹+ S-101 속성 Attribute iategory of radio station stimated range of ransmission	· 는 0으로 변경 수 입력(ang도) · 매정 <u>Mult</u> 0,1	Type Value EN 두 긴 쪽 중록 RE 슐 긴 액 상 별 위 (인 위 M)
Attribute et ext numeration obat teger oded string Intel	ernati	미리 경의된 값들을 리스트에서 하나 또는 두 개 이상 선택 일반격인 Text 형태 미리 경의된 값들을 리스트에서 하나만 선택 부동소수검 경수 미리 경의된 형태의 Text 형태		3 4 5 6 7 8.57 6 7 8.57 7 8.57 7 8.57 7 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 7 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8 8.57 8.57	무선국의 종류 송신 여상 범위 (단위:M)	5-57 속성 입력 현황	List Float	Public Ref - 의부검조 (101CCC 이사: 가: - [Feature S-101 Mat Radio S No. 1	nark 수입을 입력할 경우 다 CXXXXXXXX EEE) & KR001_E1.TXT - k KR001_E1.TXT - thing Eation S-57 Acronym CATROS	- 101 : Product돃, CCCC: Age > 101KR000010E100.TXT (* _" ation] 입력시 [language] 항목 텔 S-101 숙성 Attribute 	· 는 0으로 변경 수 입력(ang도) · 매정 <u>Mult</u> 0,1	() Ekor) <u>Fype Value</u> <u>F:I</u> 루성국 중류

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