

14th Meeting of the Hydrographic Services and Standards Committee

Report of the Defence Geospatial Information Working Group (DGIWG)



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Agenda Item 07.8Aa

HSSC-14, Denpasar, Bali, Indonesia - Hybrid Event, 16 – 19 May 2022

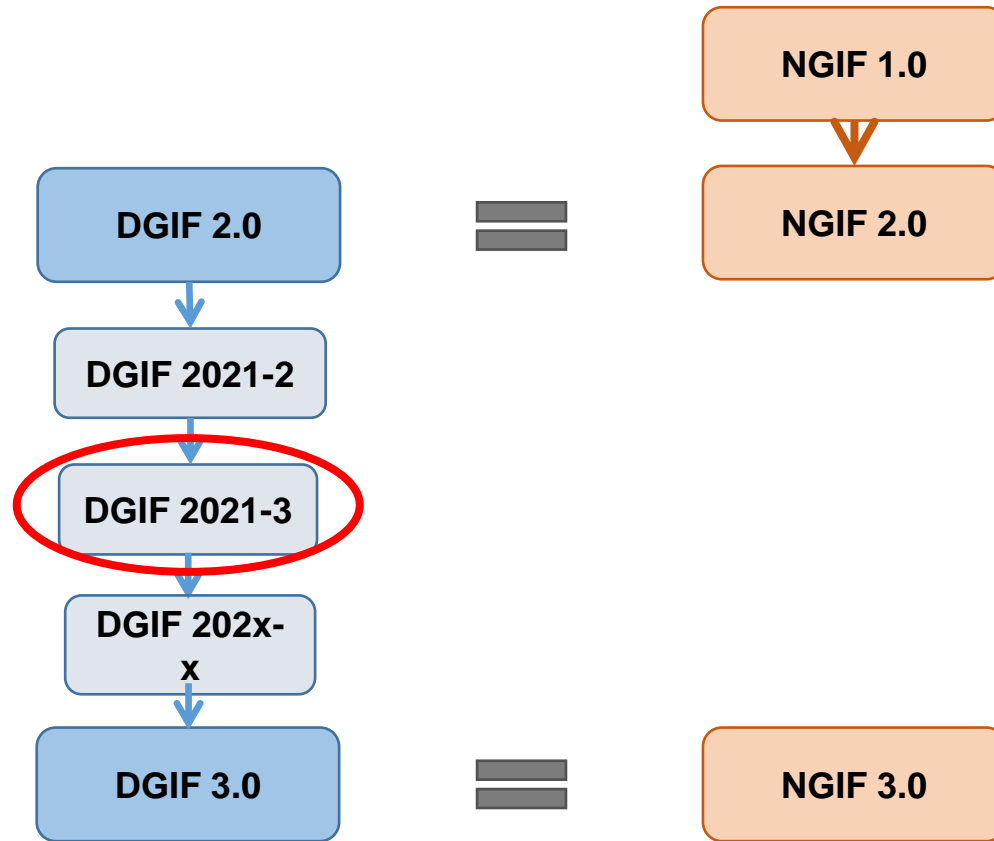


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PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

International
Hydrographic
Organization

Defence Geospatial Information Framework (DGIF)/ NATO Geospatial Information Framework (NGIF)...

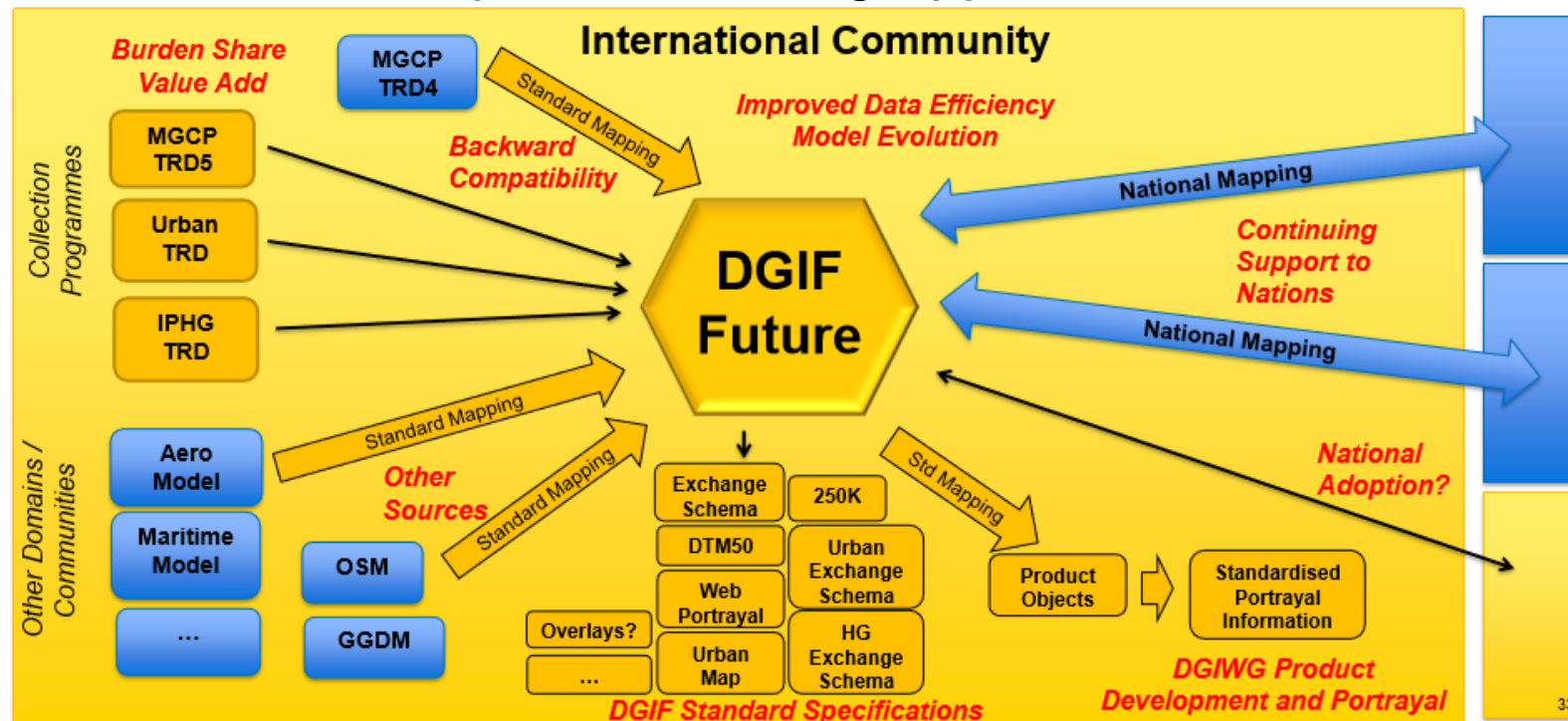


“Delivering Military Advantage through multi-national geospatial interoperability”



Implications/Benefits of DGIF to Nations

- Nations are able to influence the formation/development of the model
- Burden Sharing with other nations – We don't have to do it all on our own
- Standardized Mappings
- Model Maintenance
- Defence Collaborative Environment – UML based – Tools developed
- Ensure a Holistic Geospatial Modelling Approach...



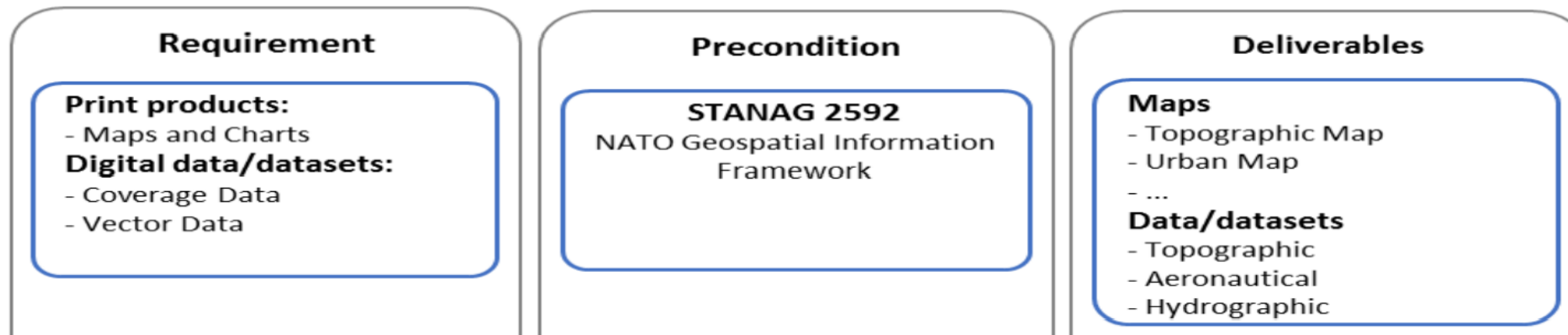


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NGIF Status



- STANAG 2592 Edition 2 / AGeoP-11 Edition B Version 1 promulgated 10-2018
- A new version/edition will be started pending the completion of relevant product specifications by DGIWG e.g.
 - Defence Topographic Map 1:50,000 (**DTM50**)
 - Tactical Pilot chart (**TPC**), 1:500k
 - New Defence Geospatial Information Model (**DGIM**) baselines



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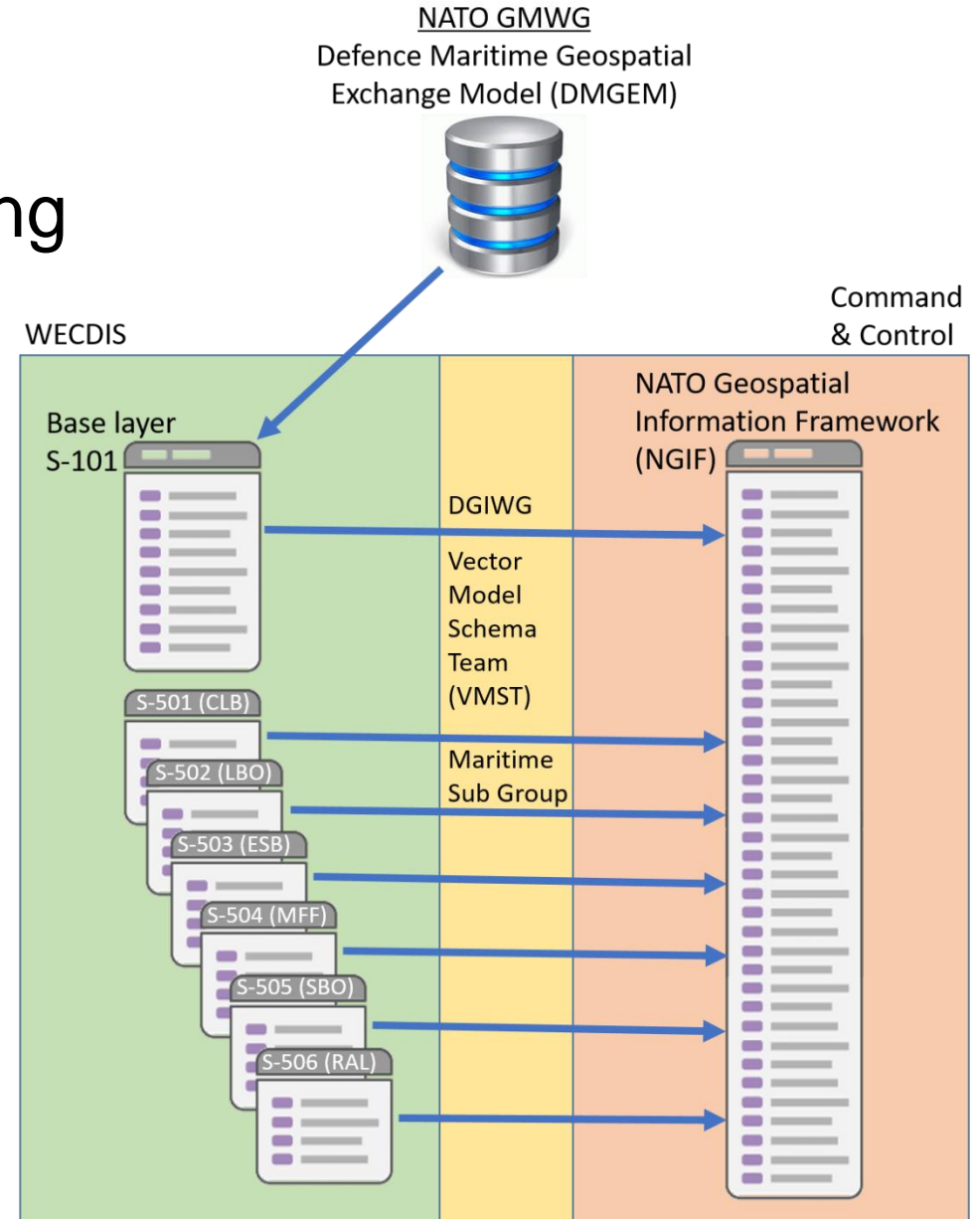
PRINCIPAL ACTIVITIES AND ACHIEVEMENTS

International Hydrographic Organization

DGIF Interoperability

Maritime Focus: S-101 to DGIM mapping

- USA, FRA, UK working as part of the Maritime Sub Group of the DGIWG Vector Model Schema Team
- 85% Complete
- Overcoming 'one to many' mapping challenges (accounting for modelling differences)
- Identifying gaps & developing requirements, change proposals and omissions





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PROBLEMS OR OUTSTANDING ISSUES

International Hydrographic Organization

‘One to Many’ Mapping Challenges

S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding	NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant
Sloping ground	(SLOGRD)	!Primitive	<Null>	Point	Hill/Steep Terrain Face	Geometry	1..*	Point Geometry Information
Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface	Embankment/Hill/Sand Dunes/	Geometry	1..*	Surface Geometry Information
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	1 : cutting	Cut	-----	--	-----
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	2 : embankment	Embankment	-----	--	-----
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	3 : dune	Sand Dunes	-----	--	-----
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	4 : hill	Hill	-----	--	-----
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	5 : pingo	Pingo	-----	--	-----
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	6 : cliff	Steep Terrain Face	Terrain Face Type	0..1	Cliff
Sloping ground	(SLOGRD)	Category of slope	(CATSLO)	7 : scree	Soil Surface Region	Terrain Morphology	0..1	Talus
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	4 : sand				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	5 : stone				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	6 : gravel				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	7 : pebbles				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	9 : rock				
Sloping ground	(SLOGRD)	Nature of surface	(NATSUR)	11 : lava				



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PROBLEMS OR OUTSTANDING ISSUES

International Hydrographic Organization

'One to Many' Mapping Challenges

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Cut	Geometry	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Cut	Geometry	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Cut	-----	--	-----	Sloping ground	(SLOGRD)	Category of slope (CATSLO)	1 : cutting	
Cut				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Soil Surface Region	Geometry	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Soil Surface Region	Geometry	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Soil Surface Region	Terrain Morphology	0..1	Talus	Sloping ground	(SLOGRD)	Category of slope (CATSLO)	7 : scree	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	5 : stone	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	6 : gravel	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	7 : pebbles	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	9 : rock	
Soil Surface Region				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	11 : lava	

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Embankment	Geometry	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Embankment	Geometry	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Embankment	-----	--	-----	Sloping ground	(SLOGRD)	Category of slope (CATSLO)	2 : embankment	
Embankment				Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Embankment	Sand Dunes	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Embankment	Sand Dunes	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Embankment	Sand Dunes	-----	-----	Sloping ground	(SLOGRD)	Category of slope (CATSLO)	3 : dune	
Embankment	Sand Dunes			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Sand Dunes	Hill	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Sand Dunes	Hill	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Sand Dunes	Hill	-----	-----	Sloping ground	(SLOGRD)	Category of slope (CATSLO)	4 : hill	
Sand Dunes	Hill			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	

NGIF Entity	NGIF Attribute	Mult	NGIF Enumerant	S-101 Feature	S-57 Obj Acronym	S-101 Attribute	S-57 Att Acronym	Allowable Encoding
Hill	Pingo	1..*	Point Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Point
Hill	Pingo	1..*	Surface Geometry Information	Sloping ground	(SLOGRD)	!Primitive	<Null>	Surface
Hill	Pingo			Sloping ground	(SLOGRD)	Category of slope (CATSLO)	5 : pingo	
Hill	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	4 : sand	
	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	5 : stone	
	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	6 : gravel	
	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	7 : pebbles	
	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	9 : rock	
	Pingo			Sloping ground	(SLOGRD)	Nature of surface (NATSUR)	11 : lava	



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FUTURE WORK PROGRAMME

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Maritime Focus: S-101 to DGIM mapping

- Updating for latest DGIM baseline
- Updating source content to reflect latest edition of S-101
- Completion of mandatory attribution mapping
- Continue reverse mapping to account for one to many challenges
- Processing of requirement and change proposals within VMST



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ACTIONS REQUESTED FROM HSSC

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- To note recent and ongoing maritime relevant activity