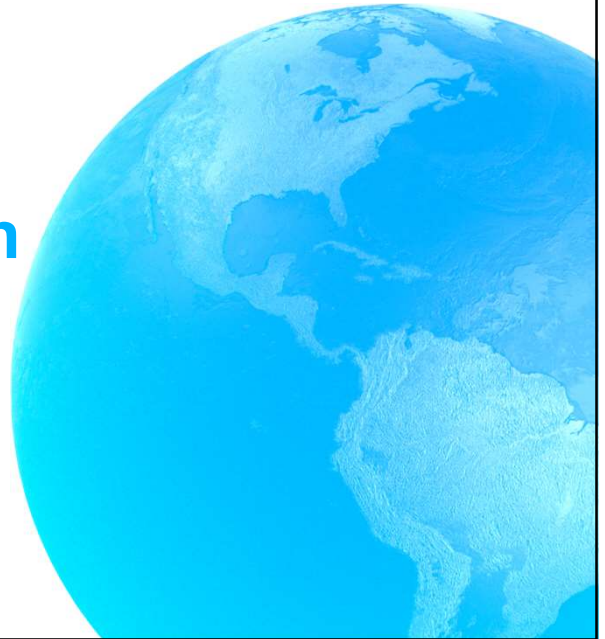# Brief Intro: OGC APIs and the Marine Domain

Trevor Taylor , OGC Marine DWG Co-chair

1

The Open Geospatial Consortium (OGC)

Community – Innovation - Standards

Community: 550+ Members

230+ members from industry

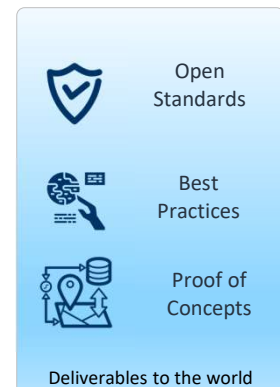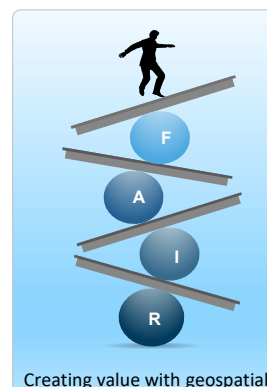120+ government agencies

185+ universities & research orgs

70+ standards

100+ working groups

2

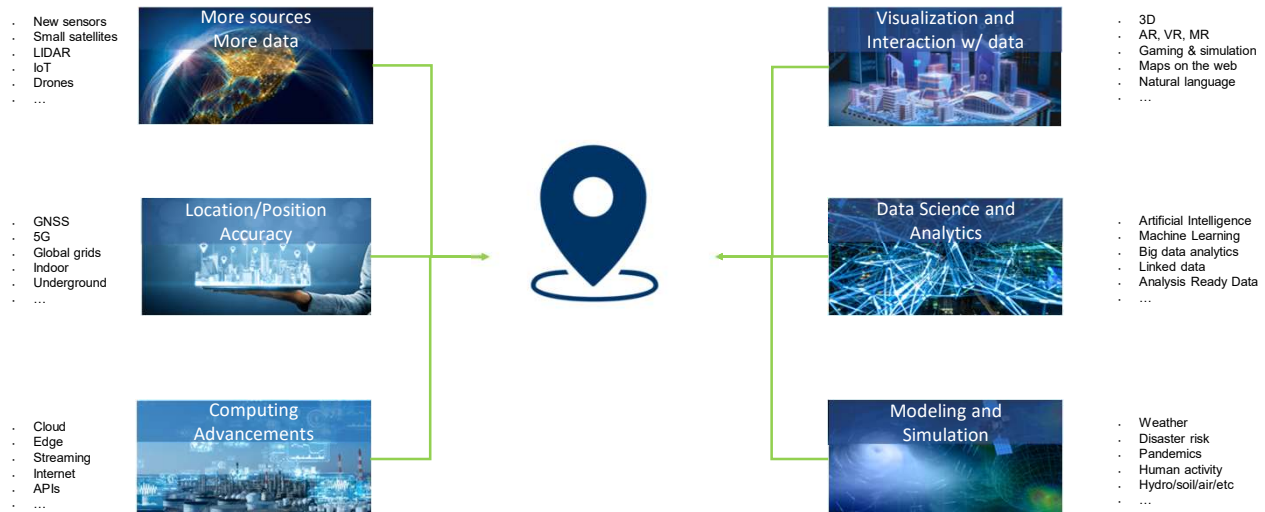# The Open Geospatial Consortium (OGC)

Collective problem solving – Findable, Accessible, Interoperable and Reusable (FAIR)

Community: 550+ Members

Problem solvers & innovators

Creating value with geospatial

Open Standards

Best Practices

Proof of Concepts

Deliverables to the world

https://www.ogc.org/standards

3

Many Trends – Geospatial is Everywhere

- New sensors
- Small satellites
- LIDAR
- IoT
- Drones
- …

More sources More data

Visualization and Interaction w/ data

- 3D
- AR, VR, MR
- Gaming & simulation
- Maps on the web
- Natural language
- …

- GNSS
- 5G
- Global grids
- Indoor
- Underground
- …

Location/Position Accuracy

Data Science and Analytics

- Artificial Intelligence
- Machine Learning
- Big data analytics
- Linked data
- Analysis Ready Data
- …

- Cloud
- Edge
- Streaming
- Internet
- APIs
- …

Computing Advancements

Modeling and Simulation

- Weather
- Disaster risk
- Pandemics
- Human activity
- Hydro/soil/air/etc
- …

4
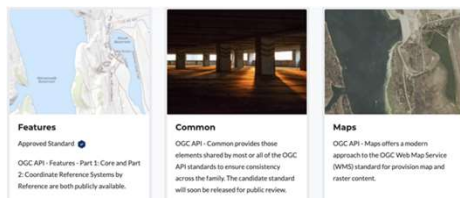
Requires Practical Collaboration

Based on Building Blocks, Now and the Future

https://ogcapi.ogc.org/
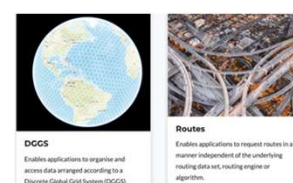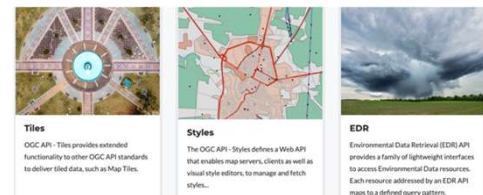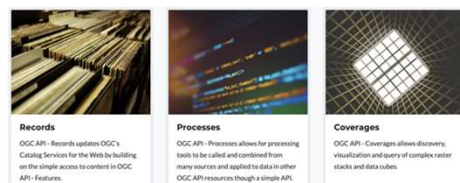
Legacy OGC Web Service Standards

Maps	Maps **WMTS**	Features **WFS**
WMS		
	WCS	
Imagery	Coverages	

Discover via CSW

Multiple Maps with common semantics - Interoperability (Source: Joan Maso)

7

OGC API Standards

Maps	Maps **OGC API Tiles**	Features **OGC API Features**
OGC API Maps		
	OGC API Coverages	
Imagery	Coverages	
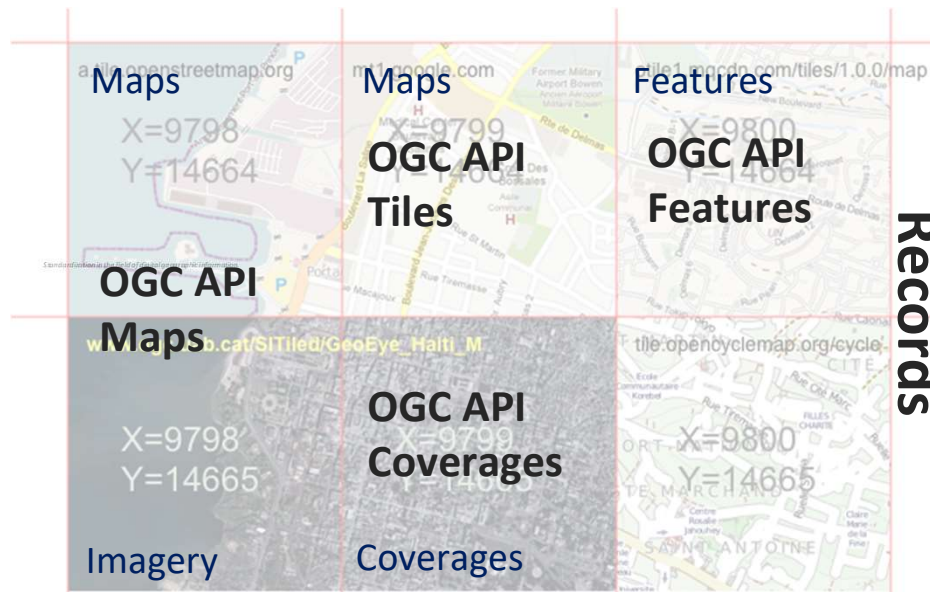
Discover via OGC API - Records

Multiple Maps with common semantics - Interoperability (Source: Joan Maso)

8

OGC APIs - https://ogcapi.ogc.org/

- "Building blocks" that can be used to assemble novel APIs for web access to geospatial content

- Ultimately will replace and enhance the existing OGC Web Service standards

- Defined with OpenAPI and published in discrete, easily implementable parts

- Ensure that geospatial data are "web "

- Easy to implement for any developer -

9

OGC standards - Marine work

- OGC APIs used in Phase I-III of the FMSDI
- OGC Features API
- OGC Sensorthings API
- OGC Discreet Global Grids API (including 3D)
- OGC Envrionental Data Retreivel API
- Classic W*S standards (to show backwards compatibility)
- OGC GML

OGC – IHO
Federated Marine SDI
Demonstration Pilot
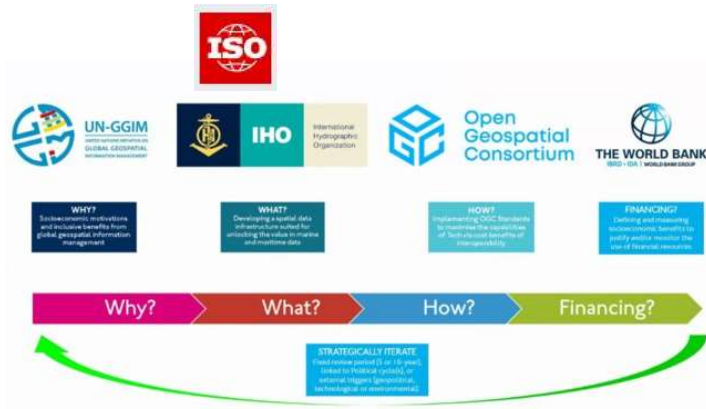*Connecting Land and Sea Across Nations*

*More on
Thursday !*

10

Partnerships – Critical!

- Collective Problem Solving – Innovation
- Multiplier effect + reduce redundant work
- Maximize Investments
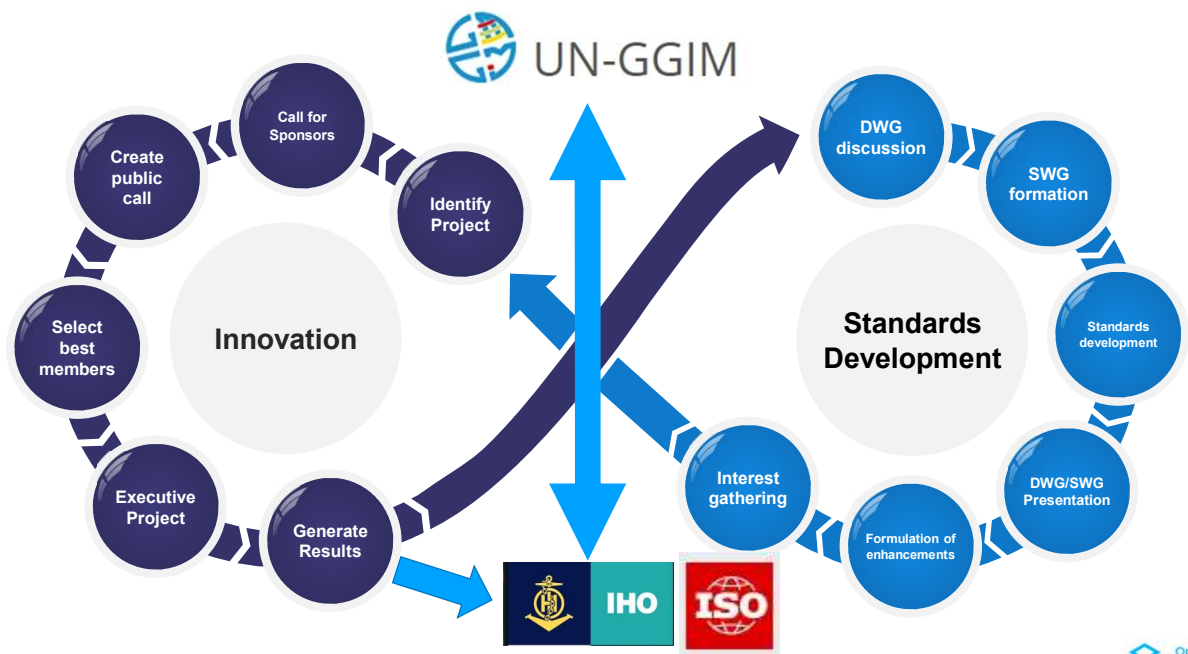- Long History on collaboration – which is accelerating

Slide Courtesty of UKHO – Maturity Work Item example

11

Close Collaboration - Marine

12

Multi-Year Marine Intiative

13

Thank You

Community

500+ International Members
110+ Member Meetings
60+ Alliance and Liaison partners
50+ Standards Working Groups
45+ Domain Working Groups
25+ Years of Not for Profit Work
10+ Regional and Country Forums

Innovation

120+ Innovation Initiatives
380+ Technical reports
Quarterly Tech Trends monitoring

Standards

65+ Adopted Standards
300+ products with 1000+ certified implementations
1,700,000+ Operational Data Sets
Using OGC Standards

14