Academia – Underpins Insight, Innovation and Interoperability for Resilience and Sustainability

OGC® Making location count.

IHO International Hydrographic Organization

ISO International Organization for Standardization TC 211

OGC:

Comprehensive global community-driven forward-looking expertise in location

Using location, we connect people, communities, technology and decision making to create a sustainable future for us and our kids

- *By specializing in making location more Findable, Accessible, Interoperable and Reusable*
- *Via a proven collaborative and agile process combining standards, innovation and partnerships*

Communities-
Tech & Domain

Partnerships
& Alliances

Process for
Standards &
Innovation

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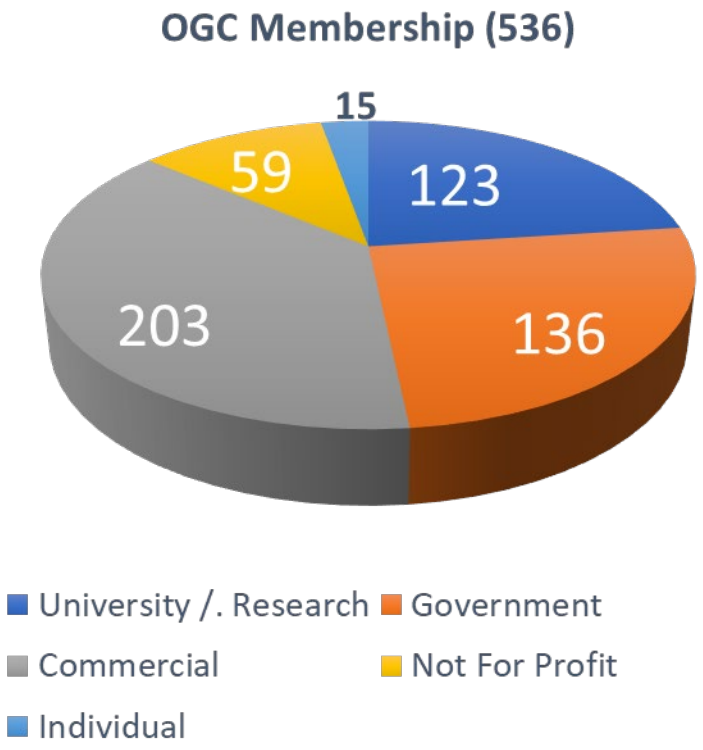
OGC:

Comprehensive global community-driven forward-looking expertise in location

Academia represents a vital component of OGC's diverse membership



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Member Focus Areas – Technical Committee

- 3D Information Mgt (3DIM)
- Agriculture
- Architecture
- Artificial Intelligence
- Aviation
- Big Data
- Blockchain/Distributed Ledgers
- Catalog
- Citizen Science
- Coordinate Reference Systems
- Coverages
- Data Preservation
- Data Quality
- Defence & Intelligence
- Discrete Global Grid Systems
- Earth Observation Exploitation Platforms
- Earth Systems Science
- Emergency & Disaster Mgt
- Energy & Utilities
- Gaming & Simulation
- Geography Markup Language
- Geosemantics
- Health
- Hydrology
- Land and Infrastructure
- Land Administration
- Law Enforcement / Public Safety
- Marine
- Metadata & Catalog
- Meteorology and Oceans
- Mobile Location Services
- Point Cloud
- Security
- Sensor Web Enablement
- Smart Cities
- Temporal
- University
- Unmanned Systems (UxS)
- Web Feature Service
- Workflow

http://www.opengeospatial.org/projects/groups/wg
See Standards Working Groups at; http://www.opengeospatial.org/projects/groups/swg

OGC Standards Program - Domain Focus Areas

- **3D Information Mgt (3DIM)**
- **Agriculture**
- **Architecture**
- **Artificial Intelligence**
- Aviation
- **Big Data**
- Blockchain/Distributed Ledgers
- Catalog
- **Citizen Science**
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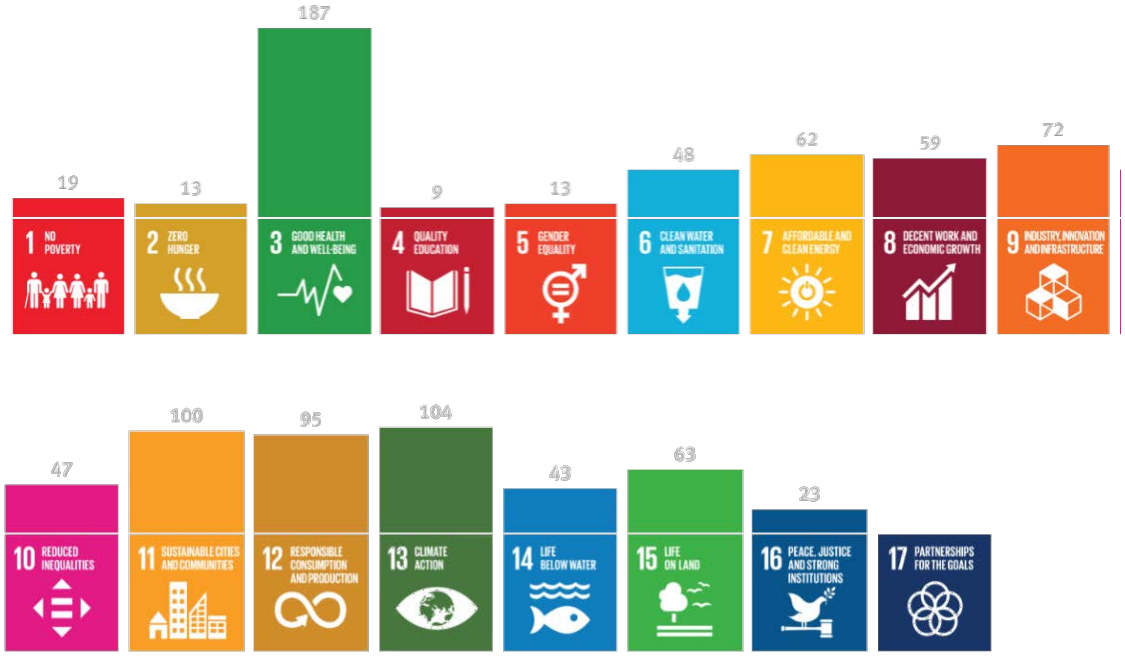
University Engagement

- Universities are shaping the future of OGC standards and interoperability in many ways:
  - Bringing new concepts, research to OGC Innovation and Standards Programs
  - Influencing standards to ease fielding of research results to operations
  - Amplifying resources by leveraging OGC membership expertise / common interests
  - Enhancing academic curriculum
  - Creating new market opportunities

All of this work contributes to avancment of SDGs



- Smart, Sustainable and Resilient Cities
- Water Resources
- Environment
- Emergency / Disaster Lifecycle Management
- Health
- Energy
- Land Administration
- Agriculture
- ….

Influencing OGC Standards Important to Resilience and Sustainability

- Sensor Web Enablement
- SensorThings
- CityGML
- IndoorGML
- WaterML
- Web Coverage Service
- Catalogue & OpenSearch
- GeoPackage
- Moving Features
- **OGC APIs**

Article

Extending INSPIRE to the Internet of Things through SensorThings API

Alexander Kotsev [1,†,‡,*], Katherina Schleidt [2,‡], Steve Liang [3,‡], Hylke van der Schaaf [4,‡], Tania Khalafbeigi [3,‡], Sylvain Grellet [5,‡], Michael Lutz [1,‡], Simon Jirka [6,‡] and Mickaël Beaufils [5,‡]

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§ The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

Version May 2, 2018 submitted to

https://www.preprints.org/manuscript/201805.0031/v1/download and https://www.mdpi.com/2076-3263/8/6/221/htm

OGC API - The Next Generation of OGC Standards

- Builds on the success of OGC Web Services (W*S) Standards
  - Leverages Open API
  - Focus on getting content to the web, easing developer effort, expanding reuse in today's app environment
  - Approach established as part of the recent revision of the OGC Web Feature Service, which will be fist to approval in 2019 – "OGC API – Features"
- Additional OGC W*S standards will follow the same pattern:
  - OGC Web Services Common → OGC API – Common
  - Web Processing Service → OGC API – Processing
  - Web Map Tile Service → OGC API - Map Tiles
  - Web Coverage Service → OGC API – Coverages
  - Catalogue Services for the Web → OGC API - Catalogue

OGC API - The Next Generation of OGC Standards

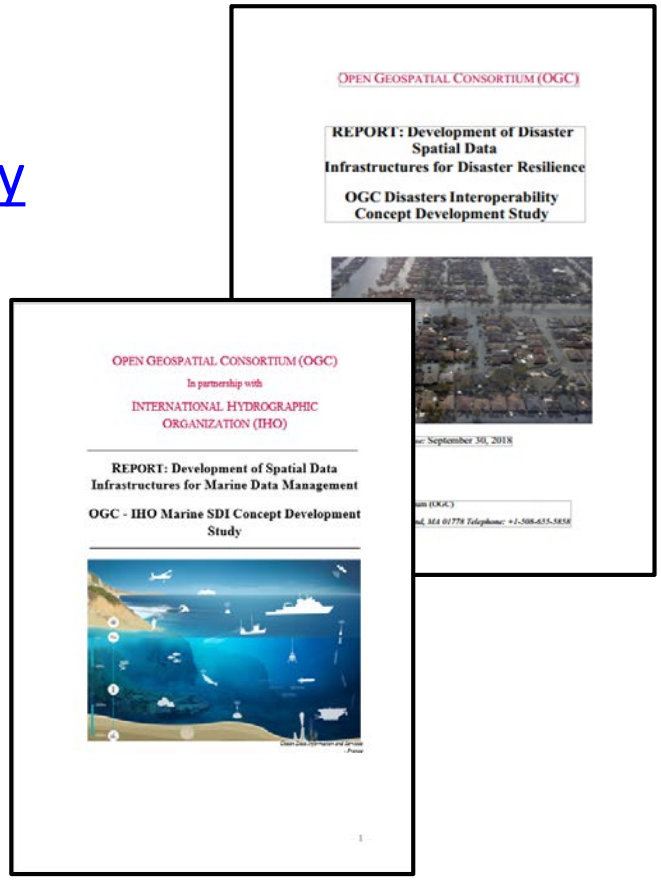
- OGC members are engaging with the developer community via hackathons, sprints and public GitHub to evaluate applicability and utility
- OGC Web Services standards will continue to be supported, but with minimal future revision

http://www.opengeospatial.org/blog/3025

#OGCAPI

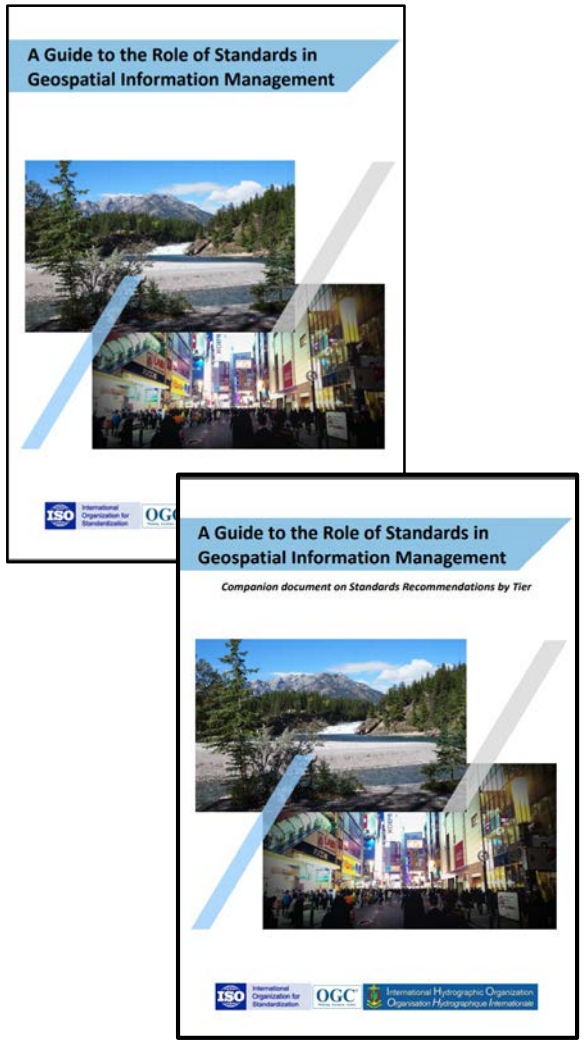
Relevant Innovation Initiatives

- Innovation Program
  - Smart City Reference Architecture Pilot
  - Disasters Resilience Pilot
  - Marine SDI Concept Development Study
  - Marine SDI Pilot (Planned)
  - Maritime Limits and Boundaries Pilot
  - Indoor Mapping and Navigation Pilot
  - OGC API - Features Sprint (planned)
- E-Learning



In Closing

- University & Research engagement and influence in the OGC international process is significant and vital to our success
- Contributions from university members, working across membership is advancing standards of importance to sustainability.
- OGC partnerships with ISO, IHO,ITU, buildingSMART, and many others help amplify value to the global community



UN-GGIM

UNITED NATIONS INITIATIVE ON
GLOBAL GEOSPATIAL
INFORMATION MANAGEMENT

Thank you

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