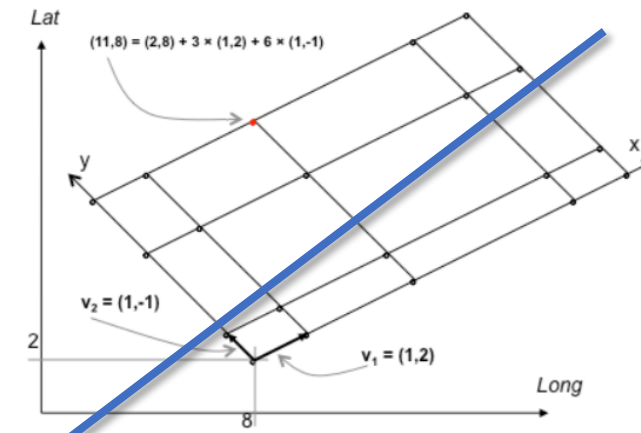




The Canada Forum on Geospatial Standards

Gordon Plunkett, Esri Canada
October 30, 2018
GeoAlberta Conference, Edmonton



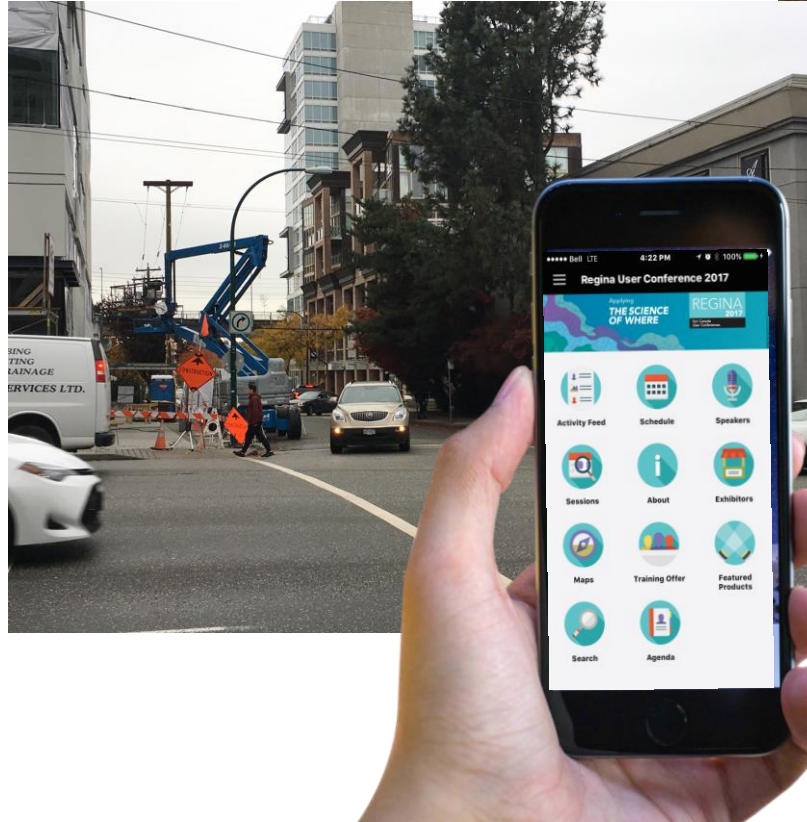
EXAMPLE 2 The (curvilinear) referenceable grid of Figure 4 earlier may be specified using coefficient arrays across both axes of the grid. It is represented as follows (Figure 9):

68

Why do we need Standards?



- Safety and reliability
- Support of government policies and legislation
- Interoperability
- Business benefits
 - Open up market access
 - Provide economies of scale
 - Encourage innovation
 - Increase awareness
- Consumer choice



So why do we need digital standards?



Digital Transformation has begun. . .

We Are Living in an Era of Exponential Technological Advancement

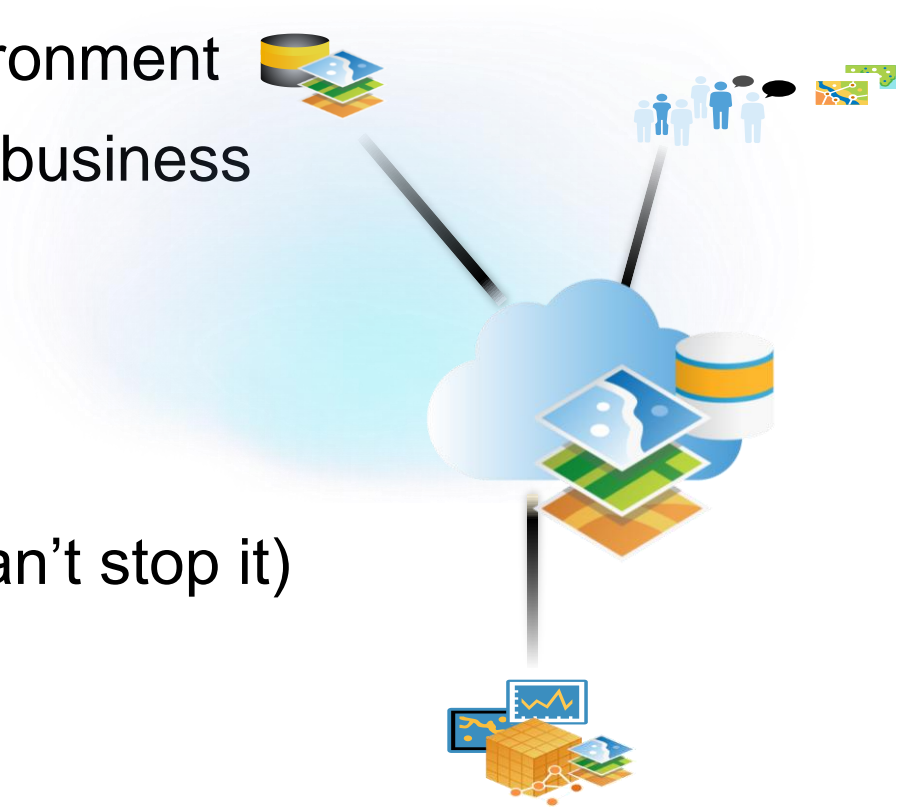


Web GIS is already playing a fundamental role in integrating geography into everything we do

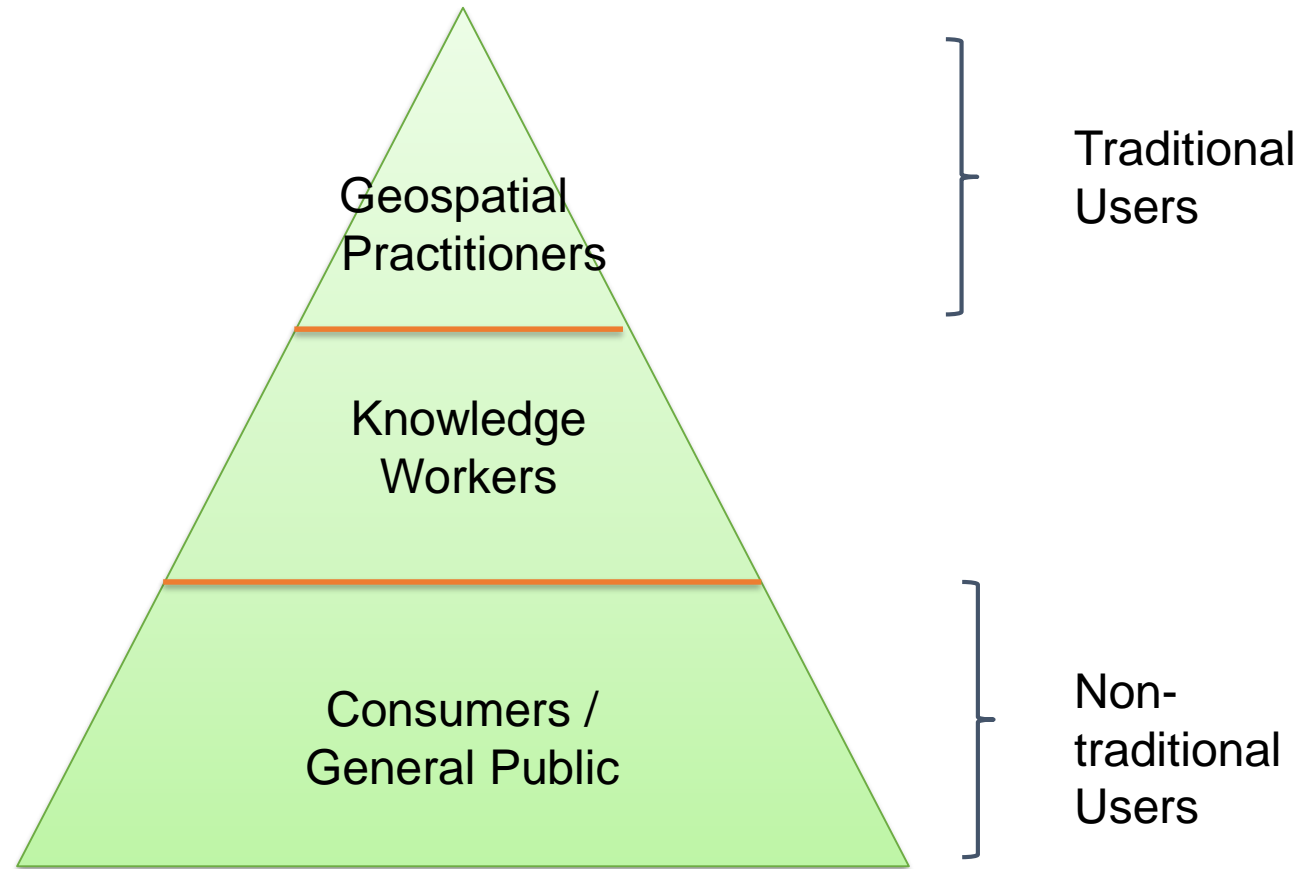
Data-Driven Digital Government



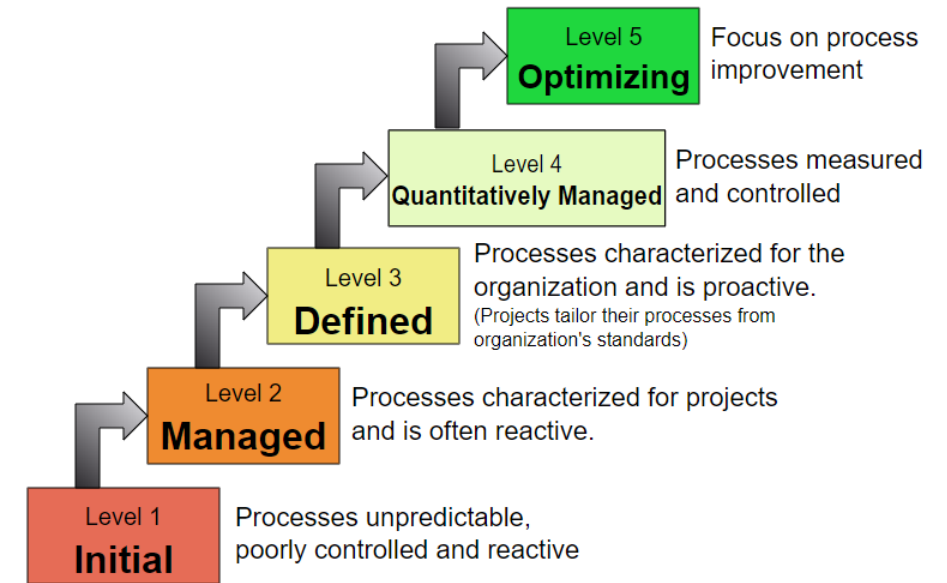
- Pervasive digitization of government work and data
- From islands-of-automation to fully digital environment
- Public records define the truth for government business
- Non-governmental records will play a role
- Internet of Things (IoT) data
- SmartCity (SmartEverything) data
- Need to embrace digital transformation (you can't stop it)



User Capability Pyramid



Characteristics of the Maturity levels



(Source: Wikipedia)

What is the OGC (Canada) Forum ?



- Member led and managed, approved by the global OGC community
- Open to non-members
- Provides OGC infrastructure and staff support to support regional/country based activities, and OGC's open, neutral, consensus based process
- The goals and objectives of regional organizations vary based on regional requirements. Example Activities;
 - Assist in capacity building in the region/country
 - Promote policies, cooperative business development initiatives and public/private partnerships that support the use of OGC standards.
 - Coordinate participation in the OGC,
 - Provide a platform for all stakeholders

Global Forums



- Asia
- Australia and New Zealand
- **Canada**
- Europe
- France
- Iberian and Latin-American
- India
- Korea
- Middle East and North Africa
- Nordic
- **North American**
- UK & Ireland

The screenshot shows the Twitter profile of ILAF OGC (@ILAF_OGC). The profile header is blue with the ILAF logo and the text "Open Geospatial Consortium, Inc.". Below the header, the profile name "ILAF OGC" and handle "@ILAF_OGC" are displayed. The bio states: "Iberian and Latin American Forum OGC (@opengeospatial) Open Geospatial Consortium. Foro Iberico y Latinoamericano del OGC". The location is "Spain" and the website is "external.opengeospatial.org/twiki_public/". It also shows "Joined October 2011" and "7 Photos and videos". The tweet tab is selected, showing two tweets. The first tweet is a retweet from M-F Voidrot (@twitt_mfv) dated April 13, announcing the first Disasters CDS Workshop sponsored by USGS, FGDC, and DHS, held at NASA Ames, California, from May 17-18, 2018. The second tweet is a retweet from IDE España (@IDEESpain) dated April 17, announcing that the IDE de Barcelona has published the directions of 268 municipalities of Barcelona through a download service ATOM, with a link to the INSPIRE specification.

Home Moments Search Twitter

ILAF
Open Geospatial Consortium, Inc.

Tweets 86 Following 18 Followers 62 Likes 2

Tweets Tweets & replies Media

ILAF OGC Retweeted
M-F Voidrot @twitt_mfv · Apr 13
El primer Workshop Disasters CDS, patrocinado por USGS, FGDC y DHS se llevará a cabo en NASA Ames, California, del 17 al 18 de mayo de 2018. Obtenga más información y regístrese (gratis) en: lnkd.in/dqjhzDB

OGC
Disasters CDS Workshop
NASA Ames, Mountain View
17-18 May 2018

Open Geospatial: OGC @opengeospatial
The first Disasters CDS Workshop, sponsored by @USGS, @fgdcgov, and @DHSgov will be held at @NASA Ames, CA on 17-18 May 2018. Learn more and register (for free) at: go.myogc.org/2CjI0c3

ILAF OGC Retweeted
IDE España @IDEESpain · Apr 17
La IDE de Barcelona publica las direcciones de 268 municipios de Barcelona a través de un servicio de descarga ATOM. goo.gl/bShPH6
Al igual que el ATOM de la DG de Catastro, sigue la Especificación de Datos de INSPIRE: goo.gl/sVVPF2
[@INSPIRE_EU](https://twitter.com/INSPIRE_EU) [@IDEBarcelona](https://twitter.com/IDEBarcelona)

Example Activities – European Forum



Agenda

Europe Forum

106th OGC Technical Committee
Orléans, France
Athina Trakas
20. March 2018



- . Short reports from other active fora in Europe
 - . French Forum (Stephane Garcia, IGN)
 - . UK & Ireland Forum (Andrew Hughes, BGS)
 - . ILAF (Joan Maso, UAB)
- . Overview of some EU funded projects
 - . ESPRESSO - Smart Cities (Bart de [Lathouwer](#), OGC)
 - . DATABIO - Big Data (Ingo [Simonis](#), OGC)
 - . [NextGEOSS](#) – Disaster CDS (Marie-Francoise [Voidrot](#), OGC)
 - . H2020 Project [LandSense](#) (Andreas Matheus, secure dimensions)
- . Input on statistics activities in the OGC
 - . Statistic Ad hoc (Ian [Coady](#), ONS) & Table Joining Service ([Jari Reini](#), NLS)
- . Update on INSPIRE (Michael Lutz, JRC)
- . Update from ESA (Cristiano Lopes, ESA tbc)

Example Activities – China Forum



Open Standards in Practice: An OGC China Forum Initiative

Peng Yue
Wuhan University
pyue@whu.edu.cn

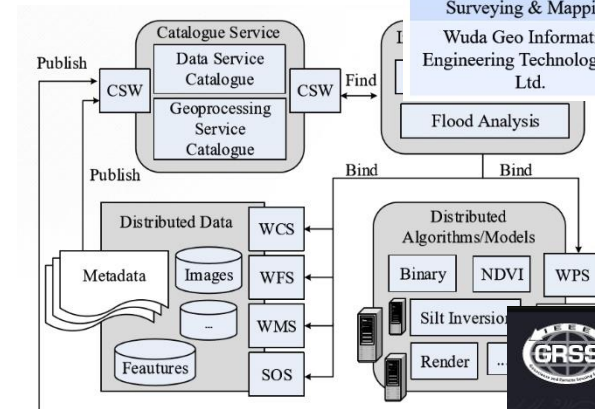


How to make distributed data and numerous tools more **sharable** and **interoperable**, and work **collaboratively** across various organizations?

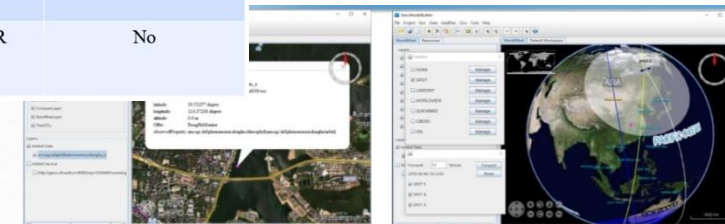
Organizations from China	abr.	OGC Members (Yes/No)
Wuhan University	WHU	Yes
National Geomatics Center of China	NGCC	No
Institute of Remote Sensing & Digital Earth, Chinese Academy of Sciences	RADI	Yes
Fuzhou University	FZU	Yes
Zhengzhou Institute of Surveying & Mapping	ZISM	Yes
Wuda Geo Information Engineering Technology Co. Ltd.	GEOSTAR	No



Open Standards

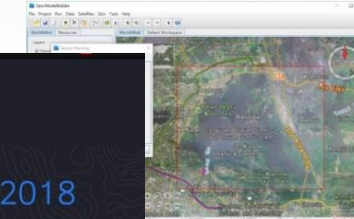


Services provided by six organizations following standards

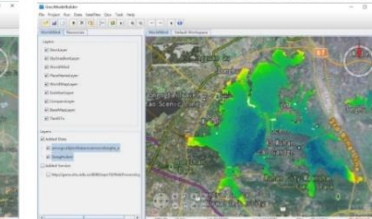


In-situ sensor visualization

Real-time simulation of satellites



Specific area selecting with circular marker



Data visualization

GRSS IEEE

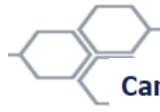
BGDDS 2018

September 22 - September 23

Conference Center of Wuhan University

Wuhan, China

What OGC Resources are Available ?



Canada Forum

[Return to List](#)

General **Contacts** Files Tasks Actions Attendance

Canada Forum

Abbreviation: Canada Forum

Start Date: 2018-04-24

Target End Date: 2018-04-24

Actual End Date:

*Target Budget: \$0

Project Director: Trevor Taylor

Status: In Progress

Progress: 0.0%

Active: Yes

Last Updated: 2018-04-24 12:57:31 By OGC Portal Admin

* Only seen by project managers

Project Description

The goal of the Canada Forum is to better serve Canadian needs for geospatial data and services. The Forum is an informal or not limited to Federal, Provincial, Territorial and Municipal governments, Indigenous Organisations, Academia, and Industry.

The Canada Forum will provide a platform for all stakeholders to increase collaboration with a focus on Canada's requirements improve the level of Canadian influence in the OGC geospatial standards process and related standards partners (e.g. ISO, IHO

Project Charter Members

AE Inc., Computer Research Institute of Montreal (CRIM), Compusult Ltd., Cubewerx Inc., Ecere Corp., Environment and Climat Department - Geographic Information Services (Province of Nova Scotia), NewfoundView, the PYXIS innovation, SensorUP, Tes



CanadaForum

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- [AustraliaNewZealandForum](#)
- [AviationDWG](#)
- [BigDataDwg](#)
- [BusinessValueCommittee](#)
- [CATdiscuss](#)
- [CDBswg](#)
- [CRSdefinitionResolver](#)
- [CRSdwg](#)
- [CanadaForum](#)
- [CitSciE](#)
- [CitizenScienceDWG](#)
- [ClimateChallenge2009](#)
- [CoveragesDWG](#)
- [DiscreteGlobalGridSystem](#)
- [EMSpectrumDWG](#)
- [EMSpectrumDWG](#)
- [ERGuidance](#)
- [FIForum](#)

Jump

Search

You are here: OGC Public Wiki > CanadaForum Web > WebHome (16 Jul 2018, TrevorTaylor)

[Edit](#)

[Attach](#)

Welcome to the CanadaForum web

Introduction

The goal of the Canada Forum is to better serve Canadian needs for geospatial data and services. The Forum is an informal organisation open to all Canadian Organisations (including non-OGC members) and international OGC members conducting business or research in Canada. Example organisations include, but are not limited to Federal, Provincial, Territorial and Municipal governments, Indigenous Organisations, Academia, and Industry.

The Canada Forum will provide a platform for all stakeholders to increase collaboration with a focus on Canada's requirements for sharing geospatial data and information, capacity building, innovation, outreach, industry business development, and others. The forum is also intended to provide a venue for the community to improve the level of Canadian influence in the OGC geospatial standards process and related standards partners (e.g. ISO, IHO, GEO, UN-GGIM, [W3C](#), CGSB).

Sign up for the [list serve](#), which is open to all Canadian organisations (OGC member and non-member), and organisations doing business in Canada.

Background

The Canada Forum was created based on extensive consultation with Canadian Organisations, beginning with a summit held in St. John's, Newfoundland and Labrador, in June of 2017. The Canadian community identified a series of requires and needs, and agreed to move forward with the creation of a Charter, which was formally approved by the wider OGC Community in April of 2018. See this link for a copy of the approved [Charter for the Canada Forum on Geospatial Standards](#), which provides more details on the purpose and structure of the Canada Forum.

Public Wiki

Plus OGC Staff Support
for Forum Activities

Canada Forum - Background

- Created based on consultation with the Canadian community, beginning with a summit held in St. John's, Newfoundland and Labrador, in June of 2017.
- The community identified a series of high level requirements, agreed to create a Charter, which was formally approved by the global OGC membership in April of 2018.
- See this link for a copy of the approved [Charter for the Canada Forum on Geospatial Standards](#), which provides more details on the purpose and structure of the Canada Forum.
- Informally Launched, June 2018, during OGC Meetings in Colorado



Graphic Summarizing the St. John's, 2017, Summit

Canada Forum - Purpose



- **Collaboration and Consensus** : Inclusive - All stakeholders - people, technologies, policies, governance, market development
- **Issues**: Refine priority issues to guide innovative development in Canada through collective action.
- **Awareness**: Increase awareness of the benefits of using geospatial standards and technologies for all sectors, especially new and emerging sectors and markets
- **Value Chains**: Define value chains in various thematic domains (e.g. Survey and Mapping, Environmental Monitoring, Agriculture, Maritime, Energy and Utilities) and explore means to better connect multiple communities of practice to reduce duplications, increase efficiency and improve the return on investment,
- **Capacity** : Increase Canadian geomatics expertise and contribute to Canada's future geospatial capacities and market presence , globally
- **Remote Communities**: Empower remote Canadian communities through online collaborations.
- **Work Plan** (in process): Create a consensus based workplan Intended to ensure activities are attainable , do not require excessive new resources and are reflective of important issues to all sectors

Charter Members



- AE Inc.
- CAE
- Computer Research Institute of Montreal (CRIM)
- Compusult Ltd.
- Cubewerx Inc.
- Ecere Corp.
- Environment and Climate Change Canada (ECCC)
- Esri Canada Ltd.
- Fisheries and Marine Institute (Memorial University of Newfoundland)
- Mohawk Council Kahnawake
- Mount Royal University
- Natural Resources Canada (NRCan)
- Internal Services Department - Geographic Information Services (Province of Nova Scotia)
- NewfoundView
- the PYXIS innovation
- SensorUP
- Teledyne CARIS
- Tesera Systems Inc.
- University of Calgary

Structure



Co-chairs and Sector Focus

- Government/Indigenous
 - Cameron Wilson, NRCan, ON
 - Bradford Dean, Mohawk Council of Kahnawake, PQ
- Commercial
 - Aurelian Constantinescu, CAE Inc, PQ
 - Andy Hoggarth, Teledyne – CARIS, NB
- Research/Academic
 - Tom Landry, CRIM, PQ
- Facilitator
 - Trevor Taylor, OGC, ON

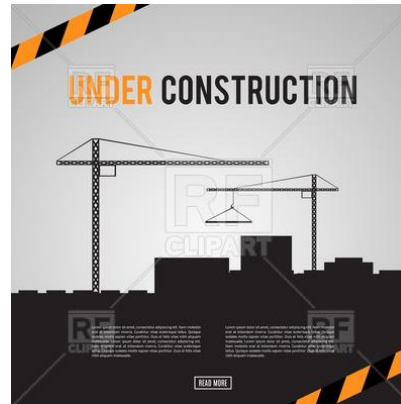
Meets a minimum of
Monthly (First
Wednesday of Every
month)

Looking to expand the
group to better
represent regional
requirements and the
Academic Community

Next Steps



- Formal Launch of the Forum
 - Indigenous Mapping Workshop, Montreal
 - CCOG /SDI Summit
 - **GeoAlberta**
 - Geomatics Atlantic
 - Réseau Québec maritime
- Work Plan Development – Needs Your Input !
 - Looking to identify common issues, potential activities that cross cut sectors



Spatial Data Infrastructures (SDI) and standards



- Canadian Geospatial Data Infrastructure (CGDI)
- Standards facilitate the development, sharing, and use of *geospatial data*.
- Data and metadata standards
- Standards
 - Semantics
 - Syntax
 - Services



SDI Drivers



Improved Technology –

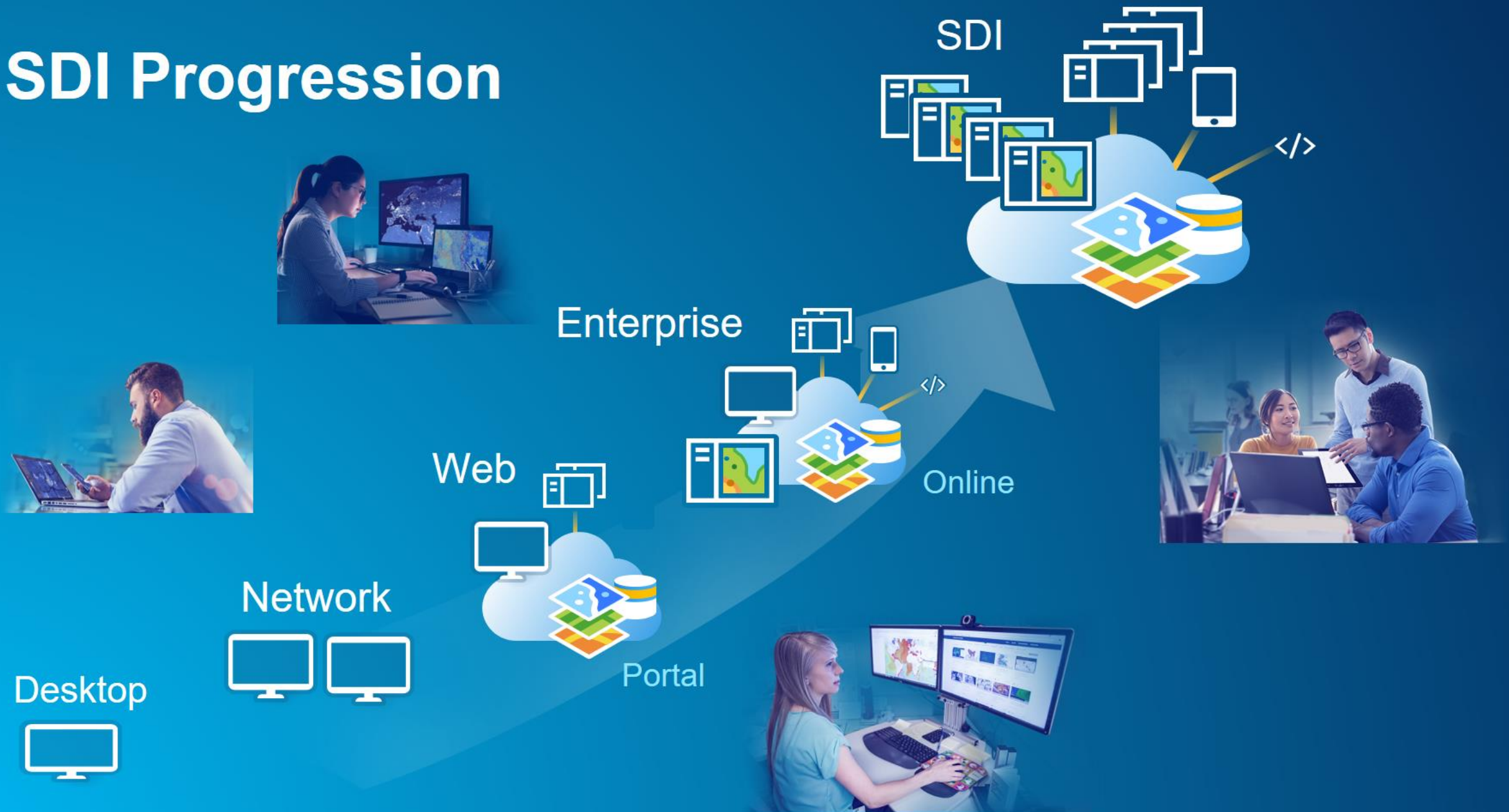
- Faster internet
- Expanded access
- Improved reliability
- Big data and big (cloud) computing

New Applications –

- Digital government
- Improved GUI (ease of use)
- Growing user base
- Increased use in traditional industry sectors
- Increased uptake in non-traditional industry sectors



SDI Progression



SDI Components

Component	Desktop	Network	Web	Enterprise	SDI
Data	✓	✓	✓	✓	✓
• Network		✓	✓	✓	✓
• Software	✓	✓	✓	✓	✓
• Server			✓	✓	✓
Policies			(✓)	✓	✓
Applications	✓	✓	✓	✓	✓
Governance				✓	✓
Standards			(✓)	✓	✓
Users	Internal	Internal	External	Internal /External	Internal /External

Patterns of Use

Mapping & Visualization



Understand locations and relationships with maps and visual representations

Data Management



Collect, organize, and maintain accurate locations and details about assets and resources

Field Mobility



Manage and enable a mobile workforce to collect and access information in the field

Monitoring



Track, manage, and monitor assets and resources in real-time

Analytics



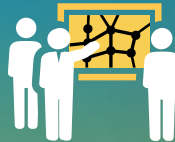
Discover, quantify, and predict trends and patterns to improve outcomes

Design & Planning



Evaluate alternative solutions and create optimal designs

Decision Support



Gain situational awareness, and enable information-driven decision making

Constituent Engagement



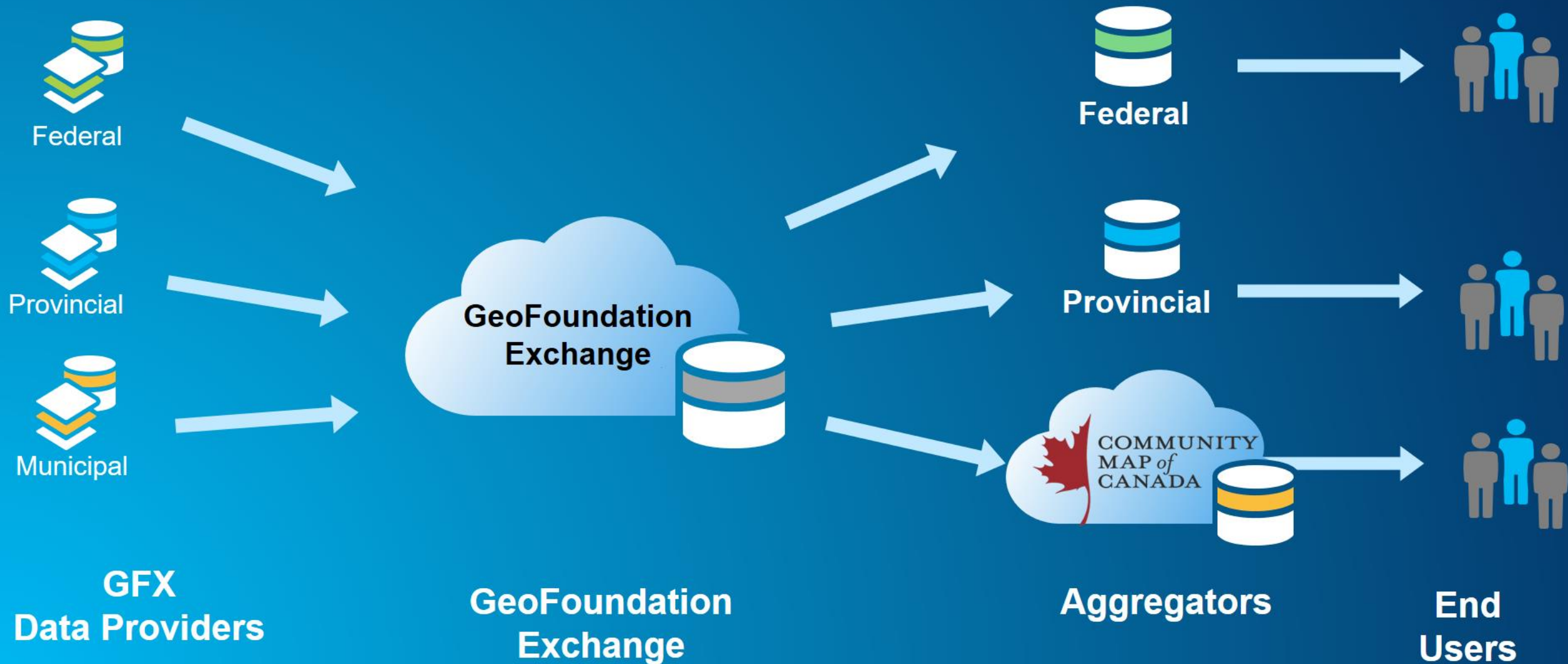
Communicate and collaborate with citizens and external communities of interest

Sharing & Collaboration



Empower everyone to easily discover, use, make, and share geographic information

GFX Data Providers, Aggregators, End Users





Open and Interoperable

Open Standards and Formats

XLSForm GML SQL SLD SOAP WMTS KML LAS Shapefiles REST
IMDF WCS Web Scene LERC CSW WPS OneGeology IFC
WFS WMS OPeNDAP JSON WaterML GeoPackage INSPIRE CityGML



Certifications

Direct Product Integration

MS Office SQL SharePoint Jupyter Azure Power BI SAP
Server Notebook HANA
Adobe Creative Oracle Python Teradata
Cloud AWS R Hadoop AutoCAD Revit PostgreSQL

Open Software Architecture

Open Data Access Open-Source Contributions Open APIs & SDKs Extensible Architecture Open-Source Integration Embeddable

... Successfully
Integrated Into Thousands
of Systems



Why is Canada Forum Relevant to GeoAlberta?



- Increase collaboration
- Canadian requirements
- Sharing geospatial data
- Capacity building
- Innovation
- Outreach
- Business development
- Canadian influence on standards

How Do I get Involved ?

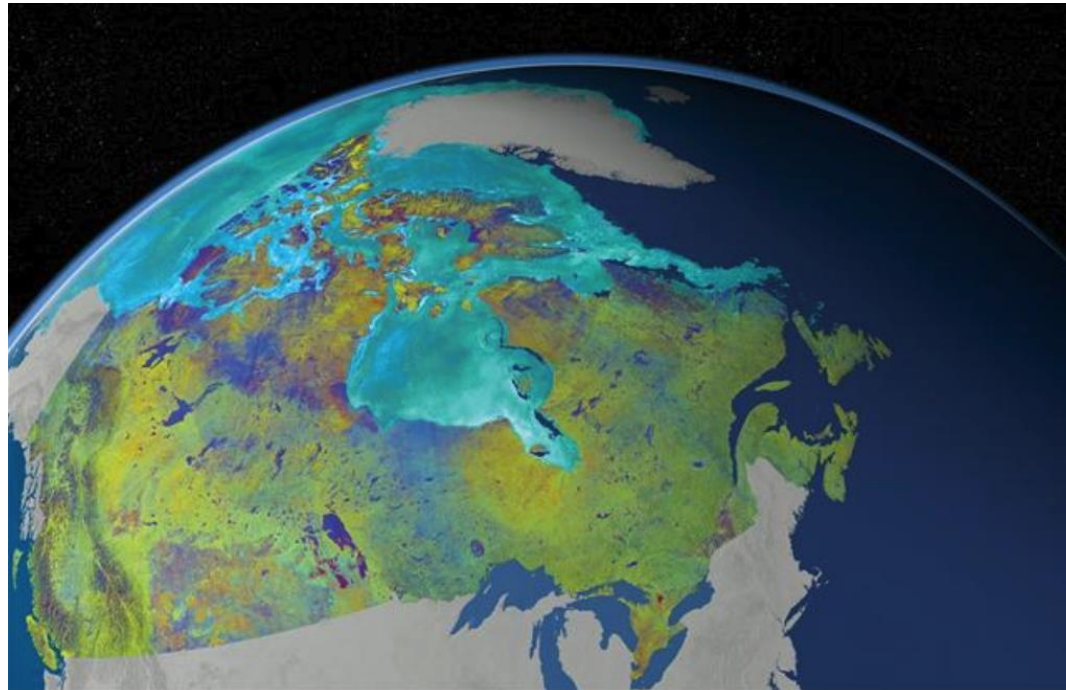


- Contact the Chairs/Facilitator Sign up for the Forum Mailing list <https://lists.opengeospatial.org/mailman/listinfo/canada.forum>
- Comment and edit on the on-going Plan
- Volunteer to join the chairs
- Plan to attend a Forum Event in 2019 (Date, location, TBD)
- Contribute ideas

Thank you!



- Gordon Plunkett (gplunkett@esri.ca)
- Trevor Taylor (ttaylor@opengeospatial.org)



"This is a Mosaic of Canada which is made from 121 images captured by Canadian satellite RADARSAT-2. These images were acquired from May 1, 2013 to June 1, 2013. The color variation represents the changes in soil texture, roughness and the level of soil moisture." (Credit: RADARSAT-2 Data and Products © MacDonald, Dettwiler and Associates Ltd., 2014. In collaboration with the Canadian Ice Service. All Rights Reserved. RADARSAT is an official mark of the Canadian Space Agency.)