



World
Geospatial
Industry
Council

Geospatial in Everything
Geospatial for Everyone

Annual Report 2023



ATMOSPHERE

BIOSPHERE

HYDROSPHERE

GEOSPHERE

HUMAN SPHERE

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Contents



Executive Messages

Jack Dangermond, Chair - Patron Board	4
Alain De Taeye, Vice Chair - Patron Board	5
Bryn Fosburgh, President	6
Aaron Addisson, Executive Director	8

Organizational Report

Strategic Goals	10
Implementing Goals through Programs	10
New Brand Identity	11
Global Geospatial Network	13
Member Representatives	14
Committees	17

Outreach Activities

Outreach Activities 2023	19
Outreach Activities 2023 in Pictures	33
Social Media Outreach	34

Committee Reports

Diversity, Equity and Inclusion (DEI)	37
Industry-Academia Collaboration	39
Partnerships and Industry Engagement (P&IE)	40
Policy Development and Advocacy	42
Public-Private Partnerships (PPP)	43
United Nations and Related Entities	44

WGIC Secretariat

Humanity is at a Choice Point



Jack Dangermond
Chair - Patron Board

As I reflect on the accomplishments of 2023, I applaud the members of WGIC for all their work demonstrating the value of geospatial technologies for society and the economy. WGIC's work on leadership diversity in the geospatial community, the well-received report on emerging technology such as the Metaverse, and the deep engagement on climate at COP28 are significant. All these activities provide us with a much-needed voice.

Humans, as a species, have been highly successful. Especially since the dawn of the Industrial Revolution, we have leveraged science and technology to develop sophisticated transportation, communication, and urban infrastructure systems. Several economic sectors have become technology-led and even technology-intensive in just a few hundred years.

We have overcome many challenges, and as a result, our population has grown exponentially. Some people describe our present era as the Anthropocene Epoch, where our collective actions are substantially altering the Earth's surface, atmosphere, and oceans.

Our world is being challenged; these challenges and human advancement are interrelated in some ways. Human-induced climate change is stimulating ecological instability, for instance. Humans are living recklessly, beyond our means, and this is not sustainable. We are living out of balance with nature, threatening our future.

Some say we may not even have a future.

But I believe humanity is at a point of choice, and humans

will choose to stand up and create a sustainable future. We must take collective responsibility for imagining, designing, developing, and implementing solutions that sustain the planet. We need to move quickly; there is no time to fool around or for political polarization. We have little time to lose before the choice before us becomes Hobson's choice.

It turns out that sustainability, in many ways, starts with geography. Seeing the world as a single ecosystem is where it begins. Geospatial thinking then provides the science, technology, and tools for organizing all the factors, approaching problem-solving holistically, exploring alternatives, finding solutions, and improving how we create the future. We need to take responsibility for it.

Talking about responsibility, nothing comes close to taking collective and coordinated action. I am proud that this has been the foundational spirit behind WGIC's mission. With the expanding scope and relevance of **Geospatial in Everything, Geospatial for Everyone**, let us strengthen our shared commitment towards the planet more than ever.

I want to thank you personally for being my colleagues in the geospatial community and members of this wonderful organization known as the WGIC. My sense is our collective work, and particularly the innovations your organization is making, is advancing our civilization and the future of our world. Thank you for this.

Geospatial technologies and the efforts around them have become incredibly important and ultimately will be essential for creating a sustainable future. [G](#)



Exciting Times for Geospatial Industry



Alain De Taeye
Vice Chair - Patron Board

We are amidst exciting times in the geospatial industry. We are witnessing tremendous growth in the usage of geospatial information to solve problems that matter. Be it global issues such as climate change, sustainability, mobility, and disaster mitigation and management or national and thematic issues such as planning of urban spaces to facilitate appropriate infrastructure, seamless transportation and utilities, and ensuring food security for the growing population, geospatial has its way into every critical sector of the society.

Even as this technology is becoming pervasive, I see three trends reshaping our industry, opening it up for even greater usage of geospatial information. The first is artificial intelligence (AI). AI has made tremendous progress over the last decade, and the geospatial industry is increasingly using AI in crafting services and solutions. The use of AI in our industry starts with creating and updating geospatial data. AI can be extremely useful in detecting objects from video cameras, aerial photographs, or satellite images and extracting much more information at a faster rate.

The next important application of AI is in the analysis of geospatial data. We are seeing a massive influx of data from disparate sources. Besides extracting the data, AI can help improve the data quality. Even as geospatial data is used in an expanding number of applications, the accuracy, precision and currency of data becomes crucial, and AI significantly improves these parameters.

Soon, AI will bring about transformative changes in how geospatial information is used. Today, the usage of geospatial data is limited to technologists. This will change as we move into a world where AI will generally be available for conversational interfaces. We will be able to use natural language to query spatial data or even solve geospatial problems. This is incredibly important because it expands the user base of geospatial information from a select group of technologists to a much broader audience that does not necessarily have to be specialists in geospatial technologies.

The second trend reshaping our industry is the proliferation of sensors, be it video, LiDAR, image, or motion sensors. Take a modern car, for instance. It has a plethora of sensors, especially video cameras, that seamlessly capture the fast-changing conditions around the moving vehicle, creating a crowdsourced reality. This is true not just for cars; it will soon be valid for mobile phones, dashcams and a host of gadgets or projects you can imagine.

Next to the proliferation of sensors, we are experiencing enormous quality increase regarding the capabilities of those sensors, enabling advanced data capture and extraction of more detailed data.

Moreover, we have seen an enormous growth in the capabilities of edge computing in the recent years. We can now analyze the results of the sensors in the edge, meaning analysis can be done in the car, in the phone or in the satellite itself. We can extract information from the edge and use normal communication channels such as 5G to relay the same in real or near-real time.

The third trend I wish to touch upon is open data. We have seen a phenomenal increase in the availability of open data in the last 20 years. More and more governments realize that by opening their datasets, they amplify collaboration with the private sector and expand the utility of open data to create new solutions.

Organizations such as Open Street Maps (OSM) have seen tremendous growth in their community and as such realized much more coverage in their global map as well as substantial quality increases over the past decade. However, there are still problems with consistency, quality checking and vandalism. For this reason, initiatives such as Overture Maps Foundation are important in making standardized open data available to the world so that everybody can connect their data to a single base map, which provides opportunities for lots of applications – both internal applications for companies and public applications. The possibilities are endless.

Even as these trends are massively expanding the business potential of geospatial technology, it is essential to be cognizant that we live in a complex world, and collaboration is the only way to create the products, services and solutions the world needs.

As a founding patron, I am excited that WGIC serves as such a platform that brings together geospatial companies, multilateral organizations, non-governments, and governments to foster collaboration and innovation in the industry. I am incredibly fond of this collective vision well captured by WGIC's brand identity – **Geospatial in Everything, Geospatial for Everyone.**

I would be happy to see the association I have co-founded continue to grow its membership, and I would love to see companies of all sizes join WGIC to expand collaboration on a global scale while simultaneously deepening our connections for mutual business benefits. 🌐

A Transformative Year for WGIC



Bryn Fosburgh
President

The geospatial industry has come a long way since its humble beginnings. It has transformed into a technology sector approaching a trillion-dollar mark, including direct involvement in the geospatial sector and its enabling role in other industries.

The industry is expanding at a robust pace offering all WGIC members and potential members the opportunity to promote geospatial solutions for global impact. Thanks to our membership and charter, WGIC has been uniquely placed to serve this opportunity as a global policy advocate for the industry.

Advancing Strategic Goals

Significant achievements and collaborative efforts mark our operations in 2023, strengthening our position. WGIC participated in over 50 national and international events during the year, demonstrating and communicating the value of geospatial and Earth observation technologies to society and the global economy, showcasing the incredible work done by our members and committees, and creating business opportunities - WGIC strategic goals.

Continuing its commitment to advocating for enabling policies - another strategic goal - WGIC brought out three significant reports during the year - [Brining Geospatial Context to the Metaverse: Considerations for the Next Steps](#) by the Policy Committee, [Leadership Diversity in Geospatial Industry: A WGIC Perspective](#) by the DEI Committee and the [Africa Geospatial PPPs: Business and Financial Considerations](#) by the PPP Committee. Besides, the Industry-Academia Committee launched a survey to understand the skill gap in the geospatial industry even as the Diversity, Equity, and Inclusion (DEI) Committee continued its commitment to celebrate DEI champions with WGIC DEI Trailblazer Awards.

Further, WGIC launched the [GeoAction Africa](#) initiative in collaboration with AGFUND. This project identifies and leverages geospatial technology to address urgent climate change challenges in Africa.

We will complete the project in 2024 and build on its success in other areas where WGIC members bring value to addressing global challenges such as food security and climate reliance.

New Brand Identity and Membership Expansion

In another significant achievement, WGIC unveiled its new brand identity. WGIC's new logo and all-inclusive tagline - **Geospatial in Everything, Geospatial for Everyone** - stand as a testament to the omnipresence of geospatial technologies across diverse economic sectors.

Moreover, today and in the future, geospatial information will fuel the Metaverse and describe and operate the digital twins and several processes in industries such as land information, construction, utilities, agriculture, and climate change. The new logo, color palette, and tagline reflect all the elements that geospatial technology stands for and the organization's expansive vision for the industry's future.

And this inclusive vision is reflected in our membership. WGIC welcomed several new members during the year. These include AerialZeus, Bad Elf, ConsultingWhere Ltd, Evona Inc, Fugro, Globhe Drones AB, Hong Kong Aerospace Technology Group Limited (HKATG), Muon Space Inc, Picterra SA, Planblue, Satlantis Microsats S.A., Schneider-digital, Umbra, Wanscan Consulting and Woolpert. This growth underscores the expanding relevance of WGIC in the geospatial industry worldwide.

Further, throughout 2023, WGIC has enhanced its visibility and value proposition, resulting in a increase in membership and revenue. Notably, there has been a substantial rise in membership at patron and associate levels. This has supported WGIC's strong balance sheet and financial standing, which is significant for an organization of our size.

Our financial management aligns with our means, and we are on track for a successful and budgeted 2023. Furthermore, WGIC has successfully initiated operations

In 2023, WGIC unveiled its new brand identity. WGIC's new logo and all-inclusive tagline - **Geospatial in Everything, Geospatial for Everyone** - stand as a testament to the omnipresence of geospatial technologies across diverse economic sectors.

with ABN AMRO Bank, providing members with increased flexibility and bolstering confidence in the organization.

Leadership Transition

2023 was an important year in terms of transitioning in several key roles. A considerable amount of work and planning went into selecting the new Executive Director, Aaron Addison. As the leadership team, we needed to run a thorough, open, and transparent process to find the best possible candidate. With Aaron, we believe we have appointed someone ideally suited to take WGIC to the next level.

In saying that, we owe Barbara Ryan, outgoing Executive Director, a huge debt of gratitude for her incredible work. It is a tough act to follow, but we feel Aaron can manage it.

An important consideration for the then President Ken Mooyman was to ensure we identified our preferred candidate for executive director before I took over as the new president.

We were able to achieve this and over the summer, we accomplished a smooth transition of both the President and Treasurer roles from Ken and Jim Van Rens to me and Brian Nicholls. On behalf of everyone involved in WGIC, we owe a huge expression of gratitude to Ken and Jim for their fantastic work throughout their terms of office and to John

Renard, who agreed to provide some continuity by staying on as Secretary General for one more year. John's term of office will end in June 2024.

Building Momentum

As we ended a transformative year on a high note, our heartfelt gratitude for your unwavering support and continued engagement with WGIC. In our sixth year of operations, WGIC is poised to build on this trust and create more momentum by expanding our membership and partner engagement. I am sure you agree it will enable us to strengthen and diversify our policy advocacy worldwide.

Further, WGIC is all set to leverage your involvement and research in the Metaverse, climate change, workforce development, and DEI to expand business opportunities for our members. Within the rapidly evolving technology landscape, WGIC continues to explore, identify and pursue opportune themes such as artificial intelligence (AI), machine learning (ML), and generative AI.

Challenges persist, and the dynamic nature of our industry demands constant efforts and vigilance. Your active participation and support are crucial for our collective success. Together, we will continue to make a meaningful impact on the global geospatial landscape in 2024. 🌍



To Go Far, We Must Go Together



Stepping into the role of WGIC Executive Director as 2023 came to a close was an honor and a privilege. Leading the Secretariat and being a good steward of WGIC resources is not something I take lightly and certainly not something I will ever take for granted. I am confident that Barb's mentorship and the body of work completed during her term with WGIC have all of us on solid ground as we begin another year.

The WGIC community was strong and growing in 2023, as our President Bryn Fosburgh shared in his message. Committees produced well-received industry reports, delivered side events at major geospatial conferences, and launched a survey to understand the opportunities for improving connections between the geospatial industry and academia. WGIC took the stage and represented our members at UN events in New York, Cape Town, Riyadh and finally in Dubai at COP28.

In addition, we launched a new brand identity, reinforcing our commitment to showcasing the multifaceted influence of geospatial technology on our present and future landscapes. This also signals the metamorphosis and maturity the organization brings to its role as the leading global platform of private sector geospatial companies. The membership has been enthusiastic about the new branding and supportive of such an inclusive view of what it truly means to say, **“Geospatial in Everything, Geospatial for Everyone.”**



Aaron Addisson
Executive Director


These accomplishments would not have been possible without our members' steadfast support and active engagement.

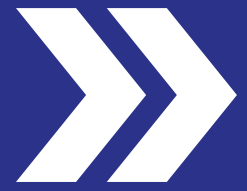
As I look forward to 2024, I cannot help but be reminded of the saying, “If you want to go fast, go alone. If you want to go far, go together.” The WGIC association of geospatial companies, large and small, form a global bond unique within the geospatial industry and a platform to demonstrate the significance of geospatial data, services, and solutions well beyond ourselves in service of a sustainable world. In this role, WGIC continues building an organization that serves its members and facilitates conversations and collaborations within and beyond the membership by holding in-person meetings at industry events. We will build on that by convening the first WGIC-organized retreat.

Our industry reports and media outputs from committees provide an avenue to speak with a collective voice on emerging technologies and much-needed geospatial policies. Through our knowledge-based offerings, we advocate for, educate, and build bridges with users, government bodies, and multilateral organizations for expanded dialogue and engagement.

Through outreach activities, WGIC will continue representing our members at global and regional geospatial conferences along with vertical industry-specific events on themes such as infrastructure, oceans, and climate.

Even as we work with AGFUND partner on delivering a report on how geospatial and earth observation technologies can be used in the service of small stakeholder farmers, we will look for new opportunities to demonstrate the value of geospatial beyond our peers. We will strive to reach user communities and decision-makers where they are at, not where we might wish they would be on the technology continuum.

Commercial geospatial capabilities and offerings remain underutilized at local, national and international levels. Though we have made substantial progress, we still have collective work to do in realizing the full potential of our members. With your continued support for WGIC, now is the time to redouble our investment and engagement so that we can collectively “go far together” and, in doing so, bring additional value to each member company while demonstrating the importance and opportunities to the global community. On behalf of the entire Secretariat, I extend my gratitude to each of you for being a WGIC member and look forward to work closely with you in 2024. 



2023

Organizational Report

Strategic Goals



Strengthening Geospatial Impact

Strengthen the contributions of the geospatial industry to global economy and society



Advancing Global Policy

Advance global policy matters relevant to the geospatial sector



Fostering Business Opportunities

Create business opportunities for the geospatial industry

Implementing Goals through Programs



Policy Advocacy

- Geospatial Ecosystem
- Spatial Digital Twins, Geospatial in Metaverse
- Public-Private Partnerships (PPPs)



Climate as an Overarching Topic

- Demonstrating value of geospatial for vulnerable nations
- Special focus on: Disaster Resilience, Energy Transition, Sustainable Infrastructure



Cross-cutting Efforts

- Diversity, Equity and Inclusion (DEI)
- Industry-Academia Collaboration
- Collaboration with regional/local geospatial associations.

New Brand Identity



Mature and All-Encompassing Brand Identity

WGIC's new logo and all-encompassing tagline, "Geospatial in Everything, Geospatial for Everyone," encapsulates the omnipresence of geospatial technologies across diverse economic sectors. Geospatial information, services, and solutions intricately touch upon every aspect of our daily existence – including how we navigate, how the land is measured, cities are planned, disasters are mitigated, utilities are serviced, and transportation and logistics are managed. Further, along with emerging technologies such as AI, ML, and AR/VR, geospatial information is foundational in building smart cities, digital twins and the Metaverse. This rebranding isn't just a cosmetic change; it mirrors the WGIC's commitment to showcasing the multifaceted influence of geospatial technology on our present and future landscapes.

Storytelling through Design: Symbolism in Logo and Color Palette

Each color and cube in the logo represents the interconnectedness of Earth's elements with the built environment. The color palette, meticulously chosen, holds symbolic significance, with blue representing the atmosphere, green for the biosphere, aquamarine blue for the hydrosphere, brown for the geosphere, and gray for the human sphere and built environment. This deliberate selection underlines WGIC's holistic approach to the geospatial field, enriching the brand and emphasizing the interconnectedness of geospatial information with every aspect of human life.

The Future Unveiled

WGIC's rebranding represents a visual transformation and a commitment to championing geospatial technology as an integral part of our daily lives. The new brand identity captures the essence of WGIC's expansive vision and unwavering dedication to enhancing the geospatial industry's influence worldwide. As we move forward, WGIC's logo and tagline serve as a beacon, echoing the organization's pledge that geospatial information is indeed in everything and for everyone, shaping a future where geospatial technology seamlessly integrates into the fabric of our world.




WGIC unveiled a new brand identity after five years of dedicated commitment to advancing the geospatial industry on a global scale. This transformative rebranding solidifies WGIC's position as a leading global advocate for geospatial technology, embodying its expansive vision for the industry's future.



Transforming WGIC's Digital Presence

WGIC, as part of the rebranding initiative, chose to overhaul its online presence, introducing several enhancements to elevate user experience while aligning seamlessly with the new brand identity. The website now boasts a refreshed visual design featuring the updated WGIC logo, color palette, and typography, creating a cohesive and modern aesthetic. Navigational improvements have been implemented to streamline user journeys, and the responsive design ensures a consistent and enjoyable experience across various devices.

Content has been revised to reflect the updated brand messaging and values, enhancing the overall clarity of communication. Interactive elements, such as redesigned forms and intuitive navigation menus, have been introduced to facilitate engagement. Additionally, behind-the-scenes optimizations, including technology updates and security measures, have been implemented to bolster website performance. These enhancements signify WGIC's commitment to reflecting its new identity and prioritizing a user-centric approach in its online interactions. 

Global Geospatial Network

PATRON MEMBERS



CORPORATE MEMBERS



ASSOCIATE MEMBERS



Member Representatives

Patron Members



CHAIR

**Jack
Dangermond**
Founder & President
Esri



VICE CHAIR

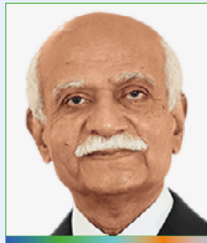
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Taeye**
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Management
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TomTom



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AEC Design & Engineering
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Marketing Co-ordinator

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Land Asset Integrity

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Global Lead – Geospatial

Fugro

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Linda Peters

Business Development and

Executive Program Director

Esri

Valrie Grant

Founder & Managing Director

GeoTechVision

Jean-francois Gauthier

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GHGSat

Guillermo Gutierrez

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IIC Technologies

Pascal Van Dale

Chief Growth Officer

Picterra

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Director MAPS Global Sourcing

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Chief Revenue Officer

Voxelmaps

Policy Development and Advocacy

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Dr. Jayant Sharma

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Kimberley Worthy

Principal Consultant

Spatial Vision

Marius Swanepoel

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Zaffar Sadiq

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Senior Advisors

Sr. Advisor - Membership

Dean Angelides

Corporate Director, International Operations

Esri

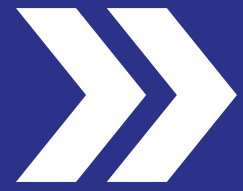
UN Engagement

Zaffar Sadiq

Mohamed-ghouse

Director, Advisory & Innovation

Woolpert



Outreach Activities 2023

WGIC expanded its outreach initiatives in 2023, amplifying the geospatial impact and advancing the organization's commitment to its key objectives. WGIC engaged with diverse audiences on a wide range of themes by participating in over 50 events worldwide and broadening its influence.

JANUARY

When:

January 9, 2023

Where:






Denver, CO, USA




103rd AMS Annual Meeting

Barbara Ryan, Executive Director of WGIC, participated in a panel discussion at the **103rd American Meteorological Society Annual Meeting (AMS 2023)**. The panel focused on the future of Earth observation and discussed its contributions, values, and strategies for its growth in the coming decades. Ryan emphasized several key points, including the impact of the federal government's open data policy, the importance of Public-Private

Partnerships (PPPs), and WGIC's role in raising awareness about the private sector's capabilities. She highlighted the private sector's potential to provide valuable data, tools, services, and products to address global challenges, emphasizing the need for increased visibility and awareness of these offerings. WGIC aims to fulfil its strategic goal by promoting the contributions of its members to society and the global economy.

Reflecting on Two Decades of Earth Observation Advancements
A Panel on the Future of Earth Observation at the AMS Annual Meeting
Monday, 9 January 2023, 1:30-3 PM MT

				
Ezinne Uzo-Okoro OSTP (Keynote)	Barbara Ryan WGIC	Mariel Borowitz Georgia Tech	Bill Callahan Synoptic Data Corp	Ajay Mehta NOAA National Weather Service (Moderator)

FEBRUARY

When:

January 31 - February 2, 2023

Where:

Palm Harbor, USA

SUE Association Forum

At the **Subsurface Utility Engineering Association (SUE)** Winter Forum, WGIC delivered a presentation stressing the significance of spatial digital twins for asset mapping and showcased the capabilities of WGIC member companies.

The forum revealed two significant findings: first, underground mapping and creating digital twins of underground infrastructure can result in substantial cost savings. Second, a relatively small group of engineering companies is currently involved in this work, highlighting the potential benefits of advanced technologies for better underground infrastructure mapping.

2023
SUBSURFACE UTILITY ENGINEERING WINTER FORUM
January 31 - February 2, 2023
Innisbrook, A Salamander Golf & Resort | Palm Harbor, FL

FEBRUARY

When:

February 13 – 15, 2023

Where:

Denver, CO, USA

Geo Week 2023

WGIC was a strategic partner of **Geo Week 2023**, with **Barbara Ryan** serving on the Geo Week Advisory Board. WGIC actively participated in the conference program, leading several sessions to share knowledge with the Geo Week community. These included a session on industry-academia collaboration,

a panel in partnership with MAPPS on climate and Public-Private Partnerships (PPPs), and an event focused on raising awareness about Diversity, Equity, and Inclusion (DEI). Additionally, WGIC participated in the exhibition and organized its quarterly board meeting on the sidelines of the event.



“The Impact and Power of Public, Private Partnerships from the Natural (climate) Environment to the ‘Built World,’” session organized by the collaborative efforts of MAPPS and WGIC, discussed the power of Public-Private Partnerships (PPPs) in tackling climate change and meeting UN Sustainable Development Goals (SDGs). The panelists

shared their experiences, from defining solutions and creating rules of the game to the importance of data quality and the need for active management systems to maximize utilization. They stressed the necessity of collaborative efforts and how PPPs will continue to play a crucial role in rapid decarbonization and ensure a sustainable future.



FEBRUARY

When:
February 13 – 15, 2023
Where:
Denver, CO, USA

Geo Week 2023 (Cont)

To share experiences, highlight case studies, and facilitate action, WGIC organized a session titled *“Diversity, Equity, And Inclusion: A Call to Awareness, Advocacy, and Action in the Geospatial Domain”* at Geo Week 2023. The panel emphasized the importance of diverse perspectives in the geospatial sector and suggested internal and external approaches to

achieve this goal. Internal strategies included committee involvement, cross-company exposure, mentorship programs, and fostering accountability and responsiveness to feedback. External methods involved collaboration with diverse organizations and participation in community outreach programs.



WGIC brought together representatives from industry and academia at Geo Week 2023 to discuss strategies for growing the workforce in a valuable way. During the *“Geospatial Education and Market Needs”* session, experts explored the need for qualified professionals, the role of academia, and opportunities for

closer collaboration with industry. Skill gaps between academic curriculum and industry needs can leave university graduates unprepared for the workplace. That's why collaboration with industry is necessary to ensure that students have the necessary skills before graduation.



MARCH

When:

March 6 – 8, 2023

Where:

Monterey, CA, USA

GeoBuiz 2023

WGIC participated in the **GeoBuiz Summit 2023**. Barbara Ryan was a speaker at the pre-conference consultative workshop on the “**Value of 3D National Topography Model (#3DNTM) in Economy & Society**” and a panel discussion titled “**Space Infrastructure and Geospatial Industry: Empowering World Economy and Society.**” Additionally, she had informal participation in the MarCom Roundtable on ‘Branding Geospatial Industry in World Economy and Society.’

At the pre-conference workshop on the Value of the 3D National Topography Model,

Ryan highlighted the importance of public-private sector collaboration in transitioning topographic map databases to electronic formats and integrating geospatial data for potential benefits in critical economic sectors. Furthermore, during the Space Infrastructure and Geospatial Industry panel discussion, Ryan emphasized the crucial role of the private geospatial industry in contributing towards UN SDGs and accelerating climate action, stressing the need for trade associations such as WGIC to represent the entire industry.



MARCH

When:

March 13-17, 2023

Where:

Virtual

WSIS Forum 2023

WGIC organized a virtual session as part of the **International Telecommunication Union's (ITU) WSIS Forum**. The session was moderated by WGIC's **Barbara Ryan** and had the active participation of representatives from Bentley Systems, Esri, Planet, and UN-GGIM. The panelists highlighted geospatial technology as a crucial tool for addressing challenges rural and urban areas face. They emphasized the importance of making geospatial data openly available for informed decision-making. They made a strong case for PPPs' essential role in leveraging Earth observation and geospatial technologies to address climate change and achieve the UN SDGs.



APRIL

When:
April 27, 2023
Where:
Virtual

Bentley's Together Towards Tomorrow (T3)

WGIC attended Bentley Systems' **Together Towards Tomorrow (T3)** session. #T3 is a series of interactive, informal advocacy sessions addressing the most pressing sustainability topics from an industry angle with an individual or community perspective. The latest session was titled "**Sustainable Urban Development: Healthy, Green, Smart Cities**" and focused on promoting sustainable urban planning practices that create healthier, more environmentally

friendly, and technologically advanced cities. During the session, **Daive Cassanmagnago** from the Global Covenant of Mayors for Climate & Energy (GCoM) presented the partnership between WGIC and GCoM and how the two organizations worked to empower the UN SDGs in cities. With 161 live attendees and 5,000 Bentley employees receiving the monthly ESG/SDG series, WGIC was thrilled to participate in this important conversation.

MAY

When:
May 2, 2023
Where:
Rotterdam,
The Netherlands

Annual General Meeting (AGM)

WGIC held its AGM on the sidelines of GWF 2023. The event was attended by over 30 representatives of WGIC member companies. The agenda included a presentation on the progress made by WGIC by the outgoing President **Ken Mooyman**, followed by a briefing on the organization's plans for 2023 by Executive Director **Barbara Ryan**. On this occasion, WGIC announced its executive

board for 2023-2025 and the appointment of new office bearers **Bryn Fosburgh** of Trimble as president and **Brian Nicholls** of Woolpert as treasurer. WGIC patrons **Alain de Taeve** (TomTom) and **B.V.R. Mohan Reddy** (Cyient) provided valuable inputs on the next steps for WGIC in expanding its value proposition. The meeting welcomed new members, who made presentations introducing their companies.



MAY

When:

May 2-5, 2023

Where:

Rotterdam,
The Netherlands

Geospatial World Forum 2023

Barbara Ryan participated in the “Geo4SDGs: Relevance to the Digital Age” panel discussion at the Geospatial World Forum (GWF).

The panel promoted the use of geo-information to accelerate the achievement of Agenda 2030 targets and bridge the gap between

the geospatial community, policymakers, and pursuers of sustainable development goals. The panel acted as a platform for sharing knowledge and innovations related to integrating geospatial data for the holistic achievement of sustainable development.

MAY

When:

May 23 – 25, 2023

Where:

Oslo, Norway

Global Space Conference on Climate Change (GLOC) 2023

Barbara Ryan moderated the IAF GNF Session on the **Global Methane Observing System at GLOC2023**. The session, organized by GHGSAT, focused on the role of satellite-based measurements in tracking methane emissions and the challenges of reducing them by **40-45% by 2030 to limit global temperature increases**.

During #GLOC2023, Ryan moderated the “**IAF GNF SESSION: Carbon Footprint of Monitoring Climate Change from Space,**”

highlighting collaboration and integrating private sector data into policy decisions on methane observations. The session stressed the urgency of reducing methane emissions and utilizing captured methane for a greener future. Along with other speakers, Ryan presented key takeaways during the “**High-level Summary Session,**” emphasizing effective communication between policymakers and scientists and the need for an integrated global Earth observing system involving public and private sector contributions.



JULY

When:

July 5, 2023

Where:

Virtual

GEO AI Workshop

WGIC collaborated with the UN-GGIM Academic Network and Politecnico di Milano, Italy, to host **ITU's GEO AI Workshop** on July 5. Titled “**Building a Foundation for Geospatial AI: Defining a Syllabus and Body of Knowledge,**” this workshop served as a precursor to the ITU AI for Good Global Summit 2023.

The panel discussion, moderated by **Steven Ramage**, CEO and Founder of Réseau, featured industry experts from Picterra, SI Analytics, Planet, and Wegaw. Key topics included education in GEO AI, the integration of GEO AI in national mapping agencies' work, and perspectives on GEO AI/ML challenges and opportunities from WGIC members.



JULY

When:

July 31 – August 4, 2023

Where:

New York City, USA

UN-GGIM 13th Session

WGIC participated in Group on Earth Observations (GEO)'s roundtable discussion titled **"Building the Foundation for Heat Resilient Communities"** at United Nations Global Geospatial Information Management's (UN-GGIM) 13th Session of Committee of Experts in New York City. During the discussion, panelists, including WGIC members, agreed that there is a need to better understand the impact of exposure to extreme heat and build heat-resilient communities through the Global Heat Resilience Service.



Later, WGIC had an intervention during the UN-Integrated Geospatial Information Framework (UN-IGIF) Forum. WGIC's **Barbara Ryan** underscored the imperative to move beyond isolated concerns within the UN framework and advocated for the harmonization of geospatial efforts across multiple UN undertakings. The discourse shed light on the symbiotic relationship between the United Nations Framework Convention on Climate Change (UNFCCC) and the broader geospatial coordination landscape. WGIC urged the esteemed members of UN-GGIM Principals to unify with their respective national delegations for the COP28 in Dubai.



AUGUST

When:

August 13 – 18, 2023

Where:

Cape Town, South Africa

UN-GGIM Africa

WGIC played a prominent role at **UN-GGIM Africa** in Cape Town, with an active involvement in the Ninth Meeting. Aaron Addison, Deputy Director of WGIC, presented the *GeoAction Africa* project update during the **"Technical Issues: Geospatial Information Framework for Development"** session. This initiative, a collaboration between WGIC and The Arab Gulf Programme for Development (AGFUND), delves deep into leveraging geospatial technology to address the pressing challenges of climate change in Africa.

Within the same session, WGIC member

companies Esri and Trimble delivered presentations, contributing to the dialogue on geospatial information frameworks for development.



AUGUST

When:

August 15, 2023

Where:

Virtual

ROW Permitting & Sign Management

Moderated by **Barbara Ryan**, the webinar on **'ROW Permitting & Sign Management'** was sponsored by Bad Elf, LLC, a WGIC member company, and supported by WGIC. The panel included representatives from prominent companies such as **Bad Elf, Esri, and Engineering Mapping Solutions**.

During the webinar, panelists provided valuable insights into the impactful use of GIS technology for efficient sign inventory management. Attendees gained insights into best practices for collecting, storing, and analyzing sign inventory data, highlighting the power and potential of GIS technology in this context.

SEPTEMBER

When:

September 8, 2023

Where:

Virginia, USA

GeoGov Summit

WGIC participated in the **GeoGov Summit 2023**, contributing to the “**Addressing Climate Change, Achieving Climate Resilience**” panel. The discussion focused on crucial strategies to combat climate change and enhance climate resilience. WGIC’s **Barbara Ryan** underscored the importance of robust partnerships for driving meaningful climate action initiatives.

The summit brought together government, industry, NGOs, and academia leaders to explore ways to enhance national geospatial strategy and governance to improve government services, the economy, the environment, and citizen well-being.



SEPTEMBER

When:

September 12-16, 2023

Where:

Paris, France

World Satellite Business Week 2023

WGIC actively participated in the World Satellite Business Week (WSBW) 2023, organized by Euroconsult Summits. WGIC member companies—SATLANTIS, SI Analytics, Umbra, GHGSAT, Maxar Technologies, Planet, and SatVu—played a vital role in discussions focusing on orbital capabilities, Earth observation, and service delivery models during WSBW 2023 in Paris. At Maxar Technologies’ WSBW reception, WGIC representative **Barbara Ryan** engaged in discussions with **Kumar Navulur**, a United States Geospatial Intelligence Foundation (USGIF) Program Planning Committee Member and Senior Director at Maxar Technologies, as well as **Kevin O’Connell**, Founder and CEO at Space Economy Rising.



SEPTEMBER

When:

September 22, 2023

Where:

New York City, USA

Climate Week NYC

The “**Unlocking City Climate Action with Advanced Data and AI**” side event, co-hosted by WGIC, Open Earth Foundation, and Global Covenant of Mayors for Climate & Energy (GCoM) during Climate Week in New York City, highlighted trailblazing organizations at the forefront of urban climate action leveraging data and AI. The event underscored the significance of satellite and geospatial data in refining urban planning for climate mitigation and adaptation. Its primary goal was to cultivate strategic partnerships that address the specific needs of local governments, facilitating swift and comprehensive climate action.



SEPTEMBER

When:
September 26, 2023
Where:
Virtual

From Digital Twins to the Metaverse

WGIC hosted a 90-minute webinar titled “**From Digital Twins to the Metaverse,**” exploring the cutting-edge efforts of industry leaders in integrating geospatial data, products, services, and tools within the dynamic landscape of the Metaverse. Representatives from WGIC member companies, including Fugro, Bentley Systems, Hexagon, and Voxelmaps, shared their invaluable insights and contributions during this event. Notably, the panelists delved into digital twins and the Metaverse, drawing on the perspective of the Singapore Land Authority (SLA). This city-wide entity has successfully implemented a digital twin.



OCTOBER

When:
October 6, 2023
Where:
New York, USA

NSF I-GUIDE Forum Panel Discussion

Barbara Ryan of WGIC and **Siva Ravada** from Oracle, who also serves as the Chair of WGIC’s Industry/Academia Committee, were distinguished panelists at the NSF I-GUIDE Forum alongside the NSF I-GUIDE Council of Geospatial Leaders. They engaged in a

profound conversation on the convergence of geospatial science, research, and education. WGIC stressed the urgent need to strengthen industry-academia relationships to develop an adequately skilled geospatial workforce that meets the future needs of the industry.



OCTOBER

When:
October 8, 2023
Where:
Riyadh, Saudi Arabia

MENA Climate Week

WGIC’s incoming Executive Director, **Aaron Addison**, was a panelist at the “**Climate Change and Food Security: Smallholder Farmers as a Solution**” session at MENA Climate Week in Riyadh. Before the session, a productive discussion was held with Dr. Nasser Alkahtani, the Executive Director of AGFUND, and the partners.



OCTOBER

When:

October 10 – 12, 2023

Where:

Berlin, Germany

INTERGEO 2023

As a competence partner of INTERGEO 2023, WGIC was at the forefront in charting the conference program, leading several sessions and sharing new knowledge and industry insights with the INTERGEO community. From engaging in insightful conversations about the Metaverse, ocean business, and climate action to unveiling three reports and its new brand identity, WGIC had a strong presence at INTERGEO. [Learn more.](#)



Geospatial Context to Metaverse Panel

On October 10, 2023, WGIC hosted a “**Geospatial Context to Metaverse**” panel discussion. The panelists representing the geospatial ecosystem shared their insights, including the opportunities and challenges of advancing the Metaverse, building on the perspectives introduced in its latest report, [“Advancing the Role of Geospatial Data and Technologies – From Digital Twins to the Metaverse.”](#) The selection of the Metaverse as WGIC’s current focus builds upon the foundation laid by its report on [spatial digital twins](#) from the previous year.



Geospatial Technologies for Cities

Geospatial technology is vital to combat climate change, as emphasized during the “**Geospatial Technologies for Cities**” panel organized by WGIC on October 12. Cities on the front lines of this battle face substantial risks to their assets and inhabitants. The discussion offered ways and means geospatial technology provides crucial

insights into climate change processes, aiding cities in informed decision-making and strategy development to mitigate its impacts. The panel also featured geospatial companies sharing real-world case studies and projects, ranging from sustainability to coastal resiliency, demonstrating the tangible benefits of geospatial technology.



OCTOBER

When:

October 10 – 12, 2023

Where:

Berlin, Germany

INTERGEO 2023

Geospatial data, technologies, tools, and services have traditionally been essential for terrestrial analyses. Still, with over 70% of the Earth's surface submerged under the oceans, there's a greater need to extend these methodologies to oceanic regions.

Geospatial in Ocean Business

On the same day, at another WGIC panel titled **"Role of Spatial Technology for Ocean Business,"** geospatial solution companies provided insights into the diverse applications of geospatial technologies in near-shore, transitional, and deep-water environments.



DEI Trailblazer Awards 2023 and Panel Discussion

At the end of the day, WGIC hosted a DEI panel titled **"Leadership Diversity in the Geospatial Industry,"** which united prominent figures from the sector, including industry leaders, academics, diversity advocates, and emerging voices. This session highlighted several dimensions of DEI within the geospatial sector. The panelists provided valuable insights and shared their personal experiences, underscoring the vital role of advancing DEI initiatives to foster innovation and create a more inclusive geospatial environment. The discussion served as a platform to highlight the ongoing efforts and commitment of WGIC to

advocate for DEI in the geospatial field.

Keeping with the tradition initiated in 2022 and in pursuit of its mission to enhance the geospatial industry's contributions to society and the global economy, WGIC hosted the **DEI Trailblazer Awards 2023** ceremony at INTERGEO to celebrate and recognize individuals and organizations making stellar contributions to advancing DEI in the geospatial sector. *This year's awardees* included **Olivia Powell (DEI Individual Champion Award)** and **EVONA (DEI Corporate Impact Award)** for their notable efforts in fostering DEI within the industry.



NOVEMBER

When:

November 6-10, 2023

Where:

Cape Town, South Africa

GEO Week Ministerial Summit

At the Group on Earth Observation's Geo Week 2023 Ministerial Summit in [Cape Town](#), WGIC actively participated in two sessions. The first session delved into the capabilities of orbit and airborne instruments, focusing on monitoring CH₄, CO₂, and air quality gases. It highlighted how these technologies complement each other to provide the most accurate and actionable insights for addressing environmental challenges.

The second session discussed the findings and recommendations from the IAF Global Space Conference on Climate Change (GLOC 2023), which brought together leaders from the space industry, political leadership, climate change experts, media, and end-users to emphasize the role of space technology in combatting climate issues.



"It is now time to (re)double our efforts to build stronger partnerships and collaborative mechanisms for global action. WGIC, on behalf of our Members, is committed to playing its part in building these stronger partnerships and collaborative mechanisms with each of you as we breathe collective life into the GEO 2023 Cape Town Declaration and Post-2025 Strategy," said Aaron Addison, WGIC Executive Director, during the Ministerial Summit at Geo Week 2023 in Cape Town

Among other things, Addison highlighted the collaboration with GEO and Climate TRACE

on mapping greenhouse gas monitoring capabilities in space before COP26.

He emphasized the necessity for governments to invest in public space agencies while working closely with the commercial sector for additional capabilities. Addison urged the GEO community to strengthen partnerships and collaborative mechanisms for global action, committing WGIC and its 45 Member Companies to contribute to the GEO 2023 Cape Town Declaration and Post-2025 strategy.



NOVEMBER

When:

November 14, 2023

Where:

Washington DC, USA

The Geospatial Workforce Crisis: A Diversity of Pathways

In November 2023, WGIC participated in “**The Geospatial Workforce Crisis: A diversity of pathways forward**” session hosted by the National Academies of Sciences, Engineering, and Medicine. The panel focused on barriers

and opportunities to prepare government and industry and discussed the geospatial careers of the future, federal agency perspectives on building the future geospatial workforce, and pathways to a diverse geospatial workforce.

DECEMBER

When:

December 2 – 7, 2023

Where:

Dubai, UAE

28th Conference of the Parties of the UNFCCC (COP28)

WGIC actively participated in COP28 from December 2-7. **Aaron Addison** and **Pooja Mahapatra** from Fugro delved into discussions on the central theme of “**Space-based and in-situ observations for enabling climate**

action”. In addition, Addison joined a panel discussion with the Prince Talal International Prize winners of 2022. Addison imparted insights and experiences related to driving sustainable change in SDG8.



Addison emphasized the significance of geospatial data for smallholder farmers in Africa during AGFUND’s “**Sustainable Finance Solutions for Food Security and Agricultural Resilience in the Face of**

Climate Change” panel at COP28 UAE. Sharing insights from WGIC’s GeoAction Africa project with AGFUND, he underscored the need for policies, GeoAI, and the conversion of data into actionable solutions.



Outreach Activities 2023 in Pictures



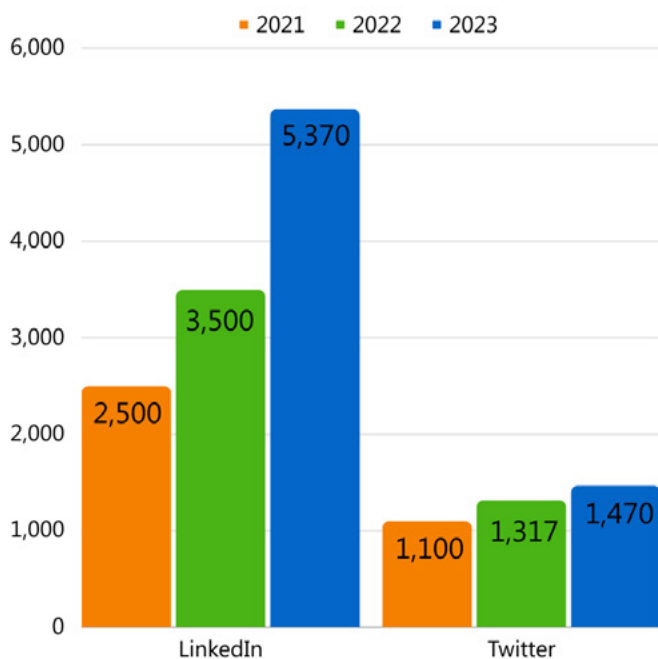
Outreach Activities 2023 in Pictures



Social Media Outreach

WGIC brought a strategic approach to leverage its digital presence in 2023, building on its online connections and network. It made significant strides in its outreach through its social media presence on LinkedIn and X (previously, Twitter), to fulfill its strategic goal to strengthen the geospatial impact worldwide. This overview delves into the key social media accomplishments during the period 2022 to 2024.

Consistent social media engagement week-on-week was the hallmark of this social media strategy. Sharing bite-sized text and video content that is informative, insightful and engaging led us to attract a steady stream of followers. Regular knowledge-sharing on geospatial technology trends, best practices, policy, business and collaborations on a plethora of themes including climate change, sustainability, spatial digital twins, Metaverse, GeoAI improved social media user curiosity and engagement.



2023 Highlights

over 270 posts made

Pace of Gaining Followers

LinkedIn



155 followers/month 12,75 followers/month



168,653 organic impressions gained



63,600 organic impressions gained

*Organic impressions are the number of times our content is displayed to LinkedIn/Twitter users in our newsfeed or on our LinkedIn/Twitter page without any paid promotion or advertising

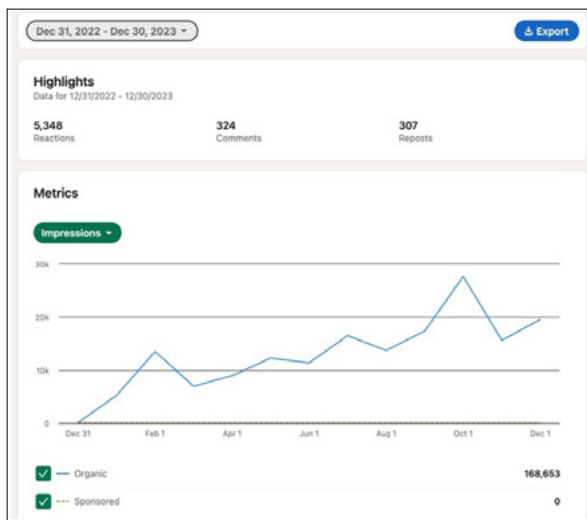
LinkedIn: Strengthening Connections

Follower Growth

In 2022, WGIC experienced a monthly follower growth rate of 80, which doubled to **155 followers** per month in **2023**. January 2022 commenced with 2,500 followers, steadily increasing to **3,500 by January 2023** and experiencing an impressive surge to **5,370 by January 2024**. Thus, 2023 marked a substantial increase, with a total of 1,870 new followers – a noteworthy 870 followers more than the preceding year.

Organic Impressions

WGIC's content achieved a significant milestone, accumulating **168,653 organic impressions** on LinkedIn. These impressions represent the instances where WGIC's content was displayed to users without any paid promotions or advertising. In terms of organic content metrics, in 2023, WGIC secured the 5th position vis-à-vis its peers with 272 posts and an impressive 5,992 engagements, encompassing reactions, comments, and shares.



Page	Total engagements	Total posts
1 Fugro	88,113	300
2 Geospatial World	32,728	500
3 Geospatial Council of Australia	8,493	212
4 Association of Geospatial Industries (AGI)	6,368	238
5 World Geospatial Industry Council (WGIC)	5,992	272
6 The Open Geospatial Consortium (OGC)	5,424	385
7 Group on Earth Observations (GEO)	5,295	240
8 Women+ in Geospatial	4,872	277
9 ConnectAID	3,079	200
10 Spatial Vision	2,813	164

X (Twitter): Amplifying the Message in Concise Form

Follower Growth

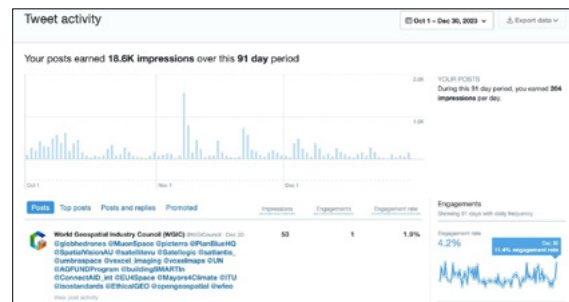
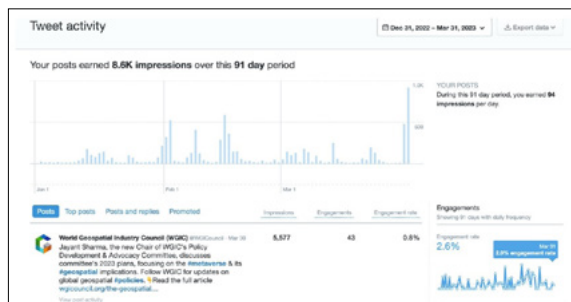
On X, the monthly follower growth in 2023 **averaged 13 new followers**, contributing to a moderate ascent in the platform's following.

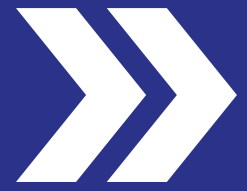
Organic Impressions

WGIC achieved a substantial reach on Twitter, garnering **63,600 organic impressions in 2023**. This metric reflects the instances where WGIC's content was displayed to users without resorting to paid promotions.

Quarterly Impressions Surge

Commencing from the outset of 2023, WGIC experienced a noteworthy increase in daily impressions, starting at an average of 94 and surging to 204 impressions per day by the year's end. The same applies to the engagement rate that increased from 2.6% in the first quarter and by the fourth quarter reached 4.2%. This surge indicates a substantial expansion of reach, enabling WGIC to connect with a broader audience.





Committee Reports

Diversity, Equity and Inclusion (DEI)

In just two years since its inception in 2021, the Diversity, Equity and Inclusion (DEI) Committee has built considerable momentum to expand awareness around the benefits of a diverse workforce and the significance of an inclusive culture for improved organizational bottom line.

In 2023, the DEI Committee set itself to probe leadership diversity, examining the gender, racial, ethnic/cultural and geographical diversity at executive levels within geospatial businesses. Besides, the committee continued its outreach and awareness-creating activities by participating and hosting panel discussions and workshops at multiple international events through 2023.

The DEI Committee was led and chaired by Albert Momo (Trimble) in 2023 with active engagement from Valrie Grant (GeoTechVision), Eva Carranza (Hexagon Geosystems), Clinton G Johnson (Esri), Irene Benito (Planet) and Abbie Baker (EVONA).

Leadership Diversity in Geospatial Industry

The DEI Committee published an influential report titled *“Leadership Diversity in the Geospatial Industry: A WGIC Perspective,”* emphasizing the vital role of diversity in organizational leadership. The report synthesizes the extensive discussions among WGIC members along with the results of the survey of member companies on executive and leadership composition by gender and ethnicity, definitions and strategies for diversity and their methods for tracking DEI progress.

The report outlines existing disparities in leadership diversity and presents proven strategies for organizations to enhance leadership diversity. The report was well-received, particularly within the WGIC membership. Active promotion on various social media platforms sparked good conversations on the topic.



WGIC DEI Trailblazer Awards 2023

Continuing its commitment to celebrating DEI champions of the geospatial sector, the committee hosted the second edition of the WGIC DEI Trailblazer Awards ceremony at INTERGEO in Berlin.

Olivia Powell bagged the WGIC DEI Trailblazer - Individual Champion Award for her exemplary role in promoting diversity and inclusion, especially advocating for women and underrepresented segments of the geospatial workforce.

EVONA, the staffing and recruitment solutions company, received the WGIC DEI Trailblazer – Corporate Impact Award for their impactful initiatives in fostering diversity and inclusivity through their Project Inclusivity Drives Diversity in space and geospatial sectors.

From a distinguished array of nominations, the jury unanimously selected Olivia and EVONA for their outstanding efforts in advancing DEI in the geospatial industry.



Awareness and Outreach

The committee played a lead role in advocating for DEI at various international conventions during 2023. Notable among the outreach activities is the DEI session titled *“Diversity, Equity, And Inclusion: A Call to Awareness, Advocacy, and Action in the Geospatial Domain”* at the Geo Week conference in February in Denver.

Moderated by the DEI Committee Chair **Albert Momo**, the session facilitated in-depth discussions on integrating DEI practices into organizational fabric, highlighting the roles of companies and individuals in fostering an inclusive environment. It highlighted challenges such as the lack of diversity at executive levels and the dominance of males in STEM fields. The panelists emphasized the long-term benefits of DEI, like enhanced innovation and organizational performance. The panel recommended adopting inclusive hiring and mentorship to improve DEI in organizations.

WGIC played an impactful role at the **“Diversity, Equity & Inclusion: Bridging Geospatial Divide”** plenary panel at the Geospatial World Forum in May in Rotterdam, emphasizing the need for DEI in shaping a progressive, inclusive geospatial industry culture. WGIC highlighted challenges such as racism and the urgency for equal opportunities, and DEI advocacy in the sector. WGIC emphasized the importance of collective efforts in fostering an equitable geospatial industry.



Culminating its year-long outreach efforts, WGIC hosted an influential panel discussion at INTERGEO in Berlin in October titled **“Leadership Diversity in the Geospatial Industry: Fostering Innovation and Inclusivity.”**

The panel explored the current state of leadership diversity in the geospatial sector and the benefits of diverse leadership teams, identified barriers to diversity, and proposed strategies to overcome them. Additionally, the conversation covered ways to ensure fair hiring and promotion practices, recommended proven strategies to enhance leadership diversity, methods for organizational accountability and progress measurement in DEI, and the potential for cross-sector collaboration to advance leadership diversity. This event contributed to a richer understanding of DEI challenges and opportunities in the geospatial industry and set the tone for the subsequent DEI Trailblazer Awards. [G](#)



2024 Objectives

The committee aims to extend the insights on leadership diversity by spotlighting boardroom diversity in the geospatial industry. Besides blogs and awards, it intends to host webinars to educate and advocate the significance of DEI.

Industry-Academia Collaboration

The Industry-Academia Collaboration Committee, constituted to build and strengthen ties between the geospatial industry and academic institutions, infused fresh energy into its mission by launching an online survey during the year.


The committee engaged in several events throughout the year, with highlights being sessions on geospatial and Earth observation workforce development at Geo Week and INTERGEO. Siva Ravada (Oracle) led the committee activities during the year with active participation from Dean Angelides (Esri), Geri Miller (Esri), Zaffar Sadiq Mohamed-ghouse (Woolpert), Kumar Navulur (Maxar), Ken Mooyman (Hexagon), Anthony Paturzo (Hexagon) and Valrie Grant (GeoTechVision).

Industry-Academia Inventory Survey

Sensing the growing divide between the geospatial industry and academia, WGIC launched the Industry-Academia Inventory Survey to understand and map the gaps between industry-defined **“workforce-ready”** skills needed for graduating students and the course curricula offered by academic institutions. A secondary objective of the survey was to build an online repository of tools, trainings, and internship opportunities available for students with WGIC member companies. The survey was launched in the second half of 2023 and is available for participation [here](#).

Awareness and Outreach

The committee participated in a number of outreach activities during the year. The standing-room-only session at the Geo Week conference in Denver in February brought professionals from industry and academia together. Moderated by WGIC, the broad discussion explored the needs of the industry, workforce pipeline and the interests and opportunities with higher education. The panelists highlighted the imminent need to keep the communication lines between the two parties open and to work more closely to meet the growing demand for geospatial professionals.

Expanding its outreach, WGIC hosted a panel on **“The State of the Industry”** at the annual University Symposium for Geographic Information Science (UCGIS) in June. Oracle and Los Angeles County joined UCGIS members in understanding the gaps and opportunities for universities to build research and education initiatives focused on geospatial and Earth observation. An extended question and answer session provided additional information that WGIC incorporated into the online survey to inventory the technology capabilities and internship opportunities within the industry to support the development of geospatial education and expand the skillset and expertise of job-seeking graduates. 



2024 Objectives

The committee plans to use the survey results to bring out a whitepaper on industry-academia alignment. Further, it intends to establish a repository of industry offerings such as internships, mentorships, incubators, placements, and research opportunities.

Partnerships and Industry Engagement (P&IE)

Building on WGIC's engagements in the winter of 2022 with the Global Covenant of Mayors for Climate and Energy (GCoM), the P&IE Committee decided to continue and expand this partnership in 2023. Beginning with a list of goals and objectives jointly written with GCoM in January, we made 2023 the "year of climate action in cities". The partnership targeted to demonstrate how geospatial data, technologies, and innovations from the private sector can enhance cities' capabilities to manage and adapt to climate change.

Robert Hoddenbach and Pooja Mahapatra (Fugro) spearheaded the committee activities in 2023. Besides, the committee saw Valrie Grant (GeoTech Vision), Guillermo Gutierrez (IIC Technologies), Rhiannan Mundane (Spatial Vision), Brian Soliday (Voxelmaps), Charles Yu (Cyient), Rodrigo Fernandes and Louis-Martin Losier (Bentley), Herve Clauss (TomTom), Larry Fox (Bad Elf), Alex Gow and Georgina Orso (Satellitevu), Pascal van Dalen and Monika Lebkowska (Picterra), Jean-Francois Gauthier (GHGSat), Bonnie Kean and Erin Brodie (Umbr Space), Linda Peters, Pat Cummens and Matthew Pennells (Esri), Adina Gillespie (Hexagon), Irene Benito (Planet), David Totman and Eric Desroche (Autodesk) deeply engaged in the committee activities throughout the year.

Enabling City Climate Action Plans

Over 13,000 cities have signed a pledge with GCoM, asserting their desire to create individual comprehensive climate action plans. Davide Cassanmagnago from GCoM presented its mission at WGIC's annual board meeting in May in The Hague, followed by an engaged discussion with board members.

The committee released a survey to collate best practices and case studies demonstrating how geospatial data, tools and analyses benefit cities and their climate action plans. The survey results, which feed into a joint white paper, present a wide range of successful uses across multiple industry sectors, including greenhouse gas emissions monitoring, digital twins used in modeling and prediction, climate change information databases and adaptation for coastal resiliency.

Awareness and Outreach - Sustainability and ESG Lead the Way

GCoM hosted multiple Innovate4Cities Marketplace events across the globe, in-person and virtually, to identify, explore



and connect the challenges, knowledge and solutions that help tackle the climate crisis through informed action in cities and local governments. These marketplaces serve to connect and match city and regional government employees with businesses, academia, financial experts and civil society to catalyze partnerships and projects to scale up local climate action. The events aimed to generate knowledge around policy, research and innovation, feeding into longer-term engagement opportunities. Representatives of committee members Autodesk, Bentley, Fugro and SatelliteVu participated in these events.

In June, WGIC participated in the 5th Summit for Space Sustainability, organized by the **Secure World Foundation (SWF)**. For the first time, the summit had a session on **“ESG in Space”**, with the participation of EUSPA, SES and Viasat. The summit was a good opportunity to foster our partnership with SWF and EUSPA.

In September, WGIC co-hosted, along with GCoM and the Open Earth Foundation (OEF), the panel **“Unlocking City Climate Action with Data and AI”** at the New York City Climate Week. The event showcased pioneering organizations propelling city climate action through data and AI, fostering partnerships that cater to local governments’ needs for swift and expansive climate action. Speaking for WGIC, **Barbara Ryan** presented how new satellite and geospatial data and tools can advance urban planning for cities to manage climate mitigation and adaptation. GCoM representative Benjamin Jance previewed the development of the **“Integrity Matters for Cities, States, and Regions”** report to provide fit-for-purpose recommendations on data accountability, transparency, and integrity. He also announced a 25-city pilot for Data Portal for Cities.

WGIC presented at the **“Space Data, Earth Observation and ESG”** session of the Building Bridges (Aligning Finance with Sustainability) Conference in Geneva, Switzerland, in the first week of October. The session was organized by the British Embassy in Switzerland and attended by WGIC member Oracle, among others. The conference allowed WGIC to extend our partnership with companies on using geospatial information for sustainable finance, as well as with the UN ecosystem in Geneva.

WGIC organized a panel discussion on geospatial technologies for city climate action as part of INTERGEO 2023. P&IE companies presenting included **Jens Sauer (Bentley)**, **Chris Jackson (Esri)**, and **Pooja Mahapatra (Fugro)**. **Juan Pablo Astolfo** represented GCoM. A common theme in the panelists’ presentations was applying geospatial data and tools for climate adaptation and resilience and creating sustainable cities in the face of climate threats. Panelists used case studies as examples of geospatial technology solutions for cities, including using 3D and 4D digital twins, predictive modeling and GIS hubs. GCoM illustrated the challenges cities face in acting on climate change and a roadmap of their journey to solutions, including the need for innovative data, software and GIS applications.



Acting as a WGIC and P&IE representative, **Pooja Mahapatra**, Global Lead for Climate & Nature at Fugro, participated in a GCoM-hosted panel at COP28 in Dubai in December. The topic of the panel discussion was **“Accelerating city climate action at speed and scale: An Innovate4Cities implementation showcase”**, and Pooja was part of an interactive session highlighting the role of (generative) AI in the geospatial context in enabling local practitioners to accelerate urban planning and implementation. Together with **Aaron Addison**, Pooja represented WGIC at the UAE Space Agency pavilion, presenting on **“space-based and in-situ observations for enabling climate action”**. 🌍

2024 Objectives

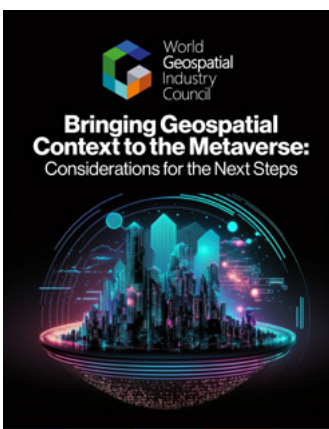
The committee proposes to deepen the partnership with GCoM and deliver the joint paper. Besides, it will focus on the blue economy, emphasizing using geospatial data and technologies to understand the coasts and the oceans better.

Policy Development and Advocacy

As in each of the earlier years, the primary objective of the Policy Committee was to advance understanding of a topic of relevance to the geospatial sector. In 2023, the committee focused on the role of geospatial data in the Metaverse. The committee recognized that public awareness of the term 'Metaverse' had exponentially increased since it was coined decades ago. It was the second-most searched word in the Oxford Dictionary in 2022. While often viewed as only a tool for gaming, the role spatial data plays in the Metaverse, through the construction and integration of spatial digital twins, is immense, creating a virtual and digital representation of our world.

In 2023, the Policy Committee was ably chaired by Jayant Sharma of Oracle with active contributions from Zubran Solaiman (Bentley), Matthew Pennells (Esri), Kumar Navulur (Ex-Maxar), Jim Van Rens (Riegl), Kimberly Worthy (Spatial Vision), Marius Swanepoel (TomTom) and Zaffar Mohamad Ghouse (Woolpert).

Bringing Geospatial Context to the Metaverse



The Policy Committee oversaw the collection of data and the preparation of the report titled *“Bringing Geospatial Context to the Metaverse: Considerations for the Next Steps”* during the year. The pioneering report examines the opportunities and risks for the geospatial industry in the burgeoning commercial metaverse market, estimated to be

several trillion dollars in the next two to three decades. It looks at the definitions of the metaverse and how it relates to concepts such as digital twins, cyber geography, and virtual reality as we know them in the geospatial ecosystem. It presents a strategic outlook to develop a geospatial ecosystem in the metaverse.

Building on the early work done by WGIC on spatial digital twins, the vision presented in this report calls for stronger linkages and coordination among entities developing digital twins so that the Metaverse – a virtual representation of the world we live in can be constructed.

The report presents descriptions of the Spatial Digital Twins and Metaverse capabilities of select WGIC members, which showcase proven solutions that employ cutting-edge technologies to solve real-world problems.

Policy Awareness and Outreach

WGIC worked with Asset-Mapping Partner ConnectMii to host a virtual event titled **“From Digital Twins to the Metaverse.”** The event introduced the topic to more than 500 people from local, State, and national organizations, academia, and the commercial sector in September 2023. It enabled awareness about the role of geospatial technologies in building spatial digital twins and maturing them into the metaverse.

The Metaverse Report was launched at INTERGEO in Berlin in October, with a panel discussion consisting of senior executives from WGIC member companies Esri, Hexagon, Oracle, Riegl, and TomTom. Each member presented their efforts in building out the Metaverse, largely through their spatial digital twin efforts, and discussed best practices and recommendations for the future. The panel felt the WGIC member organizations must harness the spatial data, tools, products, services, technologies, and expertise available with them to craft a metaverse that faithfully mirrors the physical world.

The Metaverse report, the first in the geospatial industry, became popular within a few days of its release, thanks to social media. A noteworthy development is that the entire Metaverse report was reissued by technologist Tony Moroney through his LinkedIn account, citing it as a key contribution to the sector in 2023. Moroney had nearly 25,000 followers at the time of this post.



2024 Objectives

Besides socializing the Metaverse report, the committee intends to produce a report on the impact of Generative AI on the geospatial industry and public sector, addressing growth opportunities, use cases, ownership, and intellectual property issues, etc.

Public-Private Partnerships (PPP)

The Public-Private Partnerships (PPP) Committee, after examining the forces paving the way for increased openness and adoption of PPPs in the geospatial sector, decided to focus on opportunities in developing regions.

As a first step, the Committee, led by Willy Govender (Terra Group) with active participation from Albert Momo (Trimble), Simon Musaeus (Hexagon), Irene Benito (Planet), Linda Peters (Esri) and Brian Nicholls (Woolpert), launched the report to study the PPP dynamics in the African continent.

Africa Geospatial PPPs

WGIC's research, in-depth interviews with African geospatial stakeholders and the ensuing analysis culminated in the report titled *Africa Geospatial Public-Private Partnerships: Business and Financial Considerations*.

The report substantiated the committee's hypothesis that there are indeed strong needs and compelling stories for developing and supporting geospatial infrastructure and Earth observation (EO) sectors with PPPs in Africa.

Simultaneously, the report identified that the success of a geospatial PPP is contingent on several factors, including institutional infrastructure, enabling policies, procurement and project management maturity, and ease of doing business.

The Africa Geospatial PPP Readiness Index examined these attributes in fifty-three African nations and grouped them as Advanced Nations (higher geospatial PPP readiness), Emerging Nations (moderate geospatial PPP readiness) and Nascent Nations (low geospatial PPP readiness).

The report provided detailed guidance on various business tools for developing a mature geospatial PPP in line with the stakeholders' identified needs. These include viable business models, good governance principles, capacity building and training opportunities to encourage and support geospatial PPPs. The geospatial PPP How-to guide enumerated the process with a detailed list of steps to follow while developing a geospatial PPP to ensure its success from both the public and private viewpoints.



The report presented several PPP case studies in Africa, the noteworthy among them being the Nationwide Continuously Operating Reference Stations (CORS) Network project of Ghana, which had a clearly defined business model along with financial and contractual arrangements.

The report was launched at the WGIC board meeting on the sidelines of INTERGEO 2023 and was socialized and discussed at every subsequent event WGIC participated in during the year. The report was well-received by the African geospatial stakeholders, especially private and public sector professionals working on geospatial projects in the continent. 🌍

2024 Objectives

The committee intends to socialize the recently completed report on African geospatial PPPs. It intends to recruit more stakeholder members to the committee, carry out an engagement survey within WGIC membership on recasting the committee with a broader scope and come out with a new direction and goals for the committee.

United Nations and Related Entities

WGIC has had a partnership with the United Nations Statistics Division (UNSD) since its inception at the UN headquarters in 2018. Since then, WGIC, on behalf of its members, has been participating in the proceedings of the UN Committee of Experts on Global Geospatial Information Management (UN-GGIM) meetings and other activities. Besides, WGIC has been actively engaging with other UN entities, such as the United Nations Framework Convention on Climate Change (UNFCCC) and the International Telecommunications Union (ITU). These engagements have focussed on the role of the private sector in furthering the common agendas of the Sustainable Development Goals (UN SDGs), climate action and disaster resilience.

Dr Zaffar Mohamed-Ghouse of Woolpert is the member representative on the UN entity structure.

Strengthening Private Sector Ties With UN

During 2023, WGIC became a member of the Board of the UN-GGIM: Private Sector Network. This facilitated a more formal relationship with the UN entity. WGIC participated in the 13th Session of UN-GGIM held in August in New York City. WGIC reviewed various reports on the agenda of the Session and prepared interventions where it deemed appropriate, such as disaster risk reduction, the UN Integrated Geospatial Information Framework (UN-IGIF), and the future of the geospatial ecosystem. WGIC also contributed to various side events held prior to the 13th Session.

Continuing its UN engagement, WGIC participated in the 9th Session of the UN-GGIM: Africa, held in Cape Town in mid-August. WGIC had the opportunity to report on behalf of the private sector, in particular, the just-launched report on Africa Geospatial PPPs and the GeoAction Africa Project that's currently underway.

WGIC congratulated the Steering Committee of the UN Global Geodetic Centre of Excellence and the UN Statistics Division on the launch of the UN Global Geodetic Centre of Excellence (UN-GGCE).



In November, WGIC participated in the Group on Earth Observation's GEO Week and Ministerial Summit in Cape Town. Bringing the private sector perspective, WGIC made a strong pitch to (re)double its efforts to build stronger partnerships and collaborative mechanisms for global action. WGIC extended its support to the GEO 2023 Cape Town Declaration and Post-2025 strategy, calling for inclusivity, particularly in the commercial sector.

Further, the year saw WGIC's active engagement with relevant stakeholders at UNFCCC's COP28 held in Dubai, UAE, sharing insights and experiences related to driving sustainable change in SDG8.

These events provided opportunities to further WGIC's goals and network with existing and potential WGIC members and partners. 🌐

2024 Objectives

WGIC intends to participate in the 14th Session of UN-GGIM, organize a side event, and contribute to the meetings of UNGGIM Private Sector Network. WGIC intends to engage with UN entities such as WHO, FAO, and UN One situation room to understand the utilization of geospatial data and technology and produce a position paper to highlight the opportunities for WGIC members.

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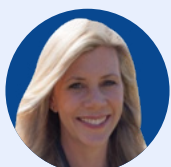
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