



**FIG Task Force on
“The Surveyor’s Profession: Evolutionary Diversity”
Draft Terms of References (TOR)
(To be approved by the FIG General Assembly, May 2023)**

Purpose

Generational sustainability is an important aspect of The Surveyor's Profession: Evolutionary Diversity task force. The task force aims to promote diversity and inclusion within the surveying profession, not only in terms of race, gender, and ethnicity, but also in terms of age and generational diversity, including Gen X, Y, and Z. This is important because it ensures that the surveying profession is sustainable and can continue to thrive in the long term.

To achieve this goal, the task force can focus on a number of initiatives, such as promoting mentorship and knowledge transfer between different generations of surveyors, from Gen X to Gen Y, and Z. They can also work to address issues related to age discrimination and ensure that older surveyors are not excluded from opportunities for professional development or advancement.

Additionally, the task force can work to attract Gen Y, Z and Gen Alpha to the profession by highlighting the exciting and innovative technologies and tools used in surveying and by emphasizing the importance of sustainability and environmental stewardship in the field. This can help to ensure that the surveying profession continues to evolve and adapt to changing needs and technologies, while also remaining diverse and inclusive across all generations.

1. Rational

Technology is evolving rapidly within the Surveying profession and culture now more than ever. Remote and global technologies, enabled by the Internet of Things, are bridging the work culture of the profession. This is important because it underscores that the future of a global expert community of surveying practitioners is already here.

If surveyors fail in the eyes of society, it could mean the end of the surveying profession within local communities – where surveying makes the most difference of all. There are several case

studies across countries in both the global north and global south which indicate this is the case – and there is a significant ethical risk for the entire surveying profession as technologies continue to evolve in leaps and bounds.

Within the context of the UN's transformative promise of the 2030 Agenda for Sustainable Development and its SDGs, 'Leave no one behind', this raises the case for FIG, as a global leader of the profession to proactively advocate for the changes that our industry needs to remain relevant, contribute to create positive solutions for people and planet, and to ensure that the discipline of surveying and all who practice it meet the needs of the markets and communities that they serve. Through this, we can ensure that local surveyors in under-connected networks have capabilities for prosperous work as well as those in privilege.

However, despite the importance of surveying, many women and minorities are not aware of the profession or its potential as a career path and influence on local communities. This Task force will seek to address this during its deliberations.

Our aims are amplified further in Appendix A, providing the context and key factors such as the state of diversity in the industry and systemic bias in the workforce.

2. Task force Composition

The Evolutionary Diversity task force will be composed of a diverse group of individuals from GEN Z, GEN Y and GEN X with expertise in surveying, to foster diversity and inclusion. The workforce of the task force may include, but not be limited to:

- Surveying professionals from a variety of backgrounds and sectors, including private firms, government agencies, and non-profit organizations.
- Members of underrepresented groups in the surveying profession, including women and minorities, who can provide firsthand perspectives on the challenges and opportunities facing these groups in the field.

The task force will benefit from the diversity of its members and their unique perspectives and experiences. Members will be selected based on their expertise, experience, and commitment to promoting diversity and inclusion in the surveying profession. The task force will strive to ensure that it is inclusive and representative of the diverse communities that it serves.

Ensuring there is a competent and experienced profession drives confidence from the public in land surveying, hydrography, mining, engineering etc. The Surveying and Spatial industry are key contributors to supporting this level of confidence recognised by all levels of the profession from entry level to the highest ranks of the profession as a Licensed Surveyor. Keeping focus on evaluating and improving (continuous improvement) the education, training and accreditation system to meet the needs of industry and the future workforce that will be required to raise the reputation of the profession into the future. Within society, the composition of the modern globalised workforce is changing, as are technological developments (such as big data) and the legislation around surveying and related industrial relations.

The detailed composition of the core members can be found in section 6 below.

3. Task Force Goals and Objectives

The aim of the Task force is to promote the Diversity and Inclusion 2023- 2026 theme of the FIG term. Its main objectives are to determine present and futuristic projection (based on technological advancement) of how FIG can remain relevant as a profession of choice. Specific areas of contribution identified for this task force include:

1. **Workforce:** Identifying the key elements of the surveying industry's workforce challenges across the entire career pipeline, from improving career pathway visibility in schools and tertiary institutions, to workforce retention in early career and around parenting, to ensuring there are equitable opportunities for career progression in middle and late career. The specific barriers and challenges to this may vary across different countries and cultures, and this task force seeks to understand and map these globally.
2. **Systemic bias in the workforce:** Understanding what it will take to remove the systemic barriers of entry and discrimination around gender, religion, race and cultural differences within the global surveying industry, and recommending processes to move forward.
3. **Generational sustainability:** Assessing the strengths and contributions that each of the four generations in the workplace bring, and how the surveying industry can make the best use of intergenerational knowledge, expertise and skills through two-way mentoring and coaching.
4. **Future relevance of the profession:** Assessing the branding and framing of the surveying profession that will appeal to Gen Z and Gen Alpha, to make tangible recommendations that Member Organisations can take to keep our profession relevant and attractive to current and future generations.
5. **Advancement of the profession:** Understanding what professional advancement guidelines are required for different areas of expertise within our profession, and the diversity and inclusion components within each of these.
6. Consulting, assessing and recommending a **global standard of minimum training** to be recognised for FIG members.

4. Task Force Terms of Reference

To facilitate this from establishment, this TF will present its draft Terms of Reference and consult all FIG Commissions and other TFs in the leadup to the FIG Working Week 2023 in Orlando regarding its work planning process.

The Task Force objectives will seek to:

- Outline a strategy to implement the project activities in accordance with its objectives.
- Always maintain the focus of the Task Force on the agreed scope, outcome and benefits
- Provide modalities for timely delivery of work that would allow achieving the expected outcomes as well as outline the required financing scheme.
- Have a good understanding and application of the United Nations 2030 Agenda and its Sustainable Development Goals (SDGs) and the structural challenges facing less developed countries in the context of Reduced inequalities (SDG 10), and the achievement of Partnerships for Goals (SDG17).

- Develop analysis and policy recommendations backed by advocacy tools to promote the SDG policy objectives with the goal to strengthen partnerships.
- To formulate concrete recommendations and share lessons learnt to inform future work in this area.
- To provide periodic reporting

5. Outcomes

A valuable outcome of this Task Force will be to position FIG as a relevant and credible professional body, in the advancement and regulation of the surveying practice within governing laws, while ensuring equitable, diverse and inclusive access to wealth of knowledge and expertise. Through this:

- Younger professionals will become more interested in and involved in the surveying industry, creating a more varied and creative workforce.
- The public will have a better understanding of the surveying profession as a cutting-edge, technologically sophisticated industry that benefits society.
- The surveying industry will retain more young professionals, creating a more resilient and long-lasting workforce. The profession will become more dynamic and integrated as a result of increasing collaboration and knowledge sharing among surveying experts with various backgrounds and experiences.

5.1 Timeline of this Task Force 2023-2026

Timeframe	Goals
Short-term goals (2023)	Establish TF Establish TF Core Team Identify and collate relevant evidence and thought leadership in these areas
Medium-term goals (2024)	Identify what is required for the continual recruitment of young surveyors in schools and the workforce solicit the interest and active participation of children (Junior High School-University Undergraduates) in the survey industry
Long-term goals (2025-2026)	To Sustain the younger generation's interest in survey & bridge gap amongst the Gen X,Y,Z and Alpha Consideration given to the mutual benefit of four generations in the work force and how they interrelate and above all mentor each other What does generation Z and beyond require in work place system that intentionally targets technology to upgrade our practice and therefore be attractive

Working globally using social media, Internet of things and websites for the advancement of relevance of the surveying profession and sharing globally.

5.2. Proposed Work Plan 2023-2026

The activities of the Task Force are linked to each of the specific objectives:

Year	Key Objectives	Details
2023	Approval of ToR and TF members Create and set up project charter	FIG WW 2023 Orlando - Hold initiating Task force meeting
2024	Basic Data for the reports	FIG WW 2024 Accra - Task force meeting
2025	Delivery of draft ideas, concepts and rational	FIG WW 2025 Brisbane - Task force meeting
2026	Main Delivery of final report (adjust in time,technology)	FIG WW 2026 Cape Town - Task force meeting

5.3 Future Outcome Targets

To address the relevance of our profession this Task force identifies five strategic targets that need action to keep our Profession attractive to our youth as a viable profession to pursue:

1. Standardize training in basic and advanced education. This will ensure we globalize our learning and knowledge base using social media platforms.
2. Creation of a framework for continuous development in survey education in step with evolving technology.
3. Intentionally create gender (female) neutral opportunities for equitable career progression.
4. Creation of a system for attracting our trained young talents to the profession through annual campus fairs, conferences and internships offers.
5. Creation of systems that explore, create and include technological development in our codes of practice; within the respective laws of our member countries. This fifth area is not only futuristic but present. It should allow the Federation to be agile in step with advances in technology.
6. Creating Survey clubs in each continent(how are the students? Will they go to geodetic sciences? how to guide them there?)
7. Use social Media(for example, mark all geodetic points in the world and let's show them! we will make statistical presentations based on maps - we already have them!! you have to show it, meridians, parallels, nautical charts and those new tasks that the economy poses to surveyors; why did they develop LIDAR? and why does the surveyor work best with it? - this must be shown, shown in a modern and attractive way.

6. Task Force Membership

The TF commits to ensuring diversity and inclusion amongst the TF Core Team to the full extent possible, inclusive of gender, geography, age, cultural background, and other identity factors. Additional Core TF members may be added after discussion at Orlando FIG Working Week. During the Orlando meeting, there will be a specific attempt to reach out to people across FIG

regions and to include a range of diverse identities (age, gender, cultural background, geographic location through FIG region, people with disabilities, people with caring responsibilities, First Nations People, etc) to join this Core Team. Further members may be appointed over time as deemed necessary.

The details of the TF Chair are:

Name	Email
Stephen Djaba (Ghana)	stephen@ghana.com

TF Core Team Members are:

Name	Country	FIG Region	Gender
Tomasz Malinowski	Poland	Europe	Male
Nigel Sellers	United Kingdom	Europe	Male
Angela Anyakora	Nigeria	Africa	Female
Roshni Sharma	Australia	Asia and the Pacific	Female
Enrico Rispoli	Italy	Europe	Male
Ann SHEN	China	Asia	Female
		South America	
		America	

Appendix A- Background and Rational

The lack of diversity in the surveying profession is not only a social justice issue, but it also has negative impacts on the profession's ability to meet the needs of a diverse society. A more diverse profession will bring a broader range of perspectives, ideas, and approaches, which can lead to more innovative solutions to complex problems.

Despite the importance of surveying, many women and minorities are not aware of the profession or its potential as a career path and influence on local communities.

The TF wishes to ensure that local surveyors in under-connected networks have capabilities for prosperous work as well as those in privilege. This Task force will seek to address this during its deliberations.

- Firstly we will ensure we globalize our learning and knowledge base to be more inclusive of Gen Alpha, Gen Z, Gen X, and Gen Y. These tech savvy and open minded young individuals bring fresh ideas and perspectives to the profession, helping to drive innovation and push the boundaries of what is possible.
- Secondly, the global surveying industry needs a continuous development framework for surveying education that keeps pace with evolving technology and global needs. Young people can be drawn in by emphasizing this aspect, and cutting-edge surveying instruments, software and working methodologies such as drones, 3D scanning, GIS mapping and GeoAI, which can highlight how the industry is developing and meeting new Challenges.
- Thirdly, to promote equitable career progression, we need to intentionally create gender-neutral opportunities that are accessible to all genders. Fostering diversity and inclusion in gender and other related marginalised areas which have historically been under-represented is critical for the future of the surveying profession, which has traditionally been male-dominated. By increasing diversity and inclusion efforts, we can attract a broader range of talent and benefit from new perspectives, experiences, and skills.
- Fourthly, we need a system for attracting our trained young talents to the profession through annual campus fairs, conferences, survey clubs (in every school there will be a survey club that has an identity in elementary schools, that way the Gen X can mentor Gen Alpha when they retire) and internships offered.
- And fifthly, we need to create ecosystems that explore, create and include technological development in our codes of practice; within the respective laws of our member countries. This fifth area is not only futuristic but present. It should allow the Federation to be agile in step with advances in technology.

1.2. The Current State of Diversity in the Industry

Surveying is a critical component of modern society, with applications ranging from urban planning and infrastructure development to environmental conservation and disaster

management. The surveying profession has historically lacked diversity, with men being overrepresented, and women and minority groups being underrepresented. According to the National Society of Professional Surveyors (NSPS), only 3% of professional surveyors are women, which has led to a lack of awareness and interest among women and other underrepresented groups. This lack of diversity is especially apparent among the Gen Z, Gen X, and Gen Y generations, who have been raised in a society that is becoming increasingly diverse and inclusive. However, despite the importance of surveying, many women and minorities are not aware of the profession or its potential as a career path and influence on local communities. This Task force will seek to address this during its deliberations. The limited exposure to the profession can have several negative consequences, including:

- Limited career opportunities: Many women and minorities are not exposed to surveying as a career option in school or through family and community connections.
- Bias and discrimination: Women and minorities may face bias and discrimination when seeking entry into the surveying profession or advancing in their careers.
- Lack of role models: The lack of women and minority surveyors in leadership positions makes it difficult for young professionals to see themselves in the profession.
- Limited access to resources: Women and minority surveyors may not have the same access to resources, such as networking opportunities and mentoring, as their male counterparts.

1.2.2. Systemic bias in the workforce

Surveying can also play a role in designing more inclusive task force programs by identifying barriers to participation and developing strategies for addressing these challenges.

Finally, surveying can help promote greater diversity and representation in leadership positions by collecting data on the demographics of leadership teams and identifying areas where underrepresentation may be present. By highlighting the importance of diversity in leadership and providing objective data to support these efforts, surveying can help break down barriers to advancement and promote greater inclusivity in the workforce. By addressing systemic bias in volunteering, organizations can create more inclusive and welcoming environments that promote diversity and social equity.

1.2.3. Future relevance of the profession

The lack of diversity in the surveying profession is not only a social justice issue, but it also has negative impacts on the profession's ability to meet the needs of a diverse society. A more diverse profession will bring a broader range of perspectives, ideas, and approaches, which can lead to more innovative solutions to complex problems.

Gen X-born between 1965 and 1980, surveying remains a relevant profession due to the ongoing need for infrastructure development and maintenance. As our population grows and cities expand, the demand for surveyors who can accurately measure and map physical features of the land will only continue to increase. Gen Xers may also be drawn to the profession's stability, competitive salaries, and opportunities for career advancement.

Gen Y-born between 1981 and 1996, surveying remains a relevant profession due to the increasing emphasis on sustainability and environmental conservation. Surveyors can play a crucial role in identifying potential environmental impacts and designing solutions that minimize these impacts. Additionally, as Gen Yers are more likely to value work-life balance, surveying's flexible work arrangements and remote working opportunities may be particularly appealing.

Gen Z-born between 1997 and 2012, surveying remains a relevant profession due to the increasing focus on technology and innovation. Surveyors are incorporating new technologies, such as drones and 3D laser scanning, into their work, making the profession more efficient and accurate. As Gen Zers are digital natives, they may be drawn to surveying's use of cutting-edge technology.

Gen Alpha- born from 2013 onward, surveying will remain a relevant profession due to the continued need for infrastructure development and maintenance. As the world's population continues to grow, surveyors will play a critical role in designing and building the structures and systems that support our communities. Additionally, as Gen Alpha grows up with an increasing awareness of the importance of sustainability and the environment, surveyors who specialize in sustainable design and environmental conservation will be in high demand.

The surveying profession is critical to the built environment and infrastructure projects, and its relevance is expected to continue into the future. With the increasing demand for infrastructure development, especially in rapidly growing urban areas, the need for surveyors is expected to increase in the coming years.

Moreover, surveying technologies are rapidly evolving, making the profession more relevant than ever before. With the advent of technologies such as LiDAR, photogrammetry, and GIS, surveyors are now able to collect more accurate and detailed data than ever before, and process that data more quickly and efficiently. This has opened up new opportunities for surveyors to provide valuable insights and services to a wide range of clients, from governments and construction firms to land developers and environmental organizations.

In addition, surveyors are increasingly being called upon to address new and emerging challenges related to climate change, such as sea level rise and natural disasters. As a result, surveyors have an important role to play in helping to mitigate the impacts of these challenges and ensure that infrastructure is designed and built in a resilient and sustainable manner.