

Ensuring our Rapid Response to Change
Ensuring the Surveyor of Tomorrow



The FIG Vision of the Future Surveyor



Prof Chryssy Potsiou, FIG President 2015-2018
National Technical University of Athens, Greece
chryssy.potsiou@gmail.com

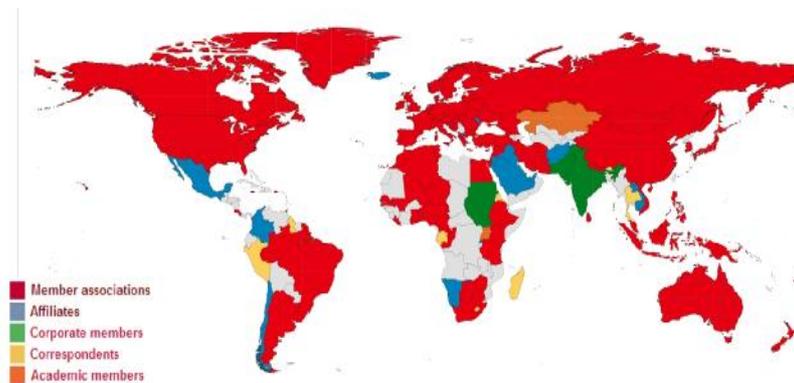
FIG Commission 7 Annual Meeting & International Seminar, 24-28 September 2018, Bergen, Norway



International Federation of Surveyors
Fédération Internationale des Géomètres
International Vereinigung der Vermessungsingenieure

Members

- **FIG was founded on July 18 1878 in Paris** by delegates from 7 national associations - Belgium, France, Germany, Great Britain, Italy, Spain and Switzerland.
- **Over 120 countries are represented in 2018 – more than 250,000 individuals**



Participation



- **Various levels of participation (www.fig.net)**
 - ✓ *getting informed, networking*
 - ✓ *teamwork engagement,*
 - ✓ *goal setting, commitment to collective objectives,*
 - ✓ *joint consultation in decision making, at all levels of administration*

- ✓ *We have the knowledge and the power to make global growth happen*

Our vision



- *The vision of FIG is of a **modern and sustainable surveying profession** in support of society, environment and economy by providing **innovative, reliable and best practice solutions** to our rapidly changing and complex world, acting with integrity and confidence about the usefulness of surveying, and **translating these words into action.***

*FIG supports **participation and international collaboration:***

- *Members*
- *Sister associations (e.g., ISPRS, ICA, IAG), regional bodies (e.g., CLGE, AUS) for the progress of surveying **in all its fields and applications everywhere***

- *UN bodies, including FAO and the World Bank, and other professionals (e.g., FIABCI, UIA, planners, civil engineers, notaries, valuers) in support of governments for the implementation of the ambitious **Sustainable Development Agenda 2030***

Conferences/workshops, publications, training seminars, research

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The value of our evidence-based location information, tools and services



- The geospatial transformation of the society supports
 - Transportation
 - property markets, access to credit mechanisms,
 - construction, city modeling, monitoring
 - fair taxation, disaster recovery, humanitarian support
 - agriculture & water management,...
- we cannot measure or monitor sustainability and growth without the intelligent use of evidence-based geospatial data
- Technology & Internet has changed the way people work and live
- helps us to “uncover” the missing information and reduce inequalities...
- Development of indicators to monitor the progress



There are many data collection devices we collect: Authoritative and non-authoritative data, good enough for various purposes

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The Digital Economy - an opportunity for everyone?



The road to digital transformation:

Challenges & opportunities & a lot of unanswered questions...

- ✓ Provide the digital infrastructure- Develop the **platforms**
types of investment? Metropolitan areas? rural areas? benefits?
connectivity & density (people & business)
- ✓ Engage governments: affordable **energy** to enable connectivity,
- ✓ **Informal sector**? regulations, openness & stability to attract investors,
- ✓ Enable **digital financial inclusion**? To support sustainable digital and technological entrepreneurship
- ✓ Create the **digital society**: Skills? The **young** generation
- ✓ **Information**: mapping the jobs & training facilities, to measure the gaps
job cuts? New jobs? retraining? Skill flow?
- ✓ Education? **on-line training** ? certification?



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The Sustainable Development Agenda 2030 was signed by 193 UN state members in 2015



Surveyors' Role

The 2030 Agenda for Sustainable Development provides a global blueprint for dignity, peace and prosperity for people and the planet, now and in the future.

17 goals(SDGs), 169 targets and 230 indicators



FIG contributes to SDG 1, 2, 4, 5, 6, 9, 10, 11, 13, 15, 16, 17

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The Sustainable Development Agenda 2030 Goal 1 and target 1.4.



- ✓ SDG1. End poverty in all its forms everywhere.
- ✓ 1.4. by 2030, countries should ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance.



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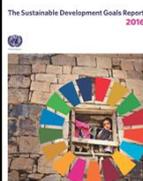
After 3 years



“Over the last 25 years, more than a billion people have lifted themselves out of extreme poverty, and the global poverty rate is now lower than it has ever been in recorded history This is one of the greatest human achievements of our time,” **World Bank Group President Jim Yong Kim** said.

(from 1990 up to 2015 the extreme poverty rate dropped an average of a percentage point per year – from nearly 36% to 10%)

*Three years into the implementation of the Agenda, countries are translating this shared vision into **national development plans and strategies.***



SDGs: do your homework!



- ✓ Use the **crowd** in a powerful way, **VGI**
- ✓ **“bring the people to the data”** - increase the **usability** of the data
- ✓ secure **property rights for all!** **“informal settlements and the missing data”,**
The great economic divide: 2.5 billion people can register property rights and 5 billion they can't .
Property rights are one of the drivers of **economic growth** as well **economic freedom**
- ✓ policy issues! technical issues! **“make it simple...if you can”**
- ✓ adopt **fit-for-purpose solutions,**
- ✓ **standards** and the **blockchain technology, IoT**
- ✓ the need to **“focus and set priorities”** for **“implementation”,**



Surveyors' Role in the Age of Disruption



From the need for providing society with

- reliable, evidence-based, open or low cost data

for decision-making, toward the need to manage a “tsunami” of geodata

- extended use of affordable smart devices ; crowdsourcing
- 5G mobile network technology, 40-60% higher speeds by 2020: massive creation & consumption of data
- the Internet of **Me**, Internet of **Things**,
- Internet of **Value**, Blockchain & Distributed Ledger Technology (DLT)
- Machine learning, cognitive computing for all to improve human decision-making
- Autonomous vehicles & drones



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See the opportunity not the complexity



“with a 10% increase in high-speed Internet connections, economic growth increases by 1.3%” and leads to “democratization of innovation.”

“in a world where only 40% of the population have access to the internet; we could boost the global GDP by \$1 trillion by connecting another 327 million people.” 5G will enable low-cost, low-power sensors to be embedded in building, appliances, and vehicles. It will be a key enabler of the “internet of things” and the cadaster 4.0.

The World Economic Forum



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Examples of crowdsourced 2d (2015) and 3d cadastral surveying (2018)



- every person has something of value to contribute; what is the "risk"?
 - work may be done **faster** and **cheaper** and with **fewer errors** when **validation** systems are in place
 - **validation is critical** in surveying
 - when crowdsourcing is used in surveying, **it requires training of volunteers**
 - easy application for data-collection that is not positionally critical
- General Rule
- it may involve the collection of information that is required to be neither positionally precise nor dimensionally accurate, **yet, important enough to achieve the SDGs**, and
 - as long as positioning and validation improve the use of VGI information will be extended.

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Where is the Data: increase our skills



- ✓ *Have compassion, cooperate-work with others, deal with diversity,*
- ✓ *increase our **digital fluency & computing skills** to ensure **democratization** and make **digitalization a peaceful transition power** for the benefit of all*
- ✓ *In the digitalized world to be capable to infuse codes and algorithms with our **values***



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Diversity

- ✓ **benefits All of us,**
- ✓ **means All of us,**
- ✓ **is the key to success for All of us**
- ✓ **If we are not diverse, we are not global!**

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“global” surveyors



It is the mandate of FIG to create “global” surveyors capable to contribute to the sustainable development agenda.

*Surveyors who will have a “**global education**” that covers all fields of surveying but also who will have an understanding of the “**global challenges**” and who will be capable to develop the profession and work efficiently **everywhere** in order to improve every part of our world, **so that nobody will be left behind.***

*Surveyors all over the world are committed and encouraged to test and **take advantage of the current and emerging technological developments** in order to improve their service to society.*

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The Global Surveyors' Day 21st of March

A good opportunity for MAs to inform their members about the values and the challenges of globalization and of participation in FIG.



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Our mission

*Assess & Increase the value of geospatial **data**, our **land tools** and our services for all people*

to maximize benefits

Our mission:

- *to deliver more benefit, more transparency, more safety, more environmental quality, more growth, more fairness, more education, more gender equality, more efficiency in governance of urban and rural areas....**more freedom***
- *This is our contribution to the dream of a future intelligent city, a **happy city**, and a sustainable management of natural resources. Our contribution to the Sustainable Development Agenda 2030.*
- *Since 2012 **UN World Happiness Reports** (Happiness: a Holistic Definition of Development) GNH variables: real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity, and perceptions of corruption*
- ***Value of our geospatial data** can be measured: Efficiency gain & Productivity gain*

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