



Ensuring our Rapid Response to Change
The Role of Geospatial Information

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UN GGIM Academic Network Forum: The SDGs Connectivity Dilemma-Urban Settlements,
Resilience, and Sustainability

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Thanks to the UN GGIM Academic Network for selecting this topic

- The UN Sustainable Development Agenda 2030 and the Role of Geospatial Information in Providing Inclusive Urban Sustainability
- The Contribution of the International Federation of Surveyors (FIG) and the Major achievements during the 2015-2018 period. Our vision for the Future

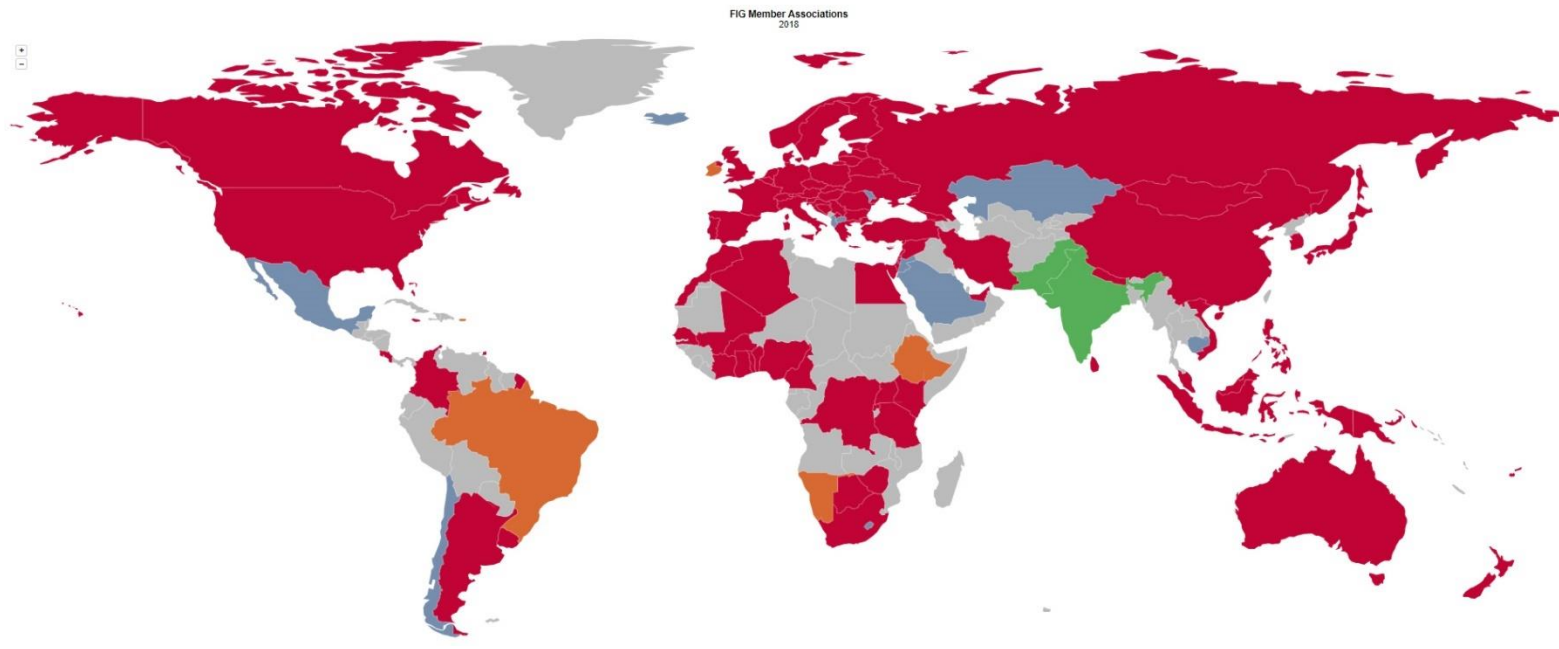


Participation

More than 250,000 surveyors

FIG

- **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*



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

*Surveyors' contribution to the Sustainable Development Agenda 2030:
17 goals(SDGs), 169 targets and 230 indicators.*



***FIG contributes to
SDG 1,2, 4, 5, 6, 7, 8,
9,10,11, 13,15,16,17***



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.*
- ✓ Security of tenure: Fit for Purpose solutions, innovative and scalable approaches
- ✓ FIG will identify and contribute into the modeling of the needs of the society & will promote tools & methods that will deliver the right information tailored to the users' needs
- ✓ Ensure the affordability of technical tools
- ✓ Redefine continuously the profile of the Surveyor



Organized by:



With the support of:



Disaster Management: It is always about people

- *Humanity has lived with natural disasters for centuries but their impact was not felt to the same extent in the past as is experienced now*
- *The more the population, the more the development, the greater the loss!*
- ***Good co-ordination starts with good co-ordinates....***
- *How to get politicians to follow our advice? The crucial role of surveyors in disaster mitigation, preparedness, response and recovery needs marketing*
- *Data integrated in SDI is the key to organised recovery for disasters*
- ***NMAs should be in the position to generate, maintain and provide quality geospatial information and services across all phases of the emergency cycle***
- *For risk management we need movements, no expensive organisations with hierarchy; participation: “Young legs” combined with “grey hair” will make the difference*
- *learn to go from global – regional – local and vice versa*

The Greek fires, more coordination needed



- ❑ *1.3 thousand hectares burnt, half of that residential area with 3.664 inhabitants.*
- ❑ *1200 buildings and 400 cars were totally burnt,*
- ❑ *86 people killed*

The Digital Economy - an opportunity for everyone?

The road to the digital transformation:

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

- ✓ *Provide the digital infrastructure- Develop the **platforms***
types of investment? Metropolitan areas versus rural areas? benefits?
Urbanization as a tool to eliminate poverty
***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?*



Surveyors' (professionals') 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*



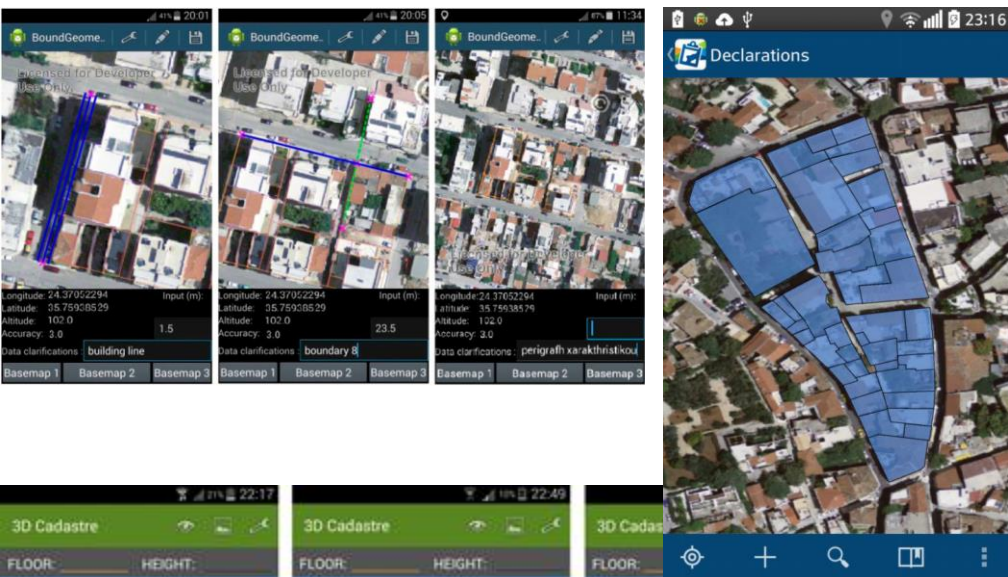
See the opportunity not the complexity

- *“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.”*



The World Economic Forum

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.

The globalization of Geospatial Professionals

UN Geospatial Societies

The Joint board of Geospatial Information Societies - JBGIS

FIG



UN-GGIM: Geospatial Societies



UNITED NATIONS COMMITTEE OF EXPERTS ON
GLOBAL GEOSPATIAL INFORMATION MANAGEMENT

- The current members of UN-GGIM: Geospatial Societies are:
- [Global Spatial Data Infrastructure \(GSDI\) Association](#)
- [IEEE Geoscience and Remote Sensing Society \(IEEE-GRSS\)](#)
- [International Association of Geodesy \(IAG\)](#)
- [International Cartographic Association \(ICA\)](#)
- [International Federation of Surveyors \(FIG\)](#)
- [International Geographical Union \(IGU\)](#)
- [International Map Industry Association \(IMIA\)](#)
- [International Society of Photogrammetry and Remote Sensing \(ISPRS\)](#)

The International Hydrographic Office and Urban and Regional Information Systems Association (URISA) are observing members

SDGs: do your homework!



- ✓ Use the **crowd** in a powerful way
- ✓ **“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 procedures**,
- ✓ **standards** and the **blockchain technology, IoT**
- ✓ the need to **“focus and set priorities”** for **“implementation”**,



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***



“global” surveyors/geospatial experts

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.*

FIG Publications 2015- May 2018

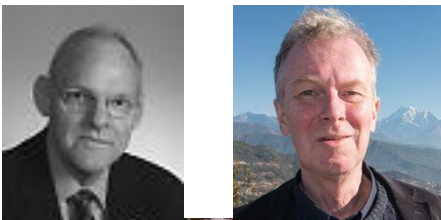
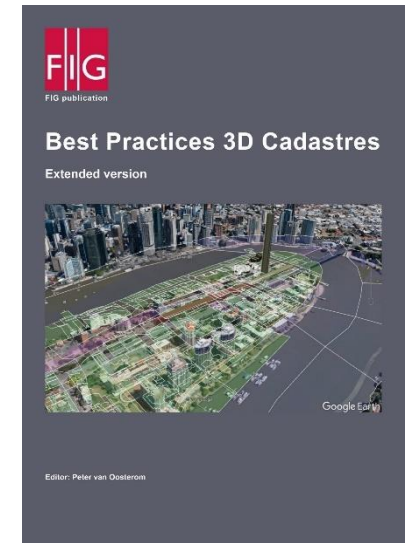
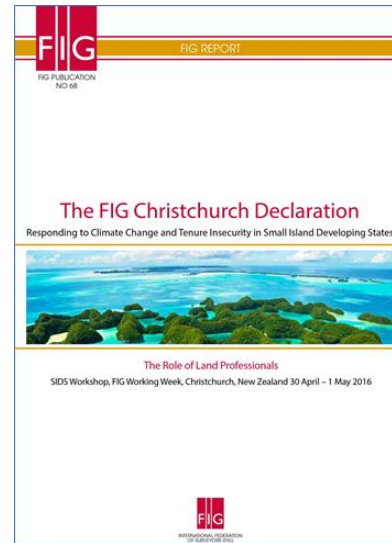
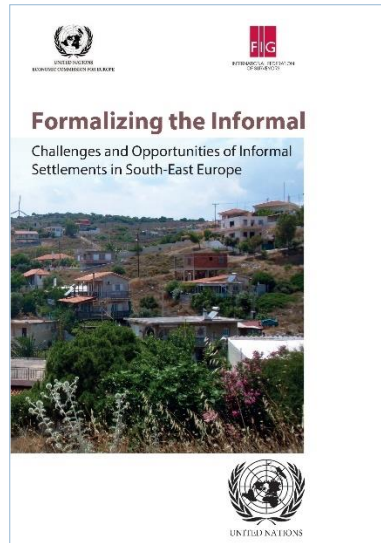
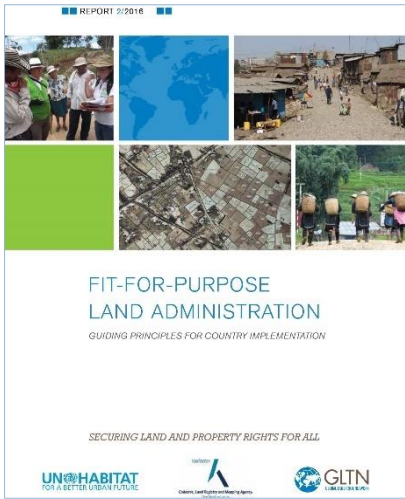
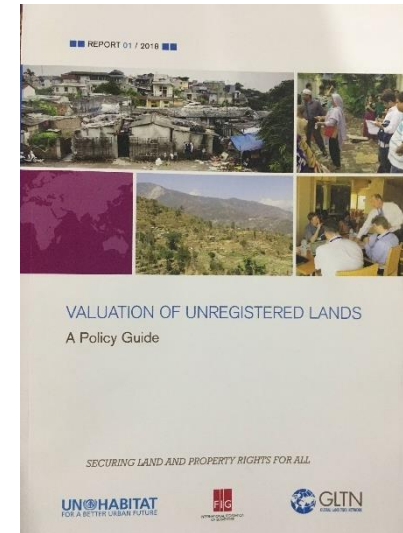
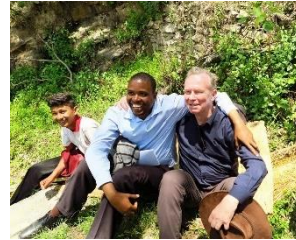


FIG Publications 2015-May 2018

in cooperation with GLTN



The Social Tenure Domain Model - A Pro Poor Land Tool in English, Japanese, French, Arabic



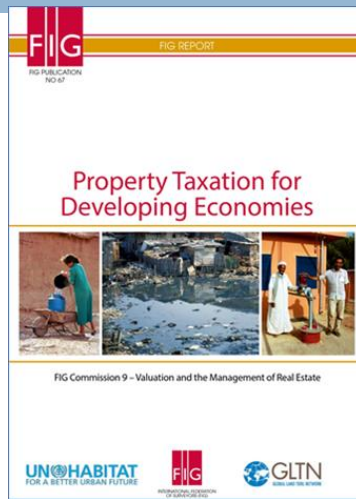
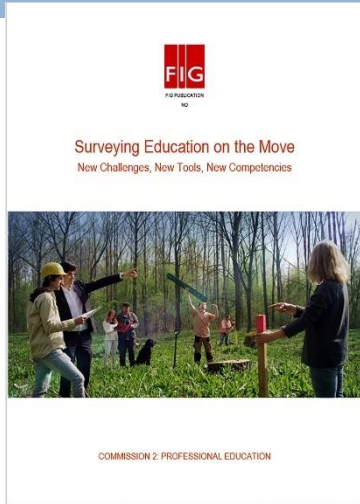
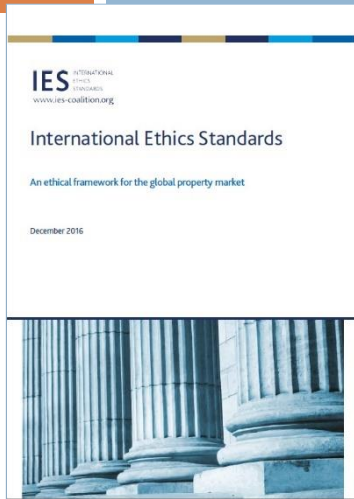
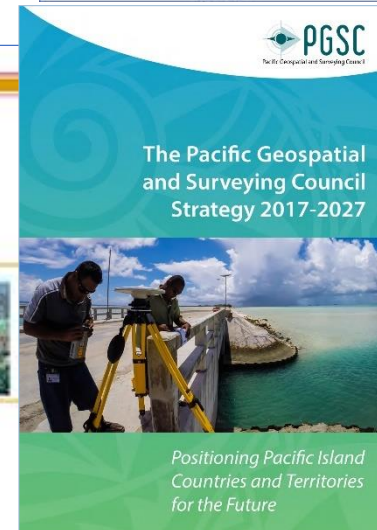
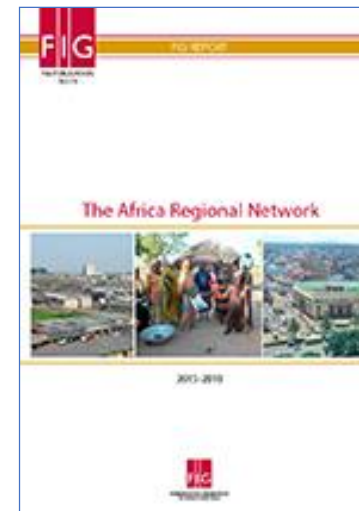
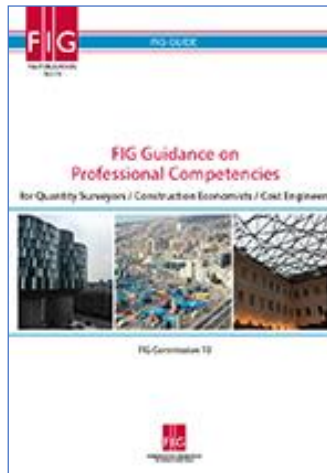
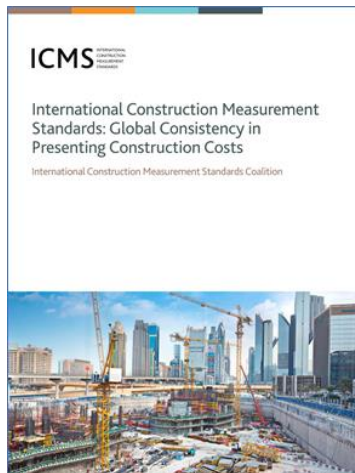
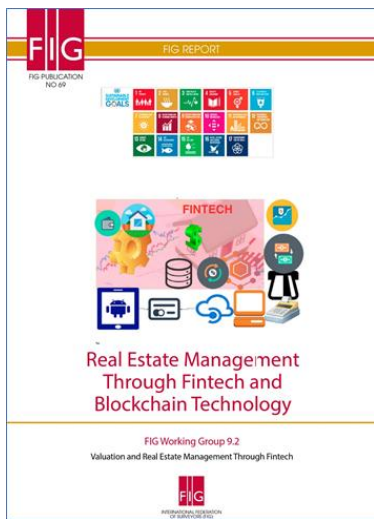
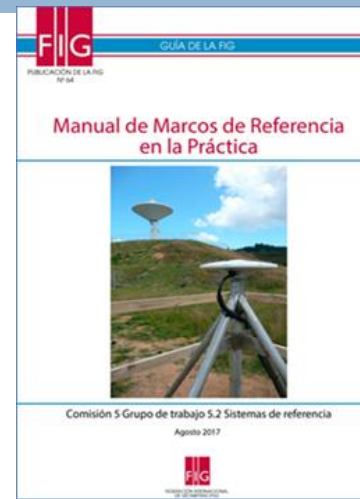


FIG Pub on New Trends in Spatial Information: Surveyors' Role in the Era of Crowdsourcing



*As we set out for the digitalization transformation,
we decided to focus on ensuring the future of our
profession & our contribution to the society*



- ✓ *be global, diverse, human*
- ✓ *be digital, smart, skilled*
- ✓ *be affordable (services),*
- ✓ *be connected,*
- ✓ *be engaged & committed,*
- ✓ *be excited & confident,*
- ✓ *move quickly & evolve,*
- ✓ *stay current,*
- ✓ *start now!*



Thank you