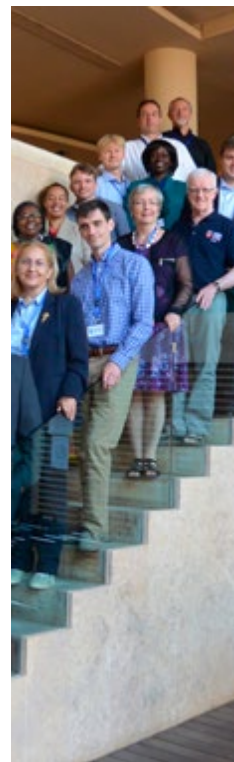


FIG

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

2016



ANNUAL
REVIEW

"Ensuring the Rapid Response to Change,
Ensuring the Surveyor of Tomorrow"

Greeting from the President



**“Ensuring the Rapid Response to Change,
Ensuring the Surveyor of Tomorrow”**

FIG motto for 2015–2018

THE FIRST TWO YEARS of the term 2015–2018 have already been successfully completed. The whole period has been rich with activities and experiences for all of us. Through my FIG activity in 2016 I have become even more confident that thanks to our well-coordinated, collaborative and focused work we are improving the value of our profession all around the world. I will never stop giving credit for that progress to our excellent FIG Commission, Task Force and Network Chairs; our Member Associations, Academic members, Affiliate and Corporate members; and all those who represent FIG. We network closely with all our national delegates – our committed volunteers – and we all work together toward the same goal: to increase the value of geodata for all people. The objective is to deliver more benefit, more transparency, more safety, more environmental quality, more growth, more fairness, and more efficiency in governance of urban and rural areas. It is our contribution to the dream of a future intelligent city and a sustainable management of natural resources.

The surveyors’ role is crucial for the *geospatial transformation* of the world. During the

past 15 years location information has changed people’s perceptions of what is possible with their economies. Senior leaders of the world now understand that we cannot measure and monitor sustainability without accurate, evidence-based geospatial data. Land is precious and scarce; as the cities grow the value of land and its improvements grows as well. Efficient land and real estate markets are broadly considered to be a major component of a successful market economy. Establishing a multi-dimensional, multi-purpose geospatial infrastructure including tenure, value and use of land as well as reliable and affordable development procedures is vital toward the formalization of property markets. However, the market alone cannot ensure social, environmental and economic sustainability. Developing and adopting the proper policy tools for the recognition of people’s rights on land and property, as well as for managing the necessary land reforms and for planning for proper and affordable housing, is urgent.

In 2016, we developed our capacity to respond to disasters; we had an excellent Working Week on this topic in Christchurch, and we all realized that in emergency situations “good coordination starts with good coordinates” and that we need to combine authoritative with non-authoritative data, professional experience with voluntary contributions, and “grey hair” with “young legs”. Following our 2016 WW we published Pub 68 – the *Christchurch Declaration*.

2016 was a great year, as we also have strengthened our collaboration with the UN agencies, UN HABITAT/GLTN, UN GGIM, FAO, UNECE and the World Bank. Through this collaboration we have produced new publications: on *property taxation*, on *Fit-For-Purpose Land Administration – Guiding Principles for Country Implementation*, on *Formalizing the Informal: Challenges and Op-*

portunities of Informal Settlements in South-East Europe. We published *Social Tenure Domain Model* in three more languages Arabic, French and Japanese. We have also managed to initiate research in developing indicators to monitor the SDGs, measure our geo-maturity, and quantify the expected benefits of these tools.

Throughout the year I have had the honor to be in contact with many of our member associations. On the occasion of workshops and conferences I visited the Netherlands, Lebanon, Germany, Portugal, Romania, and Kosovo to mention a few. I wish to express my gratitude for all their contributions to FIG and to congratulate them again for the excellent organization of those events. I also visited surveyor’s offices in Belgium, met with NSPS in Washington, AUS in Beirut, and DVW in Hamburg. I strengthened our cooperation with ISPRS and participated at their Congress in Prague; I met with the JBGIS members both in New York and Prague; I worked closely with GLTN and Habitat for Humanity both during the IAB meeting in Hague, and during the World Bank Conference in Washington. I participated in conferences of UNECE and WPLA in Geneva, UNGGIM in NY, and with CLGE in Lausanne. This year TCG, HARSE, my University colleagues and I personally were very happy to organize and host three FIG events in Greece: the GLTN expert group meeting on Valuation of Unregistered Lands, the Joint FIG/WB high level Conference on Sustainable Real Estate Markets, and the 3d Cadaster. I would like to thank and congratulate also all other organizers of FIG events in which I had not managed to participate, and once again every member who has taken active part in FIG functions in one way or another during 2016. Without the active and dedicated engagement of its members FIG would not be able to accomplish its goals.

Chryssy Potsiou
FIG President

Cover photos reflecting the year 2016 with its many activities. Welcome address for the FIG Working Week 2016 by FIG President Potsiou, and a FIG/GLTN Expert Group Meeting on Valuation of Unregistered Land.

Cover photo on far right: Lauri Rotko / Visit Helsinki

Major Events in 2016



Voting for new Vice Presidents at the General Assembly. Left: President Chryssy Potsiou with the two new Vice Presidents: Mikael Lilje, Sweden (left) and Orhan Ercan, Turkey (right).

39th FIG General Assembly 2016 Christchurch, New Zealand 2–6 May 2016

The General Assembly was held over two days as part of the FIG Working Week 2016. The delegates filled out the large arena – a much different venue than at previous FIG conference, but this was not a “normal” Working Week due to the fact that the conference centre in Christchurch was destroyed during the large earthquakes in 2011 and 2012, and today, a new Conference Centre has not yet been built up. The sports arena made it however out for a useful conference centre.

The General Assembly was attended by 54 Member Associations out of 104 representing 70 votes and together with observers around 250 participated.

The General Assembly was opened with the traditional FIG Fanfare. The commissions have had a busy first year of their term with many activities which were reported to the General

Assembly. The new Regional Capacity Development Network reported from their meeting held in Kenya in November 2015. Africa has been the first region to establish a network, and Chair of the Network Diane Dumashie could inform that another regional network is on its way in Asia/Pacific area. Hopefully there can also be established networks in other regions.

At the General Assembly in 2015 a Task Force on Commission Structure was established, and at the General Assembly 2016 they presented a report that should initiate a discussion about FIG Commission Structure between the member associations in order to find out whether a change in the current structure is needed. Since this work was started Council had decided that the voting for the Commission Chairs Elects for the term 2017–18 was postponed.

The elections were awaited with excitement during the Working Week. The first election was to find two new Vice Presidents, replacing

FIG VISION

The FIG vision 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.

ABOUT FIG

FIG is the premier international organization representing the interests of surveyors worldwide. It is a federation of the national member associations and covers the whole range of professional fields within the global surveying community. It provides an international forum for discussion and development aiming to promote professional practice and standards.

FIG was founded in 1878 in Paris and was known as the Fédération Internationale des Géomètres. This has become anglicized to the International Federation of Surveyors. It is a UN-recognized non-government organization (NGO), representing more than 120 countries throughout the world, and its aim is to ensure that the disciplines of surveying and all who practise them meet the needs of the markets and communities that they serve.

Dr. Cheng Pengfei, CSSMG, China and Bruno Razza, CNGeGL Italy, who have served in FIG Council since 2013. After very close votings Mikael Lilje, Swedish Professionals for the built environment and Orhan Ercan, Chamber of Surveying and Cadastre Engineers of Turkey, were elected. A large thanks to all candidates and their organisations.

The voting for the Working Week 2020 was between two very strong candidates, both more than capable of organising a very successful Working Week. Interlaken, Switzerland presented by Geosuisse, and Amsterdam, the Netherlands, presented by GIN. The two destinations were creative to catch and attract the attention of the delegates in order to promote their destination. The voting showed a close run and with a victory to Amsterdam, the Netherlands.

At the closing ceremony FIG President Potsiou thanked for all the engagement throughout the Working Week and reminded the delegates of the invitation by the Key Note speaker in the Opening Ceremony, Margareta Wahlstrom to have surveyors and their work become more visible; “surveyors should be better to marketing themselves”. At the end of the closing after having thanked the Local Organising Committee the FIG Flag was handed over from NZIS to the Finnish Organisers, MIL and MAKLI as organisers of FIG Working Week 2017.

Several new members were approved during the last year. Here Peter Newmarch, SAGI, South Africa receives his membership certificate by FIG President Potsiou.



A special and festive Maori greeting at the opening session of the FIG Working Week.

FIG Working Week 2016

Christchurch, New Zealand 2–6 May 2016

The theme of this years FIG Working Week, *Recovery from Disaster*, met the eye from the very beginning. Already at the arrival in Christchurch, New Zealand, the damages caused by the severe earthquakes that took place in 2011–12 in the Canterbury region followed by liquefaction that also did a lot of damage, were visible. The venue also reminded all the participants that this was not a “normal” FIG Working Week. The conference had to be relocated to a Sports Arena. The Conference Center of the city had not survived the earthquakes, and although there were early plans to rebuild the centre, it was soon clear for the Local Organisers and FIG that it would be too risky to rely on a new conference centre by 2016.

More than 800 participants had found their way to the Working Week in Christchurch from 73 countries, and around 250 papers were presented in 86 sessions during the three confer-

ence days. Of these 86 sessions 23 were special sessions, hereunder sessions in cooperation with the institutional partners FAO, UN-Habitat-GLTN and the World Bank and sessions with specific themes. 28 peer review papers had passed the thorough peer review process out of originally 86 submitted papers.

Hereto a number of pre-workshops were held: on the Small Island development (SIDS) in cooperation with UN-Habitat/GLTN, NZ-Aid and FAO, Reference Frame in Praxis organised by FIG Commission 5 in cooperation with UNOOSA, Young Surveyors conference, STDM training course, and a symposium on History of Surveying. The Young Surveyors organised a Charity Run/Walk at Hagley Park having around 80 young – and older – surveyors run/walk a 2.5 or 5 km distance. This was a big success, especially for those who had been inside at meetings and workshops all day. The Charity Run was supported by Trimble and Ripro Corporation from Japan and supported MapAction and FIG Foundation.

At the Opening Ceremony all participants were greeted festively in the traditional Maori way, followed by an address by Sir Tipene O'Regan, who has been commemorated as one of the Twelve Local Heroes of Christchurch. He spoke over the importance of "Identity, names and places" and explained why it is important for Maoris to identify where a person is from.

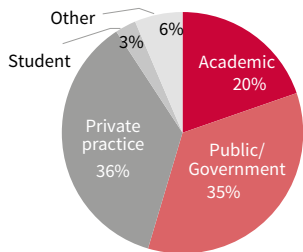
The key note speaker of the Working Week was Margareta Wahlstrom who has been the UN Special Representative of the Secretary General for Disaster Risk Reduction until the end of 2015. Margareta Wahlstrom underlined that disaster is a social issue as well as of short term and long term economic. There is a special focus right after a disaster, but a focus on the longer run is also important. She encouraged surveyors to be more visible, and to promote themselves and the work that surveyors do much more than is the case today, and was especially referring to land use planning and urban planning. *"No other than surveyors know about this. We must be more precise – globally, but especially locally and nationally"*. The Sendai framework has managed to define disasters in a modern and updated version, and is focusing on not only what is good for us but what we should do at a national, regional and global level. "Build back better – from the start" is a key word – and surveyors play a great role in this.

The plenary sessions covered disasters from various angles, and disasters were also a theme at many of the technical sessions including all the areas of surveying. The first plenary session was dedicated the "Christchurch Story" which was told by the Mayor of Christchurch, Hon. Lianne Dalziel, the Associate Minister supporting Greater Christchurch Regeneration, Hon Nicky Wagner and Mr. Duncan Gibb Founding General Manager of SCIRT (Stronger Christchurch Infrastructure Rebuild Team). The "Christchurch Story" was followed by some very strong and impressive photos from immediately after the earthquakes and the rebuilding process on the longer run. These photos more or less talked for themselves.

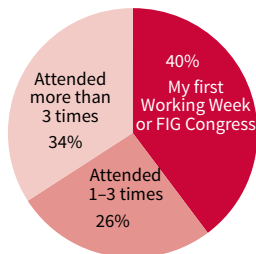
The first speaker in the second plenary session Dr. Hiroshi Murakami almost did not make it to the Working Week because Japan was hit by earthquakes just three weeks before the Working Week and his help was needed. Luckily he still managed to come, and could give the participants another real-life insight in a disaster area. Gregory Scott, leader of the secretariat for the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM), presented the global perspective with impressive statistics on disaster loss – both in terms of numbers of affected people (more than 1.5 billion) and in money (more than one trillion dollars). The Post-2015 Development Agenda is actionable, and data about people and place is an indispensable element in this agenda. Keith Bell, World Bank, stated that 80% loss of people in connection with disasters come from low income countries. The complexity for these countries is much larger than in the developed world. The best situation is of course to prepare for disasters, but after a disaster the key term is "Build Back Better" – and one of the first examples of this took place in Indonesia. It is important is to have reliable geospatial data – and the World Bank recommends to get this on a Fit-for-Purpose basis that secures that there will be data although it

- ▶ During her presentation, Hon Lianne Dalziel, Mayor of Christchurch, showed the audience how she and the inhabitants of Christchurch all helped out right after the earthquakes.
- ▶ A well designed exhibition area met the participants at the tea breaks and during lunches. Wednesday afternoon the exhibition opened for the public.
- ▶ Maori male dance at the Kiwi Evening/FIG Foundation dinner – and various international variations...
- ▶ Beautiful New Zealand. FIG President Chryssy Potsiou challenges Chair of Commission 9, Steven Nystrom, in a true "Lord of the Rings" style.

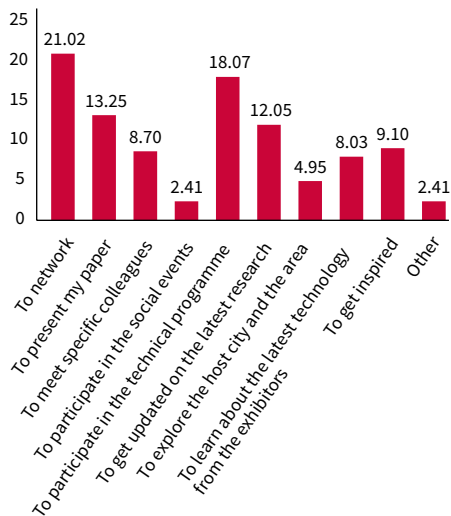




In which area of profession do you predominantly work?



Have you attended previous FIG Working Weeks/Congresses?



Objectives for attending the Working Week

93% of the respondents thought that objectives for attending the conference were met:

"FIG is a kind of Olympics of our profession."

"No other conference can match FIG Working Week."

may not be fully detailed. Again Keith Bell took the opportunity to encourage FIG to lead national professional bodies to put surveyors on the pro bono humanitarian map, and in his plenary speech he again. The network of the Young Surveyors is a good example of how this can be started.

This line was followed by Sam Johnson who is a shining example of youth leadership. He was the leader of the Student Volunteer Army (SVA) in the aftermath of the 22 February Christchurch earthquake and gave an inspirational talk on harnessing students/youth in response to disaster situations. Sam also challenged FIG and Member Associations to establish a network of young surveyor volunteers to respond to disaster relief – Surveyors without Frontiers. Mark Nicholls, Trimble, stated that the profession is moving from maps to models. He presented an impressive description of Trimble's role right after the earthquakes in Christchurch. Finally, Professor Jixian Zhang gave a very impressive presentation on the use of remote sensing and photogrammetry in disaster response in the Chinese context.

The Working Week consisted of technical sessions, mainly prepared by the ten FIG Commissions, Young Surveyors, FIG Networks, Permanent Institutions and Task Forces, sessions with the UN partners, meetings and technical tours. Special sessions on the Voluntary Guidelines were organised together with FAO, a special session was organised jointly by FIG Young Surveyors and UN-Habitat/GTLN on Nepal Building Back Better in order to introduce challenges of building back better initiatives in the post-earthquake situation in Nepal including rehabilitating informal/non-formal settlers and risk hazard-prone settlements.

The FIG Christchurch Declaration on Responding to Climate Change and Tenure Insecurity in Small Island Developing States – The Role of Land Professionals – resolves to:

Address climate change, natural disaster and urbanisation challenges and vulnerabilities through:

- Advocating for the adoption in national policy and legal frameworks relevant international instruments,
- Advocating for land policy and legal frameworks informed by the VGGTs,
- Emphasising the importance of robust and resilient geodetic networks,
- Mainstreaming disaster risk and vulnerability assessment into all aspects of land and marine administration.

Address the challenges in land governance and administration through:

- Promoting the adoption by land professionals of the fit-for-purpose approach to land administration,
- Promoting the principles of participation and inclusiveness in land use planning,
- Promoting the importance in legal and policy frameworks of the development of valuation systems.

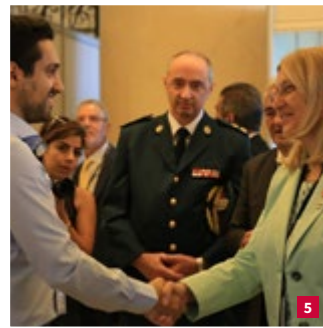
Build capacity in land governance and administration to address these challenges through:

- Encourage the establishment of a Regional Capacity Development Network of experts in SIDS regions,
- Advocating for the international organisations and professional bodies to provide a coordinated approach,
- Emphasise the importance of capacity development to support spatial data infrastructures.

Enhance professional and organisational collaboration to address these challenges through:

- Encouraging strong, genuine and durable partnerships,
- Encouraging and supporting the development of regional coordination mechanisms in the land sector.

Full text: www.fig.net/resources/publications/figpub/pub68/figpub68.asp



It is unfortunately not possible to meet with all members, but every conference, event or meeting with surveyors, is special. Here a small selection.

1 Chryssy Potsiou was invited to the yearly NSPS meeting. Here with FIG Foundation President John Hohol.

2 FIG had a stand at Intergeo, here with Claudia Stormoen, FIG Office, Pekka Halme, Finland and Henning Elmstrom, Denmark. The background shows all FIG member countries.

3 Japan Federation of Surveyors, a long term FIG member, showcased FIG at their booth at G-spatial EXPO. Here Secretary-General Mr. Yoshiro Nakahori.

4 FIG Vice President Rudolf Staiger visited the Association of Surveyors of Slovenia and

was key note speaker at their Gala concert to celebrate their scientific journal.

5 FIG President Potsiou was invited as key note speaker to the 3rd International Conference of the Order of Surveyors in Beirut, Lebanon.

6 FIG President Chryssy Potsiou met with Jan de Graeve, director of IIHS&M and FIG Honorary Member, and visited his impressive collection of surveying books and material.

7 Two presidents meet – at the ISPRS conference together with ISPRS President Christian Heipke.



FIG Activities



FIG Commission Chairs: Brian Coutts, Com1, Liza Groenendijk, Com2, Enrico Rispoli, Com3, Angela Etuonovbe, Com4, Volker Schwieger, Com 5, Vice President Diane Dumashie, responsible for commissions, Ivo Milev, Com6, Gerda Schennach, Com7, Kwame Tenadu, Com8, Steven Nystrom, Com9, See Lian Ong, Com10 and Eva-Maria Unger, Young Surveyors.

2016 was a year full of activities from FIG Council, Commissions, Networks, Task Forces and Permanent Institutions. Many volunteers from all over the world add to the FIG agenda and activities, contributing to the betterment of the world and to the work the surveyors are doing, both on land, on the sea and in space. Here is just a little overview of some of the activities in 2016. There is much more, but impossible to include all.

FIG Commissions

The ten commissions of FIG are established to further the technical and professional work of the Federation, and they cover all the activities listed in the definition of a surveyor. Each commission undertakes a substantial job at an international level in the field of the commission

with various activities. A special thanks to all the active delegates and others who on a voluntary basis are involved in the commission work. The commission chairs are the authors of the technical programme at the yearly Working Week, and set the scene for the sessions.

Commission 1 – Professional Practice Chair: Brian J.Coutts (NZIS, New Zealand)

- WG 1.1 – International Ethics Standards
 - WG 1.2 – Women in Surveying
 - WG 1.3 – International Boundary Settlement and Demarcation
 - WG 1.4 – Forum on Engagement of Private Practitioners
 - WG 1.5 – Forum on Mutual Recognition
- FIG Council has joined the International Ethics Standards Coalition (IESC) that sets out

the first set of high level global business ethics principles for practitioners operating across land, property, construction, infrastructure and related professions.

Commission 2 – Professional Education Chair: E.M.C (Liza) Groenendijk (GIN, Netherlands)

- WG 2.1 – Towards educating the land professional
 - WG 2.2 – Innovative learning and teaching
 - WG 2.3 – Demand for and supply of Professional Education
 - WG 2.4 – Accreditation and Quality Assurance
- With the aim of exploring the VGGT from a surveying (and land professional) perspective, the Academic Member Forum decided to form a working group, 'Exploring the VGGT in Practice'. It was decided to conduct exploratory research to assess the impact of the FAO Voluntary Guidelines on the surveying professional practice.

Commission 3 – Spatial Information Management Chair: Enrico Rispoli (CNGeGL, Italy)

- WG 3.1 – SIM Infrastructure
 - WG 3.2 – Technical aspects of SIM
 - WG 3.3 – 3D Cadastre (Joint Working Group with Commission 7)
 - WG 3.4 – Crowdsourcing and VGI supporting SDI
- Commission 3, through the contribution of the four working groups has achieved excellent results in the search for simple and reliable method of collecting, monitoring and managing data concerning the area; geographical, aero photogrammetric, geomorphological, economic, land, statistics, etc.

Commission 4 – Hydrography Chair: Angela Etuonovbe (NIS, Nigeria)

- WG 4.1 – Standards and Guidelines for Hydrography
- WG 4.2 – Maritime and Marine Spatial Information Management
- WG 4.3 – Blue Economy

WG 4.1 is now recognised by IBSC as Expert Contributor and has been asked to be involved in the review of S-8 Standards of Competence for Nautical Cartographers for the S-5A Standards of Competence for Category 'A' Hydrographic Surveyors. Hereto, WG4.1 has been asked to contribute to the hydrographic component of the RICS International Property Measurement Standards (IPMS). FIG remains a key member of IPMS Coalition.

Commission 5 – Positioning and Measurement

Chair: Ing. Volker Schwieger (DVW, Germany)

- WG 5.1 – Standards, Quality Assurance and Calibration
 - WG 5.2 – 3D Reference Frames
 - WG 5.3 – Vertical Reference Frames
 - WG 5.4 – GNSS
 - WG 5.5 – Multi-Sensor-Systems (joint working group between FIG and IAG)
 - WG 5.6 – Cost Effective Positioning
- Commission 5 2015–18 work plan consists of realising tangible outcomes for FIVE missions, which are:
- FOCUS on modern technologies, technical developments and applications.
 - FACILITATE and follow technical developments through collaborations with other FIG Commissions and like organisations.
 - FOSTER and support research and development and stimulate new ideas in the fields of expertise represented within the commission.
 - FORMULATE and formalise collaboration with manufacturers on the improvement of instrumentation and associated software.
 - FIG EVENTS – present and promote the work of the Commission and its working groups through technical events and necessary media.
- Commission 5 has also continued the effective collaboration with international sister organisations.

The Standards, Quality Assurance and Calibration working group continues to support ISO activities through participation in ISO/TC 211 and ISO/TC 172/SC 6.



For their 2016 meeting FIG Commission 3 met in Romania.

Commission 6 – Engineering Surveys

Chair: Ivo Milev (USLMB, Bulgaria)

- WG 6.1 – Deformation Monitoring and Analysis
 - WG 6.2 – Engineering surveys for design, constructive works and exploitation of buildings and transportation infrastructure
 - WG 6.3 – Sensor fusion, data acquisition and processing techniques for moving measuring complexes
 - WG 6.4 – Wide Area Engineering Surveys for Monitoring, Features Determination and Environmental Management
- One of the key subjects in the mission of Commission 6 is to promote, develop and implement new processing algorithms and data filtering for optimization the surveying data pre- and post-processing.

Commission 7 – Cadastre and Land Management

Chair: Gerda Schennach (OVG, Austria)

- WG 7.1 – Fit-For-Purpose Land Administration
 - WG 7.2 – Land Management in Climate Change and Pre- and Post-Disaster Areas
 - WG 7.3 – Crowdsourcing of Land Rights
 - WG 7.4 – Citizen Cadastre – Joint Working Group on 3D Cadastre of Commission 3 and 7
- Cadastral Template 2.0 project is a follow-up of the Cadastral Template, which was originally established under the UN mandate by Resolution 4 of the 16th UNRCC-AP in Okinawa, Japan in July 2003.

Commission 8 – Spatial Planning and Development

Chair: Kwame Tenadu (GhIS, Ghana)

- WG 8.1 – Disaster recovery, risk management and resilience planning
- WG 8.2 – Stewardship for water, land and forest as primary resources for development
- WG 8.3 – Human settlement policies and implementation
- WG 8.4 – Resilient Urban Development
- WG 8.5 – Rural development and land governance

Commission 8 was involved in three events: Capacity training in transparency in land administration in Africa, 6th International Summer School in Italy and International symposium on land consolidation in Amsterdam, Netherlands.

Commission 9 – Valuation and Management of Real Estate

Chair: Steven Nystrom (NSPS, USA)

- WG 9.1 – Expanded Policy Framework for Sustainable Real Estate Markets
- WG 9.2 – Valuation and Real estate management through Fin-tech
- WG 9.3 – Valuation Methods and Standards Worldwide

Focus area is Valuation and Management at the Core of Successful Land Policy, hereunder three highly relevant themes, Property Taxation, Real Estate Market Policy Frameworks, and Valuation Methods and Standards. WG 9.2. has been changed and along with Commission 7



Now two Regional Capacity Development Networks have been established, one in Asia/Pacific region and here the Africa Regional Network at their meeting at Ivory Coast, chaired by FIG Vice President Diane Dumashie.

will address block chain financial technology as it relates to risk management, valuation, and access to credit within this rapidly evolving sector. Financial technology is evolving at a rapid pace with land and credit markets to be affected greatly. A greater understanding of block chain financial technology will aid government and non-government actors, as well as the financial and insurance sectors.

Commission 10 – Construction Economics and Management

Chair: Mr. See Lian Ong (RICS, Malaysia)

- WG 10.1 – International Construction Measurement Standards
- WG 10.2 – Building Information Modelling

Commission 10 intends to leverage on FIG's network of members organisations to promote the profession of QS/CE and PM/CM which are either non-existent or lacking in many countries especially the under-developed and developing countries. Specific activities aimed at these countries include development of standards for construction and cost management and

contribution to appropriate Continuing Professional Development programmes. In 2016 there was a significant progress in the development of the International Construction Measurement Standard (ICMS) which will see a signification harmonisation of the practice of construction cost reporting across the globe in the years to come. Chair of FIG Commission 10 See Lian Ong is the FIG representative to the Standard Setting Committee, and is also chair of the Standard Setting Committee.

Networks

Regional Capacity Development Network

Chair: FIG Vice President Diane Dumashie (RICS, UK)

The FIG Regional Capacity Development Network aims to support FIG regional member associations and academic members. The network envisages regional approaches to working, and emerged in response to consideration by the FIG

Council and approved by the General Assembly in Sofia, Bulgaria, in May 2015.

The CDN operates as an umbrella framework that enables individual members to unify into their own Regional networks (RN) to meet their specific capacity building needs.

Although the geographical regions are not prescriptive it is anticipated that regions identify their own out-reach.

Accordingly the focus is led by FIG Member Associations to understand and build the capacity of the surveying association and individual surveyors to act as agents of positive change and encourage the process of development and growth for the benefit of the Region and its people.

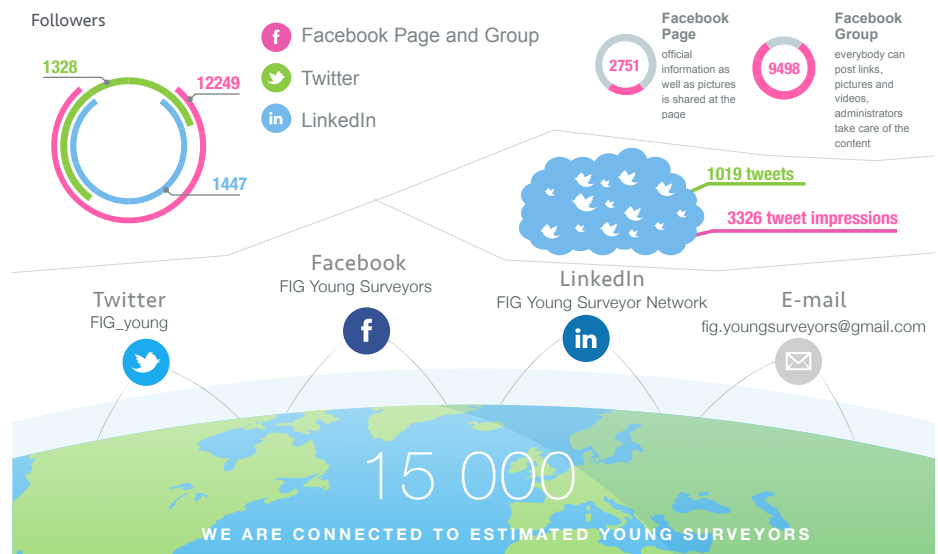
Each region best understands its needs, thus within the CDN framework the Regions act independently. Consequently to establish a RN an appropriate business case needs to be submitted and agreed at FIG Council. This business case outlines the overarching mandate for each region clearly stating "how to develop and build the capacity of landprofessionals to enable them



Young Surveyors Network Chair: Eva-Maria Unger (OVG, Austria)

The Young Surveyors network increases the number of young professionals participating within FIG. FIG YSN helps young professionals to make valuable contacts in the early phase of their careers.

Young Surveyors are active on an international and regional level. The graph shows their social media activities during 2016. They are well connected and share their experiences among each other. YSN members see themselves as the surveyors of tomorrow! Their efforts to promote a vibrant and energetic network for young surveyors, providing the scope and opportunity to be involved and also contribute, are part and parcel of how they are helping to develop the profession.



to effectively embrace current global trends in their respective regions”.

The Africa Regional Network (ARN) was the first to be established under this umbrella, as an initiative of the FIG Africa Task Force set up in the 2009–14 FIG term. Although the focus of this particular network is on Africa, the results can, of course, be multiplied for implementation in other regions. The ARN’s key purpose is to enable the surveying profession in the region to deal with social responsibility to help realise the post-2015 Sustainable Development Goals (SDGs), adopted at the UN Summit in New York in 2015. In this regard, surveyors’ role as ‘change agents’ engaging with politicians and communities is important.

In 2016, FIG Council received and approved a business plan from the AP CDN, led by Rob Sarib. Outlined in this business plan, the aim is to help professionals to address the challenges associated with global geospatial trends, and accordingly is closely partnering with the United Nations Global Geospatial Information Management Asia Pacific (UN GGIM AP)

FIG Standards Network

Chair: David Martin (OGE, France)

Standards are important in the surveying profession. Standards work in FIG ranges from input on the very specific ISO/TC 172 SC6 Survey Instrument Standards; to liaison with the much broader ISO/TC211 Geographic Information/Geomatics which impacts on virtually every aspect of the surveying profession; to ISO 19152:2012 Land Administration Domain Model (LADM); and the implication of Commission 9 in the IPMSC coalition with the aim to develop International Property Measurement Standards.

The Standards Network is responsible for building and maintaining relations with the different standardisation bodies, proposing priorities on FIG’s standardisation activities and ensuring information flow on standardisation to FIG members. These goals are accomplished e.g. through a Standards Network meeting held during FIG conferences. Commissions appoint a representative to the Standards Network to discuss their interest and requirements in standards.

Cadastral Template 2.0

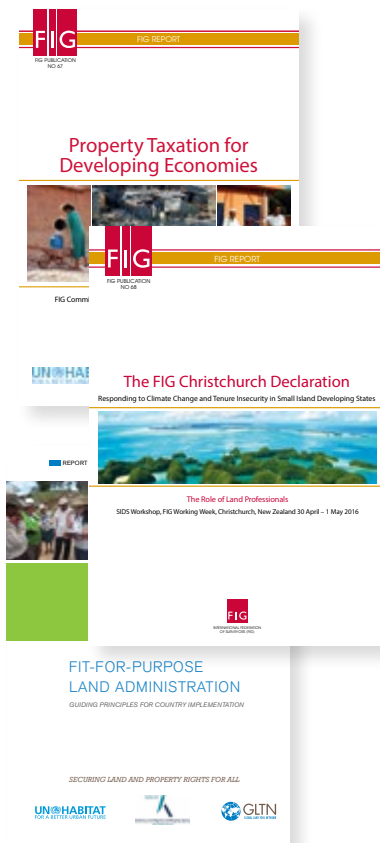
The Cadastral Template is a unique worldwide Comparison of Cadastral Systems consisting of Cadastral country reports based on a jointly developed PCGIAP/FIG template. The Cadastral Template was established under UN mandate by Resolution 4 of the 16th UNRCC-AP in Okinawa, Japan in July 2003 including UN endorsement for cooperation with UN-ECE WPLA, UN-ECA CODI, and PCIDEA.

Cadastral Template 2.0 was published in 2016. It has been developed by a research group at the Centre for SDIs and Land administration, Department of Infrastructure Engineering of the University of Melbourne. The research group consisted of Prof. Abbas Rajabifard, Dr. Daniel Steudler, and Prof. Ian Williamson, supported by Prof. Stig Enemark from Aalborg University, Denmark. PCGIAP-Working Group 3 “Cadastral” cooperates with FIG Commission 7 to place the country information jointly on www.cadastraltemplate.org.

New Publications in 2016

- FIG Publication No. 67 *Property Taxation for Developing Economies*
- FIG Publication No. 68 *The FIG Christchurch Declaration Responding to Climate Change and Tenure Insecurity in Small Island Developing States*

The Fit-for-Purpose approach, introduced in FIG/World Bank publications No. 45 and 60, has been further developed in a UN-Habitat/GLTN and Dutch Kadaster publication *Fit-For-Purpose Land Administration – Guiding Principles for Country Implementation*.



Task Forces

FIG Task Forces research and advise on matters of an administrative or general policy nature. The Task Forces are working on a temporary basis.

Task Force on Real Property Markets *Chair Pekka Halme (MIL, Finland)*

The Task Force assesses the progress of establishing the real property markets in the countries with economies in transition. The Task Force has planned two focused seminars of which the first one was held in Athens, Greece in September 2016. The second seminar is planned to be held in Turkey in 2017 and concentrate on the draft report and conclusions.

Task Force on Commission Structure *Chair Mikael Lilje (Swedish professionals for the built environment)*

The Task Force assesses the Commissions and investigates if there is a need to revise their structure and to provide a proposal on possible improvements. At the FIG Working Week 2016 there were several discussion sessions and it was agreed to conduct a survey among all members. The survey took place in July/August 2016 where after several regional meetings were held to discuss possible commission structures. The final report will be presented at the General Assembly 2017.

Task Force on Corporate Members *Co-chairs John Hohol (NSPS, USA), in cooperation with Bryn Fosburgh (Trimble)*

The Task Force is established to strengthen the FIG relationship with corporate members and to increase the number of FIG Corporate Members while providing better communication with FIG Council and interaction between the wider FIG organization and ultimately member associations.

Task Force on Scientific Journal *Yerach Doytsher (ALSI, Israel)*

The Task Force is established to investigate the usefulness and need and if justified, the steps

forward in order to introduce an FIG peer review Journal (electronic or printed). The Task Force will finalise and present its recommendations at the General Assembly 2017

Permanent Institutions

International Institution for the History of Surveying & Measurement (IIHSM)

Director: Jan de Graeve (UBGE, Belgium)

The tireless long-term members of IIHSM, Jan de Graeve, Jim Smith, John Brock and David Wallis are doing a substantial work for the history of surveying and measurement.

In 2005 IIHSM managed to put the Struve Meridian Arc on the World Heritage List of UNESCO. Every 2 years there is a meeting of the 10 countries concerned: Norway, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Belarus, Moldova and Ukraine. In May 2016 IIHSM met with the director of UNESCO projects to inform about the aim of enhancement of the project over the central European countries, till Greece and Crete, crossing the Mediterranean Sea and along the 30th Meridian Arc of Africa, to extend the cover to 105° of latitude. This was indeed the original aim, signed by all countries concerned in the original documents to UNESCO and has been under preparation for the last 10 years. IIHSM welcome all Surveyor Generals of the Concerned East African Countries to contact them for further cooperation and for local fieldwork and control of the existing trigonometric points of the original 30th Meridian Arc.

Due to the quite experienced members of IIHSM they are seeking new members who can continue the active job on digging into the rich history of surveying.

The International Office for Cadastre and Land Records (OICRF)

Director: Dr. Christiaan Lemmen (GIN, Netherlands)

OICRF serves as a documentation and study centre for land administration. OICRF

- Collects and systematically files and in-

Cooperation with Partners



The 17 UN Sustainable Development Goals and FIG

In 2015 the world's leaders agreed on a plan consisting of 17 main goals and 169 targets to solve some of the world's greatest problems. The Sustainable Development Goals – also called SDGs – cover a diverse range of issues including gender equity, sustainable cities, access to clean water, land issues, and good governance. Surveyors play an essential role in several of the 17 SDGs. FIG aims to make an active effort on those goals that involve surveyors and surveying in order to assist in achieving the goals and their targets by 2030 and set the world on a path towards sustainable development.

Cooperation with the United Nations

One of the larger events in 2016 was the United Nations Conference on **Housing and Sustainable Urban Development – Habitat III** meeting, which is one of the first major global conferences to be held after the adoption of the Post-2015

development agenda. The conference is also representative of a significant milestone emerging from over two years of preparatory meetings. FIG Vice President Diane Dumashie attended the Habitat conference that happens once in every 20 years; with Habitat II being held in Istanbul in 1996 and Habitat I in Vancouver in 1976. Habitat III is aimed at steering the course of global urbanization towards environmentally sustainable and socially equitable development pathways.

This century will see a substantial majority of the world's population living in urban centres. By 2050, the world's urban population is expected to double. Urbanization has been termed one of the most transformative trends of the 21st century, thereby underscoring the need to plan and monitor the course of urban development. The Habitat III Conference mission was the adoption of a New Urban Agenda (NUA – an action-oriented document which will set global standards of achievement in sustainable urban development, rethinking the way we build, manage, and live in cities through drawing together cooperation with committed partners, relevant stakeholders, and urban actors at all levels of government as well as the private sector.

In the lead up to the development of the New Urban Agenda meetings and preparatory committees have deliberated for several years before the Quito conference. Experts from all around the world were invited to make recommendations for the NUA, through ten policy units. These groups examined a range of intersecting issues, including an *Expert Group meeting on Gender perspectives of the New Urban Agenda*, with contributions made by FIG Vice President D Dumashie who attended the meeting in June 2016 in New York, USA.

The New Urban Agenda aims at implementing the targets of Goal 11 in the Sustainable Development Goals, which specifically deals with making human cities and towns inclusive, safe, resilient and sustainable. Key issues that were

debated include climate change, as cities are responsible for 70% of the world's greenhouse gas emissions, housing, migration, poverty, and inclusion.

FIG is part of Habitat Professionals Forum (HPF) that is one of several partner clusters established by UN habitat. The HPF enables land professionals from all disciplines to contribute specifically at UN habitat and World Urban Forums on common messages and inputs.

The Global Land Tool Network (GLTN) is an alliance of global, regional and national partners contributing to poverty alleviation through land reform, improved land management and security of tenure particularly through the development and dissemination of pro-poor and gender-sensitive land tools and approaches within the continuum of land rights framework. For the term 2016–17 FIG President Chryssy Potsiou is in the lead of the professional cluster and is member of the International Advisory Board that provides a strategic direction to the network operations. The professional cluster has 13 members.

At FIG Working Week 2016 GLTN had four special sessions. Global Land Tool Network (GLTN) launched its Guide for Fit-For-Purpose land Administration, authored by FIG Honorary President Stig Enemark together with Robin McLaren and Chrit Lemmen. FIG and GLTN held an **Expert Group Meeting in Greece on Valuation of Unregistered Lands and Properties** in September 2016. There is general consensus that about seventy percent of land ownership units in developing countries are not formally registered and the initiatives for land registration are not achieving the desired results. In some developed countries, also a certain part of the land is not registered. GLTN is thus working to develop a tool for valuation of unregistered land and properties that can benefit the vulnerable groups and support operationalization of the continuum of land rights concept.

At the **Fourth High Level Forum on United Nations Global Geospatial Information Management (UN-GGIM)** FIG was represented by Christiaan Lemmen, and he delivered opening speech on behalf of JB-GIS. The 6th UN-GGIM meeting was held in August 2016 in New York with the attendance of FIG President Potsiou.

The **Food and Agriculture Organization of the United Nations (FAO)** has worked with FIG for many years, focussing on how land professionals can help to improve governance of tenure, recognising that land provide the basis for everyone's food and shelter, economic production and social, cultural and religious practices. Rights of access and of tenure are increasingly affected by climate change, natural disasters, population growth, urbanization and the growing demands for land for agriculture including for bio-energy initiatives. The inclusion of tenure targets in the new Sustainable Development Agenda is a reflection of the progressive recognition of the core importance of tenure in the preceding years. Land professionals have been at the heart of these developments and, in particular, in the framework of the development process of the *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)*.

During the FIG Working Week 2016 **two sessions were dedicated to FAO and the Voluntary Guidelines, VGGT**. The closing output of one of the sessions was an Action Statement for the role of FIG and its member land and surveying professionals to improve governance of tenure in the context of the VGGT (see Action Statement on the right). This Action Statement will subsequently be used on a range of platforms to continue the debate and importantly to seek to build new ways to implement good governance in land. FAO and the VGGT were a central part of **FIG Academic Forum** discussing how Universities can support the inclusion of the VGGT in their curricula and research.

For just over two years now FIG/Commission 5 has been involved in **United Nation's Global Geodetic Reference Frame**. Dr. Neil Weston

ACTION STATEMENT

– How Can Land Professionals Support Implementation of the VGGT?

This statement was agreed at the FIG Working Week 2016 in the special FIG & FAO Joint Technical Session: How can Land Professionals support the implementation of VGGTs.

- FIG Members should not just adopt a narrow technical role in implementing the VGGT, but should also contribute to the wider policy topics being addressed by the VGGT, e.g. large scale land acquisitions.
Actions:
 - Member Association engagement with VGGT policy initiatives, where appropriate.
- A wide range of professions are actively implementing the VGGT, e.g. notaries have been very proactive and have produced several videos for their members. FIG should engage with a wider set of professions and learn from their experiences in promoting, disseminating and implementing the VGGT.
Action:
 - FIG commissions & networks engage with professions that have been highly active with their membership in implementing the VGGT.
- FIG needs to facilitate the use of the VGGT in the day-to-day actions of members at the operational level. There is a clear need to link the VGGT to the operational level of land professionals.
Actions:
 - Encourage the promotion and dissemination of the VGGT in a form that can be easily interpreted and implemented from the perspective of land professionals.
 - Raise awareness of the series of VGGT Technical Guides that can be used by members at the operational level.
 - Encourage FIG participation in the drafting and reviewing of future VGGT Technical Guides.
- National platforms are being created in many countries to make VGGT recommendations of change at the country level. These are multi-stakeholder platforms and land professionals need to contribute to implementing the VGGT in their countries.
Actions:
 - FIG needs to encourage land professionals of member organisations to participate, influence and add value to their VGGT national platforms by promoting the opportunity.
- UN-FAO is developing a capacity development suite consisting of Technical Guides, e-learning and structured learning programmes. This creates an opportunity for FIG to link and encourage the use of these products for their members.
Action:
 - Engage with UN-FAO to ensure the appropriate web links to the VGGT e-learning packages for land professionals are featured on the FIG website.
- The VGGT have a significant impact on the education and training for land professions and should be reflected in the corresponding curricula.
Actions:
 - FIG academic forum and commission 2 should continue their work to influence courses of land professional to adopt and embed the VGGT into the corresponding curricula.
- A response to the VGGT from FIG and land professionals is long overdue. FIG needs to consider a statement around the adoption and implementation of the VGGT by land professionals.
Actions:
 - FIG should release a statement as their response to the VGGT. This should happen at the FIG Working Week in Helsinki 2017.



has been a team member of the Global Geodetic Reference Frame (GGRF) Working Group which wrote the UN Resolution. The GGRF Working Group is responsible for developing a Roadmap which describes how the UN will implement the geospatial components of the UN Resolution. During the summer of 2016, the team rushed to complete the GGRF Roadmap before the General Assembly. The final version was presented to the UN General Assembly in early August and describes how governments and geodetic/geospatial agencies can contribute to establishing and maintaining a Global Geodetic Reference Frame. Having a geodetic infrastructure is critical for many geographic information systems, maps and nautical charts as well as for all positioning and navigation systems/applications. The National Geodetic Survey plays a critical role in establishing the National Spatial Reference System and considered one of the World's leaders in advancing the fields of geodesy and geoinformatics.

◀ The GLTN Expert Group Meeting on Valuation tools for unregistered land worked on a guide to the Valuation of Unregistered Lands.

◀ FIG Vice President Mikael Lilje attended the Eleventh Meeting of the International Committee on Global Navigation Satellite Systems.

◀ FIG President Potsiou and Mr Ede Ijjasz-Vasquez, World Bank Senior Director of the Global Practice on Social, Urban, Rural and Resilience (GP SURR) signed a renewed MoU between the World Bank and FIG during the World Bank conference.

◀ The High Level joint FIG & World Bank Conference on Sustainable Real Estate Markets – Policy Framework and Necessary Reforms attracted more than 200 participants. Here FIG President with World Bank expert Zakout Weil.

The Eleventh Meeting of the International Committee on Global Navigation Satellite Systems (ICG) was held in Sochi, Russia. The ICG has been formed as a result of recommendations of the UN Committee on the Peaceful Use of Outer Space (COPUOS), as ratified by the General Assembly of the UN. FIG is an Associate Member of ICG. FIG Vice President Mikael Lilje attended as FIG representative to UNOOSA. FIG has a position as co-chair for Working Group D on Reference Frames, Timing and Applications.

Co-operation with the World Bank

The theme 'Scaling up Responsible Land Governance' at the World Bank Conference 2016 paid special attention to working in all aspects of land at scale, to mainstream thematic issues, identify innovations, and sustain investments in land governance. The conference opening presentations all signaled the importance of land in the emerging Urban Agenda of Habitat III. FIG was represented by President Potsiou and Vice President Dumashie. During the Conference and with the valuable support of Daniel Roberge, former FIG Commission 7 chair, who served as Senior Land Administration Specialist at the Global Land and Geospatial Unit of the Bank, FIG President Potsiou and Mr Ede Ijjasz-Vasquez, World Bank Senior Director of the Global Practice on Social, Urban, Rural and Resilience (GP SURR) signed a renewed MoU between the World Bank and FIG.

The signing of this MoU will lead to closer cooperation in carrying out activities conducive to fostering knowledge sharing, information dissemination, training and capacity building in land administration and management in the developing world. The objective of the MoU will be advancing the achievement of strengthening property rights and improving households' security of tenure, improving functionality of land market, and improving time, cost, and land access issues.



Building a Sustainable Future

The FIG Foundation is an independent body under the International Federation of Surveyors and has been established for the purpose of raising funds to finance surveying education development projects and supporting young surveyors in order to build a sustainable future. ► Read more: www.fig.net/foundation

FIG Foundation Members

The FIG Foundation is an independent body under the International Federation of Surveyors and has been established for the purpose of raising funds to finance surveying education development projects and supporting young surveyors in order to build a sustainable future. FIG Foundation board of directors:

- John Hohol, USA, President
- Prof. Mike Barry, Canada, Director
- Prof. Paul van der Molen, Netherlands, Director
- Ir. Liza Groenendijk, Netherlands, (Commission 2 representative)
- Prof. Pengfei Cheng, China (Council representative)

At the end of 2016 Paul van der Molen decided to step down as director of the board. Paul van der Molen has been a valued Director for the past 6 years and FIG Council and Foundation Board members extend their special thanks for his commitment to the FIG Foundation including his generous financial donations for these many years. Paul van der Molen will be replaced by Dr. Daniel Steudler, Switzerland.

In 2016 FIG Foundation received 6 applications for PhD. grant. One was accepted: Wallace Mukupa, University of Nottingham Ningbo China, Structural Change Detection and Deformation Monitoring. Included in the grant is also scholarship to participate in the FIG Working Week 2017 if his paper is accepted as a peer review paper.



William Marble, Trimble (2nd from left), attended the FIG Foundation meeting and brought Trimble sponsored t-shirts that were used for the Young Surveyors Chairty Run. Part of the income went to FIG Foundation.

FIG Foundation awarded grants to four Young Surveyors to participate in the Working Week in Christchurch, New Zealand:

- Donmarl Camua, Philippines
- Suman Baral, Nepal
- Maitena Navarro, Argentina
- Kelvin Tang, Malaysia

Hereto Chethna Ben, Fiji, Assistant Lecturer, University of the South Pacific, School of Land Management and Development was sponsored to participate in the SIDS Workshop and the FIG Working Week.

Ms. Melissa Robert, Uruguay was approved a grant to support her attendance at the 2nd FIG Young Surveyors North American meeting in February 2016 and the XIV Congreso Internacional de Topografía, Catastro, Geodesia y Geomática in September 2016 in Costa Rica. At the same time FIG and FIG Foundation extend a special thanks to Ms Melissa Roberts for her work on the promotion of FIG in the Latin American area. Further to this Melissa Roberts was supported to the YS meeting in Argentina. YS European Meeting in Amsterdam was also supported, and finally the Board has approved a grant requested by the Chair of FIG Commission 3 Chair, to support young surveyors to attend and participate in the Commission 3 Annual Meeting and Workshop in Iasi, Romania.

The FIG Foundation – How Can I Contribute?

Companies, associations, institutions, events, surveyors' groups and individuals may contribute to the Foundation by:

- Donations which will be recognised by a plaque or a certificate of different categories reflecting the sum of donation as follows:
 - platinum plaque 25,000 €
 - gold plaque 10,000 €
 - silver plaque 5,000 €
 - bronze plaque 1,000 €.
- Donations to support specific projects or by offering scholarships. Donors and Benefactors may use the FIG Foundation logo to promote their project donations or scholarships.
- Voluntary donation when registering to FIG events.
- Attending social functions such as the FIG Foundation Dinners held during every FIG Congress and Working Week and other events.

FIG Members

*) New member associations; to be approved by General Assembly 2017

***) New members from 2017 who have applied and were admitted into membership until April 2017

Member Associations (December 2016)

Algeria	Ordre des Géomètres-Experts Fonciers (OGEF)	Gabon	Association des Professionnels de l'Ingenierie Topographique du Gabon, APIT Gabon
Argentina	Argentina Federación Argentina de Agrimensores	Georgia	Society of Professionals of Land Information Technologies (SPLIT)
Australia	Surveying and Spatial Sciences Institute (SSSI)	Germany	DVW – Society of Geodesy, Geo-information and Land Management
Austria	Austrian Society for Surveying and Geoinformation	Ghana	Ghana Institution of Surveyors Licensed Surveyors Association of Ghana (LISAG)
Bahamas	Bahamas Association of Land Surveyors (BALS)	Greece	Technical Chamber of Greece
Belarus	Land Reform Association	Hong Kong SAR, China	The Hong Kong Institution of Engineering Surveyors
Belgium	Union Belge des Géomètres-Experts Immobiliers	Hungary	Hungarian Society of Surveying, Mapping and Remote Sensing
Benin	Syndicat National des Géomètres-Topographes et Assimilés du Bénin	Indonesia	Ikatan Surveyor Indonesia
Bosnia-Herzegovina	Geodetic Association of Herceg-Bosnia	Iran, Islamic Republic of	Iranian Professional Society of Surveying Engineers (ISS) (Suspended status)
Botswana	Botswana Surveying and Mapping Association	Israel	Association of Licensed Surveyors in Israel
Brazil	Brazilian Society of Cartography, Geodesy, Photogrammetry and Remote Sensing (SBC)	Italy	National Council of Italian Surveyors
Brunei Darussalam	Brunei Institution of Geomatics (BIG)	Jamaica	The Land Surveyors Association of Jamaica (LSAJ)
Bulgaria	Union of Surveyors and Land Managers in Bulgaria Chamber of Graduate Surveyors	Japan	Japan Federation of Surveyors
Burkina Faso	Association des Géomètres et Topographes du Burkina (AGT-B)	Kenya	Institution of Surveyors of Kenya (ISK)
Cameroon	National Order of Cameroon Surveyors (NOCS)	Korea, Republic of	Korea Confederation of Surveyors
Canada	The Canadian Institute of Geomatics	Kosovo	Kosova Association of Surveyors
China	China Institute of Real Estate Appraisers and Agents (CIREA) China Land Science Society (CLSS) Chinese Society of Geodesy, Photogrammetry and Cartography	Latvia	Latvian Associations of Surveyors (LMB)
Colombia	Colombian Society of Surveyors	Lebanon	Ordre des Géomètres-Topographes du Liban
Congo D.R.	Fédération des Ingénieurs Géomètres-Topographes	Lithuania	Lithuanian Association of Surveyors
Costa Rica	Colegio de Ingenieros Topógrafos de Costa Rica	Luxembourg	Ordre Luxembourg des Géomètres (OLG)
Côte d'Ivoire	Ordre des Géomètres Experts de Côte d'Ivoire (OGECI) *)	Malaysia	Association of Authorised Land Surveyors (PEJUTA)
Croatia	Croatian Geodetic Society	Mali	Ordre des Géomètres Experts du Mali (OGE)
Cyprus	Cyprus Association of Rural and Surveying Engineers Cyprus Association of Valuers and Property Consultants	Malta	Malta Institution of Surveyors
Czech Republic	Czech Association of Certified Property Appraisers Czech Union of Surveyors and Cartographers	Mongolia	Mongolian Association of Geodesy, Photogrammetry and Cartography (MAGPC)
Denmark	Danish Association of Chartered Surveyors (DdL)	Morocco	Ordre National des Ingénieurs Géomètres-Topographes (ONIGT)
Egypt	Egyptian Committee of Surveying and Mapping	Nepal	Nepal Institution of Chartered Surveyors (NICS)
Estonia	Association of Estonian Surveyors (EGÜ)	Netherlands	Geo-informatie Nederland (GIN)
Ethiopia	Ethiopian Surveying Professionals Association (ESPA)	New Zealand	New Zealand Institute of Surveyors
Fiji	Fiji Institute of Surveyors	Nigeria	Nigerian Institution of Estate Surveyors and Valuers Nigerian Institution of Surveyors (NIS) The Nigerian Institute of Quantity Surveyors (NIQS)
Finland	Finnish Association of Geodetic and Land Surveyors (MIL) Finnish Association of Surveyors (MAKLI)	Norway	Norwegian Association for Chartered Surveyors (NJKF) and GeoForum
France	Ordre des Géomètres-Experts (OGE) Association Française de Topographie (AFT)	Palestinian Authority	Licensed Surveyors Association in Palestine (Suspended status)
		Papua New Guinea	Association of Surveyors of Papua New Guinea (ASPNG)

Philippines	Geodetic Engineers of the Philippines, Inc.
Poland	Association of Polish Surveyors
Portugal	Order of Engineers – College of Geographical Engineering
Romania	Romanian Association of Private Surveyors Union of Romanian Geodesy
Russian Federation	Federal Service of State Registration, Cadastre and Cartography (Rosreestr) Association “Self-regulated Organization of Activity of Cadastral Engineers”
Rwanda	Distinctive Engineering Group
Senegal	Ordre National des Géomètres Experts du Senegal (ONGES)
Serbia	Serbian Union of Surveyors
Slovak Republic	Chamber of Surveyors and Cartographers, CSC Slovak Union of Surveyors and Cartographers
Slovenia	Association of Surveyors of Slovenia
South Africa, Republic of	South African Geomatics Council South African Geomatics Institute (SAGI)
Spain	Spanish Association of Geodetic Surveyors
Sri Lanka	Surveyors’ Institute of Sri Lanka

Affiliate Members (December 2016)

Albania	Central Office of Immovable Property Registration – IPRO
Bahrain	Survey and Land Registration Bureau
Belgium	General Administration of the Patrimonial Documentation
Benin	General Direction of Land Registry, mapping and Cadastre
Brunei Darussalam	Survey Department
Bulgaria	Geodesy, Cartography and Cadastre Agency of Bulgaria
Cambodia, Kingdom of	Ministry of Land Management
Chile	Servicio Hidrográfico y Oceanográfico de la Armada de Chile
China	China Land Surveying and Planning Institute, Ministry of Land and Resources
Colombia	Instituto Geográfico Agustín Codazzi
Croatia	State Geodetic Administration Of Republic Of Croatia
Cyprus	Cyprus Lands and Surveys Department
Denmark	Agency for Data Supply and Efficiency
Fiji	iTaukei Land Trust Board, FIJI Ministry of Lands and Mineral Resources
Finland	National Land Survey of Finland
Guatemala	Guatemalan Registry of Cadastral Information
Hungary	Government Office for the Capital, Budapest
Iceland	Register Iceland
Iran	National Cartographic Center of Iran (Suspended status)
Iraq	General Directorate for Surveying
Israel	Survey of Israel
Italy	SIFET-Italian Society of Photogrammetry and Topography
Japan	Geospatial Information Authority of Japan
Jordan	Department of Lands & Survey

St. Lucia	The Institute of Surveyors Inc. ISSL
Sweden	Swedish professionals for the built environment
Switzerland	Swiss Association for Geomatics and Landmanagement (geosuisse)
Syria	Order of Syrian Engineers and Architects (OSEA) (Suspended status)
Tanzania	Tanzania Institution of Valuers and Estate Agents (TIVEA)
Togo	Ordre des Géomètres du Togo
Trinidad and Tobago	Institute of Surveyors of Trinidad and Tobago
Turkey	Chamber of Surveying Engineers of Turkey
Uganda	Institution of Surveyors Uganda *)
Ukraine	Ukrainian Society of Geodesy and Cartography (Suspended status)
United Arab Emirates	Society Of Engineers – UAE *)
United Kingdom	Chartered Institution of Civil Engineering Surveyors (ICES) The Royal Institution of Chartered Surveyors (RICS)
Uruguay	Surveyors Association of Uruguay (AAU)
USA	National Society of Professional Surveyors (NSPS)
Vietnam	Vietnam Association of Geodesy – Cartography – Remote Sensing
Zimbabwe	Survey Institute of Zimbabwe

Kazakhstan	Non-Commercial Joint-Stock Company "State Corporation "Government for Citizens", Republic of Kazakhstan
Latvia	The State Land Service of Latvia
Lesotho	Land Administration Authority, Lesotho
Macedonia, FYR	The Agency for Real Estate Cadastre, AREC
Mexico	National Institute of Statistics and Geography (INEGI)
Moldova, Republic of	Agency for Land Administration and Cadastre of Rep. of Moldova
Mongolia	Administration of Land Affairs, Geodesy & Cartography
Namibia	Office of the Surveyor General
Nepal	Topographical Survey Branch, HMG Survey Department
Netherlands	Cadastre, Land Registry and Mapping Agency
New Zealand	Land Information New Zealand
Norway	Norwegian Mapping Authority
Philippines	National Mapping and Resource Information Authority
Romania	National Agency for Cadastre and Land Administration
Russian Federation	Siberian State University of Geosystems and Technologies
Saudi Arabia	General Commission for Survey (GCS), General Directorate of Geodesy and Land Survey (GLS) Ministry of Municipal and Rural Affairs
Sri Lanka	Survey Department of Sri Lanka
Sweden	Lantmäteriet – The Swedish mapping, cadastral and land registration authority
Switzerland	Swiss Federal Office of Topography swisstopo
United Arab Emirates	Surveying Department – Geodesy & Hydrographic Survey Section
United States	National Geodetic Survey, National Oceanic and Atmospheric Administration

Academic Members (December 2016)

Australia	RMIT University	Israel	Technion Research & Development Foundation		
	Tafe NSW – Riverina Institute **)		Jamaica	University of Technology Jamaica	
	The University of Melbourne			Kazakhstan	East Kazakhstan State Technical University named after D. Serikbayev
	University of New South Wales				Kazakh National technical University after K. I. Satpaev
	University of Southern Queensland Australia				Latvia
University of Technology Sydney	Lebanon	Lebanese Canadian University (LCU)			
Austria		Universität für Bodenkultur Wien BOKU	Mexico	Lebanese International University, LIU	
Belgium	Antwerp Maritime Academy	Multinational		Universidad Autonoma de Nuevo León	
	ECAM – Haute Ecole Leonard de Vinci		UNIGIS International Association		
	Ghent University	Namibia	Namibia University of Science and Technology		
	Universite de Liege		Nepal	Land Management Training Centre	
Brazil	Universidade do Vale do Rio dos Sinos – UNISINOS	Netherlands		University of Twente – Faculty of Geo-Information Science and Earth Observation (ITC)	
Canada	Université Laval		New Zealand	University of Otago	
	University of Calgary	Nigeria		ABIA State Polytechnic, ABA, Nigeria	
	University of New Brunswick		Federal University of Technology, Nigeria		
China	School of Public Administration		Kaduna Polytechnic University		
	The University of Nottingham Ningbo China		Nnamdi Azikiwe University		
Colombia	Daniel Paez, Universidad de los Andes		Norway	University of Benin	
	Universidad Distrital Francisco José de Caldas – Facultad de Ingeniería Catastral y Geodesia	University of Lagos			
	Universidad Distrital Francisco José de Caldas – Facultad del Medio Ambiente y Recursos Naturales	University of Nigeria Nsukka Enugu Campus			
Croatia	University of Zagreb	Palestine, State of		Bergen University College	
Czech Republic	Brno University of Technology			Norwegian University of Life Sciences	
Denmark	Aalborg University	Papua New Guinea	Palestine Polytechnic University		
Ethiopia	Bahir Dar University – Institute of Land Administration		Papua New Guinea University of Technology		
Fiji	University of the South Pacific	Puerto Rico	Polytechnic University of Puerto Rico		
Finland	Aalto University		Romania	"1 Decembrie 1918" University of Alba Iulia	
	Helsinki Metropolia University of Applied Sciences	Technical University Bucharest, Romania			
	Lapland University of Applied Sciences	University of Oradea – Faculty of Construction, Cadastre and Architecture			
France	Ecole Supérieure des Géomètres et Topographes (ESGT)	Russian Federation	Moscow State University of Geodesy and Cartography		
Gabon	Ecole Nationale du Cadastre et des Sciences Géographiques, ENCSG		State University of Land Use Planning		
Germany	Anhalt University of Applied Sciences	Rwanda	INES-Ruhengeri		
	Berlin Institute of Technology	Senegal	Ministry of finances and economy, cadastral office		
	Technische Universität München (TUM)	Serbia	University of Novi Sad		
	University of Stuttgart	Slovenia	University of Ljubljana		
Ghana	Kwame Nkrumah University of Science and Technology	South Africa	University of Cape Town		
	University of Mines and Technology		Spain	Technical University of Madrid, Higher School of Engineers in Surveying, Geodesy and Cartography	
Greece	School of Rural and Surveying Engineering	University of Jaen Spain			
Hong Kong SAR, China	The Hong Kong Polytechnic University	Sri Lanka	Institute of Surveying and Mapping, Sri Lanka		
Hungary	Obuda University, AMK, Institute of Geoinformatics		Sabaragamuwa University of Sri Lanka		
Ireland	Dublin Institute of Technology				





Sweden	Department of Real Estate Science at Lund University
	Royal Institute of Technology
	University West
Switzerland	University of Applied Sciences Northwestern Switzerland
Trinidad and Tobago	University of the West Indies
Turkey	Istanbul Technical University
	Selçuk Üniversitesi
Uganda	Makerere University

United Kingdom	Oxford Brookes University
	Real Estate and Planning, Reading University
	Sheffield Hallam University
	The University of Nottingham
	University of the West of England
United States	New Mexico State University
	Texas A&M University – Corpus Christi
	University of Houston




In addition, FIG has a correspondent in **Maldives, Pakistan and Tonga.**

Corporate Members (May 2017)





PLATINUM LEVEL

	Bentley Systems
	Environmental Systems Research Institute, Inc. (ESRI)
	Leica Geosystems AG
	Trimble Navigation Ltd



SILVER LEVEL

	Geoweb S. p. A
	Thomson Reuters
	Topcon Europe Positioning b.v.

BRONZE LEVEL

	COWI A/S
	GEO THECO – Géographie, Topographie, Hydraulique, Energie et Construction
	GIM International – Geomares Publishing
	GIS/Transport Ltd.
	RIPRO Corporation, Japan

BASIC LEVEL

	Beijing iSpatial Co., Ltd, PRC
	Derinsu Underwater Engineering & Consulting
	Geoide Geosystems S.a.
	NEH Engineering Survey and Mapping Limited Company, Vietnam

REGIONAL LEVEL

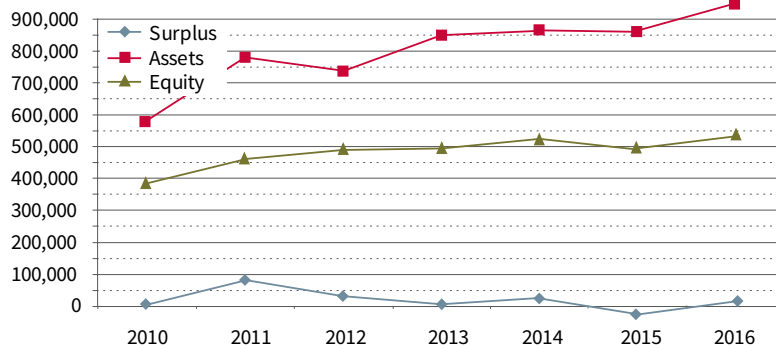
	Branco Etera Ltd, Kazakhstan
	Concord Surveying Works Co.
	Coordinates Magazine
	DataLife Environmental
	Génie Congo Sarl
	GEO:connexion Ltd
	Georeference Engineering Consultants, Saudi Arabia
	Innovation for Trading and Contracting
	JKO Surveyors & Consultants (Pvt) Ltd, Sri Lanka
	M/s Accord Marine Surveyors & Consultants
	M/s Survey Scale Pvt. Limited
	Orbits Engineering Firm

OTHER SPONSORSHIP Chinese Society for Surveying, Mapping and Geoinformation, CSSMG

Income and Expenditure Account 2014–2016

REGULAR INCOME	Result 2016 *)	Budget 2016	Result 2015	Result 2014
Subscriptions				
(all figures in Euro)				
Member associations	260,794	255,000	253,998	259,444
Affiliate members	33,441	30,000	30,351	28,880
Corporate members	79,450	85,000	80,046	80,990
Academic members	12,237	12,000	11,593	11,000
Less bad debts	-32,072	-15,000	-25,611	-38,041
Less change in provision for doubtful debts	-5,067			
	348,783	367,000	350,377	342,273
Financial income / expenses	6,277	4,000	3,907	2,993
Less banking costs	-523	-250	-411	-616
Currency diff	4,126		-3,311	
Events – fees charged for services	50,000	50,000	44,549	81,910
Total regular income	408,663	420,750	395,111	426,560
REGULAR EXPENDITURE				
Administration	179,989	207,000	193,524	204,954
Marketing and publications	13,880	12,000	11,775	28,947
Council and executive management	151,524	157,000	145,998	153,161
Commission support	33,000	33,000	33,015	33,000
Total regular expenditure	378,393	409,000	384,312	420,062
Surplus/deficit of regular income over regular expenditure	30,270	11,750	10,799	6,498
PROJECTS AND DEVELOPMENT				
Events – funds received by FIG	24,025	-	-	31,684
Development spent	-16,822	-22,000	-35,280	-12,764
SURPLUS OF THE YEAR (REGULAR)	37,473	-10,250	-24,481	25,418
RESULT				
Overall surplus/deficit in the year – normal activities	17,473 **)	-10,250	-4,481	25,418
Total reserve at the year end	537,121		499,647	524,128
Events reserve	25,000		25,000	25,000
IT reserve	50,000		30,000	50,000
General reserve	462,121		444,647	449,128
General reserve as a % of regular annual expenditure	110%		116%	107%

FIG Balances 2010–2016



*) The accounts will be adopted by the General Assembly May 2017. The income and expenditure presentation follow the template approved by the General Assembly in 2009.

**) 20,000 EUR of the surplus has been allocated to the IT reserve which is increased to 50,000 EUR.

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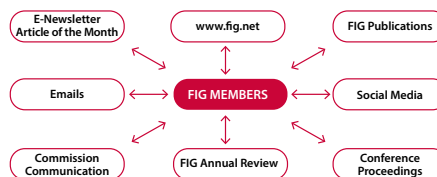
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* FIG and the Chinese Society for Surveying, Mapping and Geoinformation, CSSMG have agreed on an exchange programme where a new Chinese employee each 6 month for the following 3 years come to Copenhagen and will assist in the FIG office.

FIG Communication



www.facebook.com/#!/international-federationofsurveyors



twitter.com/FIG_NEWS



www.linkedin.com/groups?trk=group-name&gid=2669121



FIG XXVI CONGRESS



ISTANBUL, TURKEY
6–11 May 2018

"Embracing our smart world where the continents connect: enhancing the geospatial maturity of societies"

fig.net/fig2018



FIG Working Week 2019
Hanoi, Vietnam



International Federation of Surveyors (FIG)



Vietnam Association of Geodesy, Cartography and Remote Sensing (VGCR)

www.fig.net/fig2019



FIG Working Week 2020
Amsterdam, Netherlands



International Federation of Surveyors (FIG)



Geo-Informatie Nederland (GIN)

www.fig.net/fig2020

FIG PLATINUM CORPORATE MEMBERS

