

# FIG WORKING WEEK 2017

Surveying the world of tomorrow -

Helsinki Finland 29 May - 2 June 2017

From digitalisation to augmented reality

## General Assembly – Monday



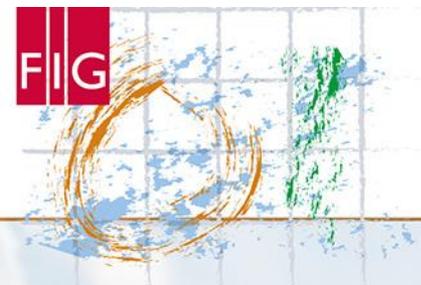
### Commission Chairs Presentations

- Panel I
- Panel II
- Panel III



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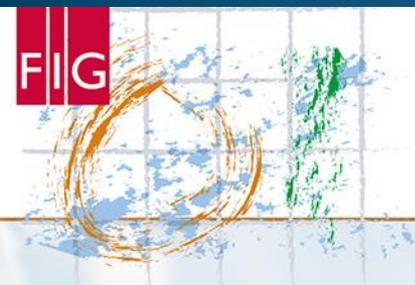
## Panel I

- Commission 1: Professional standards & practice
- Commission 2: Professional Education
- Commission 3: Spatial information management
- Commission 4: Hydrography



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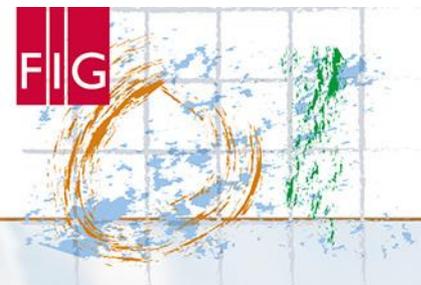
## Brian Coutts Commission 1 Professional Practice & Standards

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## Commission 1 - Overview

### Working Groups

- WG 1.1 Ethics
- WG 1.2 Women in surveying
- WG 1.3 International boundary marking
- WG 1.4 Forum on engaging private practice
- WG 1.5 Forum on mutual recognition

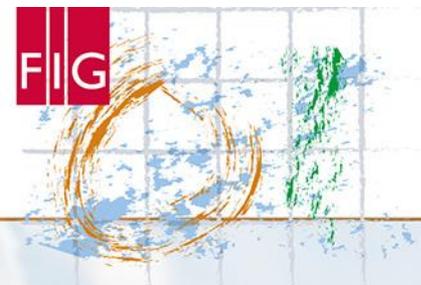
### WG Chairs

- – **Gary Strong**
- – **Robyn McCutcheon & Winnie Shiu**
- – **Don Grant**
- – **Malcolm McCoy**
- – **Kate Fairlie**



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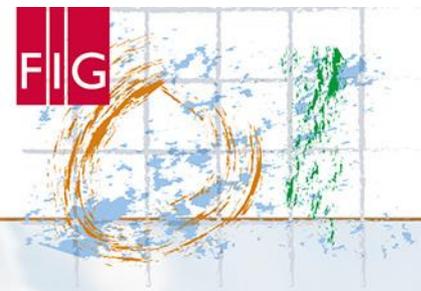
## WG 1.1 Ethics

- Gary Strong represents FIG on the International Ethics Standards Coalition (IESC).
- IESC published new international ethics standards on 7<sup>th</sup> December 2016.
- Individual bodies are signing up to these, and FIG MAs are encouraged to do so.
- It is proposed, after this WW, to rewrite the FIG code of ethics for consideration in 2018.



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## WG 1.2 Women in surveying

- Work is progressing on a study into the status of women in the surveying industry.
- Data is being collected by online survey, which is open until sometime after this WW.
- As most responses have been from Australia, the link will be shared further for an international perspective
- Progress will be reported during the WW and further discussion encouraged.



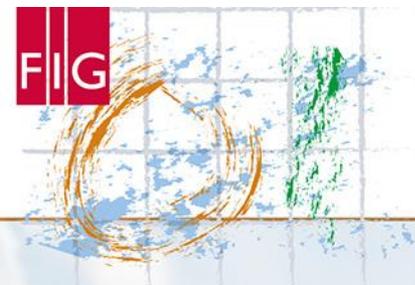
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Trimble



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## WG 1.3 International Boundary Marking

- The WG has been populated with 4 members.
- It has conducted its business to date by email.
- Further papers are being presented here in Helsinki
- Material has been compiled which will form the basis for a supplement to FIG Publication 59 International Boundary Making



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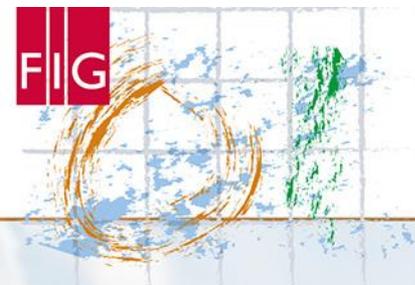
## WG 1.4 Forum on engaging private practice

- Following the session on engaging private practice, held during the WW in Christchurch, this WG has been terminated because of
  - inability to find a focus for its activities
  - general lack of interest by sufficient members to warrant continuing work



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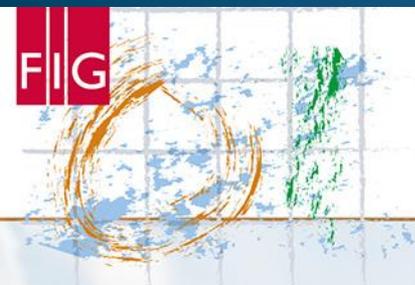
## WG 1.5 Forum on mutual recognition

- The format of this WG is to act as a forum at WWs to explore common standards that can be adopted to enhance mutual recognition.
- Participants have been organised to lead discussion at two interactive sessions during this WW.



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## Fahria Masum (Vice-Chair) Commission 2 Professional Education

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## Commission 2: Overview

**Chair:** Liza Groenendijk, The Netherlands

**Vice-Chair:** Fahria Masum, Germany

### Working Groups

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

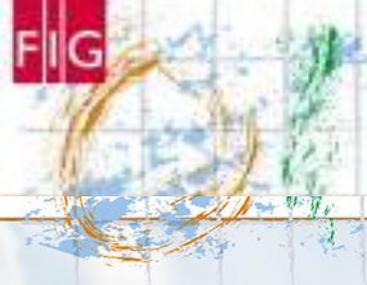
WG 2.4 Accreditation and quality assurance

FIG Commission 2 further supports the FIG Young Surveyors Network, the OICRF and participates in the FIG Foundation.



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## Focus Areas 2015 -2018

1. Becoming an active Commission
2. Professional education world-wide
3. The chain of professional surveying education
4. Towards educating the land professionals

## Commission Activities in 2016 /2017

- New Academic Members Working Group on 'Exploring the VGGT in Practice' (2 online surveys and 3 papers)
- FIG Guide 'Surveying Education on the Move. New Challenges, New Tools, New Competences' (proposal and paper)
- A strong working relationship with FAO and UN Habitat/GLTN



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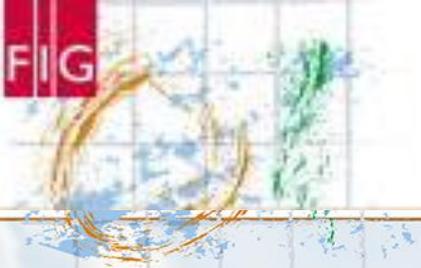


Trimble

## Commission 2 Events in 2016 /2017

- Workshop at International Conference on 'Integrated Approach of Rural Development and Territorial Governance' in Jinan, China, May 11-13, 2017
- Workshop at International Conference on 'Geomatics and Geospatial Technology' in Kuala Lumpur, Malaysia, October 3-5, 2016
- Expert Review Workshop on 'the Guidelines for the Development of Curricula on Land Governance in Africa', in Nairobi, Kenya, September 26-28, 2016
- 4<sup>th</sup> Young Surveyors European Meeting in Amsterdam. On behalf of the FIG President Chryssy Potsiou the Chair of FIG Commission 2 addressed the participants during the opening session, 7-9 June 2016





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## New Active Members

### New Commission Delegate:

Dr. Chethna Ben, Department of Land Management and Development,  
[University of South-Pacific](#), Fiji

### 4 New Commission Members:

Prof. Walter de Vries, [TU Munich](#), Germany; Dr. Elena Rangelova,  
[University of Calgary](#); Prof. Yoshiro Nakahori, [Saitama University](#),  
Japan; Dr. Mohsen Kalantari, [University of Melbourne](#), Australia

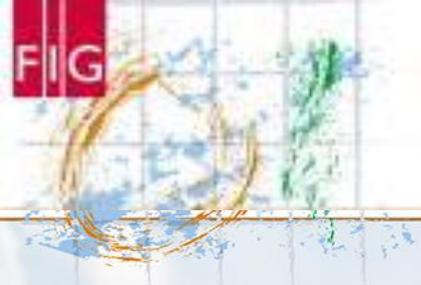
## Upcoming Events

- Summer School at Renmin University in China, 3.-07.07.2017
- FIG Commission 2 Session at INTERGEO, Berlin, Germany 19.-21.09.2017
- FIG Commission 2 Session at East African Land Administration Network (EALAN) Meeting, July 2018 (to be confirmed)



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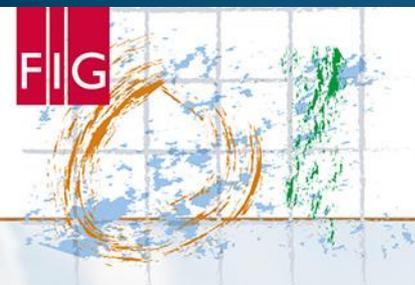
## Activities during Working Week 2017

- Technical Session TS02G: Curriculum on the Move
- Technical Session TS05G: Innovation in Education
- Technical Session TS08G: Demand, Quality and Accreditation of Education
- Academic Forum on VGGT together with FAO
- Commission 2 Meeting and Commission Dinner



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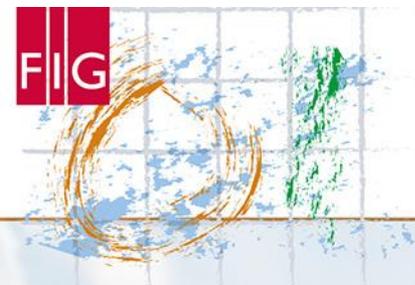
## Angela K. Etuonovbe Commission 4 Hydrography

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## Commission 4 - Overview

- **Administration and Communications:** Gordon Johnston, MRICS (UK)
- **Working Group 4.1 – Standards and Guidelines for Hydrography:** Simon Ironside (New Zealand)
- **Working Group 4.2 – Maritime and Marine Spatial Information Management:** Dr. Jonathan Li (Canada)
- **Working Group 4.3 – Blue Economy:** Gordon Johnston, MRICS (UK)



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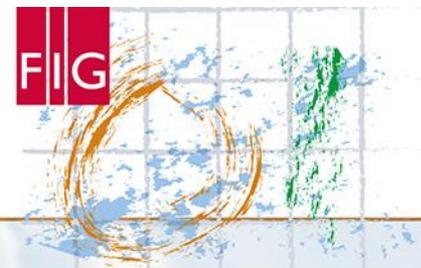
## Active FIG Working

- **Working with** the International Hydrographic Organization (IHO) and IBSC.
- **Representative on** the Hydrographic Services and Standards Committee (HSSC) Working Groups and will be involved for the **review of**
  - S-44 (IHO Standards for Hydrographic Surveying)
  - S-100 (Universal Hydrographic Data Model)
  - S-8A&B Standards of Competence for Nautical Cartographers.
- **Reviewed** the first draft of S-5A Standards of Competence for Category 'A' Hydrographic Surveyors, and is now recognised by International Board on Standards of Competence for Hydrographic Surveyors and Nautical Cartographers (IBSC) as an **Expert Contributor**.
- **Contributes** to the hydrographic component of the Royal Institution of Chartered Surveyors (RICS) International Property Measurement Standards (IPMS). FIG remains a key member of IPMS Coalition.



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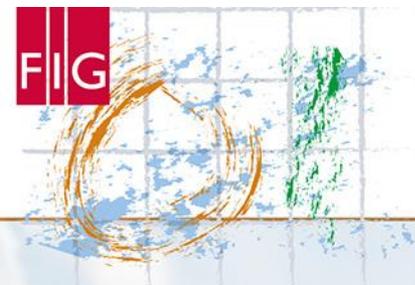
## Outreach- 2017/18

- Specifically invited by the Surveyors Council of Nigeria (SURCON) to speak on **“The Benefits of Attending Professional Conferences”** at the Pre-induction Workshop of Newly Qualified Surveyors, February 1, 2017.
- Upcoming Seminar in Hydrography in Katsina, Katsina State, Nigeria, in partnership with the Katsina State Government.
- Discussion is ongoing for the commission to organize the first World Hydrographic Day in Senegal.
- Meeting with heads of delegation from African coastal countries during the Working Week.



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## Upcoming- 2017/18

- **Offshore Energy Conference 2017** in Amsterdam RAI (October 10- 11)
- **Marine Autonomy & Technology Showcase** London. (Nov13 - 17)
- **Hydro17 at Rotterdam** (November 14-16)
- **Joint Canadian Hydrographic and National Surveyors' Conference** in Victoria, BC (March 26 - 29, 2018)
- **Oceanology International Conference** in London, Excel (March, 13-15, 2018)
- **FIG Congress Istanbul, Turkey** ( May 6 - 11, 2018)



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May 29 - June 2 Helsinki Finland



Chair: **Enrico Rispoli**

# Commission 3

Spatial Information

Management

# Presentation





## Organization and Working Groups of Commission 3:

### Administration



Vice Chair: Maria Scorza – Italy

### Working group 3.1



SIM Infrastructure  
Chair: Hartmut Mueller,  
Germany

### Working group 3.2



Technical Aspect of SIM  
Chair: Ioannidis Charalabos,  
Greece

### Working group 3.3



3D Cadaster (Joint Commission 7)  
Chair: Peter Van Oosterom,  
Netherlands

### Working group 3.4



Crowdsourcing and VGI  
Supporting SDS  
Chair: Sagi Daylot, Israel



## Overview- Work Plan items in focus in 2016/2017

- The great participation of the speakers has allowed, also this year, to have numerous technical sessions of professional and scientific interest in Spatial Information Management, VGI and Crowdsourcing, GIS and 3D Spatial Information.
- The work of the Commission 3 and its working groups has provided a framework of universal solutions for many areas of spatial information, such as sustainable planning models, environmental and social impacts monitoring, risk prevention, Infrastructure for Land Data Management and Land Tenure, Water Management, Simulation of Population Health.
- The certainty of rights on the goods also covers the fundamental aspects to promote the elimination of social differences.

## Work Plan items in focus in 2017/2018

Within the technical sessions:

- constant participation of the academic, scientific and professional world;
- presentations focus on: experiences in the field of development and use of VGI, GIS system, SIM and SDI procedures;
- importance of the SIM for land monitoring and for the prevention of the causes of disasters;
- Support of young surveyors participation in FIG event and in the Summer School edition 2016.

And cooperation with FIG Commissions; YSN; FAO; UN-Habitat, UNESCO; International Architectural Photogrammetry Committee (Summer School edition 2016).



# Past event

- Commission 3 presentation at CLGE General Assembly – Tirana 19.03.2016
- FIG WW 2016 in Christchurch, New Zealand, 2-6 May 2016;
- ILMS Coalition Meeting in UN FAO, Rome 9-10 June 2016
- 7th summer school edition, Bari from June 18 to July 1, 2016;
- FIG Commission 3 Annual Meeting and Workshop, Iasi – Romania (3-7 November 2016) jointly organized with the International Symposium Geomat and EGoS GA: 30 participants FIG member, 3 special sessions with 7 keynote speeches, 4 technical sessions with 10 technical papers;
- Asia GIS Conference held in Hong Kong on 5-7 January 2017 on “Future Smart Cities”;
- Commission 3 promotion for the signing of the MOU between CNGeGL and the Association of Cadastral Engineers (Russia), 14.03.2017.





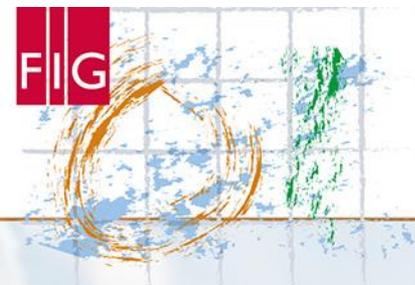
## Outreach- 2017/18

- External partnership working: EGoS and CLGE;
- Supporting the organization of 8th summer school edition (H2O=Life – Survey for Planning: New Technologies and Land Protection – Alberobello, Bari, Laterza, Noci, Grottaglie, matera - Italy, from July 24 to August 2, 2017 ;
- Commission activities in the headlines: publication in the 1<sup>st</sup> quarter 2018 “New trends in Spatial Information: Surveyors’Role in the Era of Crowdsourcing and VGI”
- Specific people doing great things: my working group Chairs; the past Chair Yerach Doytsher and the President of FIG Foundation, John Hohol



## Upcoming- 2017/18

- 8th summer school edition, in Italy, from July 24 to August 2, 2017
- Commission 3 Annual Meeting and Workshop (most probably in Lisbon), Autumn 2017;
- FIG Working Week and Congress 2018 in Istanbul.



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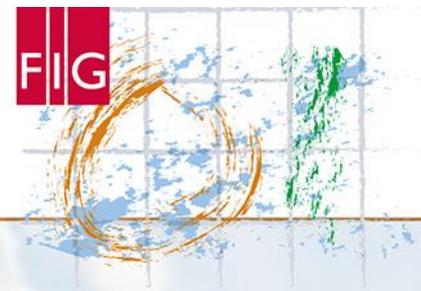
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## Any questions to the Panel?



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## Panel II

- Commission 5: Positioning and measurement
- Commission 6: Engineering surveys
- Commission 7: Land management & cadastre



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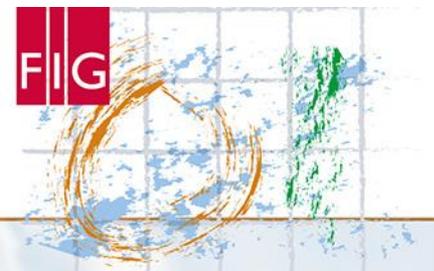
## Volker Schwieger Commission 5 Positioning & Measurement

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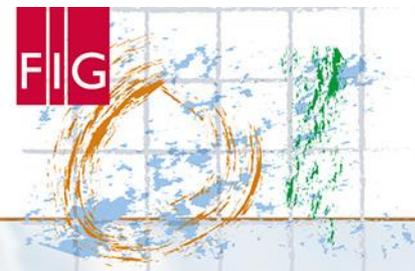
## Commission 5 - Overview

- Vice-Chair of Administration: *Li Zhang, Germany*
- **WG 5.1: Standards, Quality Assurance and Calibration**  
*(David Martin, France)*
- **WG 5.2: 3D Reference Frames** *(Nic Donnelly, New Zealand)*
- **WG 5.3: Vertical Reference Frames**  
*(Kevin Kelly, USA / Dan Roman, USA)*
- **WG 5.4: GNSS** *(Neil D Weston, USA / Suelynn Choy, Australia)*
- **WG 5.5: Multi-Sensor-Systems** *(Allison Kealy, Australia /  
Guenther Retscher, Austria / Joint with IAG /Com. 6)*
- **WG 5.6: Cost Effective Positioning**  
*(Leonid Lipatnikov, Russia)*



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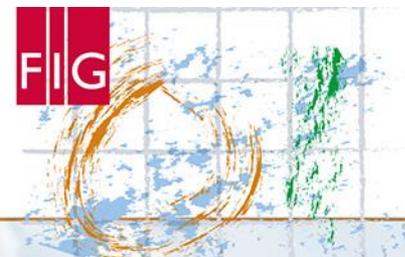
## Commission 5 – Current Work

- Heading FIG Standards Network and contributing to TC 172/SC 6 and ISO TC 211 (David Martin)
- Begin of work on FIG publication „Low Cost Precise Positioning“ (Suelynn Choy & Neil Weston)
- Publication of best peer-reviewed papers in Scientific Journal (Journal of Applied Geodesy), first time with papers from Christchurch
- Special Session on „Un-Resolution on GGRF“, Wednesday, May 31st, 11 o'clock
- Creation of a Best Paper Award (NavXperience Award), to be awarded first time in Helsinki



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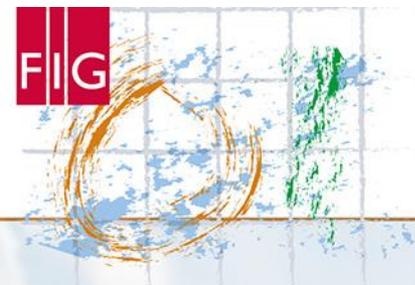


## Outreach- 2017

- Cost Effective Positioning and Geo Data Seminar, 20th April 2017, Novosibirsk, Russia (with GeoSiberia)

organized by  
Leonid Lipatnikov;  
> 60 participants





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## Upcoming- 2017/18

- Technical Seminar on Reference Frame in Practice Workshop in Kobe, Japan 29-30 July 2017
- Technical Session at Intergeo 2017, 26-28 September 2017 in Berlin, Germany
- Technical Seminar on Reference Frame in Practice Workshop in Istanbul, Turkey, May 2018



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## Rémy BOUDON (Ivo MILEV) Commission 6 Engineering Surveys



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## Current work

- **Four working groups**

- 20-22 may 2016, **Engineering Geodesy Symposium** in Varazdin, Croatia:

Various issues addressed related to several working groups:

- Management of topometric data throughout the life cycle of construction projects
- Quality control for civil engineering structures and manufacturing of large objects
- Deformation monitoring, both static and dynamic, analysis and interpretation
- Prediction of deformations: mines, landslides, subsidence, geological hazard
- Automated measuring systems, survey and sensor fusion
- Real-time deformation monitoring and analysis (structure displacement and strain response to load cases, threshold criteria...)



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## Upcoming

26-28 September 2017, **INTERGEO** Berlin, Germany

18-20 October 2017: **7<sup>th</sup> INGEO** Lisbon, Portugal:

International Conference on Engineering Surveying

Monitoring and safety evaluation of civil engineering structures



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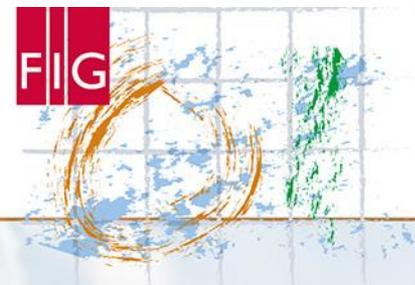
## GERDA SCHENNACH FIG Commission 7 Cadastre & Land Management

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**Chair** *G. Schennach (AT)*

**Vice-Chair of Admin.** *Hyunsook LEE (KOR)*

**WG 7.1**  
**Fit-For-Purpose**  
**LA**  
*Ch. Lemmen (NL)*

**WG 7.2**  
**LM in**  
**CC and PP**  
**Disaster areas**  
*D. Páez (CO)*

**WG 7.3**  
**Crowdsourcing**  
**of Land Rights**  
*R. McLaren (UK)*

**WG 7.4**  
**Citizen**  
**Cadastre**  
*G. Iván (HUN)*

**Joint WG C3/C7 3D Cadastre**

**Cadastral Template 2.0** *D. Steudler (CH)*



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## Commission 7 - Overview

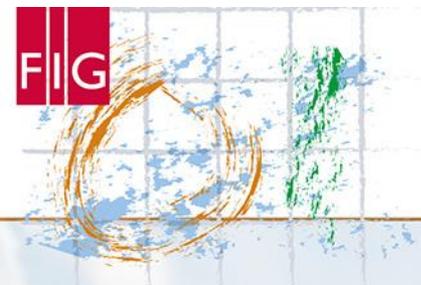
### Work Plan items in focus / in focus 2016/2017

- providing visions for future cadastre and land management  
new technologies, Cadastre 4.0, blockchain technology
- taking the role as a mastermind in developing effective land management  
3D Cadastre, 5th dimension in cadastre, Open data, e-learning
- thinking about new models of land administration for sustainable development  
marine cadastre, land consolidation and readjustment for sustainable development
- initiating professional discussions on new business models as required by a changing society  
integrated cadastre for legal security in land transactions, crowd sourcing and VGI models
- securing land tenure and advocating citizens' rights  
Transparency, participation, collaboration, FFP and FFF methodology, role of the profession, international curriculum for professionals



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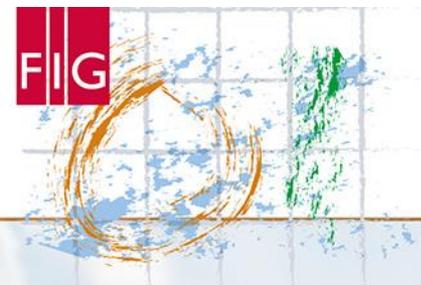
## Cross FIG Working

- Co-operation with Com 1, Com3, Com 8 and Com 9
- **Cadastral Template 2.0** – 56 countries, maintained by member associations, figures of visitors promising
- **Joint WG Com 3 & 7 on 3D Cad** – Workshops on 3D/Athens, OGC Technical and Planning Committee/Delft, LADM2017 Workshop/Delft
- LADM based international information model for a **Valuation Module**
- inputs to FIG Networks, OICRF, FFP-Guidelines



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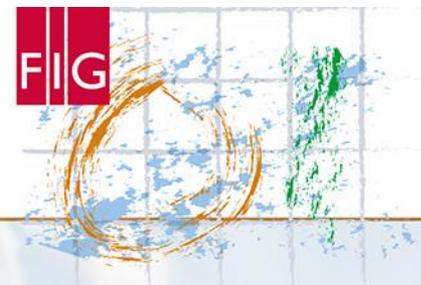
## Outreach- 2017/18

- Seminars, Workshops on Com 7 themes
- World Bank, UN Habitat, FAO, UN, OAS, Regional bodies
- OGC, GLTN, ISO, ISPRS, UN GGIM, UN GGIM Europe, UN GGIM Americas, UN-EG-LAM
- website [www.pointshare.org](http://www.pointshare.org)
- Cadastre + LM for stakeholders in disaster management
- Analysis of land registration systems
- publications in scientific and professional journals



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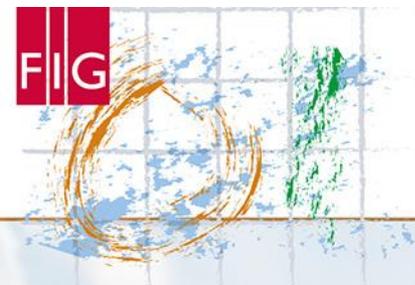
## Upcoming- 2017/2018

- inventory of land administration crowdsourcing activities in the public and private sectors
- **International Seminar GeoPreVi 2017**  
**Smart Solutions for a Secure and Valuable Property**  
14-16 September 2017, Bucharest, Romania  
WG 7.4, co-organised by Romanian partner org. and FIG Com 7, 8 and 9  
[www.geoprevi.ro](http://www.geoprevi.ro)
- **FIG Com 7 AM II/2017 and Conference**  
**Cadastre for emergencies and disasters: Challenges and opportunities for islands and coastlines**  
4-8 Dec 2017, Cartagena/Colombia  
WG 7.4 and partners <http://fig717.net/en/home-2/>



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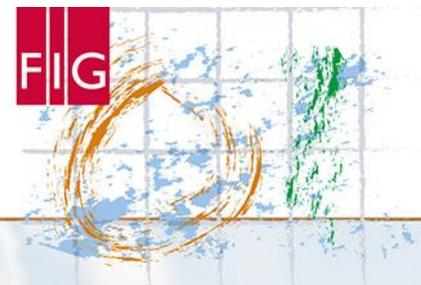
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## Any questions to the Panel?



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## Panel III

- Commission 8 Spatial planning and economic development
- Commission 9: Valuation and real estate
- Commission 10: Construction economics



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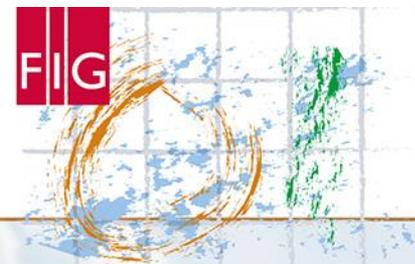
## See Liang Ong Commission 10 Construction Economics & Management

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## Commission 10 Overview

**International  
Construction  
Measurement  
Standard (ICMS)**

**Commission 10  
Work Plan  
2015 - 2018**

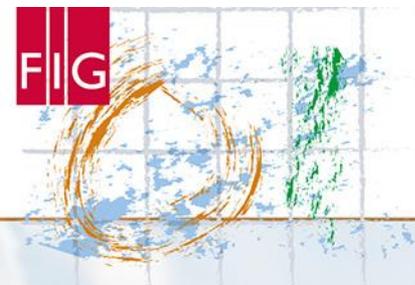
**Promoting  
Construction  
Economics &  
Management**

**Building  
Information  
Modelling (BIM)**



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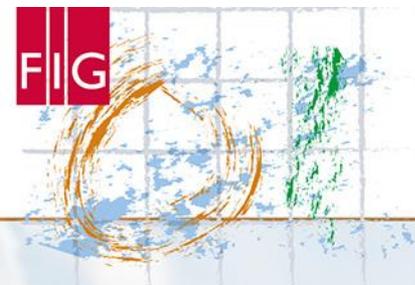
## International Construction Measurement Standard (ICMS)

- **Launch of ICMS Coalition in June 2015 at the IMF Washington**
- **First face-to-face meeting of SSC in March 2016 at the European Commission, Brussels**
- **First draft for consultation with "friends and families" of ICMS coalition in August 2016**



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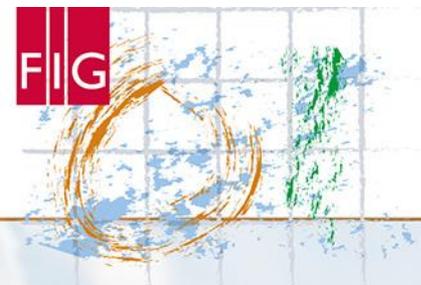
## International Construction Measurement Standard (ICMS)

- **First Public Consultation of the draft ICMS launched in November 2016 in London.**
- **Second Public Consultation of the draft from March to 1 May 2017.**
- **Official worldwide launch of ICMS in July 2017 at the 21st PAQS Congress, Vancouver, Canada**



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## BUILDING INFORMATION MODELLING (BIM)

- BIM continues to be an important topic at the FIG working week as this technology continues to advance.
- Following great interest on the development and application of BIM, the BIM Working Group (chaired by Dr. Clemen Christian) has decided to organise a full day Pre-WW Workshop on BIM for Surveyors in Helsinki on 28 May 2017.
- A round table on BIM is also arranged on 31 May 2017. The round table will be co-chaired by Dr. Clemen Christian and Dr. SL Ong

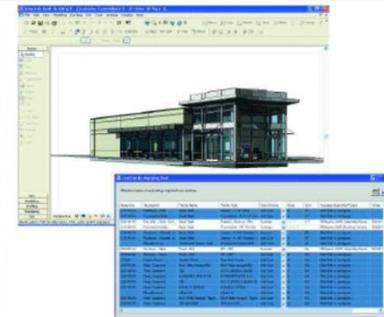
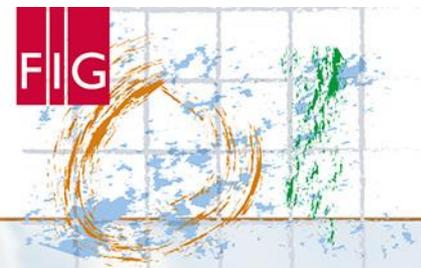


Figure 1: Traditional cost estimating take-off vs. BIM-based quantification<sup>1</sup>



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## PROMOTION OF THE PROFESSION OF CONSTRUCTION SURVEYORS (QS/CE/PM)

- **Commission 10 through its network and platform to influence policy makes to consider the use of QS/CE for developmental projects and as such the need to build competencies and human capital in this specialised field.**
- **Commission 10 has developed the core competency standard for the QS/CE profession. The draft competency standard will be deliberated at the Working Week in Helsinki. Once agreed the standard will be presented to the Council for publication.**



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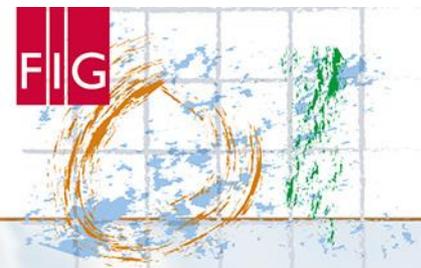
## Steven Nystrom Commission 9 Valuation

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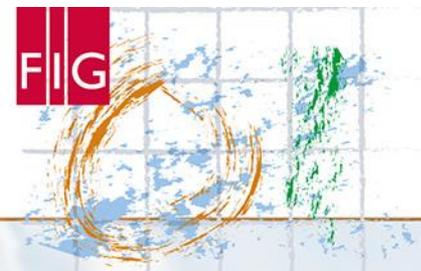
## Commis 9- Overview

- Working Group 9.1 expanding United Nations debate, *Policy Framework for Sustainable Real Estate Markets* booklet. Chair: *Steven Nystrom MAI*
- Working Group 9.2 with Com 7 addressing block chain financial technology as it relates to risk management, valuation, & access to credit. Chair *Manohar Velpuri*
- Round Table Discussions 9.3 will identify the commonly used standards in different markets & study the valuation methodologies adopted. Chair *David Smejkal*
- Working Group 9.4 explores adding a valuation component to the scope of LADM to provide an information model for mass property valuation. Chair *Çağdaş, Oosterom, Lemmen, Stubkjær*



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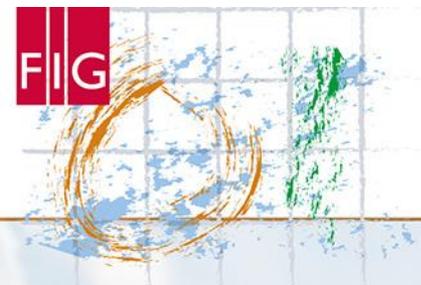
## Commission 9 Activity- 2016/17

- **GLTN /FIG** Workshop - The Valuation of Unregistered Lands
- **FIG** TF on Property Markets working-weekend –Sounio
- **FIG/World Bank** Workshop on Sustainable Real Estate Markets-Policy Framework and Necessary Reforms – Athens
- **FIG** TF on Real Estate Market Study –Bucharest
- **World Bank** Land and Poverty Conference 2017: Responsible Land Governance
- **Broad NGO** Block Chain Financial Technology engagement



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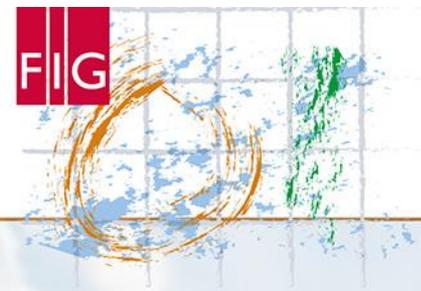
## Impact

- **Block chain** and financial technology; *Manohar Velpuri* has been active around the globe for FIG in advancing this emerging technology.
- *Mike McDermott, PhD* & other Commission 9 members have played a core role in the ongoing development process of the **GLTN's Guidebook for the Valuation of Unregistered Lands**.



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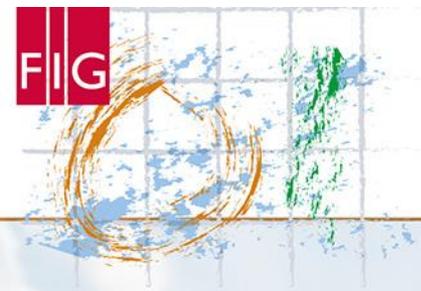
## Cross FIG Working

- **FIG Task force on Real Estate Market Study** has involved Commission 9 members as well as those of several other Commissions.
- **Commission 7 & 9** will be cooperating for the Workshop *Cadastre for Emergencies & Disasters* in Cartagena Columbia, December 2017.
- **Commission 7, 8 & 9** will be cooperating for the Workshop *Smart Solutions for a Secure and Valuable Property in Bucharest Romania*, September 2017.



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## Upcoming Events- 2017/18

- The Workshop *Smart Solutions for a Secure and Valuable Property*, Bucharest Romania, September 14-16 2017
- *TF on Real Estate Market Study* –Bucharest Romania, September 14-16 2017
- Workshop *Cadastre for Emergencies & Disasters*, Cartagena Columbia, December 2017
- Land and Poverty Conference 2018, Washington D.C. USA



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## KWAME TENADU

## Commission 8

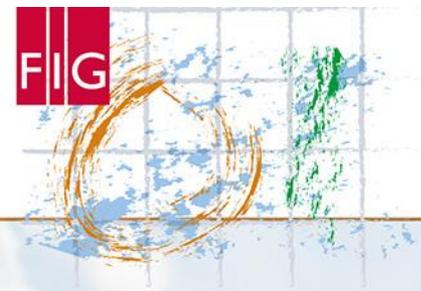
## Spatial Planning & Development

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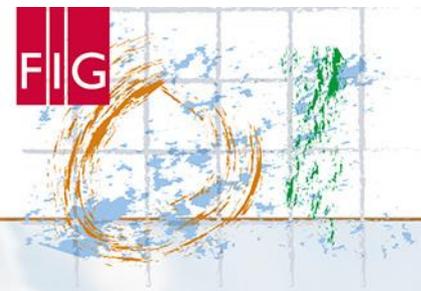
## Commission 8 - Overview

- Work Plan items in focus in 2016/2017
- **The mission of Commission 8 is to unpack linkages between planning, Sustainable Development, natural resources utilization for economic growth while advancing social equity and resilience.**
- Working Group 8.1 – Disaster recovery, risk management and resilience planning
- Working Group 8.2 – Stewardship for water, land and forest as primary resources for development
- Working Group 8.3 – Human settlement policies and implementation
- Working Group 8.4 – Resilient Urban Development
- Working Group 8.5 – Rural development and land governance



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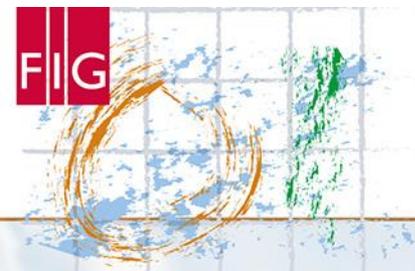
## Outreach- 2017/18

- **Seminars, Workshops**
  - Symposium on land consolidation in the Netherlands
  - Collaboration with COIFA and University of Bari, Italy for the 6<sup>th</sup> International Summer School with Com 3
- **External partnership working**
  - Chartered Institute for Water & Environmental Management CIWEM
  - Special session on water resources at Christchurch NZ
- **Specific people doing great things**
  - Marije Lousma, of Dutch Kadaster
  - L. Bruce Keith of CIWEM



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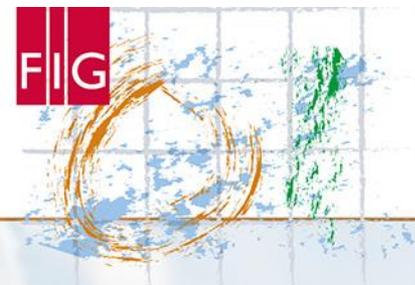
## Upcoming- 2017

- **Monday, July 24 to Friday, August 4, 2017**
- The 7<sup>TH</sup> International Summer School 2017, called "**H2O = LIFE - Survey for Planning: New Technologies and Land Protection**" will take place in *Alberobello, Bari, Laterza, Noci, Grottaglie, Matera*.
- (<http://coifa.it/iss2017/> - <http://coifa.it/iss2017/schedule.html> - <http://coifa.it> )
  
- **10-11 August 2017, Dar es Salaam, Tanzania**
- *Sustainable Development Goals: a time for innovations and investment in land administration and management* organised by The Institution of Surveyors of Tanzania (IST), The Tanzanian Institution of Valuers & Estate Surveyors (TIVEA) in collaboration with The Commonwealth Association of Surveying & Land Economy (CASLE)



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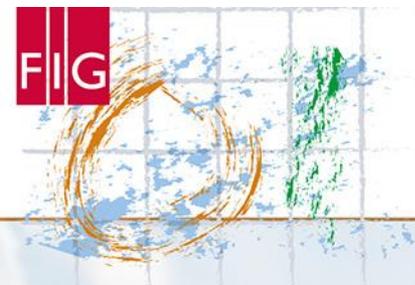
## Upcoming- 2017

- **14-16 September 2017, Bucharest, Romania**
- *GeoPreVi 2017*. Scientific event of the Faculty of Geodesy - Technical University of Civil Engineering Bucharest organised this year in partnership with Romanian Surveyors Union, Romanian Association of Private Surveyors, FIG Comissions 7, 8 and 9 and National Agency for Cadastre and Land Registration.  
Web site: [www.geoprevi.ro](http://www.geoprevi.ro)



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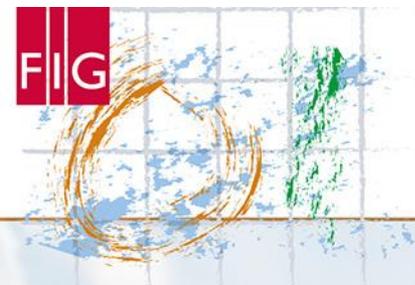
International Federation of Surveyors  
Fédération Internationale des Géomètres  
Internationale Vereinigung der Vermessungsingenieure

**FIG COMMISSION 3**  
Spatial Information Management

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04

**We are looking forward to meet you**

**Thank You for  
Attention**



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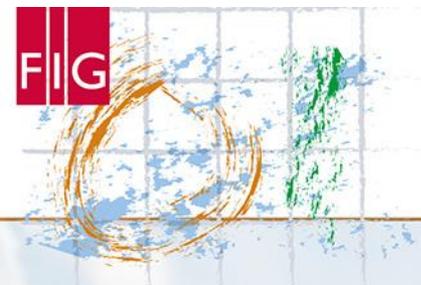
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## General Assembly – Friday



Highlights from

**Commission Technical Sessions  
At the  
FIG 2017, Helsinki Working Week**



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## COMMISSION 3 CONCLUSION REPORT

From digitalisation to augmented reality

The continuous technological progress and the evolution of the instruments allow the management of such an amount of information and spatial data to trigger a necessary updating of the traditional information system.

The integrated representation of such an amount of data available converges in a 3D physical dimension and the methodology of their management, revision and evolution involves the separation between two-dimensional processes (layer or layer cartography, aero photogrammetry and alphanumeric references) and multidimensional ones or, to better say, interactive virtual objects in real-time.

To optimize the application of these innovations there is a need for "service providers" more and more evolved and more adapted to the sophisticated user needs.

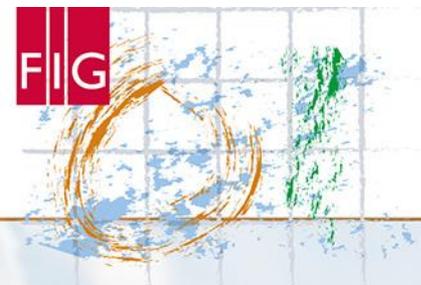
The socio-economic factors and the differences in the development between Countries are not a limit to such a global need.

The technical and academic members of the Commission 3 have represented a point of view of this transformation through the presentation of research on 3D methodologies in spatial information management, on the use of DRONS, on BIM applications, aero photogrammetry and crowdsourcing.



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## GA Second Session- Volker

- High importance of UN-resolution GGRF
- Geodynamics / tectonics influencing Reference Frames -> Kinematic / Dynamic Datum
- Multi-GNSS as the standard of the future
- Emerging Technologies:  
Unmanned Aerial Vehicles (UAV, UAS); joining Photogrammetry and Engineering Geodesy
- Special Session FIG Commission 5 Session on “Trends in GNSS” at Intergeo 2017, 26-28 September Berlin, Germany
- Technical Seminar on Reference Frame in Practice Workshop in Kobe, Japan 29-30 July 2017



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## Comm 2 Highlights of Commission Activities during WW

Surveying the world of tomorrow. Workshop 29 May - 2 June 2017  
From digitalisation to augmented reality

- Three successful technical sessions: 1. Curriculum on the Move, 2. Innovation in Education and 3. Demand, Quality and Accreditation of Education .
- Academic Forum together with FAO presented the outcome of the work of the Academic Members Working Group on 'Exploring the VGGT in Practice'. Academic responsibilities were discussed and action plan has been developed.
- A paper dedicated to the proposed publication 'Surveying Education on the Move. New Challenges, New Tools, New Competences' was presented. In Commission meeting the structure of the publication was finalized and tasks were distributed among Working Group members.



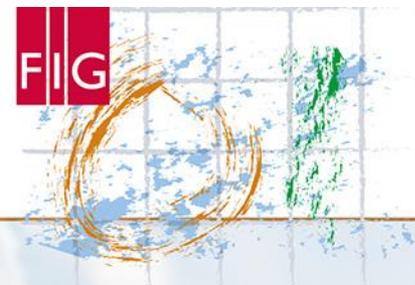
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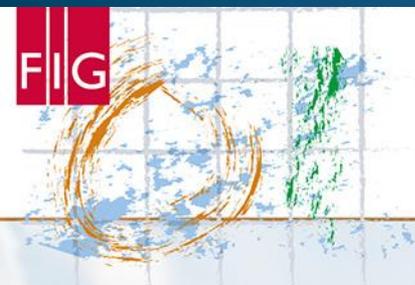
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## GERDA SCHENNACH

### FIG Commission 7

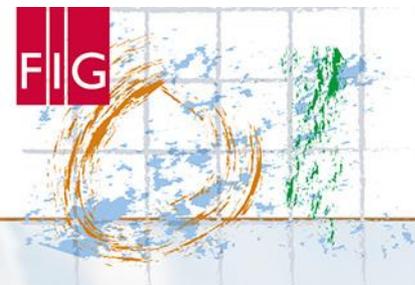
### Cadastral & Land Management

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**Chair** *G. Schennach (AT)*

**Vice-Chair of Admin.** *Hyunsook LEE (KOR)*

**WG 7.1**  
Fit-For-Purpose  
LA  
*Ch. Lemmen (NL)*

**WG 7.2**  
LM in  
CC and PP  
Disaster areas  
*D. Páez (CO)*

**WG 7.3**  
Crowdsourcing  
of Land Rights  
*R. McLaren (UK)*

**WG 7.4**  
Citizen  
Cadastral  
*G. Iván (HUN)*

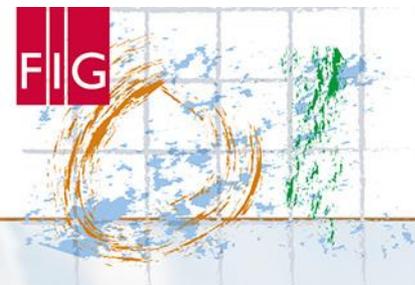
**Joint WG C3/C7 3D Cadastre**

**Cadastral Template 2.0** *D. Steudler (CH)*



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## Commission 7 - Overview

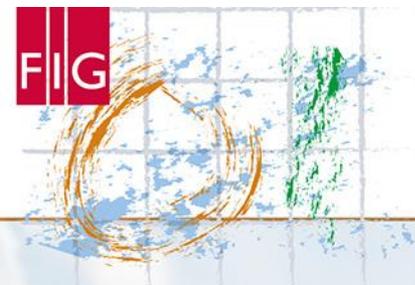
### Work Plan items in focus / in focus 2016/2017

- providing visions for future cadastre and land management  
new technologies, Cadastre 4.0, blockchain technology
- taking the role as a mastermind in developing effective land management  
3D Cadastre, 5th dimension in cadastre, Open data, e-learning
- thinking about new models of land administration for sustainable development  
marine cadastre, land consolidation and readjustment for sustainable development
- initiating professional discussions on new business models as required by a changing society  
integrated cadastre for legal security in land transactions, crowd sourcing and VGI models
- securing land tenure and advocating citizens' rights  
Transparency, participation, collaboration, FFP and FFF methodology, role of the profession, international curriculum for professionals



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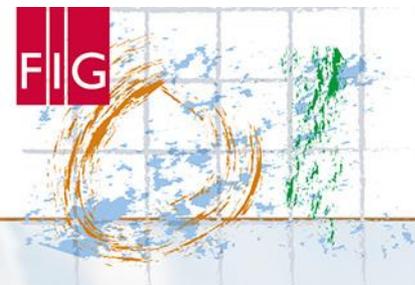
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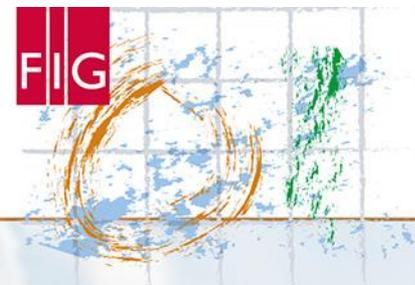
## Upcoming 2017/2018

- inventory of land administration crowdsourcing activities in the public and private sectors
- **International Seminar GeoPreVi 2017**  
**Smart Solutions for a Secure and Valuable Property**  
14-16 September 2017, Bucharest, Romania  
WG 7.4, co-organised by Romanian partner org. and FIG Com 7, 8 and 9  
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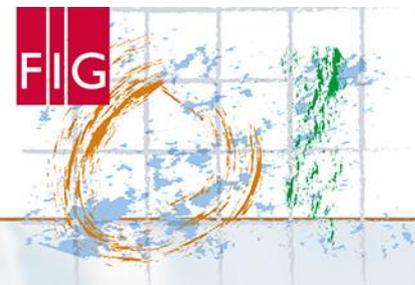
## Thanks to

all Com7 Vice-Chairs,  
Task Force leaders Cadastral Template 2.0  
local organisers in Portugal, NL and Finland  
all Com7 Delegates and friends  
speakers, chairs and rapporteurs  
FIG Head Office



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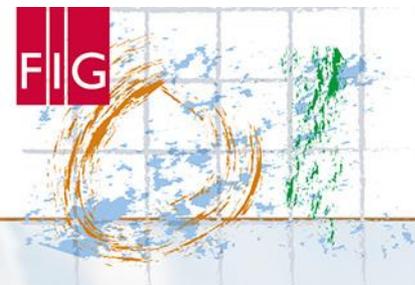
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