

## FIG STANDARDS NETWORK REPORT TO 2013 FIG GENERAL ASSEMBLY

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The Standards Network was formed in 2002. It works within Commission 1 and consists of representatives from each of FIG's Commissions.

### **Terms of reference:**

The terms of reference of the Network are set out in the FIG Guide on Standardisation and are as follows:

- Building and maintaining relations with the secretariats of standardisation bodies,
- Proposing priorities on FIG's standardisation activities, including advising the Council on priorities for spending,
- Setting up necessary Liaison relationships with standardisation bodies,
- Ensuring that lead contacts to Technical Committees etc are in place,
- Maintaining an information flow on standardisation to FIG members, including through the FIG website, and more directly to relevant Commission Officers,
- Maintaining this Guide, and related material on the FIG website,
- Working with other NGOs, within the framework of the MOUs signed by the Council,
- Advising FIG's officers and members on standardisation activities as necessary.

### **Work since the 2012 Working Week**

The Network met at the 2012 Working Week in Rome. Key activities undertaken by Network members and other colleagues over the past year include:

- **Maintaining a list of commission topics relevant to standardisation** – this “Standards Template” is under revision. FIG commission chairs are reminded that this is one of the Standards Network's key tools. Regular updates are one of the main contributions the FIG Commissions can make to the Network. *Unfortunately this template is obsolete today. It is essential that the commissions contribute to it.*
- **Staying involved with ISO/TC 211 standardisation activities** Nic Donnelly of Land Information New Zealand (LINZ) is the lead liaison from FIG to ISO/TC 211. Key items are:

At the Rome Standards Network meeting there was a discussion around who will replace Ian Greenway as the FIG liaison to the ISO Technical Commission (TC) 211 (<http://www.isotc211.org/>). Iain Greenway advocated the new representative should come from one of Commission 4, 5 or 6. This is where there is considerable work in the field of standards right now.

Briefly, TC 211 is concerned with standardization in the field of digital geographic information. This commission aims to establish a structured set of standards for information concerning objects or phenomena that are directly or indirectly associated with a location relative to the Earth. These standards may specify, for geographic information, methods, tools and services for data management (including definition and description), acquiring,

processing, analyzing, accessing, presenting and transferring such data in digital/electronic form between different users, systems and locations. The work links to appropriate standards for information technology and data where possible, and provides a framework for the development of sector-specific applications using geographic data.

Nic Donnelly of Land Information New Zealand (LINZ) has agreed to replace Ian Greenway as the FIG liaison to the ISO TC 211. Current work items include:

- 19119 – services (revision)
  - 19157 – data quality (at FDIS stage so no real chance to change now)
  - 19159-1 – calibration of remote sensitive imagery sensors (optical)
  - 19160-1 – addressing: conceptual model
  - 19161 – geodetic references
  - 19162 – well known coordinate reference systems
- **Progress of ISO 19152 on the Land Administration Domain Model (LADM)** – this work grew out of the Commission 7 work on the Core Cadastral Domain Model and was accepted into the ISO/TC 211 work programme in 2008. Christiaan Lemmen reports:

*“The Land Administration Domain Model (LADM) is a common standard since the end of 2012. Cadastre 2014 provided an important departure point in the development.*

*LADM will stimulate the development of software applications and will accelerate the implementation of proper land administration systems that will support sustainable development. The LADM covers basic information-related components of land administration (including those over water and land, and elements above and below the surface of the earth). The standard provides an abstract, conceptual model with four packages related to:*

1. *parties (people and organizations);*
2. *basic administrative units, rights, responsibilities, and restrictions (ownership rights);*
3. *spatial units (parcels, and the legal space of buildings and utility networks);*
4. *spatial sources (surveying), and spatial representations (geometry and topology);*

*LADM defines terminology for land administration, based on various national and international systems, that is as simple as possible in order to be useful in practice. The terminology allows a shared description of different formal or informal practices and procedures in various jurisdictions; The standard further provides a basis for national and regional profiles; and enables the combining of land administration information from different sources in a coherent manner.*

*LADM can integrate different forms of tenure; e.g. formal and customary types of tenure. Or even informal tenure or overlapping claims on land.*

*There is already recognition and support by FAO, UN HABITAT and several countries.*

*LADM based software developments have already been started in several places.*

*There is of course no interference with (national) land administration laws that would have any legal implications.*

*The LADM has been accepted by a unanimous vote from the participating ISO TC211 members.*

*At this moment the (very last) editorial updates are under process. The International Standard has been published at the 1st of December 2012.*

*We like to thank the editorial committee for their support and contributions."*

We are reminded that this is the first standard that has been initiated from within FIG.  
**Congratulations to Chrit for this very important – and impressive achievement.**

- **Staying involved with ISO/TC 172 SC6 work on survey instrument standards** – Hans Heister leads this work for FIG. Several standards under Technical Committee ISO/TC 172/SC 6 "Geodetic and surveying instruments" standards grouping are presently under discussion and/or revision:
  - ISO 09849 Geodetic and surveying instruments - Vocabulary (Edition 3)
  - ISO 12858-1 Optics and optical instruments -- Ancillary devices for geodetic instruments -- Part 1 Invar levelling staffs (Edition 2)
  - ISO 12858-2; 1999 Amendment 1
  - ISO 17123-5 Field procedures for testing geodetic and surveying instruments - Part 5 - Total stations (Edition 2)
  - ISO 17123-6 Field procedures for testing geodetic and surveying instruments - Part 6 - Rotating lasers (Edition 2)
  - ISO 17123-7 Field procedures for testing geodetic and surveying instruments - Part 7 - Optical plumbing devices
  - ISO 17123-8 Field procedures for testing geodetic and surveying instruments - Part 8 - GNSS field measurement systems in real-time kinematic (RTK) (Edition 2)
  - ISO 17123-9 Field procedures for testing geodetic and surveying instruments - Part 9 - Terrestrial laser scanners (TLS)

**Hans Heister provides us with this report from the last the ISO/TC 172/SC 6 Meeting held in Neubiberg, Germany on October 11 – 12 2012**

The meeting was held on invitation of FIG and the Institute of Geodesy of the University of the Bundeswehr Munich, represented by Prof. Dr. Hans Heister, in Neubiberg, Germany.

As usual, the conference was well prepared by the new chairman Mr. Wolfgang Hardegen, Leica Geosystems Ltd, Heerbrugg and the secretary Mr. Christian Schenk, SNV, Winterthur.

The main topics of this meeting can be summarised as follows:

- Report of the secretariat
- ISO/NP 9849: Vocabulary
- ISO 12858 – Part 1: Invar levelling staffs
- ISO 12858 – Part 2: Tripods
- ISO 17123 – Part 5: Total stations
- ISO 17123 – Part 8: GNSS field measurement systems
- ISO 17123 – Part 10: Non prism measurement (reflectorless distance measurements)
- ISO 17123 – Part 9: Terrestrial laser scanners
- ISO 16331 – Part 2: Terrestrial laser scanners

Newly published Standards:

- ISO 17123-Part 4:2011 Eletro-optical distancemeters (EDM measurements to reflectors)
- ISO 17123-Part 6:2011 Rotating Lasers
- ISO/DIS 16331-Part 1 (Performance of handheld laser distance meters)

**Comments on specific topics:**

The secretary Mr. Chris Schenk will retire at the end of the year 2012. Mrs. Barbara Mullis has been appointed by the SNV as the new secretary of ISO TC 172 SC6.

The delegates discussed again the revision of **ISO 9849:2000** (Vocabulary) and confirmed the project. The project leader has to prepare the CD after inclusion of the agreed changes.

The delegates discussed the comment resolution on **ISO 12858-Part 1** / CD (levelling staffs) and asked the secretary to launch the CD ballot after inclusion of the agreed changes.

Concerning **ISO 12858-Part2:1999** / CD (Tripods) the delegates asked the project leader to prepare a 2<sup>nd</sup> CD with a new set of parameters with respect to stability.

**ISO 17123 – Part 5** (Total stations): After inclusion of the agreed comments the secretary will submit the final version for publication.

**ISO 17123- Part 8** (GNSS): The second working draft was successfully discussed, so that the final version of the CD could be completed until end of 2012.

**ISO 17123 – Part 10** (Non prism measurement, reflectorless distance measurements by electronical tacheometers): The project leader from Leica Geosystems has changed (now Mr. Zogg). The presented document structure was intensively discussed. Finally Mr. Zogg was asked to prepare a new document including the main performance parameters and test conditions.

**ISO 17123-Part 9** (Terrestrial laser scanners): Due to the lack of active members the possibility consists to cancel the PWI. Mr. Heister was asked to request DIN for the nomination of a new project leader.

**ISO 16331-Part 2** (Terrestrial laser scanners): Furthermore this project will be kept on hold, as no project leader is available.

The next meeting of ISO/TC 172/SC 6 will be held on September 18-20 2013 in Graz on invitation of Prof. Dr. Werner Lienhart, Institute of Engineering Geodesy and Measurement Systems, University of Technology Graz, Austria

After the meeting a voluntary afternoon trip was organized to the famous BMW Welt, an interesting architectural building with a technical museum concerning the evolution of BMW motor vehicles.

Hans Heister  
Neubiberg, February 22, 2012

Abbreviations:

PWI:	Preliminary work item proposal (stage 1)
WD:	Working draft (stage 2)
CD:	Committee draft (stage 3)
DIS:	Draft international standard (stage 4)
FDIS:	Final draft international standard (stage 5)
ISO	International standard (publication) (stage 6)

- **Standards issues related to FIG Commission 2.** People working in different countries have different competencies. One key issue is to establish a database on body of knowledge in land surveying. Distance and e-learning are important points of reflection and development.
- **Standards issues related to FIG Commission 4.** The International Board (IHO, FIG and ICA) has published guidelines for establishing individual recognition for hydrographic surveyors, at both professional and technical levels, taking into account education and experience.
- **Standards issues related to FIG Commission 5.** There was also some discussion concerning FIG Publication No. 9. At the FIG working week held in Marrakesh it was decided that FIG publication No. 9 Recommended Procedures for Routine Checks of Electro-Optical Distance Meters - ([http://www.fig.net/pub/figpub/pub09/FIG-Publication\\_Nr9\\_english.pdf](http://www.fig.net/pub/figpub/pub09/FIG-Publication_Nr9_english.pdf)) should be revised with additions for recommendations for hand held distance-meters and reflector-less instruments. Unfortunately due to a very heavy workload this has not advanced. Nic Donnelly, from Land Information New Zealand, spoke about the importance of Metadata standards. This is an important field - not just in surveying and geodesy. He is looking to establish a joint FIG/IAG working group to study this important subject.
- **Standards issues related to FIG Commission 6.** Commission 6 is interested in the ISO TC 172 and the ISO 17123 series of standards related to survey instruments. There is interest in helping to define standards in deformation measurement and monitoring and data analysis. Other points of interest include machine guidance, land xml for 3D models, integrating BIM model and machine guidance, exchange of data.
- **Standards issues related to FIG Commission 7.** See remarks on *Progress of ISO 19152 on the Land Administration Domain Model (LADM)* above.
- **Standards issues related to FIG Commission 9.** One item of interest is documents and valuations of properties in jurisdictions where there are no existing property markets and systems in place. During the Rome Standards Network meeting Ian Greenway initiated a discussion concerning work of the Royal Institution of Chartered Surveyors (RICS) on **International Property Measurement Standards (IPMS)**.

Frances Plimmer, FIG Commission 9 Chair, and the FIG lead for this initiative reports:

RICS has recruited a team of “partners”, of which FIG is one, to develop **these International Property Measurement Standards**. There is to be a two-stage process – standard setting and standard promotion – and we are at the very beginning of the first stage.

Membership of this team includes (but is not necessarily limited to):

Asia Pacific Real Estate Association (APREA)	Peter Mitchell
Association of Southeast Asian Nations (ASEAN)	Mr Tian Sui Goh
Associação Brasileira de Normas Técnicas (ABNT)	Marcia Ferrari
ASTM International	Brian Meincke
Building Owners and Managers Association International (BOMA)	Henry Chamberlain Lisa Prats
CREDAI	Lalit Kumar Jain
Commonwealth Association of Surveying and Land Economy	Max Croft
CoreNet	Angela Cain Larry Bazrod
FIABCI	Patricia Delaney Judy Shenefield
International Facility Managers Association (IFMA)	Tony Keane
International Federation of Surveyors (FIG)	Frances Plimmer
International Valuation Standards Council	Chris Thorne
Royal Institution of Chartered Surveyors	Johnny Dunford Alexander Aronsohn

There has been a conference call for partners to introduce themselves and we are due to meet up in Washington DC in early May for our first round table discussion to confirm the strategy and scope of the project. Our agenda is (to date) as follows:

**1. Review of Purpose:**

- Currently property around the world is measured using different standards. This leads to inconsistency of data and a lack of comparability that negatively impacts business decision making and valuation.
- By creating International Property Measurement standards together, as an international coalition we can:
  - Ensure the existence of high quality shared and open standards for all
  - All take responsibility for the use and implementation of the shared standards
  - Make the direct connection between Property Measurement Standards and International Valuation Standards to ensure both support international consistency of data
  - Allow for an open and transparent standard setting process, including consultation documents; inclusive of all stakeholders and the public
  - In the future, seek to expand the consistent measurement principles to other sectors beyond property; such as land and construction

**2. Scope Background and comment to aid discussion:**

The role of the Coalition should not be to engage in any standard setting; the coalition will not discuss technical issues at this stage.

Instead the Coalition will set out the scope, process and confirm any legal or procedural issues. So the Coalition will focus on the global strategy for the acceptance and implementation of the IPMS.

**3. Stakeholders and capability** *Background and comment to aid discussion:*

Each coalition stakeholder attending the inaugural meeting is invited to give a short presentation on their organisation, its capabilities and objectives for the IPMS project.

**4. Definition of Property** *Background and comment to aid discussion:*

While this project is focusing on property, it is felt that consistent measurement is needed across all sectors; including land and construction. The coalition might confirm that Property Measurement is the first step in creating consistency of measurement across all sectors. If we look to confirm principles that underpin property measurement, we should ensure that those principles are relevant beyond property. This will enable us to use the same principles in the future to confirm measurement standards in other sectors.

Property includes a broad range of asset types and chattels. For the purpose of IPMS and to ensure the project is bounded the current proposal is to limit property to the real estate sector. Real estate means land and the built environment so small assets such as arts and antiques, personal property and chattels and intangible assets such as business valuation are excluded at this stage

**5. Communications** *Background and comment to aid discussion:*

Communication of the IPMS project, progress and stakeholder involvement will require a comprehensive communications plan. With this in mind we have established a website [www.internationalmeasurementstandards.org](http://www.internationalmeasurementstandards.org) which we are donating to the Coalition.

During the meeting we hope to discuss communications in detail. It is hoped that good communication and the early stages will help in long term and sustainable implementation.

**6. Entity** *Background and comment to aid discussion:*

It is suggested that the Coalition consider creating IPMS as a separate legal entity with all Coalition members as contributors. This will have the result that the IPMS entity will own the standards and therefore IPMS acts independently for the global public benefit.

**7. Copyright and Intellectual Property** *Background and comment to aid discussion:*

The Coalition, perhaps through a legal entity described above, should secure all copyright and intellectual property in the standards. We should seek absolute clarity that the content will be owned by the coalition. For example this should ensure that the content of IPMS is never changed, without agreement of the Coalition. We also suggest ensuring that the content of IPMS could never be used under a different name or brand for another purpose

The Coalition should also ensure that while ownership is clear, that the content be openly distributed for free; or as close to free as possible while recovering costs.

**8. Standard Setting Process** *Background and comment to aid discussion:*

The Coalition will need to set up a standard setting committee, perhaps of 5 - 7 individuals. For the purpose of IPMS the individuals would not represent any one organisation, sector or region. We would seek people who are qualified technically, have standard setting experience, and have an international outlook and understanding.

#### Suggested Next Steps:

- Standard Setting Committee is selected.
- Standard Setting Committee produces a consultation document and detailed scope with a comment period.
- Based on feedback, the Standard Setting Committee produce an Exposure Draft with a comment period.
- Based on feedback, the Standard Setting Committee produce the first version of International Property Measurement Standards.
- Updates produced annually following a comment period.

Once this first stage of setting standards has been achieved, there will be a roll-out second stage. Clearly, given FIG's relationship with its member associations, we are not in a position to impose any agreed standards on our membership, so the second stage for us will be very much one of promotion, and recommendation. But, of course, this will be for the future...

- **Communication issues.** It has been proposed in the Standards Network meeting that the Standards Template is sent out to the National Professional bodies. The FIG Commissions don't necessarily report their Standards activities to them. This would provide more interaction. It was proposed that the National Professional bodies are far more competent to evaluate the importance of standards to their members. Informing them of the FIG Standards Network work items would also ensure continuity and higher visibility.

**Closing Remarks.** Standards are important in surveying. If FIG does not contribute to them, present and future standards will be influenced by other concerned parties. And surveyors and the FIG will follow what these interested parties decide. For this reason it is important the FIG commissions participate actively in the Standards Network.

The Standards Network will not meet in Abuja.

David Martin

18 February 2013