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

WHAT DOES FIG SURVEYORS EXPECT IN COLLABORATIVE PARTNERSHIP WITH IGS

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IGS Workshop 2012, Olsztyn, Poland

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OVERVIEW

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- FIG Commissions
- FIG commission 5 (Positioning and Measurement) – lead in collaborating with IAG and IGS
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- Summary

The International Federation of Surveyors (FIG)

- Founded in Paris in 1878
- Federation of national associations
- Represents all surveying disciplines
- UN-recognized non-government organization (NGO)
- Aim is to ensure that the disciplines of surveying and all who practice them meet the needs of the markets and communities that they serve
- Provides an international forum for discussion and development aiming to promote professional practice and standards

FIG activities supporting professional development

- FIG Congress held every four years
  - Kuala Lumpur, Malaysia - 2014
- Annual Working Weeks held in intervening years
  - Abuja, Nigeria – 2013
  - Sofia, Bulgaria – 2015
  - Christchurch, NZ - 2016
- Biennial regional conferences
  - Montevideo, Uruguay – November 2012

Membership – 120 countries representing over 300,000 professionals

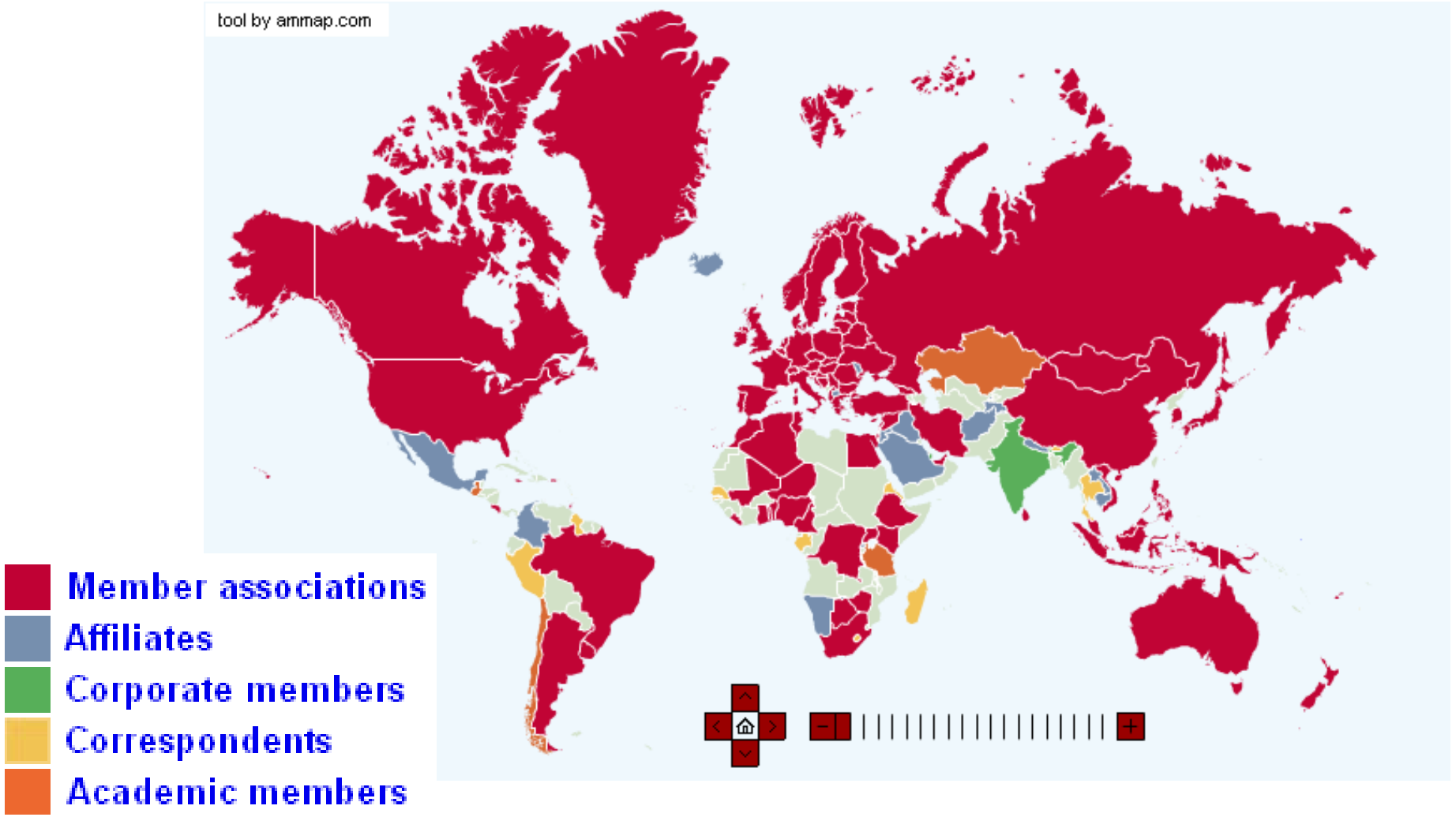

FIG Commissions

- Commission 1 – Professional Standards and Practice
- Commission 2 – Professional Education
- Commission 3 – Spatial Information Management
- Commission 4 – Hydrography
- Commission 5 – Positioning and Measurement
- Commission 6 – Engineering Surveys
- Commission 7 – Cadastre and Land Management
- Commission 8 – Spatial Planning and Development
- Commission 9 – Valuation and the Management of Real Estate
- Commission 10 - Construction Economics and Management
- Young Surveyors Network

Commission chairs 2011-2014 (left to right): **Leonie Newnham, Australia** (Comm. 1), **Steven Frank, U.S.** (Comm. 2), **Yerach Doytsher, Israel** (Comm. 3), **Michael Sutherland, Canada** (Comm. 4), **Mikael Lilje, Sweden** (Comm. 5), **Gethin W. Roberts, UK** (Comm. 6), **Daniel Roberge, Canada** (Comm. 7), **Wafula Nabutola, Kenya** (Comm. 8), **Frances Plimmer, UK** (Comm. 9) and **Robert Sinkner, Czech Republic** (Comm. 10).

The mission of FIG Commission 5

- Focus on modern and integrated positioning technologies.
- Facilitate and keep abreast of technical developments.
- Foster and support applied research
- Formulate and formalize collaboration with sister organizations, such as IAG/IGS
- Regular participation in FIG Events

Terms of Reference

FIG Commission 5 - Positioning & Measurement

- The science of measurement instrumentation, methodology and guidelines.

- The acquisition of accurate and reliable survey data related to the position, size and shape of natural and artificial features of the earth and its environment and including variation with time.

General

FIG Commission 5 - Positioning & Measurement

- **About the development, use and integration of technologies for positioning and measurement**
  - associated with standardization, best practices and fundamental reference frame issues
- **Many technical issues tackled by Commission 5 are global in nature**
  - tasked to address global problems such as climate change, sustainable development and humanitarian needs
  - disciplines covered are at the heart of delivering solutions for the spatial aspects of important global problems.
- **Specific activities aimed at developing countries**
  - examination of Low Cost Surveying Technologies,
  - assistance with implementation of modern Geodetic Reference Frames and associated infrastructure, and
  - contribution to appropriate Continuing Professional Development programs.

Working Groups of
FIG Commission 5 - Positioning & Measurement

- **WG 5.1 - Standards, Quality Assurance and Calibration**
  - Chair, David Martin, France
- **WG 5.2 - Reference Frames**
  - Chair, Graeme Blick, New Zealand
- **WG 5.3 - Geodetic and Positioning Infrastructure**
  - Chair, Neil Weston, USA
- **WG 5.4 - Kinematic Measurements**
  - Chair, Volker Schwieger, Germany
- **WG 5.5/WG 6.2/IAG 4.2.5 - Ubiquitous Positioning**
  - Co-Chairs, Allison Kealy, Australia, & Guenther Retscher, Austria

FIG Commission 4 - Hydrography

- Hydrographic surveying
- Hydrographic education and training
- Marine environment and coastal zone management
- Nautical charting and bathymetric digital maps
- Electronic navigation charts

FIG Commission 6 – Engineering Surveys

- Acquisition, processing and management of topocentric data
- Civil engineering and public works construction
- Machine guidance
- Deformation monitoring systems
- Automated and multi-sensor measuring systems
- Terrestrial laser scanning systems

FIG collaborative activities involving IAG, ICG, and IGS

Technical Seminar on Reference Frame in Practice, 4-5 May 2012, Rome, Italy

Presentation at Reference Frame in Practice Technical Seminar, 4-5 May 2012, Rome, Italy

Services of the International Association of Geodesy and IGS -

Global Geodetic Observing System

Links & References

Ruth E. Neilan

Director, IGS Central Bureau; Vice-Chair, GGOS

www.igs.org www.ggos.org

FIG Rome 2012, Reference Frames in Practice

May 5

“Cost Effective GNSS Positioning Techniques” (An example of a FIG publication)

- **GLOBAL NAVIGATION SATELLITE SYSTEMS**
  - GPS
  - GLONASS
  - GALILEO
  - COMPASS
- **GNSS POSITIONING TECHNIQUES FOR SURVEYING**
  - Relative Positioning
  - Precise Point Positioning
  - Positioning Software Packages and Data Types
- **COST-EFFECTIVE GNSS**
  - Cost-Effective Rovers / Low-Cost GNSS Receivers
  - Continuously Operating Reference Station (CORS) Networks
- **WEB-BASED POSITIONING TOOLS**
  - OPUS, SCOUT, AUSPOS, and CSRS-PPP
- **APPENDIX A – THE INTERNATIONAL GNSS SERVICE**
- **APPENDIX B – Additional Information and Resources**
- **APPENDIX C – Global and Regional Reference Station Networks**
- **BIBLIOGRAPHY**

Report compiled by: Dr. Neil Weston, National Geodetic Survey, USA and Dr. Volker Schwieger, University of Stuttgart, Germany.

Other collaborative activities

- **IGS Multi-GNSS Global Experiment (*IGS M-GEX)***
- **Joint participation in the working groups of the UN International Committee on GNSS (ICG)**
- **Surveyors represented by FIG can be a valuable user source for:**
  - Testing IGS products, and
  - Evaluation of GNSS based methodologies such as Real-time positioning with GNSS

Summary

- **FIG collaboration with IAG/IGS in regional and global outreach activities benefits the surveying professionals in all fields and applications.**
- **Examples of collaboration include:**
  - jointly organized seminars and workshops,
  - partnering the development of technical sessions at FIG conferences,
  - cooperation in preparation of fact sheets, guidelines, and other appropriate publications
- **Benefits of active collaboration:**
  - Networking, meeting surveying professionals and participation in discussions of issues, can help the many thousands of professional surveyors represented by FIG in meeting their needs for state-of-the-art technical knowledge and best practices for application of today's GNSS-based positioning technologies.

Thank you for you attention

FIG Home Page:	http://www.fig.net/
FIG Publications:	http://www.fig.net/pub/index.htm
FIG Commissions:	http://www.fig.net/comm/comindex.htm
FIG Commission 5:	http://www.fig.net/commission5/index.htm