

**Report for the 27th General Assembly
FIG Working Week in Athens, May 2004**

**Commission 5 – Positioning and Measurement
Report on Activities 2003 – 2004**

1 General

In the past year Commission 5 has been very active at FIG and other related events. Major new developments include:

- Establishment of Working Group 5.4 on Cost Effective Surveying Technology and Techniques for Developing Countries. It is a Joint Working Group between Commissions 3, 5 and 7, with Commission 5 responsible for leadership.
- Participation in the United Nations Workshop on Global Navigation Satellite Systems (GNSS), including securing a position for FIG on the proposed International Committee on GNSS (ICG) to be established under the auspices of the UN.
- Work to flesh out FIG's MoU with the International Association of Geodesy (IAG). This included briefing President of FIG for his meeting with the President of IAG and the development of a paper on "The New Structure of the IAG and its Relevance to FIG".

We also continued to build our web pages as a repository of information for delegates and other interested parties. The Commission issued Newsletter to delegates in May 2003 and January 2004.

2 Events

2.1 7th South East Asian Survey Congress Hong Kong SAR, China, November 2003

The Chair of Commission 5 and the Vice Chair Administration attended the Congress where several Technical Sessions were sponsored by Commission 5. Two FIG Vice Presidents and two other Commission Chairs were also present, which enabled several FIG meetings to be held. A full report is available on the Commission 5 web pages.

2.2 FIG Regional Conference in Morocco, December 2003

Commission 5 had very successful involvement in the FIG Regional Conference in Morocco in November 2003. All Commission 5 Working Group Chairs attended. A report on Commission 5 involvement is available on the Commission 5 web pages.

**2.3 United Nations Workshop on Global Navigation Satellite Systems (GNSS),
Austria**

The Chair of Commission 5 attended:

- A major outcome from the week was the proposal for the establishment of the International Committee on GNSS (ICG) under the auspices of the UN. For the first time in the more than 40 years history of GNSS, the ICG will allow organised, global input by civilians. The ICG will include strong representation from the Surveying, Mapping and Earth Sciences community.

- The UN deliberately involved people from developing countries in this process (including from many Surveying and Mapping organisations). This proved very beneficial in ensuring the recommendations really did address the needs of developing countries. Also, in working sessions, people from developing countries worked directly with office bearers in relevant international organisations, which was of benefit to both parties.

A full report is available on the Commission 5 web pages.

2.4 9th International Symposium on Mobile Mapping Technology, Kuming, China, March, 2004

This event is sponsored through Working Group 5.3 and is also co-sponsored by IAG and ISPRS. Report from Working Group 5.3 (below) has more details.

2.5 FIG Working Week in Athens, Greece May 22 - 27, 2004

Commission 5 has assisted in inviting keynote speeches from the United Nations Office for Outer Space Affairs and the International Association of Geodesy. Commission 5 is responsible for the following sessions in the technical symposium, with more than 30 papers:

- TS3 Standards, Quality Assurance and Calibration
- TS7 Reference Frame in Practice
- TS11 Positioning and Measurement Technologies and Practices I – GNSS Networks
- TS26 Positioning and Measurement Technologies and Practices II – Laser Scanning and Photogrammetry
- TS29 Positioning and Measurement Technologies and Practices III – Applications and Processing

Commission 5 is also involved in the following joint sessions:

- TS13 Appropriate Technologies for Good Land Administration I
- WSH3 – Vertical Reference Frame & Marine Construction/Dredging

During the Working Week there will also be a meeting of Commission 5 open to all interested parties. All national delegates and correspondent members of the Commission have been encouraged to attend the Working Week, which is at the half way point of the current Work Plan period (2002 to 2006).

2.6 FIG Regional Conference for Asia and the Pacific, 3-7 October, 2004, Jakarta, Indonesia

Chair of Commission 5 is taking a lead on behalf of Commissions in the organisation of the FIG Regional Conference for 2004 in Jakarta, Indonesia in October. The Commission Chair has helped achieve strong involvement from the International Association of Geodesy (IAG) and the Permanent Committee for GIS Infrastructure for the Asia-Pacific.

3 Working Groups

3.1 WG 5.1 Standards & Quality assurance

- Working Week 2003 in Paris: Session on the Working Group topic.
- Regional Conference in Marrakech: Active participation and Working Group Chair presented a paper on Laser-Scanning (Principles, Methods, Systems etc) and Chaired a Technical Session.

- Working Group Chair also represented the Commission Chair at ACCO Meetings in Paris and Marrakech
- Development of a questionnaire on “Certification of Instruments” (Vaclav Slaboch). The questionnaire was sent out and approximately 30 responses were received. The questionnaire will be improved and sent out a second time in 2004.
- Organization of a Seminar in Germany on “Kinematic Measurement Methods” with strong aspects of quality assurance (within DVW). 100 participants from Germany, Switzerland Austria and Czech Republic, 14 Presentations, 2 days (February 2004, Stuttgart).
- Since 2003 Working Group Chair has been a Member of the German Committee of Standards (DIN) for “Geodätische Instrumente und Geräte” (geodetic instruments and devices).
- Prof. Hans Heister (Munich, GER) has recently been appointed to represent FIG at ISO TC 172 SC 6

3.2 WG 5.2 Reference Frame in Practice

The work of WG-5.2 has so far been focused on

- Outlining topics for fact sheets and invited papers to seminars
- Organising sessions at FIG Working Week in Paris, 2003
- Organising sessions at FIG Regional Conference in Morocco, 2003
- Creating a core member-group as well as a reference group

The WG Chairs are currently contacting the members to discuss tasks for the next 2.5 years based on the work plan for the working group. Some topics for fact sheets or invited papers:

- Assisting users during the shift from an old geodetic datum to a modern one.
- Where to find transformation parameters.
- The use and the set up of permanent GPS stations.
- Explaining to users the difference between the geodetic datum and the projection.
- How to best marry GPS and national levelling network maintenance.
- Explaining going from GPS-co ordinates to plane/vertical co-ordinates.
- Global reference frame issues including continental drift/land uplift

At the Regional Conference in Marrakech, WG5.3 hosted a successful session on Regional Reference Frame involving local experts and a representative of IERS (an IAG body) speaking on ITRF.

3.3 WG 5.3 Integrated Positioning, Navigation and Mapping Systems

- Organizing a workshop on Mobile Multi-sensor systems at the next ISPRS congress.
- Planning for the MMT2004 in Kuming in March 2004. The meeting is organized in collaboration with the IAG C4 and ISPRS Com-II. Task forces 5.3.1 on Mobile Mapping Systems and 5.3.2 on Digital Mapping are a major contributed to the symposium.
- Establishment of the Task force 5.3.1 web site on GPS Modernization and GNSS Development. It is hoped that this can be used as a mechanism for coordinating FIG input to the proposed International Committee on GNSS (ICG) to be established under the auspices of the UN.

3.4 WG 5.4 on Cost Effective Surveying Technology and Techniques for Developing Countries

This Working Group 5.4 has been established with Dan Schnurr from the UK as Chair. It is a Joint Working Group between Commissions 3, 5 and 7, with Commission 5 responsible for leadership. The draft Work Plan for Working Group is available on the Commission 5 web pages. Several delegates from the participating Commissions have become members of the Joint Working Group.

3.5 WG 4.2 Vertical Reference Frame Issues in Hydrographic Surveying

This is a Joint Working Group led by Commission 4. Commission 5 Chair has been actively involved. The Joint Working Group will meet in Athens and release a White Paper on the topic.

Matt Higgins

Chair, FIG Commission 5

February 2004