

**Report to the 25th General Assembly
FIG Congress in Washington, 19-26 April 2002**

FIG TASK FORCE ON STANDARDS

This report provides the General Assembly with an update of recent Task Force activity, but also reviews the progress of FIG in the area of standards since the work of the Task Force began in 1998. In addition it provides a summary of the issues which the Task Force's successor will need to address in the coming year(s).

1. The importance of standards and of surveyors' involvement in their development

Standards are of great relevance to us as individual practitioners; and we rightly have an expectation that our professional bodies (particularly international bodies such as FIG) will provide us with a clear lead and guidance in this area. The Task Force has sought to assist this during the last four years and has had some success but recognises that further work is required. To quote two statistics:

- At the end of 1999, there were 12,524 ISO standards in print, amounting to 356,427 pages; and
- The benefit to the German economy from standardisation amounts to more than US\$ 15 billion per year.

Survey practitioners' involvement in the standardisation process will:

- Broaden the base and the knowledge of those involved in the standardisation process as to what material already exists and can be incorporated, and what initiatives for developing commonality are already underway;
- Shorten the timescales needed to develop standards, allowing them to respond more quickly to market requirements; and
- Coalesce the key elements of standards users within the main standardisation bodies, allowing issues to be resolved during the development of standards, rather than through a revision (or avoidance) process.

2. Task Force work 1998-2002

Following representations from various internal communities as to the importance of standards for surveyors, FIG decided to establish a Task Force on Standardisation. The Task Force started work in earnest in 1998. It created a work plan which covered a wide range of activities. A key input to the work plan was a *questionnaire on standards*, distributed to FIG member associations and others in early 1999. Over 50 responses were received, a very heartening result. The results provided information on the priorities of FIG members. In summary, the following points are worthy of note:

- The important geographical level for standard setting was seen to be international (ISO); two regional bodies were mentioned – CEN in Europe and PASC covering Asia and Australia – but these were seen as of declining importance in surveying fields.
- The key ISO activities were seen as those in Technical Committees 59 and 172 (on survey instruments), TC211 (Geographic Information/ Geomatics), and TC204 on transport information and control systems.
- The ISO standards in greatest use amongst surveyors were the ISO 9000 series on quality management, those on modelling languages, and those defining entities such as codes, dates and time.
- The key relevant activities of national standards bodies reported in the questionnaire replies were data exchange standards, tolerances, digital maps, and GIS standards.
- In the arena of *de facto* standards, exchange formats such as DXF and RINEX were particularly mentioned.
- The focus proposed for the Task Force was to gain more influence in ISO TC211, to ensure that practitioners have more impact as standards are developed, and to make surveyors more aware of existing standards (so as to avoid duplication of effort).

The Task Force has spent much time *understanding how ISO works* (recognising that the scale and scope of ISO's operations dwarfs that of most other standardisation bodies). This has included:

- Active involvement in ISO TC 211 on Geographic Information/ Geomatics, and in TC172 SC6 on survey instruments, attending meetings, commenting on work in progress, and reporting on FIG activity; and
- Developing a good relationship with key people in the ISO Central Secretariat.

A particular success for the professional surveying associations in the last few years has been to turn the proposed ISO standardisation work on the *qualification and certification* in the geographic information area (ISO project 19122), into an informative report. FIG's increased understanding of the workings of ISO and how most effectively to lobby it had a significant impact in this case, with the decision to alter the status of the work being taken after a meeting at the FIG Congress in Brighton in 1998. Following further active and constructive participation by FIG, the draft report's recommendations are that the work of certification and qualification is best left to international professional bodies. This success therefore presents a challenge to the profession to act in this area. The Task Force on Standards has worked closely with the FIG Task Force on Mutual Recognition on this work.

During 2000 and 2001, FIG has also been *working closely with IVSC*, to gain a voice in the process of developing international valuation standards. IVSC is a much younger and less complex body than ISO and more rapid progress has therefore been possible, with the professional surveying community seen as providing an important input to the process and being invited to do so. This will, hopefully, lead to a formal recognition of this role for FIG within IVSC in the near future.

Working with ISO and IVSC, and within FIG, the Task Force has developed an *FIG Guide on Standardisation*, to provide a clearer understanding of how professional bodies such as FIG can influence the development of standards. The Guide is being presented to this General Assembly for approval. It will, however, need to be a living document.

The Task Force also proposed the *FIG Statement on the Cadastre to ISO for fast tracking* to become an international standard. It has not been accepted for fast-tracking, on the basis that it is a field generally covered by national legislation. Working with TC211, therefore (and supported by a formal TC211 resolution), FIG Commission 7 has included in its plans for 2002-06 to use the area of the cadastre as a ‘test bed’ for the TC211 standards, to ensure that they support this vital area and to highlight any additional need for standards in this area.

The Task Force is currently considering what *other FIG material might be suitable for fast-tracking*. One active area at the moment is on determining how the FIG Multi-Lingual Dictionary can be consolidated to best effect with ISO terminology activity in the surveying field. A number of meetings have taken place to discuss this area further, including at Intergeo in September 2001, and a good working relationship has been established.

The Task Force has also established some *links with FIG’s sister societies*, and has begun to explore how joint activity can add to our effectiveness in shaping activity related to standardisation. Further work in this regard is planned during the 2002 FIG Congress.

On the educational side, the Task Force has set up an *area of the FIG web site* and maintains it, providing information on current standardisation activities. The number of papers about standards activities at FIG meetings is also increasing, as the topic gains profile in the surveying community.

In summary, it is fair to say that FIG’s increased focus on standardisation has created a higher profile for FIG within this field, and for standardisation within FIG. A number of strong personal relationships have been developed, providing a good basis on which to build strong institutional relationships. Much greater coordination of activity, within and beyond FIG, is however needed to build the efforts to date into meaningful, concrete progress. FIG’s resources are limited, and a clear focus throughout FIG, and with its sister societies, is therefore essential if progress is to be made.

3. FIG policy

In light of the learning to date, FIG created a policy on standardisation which was ratified at the 2001 General Assembly. The key parts of that policy read as follows:

‘Overall, FIG’s aim in the field of standards is to assist in the process of developing workable and timely official and legal standards covering the activities of surveyors. FIG is also committed in its objectives to developing the skills of surveyors and encouraging the proper use of technology, activities which are becoming increasingly shaped by standards.

FIG will generally seek to ensure that *de facto* standards become official standards as technology matures, or at the very least that all relevant official, legal and *de facto* standards are produced in full knowledge of all other related material.

FIG sees the following roles for professionals in the standardisation process:

- Assisting in the production of workable and timely standards by proposing material which can be transformed into international standards (rather than relying on work

developed by others) and by participating in the process of developing standards;
and

- Disseminating information and creating explanatory material and guidance notes to ensure that all members of FIG are aware of the most recent standardisation activities, standards and regulations, and their implications for surveyors.'

4. Activity during the Washington congress

A number of activities relating to standards are planned during this week. The extent of them reinforces the developing work of FIG in this area:

- The round-table meeting of sister societies on Monday 22 April will include consideration of the issue of standards, in particular how the different societies can coordinate their work to best effect;
- A technical session (JS3, Tuesday 1100-1230) will build on this round-table by allowing sister societies and FIG to present papers summarising their work in the field of standardisation;
- A number of technical sessions and meetings on the area of standardisation are planned. These include:
 - A session on TC211 activities (JS4, Tuesday 1400-1530);
 - A Forum and discussion on TC211 work (JS5, Tuesday 1600-1730) chaired by the Chair of ISO TC211;
 - A Forum and discussion on the ISO work on the qualification and certification of personnel (JS15, Wednesday 1400-1530), which the ISO project leader on this work will attend;
 - A round-table discussion with IVSC on the role of valuation standards (JS22, Thursday 1100-1230) and a technical session on valuation standards (JS24, Thursday 1400-1530);
 - Technical sessions on the testing and standardisation of survey instruments (TS5.11 Friday 0900-1030; TS5.12 Friday 1100-1230).
- Informal meetings between senior officials of FIG and of IVSC to discuss how to further collaboration between the two organisations; and
- An initial meeting of the FIG Standards Network (the proposed successor to the Task Force).

5. Future activity

Continuing effort by FIG will be needed to convince surveyors of why they should be interested in, and get involved in, standardisation. The Standards Network will coordinate this. Its proposed terms of reference are:

- 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 FIG Bulletin, and more directly to relevant Commission Officers;
- Maintaining the Guide on Standardisation, and related material on the FIG website;

- Working with other NGOs, within the framework of the MOUs signed by the Council; and
- Advising FIG's officers and members on standardisation activities as necessary.

Particular activity which needs to continue beyond this General Assembly can be summarised under the headings used in the Guide:

5.1 Interpreting and promoting published standards

This work will need to be led by FIG's Commissions and Permanent Institutions. To achieve it, coordination of their work plans and those of standardisation bodies will be necessary, something which the Standards Network can support. It is particularly relevant currently to the work of ISO TC211 (where Commissions 3, 5 and 7 are particularly important and where an Outreach Advisory Group has recently been formed in part through FIG's representations), of TC59/ TC172 (where Commission 5 already has much work in hand), and of IVSC (Commission 9). This work will raise FIG's general profile and relevance, and provide a wider remit for the Commissions.

5.2 Influencing the existing work programmes of standardisation bodies

FIG needs to coordinate the inputs it makes to the creation and development of standards by the various standardisation bodies. This is both at international level (through FIG continuing to work with ISO and IVSC) and at national level (through FIG's member associations lobbying their national standardisation bodies). At the international level, FIG can appoint Experts to ISO's work. In this way, FIG has commented on a number of the key TC211 documents and has influenced ISO's work on survey instrumentation. Funds, however, are limited, and it is vital to prioritise activity. It is therefore proposed that FIG focus its activities in the immediate future on TC172/ TC54's work on survey instruments, on certain items of TC211's work (including qualification and certification, terminology, and the marketing of the standards), and on IVSC's work.

It takes time for individuals to understand the sometimes arcane ISO processes and language. It is also vital, if individuals are to have the greatest possible effect and influence, for them to be involved in the relevant drafting activity from the beginning. This means that FIG must be ready to respond quickly to new areas of standardisation work. It is also important that the many FIG members who represent their national standardisation bodies in international standardisation activity are aware of FIG's requirements and views. Influence at a national level is crucial if FIG is to achieve as much as possible with its limited budget, and FIG needs to work further with its Member Associations to determine how to combine activity to best effect.

5.3 Proposing new work areas for international standardisation

The activities of many of the technical commissions of FIG are well-covered by international standards, even if these at times are out of date or don't allow for new technology. Some of FIG's other Commissions, however, may well be working in areas where there are not international standards, and where they believe that there should be. These are therefore particular areas where FIG can consider the submission of material to standards bodies for fast-tracking to become standards, thus providing timely, appropriate standards.

Another role for professional associations is the pooling of best practice, which may often be ahead of the content of standards. FIG is keen to spread knowledge of any such work developed by individual member associations, and is itself proposing under the German Council's plans to create a wide-ranging world guide on best practice. This material is ideal for consideration for input to standardisation bodies (and to interpret and challenge existing standards).

Across its range of work, therefore, FIG should continue to review the needs of the market in terms of published standards before drawing up its work programmes, and continue to liaise with standardisation bodies over gaps in activity. Wherever possible, these gaps should be filled through the development of material by FIG, in close liaison with the relevant standardisation body, so that the completed FIG work can be fast-tracked to become a standard, and so that the timing of FIG's deliverables fits with the needs of the standardisation body (and the market). Further discussions are needed in this area as FIG's 2002-06 workplans get into their stride, and again the Standards Network can provide support.

5.4 Coordination of activities

It is important for FIG to coordinate its influencing and informative efforts with other international NGOs to ensure that the combined efforts are coordinated to best effect. This can probably best be achieved through the Memoranda of Understanding (MOUs) that FIG is developing with sister societies, and FIG should continue to ensure that standardisation issues are covered by such MOUs. The Round Table discussion planned at this FIG Congress may build into more formal cooperation, including the possibility of joint representations to the ISO Central Secretariat.

The FIG Standards Network, consisting of nominated representatives from each of FIG's Commissions, will provide a clearer linkage between Commission activity and standards, whilst building on the centre of expertise in standards that the Task Force has become in the last four years. The FIG web site will also be an important source of information for FIG members and others, as to how survey practitioners can influence standardisation activity to best effect.

6. Final words

FIG has managed to achieve a good deal in the area of standardisation in the last four years, raising FIG's profile in the standards arena, and standards' profile within FIG. Further, focussed activity remains necessary, however, if this work is to bring forth fruit. The Standards Network can coordinate this work, but its success will require the active support of FIG's Commissions, Permanent Institutions, Council and Member Associations. The area of standardisation is one of the most crucial facing surveyors today, and an area where professionals claim a difference from technicians. It is therefore a very important area for FIG.

As the FIG Task Force on Standards ends its work, the voluntary input of many individuals within and beyond FIG should be recognised by the General Assembly. It would be invidious to single out certain names (and leave open the danger of overlooking someone). Their contribution has however been significant in this vital area.

Iain Greenway
Chair, FIG Task Force on Standards
January 2002