

**Report to the 48th General Assembly
FIG Working Week 2025, Brisbane, Australia**

FIG Commission 6 – Engineering Surveys

Report of Activities 2024-2025

1. General

Commission 6 had a very successful presence at the Working Week 2024 in Accra, Ghana. A connection to the FIG Young Surveyors was established and Commission 6 participated in their conference session. Furthermore Commission 6 was held 2 technical sessions (TS02D: Deformation Monitoring of Civil Structures and Natural Phenomena, TS03D: New Approaches in Data Acquisition, Visualization and Interaction with Data) and one joint technical session together with Commission 6 (TS01F: Novel Cost-Effective Positioning & Engineering Systems and their Applications for Africa). All gained at a lot of interest and the seminar rooms were fully occupied. Although the setting in the exhibition hall with several power cuts was challenging, participants were actively involved in the discussions, see Fig. 1.



Fig. 1: Comm. 6 Presentations at the FIG Working Week 2024

The chair of Working Group 6.3 received the Best Paper Award of the Survey Review Journal (Fig. 2) and the annual meeting was well attended (Fig. 3).



Fig. 2: Survey Review Award for Peter Bauer



Fig. 3: Annual Meeting of Comm. 6

2. Working Groups

2.1 WG 6.1: Deformation Monitoring and Analysis

Working group 6.1. was in the preparation of the 6th Joint International Symposium of Deformation Monitoring which will take place in Karlsruhe in April 2025 (Fig. 4). The preliminary program is available at the conference website (<https://jisdm2025.gik.kit.edu/>) and the keynote speakers are defined. This conference is jointly supported by the three major geodetic organisations FIG, IAG and ISPRS.



Fig. 4: Logo of the 6th JISDM conference

2.2 WG 6.2: Dynamic Structural Monitoring

Working group 6.2 is preparing a post-conference workshop on dynamical structural monitoring linked to the JISDM conference. Part of this workshop are real world deformation measurements with different geodetic sensing techniques at a bridge in Karlsruhe (Fig. 5). Goal is to generate a test data set to derive best practice standards and publish them as a FIG document.



Fig. 5: Bridge used in the JISDM post-conference workshop

2.3 WG 6.3: Applications of immersive technologies in Engineering Geodesy

Working group 6.3 was in contact with ISPRS TC V / WG1: Education and Training through Curricula Development and Enhanced Learning Practices and a joint paper with the working title “Review and sample cases of immersive technologies in geospatial learning” is in preparation. The working group is also in close contact with the Young Surveyors. To promote and accelerate the use of VR in geodetic application a virtual surveyors catalogue at sketch fab (<https://sketchfab.com/>) was initiated and several 3D models of surveying equipment were developed and are available at the FIG Comm. 6 sketch fab page https://sketchfab.com/FIG_WG6.3_ImmersiveTech (Fig. 6). One of the goals is to present a VR application at the FIG booth in the exhibition area of the working week in South Africa in 2026.

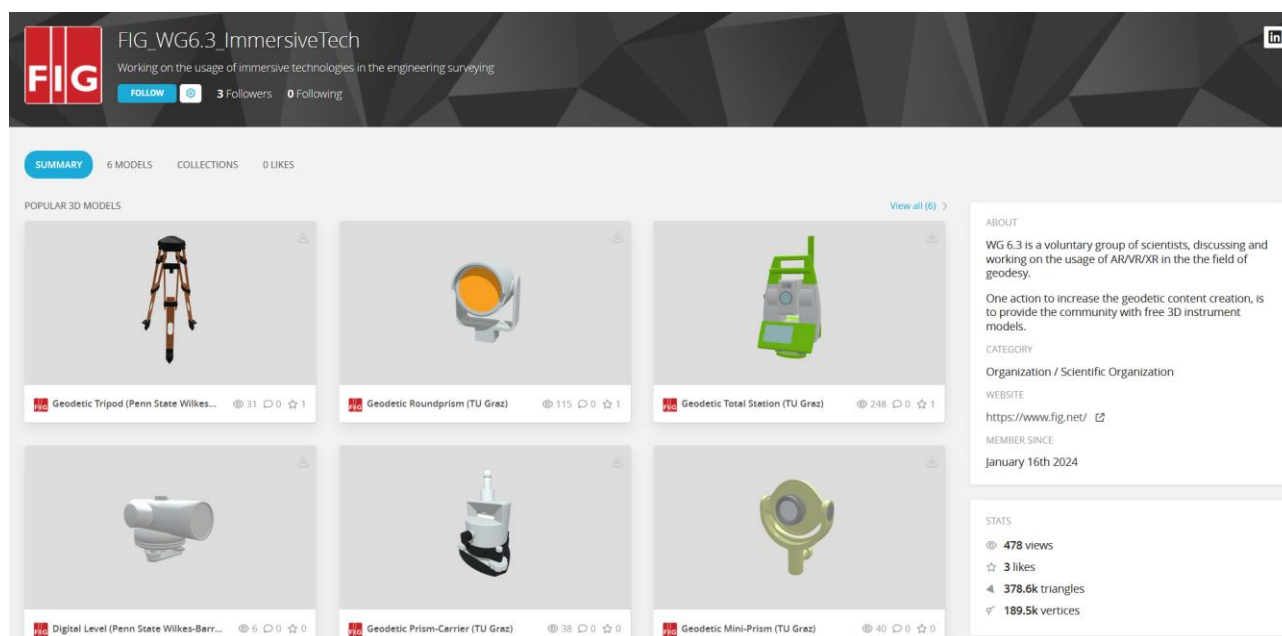
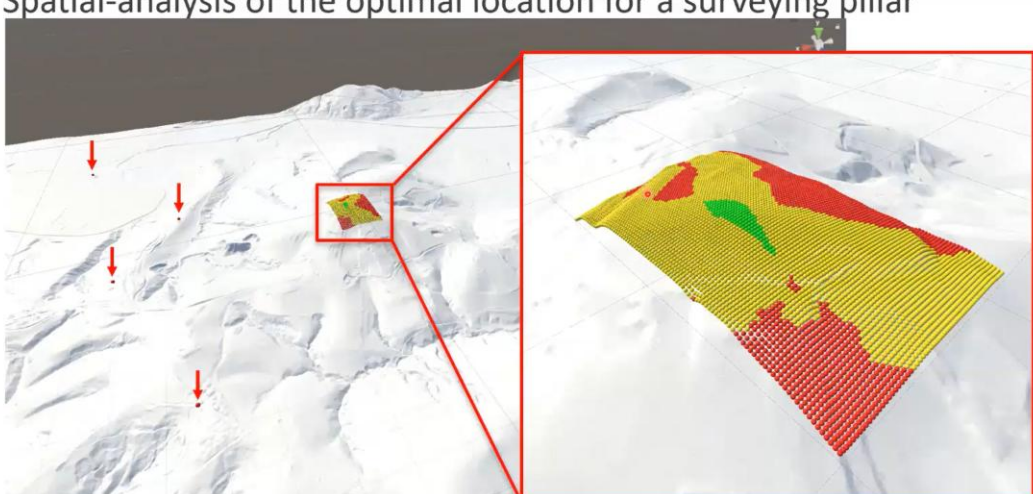




Fig. 6: FIG WG 6.3 Sketch fab web site

Furthermore, the first WG 6.3 webinar on “Unity for Surveyors” was successfully presented in cooperation with the FIG Young Surveyors (Fig. 7).

Line of sight between prisms



geoAT.  

- Spatial-analysis of the optimal location for a surveying pillar

FIG Webinar: Unity for Surveyors FIG Working Group 6.3 & Young Surveyors Network 40

Fig. 7: FIG WG 6.3 Webinar

2.4 WG 6.4: Engineering Surveying Outreach

Working group 6.4 initiated geodetic sessions at several conference and is also hosting a special session “Advanced Geospatial and Engineering Surveying Solutions for Infrastructure Health Monitoring” at the Structural Health Monitoring of Intelligent Infrastructure (SHMII) conference in September 2025 with the goal to further link FIG with other organizations and enhance the visibility of surveyors in the engineering field.

3. Cooperation

Working together with ISPRS and IAG in the preparation of the JISDM conference. Close cooperation with FIG Comm. 5 in the preparation of joint sessions for the FIG working week in Brisbane.

4. Events

Regular online meetings and preparation of JISDM conference. Preparation of the 2 technical sessions of Commission 6 for the working week in Brisbane. Webinar series initiated.

5. Communication and publications

The linked in page and the JIDSM conference page went live and first VR models were published on sketch fab.