

Topographic mapping (TopMap)

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This theme deals with advanced technology, in particular laser scanning, for topographic mapping. Its main activities in 2007 were two project funded by the BSIK programme “space for geoinformation,” a PhD study and several MSc studies.

Scientific level

Most of the staff and graduate students of this theme began research only within the last two years and, as such, there is limited output to date. A few journal papers have recently been submitted and more are under preparation. It is expected that the number of publications in ISI journals will be satisfactory in about two years.

Notable achievements and appointments of team members include the award of the prestigious Carl Pulfrich Award 2007 to Dr Markus Gerke. Prof. George Vosselman was invited as corresponding member of the German Geodetic Commission (a commission of the Bavarian Academy of Sciences) as well as member of the scientific committee of the Belgium National Geographic Institute. Ir. Sander Oude Elberink received the RGI innovation award together with the other members of the RGI-project 3D Topography.

In terms of new research funding, the Malaysian Government offered a PhD grant to Mr Khamarrul Razak to commence his PhD studies in TopMap in early 2008. Mr. Zhao Xu obtained funding from the National Natural Science Foundation of China to study as a PhD intern in TopMap for one year starting December 2007.

Relevance

Research results within the two BSIK projects are transferred to the companies participating in these projects. Companies like Oranjewoud, Cyclomedia and Cebra expect to improve the acquisition of 3D geo-information using tools developed at ITC.

Partners

Partners of current projects include TU Delft, Rijkswaterstaat, Kadaster, Wuhan University, Oranjewoud, Cyclomedia and Cebra. The National Remote Sensing Agency of India is partner in a project starting up in September 2008.

Coherence

All research focuses on the extraction of geo-information from imagery and point clouds and is in line with the theme Topographic Mapping. All MSc topics supervised by staff and PhD students of this research theme also are linked to topics of this theme. Currently active MSc students on these topics are:

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| Arik Tafia Darmawati | Using multi-pulse information for classification of airborne laser scanner data. |
| Herve Lahamy | Outlining of buildings in point clouds |
| Punya Prasad Sapkota | Segmentation of coloured terrestrial laser scanner data |
| Lee Yoon | Video based feature tracking |

Evaluation

The quality of the research is good as evidenced by the acceptance of all papers submitted to conferences with a full paper peer review process (Laser Scanning 2007, ISPRS Congress (Commission III papers), and Photogrammetric Image Analysis 2007). The volume of the research is, however, still limited due to the small group size of researchers (2 staff members, 3 PhD students). One additional staff member will be appointed in the next months. Several projects for additional PhD students are under preparation and in part already granted.