The ISPRS Workshop on High Resolution Mapping from Space 2001 was successfully held in the University of Hanover, Germany, from 19th to 21st September 2001, following the OEEPE Workshop on Integrated Sensor Orientation (September 17-18, 2001). It was hosted by the Institute for Photogrammetry and Geoinformation and co-organised by the ISPRS Commission I (Working Groups I/2 ‘Sensor Calibration and Testing’ and I/4 ‘Platform and Sensor Integration’) and Commission IV (Working Group IV/7 ‘Data integration and digital mapping’). The Workshop came just few days after the terrible events that occurred in the United States. In a letter sent to all participants some days before the beginning of the Workshop, the organisers explained how they were ‘faced with the difficult decision to either cancel the workshops or to continue with the preparations’, knowing that the thoughts of the participants were ‘focused on much more important things than science and technology’. Nevertheless, they decided that the workshop would take place, not allowing ‘any group of extremists to completely disrupt everybody’s life and to bring it to a standstill’, hoping that this would be ‘the right decision for science and technology’.

A total of 57 participants came from 16 countries. Unfortunately most of the expected scientists from America did not join the Workshop, bringing about small adjustments to the programme. One keynote speech and 32 oral presentations, divided into 9 sessions, reported the most recent developments concerning not only high resolution mapping from air and space with optical and radar instruments (including calibration aspects), but also topographic mapping, image processing, visualisation and semantic interpretation.

The opening ceremony, chaired by Christian Heipke, included welcome speeches by Peter Wriggers, the Dean of the Faculty of Civil Engineering and Surveying of the University of Hanover and John Trinder, ISPRS President. Subsequently, descriptions of objectives and terms of reference of the WGs involved in the Workshop were presented by the following Chairmen: Manfred Schroeder for WG I/2, Karsten Jacobsen for WG I/4 and Michael Hahn for WG IV/7. Ian Dowman, ISPRS General Secretary, gave a very informative keynote address on the rapid development of high resolution data, its characteristics and possible applications. The technical papers covered the full spectrum of high resolution mapping. The following highlights their main features.

In the field of high-resolution sensors, great attention was addressed to the session, chaired by Gottfried Konecny, on the potential use of Ikonos, that combines very high resolution and multispectral data. The investigations on the radiometric and geometric characteristics of Ikonos GEO products, both conducted in ETH Zurich and the University of Melbourne, showed that, after an adequate pre-processing, this imagery can yield sub-metre geopositioning accuracy and provide orthoimages that satisfy the requirements for 3D building extraction. The potential of the Ikonos imagery was confirmed by the Canada Centre for Remote Sensing, who produced a high resolution DEM from the same kind of images. The increasing use of CCD linear sensors, both for airborne and space platforms, was demonstrated in the ‘Line Detector Camera’ session, chaired by Michael Hahn. Airborne multi-line pushbroom scanners (ADS40 and HRSC-A) were described and two sensor models developed for this class of sensors (a new approach for indirect orientation, based on 3D free-form curves and a general sensor model for multi-line CCD sensors) were proposed. Matching and orthophoto generation were also investigated.

Concerning the sessions chaired by Ian Dowman and John Trinder on ‘Current and Future Missions’, we can mention: from DLR, the BIRD Payload Platform, which is planned to detect hot spot events using infra-red cameras, and the Shuttle Radar Topography Mission, that flew in February 2000 to provide DEM and image products with a global coverage. Moreover, RapidEye AG, also from Germany, is planning to launch a 4-medium resolution satellite constellation mainly for agricultural monitoring at the end of 2002. Another planned mission, the Pléiades from CNES, will consist of different types of satellites, including optical high-resolution and SAR-X components. The discussions
about these missions were focused on the availability of
data, mission and product costs, achievable accuracy and
range of applications.
The 'Calibration' aspects were taken into account in the
session chaired by Emmanuel Balsavias, in which the spe-
cific cases regarding MOS and a TDI camera were investi-
gated.

Different interesting ‘IN SAR’ applications were presented
in the session chaired by Manfred Schroeder. ERS-1/2
Tandem data were used to produce a large area digital eleva-
tion model over central Europe, to upgrade the eleva-
tion data over Australia and to detect some underground
coal mining in the German Ruhrgebiet that caused signifi-
cant surface movements.
Older sensors such as Corona KH4B and MOMS-2P were
discussed in the ‘Topographic Mapping’ session, chaired by
Frank Scholten. Even if these sensors are no more opera-
tional, a large amount of data is available and can be used
for the extraction of DEMs and orthoimages.

The Workshop didn’t deal only with image acquisition and
photogrammetric processing, but also covered other com-
plementary steps, like ‘Image Processing and Visualisation’
(session chaired by Karsten Jacobsen) and ‘Interpretation/
Semantic Applications’ (session chaired by Christian
Heipke). In these sessions an automatic method for digital
image balancing, a 3D viewer for interactive visualisation of
godata and a method for object orientated classification,
based on topological rules, were described. As concerns
the interpretation topic, four applications were presented:
extration of remote sensing parameters for erosion con-
trol, monitoring of reed population, land cover classifica-
tion and desertification monitoring.

The conference proceedings are available on CD and can
be ordered at the Institute for Photogrammetry and Geoinformation of the University of Hanover
(http://www.ipi.uni-hannover.de).

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**ISPRS Official Symposium Dates 2002**

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(Source: ISPRS.org)