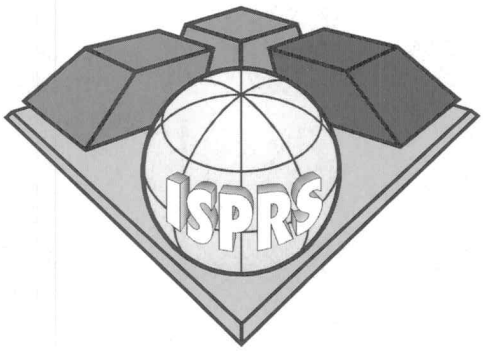
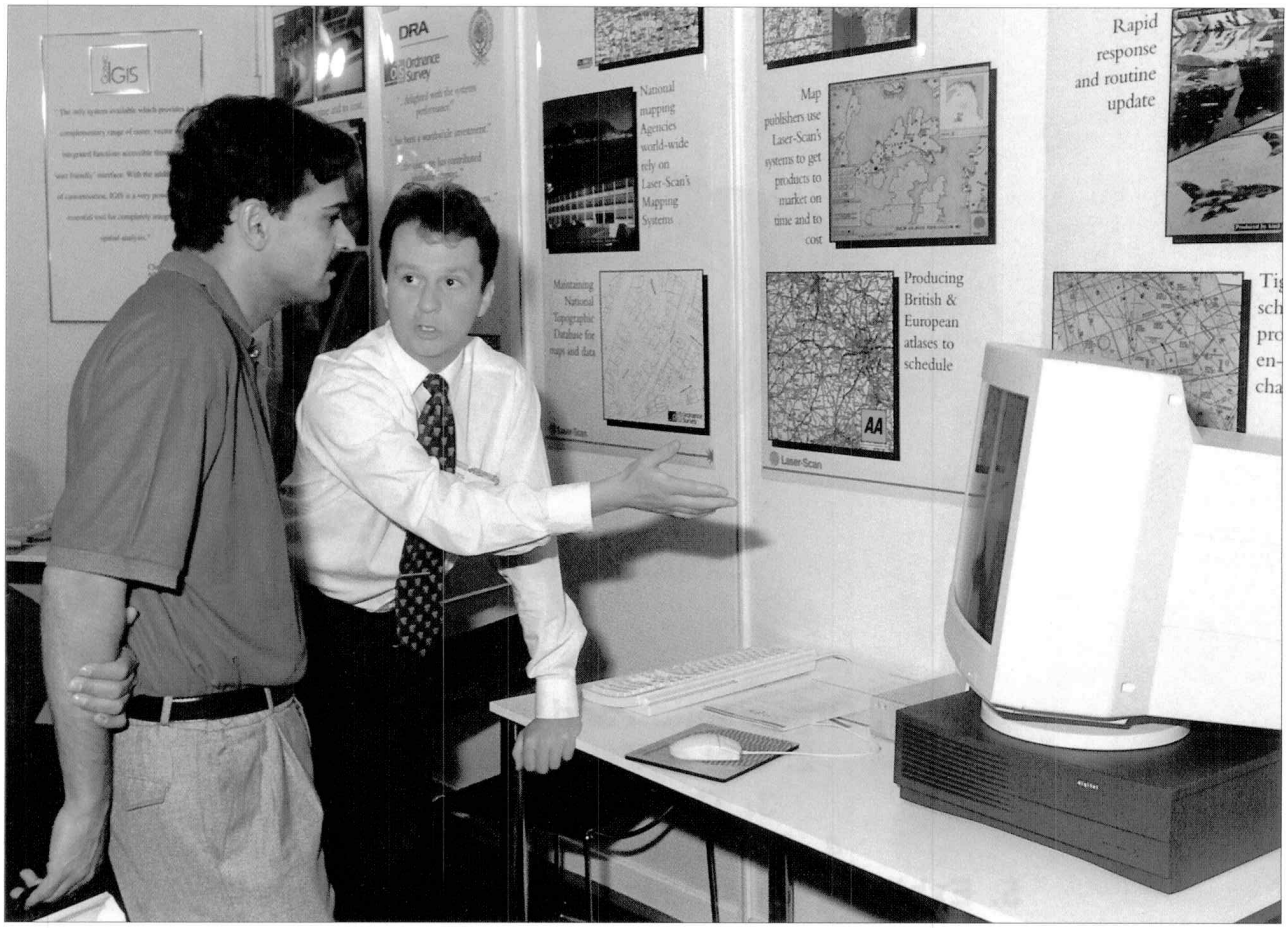


Exhibitions

1. Organisation and Invitation
2. List of Exhibitors
3. The Opening
4. Exhibition Summary
5. Exhibitor Showcase Session Summaries


DRA
Ordnance Survey
National mapping Agencies world-wide rely on Laser-Scan's Mapping Systems
Map publishers use Laser-Scan's systems to get products to market on time and to cost
Rapid response and routine update
Producing British & European atlases to schedule
AA
Laser-Scan


INTERGRAPH
Leica

THE EXHIBITIONS

Organisation and Invitation

At the Vienna Congress it was the first time that the Exhibition was open only during the second congress week and not any more – as at previous congresses – during both of the weeks. Congress Director Karl Kraus followed herewith a proposal of the firms whose total expenditures for exhibitions at more and more congresses, especially personal and hotel costs, had become too high. It seemed also advantageous for the technical – scientific sessions to be "undisturbed" by an highly interesting exhibition during the first week of the congress. The exhibition consisted of four parts:

- Commercial Exhibition
- National (Members') Exhibition
- Scientific Exhibition
- Special Exhibition

The organisation was in hands of **Susanne Fuhrmann** of the Federal Ministry of Economic Affairs. A special folder had been printed and distributed to all interested parties. In this announcement for exhibitors, Congress Director Karl Kraus wrote:

Dear exhibitors,
Ladies and gentlemen,
The XVIIIth Congress of the International Society for Photogrammetry and Remote Sensing will take place in Vienna, Austria, in 1996.
On behalf of the Organising Committee I would like to extend an invitation to you all – and to exhibitors in particular!
The date of the Congress is July 9 – 19, 1996, the Exhibitions – Commercial, National and Scientific – will be open from July 15th to July 19th, 1996.
***"Spatial Information from Images"** is the motto of this event.*

At present a major shift is taking place in photogrammetry and remote sensing which may be defined as a changeover from analogue to digital technology; from aerial to space based imaging: mapping from local to global concepts; and from manual file management to computer-assisted information systems, such as geographic information systems (GIS).

In these times of change, the Commercial Exhibition with its technical innovations and the opportunity it gives to compare a host of offers on-site, will be a special attraction for all visitors. Under these conditions this is a most desirable and unique opportunity to present your company.

It is my conviction that the venue of the Congress, the city of Vienna, as a bridge between East and West, North and South will be a contributing factor for stimulating the exchange of information and opinions at the very site of the Exhibition. Ideas for new products may be born and strategy for successful marketing may well be off to a good start.

Exhibitors have an area of 4 500 m² at their disposal – offering up-to-date technology and refined surroundings. Showcase presentations, a reception sponsored by exhibitors at the Grafenegg Castle and a lot of other amenities are being planned.

I look forward to meeting you at your stand in Vienna in 1996.

With best personal regards,

Prof. Karl Kraus
Congress-Director

S. Fuhrmann collected the applications, organised exhibition space and equipment together with the Austria Centre Vienna and the firm Intersystem which was responsible for stands, furniture and other equipment.

The **Commercial Exhibition** could be found in the biggest hall in the upper floor of the Austria Centre and showed equipment, software and mapping products of 61 firms on 3500m² net exhibition area. The final programme showed a floor plan where it was easy to find the stands according to a simple matrix numbering system.

The **National and Scientific Exhibits** were positioned in the big Foyer where 11 National Societies respectively 19 scientific institutions, mostly universities, showed their exhibits.

The **Special Exhibition** was reserved for a Book Shop offering related literature, and for exhibitions of candidates for future congresses and symposia. The list of all exhibitors and a floor plan of their stands is shown on the following pages.

COMMERCIAL EXHIBITION

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
AR-2	**ABC Software Developers** 4172 Redwood Highway, San Rafael CA 94903 USA +1 415 491 4408, +1 415 491 4823 **ABC Software Developers** 6420 N Camino Katrina, Tucson AZ 85718 USA	Save The Analytical Stereoplotter: Upgrade Now
CB-3	**ADAM Technology** 1 Hayman Road, Techn. Parc, Enterprise Unit 1,6102 Bentley Western Australia +619 470 2322, +619 470 2303	Adam Promap - The Future Analytical & Digital
DD-1	**AERO-SENSING Radarsysteme** GmbH i.G.,c/o DLR Oberpfaffenhofen, D-82234 Wessling + 49 8153 28 0, +49 89 8414148	Interferometric Synthetic Aperture Radar (InSAR) and its Applications
AB-1	**AGFA - Gevaert N.V.** Septestraat 27, B-2640 Mortsel +32 3 444 41 07, +32 3 444 40 99	Photo Systems for Registration and Mapping, Digital Systems for Aerial Imaging and Mapping
AR-7	**AGIS** GmbH Linke Wienzeile 4, A-1060 Wien, + 43 1 587 9616, + 43 1 587 9070 79 **Meixner Consulting** Linke Wienzeile 4, A-1060 Wien	Image Processing GPS - (Trimble) Receivers GIS - (Mapinfo) Software
AL-5	**ANGST Dipl.Ing.** Mayergasse 11, A-1020 Wien +43 1 21172, +43 1 21172-22 **IPECAD** GmbH&Co.KG Cerning. 27, A-1020 Wien **GEODIS** Brno Lazaretni 13A, CZ-61600 Brno **KIS** Bratislava, Stará Prievozská 2, SK-82720, Bratislava	Photogrammetry and Information Systems
F-37	**APPLANIX Applied Analytics Corporation** 550 Alden Road, Suite 211 L3R 6A8 Markham, Ontario, Canada +1 905 475 2221, +1 905 475 2965	Airborne Positioning-Orientation

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
B-2	**ASPRS** American Society for Photogrammetry and Remote Sensing 5410 Grosvenor Lane, Suite 210, Bethesda, Maryland 20814-2160, USA +1301 493 0290, +1301 493 0208	Mapping the Future through Publications
FC-2	**BARCO Graphics** Nieuwevaart 153, B-9000 Gent +32 9 2169471, +32 9 2169880	Computer and Workstations, Software, Interactive Graphic Systems,Maps and Charts
F-38	**Center for Remote Sensing and Mapping Science CRMS** Dep. of Geography, The University of Georgia, Athens, GA 30602-2503 USA +1 7065422359, +1 7065422358	DMS Desktop Mapping System Version 4.0-Softcopy Photogrammetry on a PC
DB-2	**Consorzio Compagnie Aeronautiche** s.r.l., Via Giuseppe Rossi 5, I - 43 100 Parma +39 521 994948, +39 521 992803	Aerial Photography, Photogrammetry and Remote Sensing
BC-3	**CREASO** GmbH Talhofstr.30, D-82205 Gilching +49 8105 25055, +49 8105 25623	Data Analysis and Visualization for Remote Sensing Modern Software Systems
DB-3	**DAT/EM Systems International** 1935 Merrill Field Drive, Anchorage, Alaska 99501USA +1 90 274 3681, +1 907 272 6413	Digital Photogrammetry & Data Collection Systems
F-43	**EARTHWATCH** 1900 Pike Road, Longmont, Colorado 80501, USA +1 303 682 3886, +1 303 682 3848	Satellite Imagery, High Resolution - 3m, Digital Globe, Digital Database
CC-1	**Eastman Kodak Co. / Aerial Systems** 1447 St. Paul St. USA - 14653 Rochester NY +1 716 726 3321, +1 716 253 6988	Soar the Open Skies with KODAK, Film Processors, Digital Imaging Products
F-39	**EOM Earth Observation Magazine** 13791 E.Rice Place, Suite 204, Aurora, CO 80015 USA +1 3036902242, +1 3036902522	The Magazine for Geographic, Mapping, Earth Information

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
AL-4	**ERDAS International** Telford House, Fulbourn Cambridge CB 1, 5HB, UK +44 1223 881774,+44 1223 880 160 **ESRI Europe**	Image Processing, GIS, Visualisation
AR-9	**ESA/ESRIN European Space Agency** Via Galileo Galilei, P.O.Box 64 I-00044 Frascati +39 6941 80950, +39 694180952	Remote Sensing Data and its Applications - from the European Space Agency's ERS Satellites
AL-3	**ESRI** 380 New York St., Redlands CA92373 USA +1 9097932853 +1 9093073039 **Datamed** Amalienstr. 65, A-1130 Wien **T-Kator** POB 5097, S-29105 Kristianstad **MAPS Geosystems** POB 5232, Sharja, United Arab Emirates	GIS Software and Applications
F-42	**EUROMAP** GmbH Kalkhorstweg 53, D-17235 Neustrelitz +49 891215280, +49 89 1233148 **EOSAT** 4300 Forbes Blvd Lanham, MD 20706	Euromap, a new source in Europe for High Resolution Satellite Data
F-44	**EVANS & SUTHERLAND Computer** GmbH Martin Kollar Str. 15, D-81829 München +49 89 420 9900, +49 89 426 488	Rapid Scene: Rapid visual Database Generation and Rendering, based on digital Photogrammetry
E-1	**FRIC Bookshop** Wiedner Hauptstr. 13, A-1040 Wien +43 1 505 6452, +43 1 505645222	Technical Books
AR-1	**GEOSYSTEM** Scientific Production Laboratory, 600 letia str. 25, 286027 Vinnitsa, Ukraine + 380 043 2 464771, + 380 043 2 466519	Analytical and Digital Photogrammetry
FB-3	**GER Geophysical&Environmental Research Corp.** 222 Skodsborgvej,DK-2850 Naerum +45 4580 7424, +45 4280 2075	Portable Field Instruments, Airborne Imaging Systems, Data Analysis and Interpretation, Synthetic Aperture Radar and the recently announced GEROS
F-45	**GITC** Nieuwedijk 43, 8531 HK Lemmer,Holland +31 514 561854, +31 514 56 38 98	GIM, The International Magazine on Geomatics
BC-2	**GRINTEC** GesmbH Maiffredygasse 4/III, A - 8010 Graz +43 316 383706, +43 316 383706 20	3 D City Modells Visualization Techniques for Urban Planning
CD-1	**Gruppe GeoInformation** Ziviltechniker GesmbH Kreilpl. 1/2, A-1190 Wien +43 1 3716300, +43 1 37163050	Photogrammetry, Digital Camera, GPS, Visualization
DB-1	**HANSA Luftbild** GmbH Elbestraße 5, D - 48 145 Münster +49 251 2330, +49 251 2330 112 **Photogrammetrie** GmbH Anzinger Str. 5, D-81671 München	Aerial Photography, Photogrammetric Surveying, GIS/LIS, Photointerpretation, Topographic and Thematic Mapping
FC-1	**HELP SERVICE-MAPPING Ltd.** Brdickova 1916, CZ- 155 00 Praha 5 +42 2 55 19 39, +42 2 24 51 08 70 **ATLAS** Ltd. Na Brivce 50, CZ-10100 Praha 10 **TopoL** Vertriebsgesellschaft Niederkainder Str. 79f D-02625 Bautzen	PhoTopoL - Digital Photogrammetric System TopoL GIS - Solution for GIS and Remote Sensing
AR-8	**HÖLLHUBER Dipl. Ing.** Schubertstr. 6, A - 4600 Wels +43 7242 46433 , +43 7242 46433 14	Geoinformation, Analytical Photogrammetry, Surveying
FB-1	**INPHO** GesmbH Smaragdweg 1, D-70174 Stuttgart +49 711 228810, +49 711 2288111	Software Products for Digital Photogrammetry, Digital Terrain Models and Aerotriangulation with GPS
DC-1	**INTERGRAPH Europe** PO Box 333, NL 2130 AH Hoofddorp +31 2503-66423, +31 2503-66309	Aerial and Close Range Photogrammetry, Automatic Aerotriangulation, Orthophoto Software, Image Processing, Scanner, GIS Cartography
B-3	**I.S.M. International Systemap** Corp. Suite 777,650 West Georgia Str., Vancouver,B.C. Canada V6B4N7 +1 604 684 3750, +1 604 684 9750	DIAPS - Second Generation Digital System

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
F-36	**ITC - ILWIS Group** 350 Boulevard 1945, PO Box 6, NL-7500 AA Enschede +31 53874 444, +31 53 874 400	The Integrated Land and Water Information System To provide consultancy and a GIS/RS software tool for sustainable development
EB-3	**KLT Associates Inc.** 200 Corporate Place, Peabody MA 01960 USA +1 303 697 5475, +1 303 697 5483	ATLAS using the Analytical Plotter as a tool, ATLAS/TIN, ATLAS/ORTHO, ATLAS/DSP DOS
F-4	**LAND INFO** 2280 S. Xanadu Way, Suite 280 Aurora, CO 80014, USA +1 303 369 6800, +1 303 369 6955	International Digital Maps
ED-1	**LASER SCAN** Cambridge Science Park, Milton Road, UK-Cambridge CB 4FY +44 1223 420414, +44 1223 420044	IGIS a fully integrated raster and vector Object-Oriented Geographic Information System
EC-1	**LEICA Surveying & Photo-grammetry Systems Group** CH - 9435 Heerbrugg +41 717273131, +41 717274689	The first choice provider of innovative solutions for surveying, mapping, monitoring our living space, its infrastructure and its resources
EB-2	**LENZAR IMAGING** 3960 RCA Blvd #6001, 33410 Palm Beach Gardens Florida, USA +1 407 775 2600, +1 407 775 9100	Very-High-Resolution Digitizing Scanners, LENZPRO 2001 roll-film
CB-1	**LOCKHEED MARTIN Mgt & Data Systems** PO Box 8048, USA Philadelphia PA 19101 +16105316677, +16109622153	Total System Solutions for Remote Sensing Requirements
F-31	**LogEtronics GmbH** Dieselstr. 10, D-61476 Kronberg +49 6173 936120, +49 6173 936150 **Egoltronics Corp.** 7036 Tech Circle, Manassas VA 20109, USA +1 703 335 1501, +1 703 335 1234	Aerial Photographic Products for color and black & white Multidodge Contact Printer Scanning Enlarger System
B-1	**MÜLLER SYSTEMTECHNIK** Lindenplatz 13, D-82223 Eichenau +49 8141 38142, +49 8141 38 24 1	Visual Simulation of Cities and Landscapes

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
AR-3	**NASA Goddard Space Flight Center-EOS** 20771 Greenbelt, Maryland USA +1 301 286 8228, +1 301 286 1738	Mission to Planet Earth, Earth Observation System EOS, Earth's processes involving the atmosphere, oceans, land surface and solid Earth
F-40	**NICONSULT AG** Aarstr. 98, CH-3000 Bern 13 +41 313121311, +41 31 3119178	Market Reports, Geo-Informatics
F-41	**OPTECH Inc.** 100 Wildcat Road, M3J 2Z9 North York, Ontario, Canada +1 416 661 5904, +1 416 661 4168	Airborne Laser Terrain Mapping
BC-1	**PCI Enterprises** 50 West Wilmot Street, L4B 1M5 Richmond Hill Canada, Ontario +1 905 764 0614, +1 905 764 9604 **CGI Systems** GmbH Rosenheimer Str. 57, D-81669 München	Remote Sensing Software
F-32	**PROGIS** Austria Italienerstr. 3, A-9500 Villach +43 4242 26332, +43 4242 263327	Geographical Information Systems WinGIS TM, WinMAP TM, SDK
AR-5	**QASCO Analytical Systems** Pty Ltd PO Box 233 Baulkam Hills, NSW 2153, Australia +61 2 639 8822, +612 686 2620	Analytical Stereoplotter conversion and upgrade systems
F-35	**RESTEC** Remote Sensing Technology Center of Japan, Roppongi First Bldg.2F,1-9-9, Roppongi,Minato-ku, 106 Tokyo, Japan +81 3 5561 9777, +81 3 5574 8515	Introduction of JERS-1
EA-1	**RFI - Wehrli & Assoc.** 7 Upland Drive, Valhalla N.Y.10595 USA, +1 914 948 7941,+1 914 948 7941 **RFI Wehrli** Rep. in France and Benelux, 2 rue de Gisors F-60590 Flavacourt	High Precision Photoscanner, Digital Photogrammetric Software
AL-1	**ROLLEI Fototechnic** GmbH Salzdahlumer Str. 196 D-38126 Braunschweig +49 531 6800 222, +49 531 6800 243	Digital Close Range Photogrammetry

No.	EXHIBITOR Co-Exhibitor, Address, Phone, Fax	Themes, Products Services
CD-2	**SOVINFORMSPUTNIK** Association, 47, Leningradskiy Pr.,125167 Moscow, Russia +7 501 943 1782, +7 501 943 0585	Acquisition and Use of Russian High Resolution Space Images TK-350, KVR 1000
CA-1	**SPACE IMAGING** 9351 Grant Street, Suite 500, Thornton,Colorado 80229-0939 USA +1 303 254 2107, +1 303 254 2215	High Resolution Image Map Product from Space. Space based Photogrammetric Mapping
DA-1	**SPOT IMAGE** 5, Rue des Satellites, B.P.4359, F-31030 Toulouse, +33 6219 4040, +33 6219 4011 **OFD/GEOSPACE** Jakob Haringer Str. 1, A-5020 Salzburg **Radarsat International** 3851 Shell rd.,suite 200, Richmond, British Columbia, V6X 2W2 Canada	Geographic Information from SPOT Satellite Images Austrian Satellite Data Distribution, Satellite Image Mapping and Cartography Worldwide Distribution of Radarsat
F-34	**SSC Satellitbild AB** P.O.Box 4207, Albygatan 107, S-17104 Solna, +46 8 6276450, +46 8 984975 **Eurimage** Viale E. D'Onofrio 212, I-00155Rome	SSC Satellitbild and EURIMAGE Company Profiles, Resurs-O1
F-30	**TECHNET** GmbH Königstr. 53, D-78628 Rottweil +49 741 22351, +49 741 22352	Digital Photogrammetry, Bundle Adjustment
AR-6	**TRIMBLE** Deutschland GesmbH Moselstr. 27, D-63452 Hanau + 49 6181 90020, +49 6181 900222	GPS - Satellite Navigation System
F-33	**VIRTUOZO Systems** Pty.Ltd. PO Box 338, Toowong QLD,Australia 4066 +61 7 3871 0645, +61 7 3371 3602	Soft Photogrammetry Virtual Photogrammetry
BB-1	**VISION International**, a division of Autometric Inc., 5301 Shawnee Road, USA - 22 312 Alexandria, Virginia +1 703 658 4076, +1 703 658 4021	Soft Plotter, GeoCatalogue, KDMS, OrthoKork, SQS
EA-2	**WENGER-OEHN Dipl.Ing.** Franz Josef Str. 55, A-5020 Salzburg + 43 662 876689, +43 662 882136 41	From Photogrammetry towards an Information System
EB-1	**ZEISS Carl** D-73446 Oberkochen +49 7364 20 3889, +49 7364 20 4730 **Zeiss Carl** Modecenterstr. 16, A-1030 Wien	Photogrammetry, GIS, Geodesy, GPS

SPECIAL EXHIBITION

Entrance Hall

No.	EXHIBITOR Address, Phone, Fax	Themes, Products Services
E-02	**ARIDA , Association for Real-time Imaging and Dynamic Analysis** Hatoyama, Saitama, 350-03 Japan +81 492962911,+81 492 96 6501	Welcome to Hakodate - Your Choice for Com.V
E-01	**FRIC Bookshop** Wiedner Hauptstr. 13, A-1040 Wien, Austria +43 1 505 6452, +43 1 505645222	Technical Books
E-03	**Netherlands Local Organising Committee XIX ISPRS Congress in 2000** c/o ITC 350 Boulevard 1945, NL-7500 AA Enschede +31 53 4874 445, +31 53 4874 337.	A Candacy to host the next ISPRS Congress
E-04	**Sociedad Espanola de Cartografia, Fotogrametria y Teledetection** General Ibanez de Ibero 3, 28003 Madrid, Spain +34 1 5541450, +34 1 553 2913	Promotion of the Madrid 2000 Candidacy

NATIONAL AND SCIENTIFIC EXHIBITION

No.	EXHIBITOR Address, Phone, Fax	Themes, Products Services
F-4	**Austrian Federal Office of Metrology and Surveying** Schiffamtsgasse 1 - 3, A - 1025 Wien, Austria +43 1 21176, +43 1 216 10 62	Digital Orthophotos applied to Mapping Revision, A Countrywide Database of Digital Orthophotos
F-46	**Austrian Society for Surveying and Geoinformation** Schiffamtsgasse 1 - 3, A - 1025 Wien, Austria +43 1 21176 3603, +43 1 216 10 62	Presentation of the aims and activities in sense of Geodesy Photogrammetry and Geoinformation
F-39A	**Bechtel Nevada, Remote Sensing Laboratory, U.S. Dep. of Energy** P.O.Box 98521, Las Vegas, Nevada, 89193 8521 USA, +1 702 2958098, +1 702 295 8627	Remote Sensing and GIS Mapping
F-23	**Brazilian Society for Cartography, Geodesy, Photogrammetry and Remote Sensing SBC** Av. Presidente Wilson 210-7 andar CEP 20030-021 Rio de Janeiro, Brasil +55 21 240 6901, +55 21 262 2823	Presentation of the activities
F-6	**City of Vienna-Surveying Department** Rathausstr. 14, A-1082 Wien, Austria +43 1 4000 89111,+ 43 1 4000 9989111	Multipurpose Digital Map of Vienna, Digital Terrain Model, Visualization of Data for City-Planning
F-49	**Croatian Geodetic Society** Section for Photogrammetry, Remote Sensing and GIS Kaciceva 26, HR 41000 Zagreb, Croatia +99 385 1 4561 277, +99385 1 445 410	New Member of ISPRS - Croatia
F-22	**Danish Society for Photogrammetry and Surveying DSFL** Landmalervej 7, DK-2800 Lyngby, Denmark +45 45884800, +45 45886412	Presentation of the activities
F-48	**EARSeL European Association of Remote Sensing Laboratories** Bureau B 418, 2 av. Rapp, F-75340 Paris Cedex 07 +33 1 4556 7360, +33 1 4556 7361	Information about the Structure, Activities and Publications of the Association
F-9	**ETH Hönggerberg** **Inst. of Geodesy and Photogrammetry** CH-8093 Zürich, Switzerland +41 1 633 3038, +41 1 633 1101	Research projects
F-18	**Finnish Geodetic Institute** **Dep.of Cartography and Geoinformatics** **Dep.of Photogrammetry and Remote Sensing** Geodeetinrinne 2, FIN-02430 Masala, Finland +358 0 295 550, +358 0 295 55 200	Overview of research projects
F-19	**Finnish Society of Photogrammetry and Remote Sensing** Otakaari, FIN-02150 Espoo, Finland + 358 0 456 62 86, + 358 0 456 4496	Photogrammetric work in Finland
F-16	**GORS General Organization of Remote Sensing** P.O.Box 12586 Damaskus, Syria + 963 11 2218700, + 963 11 3910700	Displaying some satellite images for Syria and publications of GORS
F-20	**Helsinki University of Technology** **Inst. of Photogrammetry and Remote Sensing** **Inst. of Cartography and Geoinformatics** Otakaari 1, 02150 ESPOO, Finland +358 0 451 3893, +358 0 465 077	Latest results of our research projects and education
F-21	**Institut of Geodesy and Cartography IGIK** ul. Jasna 2/4, P - 00 950 Warszawa, Poland +48 22 270328, +4822 270328	Digital Photogrammetry and Remote Sensing
F-47	**Iranian National Cartographic Center** Azadi sq., Meraj st., PO Box 13185-1684,Tehran, Iran +98 21 6000031 8, +98 21 6000031 8	National Exhibition
F-1A	**Israeli Society of Photogrammetry and Remote Sensing ILSPRS**, 1 Lincoln St., Tel Aviv, Israel +972 3 6231900, +972 3 5610866	Activities of Photogrammetry and Remote Sensing Specialists in Israel
F-13	**Italian Society of Topography and Photogrammetry SIFET** P.za Leonardo da Vinci,32, I-20133 Milano, Italy +39 402 23996532, + 39 402 23996530	Italian works of the years 1992-1995
F-2	**ITC International Institute for Aerospace Survey and Earth Sciences** 350 Boulevard 1945, NL-7500 AA Enschede +31 53 4874 417, +31 53 4874 200	Development and Transfer of Knowledge on Geoinformation Management for sustainable Development

No.	EXHIBITOR Address, Phone, Fax	Themes, Products Services
F-17	**OEEPE European Organisation for Experimental Photogrammetric Research** P.O. Box 6, NL-7500 AA Enschede Netherlands +31 53 874339, +31 53 874335	A partnership for solving European geoinformation problems
F-1	**Polish Society for Photogrammetry and Remote Sensing** ul. Czackiego 3/5, 00-950 Warszawa, Poland +4822 270328, +4822 270328	Presentation of the activities
F-14	**Politecnico di Torino** **Dip. di Scienze and Tecniche** Viale Mattioli 39, I-10125 Torino, Italy +39 115644382, +39 115644399	Italian works of the years 1992-1995
F-15	**Research Institute of Geodesy, Topography and Cartography** 25066 Zdiby u Prahy, CZ - 25066 +42 2 685 7375, +42 2 685 7056	PC-Based Information Systems, Cadastral Surveys GIS/LIS
F-24	**Siberian State Geodetic Academy** Plakhotnogo St. 10, RUS-630108 Novosibirsk Russia +383 243 2966, +383 243 2966	Digital Stereoplotter
F-12	**United Kingdom Committee for Photogrammetry and Remote Sensing** SOAS, Thornhaugh st., UK London WCIHOXG +44 171 323 6159, +44 171 436 3844	Scientific and environmental applications
F-11	**University of the German Federal Armed Forces München** **Dep. of Photogrammetry and Cartography** Werner Heisenbergweg 39, D-85577 Neubiberg + 49 89 6004 3448, + 49 89 6004-4090	MARS - Cartographic Image Processing, MOMS-02, 3D-Restitution from Space, Close Range - Camera Calibration
F-10	**University Bonn** **Dep. of Photogrammetry** Nußallee 15, D-53115 Bonn, Germany +49 228 732901, +49 228 732712	Semiautomatic and Automatic 3D-Building Acquisition
F-8	**University of Agriculture and Natural Resources Vienna** **Inst. for Surveying and Remote Sensing** Peter Jordan Str. 82, A-1190 Vienna, Austria +43 1 47654 5100,+ 43 1 47654 5142	Presentation of the Institute
F-7	**University of Technology Graz** **Dep. for Applied Geodesy and Photogrammetry** Steyrerg. 30, A-8010 Graz, Austria +43 316 873 6330, +43 316 873 6337	Remote Sensing, Image Processing and Cartography

No.	EXHIBITOR Address, Phone, Fax	Themes, Products Services
F-5	**University of Technology Vienna** **Dep. of Photogrammetry and Remote Sensing** Gußhausstr. 27-29, A-1040 Wien, Austria +43 1 58801 3811, +43 1 5056268	Presentation of the Institute

The Opening of the Exhibitions

Monday, July 15th, 1996, 11:00 a.m.

Welcome by Exhibition Director Susanne Fuhrmann

Sehr geehrter Herr Bundesminister!
Sehr geehrte Damen und Herren!
Mesdames et messieurs!
Dear exhibitors!

I extend a special welcome to the exhibition of the 18th Congress of the International Society of Photogrammetry and Remote Sensing.

After long and hard preparations and a week full of last minute activities we are very proud to welcome 97 companies from 50 different countries from all over the world – here at the Austria Centre Vienna.

The exhibition will present the newest standard of products and services of the photogrammetric world.
The main items are the traditional fields of photogrammetry along with the newest digital photogrammetry, remote sensing, global positioning systems and geographic information systems, just to mention a few.

The exhibition is divided into three groups: the commercial exhibition, the national or members' exhibition, the scientific exhibition all of which take place here on the 3500 m² of level two.

In addition to the main exhibitions, I would also like to draw your attention to the exhibitors' showcase-sessions, where exhibitors present their latest products and technology in short lectures. They will run continuously starting at midday today on this level in hall B.

At this point we should also take into consideration that a large scientific congress such as this one would not be possible without financial promotion of the economy, via a commercial exhibition.
And we especially thank the exhibitors for sponsoring the castle party at Grafenegg this evening.

As French is also one of the official languages of the ISPRS, I would like to close by saying:

Mesdames et messieurs !

Soyez les bienvenues au 18ième congrés de la Société Internationale de Photogrammetrie et de Télédétection à Vienne.
Au nom de la société je souhaite de succès à l'exposition et des jours laborieux et intéressants à tous les participants.
Mais n'oubliez pas avant tout que vous êtes à Vienne - avec des monuments historiques, des concerts d'été et des « Heurigen » - d'en profiter un peu si les travaux sont terminés.
Veuillez passez un très agréable séjour chez nous.

I would now like to request our Minister of Economic Affairs, Dr. Hannes Farnleitner, to officially open this exhibition.

Official Address by the Federal Minister for Economic Affairs Dr. Hannes Farnleitner

In my capacity as Federal Minister for Economic Affairs I am also responsible for matters of technology. It is a great honour for me and also a special pleasure to inaugurate this exhibition of the 18th Congress of the International Society for Photogrammetry and Remote Sensing.

The very theme of this Congress - the global assessment of our planet - illustrates the abolition and surpassing of frontiers with a view to full integration into paramount structures.

Thanks to the techniques offered in the field of photogrammetry and remote sensing it has become possible to supply a wide spectrum of users in research and industry with topical and objective basic data on the nature of the surface of our earth on regular basis.

Measuring methods have achieved incredible accuracy. Satellite data with a dispersion of a few meters as well as photogrammetric pictures in the centimetre range have become standard. Assessable information contents are simultaneously steadily increasing.

It is only with the aid of such topical information that global surveys materialise and render a problem-conscious and future-oriented co-existence possible for the modern society.

Without a precise documentation of land utilisation, of wind and wave movements or of the thermomantle of the earth no environment monitoring, no climate research or resources management would be feasible. It goes without saying that this line of research is indispensable for securing international peace and national defence. As the most typical example in this respect let me quote remote sensing as a means of securing peace in Bosnia, that is to say for the determination of the regional borders as defined in the Treaty of Dayton.

The existence of a sound research environment is a must if economy is to be innovation-oriented.

For me as Minister for Economic Affairs it is all the more important that economic research be optimally positioned. To a considerable extent this refers to the many small and medium enterprises hardly in a position to undertake independent research but depending on research results of others.

At the same time basic research must not be neglected either. As it has been shown in the past, potential future innovations are very often developed in research areas lying at the interface of basic and applied research activities.

The close interaction between research and economy is well reflected in the concept of ISPRS Congresses: A highly qualified product presentation accompanies and to a large extent finances the comprehensive scientific programme.
Permit me to avail myself of this opportunity and make a short survey of the general economic and technological policies in Austria.

The development of a technology policy in line with political aspirations in economy and research has become one of the essential tasks of the mortmain. In doing so we are far from simply overlooking the greater market knowledge of enterprises or the regulation mechanisms of the market. Quite the contrary is true: Since high development costs, short production cycles and the high market risk of technologically ambitious products often represent excessive demands on small and medium enterprises, we must offer infra-structural assistance to these enterprises.

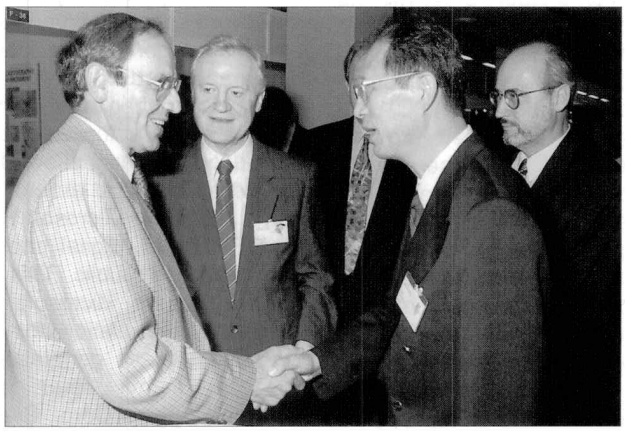
A prerequisite for the successful transfer of technology to enterprises is the capacity of these enterprises to transform technological knowledge and new technologies into new products, techniques and services. This is why the creation and extension of a strategic techno-counseling has become another important element of the technology policy of the Federal Ministry for Economic Affairs: Together with experienced actors and technology centres, renowned institutions for training and consultation, a systematic and continuous technology-oriented consultation shall be accomplished in order to activate the innovation potential and develop entrepreneurial strategies.

As a member of long standing of the European Space Agency (ESA), Austria contributes most valuably towards research in this field, both scientifically and economically. The participation of Austrian companies in this international economic exhibition clearly underlines this fact.

This is also an occasion for demonstrating the geographical location of Vienna as a turntable between Western and Eastern Europe. You will meet with an impressive number of exhibition stands representing joint-ventures between the eastern "countries in transition" and Western European companies. It was also noticed that the flux of visitors from countries in transition is particularly high.

In view of all this I should like to wish all visitors a rewarding experience and all exhibitors the best of success at this 18th Congress of ISPRS here in Vienna. I officially declare thus the exhibition opened.

The President of the Austrian Society for Surveying and Geoinformation (ASG), Dipl.-Ing. **August Hochwartner**, the President of the International Society for Photogrammetry and Remote Sensing, Prof. Dr. **Shunji Murai**, and the Congress Director **Karl Kraus** expressed their thanks to the Federal Minister for Economic Affairs for his assistance to the Congress.



The Technical Exhibition

The Scientific Report about the Exhibition is from **Philippa R. Thomas** (U.K.) and has first been published in Photogrammetric Record 15(98) in April 1997, 787 - 789.

"The Exhibition took place during the second week of the congress and more than 60 exhibitors displayed their latest products and services. Although not as large as the 1992 Washington exhibition, there was plenty to see and the Hall was constantly swarming with people. There were, of course, companies exhibiting products in related fields, such as GPS, GIS, visualisation and digital mapping. Of note in the remote sensing field were the commercial companies, such as Space Imaging and EarthWatch, which are planning to launch satellites to provide high resolution imagery on a commercial basis and it will be interesting to monitor their progress. This report will, however, concentrate on photogrammetric instrumentation. Further, since the length of this report is limited, only certain products on show have been mentioned, with the aim of highlighting trends. There are now a number of vendors of digital systems from all around the world and 19 softcopy workstations were displayed. Manufacturers high-lighted features such as increased productivity, effective automation of certain procedures and decreasing cost. The systems displayed, however, had no amazing new capabilities and were mainly workstations introduced prior to 1996 with only a few additional features. For example, the Helava system now has close range software, PRO600 and Terra Modeller. The level of automation in such systems is still relatively low and automatic feature extraction is virtually non-existent. A number of companies did, however, present packages for automatic aerial triangulation and DEM generation. For instance, Zeiss showed its new automatic digital aerial triangulation software (PHODIS AT), Leica its Helava Automated Triangulation System (HATS) and Inpho's MATCH-AT package. Although the majority of the systems had orthophotograph generating capabilities, Leica/Helava is still the only manufacturer to allow for the correction of displaced roofs of objects.

Vision International displayed their SoftPlotter which was the first commercial system to incorporate monoplotting supported by image matching. It is possible that in the future more commercial systems will incorporate this feature, thus reducing the need for highly skilled operators working with expensive stereoscopic displays. Other systems offering monoplotting use a previously generated ortho-image from which to extract the features, without an underlying DTM. Another trend identified was that a number of manufacturers are moving to Microsoft Windows NT, including national Systemap Corp(ISM) who showed the latest version of their Digital Image Analytical Plotter (DIAP) which has object oriented software architecture mounted on a Pentium PC, and Intergraph who plans the change for 1997. There are now more PC based, low cost digital systems on the market. For instance, Topcon and Siscam displayed their versions (ST-1 and Microdigit respectively) which use a polarising box for stereoscopic viewing. Another digital system displayed was VirtuoZo from Australia which was officially released in September 1994 but its origins date back to 1979 when the software was unfortunately named SoDAMS (Solution of Digital Automated Mapping System)! VirtuoZo is typical of many of the systems displayed and accepts scanned aerial photography or SPOT imagery and produces DEMs, orthophotographs and contour maps.

Five analytical plotters were displayed at the exhibition and sales of such instruments still remain high. Notable was the ADAM Technology PROMAP system, the only analytical plotter with two ½ inch, 762 X 582 pixel, CCD cameras installed for automatic DEM generation. Orthophotographs can be produced with up to 12 µm resolution in times of around 45 minutes and 25 minutes for colour and black and white images respectively. The ad-vantage of this method of producing orthophotographs over fully digital systems is that only the final orthophotograph is stored on the computer, thus reducing hard disk storage requirements.

Digital close range photogrammetric systems are well developed and a number could be viewed at the exhibition. Leica is the distributor of the VSTARS system from Geodetic Services Inc. which is the first system to use cameras with integrated computers. The computers each have 16 Mb of RAM and can store three images. The cameras are pre-calibrated using a bundle adjustment and the obtainable measurement accuracy is 50 µm for a two camera set-up, with there being no limit on the number of cameras since each has its own processor. There are a number of these systems already in use in the automotive and aviation industries. The Zeiss InduSCAN system was first shown at the "Pixels to Sequences" Inter-Commission Workshop of ISPRS in Zurich during March 1995, but is now fully developed. It uses either JenScan microscanning, Kodak DCS460 or Zeiss UMK SCAN cameras (depending on accuracy requirements), a pattern projector, a PC Scan Station for image acquisition and orientation, and a Silicon Graphics Workstation for automatic three dimensional point computation. Also on display was the Rolleimetric CDW, a PC based system which uses the Rollei ChipPack imaging system and Inpho MATCH-I which uses Kodak DCS460 cameras, a texture projector and software mounted on a Silicon Graphics workstation.

Intergraph introduced its photogrammetric scanner, the PhotoScan TD, which uses a tri-linear CCD array with a base optical resolution of 7 µm and the software runs on the Intergraph TD 30 Workstation under Microsoft Windows NT. Like the Zeiss SCAI precision scanner and the Helava DSW300, it can accommodate roll film. A prototype version of the DSW300 was displayed on the Leica stand and the scanner is expected to be available at the end of 1996. This scanner uses a Kodak Megaplus 200 camera and uses an EDT board to interface to a Sun Ultra Sparc workstation. Another scanner on show was the Raster Master RM-1 from Wehrli and Associates.

It was particularly interesting to see a number of eastern European companies at the exhibition. Although entering a competitive market at a relatively late stage, they appeared to have a range of relatively low cost products to offer but it remains to be seen how many of their systems actually sell in the west. The Siberian State Geodetic Academy showed their softcopy system which is modestly priced at around US$20 000. This system runs on a PC under Microsoft Windows 95. Also on show was the PhoTopoL digital photogrammetric workstation from the Czech Republic. This is again a PC based system running under Microsoft Windows 95 and it features automatic correlation for DEM generation, as well as orthophotograph generation. Stereo-viewing is provided, as in many other softcopy systems, by the StereoGraphics Corp. CrystalEyes system. GeoSystem,

based in the Ukraine, presented their Delta digital photogrammetric station. This consists of a high precision scanner (minimum scanning resolution 14µm), a Pentium PC and a writeable CD for storage of images. It has the capability for automatic orientation of images, stereo superimposition of vectors and orthophoto-graph generation. Stereoviewing is achieved using a split screen lens system, and handwheels and a foot-disk can be added for moving around the stereomodel. GeoSystem also presented an analytical plotter, the APS Stereograph.

There were no surprises with the cameras. Kodak introduced their colour infrared digital camera, the DCS420CIR. Zeiss had displayed the RMK TOP with gyrostabilised mount in Washington in 1992 and in Vienna, Leica displayed their stabilised mount with the RC30 which actually came on to the market in 1995. There were also two new lens cones, 150 mm and 300 mm for the RC30. ADAM Technology has recently become the distributor of a 5 inch aerial camera, the Hiei SEII series, which is already widely used in south-east Asia. The model helicopter designed to carry a Kodak DCS camera hung motionless at the Gruppe GeoInformation (GGI) stand, any demonstration of its manoeuvring capabilities in the Exhibition Hall being deemed too dangerous!

In his report on the exhibition at the 1992 Washington Congress, published in the Photogrammetric Record, 14(81): 500-502 (April 1993), D. M. Stirling described the large number of digital systems that were on display and commented that "developments in the industry ..... make any attempt to predict what will be exhibited at the 1996 Congress in Vienna virtually impossible." The photogrammetric products on display at the Vienna exhibition were, in fact, evolutionary not revolutionary (to quote Baltsavias (Switzerland)) and it is hoped that, at the Amsterdam Congress in 2000, we will see further automation in commercial systems."

Exhibitor Showcase Sessions

The exhibition was accompanied by 21 Exhibitor Showcase Sessions, where the firms had the possibility to present their latest products and technologies. Up-to-date audio-visual aids have been available. The Exhibitor Showcase Lecture Hall was directly adjacent to the Exhibition Hall. Each presentation was limited to 45 minutes including discussion and all rearrangements for the next speaker. The Sessions were numbered ES02 to ES22.

Session ES02 - ERDAS – The Products of ERDAS Imaging

July 15, 1996, 12:45-13:30
Session Reporter: ***Mosaad Allam*** *(Canada)*
Chairman and Speaker: ***Dean Rogers*** *(USA)*

Dean Rogers works in the International Division of ERDAS Inc. Based out of Atlanta, Georgia, he oversees the sales and marketing operations of ERDAS, including the management of a strong regional distributor network. Prior to joining ERDAS in 1995, Mr. Rogers spent four years with the U.S. Department of State working to develop and implement U.S. space remote sensing policy.

Since 1978, ERDAS has provided thousands of users with powerful image processing and raster GIS software. ERDAS IMAGINE provides the finest image processing package available for image enhancement, land cover classification, feature extraction and change detection. ERDAS also offers the IMAGINE OrthoMAX module designed to perform a number of advanced functions including orthorectifying imagery, creating digital elevation models, generating contour line maps. To date ERDAS has installed more than 11,000 systems in 95 countries throughout the world. We enjoy a strong customer following thanks to our commitment to product quality, innovation, and customer service. ERDAS has been an industry innovator for more than a decade now, and our software is the standard for raster GIS and image processing applications.

Session ES03 - ZEISS – Aerial Photography Digital and Analytical Photogrammetry

July 15, 1996, 13:30-14:50
Session Reporter: ***Mosaad Allam*** *(Canada)*
Chairman: ***Mosaad Allam*** *(Canada)*
Speaker: ***Ullrich Vogelsang*** *(Germany)*

New developments from ZEISS have been presented which included camera technology with T-flight photo management system, the PHODIS Photogrammetric Image Processing System and the newly developed fully automatic aerotriangulation as well as the re-enhanced series of Planicomp P-series analytical plotters.

Session ES04 - Leica – Defining Surveying Solutions

July 16, 1996, 9:45-10:30
Session Reporter: ***Naser El-Sheimy*** *(Canada)*
Chairman: ***Naser El-Sheimy*** *(Canada)*
Speaker: ***Martin Nix*** *(Switzerland)*

Keypoints were:

1) Leica has 23 sail offices with 7.500 employees. The GPS main office is in the USA.
2) The products include videogrammetry, softcopy photogrammetry, GPS receivers and surveying equipment.
3) Leica introduces two new GPS receivers: SR9400 (12 channel L1), SR9500 (12 channel L1/L2). Both receivers have the real time cinematic applications.
4) The three GPS-Surveying techniques namely: rapid static, semi-cinematic, on-the-fly ambiguity resolution cinematic, were presented.
5) Some GPS rapid static and real time cinematic results were presented. These results indicate that cm accuracy can be easily achieved.

Q (N. El-Sheimy - Canada): What is a typical time of the GPS SR9400/SR9500 signal re-acquisition after signal procage?
A (M. Nix - Switzerland): 15 seconds to 3 minutes, depending on GPS constellation and multi-path.

Q (N. El-Sheimy): What is latensy in real time cinematic mode for SR9400/SR9500.
A (M. Nix): I have to consult our GPS-Group regarding that.

Session ES05 - **AGIS - Products and Services by Meixner Consulting**
July 16, 1996, 10:30-11:15
Session Reporter: ***Naser El-Sheimy*** *(Canada)*
Chairman: ***Naser El-Sheimy*** *(Canada)*
Speaker: ***Harald Meixner*** *(Austria)*

Keypoints were:
1) The scope of activities of the Meixner Group concerns GPS, consulting, photogrammetry, system integration.
2) Close range photogrammetry for historic buildings
3) The Survey Department includes real time cinematic differential GPS for ground control measurements, GPS total stations, low cost GIS, software Maplinfo
4) The Meixner products are:
   - Hardware: GPS distributor for Trimble and Magellan,
   - Software: distributor for Mapinfo and Intergraph ER (Earth Resources mapper).
5) H. Meixner presented examples of executed projects: Dynamic agricultural mapping with use of mobile GPS cellular phone of Magellan and GPS supporting GIS.
6) The future of real time cinematic GPS networks is the support of automatic vehicle location (AVL).

Session ES06 - **C.C. Aeronautiche**
July 16, 1996, 11:15-12:00
Session Reporter: ***R. Radwan*** *(The Netherlands)*
Chairman: ***R. Radwan*** *(The Netherlands)*

No report received.

Session ES07 - **CREASO – ENVI 2.5 – Always a Little Step Ahead**
July 16, 1996, 12:00-12:45
Session Reporter: ***R. Radwan*** *(The Netherlands)*
Chairman: ***R. Radwan*** *(The Netherlands)*
Speaker: N.N.

No report received.

Session ES08 - **Aplanics – Aplanics Position and Orientation System (POS) for Airborne Survey and Mapping Applications**
July 16, 1996, 12:45-13:30
Session Reporter: ***Gordon Plunkett*** *(Canada)*
Chairman: ***Gordon Plunkett*** *(Canada)*
Speaker: N.N.

No report received.

Session ES09 - **Space Imaging – Introduction to Space Imaging**
July 16, 1996, 13:30-14:15
Session Reporter: ***Gordon Plunkett*** *(Canada)*
Chairman: ***Gordon Plunkett*** *(Canada)*
Speaker: N.N.

No report received.

Session ES10 - **ESRI – A Product Update and a Look at the Future**
July 16, 1996, 14:15-15:00
Session Reporter: ***Gordon Plunkett*** *(Canada)*
Chairman: ***Gordon Plunkett*** *(Canada)*
Speaker: N.N.

No report received.

Session ES11 - **Müller Systemtechnik – Visual Simulation of Cities and Landscape**
July 17, 1996, 9:45-10:30
Reporter: ***Dave Carney*** *(Canada)*
Chairman: ***Dave Carney*** *(Canada)*
Speaker: ***Klaus R. Müller*** *(Germany)*
Attendance: 32 persons

The goal using these methods is to generate photo realistic computer generated representation of a terrain or a city. This photo realistic representation is provided in such a way that one may walk through or drive through a terrain interactively. Müller Systemtechnik introduces methods of automatic generation of 3D models out of photogrammetric data. This includes the automatic generation of roofs, facades, and the incorporation of all required points or lines into the polygonal terrain model.

When using such a 3D model of a terrain or city one can easily replace an existing object by another one and view it from arbitrary positions. Therefore it is an ideal tool for urban planners.

Q: Could you explain how DTMS are used in the system for 3D modelling?
A: We utilise a triangular model which incorporates all of the available point and line data.

Q: How do you solve the problem of obstruction in the source-photos by trees etc.
A: Thank you. That is a good question because there is no automatic solution. It requires manual intervention through visual inspection of the data and interpretation. Sometimes it might even require a return to the original site for visual inspection. There is sometimes no easier way.

Session ES12 - **Hansa Luftbild – From Airborne Remote Sensing to GIS**
July 17, 1996, 10:30-11:15
Session Reporter: ***Julius Adeoye Ogunlami*** *(Nigeria)*
Chairman: ***Julius Adeoye Ogunlami*** *(Nigeria)*
Speaker: ***Wolfgang Kost*** *(Germany)*

The lecture gave an overview of Hansa Luftbild – German Air Surveys as Germany's largest and most experienced aerial survey and mapping company. It covered its history, the expert staff members, the existing and future equipment, and its international experience. Apart from the internal organisation the various subsidiaries and sales offices were presented. The technical presentation consisted of four highlights:

1) The airborne laser scanning system for DTM data capture with a precision of up to 10 cm.

2) The application of Hansa Luftbild's cinematic GPS techniques in various countries.
3) Examples of environmental projects mainly based on colour infrared aerial photography.
4) A complete border survey between the Kingdom of Saudi Arabia and the Sultanate of Oman consisting of ground survey with GPS, construction of 350 concrete monuments, aerial surveys, digital mapping, printing, production of an atlas.

Session ES13 - **SSC Satellitbild – Efficient Evaluation and Set-up of GIS Bridging the Gap with RESURS - 01**
July 17, 1996, 11:15-12:00
Session Reporter: ***Julius Adeoye Ogunlami*** *(Nigeria)*
Chairman: ***Julius Adeoye Ogunlami*** *(Nigeria)*
Speaker: ***Niklas Cassel*** *(Sweden)*
and ***Antonella Gentile*** *(Italy)*

RESURS 01-3, launched in November 1994, perfectly bridges the gap between Landsat TM (30 m resolution) and AVHRR (one kilometre resolution). It carries on board the MSU-SK multispectral scanner with a resolution of 170 m. Launched into a helio - synchronous circular orbit at 678 km above the earth surface RESURS 01 has an orbit period of 98 minutes and a cycle of 21 days, swath-width is 600 km. The re-imaging capability is about 4 days at the equator and about two days at the latitude of Paris and daily in arctic and antarctic latitudes. It acquires data with four bands in the visible and near infrared, but there is also the possibility to acquire information with the thermal band. The band widths are:

1) 0.5 – 0.6 mm
2) 0.6 – 0.7 mm
3) 0.7 – 0.8 µm
4) 0.8 – 1.1 µm
5) 10.4 – 12.6 µm

The RESURS - 01 products are archived products and monitoring products. The archive comprises all the good quality MSU-SK for band images acquired from all over the world. The archive is constantly updated. The images are all system corrected and have full resolution. They have been shifted along the track in order to maximise cloud-free areas. The catalogue of these images is available on EINET (Eurimage Online Browsing System) accessible 24 hours per day, 7 days per week at the following address: htttp://www.eurimage.it

The monitoring product services will allow the customer to receive the exact data package he needs, covering as many times as he wants the area of his choice during the period of his interest. The system is ideal for mapping in scales ranging from 1 to 2.050 to 1 to 2.000.000. It is also possible to promote precision corrected scenes, mosaics and satellite image maps. Large areas can be mapped in a very short time and at a very low cost. Applications: The satellite fits many applications such as: agricultural monitoring, coastal zone monitoring, snow cover mapping, ice monitoring and above all landcover and environmental monitoring of large areas and forestry. Within these application areas many results have been obtained by analysing the satellite data: applying unsupervised and supervised classification methods, many different classes of landuse have been identified.

Session ES14 - **EUROMAP-EOSAT – Source for Indian Remote Sensing (IRS) Data**
July 17, 1996, 12:00-12:45
Session Reporter: ***Gordon Johnston*** *(Canada)*
Chairman: ***Dave Carney*** *(Canada)*
Speaker: ***George Joseph*** *(India)*

Keypoints were:

1) The status of the Indian Space Programme.
2) The development of new sensors.
3) Results obtained in actual applications (agriculture and forestry).
4) A glimpse into the future of the Indian space programme, including a new platform and sensor arrangement.

An EUROMAP representation outlined the distribution network being put in place for IRS Data.

Session ES15 - **Help – Photopol – Cost Effective Solution for Digital Mapping**
July 17, 1996, 12:45-13:30
Session Reporter: ***Dave Carney*** *(Canada)*
Chairman: ***Dave Carney*** *(Canada)*
Speaker: ***Aleš Limpouch*** *(Czech Republic)*
Attendance: approx. 30 persons

The help service group is a group of companies, which provide complex services in the area of GIS, remote sensing, image processing and digital photogrammetry. Main activities include development of Topol GIS, GIS applications as well as data supply and consultancy in GIS. The main product, Topol GIS, is a common LIS/GIS system software for the creation, maintenance, presentation and analysis of geographical data. It integrates the traditional vector-based GIS with a tool for image processing and remote sensing. Topol is especially strong in the creation of combined black and white or colour raster and vector output. Photopol is a cost effective solution for digital photogrammetry based on Topol GIS technology. It provides ortho-rectification, DTM generation and stereo-viewing and editing capabilities. This system is useful for the production of precise maps from aerial photography.

Q (Denny Kalinsky - Canada): Congratulations! Photopol is written for Windows 3.1. What about Windows95? And what can you tell us about the price?
A: Yes, we are working on the upgrade now. As to the price 1.500 USD for the viewer version, 15.000 USD for Topol-3D and 30.000 USD for Photopol-Stereo

Session ES16 - **Trimble Navigation (Germany) – Advanced Real Time Cinematic GPS Technology**
July 17, 1996, 13:30-14:15
Session Reporter: ***Manfred Ehlers*** *(Germany)*
Chairman: ***Manfred Ehlers*** *(Germany)*
Speaker: ***Ulrike Bielke*** *(Germany)*

The presentation started with an overview of recent developments for Trimble's series 4000 receivers, specifically the progress in miniaturisation and integrated technology for reduced size and weight as well as for decreased power consumption. Other advances include

fast static survey, real time cinematic measurements and robust signal tracking capabilities.

The new development (Everest Technology) in Trimble receivers reduces errors due to mulitpath signal reflections which are responsible for failures within the survey initiation process. 5 satellites are needed so that calibration of the integer ambiguity can be performed and survey within cm-range is possible. Examples demonstrated the effects of the Everest technology, especially for on-the-fly-initialisation which is a necessary precondition for real-time surveying. It could be shown that the reliability was improved to exceed 99.9 %

Q: Is that technology already available?
A: You can ask for an upgrade now.

Q: Does it work with receivers from other companies?
A: Only when they use the same technology.

Session ES17 - **Rollei Phototechnik**
July 18, 1996, 9:45-10:30
Chairman: ***Jin Chen*** *(U.K.)*

No report received.

Session ES18 - **Digital Satellite Image Atlas on CD-ROM**
July 18, 1996, 10:30-11.15
Session Reporter: ***Zdenek Kalensky*** *(Canada)*
Speaker: ***Lothar Beckel*** *(Austria)*

Keypoints were:

1) A description of Geospace's Digital Satellite Image Atlas on CD-ROM with the following layers: Introduction to satellite remote sensing, satellite image mosaics, cartographic co-ordinates and grid, administrative boundaries, infrastructures as roads or towns. It is an interactive database with some multimedia capacity (no sound).
2) The main part of the Atlas, the global image mosaic, is structured as follows:
   a) world based on 4 km NOAA/AVHRR
   b) Europe based on 30 m Landsat TM
   c) Austria based on 10 m Spot

Only a German version is available at present. The product is intended primarily for schools.

Evaluation: Useful product, which will enhance appreciation of remote sensing. Excellent presentation.

Session ES19 - **NICONSULT – Geofind – Efficient Evaluation and Set Up of GIS**
July 18, 1996, 11:15-12:00
Chairman: ***Jin Chen*** *(U.K.)*
Speaker: N.N.

No report received.

Session ES20 - **Leica – Leica RC30 Aerial Survey Camera System – More Than Just Another Leica Camera**
July 18, 1996, 12:00-12:45
Session Reporter: ***Olubodun Ayeni*** *(Nigeria)*
Chairman: ***Olubodun Ayeni*** *(Nigeria)*
Speaker: ***Arthur Rohrbach*** *(Switzerland)*

An overview has been given of the Leica total solution for aerial survey navigation and positioning. The described subsystems are:
- Leica RC30 Aerial Camera
- Leica PAV30 Giro Mount
- Leica SCOT-GPS Airborne Equipment
- Leica Processing Software

The benefits for the users have been explained.

Session ES21 - **Leica – Defining System Solutions for Leica Photogrammetry**
July 18,1996, 12:45-13:30
Session Reporter: ***Olubodun Ayeni*** *(Nigeria)*
Chairman: ***Olubodun Ayeni*** *(Nigeria)*
Speaker: ***Stewart Walker*** *(USA)*

An overview has been given of the Leica products for photogrammetric systems covering hardware and software for analytical photogrammetry, digital photogrammetry and land information systems: The analytical plotters ST2000/3000; the digital scanning workstations Helava DSW200/300; the digital photogrammetric workstation Helava DPW670/770, the digital photogrammetric workstation DVP and the Infocam land information system.

Session ES22 - **Grontmij Geogroep – Your Partner in Geoinformation**
July 18, 1996, 13:30-14:15
Chairman: ***Michael Chapman*** *(Canada)*
Speaker: N.N.

No report received.

THE SPECIAL EXHIBITION

In the special exhibition at the floor level of the AUSTRIA Centre Vienna the visitors have been welcomed by Japan, the applicant for Commission V, and by The Netherlands, the applicants for the next Congress. The two excellent stands were well informing and paid off: Both reached the aim and won the competition.

ISPRS - SPEAKING TUBE
COMMUNICATION MEDIUM FOR EVERYONE

ISPRS Speaking Tube - the official Congress Newspaper was issued daily during the weeks the Congress was in progress. ISPRS Speaking Tube was meant to serve as a medium for communication and information for delivering actual information to all Congress participants.

Technical Solution and Technical Equipment

By the Congress Organization Committee the following preconditions for the newspaper were formulated:

- Speaking Tube is to be published daily.
- The extension must be four pages (format A4).
- The newspaper - especially advertisements - must be printed in color.
- The data flow from desktop publishing system to the printing machine has to be in a digital format.
- The circulation for Speaking Tube is 2000 per issue.
- The newspaper must be available at 8:00 a.m. in the morning.

Due to another frame condition - available budget - the newspaper was produced in two steps: One week before the beginning of the Congress the constant content (general layout, advertisements, etc.) of all issues of ISPRS-Speaking Tube was printed (color offset printing technology). The variable content of each issue was daily multiplied in black/white using a high speed copier.

Articles for Speaking Tube were written by the editors on leased notebooks. Photographs were taken with two digital cameras. Afterwards text and photos were copied to the Desk Top Publishing System (high quality PC), on which the variable pages of ISPRS Speaking Tube were shaped by using the software "Quark Express". A high resolution laser printer was available for control prints.

Contents and Distribution of ISPRS Speaking Tube

The functionality of the hard- and software system as well as the functionality of the digital data flow from Desktop Publishing System to the printing machines was checked by ISPRS Speaking Tube - Issue 0. One month before the begin of the congress this issue was sent to all participants as last information before the Congress opening. Nine issues of ISPRS Speaking Tube were published during the congress. The bulletins covered information (last minute changes in Congress events; upcoming highlights and retrospect of technical sessions, council meetings, exhibitions, social events; contents and decisions of the General Assembly), articles of general interest (also written by guest editors), commercial advertisements, and short announcements of satellite meetings. Last but not least the column *"In the Spotlight of the Congress"* introduced persons, who had been the focus of interest during the XVIII ISPRS Congress in Vienna.

Do you still remember some headlines of the newspaper, such as *"The Congress Comes Back Home"*, *"On the Wooden Shoes to the next Millenium"*, *"K&K Bicycle Tour"*, *"Digital Photogrammetry - Ready to Take Off"* or *"The Congress Says Good Bye"* ?

For additional information three special issues were distributed:

- Prof. Eduard Doležal - The Great Promoter of Photogrammetry (written by Michaela Schlögl)
- Amsterdam - Congress City 2000 (leaflet)
- Carl Zeiss Band (Songbook - Castle Party Grafenegg)

ISPRS Speaking Tube was distributed at designated "Speaking Tube Sites" near the registration desks and at other central locations throughout the Congress Center. Council Members and the members of the organizing committee got the benefit of receiving personally an actual exemplar early in the morning.

ISPRS Speaking Tube Staff

"Information Transfer is Our Job" - this message was the headline for the introduction of ISPRS Speaking Tube Staff in Issue 4. This statement was true only during the two weeks of the Congress: In everyday life the members of Speaking Tube staff are no professional journalists or newspaper editors: Reinfried Mansberger, the person in charge for the newspaper, is an assistant professor at the Vienna University of Agricultural Sciences and he recruited a team of photogrammetrists, teachers, forest engineers, cartographers, and students.

Life was very hard for the ISPRS Speaking Tube Staff: At 8 o'clock in the morning - after having finished the distribution of the actual issues - the members had to attend the editing conference. During the whole day information was collected, photographs were taken, and rough versions of articles were edited. In the late afternoon the final layout of the newspaper was done. Normally the work ended at midnight with the delivery of the digital data set to the printing company.

ISPRS Speaking Tube Staff (from left to right)
Standing: Rudolf Navratil (Driver), Thea Kraus (Editor/Cartoonist), Gertraud Tempfli (Editor), Markus Putz (Photographer); Sitting: Gebhard Banko (Editor/Distribution Manager), Reinfried Mansberger (Chair), Heinz Sattelberger (Photographer). Not on photograph: Josef Jansa (Editor), Gerhard Paul (Advertising Manager).