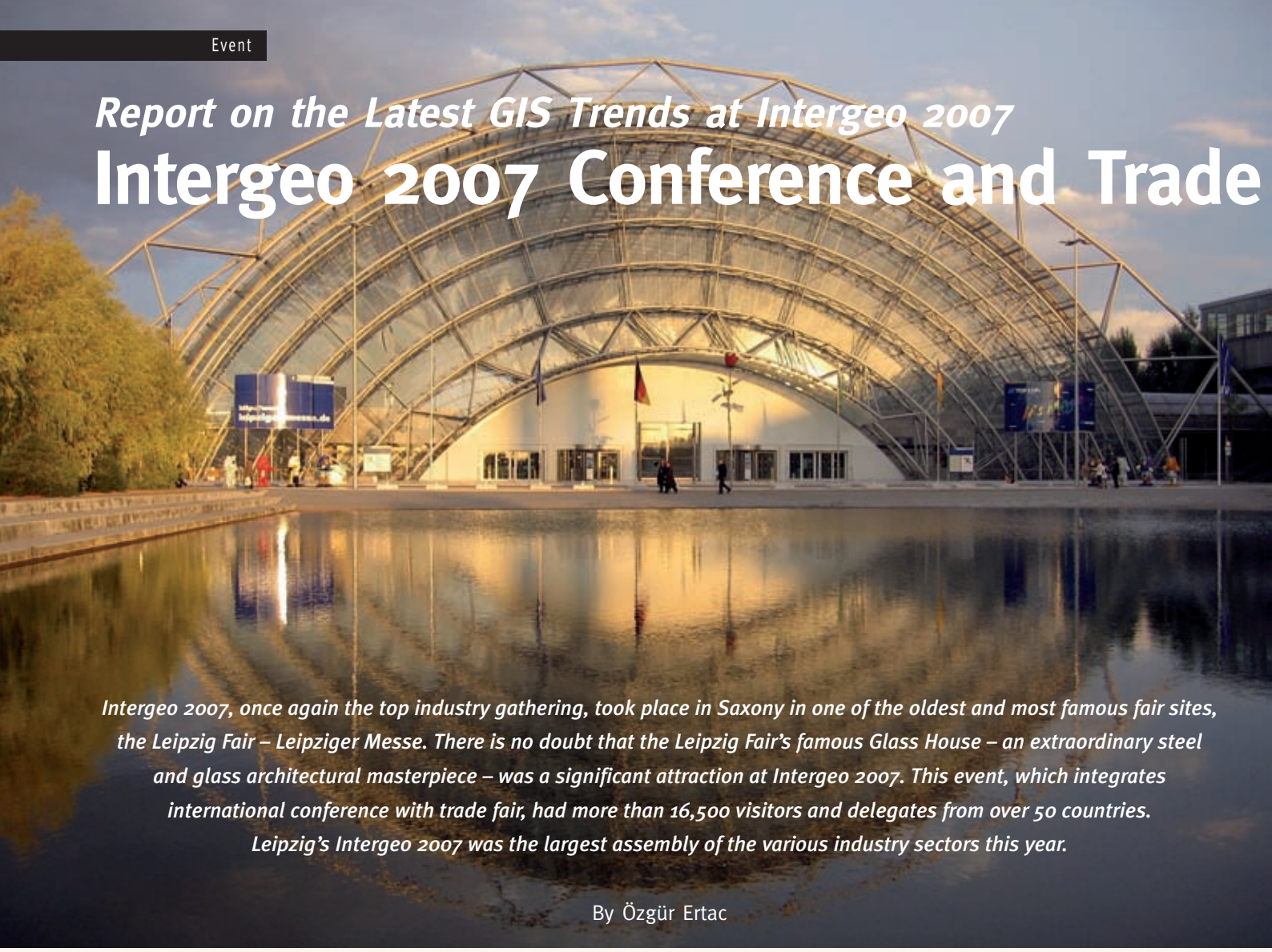
Report on the Latest GIS Trends at Intergeo 2007

Intergeo 2007 Conference and Trade



Intergeo 2007, once again the top industry gathering, took place in Saxony in one of the oldest and most famous fair sites, the Leipzig Fair – Leipziger Messe. There is no doubt that the Leipzig Fair's famous Glass House – an extraordinary steel and glass architectural masterpiece – was a significant attraction at Intergeo 2007. This event, which integrates international conference with trade fair, had more than 16,500 visitors and delegates from over 50 countries. Leipzig's Intergeo 2007 was the largest assembly of the various industry sectors this year.

By Özgür Ertac

The Glass House in the Leipzig Fair – Leipziger Messe. Copyright HINTE GmbH.

An important fact is that the event set a world record with 240 trade fair innovations. And Intergeo again clearly represents the interdisciplinary approach by incorporating the industry's three primary pillars: geodesy, geoinformation and land management.

Unique Meeting Point

Results of the official visitors' survey show "one third of visitors attending for the first time...", and in answer to the question of how they heard about the congress trade fair, virtually half of the trade visitors said "it was known throughout the industry", a reflection of Intergeo's fame. In this sense another key indicator, and probably the key indicator, was the exhibitors' satisfaction rate. Both the survey and the stand bookings for next year show that they were quite happy with the high profile of visitors, with "85.7% of companies saying they had achieved their aims in showcasing themselves at Intergeo". This event deserves to be called "the Mecca for an entire sector". In this article I will discuss the latest trends and share my general observations. I hope this will give a good idea of industry developments to those who were not able to attend or who missed some parts of the fair.

The Intergeo Exhibition Hall was the centre not only of knowledge and technology but also of entertainment. For instance, you could enjoy the thrill of a racing simulation, or be amazed by the laser show at the Topcon booth, or try to identify the cup with the coin under it at the Trimble booth where magicians and poker-players plied their trade. No matter that we are serious business people: we handed over our business cards for a shot at the wheel of fortune to win an iPod or to play for toys at some of the booths. My personal wish was to win a 3DConnexion SpaceNavigator, a 3D computer mouse which can be called "a toy for GIS specialists". And the Intergeo tradition of party time was on show in the booths on Wednesday night. We're still talking about the fantastic band, GeoKosmos, (supported by Datum) and the delicious food at the ESRI booth.
An attractive spot out in Hall 3 was the "Fokus Forum", a platform for bringing together industry specialists and exhibition visitors. It was a great opportunity for following enhancements in both industry and academia. During the moderated presentations the audience could ask questions about developments in the market. And it was not just for German speaking visitors. Again this year Intergeo proved itself to be an international event by giving the afternoon Fokus Forum sessions in English.

55th German Cartographers' Day

The 55th German Cartographers' Day was organized by the German Society for Cartography (DGfK) as part of Intergeo. This was the third time this specialist field has been represented independently and comprehensively at the Congress. In this context Dr. Abschenberner, DGfK President, emphasized the importance of cartography when he said "...people only really can understand the benefits of geodata properly if the data are represented in their geo-spatial context and geographic complexity. This is what cartography does with its wide range of methods. Modern-day cartography above all means operating and communicating with digital maps, either on screen or on mobile displays". Two trends regarding cartography could be observed: first, the integration of carto-

Fair in Leipzig

graphic presentation tools and functions into GIS software, illustrated by a project of the Swiss national mapping agency, Swisstopo; second, automatic map generation is reaching maturity.

Disaster management and risk assessment

It would not be wrong to state that 'FloodServer' – online at www.floodrisk.eu – was one of the most striking projects in the area of disaster management at Intergeo this year. Geoinformation service providers Infoterra and Geomer present detailed flood information for the whole of Europe. Users can call up maps and information on past floods as well as examine the effects of future flooding in areas along the Rhine, Elbe and Unterweser. The key issue in such projects, as Mr. Tinz, project leader at Infoterra, stated, is that "although FloodServer cannot prevent the threat of floods, it provides critical assistance for minimizing the impact of floods in future..."

Closely related to flood-based disaster management systems, a number of companies were interested in hydraulic and hydrologic modeling. At Intergeo 2007, water resources and related visualization techniques seemed to have improved. The main areas of interest were software development and consulting services using several modeling technologies such as groundwater modeling, surface water modeling and multi-dimensional hydraulic visualization. The primary capabilities of the software involved 2D or 3D hydrodynamic modeling and visualization, groundwater simulations, model development, calibration, automated basin delineation, and overlay computations by rainfall depth, precipitation, roughness coefficients, run-off, etc.

3D Terrain and City Models

A noticeable trend at the trade fair was 3D, in terms of both 3D terrain models and 3D city models. A number of booths concentrated on airborne laser scanning and the processing of LIDAR data. The number of 3D city models available has grown rapidly, with City GML becoming the transfer format that allows applications to go beyond visual representation.

National Geo-data and European Spatial Data Infrastructures

The geo-data infrastructures (GDI) have been developed as a network for "spatial data discovery and access" which makes the spatial data readily accessible and shareable. As a natural result of this rapidly growing segment of the geo-information market, complete GDI&SDI-ready packages are increasing again this year. Those who were at Intergeo last year remember the ambitions for GDI technology and the future of data accessibility. This year it seems GDI and SDI are becoming clearer in people's minds since applications and know-how kept cropping up in the exhibition area. On the other hand, the most important concern of SDI-focused specialists this year is "impact assessment". With new projects, applications and implementations arising every day, the impact on industry and on daily life is very important. The questions are: how successful have they – the SDI implementations – been? What will be the impact of the European INSPIRE directive, and what will the implementing rules for INSPIRE that are currently being developed look like? Increasing competition among public agencies – everybody wants to be the owner and the only authority. Efficiency and effectiveness issues – pending feedback from the user perspective. Interoperability and the enhancements in GI-industry – such as Geobrowsers, Geotagging, Mash-ups, GeoCommons, crowd sourcing, social networks and Geo-Gaming (second-life, myspace...etc). We are looking forward to seeing answers.

The Open Source Park at Intergeo.

Internet GIS and Geo-Web Services

As is commonly believed, and I agree, "server-based GIS is used in most major cities around the world". Key priorities are that it be reliable and recoverable, interoperable and scalable, highly secure and deployable to the non-GIS specialist. Intergeo was the place to see state-of-the-art technology and solutions in the field of web-based GIS. Industry focus was not only on big-scale enterprise solutions but also small workgroup solutions to reduce the overall costs. Experience shows that in any case a well-planned solution always turns a profit in a web-based GIS infrastructure.

Interoperability between GI systems from different vendors is still an issue. Accordingly, for customers – mainly from the public sector – the support of OGC interfaces like WMS and WFS is a crucial factor.

The service-oriented architecture (SOA) paradigm coming from general IT has been adopted by the leading GIS software vendors but customer projects using this technology, for example for coupling GI and ERP systems, are still to come.

The Second Open Source Park

The Open Source Park, established in Munich last year, took place again this year, and again, the Open Source Geospatial Foundation (OSGeo) established and designed the overall

Exhibition Hall at Intergeo 2007 in Leipzig. Copyright HINTE GmbH.

concept. The Park was split into three sections. In the first section, service providers offered solutions with open software. In this section some open source implementers were ready to share solutions, namely 52°North, Autodesk, Camptocamp, Geolock etc. The second section provided the opportunity for personal contact among the developers and visitors. The third section was the presentation area where users, manufacturers and service providers showcased their projects. In all three sections plenty of projects were on hand: Desktop GIS: GRASS, gvSIG, QGIS; WepMapping: Mapbender, MapServer, GeoServer; geo libraries: GDAL/OGR, GeoTools; metadata catalogue: GeoNetwork open source; database: PostGIS; organizations: OSGeo, GAV, Humboldt Project.

In this context interoperability was an important topic indeed. Almost all key GIS vendors such as ESRI, Intergraph, Bentley and Autodesk, as members of the Open Geospatial Consortium, offered GIS products with appropriate open application programming interfaces. They also supported key data interchange formats and Web services standards to ensure relevant GIS and IT interoperability between systems over wired and/or wireless networks.

Universities and educational institutions

Intergeo is not only a platform for bringing GIS professionals together but also an event to establish remarkable connections among universities and other industry stakeholders. In this regard more than 30 national and international academic institutions were represented in the exhibition hall this year. Probably the most impressive improvement in universities was that GIS has become more of a major subject while before it was primarily a minor area of study in various faculties. My personal observation on the conditions in GIS labs in universities is that GIS facilities are about to become more modern and better equipped with the help of generous GIS and IT vendors. And the content of GIS-related courses is more professional and is better designed by the faculty. For your records, the GIS Youngsters – a Runder Tisch GIS initiative – were also there with the young student and researcher team at Intergeo to catch the trends in industry. The annual Intergeo trend analysis is about to be published, again by Runder Tisch GIS (www.rundertischgis.de).

Valuable Reflection

Intergeo has always been a valuable reflection of the industry. The success and the record numbers of exhibitors and visitors at the event support Hagen Graeff's comment: "Growth should be in average between five and ten percent". He anticipates a positive future for the geo-industry by assessing the commercial sales volume within one year. It means that day by day we are facing new challenges. It's clear that new issues keep the specialists and developers busy. And each area of interest comes up with another approach to understanding. In this regard, what visitors commonly noticed at Intergeo this year was that Earth Viewers are to become more geospatially oriented through the increasing involvement of geo-processing tools (GoogleEarth is not an exception anymore); GDI and SDI technologies are more than ever becoming part of our daily lives; location-based services are going further by adding 3D enhancements; 3D representation of the built environment is increasingly becoming part of GIS applications...and the rest you've reviewed through this article. I'm looking forward to seeing the impact of this outstanding event in industry this year. And now it's time to start the countdown for Intergeo 2008 in Bremen.

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