GIS ready information from imagery

Christian Heipke

IPI, Leibniz Universität Hannover

(Some) Changes in society

- Stronger quest for sustainable development
  - understanding the Earth as a system; climate change
  - food, energy, water resources and supply
- Globally increasing population
  - in particular in emerging countries and coastal areas
  - shrinking population in some developed areas, aging society
- Increasing sense of security (personal, data, homeland, …)
- Increasing globalisation
  - mobility of people, markets, capital, education, …
  - communication and information distribution and retrieval in real-time across the world
- Changing communication
  - social networks (facebook, twitter, …)

Changes of the field

Data acquisition

- Digital sensors everywhere (+ tons of unstructured data)
  - large and medium format camera systems
  - lidar, SAR, InSAR, hyperspectral sensors
  - mobile mapping
  - image sequence acquisition for dynamic processes and monitoring
- Geosensor networks and the web
- Close range goes airborne - UAV
- Dozens of countries launching their own satellites

Changes of the field

Data processing and delivery

- Fusion of sensor data to explore synergies
- Need for and potential of automation
- Tighter integration of acquisition and processing, e. g. for update
- Cloud computing (and the rest of the ICT development)
  - restrictions for speed, storage, energy, bandwidth, size, weight disappear
  - wireless communication
- Real-time 3D monitoring of the world
  - new areas of application
  - appropriate update cycles for the different products?

Changes of the field

General

- Standards and interoperability
- Open source software and open data policies
- Enterprise workflow solutions

- Web 2.0 and participatory schemes, crowd sourcing:
  - the role of the expert and the layman
  - Map maker and map user
  - Reliability: professional check or statistics
  - Speed, e. g. for car navigation
- Worldwide cooperation (GEO, GEOSS, Charta for Disaster Mgt, …)

Changes in the commercial sector

- Google and Microsoft have entered the scene
- GI as service providers in global companies, e. g.
  - Vexcel / Microsoft (US)
  - Teleatlas / TomTom (NL)
  - Rolta (IND)
  - Earthdata / Fugro (NL)
  - Navteq / Nokia (SF)
- Global commercial GI-networks, e. g.
  - Hexagon: Leica, Intergraph, Erdas, NovAtel, Jigsaw, …
  - Pasco: Aerodata, Base, Finnmap, Keystone Aerial, ...
  - Trimble: Applanix, inpho, Rolleimetric, Toposys, Gateway, …
  - Blom: NOR, DK, SWE, GB, ITA, D, SF, ROM, BUL, …
- Production often in countries with lower wages

Changes in the commercial sector

- Internet time, instant accessibility of products and services,
  - 24/7, „I want it NOW“
- Significantly shorter amortisation times for investment
  - analogue aerial cameras: 30 years (?)
  - digital aerial cameras: 30 months (?)
- Satellite data of medium resolution available to everybody free of charge, e. g.
  - CBRES (Brazil/China)
  - Landsat (US)
- „GI is big business“ (spatial is not special any more)

Schedule

09:00	Opening	Prof. Christian Heipke
09:10	Global remote sensing and its potential for GIS updating	Prof. Ian Dowman, UCL London, First Vice President ISPRS
09:30	Remote sensing for disaster management	Prof. Peter Reinartz, DLR
09:50	Status of world mapping	Prof. Gottfried Konecny, Leibniz Universität Hannover
10:10	Automatic generation of 3D city models	Prof. Dieter Fritsch, Universität Stuttgart
10:30	Coffee break	
11:00	Laserscanning for GIS data generation and update	Prof. George Vosselman, University Twente
11:20	Mobile mapping for GIS	Prof. Stefan Nebiker, University of Applied Sciences, MW Switzerland
11:40	Populating GIS databases with UAVs	Dr. Werner Mayr, GerMAP, Germany
12:00	Panel discussion	All speakers

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