

EuroSDR

serving Europe's geospatial information needs

Christian Heipke, Leibniz Universität Hannover Vice-President Research, EuroSDR

European Spatial Data Research - www.eurosdr.net



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- EuroSDR: where we come from and who we are
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European Spatial Data Research (EuroSDR):

where we come from (2 history slides) and who we are – aims and structure

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Over fifty years of experience





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From OEEPE to EuroSDR ...



... and from photogrammetry to the wider area of GI

Oct. 2003

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Vision

- to be the European research platform for

Jogy developments in view of

applied research in applied research in applied research in the second s of reference information in a Geoinformation intrastructure context





Five Research Commissions

1. Sensors, primary data acquisition and georeferencing

Michael Cramer, University of Stuttgart (D)

2. Image analysis and information extraction

Juha Hyppä, Finnish Geodetic Institute (SF)

3. Production systems and processes

André Streilein, swisstopo, Bern (CH)

4. Data specifications

Ulf Sandgren, Lantmäteriet (SWE)

5. Network services

Mike Jackson, University of Nottingham (UK)

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Intercommission Working Groups and Task Forces

Intercommission WG on Standards

Wolfgang Kresse, Univ. of Appl. Sciences, Neubrandenburg (D)

Intercommission WG on Education

Anders Östman, University of Gävle (SWE)

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EuroSDR's approach to research -Projects and workshops

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- Presentations by experts in the field
- Small, focussed group (usually < 50 participants)
- Ample time for discussion (breakout sessions, ...)
- Short term approach, 6 months or less from idea to realisation





The network idea

- Form a network of GI experts within EuroSDR
- Build and maintain alliances with neighbouring organisations in GI research, development and practice
 - EuroGeographics
 - ISPRS, ICA, FIG, AGILE
 - EU: JRC, INSPIRE, GMES
 - OGC, ISO TC 211, CEN TC 287
 - ...









- Special Session: SS–8: From National Mapping...
- Part 1: ...to a European Spatial Data Infrastructure:
 - OS GB (United Kingdom)
 - Swisstopo (Switzerland)
- **IGN** (Belgium) **BKG** (Germany)

- KMS (Denmark)
- Part 2: ...to a Global Spatial Data Infrastructure:
 - IGN Spain
 - Vision Map, Israel
 - NGIS, Australia

NGCC, China IREA-CNR, Italy



Examples of current activities

- the rolling research plan
- example projects
- recent workshops

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Looking at the full picture

Changes in society – how do they affect GI?

- Increased awareness of vulnerability of Earth as a whole
- Increased worldwide population, in particular in coastal areas
- Increased desire for safety and security (homeland, data, car...)
- Increased globalisation of markets
- Increased mobility of goods and people



Changes in the commercial landscape

- Google has entered the scene
- GI as data/information delivery division in global companies e. g. z. B.
 - Vexcel / Microsoft (US)
 Earthdata / Fugro (NL)
 - Teleatlas / TomTom (NL) Navteq / Nokia (SF)
 - Rolta (IND)
- Global GI-consortia, e. g.
 - Trimble: Applanix, inpho, Rolleimetric, Toposys, ...
 - Blom: NOR, DK, SWE, GB, ITA, D, SF, ROM, BUL, ...
- Production in low wage countries

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Changes in the commercial landscape

- internet time, constant availability of products and services necessary
 - 24/7, "I want it NOW"
- significantly shorter amortisation periods for investment
 - Analogue aerial camera: 30 years (?)
 - Digital aerial camera: 30 months (?)
- medium resolution satellite data free in the net - CBRES (Brazil/China) – Landsat (US)
- "GI is big business" (spatial is not special any more)

Brad Doorn, ASPRS President, Annual Convention 2009



grid computing, sensor

massive data volumes:

- Distr. service-based archit
- Object-oriented 3D and 4E
 - from the building interio
 - International standards
- Visualisation: augmented
- The semantic web interc



EuroSDR (European Spatial Data Research)

ROLLING RESEARCH PLAN

2007-2010



EuroDAC² – Digital Airborne Camera Certification

European Spa



DMC (© Z/I-Imaging 2004)



DIMAC (© Dimac Systems 2003)





IGN (© IGN 2003)



Figure 3, DSS medium format camera with proprietary exoskeleton for camera housing stabilization (© Applanix)





Figure 4, 3D calibration cage used for terrestrial DSS camera calibration (© Applanix)



Figure 9, ADS40 sensor head (© Leica)

Figure 10, ADS40 aircraft installation fo experimental test flight (© Leica)

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O. Hellwich, Berlin



Detection of unregistered buildings



from images ...

... and DSM data





N. Champion, Paris

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Detection of unregistered buildings



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Evaluation of building extraction

Aerial images, low automation..... Laser data, full automation



J. Hyyppä, Espo

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3D city models using CityGML







- INSPIRE Atlas of implementation methods Brussels, April
- Persistent testbed for research and teaching in Europe, AGILE, OGC Hannover, June
- Crowd sourcing for updating national databases Bern, August
- National 3D Geoportals Muttenz, September
- EuroMap³S European mapping and satellite solutions seminar, CNES, EuroGeographics, AFIGEO, IGN – Paris, October
- INSPIRE Atlas of implementation methods II Brussels, November

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EuroSDR – Educational Service

- knowledge distribution via eLearning
- completed projects and additional topics
- open to everyone with a basic understanding of GI
- past courses: Aalborg '02, Budapest '04, Dublin '05, Enschede '06, Prague '07. Stuttgart '08, As '09

- 2010 course will be run out of Leuven

• initiated by Joachim Höhle, Aalborg

