

Hexagon – A solution for every application!

53rd Photogrammetric Week – Stuttgart Germany 5-9 September 2011

Jack Ickes – Hexagon Geosystems

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5 September 2011

Content

- Acquisition of Intergraph by Hexagon
- Commitment to Core Technologies
- Synergy
- Solutions
- Closing

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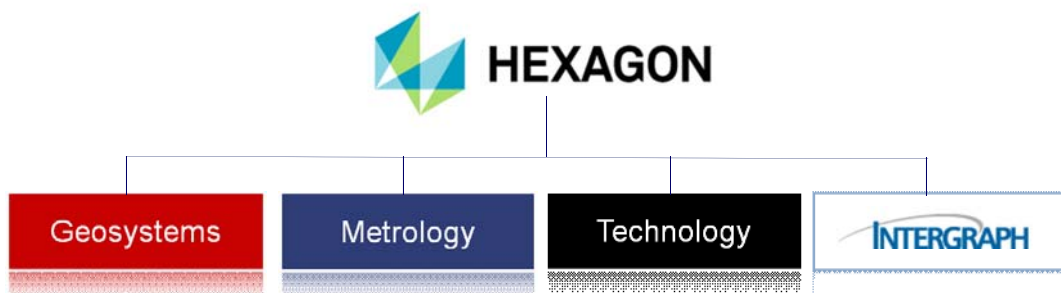
- when it has to be right



Content

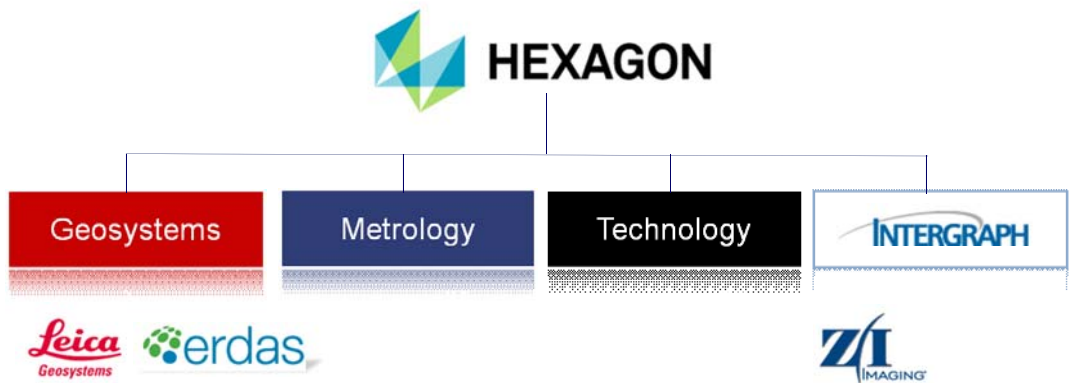
- **Acquisition of Intergraph by Hexagon**
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Acquisition of Intergraph by Hexagon – Fall or 2010



Intergraph fulfills all prerequisites that Hexagon has set for software driven expansion. The combination of Hexagon's leadership in solutions that capture rich geospatial data using aerial and ground based point cloud sensor technology, with Intergraph's leadership in GIS and CAD application software, will enable the enlarged Hexagon Group to develop and provide unrivalled integrated solutions to clients.

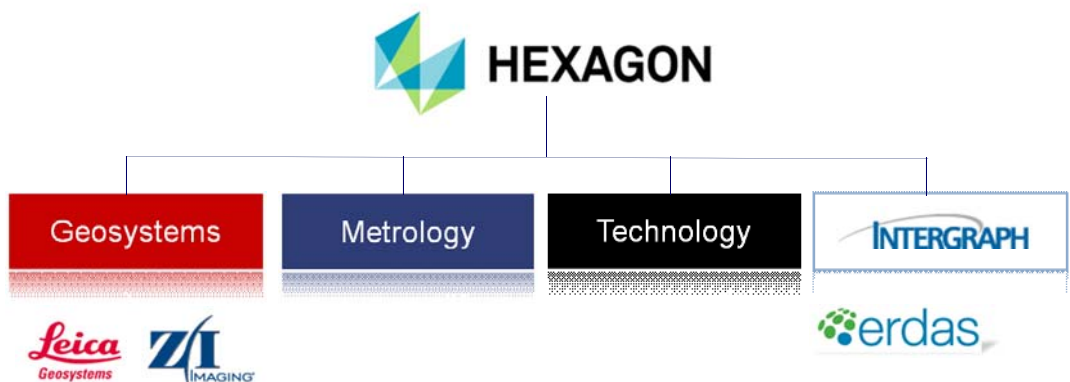
Some Reorganization – To maximize Synergy



Shall we presume that Erdas will get integrated with Intergraph?

Yes, we can presume that Erdas will become a part of Intergraph as it makes more sense to be integrated with Intergraph and at the same time Zeiss/Intergraph (ZI) will become a part of Leica Geosystems. There will be an exchange of technology between the two groups.
 - “excerpt from Geospatial World 2010 - THE REAL VALUE OF A MAP IS IN BEING REAL-TIME” – interview with Ola Rollen – CEO Hexagon Group”.

Hexagon Today



Z/I Imaging was moved from Intergraph to Geosystems and combined with the Leica Airborne products to form the Geospatial Solutions Division. Erdas was moved from Geosystems to Intergraph. Both actions were taken to maximize synergy and thus provide the most value to our combined customer base.

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Commitment to Core Technologies

Leica ADS80 Large-Format Line-Scanner Sensor



- Multispectral Pan and RGBN sensor
- Innovative beamsplitter design provides equal resolution in all bands
- 12000 pixels, 6.5um, in all bands in standard mode (Ratio 1:1)
- 24000 pixel swath in HiRes Mode (Ratio 1:2)
- Two Sensor Heads SH91 and SH92
- Focal length 65mm (single lens design)
- 100% forward overlap at all times
- Continuously recordable strip length
- Dedicated Workflow
- Rapid orthorectification and AT
- DSM extraction
- Installed system weight 140-145kg

Z/I Imaging DMCII Large-Format Digital Frame Sensor



- Multi spectral sensor, RGB and IR
- 2 to 3.2:1 pan-sharpened color resolution
- FMC forward motion compensation
- 1.7 second frame rate
- 92 or 112 mm focal length
- B/H ratio of 0.29 to 0.36 @ 60% overlap
- 4x42 MPixel, 7.2um MS CCD
- 1x140, 230, 250 MPixel, 5.6um PAN CCD
- Finished Image Size:
 - DMCII140 - 12,096 x 11,200
 - DMCII230 - 15,104 x 14,400
 - DMCII250 - 17,216 x 14,656
- installed system weight 151kg

Leica RCD30 Mid-Format Digital Frame Sensor



- Multispectral, coregistered RGB and IR
- Mechanical motion compensation, 2 axes
- >1 second frame rate
- 50 mm and 80 mm focal length
- Stabilized lens system
- Exchangeable central shutter
- B/H ratio of 0.32 @ 60% overlap (50mm)
- 2 x 60MP, 6um CCD for RGB and NIR
- Image size single head 8956 x 6708
- 15cm GSD @ 3780ft flying height (50mm)
- CCD made by DALSA
- Optics made by Zeiss
- Weight CH6x 4 kg, CC3x 6kg

Leica ALS70 LIDAR Sensor



- 3 models: -HA @ 5000 m AGL, -HP @ 3500 m AGL, -CM @ 1600 m AGL
- Dual-output scanner on -HP and -CM uses single laser and scan mirror for ruggedness and reliability;
- >2x effective pulse and scan rates of current systems
- 3 user-selectable scan patterns for ultimate control over point pattern on ground
- Improved receiver dynamic range to better accommodate low-reflectivity or small targets
- Fully upgradable from ALS60

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Complementary Not Competing!

Geospatial Software Tools



ImageStation Photogrammetric Manager

ImageStation Automatic Triangulation

ImageStation Satellite Triangulation

ImageStation Automatic Elevations

ImageStation DTMQue

ImageStation Stereo Display

ImageStation Feature Collection

ImageStation Stereo for GeoMedia

ImageStation DTM Collection

ImageStation OrthoPro

ImageStation PixelQue

Z/I Work



IMAGINE Advantage

LPS Core

LPS Stereo

LPS Automatic Terrain Extraction

Enhanced Automatic Terrain Extraction

LPS Terrain Editor

ORIMA for LPS

PRO600 for LPS

Defense Productivity Module

Stereo Analyst for ERDAS IMAGINE

Stereo Analyst for ArcGIS

Image Equalizer

Geospatial Software Tools



ImageStation Photogrammetric Manager

IMAGINE Advantage

ImageStation Automatic Triangulation

LPS Core

ImageStation Satellite Triangulation

LPS Stereo

ImageStation Automatic Elevations

LPS Automatic Terrain Extraction

ImageStation DTMQue

Enhanced Automatic Terrain Extraction

ImageStation Stereo Display

LPS Terrain Editor

ImageStation Feature Collection

GRIMA for LPS

ImageStation Stereo for GeoMedia

PRO600 for LPS

ImageStation DTM Collection

Defense Productivity Module

ImageStation OrthoPro

Stereo Analyst for ERDAS IMAGINE

ImageStation PixelQue

Stereo Analyst for ArcGIS

Z/I Work

Image Equalizer

Complementary
Not
Competing!

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Synergy – Outlook

DPW / Image Processing / GIS / Decision Making



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Geospatial Solutions - Today

Better, Faster Response to Natural Disasters



Challenge

Flood recovery in Queensland, Australia, required fast, repeatable monitoring.

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Solution

High-resolution multispectral airborne digital imaging system.

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Result

Use of near real time accurate digital surface models allowed for better deployment of assets

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Geospatial Solutions - Today

Airborne Mapping of Critical Infrastructure



Challenge

Critical infrastructure and environmental mapping along lengthy corridors

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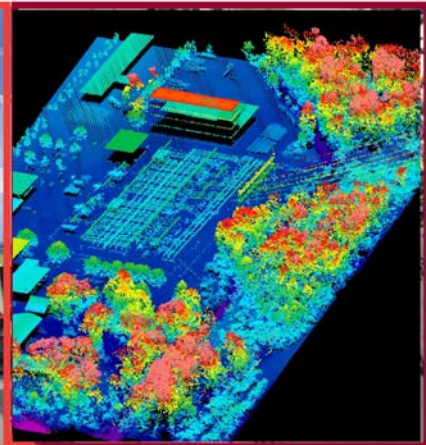


Solution

High-resolution airborne LiDAR scanners with multispectral cameras deployable in helicopters and UAVs

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Result

Cost-effective mapping tool gives structural and spectral information

- when it has to be right



Geospatial Solutions - Today

Info-clouds for Real World Mapping



Challenge
Represent the changing Real World accurately

Solution
Image-based pixelmatching to extract DSM plus spectral information

Result
N-dimensional info cloud as best match to real world

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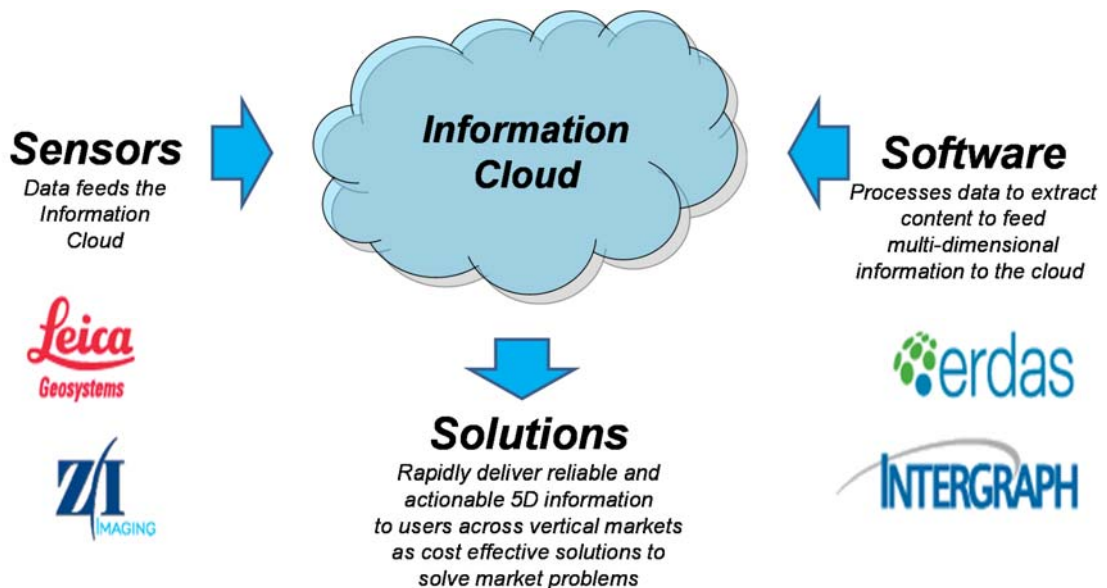
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Geospatial Solutions - Tomorrow



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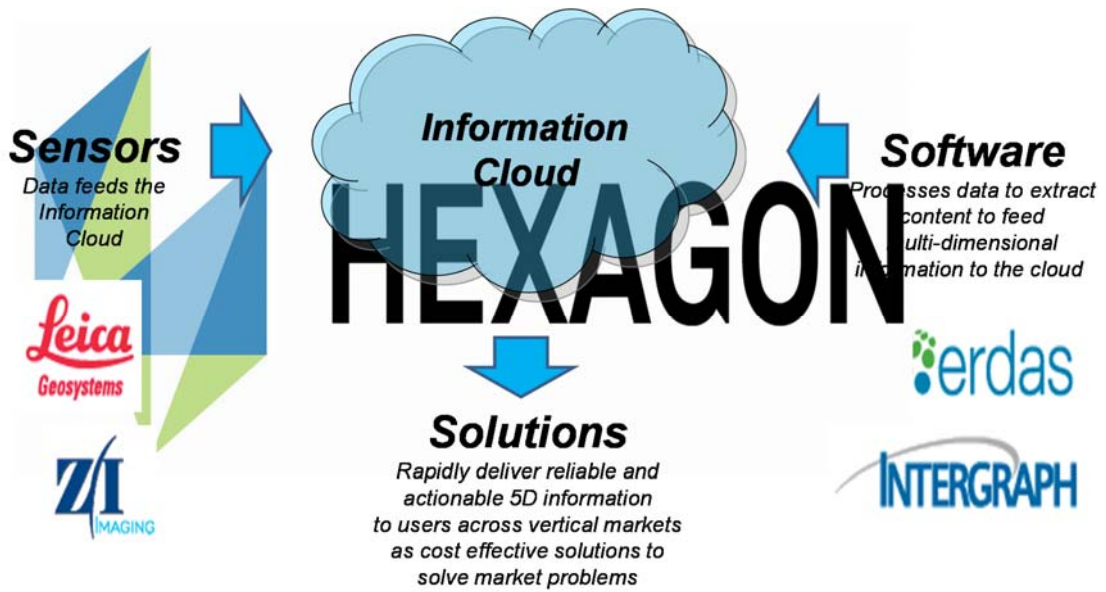
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Geospatial Solutions - Tomorrow



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Thank you!

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