Digital Airborne Imaging Solutions

WB/FIG Land Governance, responding to new Challenges Washington
Private Vendors and Universities, March 10, 2009; 08:30 – 10:00 am, MC Room 10-100

Kurt Schibli
Vice President EMEA
Leica Geosystems AG, Switzerland

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Digital Airborne Imaging Solution
the workflow:

spatial information

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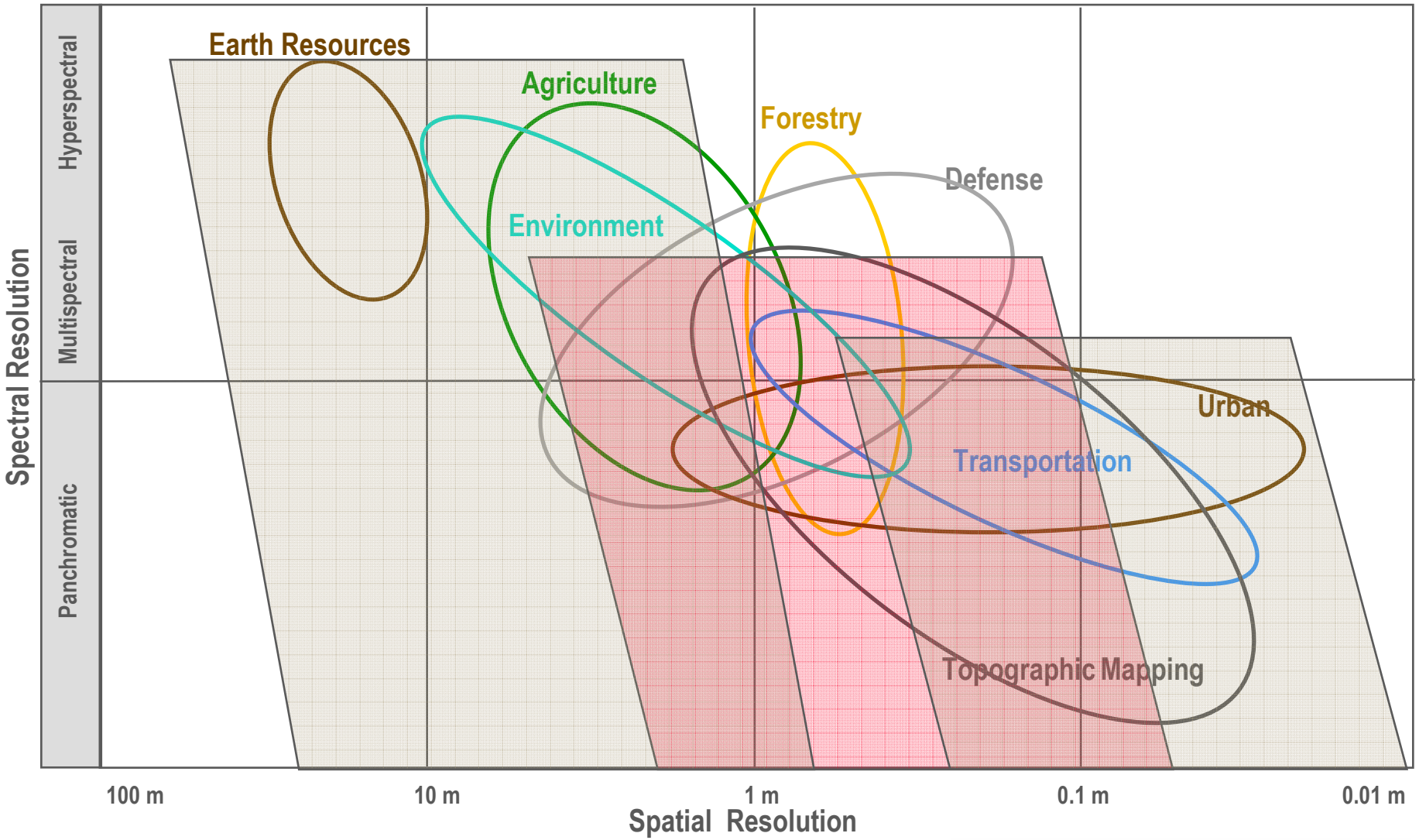
Baseline Data collection



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Leica Geosystems

Airborne Solutions

Leica has a wide & complete solution offering

Imaging Sensors

ADS80 SH81

ADS80 SH82

Supplementary Solutions

Flight Planning

Flight Control

Position and Attitude System

Sensor Mount

39MP Camera

Lidar Sensors

ALS60

ALS CM

Imagery Workflow

Application Software (Leica LPS, Terrasolid)

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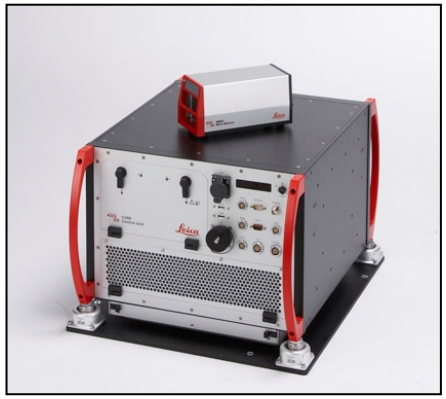
Leica ADS80 Airborne Digital Sensor

the 3rd Generation

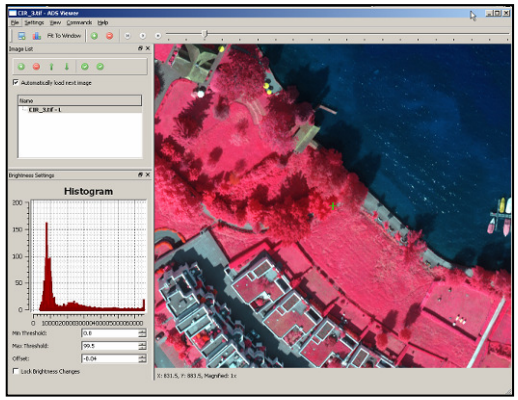
SH81 / SH82

+



CU80 / MM80

+



Leica XPro

= *Most complete*

Digital Airborne Imaging Solution

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Leica ADS80 Digital Airborne Imaging Solution

Mapping Accuracies			
Average GSD with ADS80	Map Scale	Map standard	
		x-y accuracy RMSE	contour interval
5 – 10 cm	1:500	0.125 m	0.25 m
10 – 15 cm	1:1000	0.25 m	0.5 m
15 – 20 cm	1:1500	0.40 m	0.75 m
20 – 30 cm	1:2000	0.50 m	1 m
25 – 35 cm	1:2500	0.60 m	1.25 m
30 – 50 cm	1:5000	1.25 m	2.5 m
40 – 60 cm	1:10000	2.50 m	5 m
50 – 70 cm	1:20000	5.00 m	10 m
50 – 80 cm	1:25000	6.25 m	12.5 m
50 – 100 cm	1:50000	12.5 m	20 m
50 – 100 cm	1:100000	25 m	50 m

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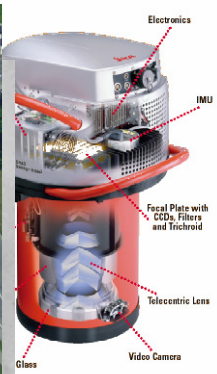

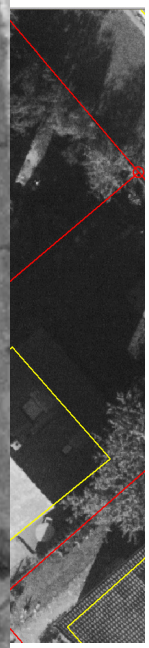

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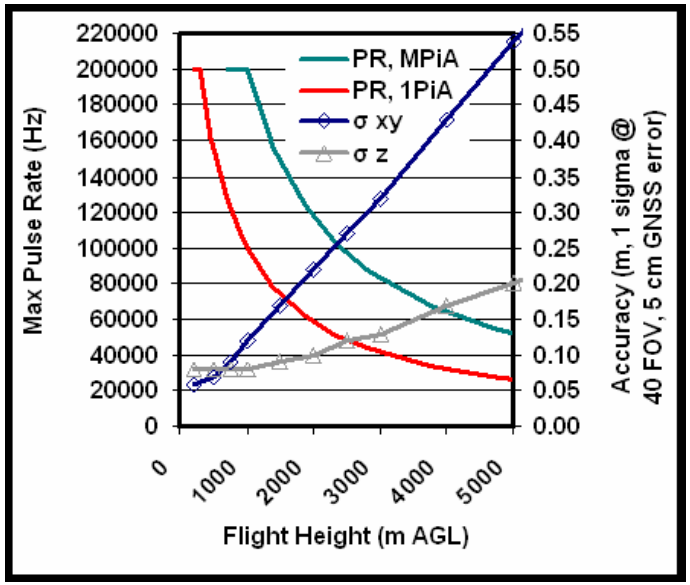
Leica ALS60 Airborne Laser Scanner
performance without compromise

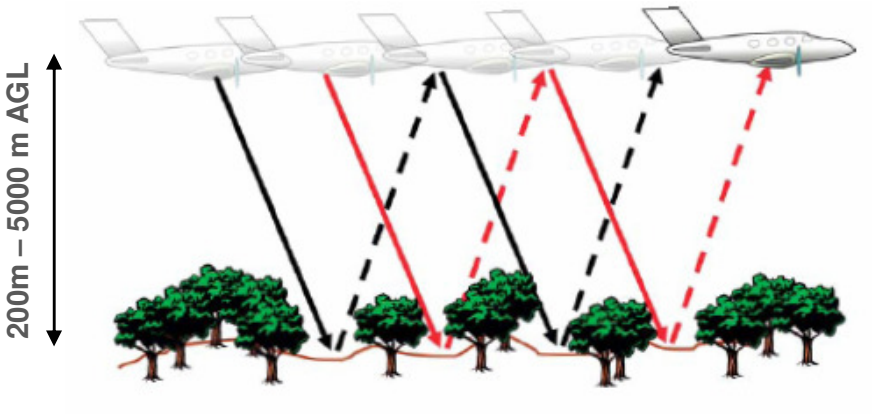
A new paradigm:

the point density you want,

the accuracy you need,

even at 200 kHz pulse rate





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Leica IPAS20 Inertial Position & Attitude System

System integration and optimal workflow

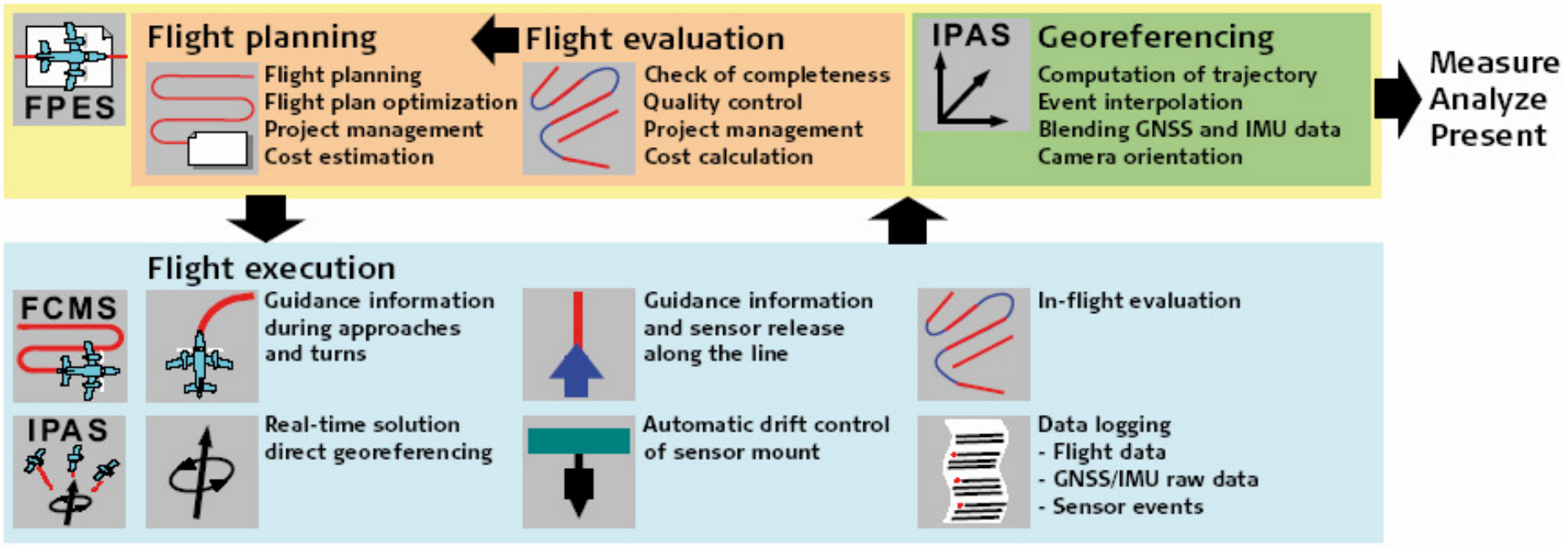
Benefits of positional and attitude information

- Provides a significant reduction in the production time and cost of airborne sensor data allowing efficient and automatic data processing
- Increases productivity of geospatial data collection and processing allowing fast turn around of mapping projects
- Eliminates the need for aerial triangulation (AT) for a wide range of photogrammetric mapping projects, especially in areas where it is difficult to access or perform an AT
- Reduces the need for ground control and facilitates data QA/QC
- Provides reliable and accurate results, better use of flying conditions for more productivity and shorter field operations

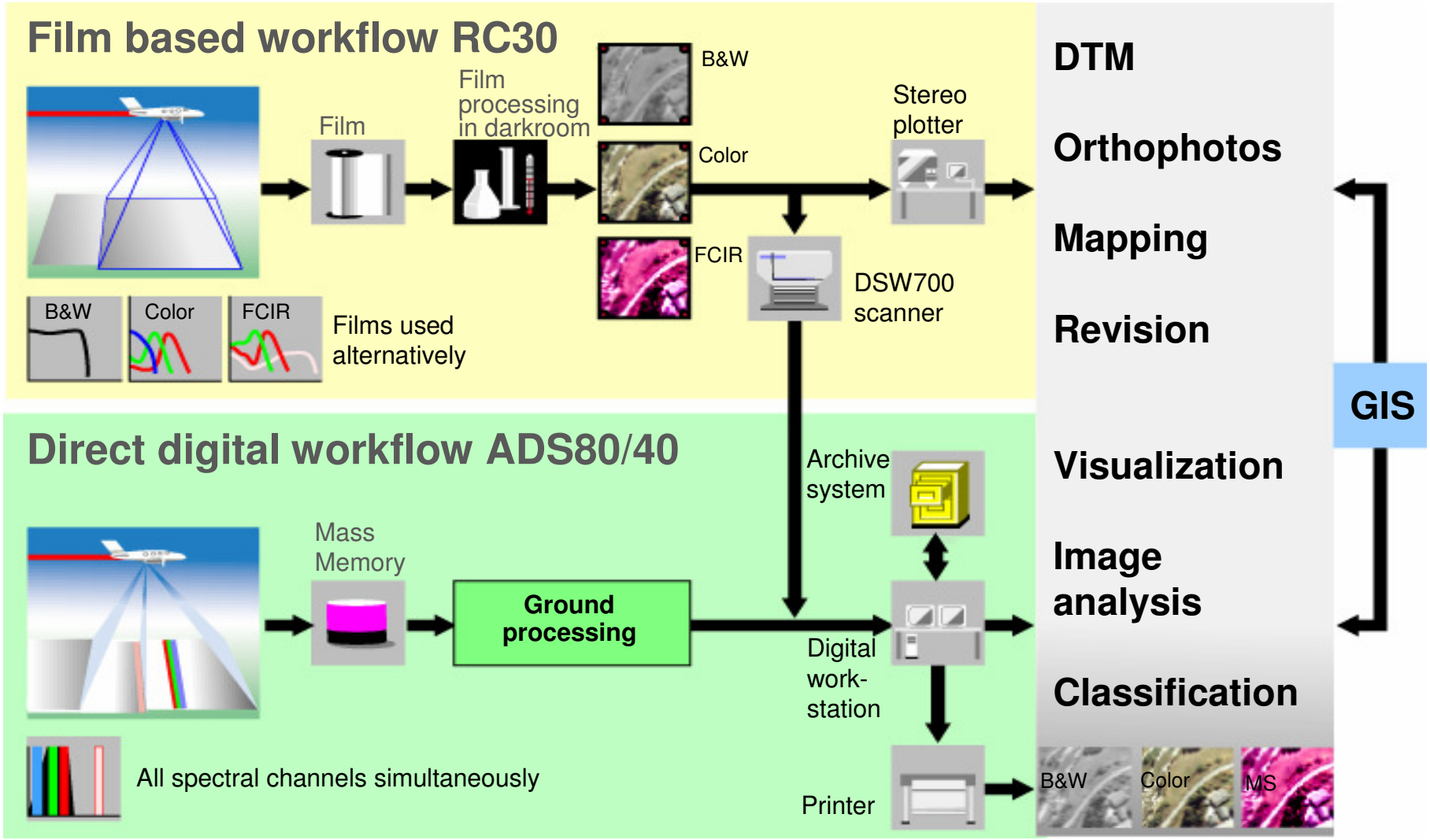
Features of the IPAS20

- Delivers direct georeferencing to airborne sensor data
- Calculates position, velocity, roll, pitch and heading at high data rates and accuracies
- The high accuracy, real-time attitude improves the real-time application performance when used as input to a Leica PAV gyro-stabilized mount
- A scalable system which can grow with your future needs for system compatibility, upgrade, replacement and improved technology

Leica IPAS20
stand-alone or integrated:



Workflow - film based and direct digital



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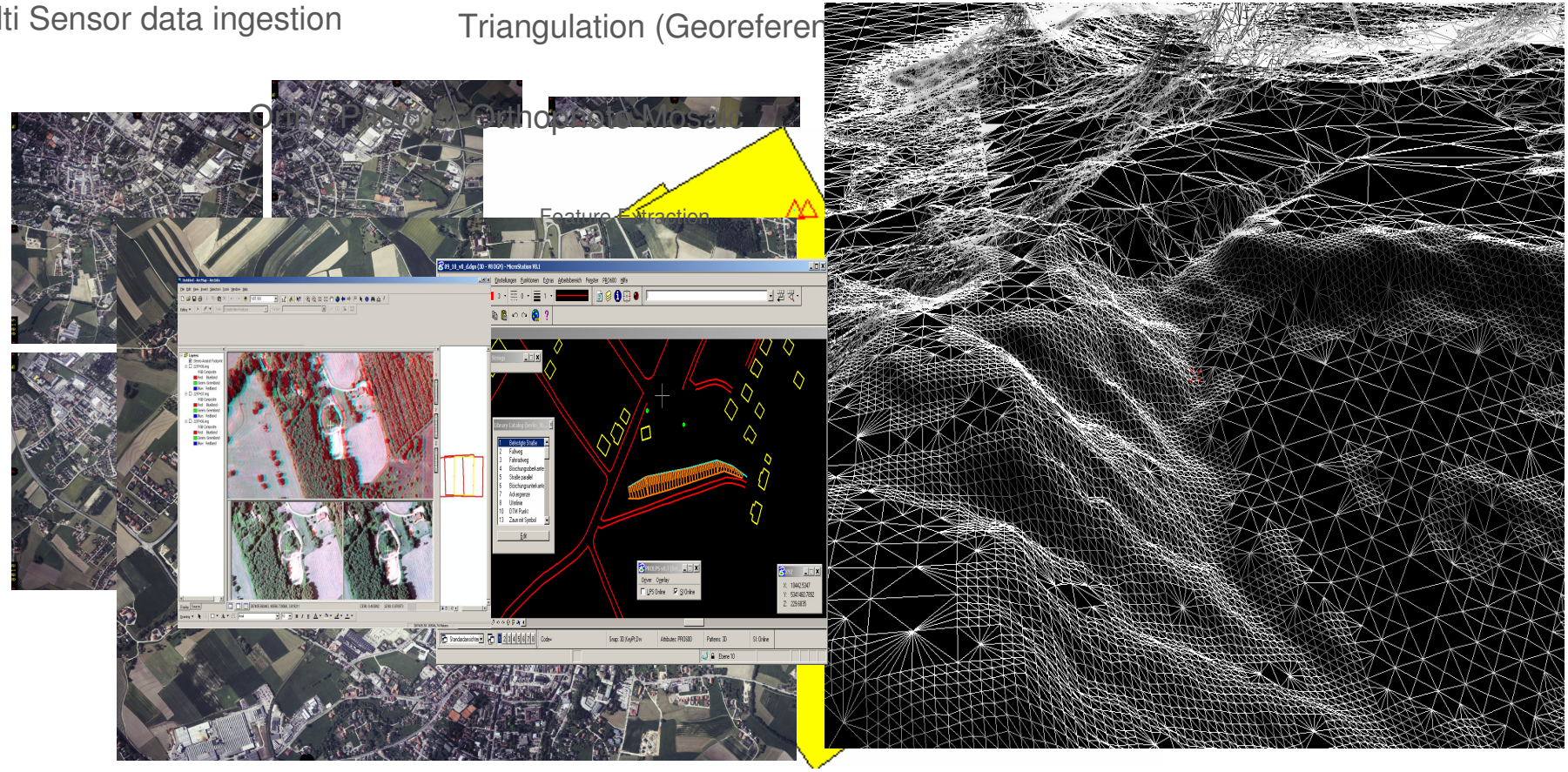
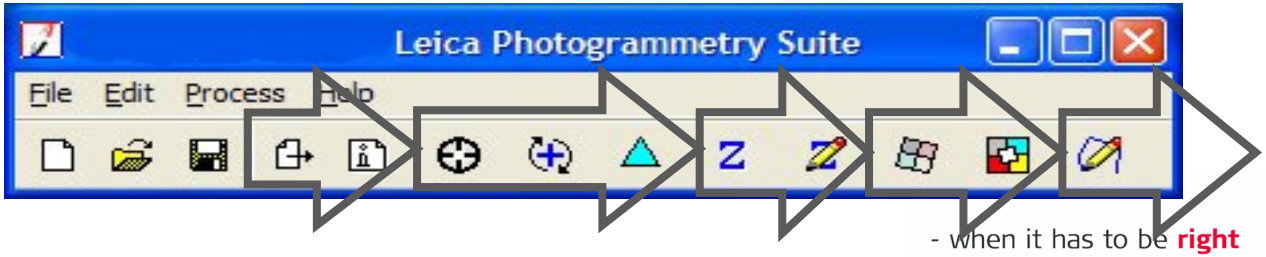
just a few applications:

Photogrammetry - Reference

Multi Sensor data ingestion

Triangulation (Georeferen





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PingYao
China

Leica ADS40 – 1st Generation

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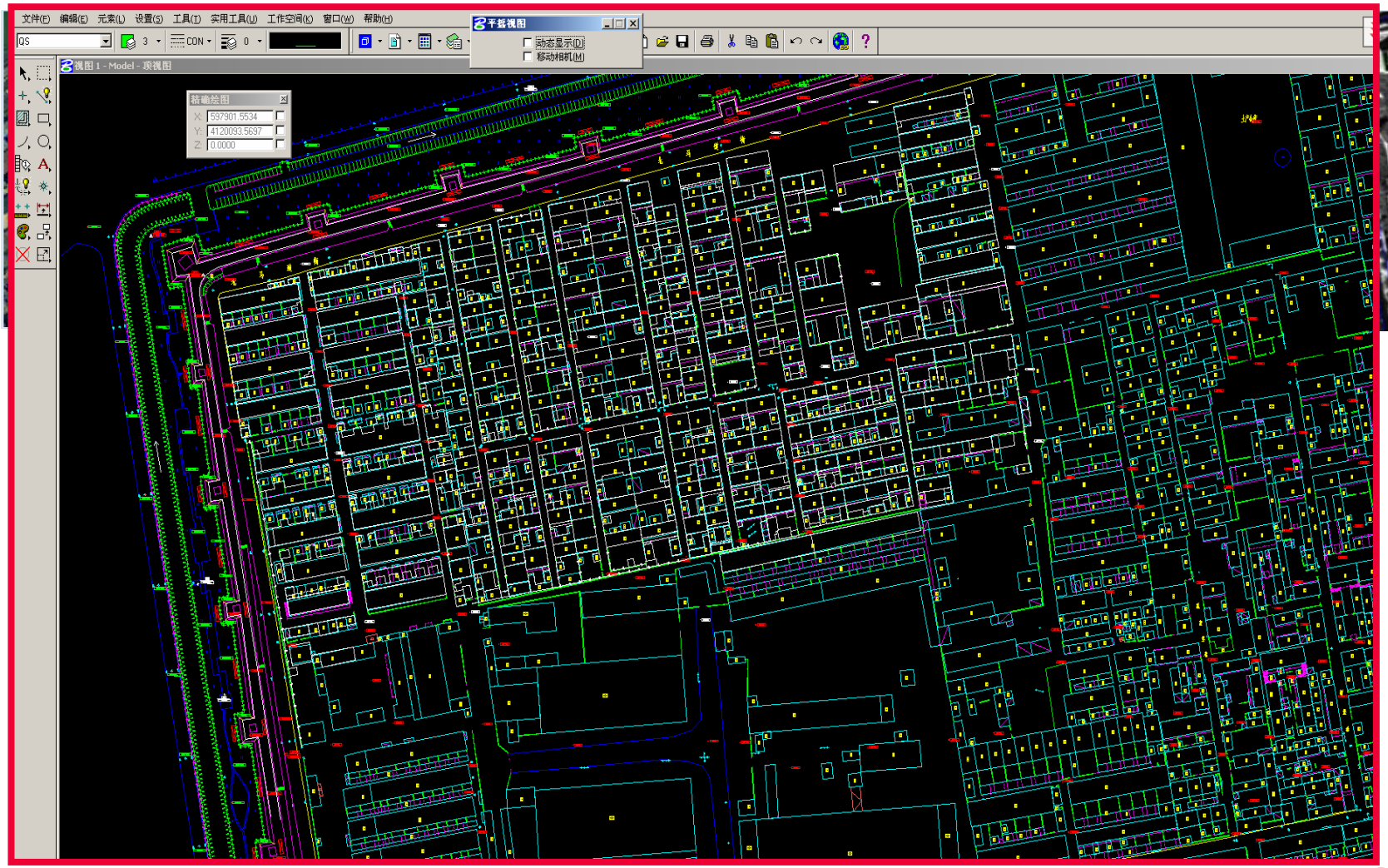
PingYao

City Mapping, Photogrammetry, Cadastre, Archaeology



Pingyao Projects 1:500 Scale Digital Line Graphic

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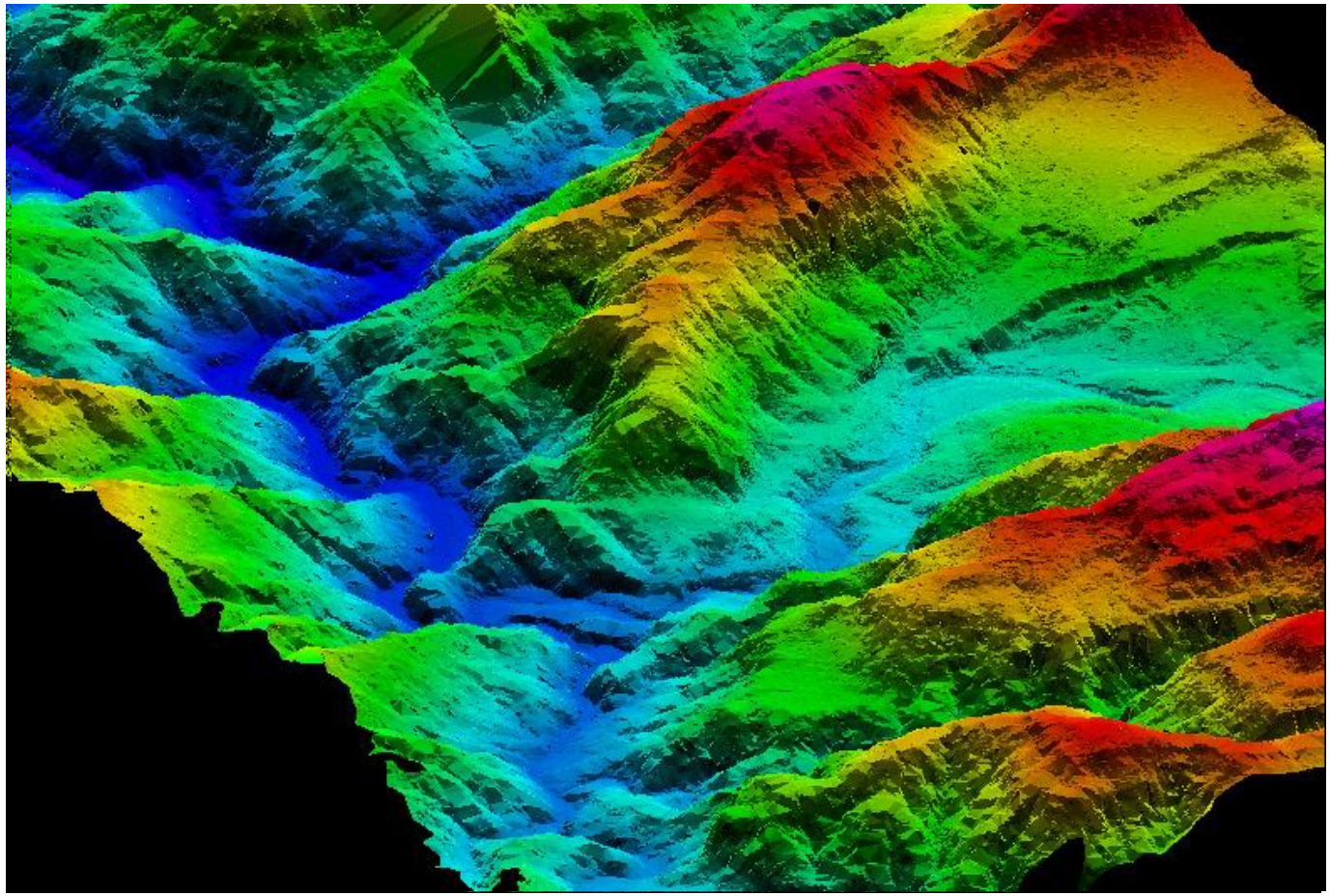
Flood Plane Mapping



Sample of a Dual Sensor Integration

Hardware – ADS40 and ALS50 in Pilatus PC-6

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THANK YOU FOR YOUR ATTENTION

For further information, please contact:

Kenneth Smillie

Sales Director Airborne Sensors EMEA & Asia

Digital Imaging, Leica Geosystems AG

Kenneth.smillie@leica-geosystems.com

Phone: +41 71 727 3688

or download information from

www.leica-geosystems.com

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