Hexagon Imaging Sensors and Workflow

Klaus Neumann
Product Manager Imaging Sensors
A Truly Unique Portfolio
Common Sensor Platform

- Common system peripherals for all Leica and Z/I airborne sensors
- Unique in industry
- Cost and training savings for our customers
- Shared components
- Flexible aircraft installation
- Synergy across all product lines
- Efficient workflow from mission planning to post processing
NEW Leica ADS100 – Airborne Digital Sensor

Technical Features

- 20000 nadir pixel swath in RG(G)BN
- 5um pixel size, with TDI
- FOV 77°, 1000m AGL, 8cm GSD, 1600m swath
- RGGBN Pentachroid in FWD, BWD, NADIR
- Cycle time 0.5ms
- Stabilized lens system
- Uses CC33 as common platform
- Reduces size and weight of overall system by
  - 15kg

How do our customers benefit?

- Almost doubling performance
- Improved reliability
- Unified aircraft installation
- Reduced cost of ownership
Leica ADS100 – SH100

• Large area, state wide ortho photo solution up to 1m GSD
• Preferred NAIP sensor
• High productivity with 20000 pixel swath width
• Integrated high automatic workflow using XPro software
• Market leader for line sensors
Leica ADS100 Workflow
Total Geospatial Solutions
Leica ADS and Leica XPro
XPro Product Generator – Dense DSM
The new DMC Ile camera system
Z/I DMC Ile

- Perfect engineering and urban mapping sensor
- for large area projects with 1 inch up to 50 cm GSD
- Very high and very stable geometric accuracy
- Single large format PAN sensor
- Supports common sensor platform
- Efficient high productive workflow using GeoCue
Integrated Workflow Solution

- Full automatic workflow solution
- Enhanced radiometric functionality
- High productivity with distributed processing

Z/I PPS
DMC Post Processing Software

- Calibration
- PAN sharpening
- Geo-referencing
- Atmospheric correction
- Radiometric correction
- Color balance
- PureColor Technology

Distributed Processing
Strong Focus on Radiometric Performance
PureColor Technology PPS 6.6 & FramePro 2.0

Before

After
DMC workflow for GeoCue

Comprehensive geospatial integration framework instead of particular workflows which have grown into a logistically impossible to maintain nightmare.
DMC Workflow

Z/I PPS - The only software that processes DMC.

Mission reporting (MissionPro) → Process Sample Images (Z/I PPS) → Create LUT (Z/I DIA) → Process complete project with „project“ LUT (Z/I PPS)
Geocue CuePack for FramePro
Leica RCD30 – Unique Design
RCD30 Oblique
RCD30 Penta Configuration

- 60 & 80 MP
- Combination of 50, 80 and 150mm (2014) lens
Oblique Views

Northview

Eastview

Nadir

Westview

Southview
Now

**Photorealistic** from oblique imagery (automatic)

Future

**Photorealistic** from terrestrial & mobile digital photography (now manual – future automatic)
Real Objects – not just a surface!
Building Model and Floorplans
Immediate Updates of the 3D City Model
Some technical figures

- 40 km/h fast
- 12 m/s wind
- 5 kg total weight
- 2.5kg payload
Aibot X6 Dam Inspection
Change Detection from UAV

Pointcloud 1

Pointcloud 2

Difference Image
Mining & Mapping – with RCD30

- GPS Antenna
- Autopilot
- Leica RCD30 CH62
- Data Storage MM30, up to 2.4TB
- Shockmounted Pod
- Twin Boxer Motor
- Generator
- Fuel Tank
- Powersupply
- Camera Controller CC32 with embedded Novatel SPAN
- Novatel CPT IMU Class 4

Engineering Unmanned Aircraft Systems

SWISSDROONES

HEXAGON
Leica SGM - Image to DSM

Kalgoorlie, Super Pit
Leica ADS80
8cm GSD
25cm DSM

Data courtesy of Fugro Spatial Solutions, Australia
UAV for agriculture – ms camera for vegetation mapping

Full integration of multispectral camera
High resolution products such as NDVI maps, LAI, classified point clouds, tree modeling
We Make the Digital world REAL & MOBILE

Thank You!