



**Airborne Reality Capture – taken to the next dimension**

### The Leica 3D Product Portfolio

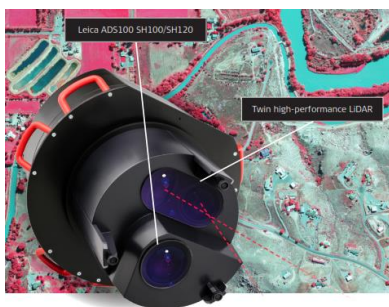
Poul Nørgård, Chief Product Officer, Airborne Systems

- when it has to be **right**

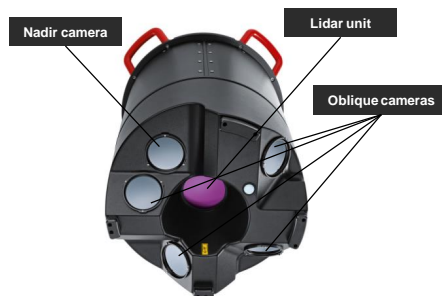
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**It's time for doing more when you fly!**  
**Let's combine Lidar and images in one sensor**

### Leica CountryMapper (2018 introduction)



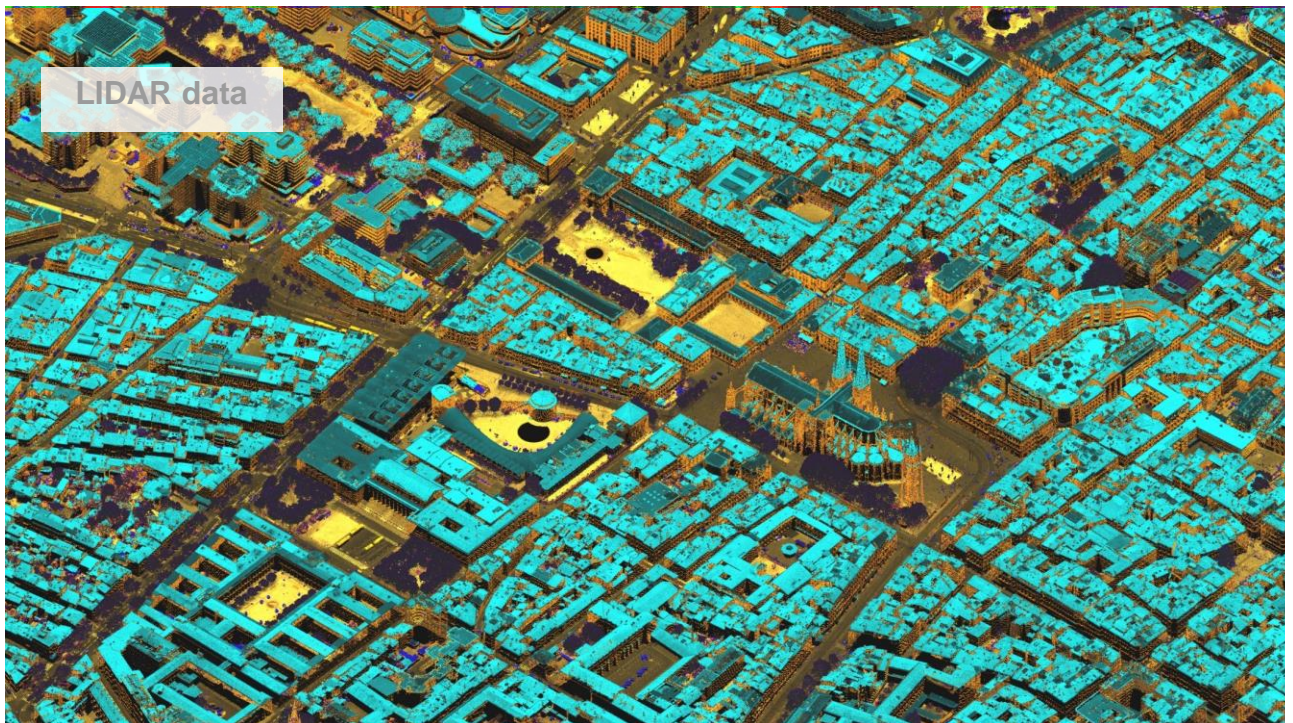
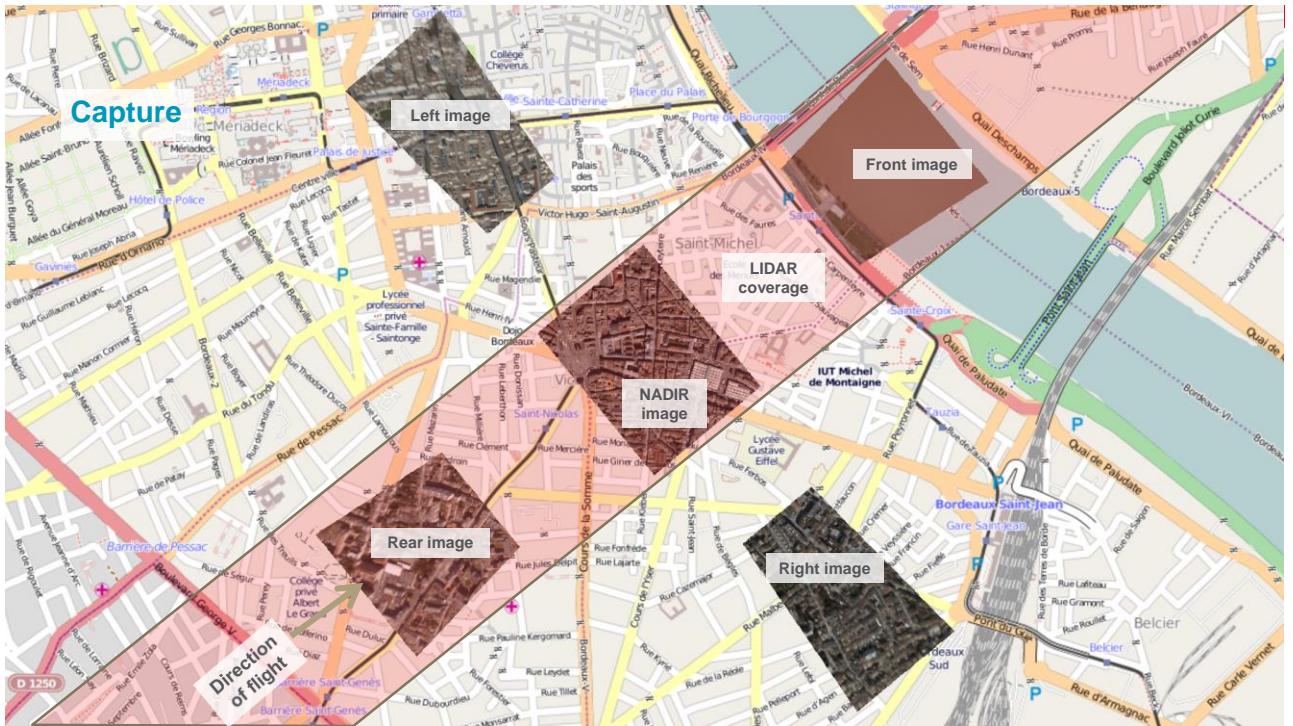
### Leica CityMapper



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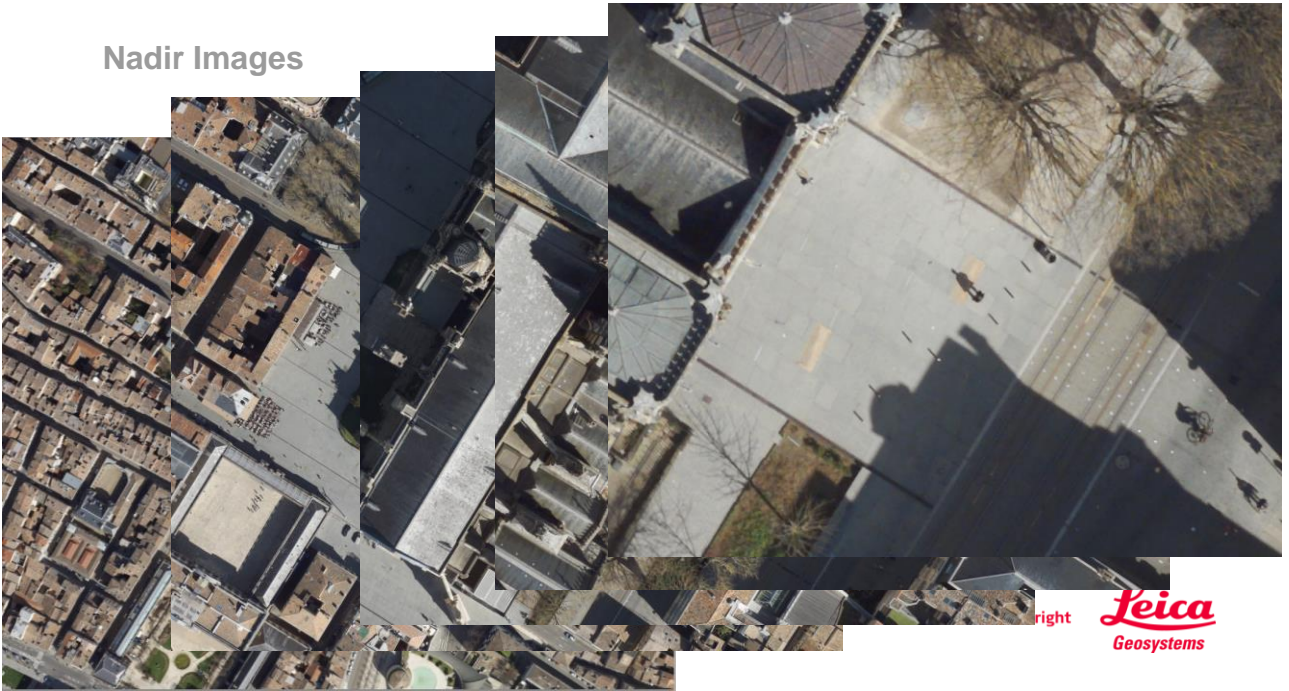
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## Nadir Images



## Oblique Images



## CityMapper imaging sensors

- Nadir camera
  - Leica RCD30 CH82 multispectral camera
  - 80 MP, 5.2  $\mu\text{m}$  pixels
  - Mechanical bi directional motion compensation
- Oblique cameras, 4 pcs
  - Leica RCD30 CH81 mini RGB camera
  - 80 MP, 5.2  $\mu\text{m}$  pixels
  - 45 degrees viewing angle (other optional available)
  - Mechanical in flight directional motion compensation



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## CityMapper LiDAR sensor

- Pulse repetition frequency up to 700 KHz
- Laser divergence 0.25 mrad
- Up to 2.500 m altitude range
- Oblique scanner, with various scan patterns
- Up to 40 degrees field of view
- Real time LIDAR waveform analysis
  - Including waveform attribute capture
- Typical 8 p/m2 at City Mapping



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## CityMapper system peripherals

- PAV 100 Heavy Load Mount
  - Stabilises the sensor for flight path deviations in roll, pitch and yaw
  - Minimises image blur and improves LiDAR data spatial distribution
- Leica POD Lifter
  - High oblique viewing angles, without interference with aircraft fuse-lodge
  - Lifts the sensor during take off and landing to protect it
- CC33 Camera & LiDAR Controller
  - Controls camera heads and LiDAR unit
  - Stores the image and LiDAR data on 2.4 TB solid state drives
  - Includes deeply coupled GNSS/IMU solution
- Leica OC60 Operator Console
  - 12.1" screen hosting the Sensor Operator interface
- Leica PD60 Pilot Display
  - 6.3" screen hosting the Pilot interface



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## CityMapper operational

- Weight and Size
  - CityMapper sensor: Height 75 cm, ø 41 cm, Weight 45 Kg
  - PAV: 67x53x17 cm, Weight 38 Kg
  - POD lifter: Weight 20 Kg
  - CC33: Weight 6 kg
- IMU / GNSS
  - SPAN CNUS5-H, Non export controlled
- Operational
  - Operating -10 to 40 deg C
  - Avg. Power: 600 w / 28 VDC
  - Peak power: 1000 W / 28 VDC
  - Fuse: 1x 50 A



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# Questions?

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