

New UltraCam Eagle 4.1 Set to Push Limits of Aerial Mapping



Vexcel Imaging has released the new UltraCam Eagle 4.1, aimed at increasing flight efficiency at truly mapping-grade image quality for precise analysis and interpretation. The company itself describes this solution as "the pinnacle of nadir photogrammetric aerial camera systems".

Based on Vexcel's 4th-generation camera technology, the UltraCam Eagle 4.1

collects high-resolution panchromatic, R, G, B and NIR information at over 500 Megapixels. It can be exploited at different altitudes, thanks to three field-exchangeable lens kits at focal lengths of 90mm, 120mm and 150mm. The Eagle 4.1 is further enhanced by the proprietary Adaptive Motion Compensation (AMC) software approach that addresses image blur caused by multi-directional camera movement during the flight. Featuring new sensors, coupled with new electronics and new lenses, the Eagle 4.1 delivers visually stunning, photogrammetric-grade quality imagery.

Panchromatic Image Footprint

The difference between the Eagle 4.1 and its predecessors is found in the camera's panchromatic 'backbone'. High-resolution PAN sensors collect and resolve object details more faithfully and with higher geometrical accuracy. Consequently, UltraCam panchromatic and full-resolution colour data (produced through pansharpening) features a higher image-resolving power. Imagery is more detailed, more accurate and more actionable.

The UltraCam Eagle 4.1 employs CMOS sensors for a finer pixel pitch, a panchromatic image footprint of more than 28,000 pixels across the flight strip, and a rapid cycle rate of 1 frame per 0.7 seconds. The combination of high dynamic range, fast shutter speed and wide-aperture lenses gives customers the efficiency, flexibility and image quality they need to succeed in today's rapidly evolving market.

One System for All Types of Airborne Data Acquisition

"The UltraCam Eagle 4.1 serves all airborne acquisition missions through just one system," commented Alexander Wiechert, CEO of Vexcel Imaging. "From low-altitude engineering applications to high-altitude orthophotography projects, this camera covers it all and provides data of unprecedented sharpness, detail and image dynamic."

With the move to CMOS sensors for 4th-generation UltraCam systems and a significantly increased frame rate, Vexcel Imaging recognized the need for a new approach to motion blur compensation. Not content with mechanical methods or the notion of eliminating blur through shutter speed, Vexcel developed the proprietary Adaptive Motion Compensation (AMC) software approach to address image blur. More than just forward motion compensation, AMC compensates for image blur caused by multi-directional camera movement during the flight. This advanced technology is what characterizes UltraCam systems and is included in the UltraCam Eagle 4.1.

Commercial availability of the UltraCam Eagle 4.1 is scheduled for late 2022. The first production camera has already been sold to Vexcel customer [Slagboom & Peeters Aerial Photography](#) in the Netherlands. Slagboom currently operates different UltraCam systems – from nadir to oblique capture capabilities, depending on the area of application – and is looking forward to numerous successful projects with the new Eagle 4.1, delivering imagery of the highest possible quality.



Intergeo 2022: CEO Alexander Wiechert congratulates Yoei Slagboom (Slagboom & Peeters) on the purchase of the first UltraCam Eagle 4.1. (Courtesy: Vexcel Imaging)