

Applanix and Microdrones develop Direct Mapping Solutions for the md4-3000

Highly efficient mapping with state-of-the art GNSS-inertial technology



The Direct Mapping Solution-Unmanned Aerial Vehicle (DMS-UAV) payload is a complete and ready-to-integrate mapping solution, which provides Direct Georeferencing for the md4-3000.

Working with microdrones, Applanix has combined its latest low-power Direct Georeferencing technology and workflow solutions with the newest microdrone vehicle.

State-of-the-art imaging sensors provide a professional-grade mapping payload for the md4-3000. The combination of microdrones' powerful and versatile airframe with Applanix' industry-leading technology offers cost and time efficiencies for many mapping tasks. The new platforms make difficult or expensive mapping tasks possible.

In the traditional world of aerial photogrammetry, the process of surveying in a network of ground control points (GCPs) to align images and perform triangulation has largely been rendered obsolete by high-end camera systems using Direct Georeferencing.

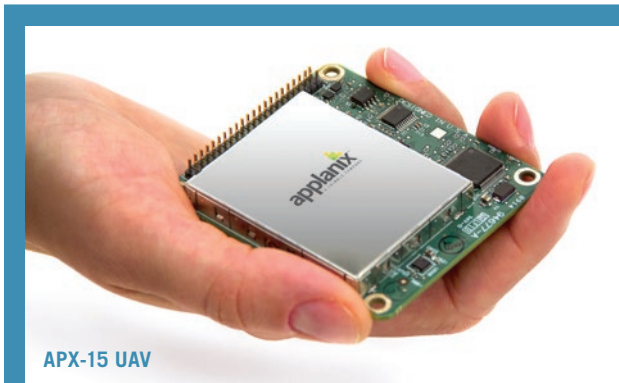
This technique relies on knowing the position and orientation of the sensor payload to a very high degree of

accuracy and precision, so that the location of individual pixels on the ground can be computed directly. For manned aircraft, the relative size, weight and cost of GNSS-aided inertial navigation systems – and the attendant computing equipment required to process the data – do not represent a significant obstacle to the capability of the aircraft.

APPLANIX' DMS UAV IS DESIGNED AND BUILT FOR DIRECT GEOREFERENCING ON UAVs

In a small unmanned system, the physical and financial constraints present a different set of challenges. On the one hand, the size, weight and power (SWAP) limitations – and the financial cost model of a UAV airframe – render high-end Direct Georeferencing systems impossible or uneconomic until now.

Applanix has brought together all of its experience in positioning, orientation, multi-sensor integration and Direct Georeferencing, along with the very best in small-form-factor hardware and powerful software, to produce a Direct Georeferencing solution for professional aerial mapping for microdrones.



Applanix has recognized the need to provide the growing UAV mapping market with the same highly efficient solutions that it pioneered for airborne mapping over 15 years ago. We are offering a cost-effective solution that meets the size, weight, power and cost requirements of small UAVs, and maintains the Applanix pedigree for quality and performance.

Applanix and microdrones improve productivity with:

- Ultra-fast image delivery: map-ready orthophotos produced within hours of flying a mission
- Rugged and powerful UAV platform: 45min flight time, 50km range
- Direct georeferencing capability: no need to survey ground control points
- Delivers consistent, reliable, highly accurate mapping-grade results
- Powerful post-processing software: unsurpassed performance from lightweight solution
- Multiple options: specific cameras, sensors and lenses can be deployed for different tasks

DMS UAV is designed to optimise your UAV's capabilities

- Small, lightweight and low-power GNSS-inertial components
- Camera options to fit payload and task requirements
- Integration with microdrones' mdFNC flight controller
- Future-proof: modular design allows for flexible upgrades of sensor and platform
- Easy installation and deployment: more time in the field, less time in the workshop



Applanix:
85 Leek Crescent
Richmond Hill, ON Canada
L4B 3B3
T +1.905.709.4600
F +1.905.709.6027
airborne@applanix.com
applanix.com

microdrones:
Gutenbergstraße 86
57078 Siegen
Germany
T +49 (0)271-770038-0
sales@microdrones.com
microdrones.com

Applications

Fly a mapping-grade solution wherever you fly a UAV

GIS

- Orthophotos and base maps
- Urban and regional planning
- Earthworks monitoring for mining/civil engineering
- Coastal zone monitoring
- Environmental assessments in inaccessible/inhospitable areas

Urban and Built Environment

- Data gathering in close proximity to buildings
- Low-and-slow surveys in built-up areas
- Vertical (façade) surveys of historic buildings

Rapid response mapping

- Time-sensitive photogrammetry of turbulent terrain in emergency and natural disaster scenarios
- Change detection and rapid situation assessment

Tactical/reconnaissance mapping

- Mission planning, operations preparation
- Damage assessment in inhospitable terrain
- Personnel and equipment movement monitoring



Corridor mapping

- Powerline and utility pipeline surveys
- Transportation corridors
- Route planning and assessment

Agriculture

- Crop growth surveys
- Disease monitoring
- Recurrent image acquisition and analysis: change detection
- Environmental impact monitoring

© 2013, Applanix Corporation and Microdrones GmbH. All Rights Reserved. Applanix, and the Applanix logo are trademarks of Applanix Corporation registered in the Canadian Patent and Trademark Office and other countries. POS AV, POS LV, POS MV, InFusion, SmartBase and POSpac are registered trademarks of Applanix Corporation. Microdrones, the Microdrones logo and md4-3000 are trademarks of Microdrones GmbH. All other trademarks are the property of their respective owners. Information subject to change without notice.