

# BFS-GEOMATICS UAV System



Applanix and Brican Flight Systems are pleased to announce the launch of the Applanix DMS-UAV, professional mapping solution



*The TD100 Unmanned Aircraft System™ (small class UAS) equipped with the Applanix Direct Mapping Solution (DMS) - A professional airborne mapping solution*



TD100 is a fully autonomous unmanned aerial system from launch to recovery. The UAV is designed by utilizing state of the art structural and aerodynamic design

principles to achieve superior performance. This along with state of the art materials result in an UAV that delivers consistent performance and operation characteristics over a wide range of flight requirements. The system also consist of a proven mobile aircraft launcher and a rugged aircraft recovery system that can be deployed in minutes

**Applanix Direct Mapping Solution:** Working with Brican, Applanix has combined its latest low-power Direct Georeferencing technology and workflow solutions with the Brican TD100.

State-of-the-art imaging sensors provide a professional-grade mapping payload. The combination of Brican' powerful and versatile airframe with Applanix' industry-leading technology offers cost and time efficiencies for many mapping tasks. The new platform makes 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.

## DMS IS DESIGNED AND BUILT FOR DIRECT GEOREFERENCING ON THE BRICAN PLATFORM

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.

DMS is purpose built for the unmanned aerial environment. It is rugged yet lightweight; it is powerful but not power-hungry. The components have been custom designed and engineered to tightly integrate all of the enabling technologies that make up the system.

## 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



### Rapid response mapping

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

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### 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



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