Prox Dynamics Launches Midlife Upgrade Of PD-100 Black Hornet PRS

Prox Dynamics

Prox Dynamics launches the PD-100 Black Hornet Block II during Eurosatory 2014.

The PD-100 Black Hornet Personal Reconnaissance System (PRS) is the smallest operational unmanned system in the world and was used extensively in combat operations by NATO forces over the past few years. The system is described by users as a "game changer" and a "life saver", and has created a new standard and class for the smallest UAS.

Prox Dynamics (PD) is a100% Norwegian-owned company based outside of Oslo. The company is world leading in the design, development and production of UAS and consists of more than 75 dedicated employees, including the production line. Prox Dynamics is expanding rapidly into new markets.

The PD-100 Black Hornet PRS introduces an organic airborne intelligence, surveillance & reconnaissance (ISR) capability to the individual and to small dismounted teams, providing enhanced situational awareness and reduced risk in complex environments. The system provides imagery from different aspect views utilising live full-motion video and

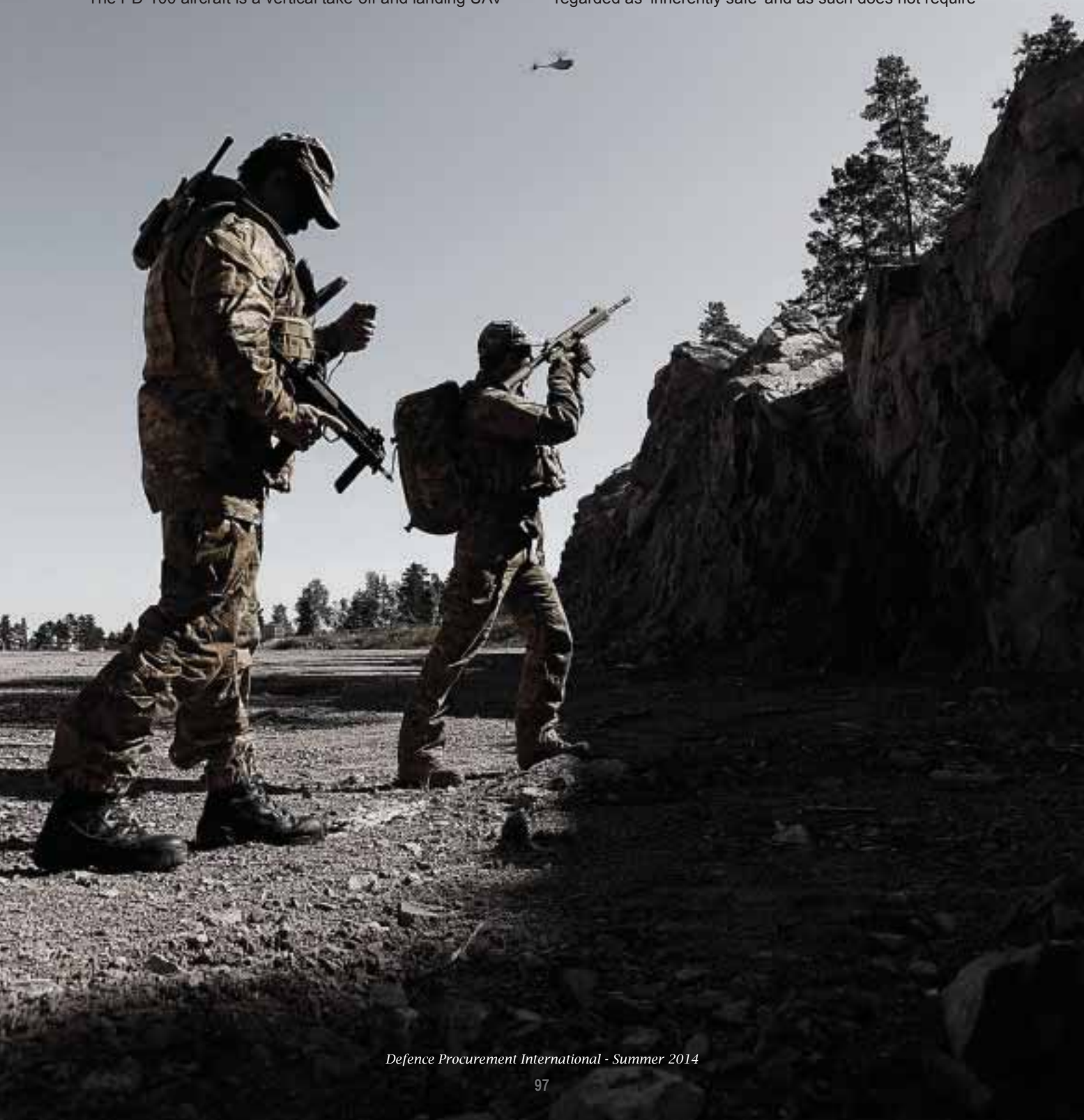
'snapshots' (still images). This enables the operator to get "eyes on" areas and objects that are beyond the user's visual range (view from above, behind buildings and other obstacles, areas at different height from user and / or with overhead cover).

The PD-100 PRS is a complete system comprising two unmanned air vehicles (UAV), a base station with integrated UAV compartments, single-hand controller and a 7-inch sunlight readable display unit. The total weight of the system is less than 1.5 kg and it is easily accommodated within an operator's personal equipment.

The PD-100 aircraft is a vertical take-off and landing UAV with a conventional helicopter configuration (one main rotor and one tail rotor). As such the UAV is launched by hand and has a similar conventional landing method. Experience has shown that the UAV is more durable than what may be expected from an 18 gram aircraft.

Due to the UAVs very low visual and audible signature, the PD-100 Black Hornet PRS provides significant utility for covert use as it is virtually inaudible and invisible beyond short distances. The system is equally effective whether the operator is static or on the move.

Due to its extremely small size and light weight, the UAV is regarded as 'inherently safe' and as such does not require



airspace clearance to operate, as it poses virtually no risk to either personnel or other air vehicles. This allows the user to launch a UAV immediately and operate with maximum freedom of operation. Actual launch time is between one to two minutes.

Although the PD-100 Black Hornet UAV is a conventional two-bladed single rotor helicopter, several platform configurations were evaluated during the development phase of the PD-100 PRS (for example, quad-rotor and hex-rotor, co-axial rotor, tandem) to determine the optimal UAS design. The combination of the smallest possible (assembled) size, high efficiency and superior gust tolerance makes the two-bladed conventional helicopter the optimal configuration for a high-performance UAS.

The operator interface has been designed to be as simple as possible using a high level of automation and minimal user inputs. Manoeuvring the UAV is intuitive and requires no formal pilot qualifications. All user information is displayed on the screen and system inputs are conducted using the control buttons found on the controller.

The display unit is possible to attach directly on the tactical vest of the soldier so that the operator is not required to hold the screen while operating or on the move. Likewise, the PD controller is designed so that the soldier only needs to use one hand to control the UAV. This enables the soldier to have one hand free for a weapon, for example, or communication equipment.

In addition to live video and pictures on the display, all mission data is stored in real time on the base station. This allows for mission review and further analysis.

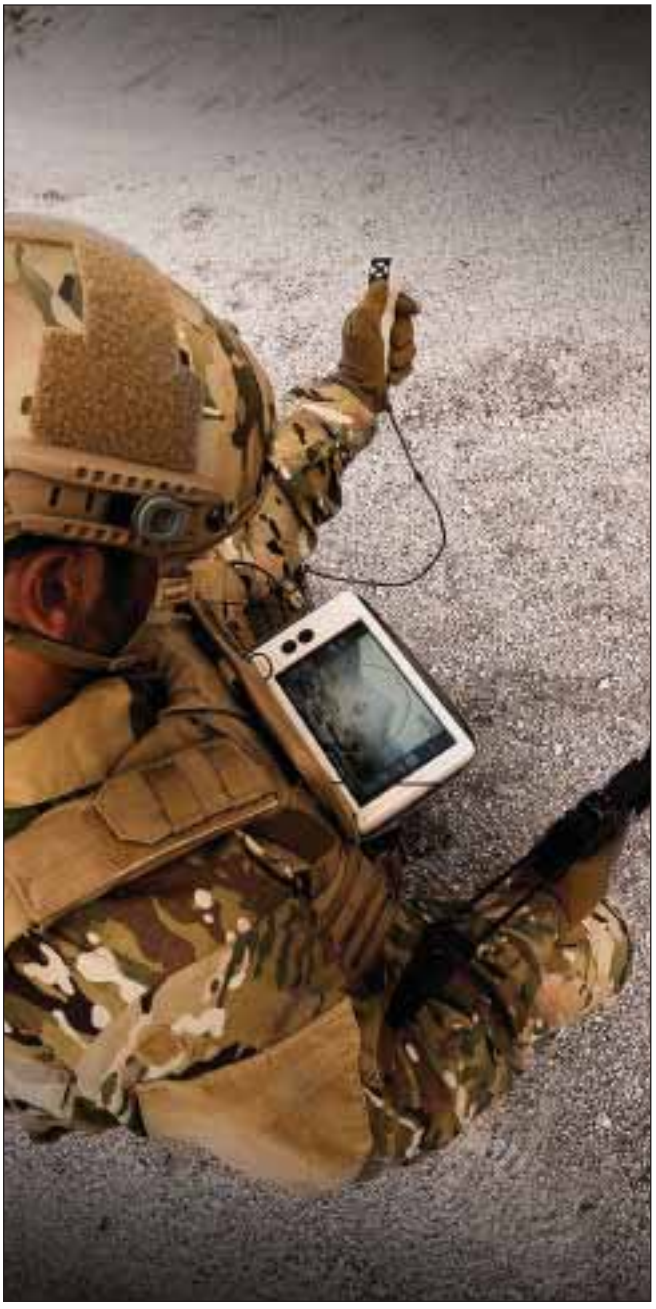
The system may be used with the Virtual Battle Space 2 (VBS2) simulation tool to fly simulated missions. The simulated UAV will behave similar to a real UAV and utilise the same graphical user interface and functions as a live system.

The PD-100 Block I was used extensively during trials and operations around the world from the changeable temperate climate in Northern Europe to the more extreme conditions of a Norwegian winter and Afghan summer. Through innovative design and advanced production, the system is suitably robust to endure the demands of transportation and tough operational military use.

The PD-100 Block I system is the only fully operational UAS in its class in the world. The new PD-100 Block II is a further development and improvement of the combat-proven Block I System. Block II utilises the same base station, controller and display as the Block I System, but the UAV and the software are of a new and enhanced design.

The main improvements of the Block II system consist of extended range of the UAVs as well as greater ground and air speed. The resolution of the full-motion video is enhanced and the snapshots now have full high-definition quality. In addition, the Block II UAVs can resist stronger wind levels and the mechanical robustness is even greater than the operational Block I vehicles.

The user controls and interface are more intuitive and simplified in the Block II version, further reducing the workload of the operator. Another new feature of the Block II system is the possibility of conducting in-the-field mission review by reviewing the full-motion video directly on the base station, in addition to watching the snapshots.



The PD-100 Black Hornet PRS provides airborne ISR capability at significantly reduced cost compared to existing larger systems delivering comparable capability. Cost of ownership is reduced in several aspects; the administrative cost of introducing and maintaining an airborne system is minimal as it is assumed that only a simplified set of aviation rules and regulations will be applied; logistical cost is reduced due to small size and weight, training cost is reduced, and finally personnel cost is reduced since the system will be operated organically within lower echelon units. Furthermore, the company's technological approach builds on proven technologies and capitalises on investments already made. The development cost is therefore minimised and isolated to adapting existing technologies to meet user requirements. ■

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YOUR PERSONAL RECONNAISSANCE SYSTEM

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