



RAK3

Next Generation Interoperable Robotic Appliqué Kit

QinetiQ Inc. is proud to release the 3rd Generation Robotic Appliqué Kit (RAK3) to support the needs of our warfighters today and in the future. The RAK3 transforms conventional vehicles into unmanned ground vehicles (UGV) with both temporary and permanent installations. Providing optionally manned UGV functionality, the RAK3 leverages over 10 years of fielded appliqué kit experience to support our first responders and military personnel while keeping them out of harm's way.

Flexible Design

The RAK3 features an open system architecture with IOP V2 compatibility and supports emerging unmanned vehicle requirements through rapid integration of mission specific payloads, platforms, and capabilities.

Scalable Autonomy

The optional Behavior Sub Module (BSM) of the RAK3 provides the processing power required by today's range of autonomy systems and is upgradeable for future needs. The BSM supports a range of autonomous functionality from basic tele-operation, through driver assisted semi-autonomy, to full mission focused autonomy packages. The RAK3 is compatible with 3rd party and government-owned provided autonomy packages.

Key Features and Benefits

Increases mission endurance and effectiveness

Combat-proven technology

Open system architecture

Interoperability Profile (IOP) interface provides broad payload support to adapt to new threats, missions and platforms

Temporary or permanent installation

Optionally-manned functionality

Reliable fail-safe safety system for mission critical functionality

Universal cross-compatible hardware

Flexible design

Provides safety and protects military assets

Saves lives

Applications:

Route Clearance

RAK3 enables safe standoff for route clearance operations to detect, investigate, and mitigate large, deep-buried threats, vehicle-borne IEDs, land mines, and unexploded ordnance through the unmanned operation of the High Mobility Engineering Excavator (HMEE) and Husky Vehicle Mounted Mine Detection (VMMD), and other related route clearance vehicles.

Unmanned Combat Vehicles

The modular and open nature of the RAK3 ensures it will readily adapt to address new unmanned or optionally-manned tactical combat vehicles. The robust architecture provides assured control of safety critical functions and payloads such as automotive operation and weapon systems control. This supports emerging requirements for programs such as the Next-Generation Combat Vehicle (NGCV), Robotic Combat Vehicle (RCV) and Optionally Manned Fighting Vehicle (OMFV).

Commercial Equipment

The RAK3 technology is firmly rooted in the civilian space and continues to support control of a variety of commercial vehicles including over 20 types of Bobcat® compact construction equipment. This provides first responders, law enforcement personnel, and commercial users with a cost effective dual purpose unmaned capability set.

RAK3 Specifications

IOP V2 Compliant Architecture and Interfaces

Compatible with OEM Drive-By-Wire vehicles or with QNA Universal Drive-By-Wire kit

High quality video feedback	High-definition IOP cameras Up to 4 simultaneous video streams Low latency for high speed applications
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Controllable with QNA or third party Operator Control Units	Universal Controller (UC) Family Tactical Robotic Controller (TRC) Laptop Control Unit (LCU)
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Optional integrated autonomy processing system	Isolated network for perception sensors Multiple high-powered processing options Upgradeable interchangeable architecture
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Dedicated vehicle interface supports wide range of platform types

Temporary and permanent installation kits

Optionally manned or unmanned operation



Collaborating with QinetiQ Inc.

At QinetiQ we bring organizations and people together to provide innovative solutions to real world problems, creating customer advantage. Working with our partners and customers, we collaborate widely, working in partnership, listening hard and thinking through what customers need. Building trusted partnerships, we are helping customers anticipate and shape future requirements, adding value and future advantage.

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