



Photo credit: JCB

Solution for Route Clearance Interrogation System

RAK3

Next Generation Interoperable Robotic Appliqué Kit

QNA 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 is built with 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 to support those of the future. The BSM supports a range of autonomous functionality from basic teleoperation, through driver assisted semi-autonomy, to full mission focused autonomy packages. The RAK3 is compatible with third party and government provided autonomy packages.

Features

- Combat-proven technology
- Open System Architecture
- Interoperability Profile (IOP) compliant
- Temporary or permanent installation
- Optionally-manned functionality
- Redundant reliable fail-safe safety system for mission critical functionality
- Universal cross-compatible hardware

Benefits

- Scalable control with teleoperation, semi-autonomous and autonomous operational modes
- Adaptable hardware provides upgrade path for full lifecycle support
- Open system architecture integrates with 3rd party and government-owned payloads, software and platforms
- Flexible design
- IOP interface provides broad payload support to adapt to new threats, missions and platforms

Expanding Capability by Expanding Compatibility.

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Photo credit: 1st LT Robert Barnett



Equipping the Warfighter for the Missions of Today and the Future

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 unmanned capability set.

QNA is proud to be selected as the Program of Record Provider for the Route Clearance Interrogation System (RCIS).

Key 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
- Controllable with QNA or third party Operator Control Units
 - Universal Controller (UC) Family
 - Tactical Robotic Controller (TRC)
 - Laptop Control Unit
- Optional integrated autonomy processing system
 - Isolated network for perception sensors
 - Multiple high-powered processing options
 - Upgradeable interchangeable architecture
- Dedicated vehicle interface supports wide range of platform types
- Temporary and permanent installation Kits
- Optionally manned or unmanned operation

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Document #18-10-RAK3-D

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