



## Integrator™

### About

The Integrator™ unmanned aircraft system (UAS) is a product of Insitu Pacific, a wholly owned subsidiary of The Boeing Company. Integrator is a multi-mission, long-endurance UA that carries custom payloads for intelligence, surveillance and reconnaissance (ISR). The payload-centric design allows for easy integration with external systems.

The Integrator system has six reconfigurable bays that can carry payloads totaling up to 40 pounds. The aircraft has a line-of-sight communications range of 55 nautical miles (nm), with an extended beyond line-of-sight mission radius of up to 550 nm.

Integrator is launched autonomously via a catapult launcher, and the system's patented no-nets, runway-independent retrieval solution, SkyHook®, catches the aircraft by its wing tip with a rope that hangs from a 50-foot-high boom.

### Background

In 2007, Insitu Pacific responded to the expanding needs of its military customers by introducing Integrator. The system is based on technology developed and tested through Insitu Pacific's other unmanned aircraft, ScanEagle, but has the capacity to employ a mix of larger payloads for longer periods in equally austere environments.

In 2009, Insitu Pacific completed flight demonstrations with RQ-21A - a variant of Integrator - as part of the competition for the STUAS / Tier II contract with the U.S. government. The following year, the U.S. Naval Air Warfare Center Aircraft Division awarded a \$43.7 million contract to Insitu Pacific to begin full development of RQ-21A. The first maritime flight of the RQ-21A took place in April of 2013.

In February of 2013, Insitu Pacific announced the successful first flight of Block 2, the latest technology release for the Integrator. Block 2 upgrades include an improved sensor turret that features the latest mid-wave infrared sensor and ICOMC2, Insitu Pacific's open-architecture ground control station that enables a single operator to fly multiple aircraft from one workstation.

## Features and Specifications

### Performance

- Endurance: Up to 24 hours
- Ceiling: >19,500 ft / 5,950 m
- Max horizontal speed: 90+ knots / 46.3+ m/s
- Cruise speed: 55 knots / 28.3 m/s

### Payload integration

- Payload electrical power: 350 W

### Dimensions

- Wingspan: 16 ft / 4.8 m
- Length: 8.2 ft / 2.5 m

### Weights

- Empty structure weight: 80 lb / 34.0 kg
- Payload bay limit: 40 lb / 18.0 kg
- Max takeoff: 135 lb / 61.2 kg

### Standard sensor package

- Electro-optic camera
- Mid-wave infrared imager
- Infrared marker
- Laser rangefinder

## Program history

### 2013

RQ-21A reached Milestone C under the Small Tactical Unmanned Aircraft System (STUAS) contract with Naval Air Systems Command (NAVAIR). The achievement will enable the program to transition from the Engineering, Manufacturing and Development (EMD) phase to a Low Rate Initial Production (LRIP) phase and enter initial operational test and evaluation (IOT&E). *(May)*

Insitu Pacific announces the successful first maritime flight of RQ-21A, a derivative of Integrator developed for the U.S. Navy and U.S. Marine Corps. *(April)*

The successful first flight of Block 2, the latest Integrator technology release, occurs at Insitu Pacific's test range in eastern Oregon. Block 2 upgrades include an extension of the upward temperature limit to 120 degrees Fahrenheit, MWIR sensor and the integration of ICOMC2. *(February)*

### 2012

Insitu Pacific ICOMC2 system flies Integrator during a one-hour, 20-minute flight in eastern Oregon. ICOMC2 is a core UAS control system that can be augmented with software plug-ins to incorporate evolving technology. *(July)*

Insitu Pacific delivers and flies one of two Integrators that will provide the U.S. Marine Corps an early operational capability for the Small Tactical Unmanned Aircraft System (STUAS) program. *(February)*

## **2011**

The U.S. Marine Corps purchases two RQ-21As, a variant of Insitu Pacific's Integrator UAS, to provide training at 29 Palms, Calif. This early operational capability option is exercised under the U.S. Navy's STUAS development contract awarded to Insitu Pacific in 2010. *(August)*

STUAS Integrator completes first operational assessment, flying mission scenarios designed to assess operational suitability of the current Integrator UAS. *(February)*

## **2010**

Four Integrator air vehicles delivered to a customer. *(Q4)*

U.S. Naval Air Warfare Center Aircraft Division awards a \$43.7 million contract to Insitu Pacific to begin full-scale development of RQ-21A, which is based on the Integrator UAS. *(July)*

Electronic fuel injection is successfully flight-tested on the heavy-fuel-engine-equipped Integrator, providing overall improvements — especially in extreme temperatures and at high altitudes, including mountainous terrain. *(January)*

## **2009**

Integrator demonstrates improved operations security with advanced encryption standard-capable digital data link. *(December)*

The Insitu Pacific Integrator UAS successfully demonstrates single-channel ground-to-air radio system capabilities during a communications relay payload test flight in eastern Oregon. Communications relay supported by an airborne asset is essential in situations where line-of-sight obstructions exist. *(October)*

Insitu Pacific completes Integrator flight demonstrations as part of the competition for the STUAS / Tier II contract with the U.S. government. *(June)*

## **2007**

Insitu Pacific unveils the new Integrator UAS. *(August)*

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