



CAPABILITY  
BRIEF

# RTI in Counter-Unmanned Aircraft Systems (C-UAS)

SOFTWARE FOUNDATION FOR NEXT-GEN C-UAS: FROM DETECTION TO DEFEAT

C-UAS is evolving into layered, distributed systems that must rapidly detect, assess and respond to changing threats. RTI Connex<sup>®</sup> provides the real-time data foundation to connect these capabilities, enabling coordinated decisions, faster integration and continuous system evolution.

## HIGHLIGHTS

- » Connect radar, RF, EO/IR, acoustic and other sensors with fusion, C2 and effector systems
- » Turn multiple sensor detections into shared threat picture
- » Add sensors, AI and effectors without redesigning the system
- » Prioritize mission-critical data across distributed and degraded environments
- » Scale and integrate from local C-UAS to layered defense
- » Build on proven defense architecture experience

## The C-UAS Challenge is Continuous Change

Today's Counter-UAS (C-UAS) solution may not be tomorrow's answer. Threats change. Sensors improve. AI and autonomy introduce new capabilities.

Architectures built around tightly coupled interfaces make every change harder to absorb. RTI Connex provides a data-centric foundation that allows capabilities to evolve more independently — without continually rebuilding the connections between them.

## Software Enabling C-UAS

Connex provides the real-time data infrastructure that connects the C-UAS mission — from detection through decision and response — while giving programs the flexibility to add new capabilities, incorporate AI and scale to layered defense.

### Connect

Connect sensors, C2, AI, decision systems and effectors through a common real-time data foundation.

### Inform

Deliver trusted, prioritized and decision-ready information to operators, AI and mission applications.

### Adapt

Add, replace or rapidly integrate new sensors, algorithms and effectors as threats and mission needs evolve — without rebuilding the architecture.

### Operate

Maintain reliable, distributed data exchange across constrained, degraded and changing network conditions.



#### CRITICAL ASSET / FIXED-SITE PROTECTION

Protect high-value and mission-critical assets from airborne threats.



#### MOBILE AND EXPEDITIONARY C-UAS

Deployable, resilient solutions that move with the mission and adapt on the go.



#### TACTICAL EDGE / FORMATION PROTECTION

Defend maneuver forces and formations in contested environments.



#### LAYERED AIR DEFENSE

Integrate sensors and effectors across ranges and domains for a layered defense.



#### MULTI-THREAT AND SWARM RESPONSE

Detect, track and defeat single or swarm threats with speed and precision.

## Build C-UAS to Change, Operate and Scale

C-UAS programs need to move new capabilities from evaluation to operation without starting another system-wide integration effort.

**INTEGRATE FASTER. REDUCE REWORK.  
DELIVER NEW CAPABILITIES SOONER.**

Connex provides a consistent real-time data layer so new sensors, algorithms, mission applications and effectors can connect to established data flows with less impact on the rest of the system.

## Enable AI with Decision-Ready Data

AI is becoming increasingly important in C-UAS for threat classification, assessment, prioritization and response recommendations. However, AI is only as effective as the information it receives.

**BETTER AI STARTS WITH BETTER DATA.**

C-UAS environments generate large volumes of data from diverse sources, with varying confidence levels, timing and relevance. More data does not always create better decisions.

Connex provides the real-time data foundation to deliver trusted, prioritized and mission-relevant information to AI and decision-

support applications — helping programs introduce new AI capabilities while maintaining the operational context needed to act.

## Enable Layered Defense on a Proven Foundation

Effective C-UAS requires more than a single sensor or response. Different threats demand different detection methods, engagement ranges and kinetic or non-kinetic effects — all coordinated as part of a layered defense.

Connex provides the real-time data foundation that connects sensors, C2 applications, decision systems and effectors across these layers, enabling mission-critical information to be shared and acted on as a coordinated system.

This architectural challenge is not new to RTI. For decades, RTI technology has supported some of the world's most demanding mission-critical defense systems, where distributed sensing, command-and-control and response capabilities must exchange time-critical information reliably and operate under demanding conditions.

C-UAS brings those same architectural demands to smaller, more numerous and rapidly changing threats. As new sensors, AI capabilities, effectors and defensive layers are introduced, Connex provides a proven foundation that can evolve without requiring the entire system to be re-architected.

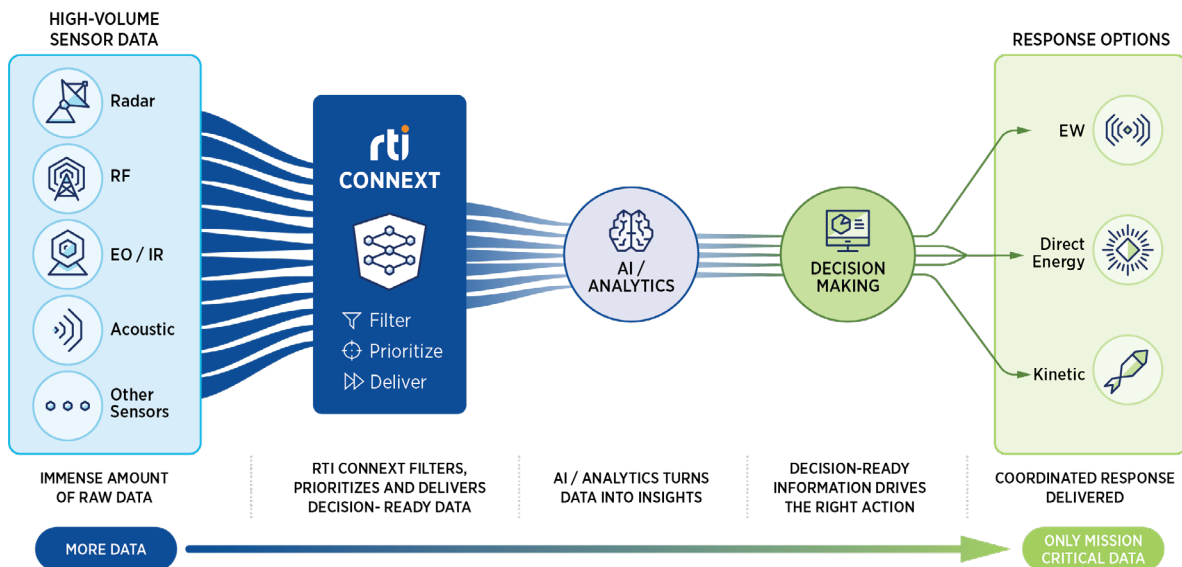


Figure 1: From detection to decision and response: real-time data flow for C-UAS

## ABOUT RTI

RTI is the real-time data streaming company for intelligent distributed systems. RTI Connex® software is the critical nervous system for over 2,000 designs across Aerospace and Defense, MedTech, Automotive, and Robotics.

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