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⊞ C3 AI Decision Advantage

Accelerate Battlefield Decision Making Cycles with AI

C3 AI® Decision Advantage accelerates intelligence cycles and battlefield decision making with AI-enabled domain awareness, collection management, and battle management.

Enhance Awareness
through a holistic, multi-domain common operating picture

Optimize Collection
with streamlined intelligence workflows to deliver timely insight synthesis

Act with Confidence
through AI-assisted target and COA analysis supported by robust evidence packages

C3 AI Decision Advantage transforms intelligence and targeting cycles with next-generation multi-domain data fusion, AI/ML models, and optimization algorithms, enabled by the C3 AI Platform. C3 AI Decision Advantage empowers collection managers, intelligence analysts, operations planners, and decision-makers to:

- Connect and fuse siloed data sources across modalities to create a database of high-confidence, resolved entities that power a multi-domain common operating picture

- Identify false or spoofed data with native data veracity algorithms

- Optimize collection management with AI-recommended sensor orchestration, collection schedule optimizations, and native information collection management workflows

- Leverage AI-enabled threat detection and recognition algorithms to complement human decision-making

- Accelerate and deconflict kill chains through sensor-to-effector application interoperability

- Improve workforce collaboration and efficiency among joint and partner forces using native alert and case management workflows

C3 AI Decision Advantage aggregates disparate structured and unstructured data on an object-based unified data model that integrates with existing DoD/IC data fabrics. The application unifies disparate multi-domain, multi-source data and applies data veracity algorithms to ensure a trustworthy, high-fidelity entity catalog for use in downstream applications. Additionally, C3 AI Decision Advantage alerts analysts and data managers to sensor health concerns to identify and treat potential data quality issues.

Feature Summary

- **Connect and fuse multi-domain data** and sensors into a cohesive data fabric

- **Utilize cutting-edge AI and ML** to detect and resolve data veracity issues

- **Identify, track, and exploit** real-time intelligence seamlessly

- **Accelerate sensor-to-effector** timelines with AI solutions across F2T2EA tasks

- **Employ AI-driven optimizations** to rapidly develop collection schedules and synchronization matrices

- **Synchronize disparate teams** and share information through a true common operating picture

- **Augment human decision-making with AI** to identify and analyze targets of interest

- **Automate current tedious and manual processes** for collections requirements and tasks

- **Track and access enterprise data quality trends,** including data gaps and entry errors

- **Use AI-powered image analysis and classification** to perform battle effects analyses

- **Seamlessly integrate with existing data infrastructure** to accelerate access to AI insights without disrupting current processes
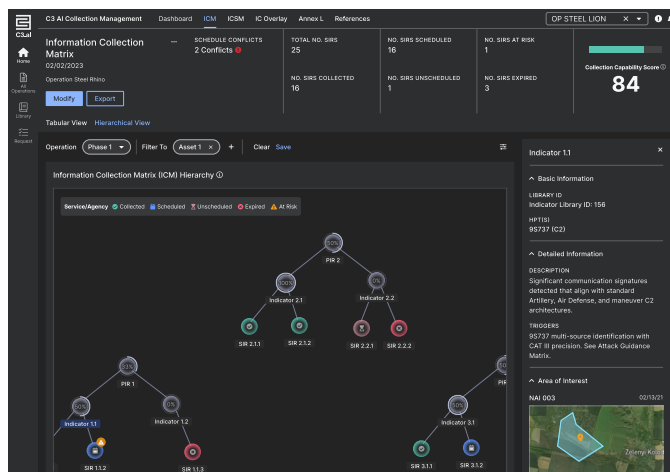

Figure 1. C3 AI Decision Advantage enables optimized collection management across organizations and mission systems.

Collect Information, Synthesize Intelligence, and Make Decisions

C3 AI Decision Advantage provides solutions across three mutually supporting modules: C3 AI Domain Awareness, C3 AI Collection Management, and C3 AI Battle Management.

C3 AI Domain Awareness provides a foundational unified data layer, multi-modal fusion engine, and a catalog of resolved entities for downstream applications and data managers. The patented C3 AI Platform integrates with existing data fabrics to offer a unified view of the underlying data objects, as well as serve data as part of a data marketplace. Robust evidence packages and entity details provide a trustworthy and transparent common operating picture.

Robust AI models and intuitive workflows power the C3 AI Collection Management module. This module provides decision makers and collection managers a seamless means to prioritize intelligence requirements, create optimized collection tasks, and process requests for collection through multi-INT fusion, sensor orchestration, and ISR scheduling optimization. Powerful and efficient workflows put the right data in the hands of analysts and decision-makers at the right time.

C3 AI Battle Management is at the heart of complex and time-sensitive kill-chains. C3 AI Battle Management uses advanced AI algorithms to synthesize intelligence and curate a list of high-priority targets for the operational analyst to investigate and recommend for action. For enhanced precision, C3 AI Battle Management provides the analyst and targeter AI-enhanced confidence intervals informed by the veracity and volume of the sensor data and image resolution confidence. Through tightly coupled AI models, C3 AI Battle Management can provide battle managers with actionable insights from target analysis and decision support through combat assessment.

Common to all three C3 AI Decision Advantage modules are comprehensive and intuitive evidence packages that provide interpretability and boost confidence in AI recommendations. These evidence packages can be exported and shared across every echelon of command.

C3 AI Decision Advantage can be extended and customized for unique command and control features and mission requirements.
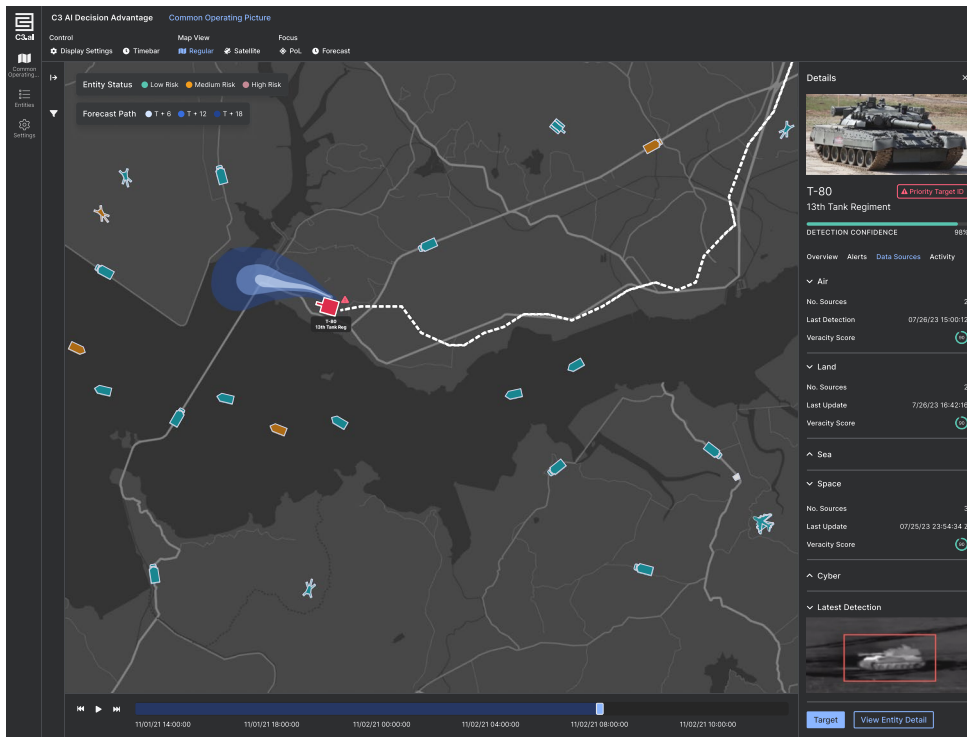

Figure 2. *C3 AI Decision Advantage highlights high risk targets to support rapid decision making based on trustworthy, real-time data.*

The operational benefits of C3 AI Decision Advantage accrue through multiple levers:

- **Enhanced situational awareness** through the integration, validation, and fusion of traditionally siloed sensor data

- **AI-optimized information collection** puts the right data in the right hands at the right time

- **Accelerated target resolution** delivered by advanced target recognition algorithms

- **Compressed time-to-action** through AI-assisted target risk prioritization and nomination

Proven Results in 8-12 Weeks   Visit C3.ai/get-started

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▦ C3 AI Decision Advantage: Multi-Modal Entity Fusion

Generate high-fidelity, multi-dimensional, high-confidence entities

Multi-Modal Entity Fusion resolves, synthesizes, and fuses geo-temporal data from multiple domains to create a trustworthy foundation of objects that enables battlefield decisions at the speed of relevance.

High-Fidelity Entities

developed from multi-domain, multi-modal sources enable ground truth awareness

Transparent Fusion

with rich evidence packages and confidence metrics increases decision confidence

Scalable & Open APIs

enable a wide range of downstream use cases development and analyses

C3 AI Decision Advantage is an AI application that accelerates military leaders' ability to make sense and act on intelligence at speeds of relevance. The application's foundational module, Multi-Modal Entity Fusion (MMEF), is an API-accessible, open, multi-domain, multi-modal data fusion engine and object repository that enables application development, intelligence analysis, and accelerated kill-chains.

Traditional fusion products rely on one or few data modalities to resolve and track objects on the battlefield. This approach creates sparse observations through exquisite, closed pipelines that operate as black boxes and is vulnerable to adversarial influences.

Multi-Modal Entity Fusion engine fuses data across different modalities, including UAS full-motion video, EO/IR imagery, track files, RF data, and cyber traffic, to create a high-fidelity operational picture that tracks and forecasts entity locations. Analyst, planners, and military leaders can act with confidence knowing the engine leverages mutually supporting AI models, physics models, and fusion algorithms to address data veracity concerns and detect anomalies. Rich evidence packages open the black boxes to provide the transparency required for battlefield decision-making through data lineage and pipeline explainabilty.

Multi-Modal Entity Fusion can scale across a broad set of analyses and downstream use cases. Analyst, planners, and decision makers can gain situational awareness through true common operating pictures with rich object visualizations and near real-time entity tracking. Application developers can access reliable and explainable entities through a highly interoperable API to power a broad set of use cases, such as battle management, sensor orchestrations, and decision support.

Feature Summary

- **Multi-dimension fusion** that resolves and fuses data from sea, air, land, cyber, and space – in multiple modalities – imagery, video, RF, and more – to paint a high-fidelity operational picture

- **True common operating pictures** enhance situational awareness through rich visualizations and near real-time entity tracking

- **Native target custody tracks** historical custody across domains, modalities, and responsible commands

- **Route forecasts and destination predictions** project a future state of the theater to understand an entity's intent

- **Anomaly detection** surfaces abnormal data and tracks to combat adversarial effects

- **Rich evidence packages** provide traceability and enhance trust with clear data lineage and model explainability

- **Open APIs** enable application developers and analysts to access entity data to support downstream use cases
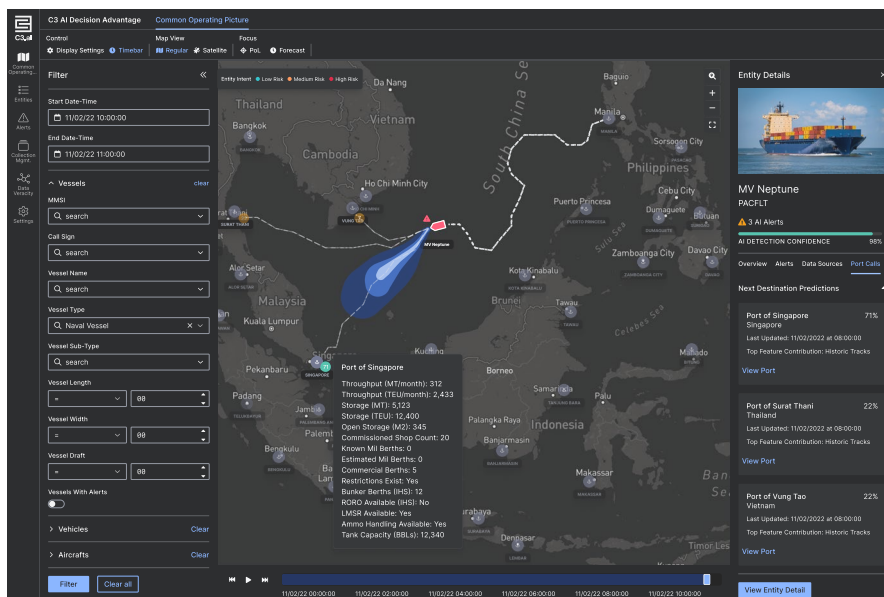

Figure 3. Common operating picture tracks a ship's route with a resolved track generated from multi-domain multi-modal data.