# Accelerated Tasking Orchestration

Riverside Research is a nonprofit organization advancing scientific research for the benefit of the U.S. government and in the public interest. Through our company's Open Innovation Concept, we invest in multi-disciplinary research and development and encourage collaboration to accelerate innovation, advance science, and deliver trusted solutions.

INTEGRATED SOURCE MANAGEMENT

Riverside Research's Collection Planning Suite (CPS) is a web-based modeling and simulation environment and an automated constellation planning tool for space-based GEOINT. The CPS is operating in the National Geospatial-Intelligence Agency enterprise today.

EO_SAT

Balakovo Nuclear Reactor
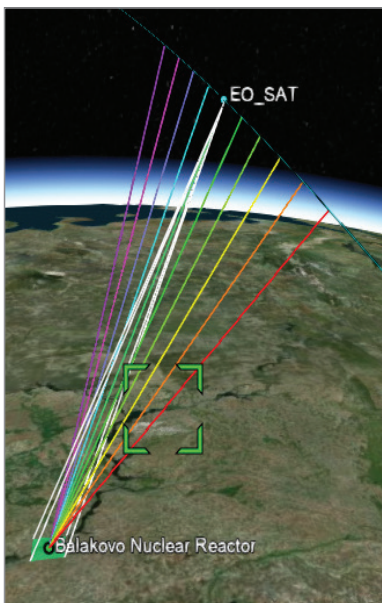
HIGH-CADENCE GEOINT

Riverside Research leverages our CPS technology to quickly deliver a solution to order content based on structured observations mixing in collects from national, commercial, foreign, and civil constellations to support varied intelligence campaigns and timelines to better understand an adversary event or activity pattern.

SPACE SITUATIONAL AWARENESS

Building upon our CPS technology, Riverside Research developed a containerized feasibility and orchestration prototype solution that integrates SSA and terrestrial collection planning for commercial data providers.

CONSTELLATION ORCHESTRATION

The CPS cloud-based framework supports satellite collection research and analysis, feasibility studies, strategy development, and daily planning for a multi-phenomenology constellation. It is also ICD 503 compliant and supports multi-classification constellations in a single instantiation.

Using system models, the CPS can easily modify, manage existing, or quickly integrate new GEOINT data providers.

The CPS creates optimized collection plans using a super-set of the community Collection Requirement parameters including priority, geometry, solar/lunar lighting, and cyclic parameters, and accounts for real-time weather, local terrain, threats, and other conditions.

Service-oriented CPS can integrate into most system-of-systems via documented web services for collection requirements, execution status, exploitation status, Tip-and-Cue, and other data.

Planners and researchers can visualize the collection plans on an interactive, IC ITE compliant 4D WebGL globe complete with terrain, imagery, maps, and other GIS and Celestial layers to accurately represent ground and space-based targets.

RIVERSIDE RESEARCH
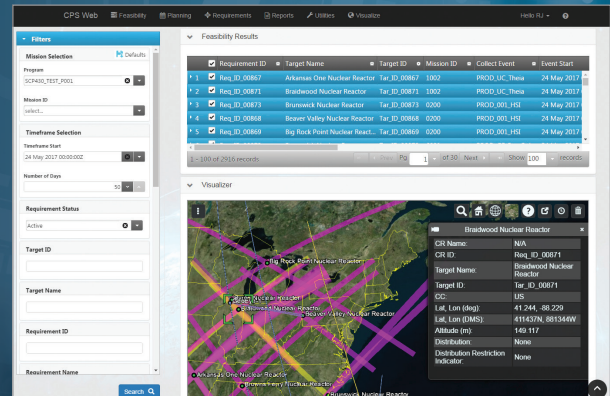
12 YEARS OF SUCCESS
(TRL-9)

As an operational, license-free, TRL-9 system, CPS provides NGA, the United States Intelligence Community, and others with collection feasibility analysis, planning, reporting, and calculators. Across small-sat, SAP/CAP, commercial, and foreign constellations, CPS can streamline planning time to 15 minutes.

COLLECTION PLANNING & RESEARCH

» Automates single satellite or constellation planning

» Orchestrates sources by performance, strategy, and conditions

» Designs and tailors collection strategy to exceed info needs

» Uses Tip-and-Cue capability for time-dominant operations

» Conducts pre- and post-launch studies to measure performance

» Finds best "athlete" to conduct collection across variety of sources

» Determines feasibility before submitting a requirement

» Performs collection gap and overflight planning

» Orchestrates special collections on space-based targets

» Manages CRs internally or from an external source

» Robust set of CR parameters and constraints

» Supports national, civil, commercial, foreign, and SAP/CAP systems

» Orchestrates multi-level classification and concealed CRs

SYSTEM FEATURES

» AWS/C2S compliant; scalable and elastic features

» Windows Server application; mobile friendly

» Oracle database; extensible to other type databases

» ICD 503 multi-level security compliance

» Authenticates using PKI, IAA, and/or LDAP

» Role-based controls for all functionality

» Agnostic models reflect system capabilities and limitations

» Adds, modifies, and manages models without code changes

» Source models support all phenomenologies

» Easily integrates into your system of systems

» Supports multiple interfaces and protocols, REST, SOAP and JSON, WSDL

» Accepts data from and supplies to external partners (e.g., CRs, weather)

» Supports an interactive 4D globe and map

» Uses WebGL technology— 4D without a client plug-in

» IC ITE compliant application