

# Cogynt.ai Decision Intelligence Solutions Meet National Challenges

## Introduction

Cogynt.ai is an advanced, AI-powered platform to support diverse operational missions that overwhelm human analysts with high risk/high consequence decision-making challenges. By processing vast amounts of data in real-time to identify patterns and anomalies that are often missed by humans, Cogynt.ai enhances *situation awareness*.<sup>1</sup> Automation of routine tasks enables Cogynt.ai to reduce cognitive load on decision makers and free them to focus on the most time-sensitive and critical threats. Through its AI/expert system driven, patented Hierarchical Complex Event Processing, Cogynt.ai integrates and consolidates information from multiple sources to produce a common operating picture that prioritizes the most critical data for human decision makers to address. By analyzing historical and real-time data, Cogynt.ai uses predictive analytics to alert on pending events and forecast potential impacts and risks. This *decision intelligence*<sup>2</sup> platform — engineered and designed to reflect expert decision-making processes — provides a *joint cognitive system*<sup>3</sup> that performs better than either the human or the computer component alone.

## Cogynt.ai Platform

Cogility's **Cogynt.ai Decision Intelligence Platform** has been operational in supporting decision-analytic and risk assessment missions for several years, demonstrated as a proven force multiplier that improves analyst productivity while enhancing accuracy and explainability. At the heart of Cogynt.ai is our **patented Hierarchical Complex Event Processing (HCEP) engine** (see Figure 1).

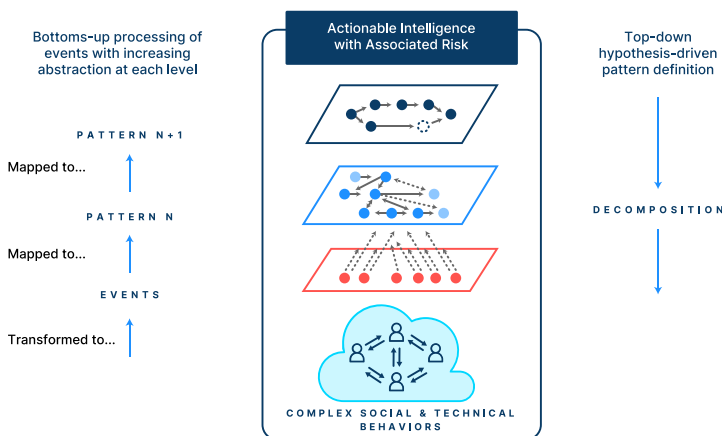


Figure 1. HCEP emulates expert human judgment at scale with explainability

Unlike traditional analytics that operate on static datasets, HCEP continuously ingests and analyzes **streaming data** in real-time. HCEP emulates expert human judgment. The HCEP model performs top-down and bottom-up pattern based processing to infer and associate events with patterns and higher order abstractions that enable the system to recognize potential risks. Analysts can build or tailor the model by making any desired adjustments to fit their organization's mission and priorities.

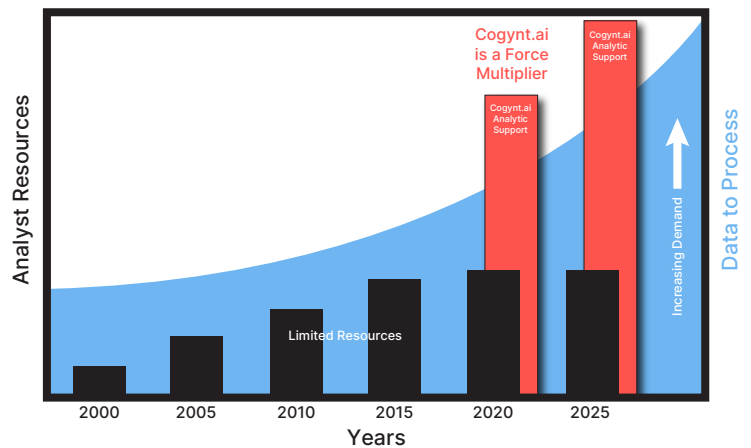


Figure 2. Coglynt.ai is a Force Multiplier

Program Managers consistently demand greater efficiency with fewer resources (see Figure 2). By providing AI/expert system based support, Cogynt.ai meets the demand in delivering powerful decision support through three operational modes (see Figure 3):

- No-code authoring for building or tailoring expert-informed decision support models employing advanced predictive analytics
- Analyst workstation that supports multi-user collaborative decision making with powerful case management tools
- Management dashboard provides an overview of operations.

## Supporting Diverse Operational Missions

The Cogynt.ai decision intelligence platform is well-suited to support critical operational missions that protect national security, promote public safety, and enhance commercial productivity across diverse business sectors. Its AI-powered, expert-informed behavioral analytic HCEP processing,

1. Endsley, MR. (1995). Toward a theory of situation awareness in dynamic systems. *Human Factors Journal* 37(1), 32-64. DOI: 10.1518/001872095779049543

2. Gartner. (2024). Market Guide for Decision Intelligence Platforms. 18 July 2024. <https://www.gartner.com/en/documents/5599159>

3. Hollnagel, E, & DD Woods. (2005). *Joint cognitive systems: Foundations of cognitive systems engineering*. CRC press.

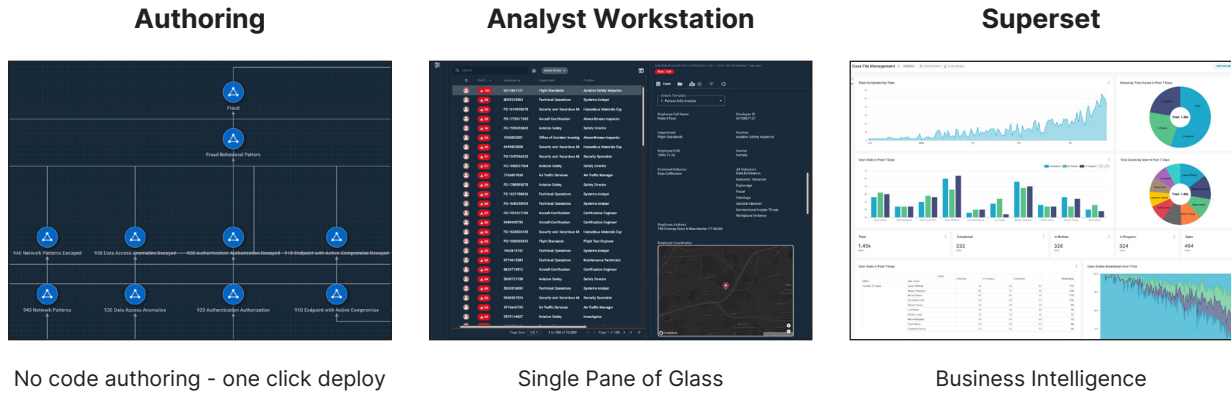


Figure 3. Cogylt.ai role-based support

with an integrated generative AI Large Language Model, is uniquely equipped to extract large volumes of structured and unstructured data to support these challenges in real time, with explainable results that derive from decision analytic models reflecting how domain experts solve problems. The Cogylt.ai platform currently supports several customer mission applications, including insider risk management and cyber threat and attack analysis, as described below:

- Cogylt.ai Insider Risk Management Solution.** Insider threat solutions that only consider online behavior (technical indicators) are inadequate to predict and enable proactive intervention to mitigate insider risk. A “whole person” behavioral analytic approach is needed to consider technical and behavioral/ psychosocial indicators that reveal at-risk individuals on the critical pathway to insider risk. Cogility’s whole person approach is embodied in the hierarchical SOFIT knowledge base of insider risk indicators — integrated within and operated upon by Cogylt.ai’s HCEP behavioral analytic engine. Cogylt.ai ingests all available data, matching it continuously and in real time to behavioral patterns. This triage process facilitates efficient and effective risk management.





- TacitRed Continuous Cyber Attack Surface Intelligence.** Powered by Cogility’s patented HCEP processing, TacitRed continuously analyzes massive amounts of global attack signals and threat intelligence sources to pinpoint active exposures, attacks, and risks of over 18 million U.S. companies. TacitRed delivers fully-curated and detailed threat intelligence, maps and visualizes external attack surface, identifies and prioritizes imminent at-risk assets to enable rapid threat mitigation. This unparalleled tool was recently acquired by DATA443.

Other current or potential applications include:

- Aviation safety
- Healthcare compliance/patient risk analysis
- Financial systems compliance/risk analysis
- Violence risk assessment and mitigation

## Cogylt.ai Key Features:

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**Composable & Expert Driven AI**  
 Cogylt.ai’s HCEP advanced Expert AI behavioral analytic is integrated with LLMs to provide intelligent support for the human analyst and decision makers.
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**Continuous Context & Risk Assessment**  
 Cogylt.ai continuously observes entity behavior and assesses risk with hierarchical risk assessment models that combine risk indicators for higher level patterns.
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**Trusted & Explainable AI**  
 Cogylt.ai supports provenance to answer the question “why”, which is essential in high consequence decision making.
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**Human Factors Optimization**  
 Cogylt.ai’s decision-centric UI supports no-code modeling and investigative and decision support tools, creating a single pane of glass.

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**Scalability**  
 Cogylt.ai is a horizontally scalable platform hosted in the client’s VPC to support with high data volumes, behavioral pattern complexity, and concurrent users.
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**Configurability**  
 Cogylt.ai is a highly configurable platform that allows SMEs and analysts to develop powerful analytics to suit their unique use cases and mission.
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**Decision Support**  
 Cogylt.ai provides decision automation, augmentation, and support and is well suited for complex, high-consequence decision making.
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**Fully Integrated Platform**  
 Cogylt.ai is delivered as a fully integrated containerized platform that is ready to be configured after installation in the client’s Virtual Private Cloud.

Visit [www.cogility.com](http://www.cogility.com) to obtain more information and request an expert demo.

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