Compendia Data Platform

Uncovering Hidden Value from Your Data

Compendia delivers more useful answers to your complex research queries

The Compendia Data Platform is the latest innovation from Titan Technologies, which has built a reputation for delivering advanced, multidimensional solutions in data analytics, systems modernization, and cloud services.

Reducing the cost and time to find the data you need

Compendia significantly improves the speed, accuracy, and usefulness of your searches of archival research material. You will reduce the cost and time required to find crucial data that can help you construct valuable new knowledge.

By using Natural Language Processing (NLP) technology, Compendia extracts semantic knowledge, relationships, and key entities from large collections of unstructured and semi-structured data. Compendia users can then focus on the information they need from the metadata-enriched text by filtering document categorization labels, extracted entities, and dynamic tags.

Engineered for federal organizations and other research-intensive industries

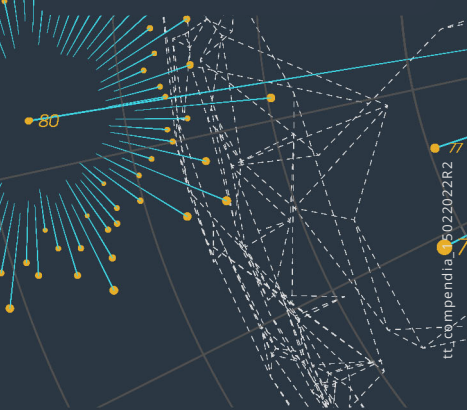
Compendia is used by federal organizations to address some of their most complex research and knowledge management challenges. In addition, Compendia's powerful, adaptable research functionality can benefit companies in industries such as legal, healthcare IT, education, and others.

Compendia supports our national security

Compendia has been selected by Triad National Security, which operates Los Alamos National Laboratory (LANL), to support classified research tasks.

LANL tested Compendia in a rigorous pilot project before moving forward with their deployment.

"We use Titan Technologies' Compendia to process complex research tasks," said Rizwan Ali, Director of the National Security Research Center at LANL, which helps to ensure the safety of the U.S. nuclear stockpile, develops technologies to reduce threats from weapons of mass destruction, and solves problems related to energy, environment, infrastructure, health, and global security concerns.



How Your Organization Can Benefit from Compendia

Compendia improves the results of complex research queries by providing:

Customized technology for your research needs

Our experienced and cleared systems and software engineers and data scientists collaborate with you to integrate source systems, devise analog to digital conversion workflows, develop linguistics packages and other analytics, and tailor the Compendia UI as needed to address your complex research and intelligence analysis requirements. The result is that Compendia can enable government customers to achieve missions and outcomes that could not be completed otherwise.

Detection of hidden meaning within the data

Compendia's Natural Language Processing (NLP) and Natural Language Understanding (NLU) technology draws connections between seemingly disparate ideas. The NLP engine contains a knowledge graph with millions of links between approximately 450,000 concepts, thus generating more precise search results that capture language use in context. For instance, if the word "plant" appears in a technical article, Compendia can infer whether it is referring to gardening, a manufacturing facility, or the implantation of an idea.

Deeper analysis of data correlation

Our core data science approach is based on knowledge graph methodologies, where the attributes, features, and entities collected are nodes correlated by data-rich links in the graph environment. Compendia's analytics are focused on the relationship between any subset of nodes based on edge attributes or features (colocation, inferred topics, temporal reference, information exchange, etc.).

Expanded base of searchable documents

Compendia searches through multiple data sources and delivers the results through a single interface. By using an ML-based optical character recognition (OCR) technology, Compendia automatically extracts text and metadata from a variety of source systems, databases, records management, and content management systems. Compendia then uses AI and ML processes to apply NLP and NLU to the content.

Faster time to discovery

Compendia makes searching and finding relevant documents quick and efficient by enabling precision search and recall across multiple, typically siloed, systems. The solution uses ML to automatically and accurately generate metadata, significantly reducing or eliminating the time needed for your staff to create metadata.

Fully secure access

Appropriate security protocols control visibility both to the metadata against which searches are conducted and to the documents in the source systems. In fact, Compendia was actually purpose-built for intelligence and law enforcement users, and can recognize and extract a variety of security markings.

Easier user experience

A unified gateway with a user-friendly interface provides a single point of access for end users to perform integrated precision search and recall against a variety of different source systems.

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TITAN TECHNOLOGIES™

About Titan Technologies

Titan Technologies, which includes its wholly owned subsidiaries TelaForce, LLC and Titan Facilities, Inc., designs, integrates, and manages innovative solutions and software applications. Titan Technologies provides advanced information technology solutions and services in the areas of digital business transformation, customer care, security and communications infrastructure, and infrastructure modernization and management.

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Foundations of the Compendia Data Platform

These core components of Compendia provide enriched, accessible, secure data:

AI-Enabled Data Management

Compendia's AI-enabled Extract, Transform, Load (ETL) Engine serves as the backbone of the platform, enabling ultra-large-scale digitization. Data ingest is further aided by ML-based optical character recognition capabilities that deliver better than commercially available results to produce enriched, actionable data sets.

AI Enrichment

The Natural Language Processing/Understanding (NLP/NLU) layer comprehends unstructured text, auto-generating rich metadata to produce highly relevant search results. Compendia's NLP/NLU capability applies sophisticated linguistics packages for accurate text categorization and entity extraction. Linguistics packages can be customized to incorporate existing customer ontologies, taxonomies, and custom entities.

Data Integration Layer (Unified Data Format)

Compendia ingests data from more than 200 different types of databases, formats, and structures into a Unified Data Format (UDF). All data sources are processed through Compendia's ML workflows which include security tagging, metadata extraction, and AI-enrichment steps. Digital assets with rich markup can be easily exported from the UDF for use in web, social media, business intelligence, productivity, or visual analytics tools.

Data Security Layer (Access Framework)

Compendia was developed to address intelligence and law-enforcement requirements for handling multiple levels of classification. During the ingest process, data transits through a security extraction process that supports cell and row level security, cleansing and normalizing all security markings and enforcing entity-based security restrictions to enable the role-based access control (RBAC) and need-to-know (NTK) information access critical in a classified environment.

Federated Data

Compendia produces enriched metadata from unstructured data while preserving the original documents in their source repository. Similarly, Compendia can read from and query structured data in native source systems. This federated architecture allows organizations to better leverage their existing investments in data storage and institutional knowledge and workflows.

Presentation Layer (User Interface)

Compendia features a configurable and customizable (via API) user interface that can be aligned with business requirements and workflows. The UI enables users to upload, process and analyze content through a series of step-by-step screens. Persistent menus allow the user to navigate to any portion of the web-based interface to add data, perform analyses, or export results in a variety of formats.