

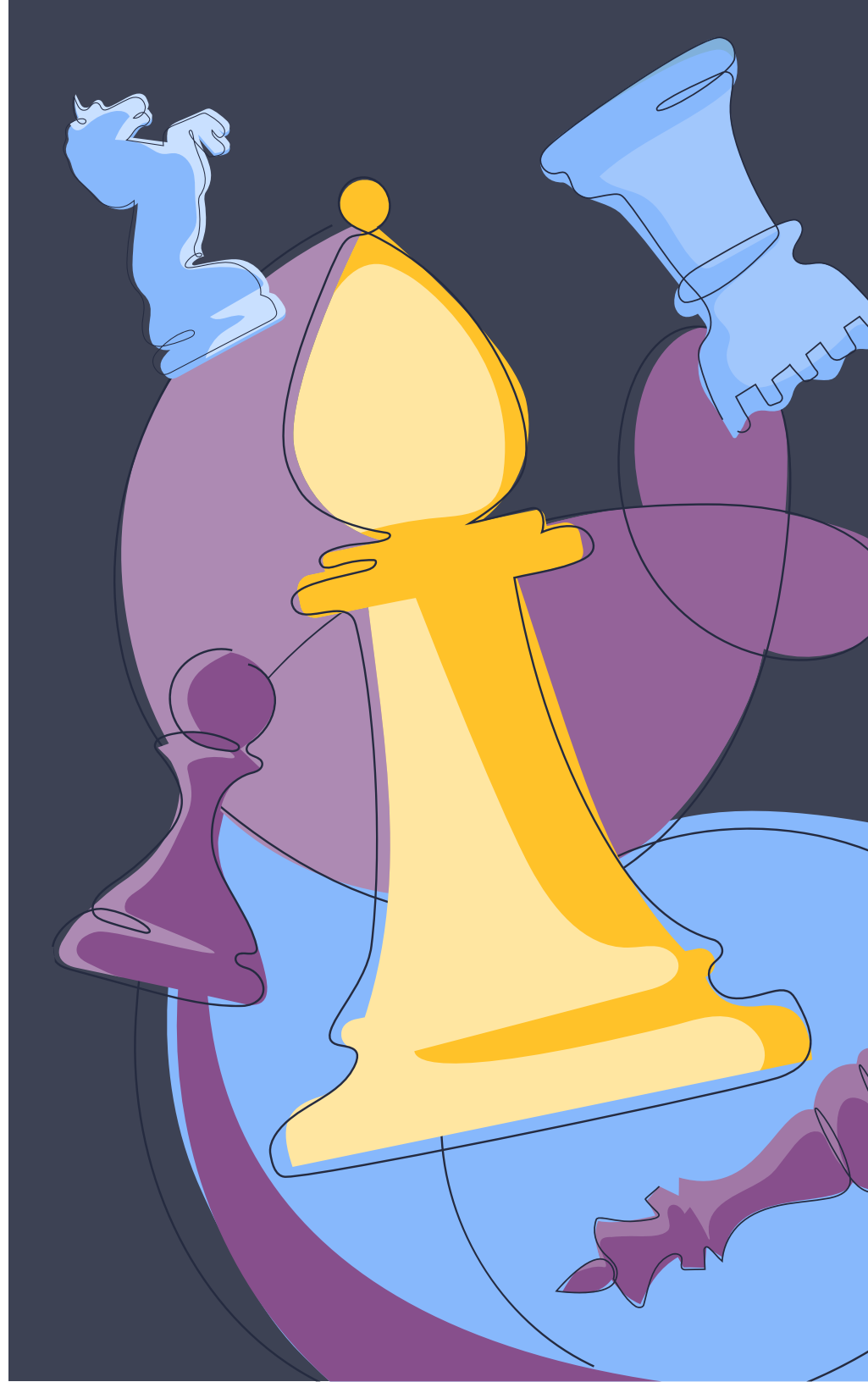
# DoD's Data Strategy Spurs Industry to Step Up

**Like agencies across the federal spectrum, the Defense Department (DoD) is thinking a lot about data these days.**

In 2020, it released the [DoD Data Strategy](#), laying out a vision for using data at speed and scale to deliver operational advantage and increased efficiency — something all government agencies want.

The strategy offers guiding principles and drills down into specific, essential capabilities. This challenges industry to deliver effective and efficient cloud-based data solutions that manage, govern and secure data as a critical asset.

In a recent GovLoop webinar, Bill Washburn, MarkLogic's Chief Program Officer, described how a cloud-based data management platform can help DoD and other federal agencies fulfill their data-driven goals. The right platform can enable government to connect, create and consume this most critical asset.



# At a Glance

## Essential Capabilities

*The DoD Data Strategy defines “4 Essential Capabilities” needed to enable effective data use:*

- + **Architecture:** The emerging data architecture should be enabled at the enterprise via cloud and other technologies, and must empower national defense to pivot on data faster than adversaries can adapt.
- + **Standards:** Solutions should adhere to standards that include “not only commonly recognized approaches for the management and utilization of data assets, but also proven and successful methods for representing and sharing data.”
- + **Governance:** Data management must align with governance related to “principles, policies, processes, frameworks, tools, metrics, and oversight” needed to effectively manage data at all levels, from creation to disposition.
- + **Talent and culture:** The workforce “will be increasingly empowered to work with data, make data-informed decisions, create evidence-based policies, and implement effectual processes.”

## Key Definitions

*A few key terms help define a cloud-based data management platform’s operations. They include:*

- + **Ingestion:** The ability to take in raw data, wrap each item in a metadata envelope and store the wrapped items in a staging database for further processing.
- + **Harmonization:** A set of processes (typically mapping and mastering) for unifying and merging data that are similar but represented differently in various raw data sources. These processes make the data ready for use in search, analytics and other end-user applications.
- + **Provenance and lineage:** In a modernized system, an automated process ensures that data can be traced back to its origin and that source data is preserved.
- + **Smart Mastering:** This advanced capability checks for duplicates in the data and manages them based on specific criteria.

## 7 Data Management Goals

*The DoD Data Strategy establishes seven goals for data management.  
Here and elsewhere in government, solutions need to make data...*



### **Visible**

so that users can locate the needed data



### **Accessible**

so that it can be easily retrieved



### **Understandable**

with content, context and applicability readily recognizable



### **Linked**

empowering users to exploit data elements through innate relationships



### **Trustworthy**

so that decision-makers can act with confidence



### **Interoperable**

with a common representation and comprehension of data



### **Secure**

ensuring that data is protected from unauthorized use or manipulation



## Data Strategy Sets a High Bar

DoD's strategy serves as a guide for industry partners looking to support the department's data modernization efforts, and for similar efforts across other parts of the government.

"When industry is called on by DoD to implement, we need to have this document in mind," Washburn said.

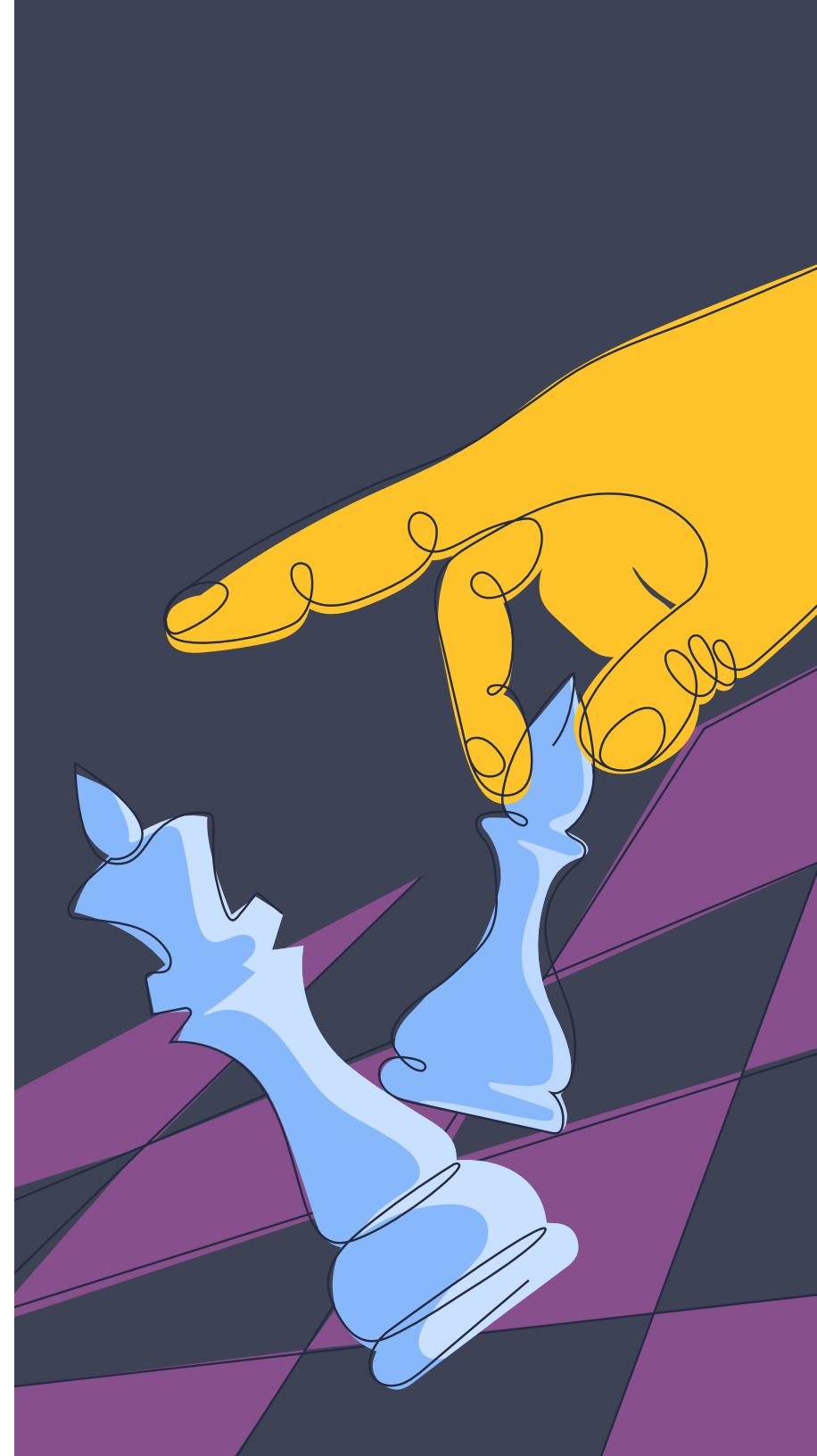
In raising the expectations around data, success cannot be taken for granted. Challenges inherent in the strategy document include:

- **A shift to open cloud architectures:** DoD envisions this as the way forward for effective enterprise expansion and data management.
- **Governance:** "Strengthened data governance will include increased oversight at multiple levels," DoD notes, and partners will need to work in alignment with this effort.
- **Security:** The strategy calls for a wide-ranging effort to support data security. "We need to protect data in the post-Snowden era, ensuring data owner access while denying administrative access," Washburn said, referring to Edward Snowden, who was charged with leaking classified information in 2013. "It's not just being policy-driven or process-driven. It's also a people-driven environment." Allow those who need access to have it, and protect the data by eliminating unnecessary access.
- **Talent and culture:** The strategy calls on partners to ensure that data management accounts for the skill sets and operational culture inherent in DoD's mission.

## Industry Needs to Deliver Solutions That Fit

A cloud-based operational data management platform must offer a modern approach that satisfies the key requirements embedded in the DoD Data Strategy – requirements that can serve as a guide to other federal leaders pursuing data modernization. Such a solution can help:

- **Make data accessible:** “What are the pieces of data that need to be driven to a certain need? Not all data needs to be oriented for all users,” Washburn said. A cloud-based operational data platform helps make the right data available to the right users, when and as needed.
- **Make it operational:** Data may flow from myriad systems and sources. “When you centralize and link that data together, you get a full 360-degree pinpoint picture,” which makes it possible to make informed decisions in real time, Washburn said.
- **Ensure security:** With built-in controls and management capabilities, a modernized data platform ensures that mission-critical data is safe and secure. This approach makes it possible to share what needs to be shared, to know who can share and to be secure in sharing it.
- **Create a business-centered environment:** A modernized solution creates a strong business environment, whether in support of finance, personnel management or weapons systems deployment.

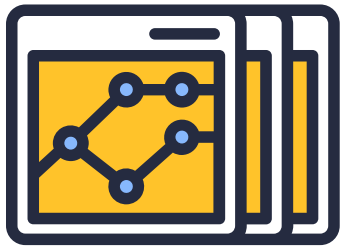


## Tech Spotlight: How It Works

MarkLogic's highly differentiated, cloud-based operational data platform offers a unified solution that brings together multi-structured data and makes it readily available for diversified use by multiple application and data stakeholders.

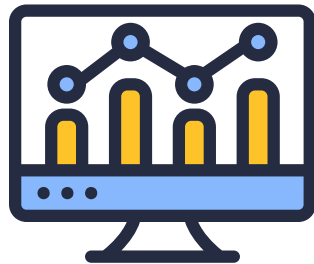
What does that mean in practical terms? With MarkLogic, you can ingest data from any source, index it for immediate query and search, and curate it through a process of harmonization, mastering and enrichment for modeling, analytics or other use cases.

Such an approach delivers on the DoD Data Strategy's key requirements for transformation, modernization and operations, providing:



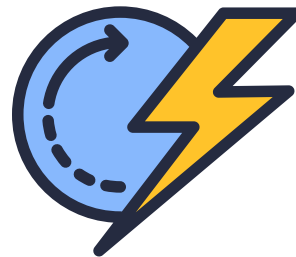
### Unified data on a single platform

With a unified platform, DoD can connect its data in a single instance, giving mission stakeholders a single, consistent, real-time view of all data varieties in multiple models.



### Knowledge graphing

Users can use this to manage facts and relationships to deliver more intelligent search and insights.



### Speed and efficiency

The platform can immediately ingest and index data, whether streaming or in batch, structure or unstructured.



### Advanced security

Critical resources must prioritize security without sacrificing performance and efficiency. A platform delivers certified, enterprise-grade security with full data lineage tracking and audit capabilities, and granular controls for roles, permissions, and privileges.

## Best Practices

A modernized data solution can be the foundation for data-driven transformation at DoD and other federal agencies. In support of this approach, several key best practices can help ensure success. These include:

### Open cloud-enabled architectures

“A key factor here is certainly going to be cloud enablement,” with an open architecture approach to support multi-cloud operations, Washburn said. “Is there going to be a cloud where execution of an application is being rendered, that’s accessing data on yet another cloud? An open architecture that is agnostic across these elements is going to be needed.”

### Governance

Policies, processes, principles and frameworks will drive the federal data vision. “You must meet the standards. You must meet and exceed how those policies are adapted...to make sure that the soldier is supported in the field,” Washburn said. “When you look at the further-out possibilities — not just localized systems, but enterprise systems — you’re going to want to keep those governance pieces in mind.”

### Security

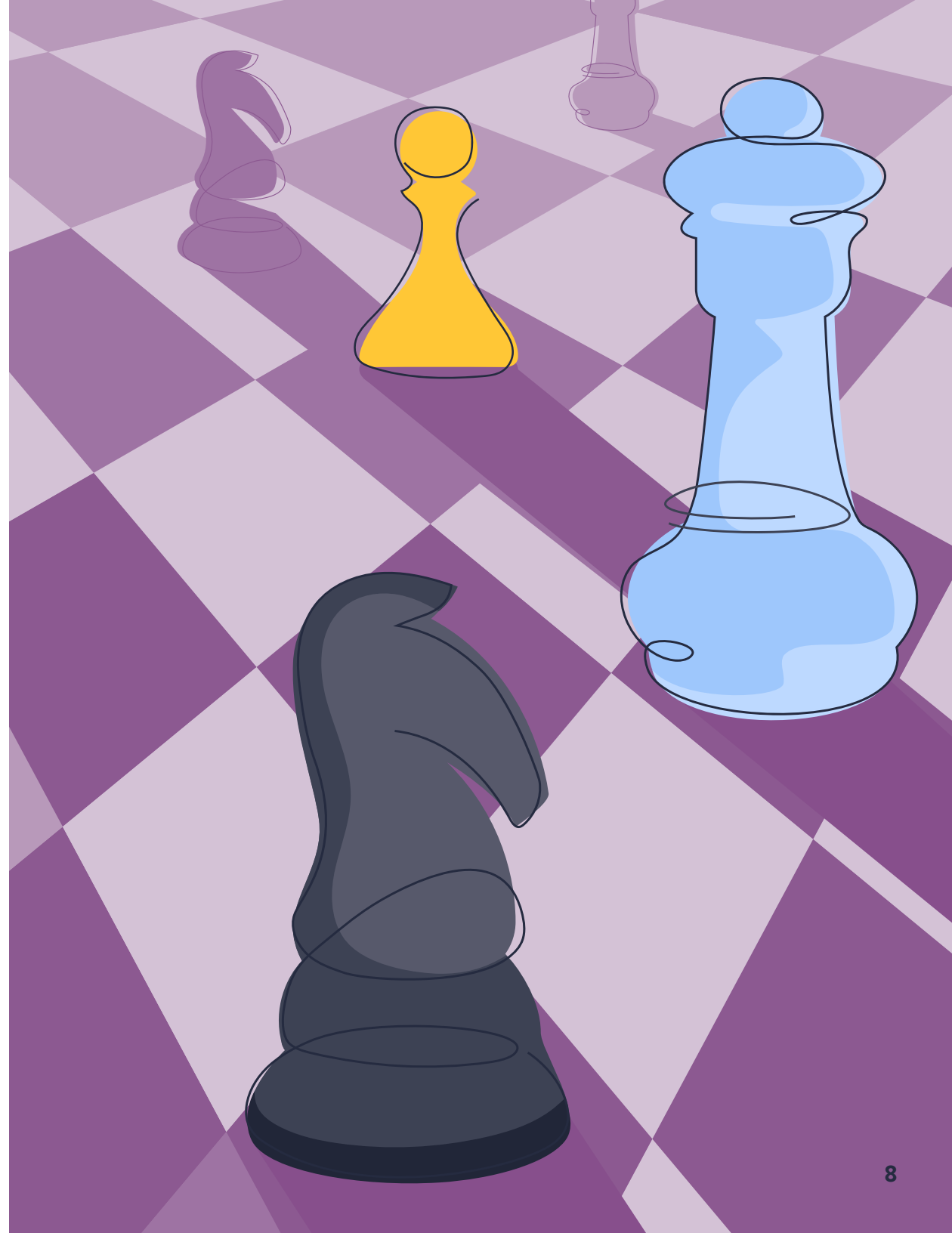
Any solution will need to deliver on the promise of data security. Beyond just protecting personal information, defense systems must ensure that mission-critical data is available as needed in support of mission outcomes and yet always remains secure.

### Talent and culture

To support the data strategy, and similar data-driven efforts governmentwide, industry must align with the talent and culture of its agency partners. That means not just adhering to policy and procedure, but going deeper, understanding and embracing the way data operates within the defense culture. “It’s a transformation of the workforce — industry [must] align with that transformation,” Washburn said, noting that DoD’s emphasis on data will impact any contractor looking to support the military. “Even when you’re in a back-office environment and you’re handling the [human resources] data, you have to adhere to the talent and cultural norms...of the government sponsor.”

## **How MarkLogic Helps**

MarkLogic provides a unified enterprise-grade semantic data platform that delivers a faster, trusted way to unlock value from complex data. Our visionary customers use our platform to achieve data agility, eliminating data silos with deeply integrated data coupled with everything known about it. The MarkLogic platform removes friction from any aspect of working with any information at any scale for any purpose. Organizations use our platform to enable informed search, contextual applications, grounded data for analytics, facts-based intelligence, and agile governance and info security.





# Enable Your Data Strategy for Mission Success

## SIMPLIFY COMPLEX DATA & ACHIEVE DATA AGILITY

Get a faster, trusted way to unlock value from complex data – and achieve data agility to meet mission requirements now and in the future. Our unified semantic data platform combines a multi-model database and semantic AI technology to provide a comprehensive data layer with strong security, integration, and scale.

Learn how we support the DoD & IC at:  
[MarkLogic.com/national-security](https://marklogic.com/national-security)



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***Thank you to MarkLogic for their support of this valuable resource for public sector professionals.***



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