

# TIME IS A WEAPON

SEIZE THE POWER OF DATA



Booz  
Allen

DX23

# DATA IS THE FUTURE OF WAR.

The force that uses data to create information advantage has the ability to master the power of time—and the side that understands and acts first, wins. Discover how to seize the power of data using modular, scalable technologies to get more value from tech you already own.



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# WIN THE DIGITAL ARMS RACE

Aggressive nation-state competition is accelerating as adversaries seek to control communications and drive data-driven technologies in a bid to dominate in both war and peace. As the pace of war accelerates, the digital arms race gets more critical. We see Department of Defense (DOD) and intelligence agencies strive to turn data into action.

**Commanders** see their decision-making slowed by a deluge of data in multiple stovepiped networks.

**Warfighters at the edge** receive only intermittent information over low-bandwidth, easily intercepted and manipulated connections.

**Logistics teams** struggle with disrupted supply chains and a flood of maintenance data.

**Service members** train in classrooms, on slide decks, rather than immersive realistic scenarios with measurable metrics and options for individual and collective repetition.

**DOD officials** strive to evaluate programs using business systems trapped in proprietary architectures.

Working across U.S. military branches and intelligence organizations, we focus on helping defense and national security leaders with data challenges in multiple dimensions:

## **LACK OF TIMELY, RELEVANT, AUTHORITATIVE DATA**

Leaders in Command and Control and Intelligence, Surveillance, and Reconnaissance (C2/ISR) must speed decisions. Warfighters must be empowered with authoritative data and predictable trusted analysis at all echelons. And data must flow freely between the U.S. and its allies and partners for the joint force to truly achieve decision dominance.

## **DISCONNECTED SYSTEMS**

Data is trapped in stovepiped systems. Accessing it, sharing it across all echelons and classification levels, and completing other activities require time-intensive, manual processes. Analysts sort through avalanches of data and fragmented information to try to spot trends and patterns, delaying delivery of time-critical intelligence.

## **SLOW UPGRADES**

DOD programs face long upgrade and modernization cycles due to incompatible systems and formats, manual workflows, and unscalable technologies with deep reliance on products that are often proprietary.

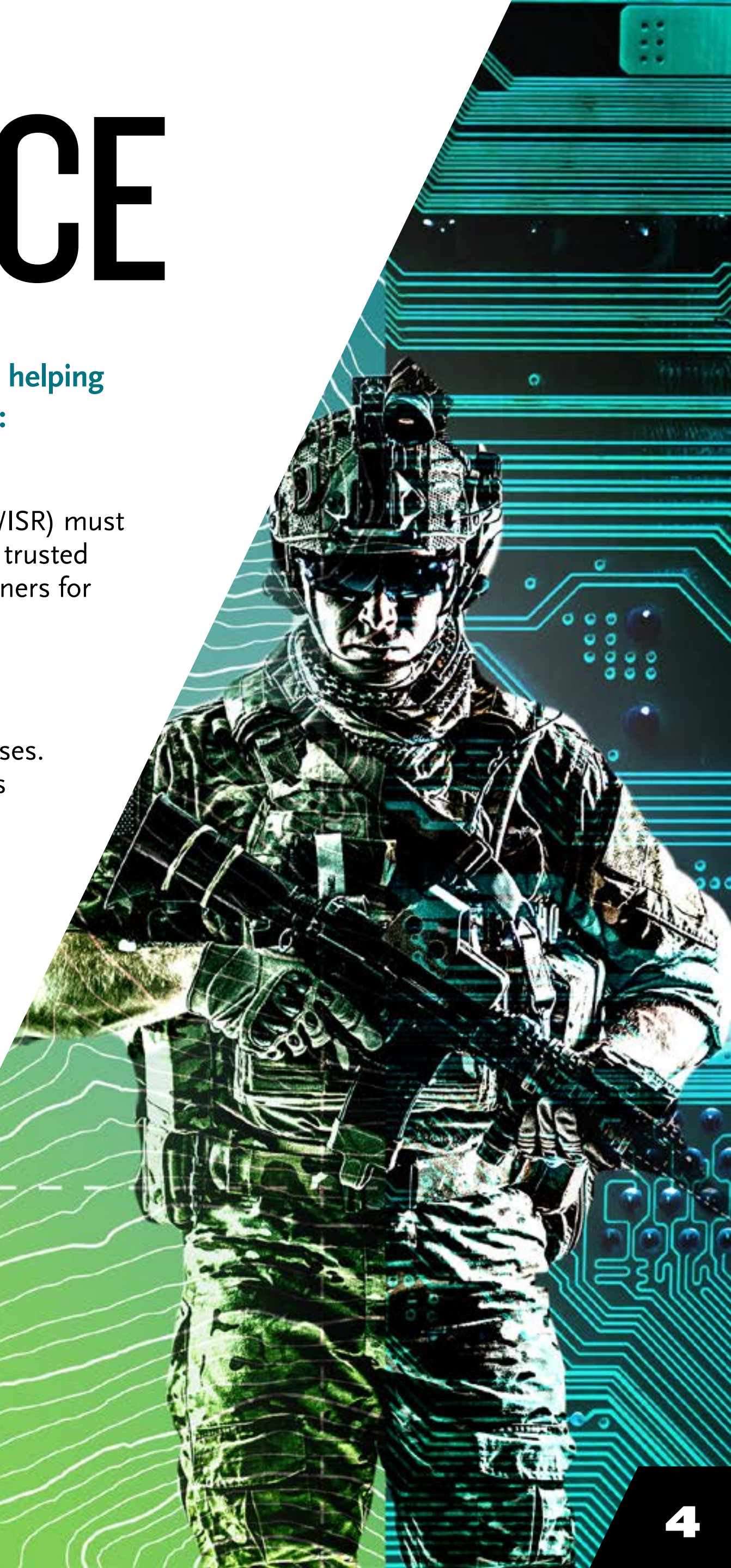
## **VULNERABILITY AT THE EDGE**

Information systems are vulnerable at the edge, where degraded and denied environments often leave frontline teams without crucial data and enterprise analysts without urgent updates—when a split second can mean all the difference.

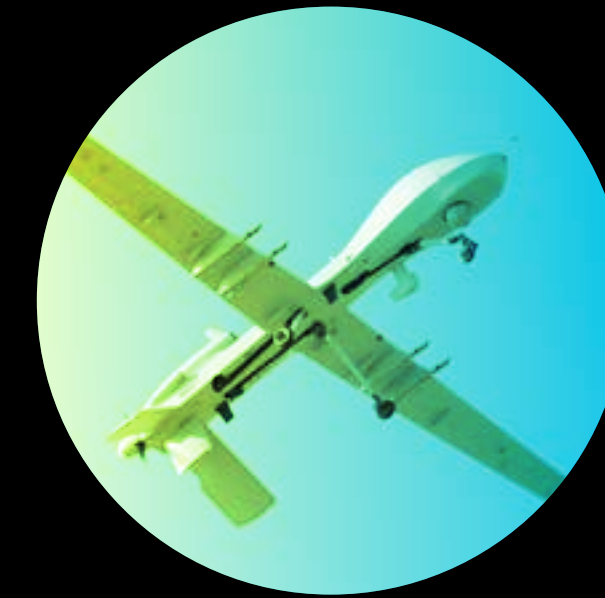
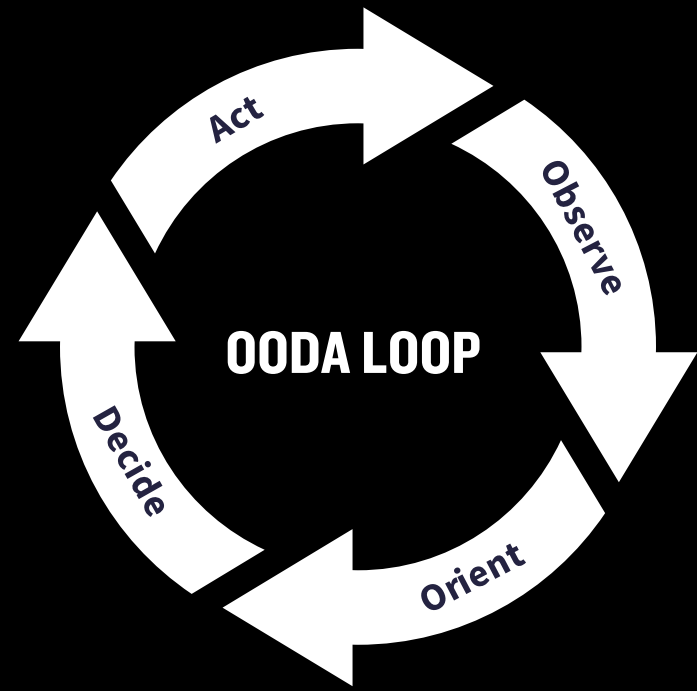
## **CYBERSECURITY TREATED AS AN ADD-ON**

Infusing smart cybersecurity and self-learning technologies is key to winning the information war, yet many leaders feel confined to proprietary solutions where cybersecurity is treated as an add-on rather than integral to the system.

All the while, rival nations pour resources into sophisticated technologies and exploit DOD's data vulnerabilities.



**As the pace of warfare accelerates, victory will go to the force that achieves data dominance—and therefore decision dominance.**



DIMENSIONS	WWI	WWII	VIETNAM WAR	GULF WAR	TODAY	TOMORROW
DECISION SPEED	Weeks	Days	Hours	Minutes	Seconds	Nanoseconds
NUMBER OF ASSETS	1-10	10-100	10-100	1,000+	1,000-10,000	10,000-100,000+
COMPLEXITY	Horses	Tanks	Air	Air, Land, Sea	Space, Swarms, Hypersonics	Cyber, Electronic Warfare, Directed Energy

1 ns to 1 sec is equivalent of 1 sec to 32 years

## HOW DOD IS ACCELERATING CHANGE

Today we're seeing organizations modernize rapidly to deliver information:

- in real time, across disparate networks
- processed with AI for powerful insights, continually improving in accuracy through data fusion and updated algorithms
- focused on joint capabilities, enabling data sharing across services, allies, and coalition partners

Leaders are empowered to make faster decisions that transform their missions. And it all begins with thinking differently about data and the information and knowledge that is gained from fast, consistent access to it.

## DATA IS IN OUR DNA

Working with DOD across all services, we've had the privilege to be part of defense modernization from the start—which has allowed us to invest, build, partner, and scout-out innovations with defense missions in mind. And we've built leading capabilities and integrated commercial offerings allowing us to take a holistic approach. Clients return decade after decade because they know we:

### Apply Mission Understanding

We provide critical context for the data, while our technology works for the warfighter out of the box. Few firms are embedded with DOD as deeply as Booz Allen.

### Deliver Across the Entire DOD

We understand stakeholder priorities across mission domains and specific echelons—and how each interacts with the others, for a cohesive, holistic perspective.

### Ensure Compliance and Security

We know how DOD policies affect the approach—for example, building on zero trust security architectures with granular data sharing permissions.

### Adapt Tech for Conditions and Constraints

We design for performance across echelons, from cloud to edge.

### Prototype, Test, and Get to Field Fast

We navigate process, technology, and security to speed progress from plan to prototype, from testing to full operation.

# A NEW VIEW OF DATA

The task of transforming faster seems overwhelmingly complex.  
But ... what if we thought about data differently?  
What if we took our lead from the internet?  
What if we brought the process to the data—instead of the other way around?  
**Let's get disruptive about data.**

**Rather than trying to pry data out of silos, let's take a fresh approach. Let's think of data as the central element. Instead of bringing the data to the process, let's bring the process to the data. An approach we already use every day on the internet can be a game-changer for the digital battlespace.**

**It all begins with a modular data ecosystem. Here's a fluid approach that will increase security, free up network bandwidth, and speed data dominance and decision advantage—even for legacy architectures.**

## IT'S TIME TO FLIP THE PARADIGM

Picture data coming in from a myriad of sources—sensors across domains, intelligence sources, open-source channels, mission partners. Typically it gets processed and managed in a centralized solution, requiring the risks and costs of wholesale data replication and high levels of network traffic.

But what if we consider the internet? We need to look only as far as our own smartphones. We don't download every weather forecast or news item we read. Instead, we access it using an easy-to-remember domain name. What if we create a Domain Name System for data—a D-DNS?

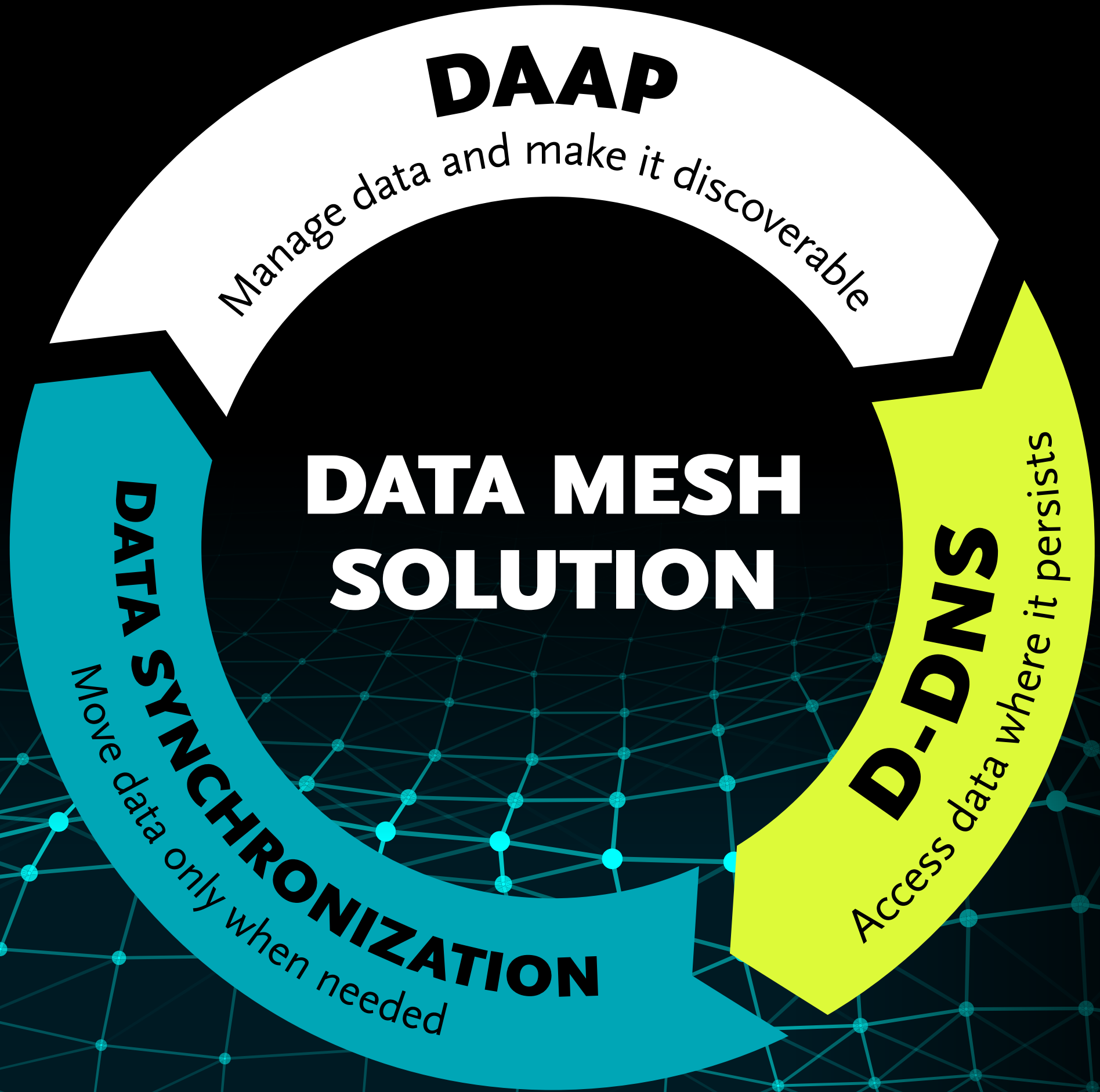
Built around a blockchain-ledger architecture, a D-DDNS would allow data to be securely discovered and accessed where the data persists—from any device, from the enterprise to the tactical edge.

We're using this concept in a set of solutions we've developed to provide a secure, customizable foundation that simplifies and accelerates data ingestion, transport, storage, management, and discovery. Take a look at the components on the next page.



# DIGITAL DATA SOLUTION SET

Ingests, stores, organizes, and makes data discoverable and accessible



**Data as a Product (DaaP) to Integrate Diverse Sources:**

Automated DataOps onboards new feeds via modular containers and stores them, enforcing data policies and providing granular security.

**Data Domain Name System (D-DNS) to Discover and Access Data Where It Persists:**

Warfighters find data using descriptors such as data source or keywords. Smart analytics note patterns or attributes (location, user's role) to suggest relevant content.

**Data Synchronization for Efficiencies and Fast Sharing:**

A flexible data architecture provides rapid data ingestion, synchronizing while simplifying sharing across nodes. Training AI, for example, becomes simpler and faster.

# OPEN THE DOOR TO INNOVATION

Free yourself from the tyranny of disorganized data and focus on your mission. Our integrated solutions provide organizations the breakthrough they need. Imagine effortless access to data that's been turned into insights before you see it. This paradigm of data gives you time—to close the kill chain faster, fly the plane more and worry about maintaining it less, see patterns, and counter threats to deter conflict before it starts.

## MASTER TIME WITH DATA

Building on this flexible foundation, DOD can balance attributes for the joint warfighting force of tomorrow.

- **Distributed management and control:**  
A decentralized mesh of data nodes extends via an open data architecture to provide insights to all stakeholders—enterprise to edge.
- **Security and availability:**  
Zero trust security ensures granular protection, while data-centric technologies enable coalitions to be assembled and information discovered and shared on the fly.
- **Today's needs and tomorrow's challenges:**  
Open frameworks facilitate plug-and-play integration of new tech, with continuous development as missions evolve.

And all innovation will support secure connectivity between allies, partners, and weapon systems—with a seamless user experience and AI-driven analytics enabling fast action.



# SEIZE THE VICTORY

Say hello to an ecosystem that's more "smartphone" than "big acquisition program." You'll go forward faster with these advantages:

Instead of being  
overwhelmed by data,  
OVERCOME CHALLENGES  
WITH DATA.



## Decrease time from data to decision.

Reduce data friction by making data accessible and readily discoverable with internet-like efficiency. Process raw data at the point of collection to create instant context and move it intentionally—whether for automated recommendations to decision makers or AI pipelines to get the jump on the next move. All the while, warfighters across DOD will get connections to the consistent, authoritative data and information they need to know first and act fast.



## Gain control of your data.

When you control your data, specialists gain more control over their time. Now you can onboard those siloed data sets and fuse them with sensor data straight from the feed, automating processes from data tagging to compliance—all while giving operators and analysts relevant updates on dashboards and mobile devices. Instead of being overwhelmed by data, overcome challenges *with* data.



## Gain agility through modularity.

Responding to asymmetric threats such as gray zone attacks in the Indo-Pacific requires new tactics, empowered by ongoing innovation across missions. Providing Data-as-a-Product speeds development and provides a seamless user experience—while our open data frameworks enable integration from any innovator.



## Ensure distributed management and control.

Now you can power independent, yet coordinated, operations. Realize the benefits of Joint All-Domain Command and Control (JADC2) by creating a decentralized mesh of data nodes, from cloud to edge, that are extensible via a flexible data architecture—syncing information from disparate sources when you need it. DOD domains, allies, and partners will be able to swiftly initiate real-time collaboration for any mission around the world, no matter the conditions or supporting infrastructure.



## Speed cyber resilience and data protection.

Distributed data processing and redundant communication paths ensure rerouting in case of system attack. Rather than enduring the limitations of rigid, perimeter-based barriers, employ zero trust security to protect data at the granular level, delivering information to the right stakeholders—and denying access to intruders.



# MOVE WITH VELOCITY

Say goodbye to proprietary systems and long development cycles. Here are examples of solutions we've created to accelerate tomorrow:

## ACCELERATOR



### U-2 Dragon Lady, First AI Co-Pilot.

We helped the U.S. Air Force move AI from the lab to the skies in less than 40 days—modifying and training an open-source reinforcement learning algorithm, developing a web-based user interface, and arranging for program office approvals so the pilot could use the algorithm for a simulated mission. Data was processed at the point of data collection.

## ACCELERATOR



### Catapult, DTRA's Data Lake.

Analysts at the Defense Threat Reduction Agency (DTRA) needed better access to critical data. Our experts designed and deployed Catapult, DTRA's private cloud-based big data architecture. We disrupted data ingestion by focusing on data types versus data sources—unlocking hundreds of data sources and opening the way for machine learning to give analysts faster insights.

## ACCELERATOR



### Advana, DOD's Analytics Platform.

Our team worked with DOD to design and develop Advana, a unified analytics platform integrating hundreds of systems to make data discoverable, understandable, and usable for advanced analytics. Today we provide full lifecycle IT support, data engineering, and analytics to help staff across DOD make data-driven decisions.

## ACCELERATOR



### Data Mesh Solutions.

Our innovative approach allows for a decentralized approach to data, modeling the Internet. We enable frictionless access to data, allowing users to discover and access data where it resides—freeing up bandwidth, increasing resilience and security, and moving data intentionally rather than copying the same data over and over.

## ACCELERATOR



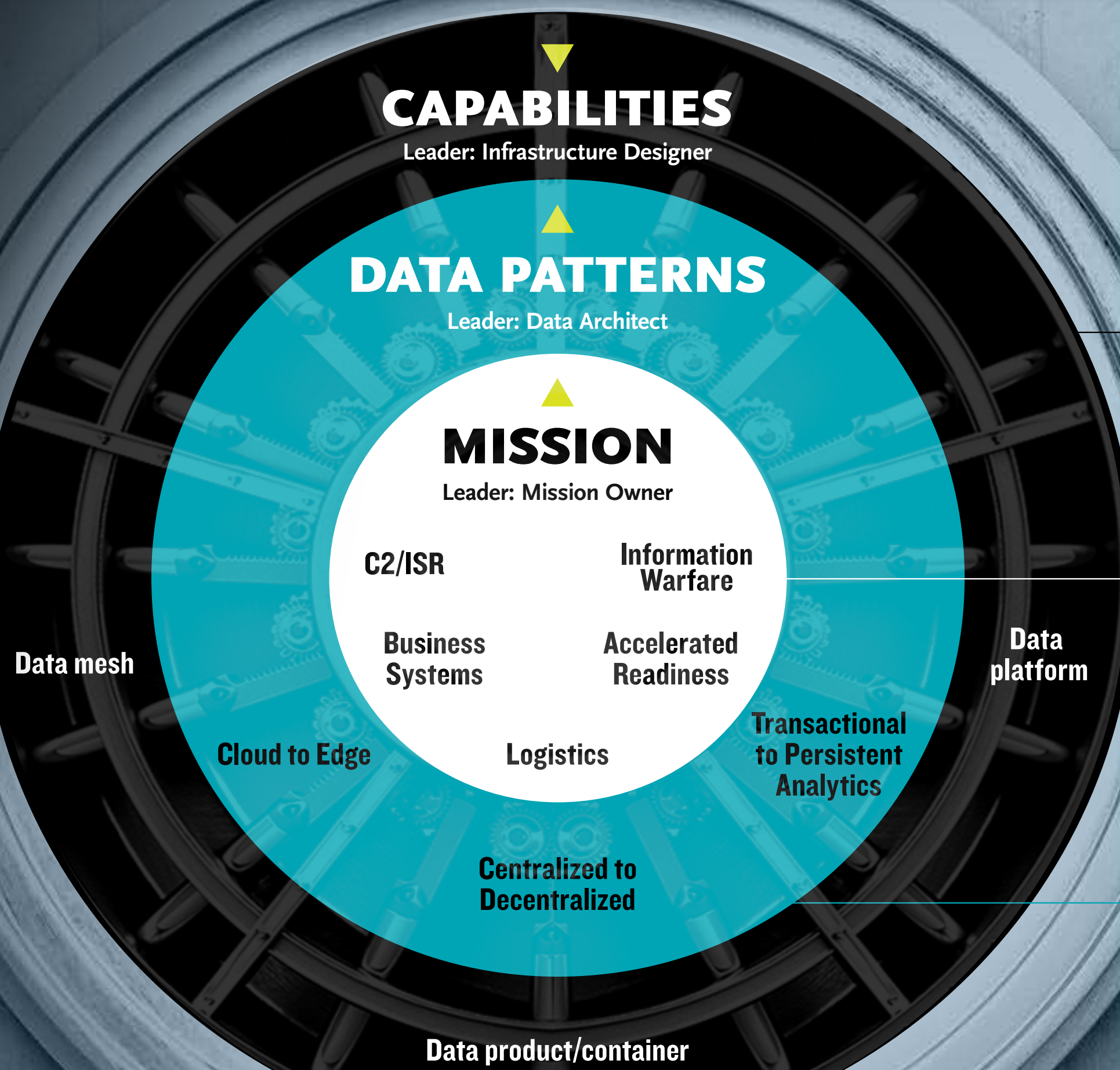
### Secure Data Sharing Solution.

Our cybersecurity and digital engineering experts partnered with other leaders in technologies like zero trust to develop a solution which encrypts data at the granular level so warfighters can use any available network. U.S. forces and coalition partners can share information and adjust access privileges at the speed of battle.

# UNLOCK THE POWER OF DATA

It takes the right combination of mission understanding, data architecture, and technical capabilities to advance the information-centric future of war.

Commanders and warfighters will access the insights they need to make fast, reliable, informed decisions, while data flows into analytics platforms to inform continual upgrades. Systems become increasingly smart and resilient, running scenarios at machine speed to give the U.S. and its allies decision advantage—through data dominance.



- Latency
- Ease of data discovery
- Need to rapidly add/remove data mesh nodes
- Need to rapidly add/remove data feeds
- Cross-service, domain, organization
- User volume/diversity

- Mission requirements
- Time scale/sensitivity
- Data volume
- Number/type of data mesh nodes
- Resilience requirements

- Current data replication
- Data volume/diversity
- Analytic needs/AI-ready
- Network capacity/availability

# WELCOME TO THE COGNITIVE AGE

Now you have the power of integrated capabilities. Comply with policies from disparate services, partners, and domains. Overcome constraints—from incompatible data standards to low-bandwidth, contested environments. Deliver integrated insights and effects with speed, security, and interoperability.

## DOMINATE TIME

### C2



#### Enterprise Command

- Fuse & analyze data
- Diverse data sources

#### Coordinate with Allies

- Share tiered intel securely

#### Fast Analysis & Decisions

### LOGISTICS



#### Manage Units & Materiel

- Medical, provisioning status

#### Supply Chain Visibility

- Contingency plans

#### Agile Redirection

- Outsmart the adversary



### FORWARD BASE



#### In-Theater Command

- Real-time direction
- Degraded/denied comms

#### Synchronize Joint Ops

- Coordinate tactical clouds

#### On-the-Fly Analysis

### EDGE



#### Combat Operations

- Tactical/unit level
- Combat readiness

#### Know First, Act Fast

- Real-time sensor data

#### Power at the Edge

# BE FIRST TO THE FUTURE

## WE PROVIDE MODULAR, OPEN, SECURE SOLUTIONS

We're digital from the ground up. Committed to condensing development from months and weeks to hours and minutes. And tech-agnostic—building first-ever capabilities using cost-effective commercial technologies and open APIs.

Imagine the best tech built with industry-leading cybersecurity embedded into every component, automatically updated with the latest defenses.

## WE HAVE VISIONARY PARTNERS

Our innovation network gives you the expertise of leaders like Amazon Web Services, Google, and Microsoft—and forward-thinking startups.

- We invest in companies that are inventing new technologies and efficiencies, to bring you innovation faster.
- Our tech scouts spot inventions that will advance your mission.
- We mentor startups to help them navigate government regulations and requirements.

## WE ACCELERATE DELIVERY

Working with us connects you with experts across services and disciplines.

- Our no-nonsense approach gets you on the fast track.
- We turn to COTS and GOTS tech first.
- Tech partnerships allow us to find the latest innovations.
- If it doesn't exist, we build it in our labs.
- We're always creating new tools—and you get instant access.

## EXPLORE MORE IDEAS HERE

▶ Disruptive Thinking About Data

▶ Achieving Decision Advantage by 2025

▶ Digital Battlespace Solutions

▶ JADC2: Information Warfare in Action

### READY TO MOVE FAST?

The future is simpler than you think. Contact our Global Defense team to learn more.

#### **Ki Lee**

*Technology Officer*  
Lee\_Ki@bah.com

#### **Scott Jachimski**

*Senior Vice President*  
Jachimski\_Scott@bah.com

#### **Eric Yuan**

*Vice President*  
Yuan\_Eric@bah.com

### About Booz Allen

Booz Allen is the premier digital integrator for the Department of Defense, blending decades of mission experience with state-of-the-art AI/ML, next-generation data solutions, networking, cyber, and advanced software development to help the department achieve decision advantage. We bring our defense clients the best emerging technology to help them quickly and easily modernize, achieve interoperability, and win. We design open architectures to avoid vendor lock, lower lifecycle cost, and maintain a technological edge. Our technologists work hand-in-hand with our domain experts to build solutions that deliver the warfighter mission-critical information in today's digital battlespace. Discover how we accelerate innovation to help defend the nation.

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