

Mission-Critical Analytics

How to discover and deploy actionable insights at the U.S. Department of Defense



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Data is the Greatest Defense

In the high-stakes world of the military, even the smallest mistakes can be detrimental to a mission. Control the data, and you control the outcome.

When you enlist analytic strategies to ensure best-in-class organization, education, and technology to build a strong data-driven culture across the Defense community, you want to make sure you're operating at peak capability.

That isn't the case when you're using antiquated software to compile your data. Instead, you face constant challenges around data acquisition, use, and interpretations across a diverse and often highly dynamic mission space—challenges that can be easily eliminated with the right technology.

Make Data Your Secret Weapon

In Defense, there's no shortage of data. It's what you do with it that makes all the difference. There's an increasing demand to apply advanced analytics to all critical outcomes in a mission: from personnel readiness to supply chain logistics and predictive maintenance.

These demands fuel the urgent need to make analytical skills stronger across the Department of Defense. Analysts need to be able to quickly provide accurate, intelligent insight against complex data sources, technologies, and mission environments.

That's when it's time to enlist Alteryx to your mission. Make unbeatable data-driven, code-free, analytical decisions. Go ahead and blow that victory horn. This is a win for all.

“ War is ninety percent **information.**”

Napoleon Bonaparte,
French Military and Political Leader

With the right tools, overworked Defense analysts can quickly become empowered Citizen Data Scientists—experts who perform sophisticated analytical tasks without relying on data scientists or IT.

MISSION-CRITICAL ANALYTICS

Improve Situational Awareness. Visualize Victory.

As the Department of Defense evolves, so do the varying roles of the modern analyst:



TRANSACTIONAL + DESCRIPTIVE:

Produce typical Business Intelligence reports like those needed to assess costs and service from trusted providers in the Defense procurement supply chain



ANALYTICS + DIAGNOSTICS:

Identifying underlying causes of personnel utilization and talent retention



PREDICTIVE:

Forecast and generate event probabilities for mission readiness and resource allocation



PLANNING + OPTIMIZING:

Use prescriptive analytics to query and model big data sources to coordinate efficient logistics during operations

Yet many Defense analysts still waste their days on menial data tasks like writing queries, requesting data from different sources, and managing the cognitive load associated with different sources and multiple tools. Only when they are done spending hours preparing can they turn to their “real job”—putting that data to work and creating valuable insights.

So, what's the solution?

A modern analytics platform can enable the Department to meet these challenges and arm itself with the capability to drive transparent, repeatable, and informed decisions across all divisions and data sources.

A Powerful Defense by Design

You have the power to transform the Department of Defense with powerful analytics.

Solve complex business problems like:

Mission Readiness: Optimize capabilities such as force utilization, aircraft sortie planning, and personnel training

Supply Chain Optimization: Assess the cost of service and quality in the Defense supply chain to prioritize relationship renewals and optimize contract negotiations

Logistics Efficiency: Leverage big data to plan resource allocations and coordinate efficient logistics during operations

Baseline Operations: Detect and score anomalies against baseline operations to identify risks and potential threats

Workforce Requirements: Forecast future workforce requirements by analyzing utilization patterns across defense facilities by time of year

Analytic Tradecraft Accuracy: Evaluate accuracy through transparency of approach, explanatory statistics, and in-line visualytics for clarity

“Accept the **challenges** so that you can feel the exhilaration of victory.”

George S. Patton



Discover and Collaborate: Deploying the Right Assets and Intel

As history has proven, nothing is more powerful than insider knowledge or local intelligence to resolve mission outcomes. For the Defense analyst, this same rule applies to something as simple as knowing how to find—and get access to—the right data to resolve your mission to uncover insights. How good is your insider data access?

Slow and steady doesn't win every race

Analysts struggle to quickly find the right data because they constantly have to wade through a swamp of assets like reports, visualizations or dashboards, and macros scattered around all over the place.

Armed with the right data. At the right time.

Across the Defense world, the priority to treat and use data as a strategic asset is front-and-center of each force's long-term data analytics strategy. This strategy involves cleaning up that data swamp, registering authoritative data sources in a central repository, or "data catalog," and then allowing controlled discovery and access to those sources, enabling analysts to work more effectively with the right data at the right time.

Stop Chasing After Data

When you're feeling the need for speed, Alteryx Connect will accelerate your data-gathering process.

Alteryx connect helps defense analysts:

- Search and find the right information at the right time
- Combine data cataloging and powerful metadata with human insight
- Reveal information sources, who uses it, and how it's used

Collaboration is key

Alteryx Connect features a collaborative environment that leverages social interactions and organizational knowledge—all in a governed environment to ensure technology compliance and oversight. Analysts from around the Defense community can share data, workflows, analytic apps, macros, visualizations, dashboards, and more.

“Analysts spend **37% of their time searching** for the right data or asset, slowing down the entire process.”

Source: "The State of Data Discovery and Cataloging," IDC Research

Read how the U.S. Census Bureau has automated analytics, streamlined processes and leveraged spatial intelligence to empower the creation of insights.

“
Instead of
four or five
different ways
to integrate our
data, we do it all
with one unified
platform.”

Stephanie Studds, Chief of the
Economic Indicator Division,
U.S. Census

[Read the Story](#)

MISSION-CRITICAL ANALYTICS

Prepare, Analyze, and Model Mission Data

The Observe-Orient-Decide-Act (OODA) loop has been applied to both combat operations and operational analytics. As data volumes and record systems expand exponentially, defense organizations must work with multiple data sources, each in different formats and structures, in increasing volumes and structure variety.

An enterprise data analytics strategy empowers the department of defense to:

- Quickly obtain and analyze data for fast experimentation and iteration to improve operations and readiness
- Create a federated analytics/data science capability supported by a scalable governed analytics platform for the entire journey
- Deploy advanced analytics operationally into mission
- Develop analytic leaders capable of turning data analytics into strategic decisions
- Plan for the future and the impact automation has on the workforce

Collecting and analyzing data shouldn't be a battle

Spreadsheets are powerful tools for calculating and manipulating numeric data, and over time you've likely built up the expertise to use them for complex analytical tasks. But spreadsheets weren't really designed for that—you've just pushed them past the limit because you had to.

Ditch those spreadsheets and manual processes

Gain access to logistical, transactional, and operational data, then blend it with third party, open, or mission-oriented data to make faster and better data-driven decisions.

Do More With Self-Service Analytics

No more painful hide-and-peek with your data. Forget about spending most of your day prepping and blending. Stop cobbling together tools and legacy systems to build and publish analytic models. Alteryx Designer empowers analysts to prepare and blend data from all relevant data sources, then analyze and deliver all in the same intuitive user interface.

Code-free or code-friendly—your choice

An easy-to-use drag-and-drop workflow interface lets you use built-in tools to quickly cleanse, prep, and blend data without having to write code. If you do work in R, SQL, or Python (or have that coworker who practically writes models in their sleep), Alteryx is code-friendly as well.

Keep data—and your job—secure

Alteryx In-Database puts repeatable workflows into a variety of secure Big Data environments.

Get outside help

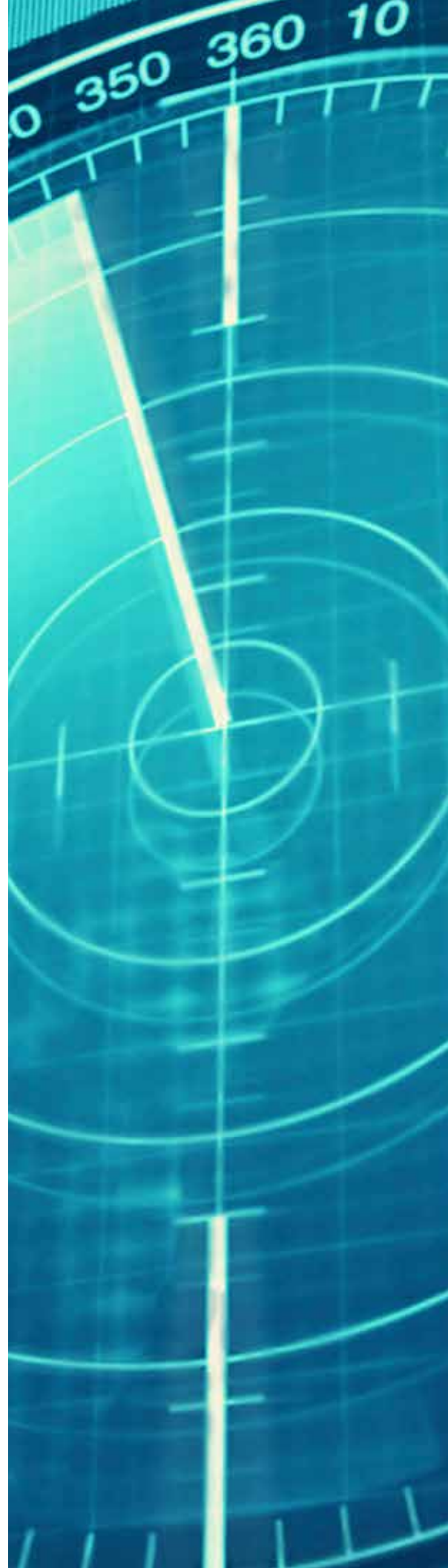
Enrich data with packaged third-party demographic, firmographic, and spatial data.

Flip over to autopilot

Leverage repeatable workflows to automate processes and output results to reports, Excel, and leading visualization platforms.

Visualize a better way

With in-line Visualytics, Alteryx Designer helps you understand data health throughout the analytics process. See how the data changes as you work with it, not at the bitter end when you export your report only to find a glaring mistake.



Share. Scale. Secure.

Delivering and enabling analytic insights at scale, while enforcing data security in a controlled environment, is a vital component of a modern analytics platform. Since Defense information is often sensitive, access to data is dependent on both the person requesting access and the nature of the data being retrieved.

If you're serious about treating data as a strategic asset, compliance and data security must be maintained at every stage of the platform's deployment: from a single desktop user to thousands of analysts across a large geographically dispersed workforce.

Protect and Serve

Scale, automate, and govern across the analytics pipeline with Alteryx Server.

Need to collaborate—at scale—with ease?

Alteryx Server delivers enterprise analytics ready to scale. Teams across the Department can build scalable workflows on Alteryx Server, allowing seamless collaboration and time-saving automations. Offload data-intensive processes to a reliable server architecture that delivers faster time to insight, better governance, and improved analytic capabilities.

Deploy. Manage. Find Your Advantage

What if you could understand the operational readiness of mission-critical equipment before it's shipped into an overseas campaign? Or automatically send alerts about urgent maintenance before a part fails?

Harness Your Predictive Firepower

Advanced analytics can be the early-warning system needed to keep the mission running smoothly and provide cost-effective operations against a division's bottom line objectives. Alteryx Promote makes it easy to deploy, manage, and monitor production based predictive and machine learning models.

Quickly deploy analytic models whenever and wherever you choose, real-time or in batch, on-premises or in the cloud. Embed Alteryx, R, and Python models directly into production applications via API and actively manage and monitor the performance and health of those models.

Your Mission: Actionable Intelligence

Alteryx helps the U.S. Government improve the speed of decision-making by up-leveling data analysts and allowing them to become citizen data scientists. Give existing talent new capabilities to discover, analyze, collaborate, and deploy insights to produce higher-quality outcomes without having to rely on IT or write, maintain, and debug legacy code.

After Hurricanes Irma and Maria, FEMA used predictive analytics combined with location intelligence and strategic field assessments to predict the damage level of a structure and prioritize and accelerate reconstruction efforts.

[Read the Story](#)

About Alteryx

As a global leader in analytic process automation (APA), Alteryx unifies analytics, data science and business process automation in one, end-to-end platform to accelerate digital transformation. Organizations of all sizes, all over the world, rely on the Alteryx Analytic Process Automation Platform to deliver high-impact business outcomes and the rapid upskilling of their modern workforce.



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Discover the power of self-service analytics. Start your free trial.

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