



September 2015

NAVAIR DATA STRATEGY

We work hard to enable Naval forces to defend our nation. We want to be sure our efforts contribute to tangible results, which means shedding or automating tasks that distract us from the most important work, and utilizing available data to make cost-effective decisions.

NAVAIR has a wealth of existing data across technical, business and acquisition lines that if used effectively, can help us respond to questions, identify risks and opportunities, and make timely and informed decisions. However, much of our data resides in independent enclaves, databases, and spreadsheets that are not integrated with other command data sources. This makes interpreting and acting on the data far more difficult and time-intensive than it should be. Manual aggregation and interpretation of data is the norm, often leading to errors, re-work and missed opportunities.

NAVAIR requires integrated technical, business and acquisition data to deliver effective and affordable products and support to the Fleet.

Over the past year, a team of near 50 subject-matter experts from all Competencies and Commands collaborated to create NAVAIR's first, command-level data strategy. The NAVAIR Data Strategy will:

- Increase decision quality and speed;
- Improve ability to forecast (or anticipate) trends; and
- Increase productivity.

In doing so, the data strategy will accelerate the execution of several ongoing efforts, including:

- Developing a "digital thread" infrastructure for advanced manufacturing and product lifecycle management;
- Enhancing live, virtual, constructive (LVC) tools and data;
- Obtaining data rights and intellectual property for cost-effective modernization and sustainment;
- Developing integrated logistics, maintenance and supply data; and
- Developing integrated decision support tools to improve business, technical and acquisition decisions

Our data strategy and plan will enable us to effectively capture, store, analyze and share new and existing information throughout the Command. We will recognize the value of data as an asset; providing program, competency and command personnel the authoritative, ready-to-use information they need, *on demand*.

The following pages provide details on our data strategy, goals and key objectives. A detailed implementation plan is in development and will guide execution of our efforts moving forward.

As W. Edwards Deming famously said: *"In God we trust; all others bring data."*

VADM David Dunaway
Commander, Naval Air Systems Command

OUR VISION: DATA DRIVEN

Each day, we use NAVAIR data and systems to understand, plan, decide and act. Turning data into actionable information isn't always as simple as it should be. Often we find ourselves inputting the same technical, business, and acquisition data into multiple systems to do our jobs. Our goal is to reach a point where we can insert our common access card (CAC) in the computer and be automatically validated for single-entry access (based on role and rules definition) into the numerous systems we encounter every day. The data will then be quickly available in a readily consumable fashion.

NAVAIR's technical, business and acquisition data holds the answers to many of our current questions and future challenges. We must be able to effectively access, understand, analyze and manage both new and existing data; apply our expertise to obtain and convey insights; and use and re-use the data to make decisions.

Central to this vision is the concept that *NAVAIR data is an entity in its own right and will be treated as a corporate asset*. NAVAIR's data strategy will help create an environment where technical, business and acquisition data:

- are valued, managed, secured, re-used and accessible;
- share common definitions;
- accelerate daily activities;
- increase decision confidence through data integrity;
- support predictive analysis;
- increase the speed of making decisions; and
- are managed to reduce lifecycle costs.

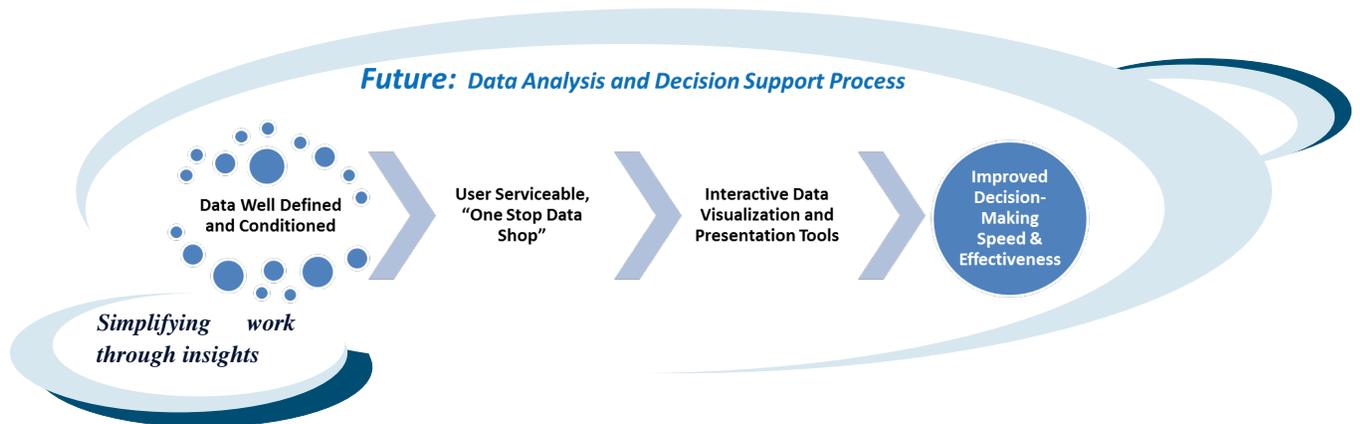
CURRENT STATE OF OUR DATA

Currently, we use multiple systems with independent entry points to perform our tasking. These systems and security approaches are not necessarily integrated, nor are they representative of the way we work, or want to work. For example, when a data request comes in, it's common for us to spend hours manually pulling data from multiple sources, aggregating it, and analyzing how best to depict it. It's often necessary to coordinate with other groups to obtain needed data and properly understand it. Items are routinely overlooked because of the manual search process.

Typically, additional steps are needed to validate data and obtain agreement that the question has been satisfactorily addressed before sending the response. This scenario is repeated on a daily basis across NAVAIR. Simply put, our data must be managed more effectively so our workforce can focus on the important work that contributes to mission success and warfighting outcomes.

FUTURE OF OUR DATA

The needs of our workforce are the basis for establishing the vision and desired end state as illustrated below. A clear vision of NAVAIR data as an asset, and what it means to our teammates' daily activities, is the basis for the goals and objectives for strategy implementation. NAVAIR data provides hindsight, insight and foresight to drive our decisions. Defined, accessible, authoritative and usable data is key to implementation.



GOAL #1 – INCREASE DATA INTEGRATION

NAVAIR has set ambitious goals for increased data transparency, allowing our teammates to achieve untapped insights contained within new and existing data. We will achieve these goals by making data accessible, authoritative and understandable by putting decision-quality information in your hands, on demand, in whatever form needed, to effectively tackle the day's tasking. NAVAIR's data infrastructure will secure collaboration networks, data analytics, visualization, decision support mechanisms, and prediction and "what-if" capabilities to support our changing data needs – all built on data quality and confidence.

KEY OBJECTIVES:

- Invest in digital collaboration methods and software enabling people to connect and collaborate in a secure environment;
- Provide a managed digital thread of data across the product lifecycle from design through disposal;
- Facilitate access, creation and visualization of decision-quality information on demand; and
- Develop prediction and "what-if" capabilities to support our changing data needs.

GOAL #2 – ESTABLISH ENTERPRISE DATA STANDARDS

Key to valuing data is establishing definitions so terms and fields have a common meaning, and security handling is clear. Common definitions mean data can be accessed and compiled for use regardless of what system or application holds the data. The establishment of common definitions will be handled via the *NAVAIR Metadata Standard*. The metadata standard will be used for systems and applications within NAVAIR. It will be coordinated with our contractor partners as part of an ongoing emphasis on obtaining appropriate data rights and managing intellectual property to support NAVAIR product needs. We will automate data deliverable validation and ensure technical data (TD) is correctly marked. Recognizing and valuing data demands effective and thoughtful data management. We will develop a strong, flexible and long-term approach to managing data as a corporate asset. This way, data can be readily located, understood and used with the utmost confidence.

KEY OBJECTIVES:

- Develop a strong, flexible, long-term approach to managing the data lifecycle, enabling users to extend functionality without modifying code;
- Achieve interoperability through data standards;
- Maintain common data definitions, metadata, syntax and semantics; and
- Automate the checking of data rights markings and format when delivered.

GOAL #3 – IMPROVE DATA ACCESSIBILITY

Several aspects of data accessibility are important. The first is role-based access. We will move away from seeking a data access to systems or applications via multiple authorizations, separate user accounts and validation methods. We will enable data independence from the systems and application layers housing the data, then expand cross-site collaboration methods to include mobile devices. Another aspect involves emphasizing reuse and automation within existing systems, coordinating the interfaces between systems so data can enter and exit as needed. The intent is to apply common definitions to enable users to pull data (based on their role), then analyze, depict, manage and make decisions from the data they've collected – either collaboratively on systems or individually on mobile devices.

The goal is to reduce effort spent developing custom software and reports and make certain value added data products are standardized and available. We want to operate from a place where requirements are user-driven and data is accessible based on role, security demands and historical information. To achieve this, we will establish interface coordination methods between systems and applications.

KEY OBJECTIVES:

- Develop role-based permissions to access authoritative data sources and promote self-service data analysis;
- Establish enterprise-wide information exchange standards and methods; and
- Use standardized business intelligence and technical data approaches.

GOAL #4 – STRENGTHEN DATA ANALYTICAL EXPERTISE

Achieving our strategy of treating “data as an asset” includes growing a data-savvy workforce and strengthening our data analytics expertise. We will form collaborative networks and partnerships to build NAVAIR’s data science proficiency, even as we expand our infrastructure to support data science needs. We will continually strive to educate the workforce on new techniques and technologies. In addition, we will bring in personnel with degrees and experience in statistics, decision theory and computer science to become the next generation of subject-matter experts (SMEs). Much as ‘big data’ and data analytics have propelled the success of businesses such as Amazon, Google, FEDEX, UPS, and others, NAVAIR will lead the DoN to a more [effective and affordable future](#).

KEY OBJECTIVES:

- Develop formal and informal professional social networks of data SMEs, data scientists, analysts, decision makers, mentors and mentees;
- Implement/exploit ready, relevant, learning programs;
- Leverage the cross-functional data expertise of our SMEs; and
- Recruit and retain personnel with degrees and experience in statistics, decision theory, management information systems, and computer science.