Forewarned is forearmed: five steps on the journey to military total asset readiness

IFS

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The future of military equipment support

In recent years, military organizations and defense contractors have made the move to a performance-based logistics (PBL) model to enhance military asset procurement, sustainment and support. But when it comes to force-wide asset mobilization, there is room for improvement. This is where commanders require a real-time view of their available assets.

IFS defines the next evolution in PBL as Total Asset Readiness® the purposeful application of specific technologies emerging from Industry 4.0 and the IoT to bring real-time visibility into the status of a globally distributed fleet of military equipment. This means that from line technicians up to the command authorities themselves, Total Asset Readiness allows real-time data to be presented in the most user-friendly way at all levels of the organization.

With Total Asset Readiness, military organizations can work with a clear and consistent framework that streamlines information into one infrastructure platform with a single view, while closing the gaps in traditional PBL.

1 in 5 military organizations polled believe their current software infrastructure is incapable of aggregating, consolidating and storing data in a disconnected setting, while providing physical and software-based hardening against attack
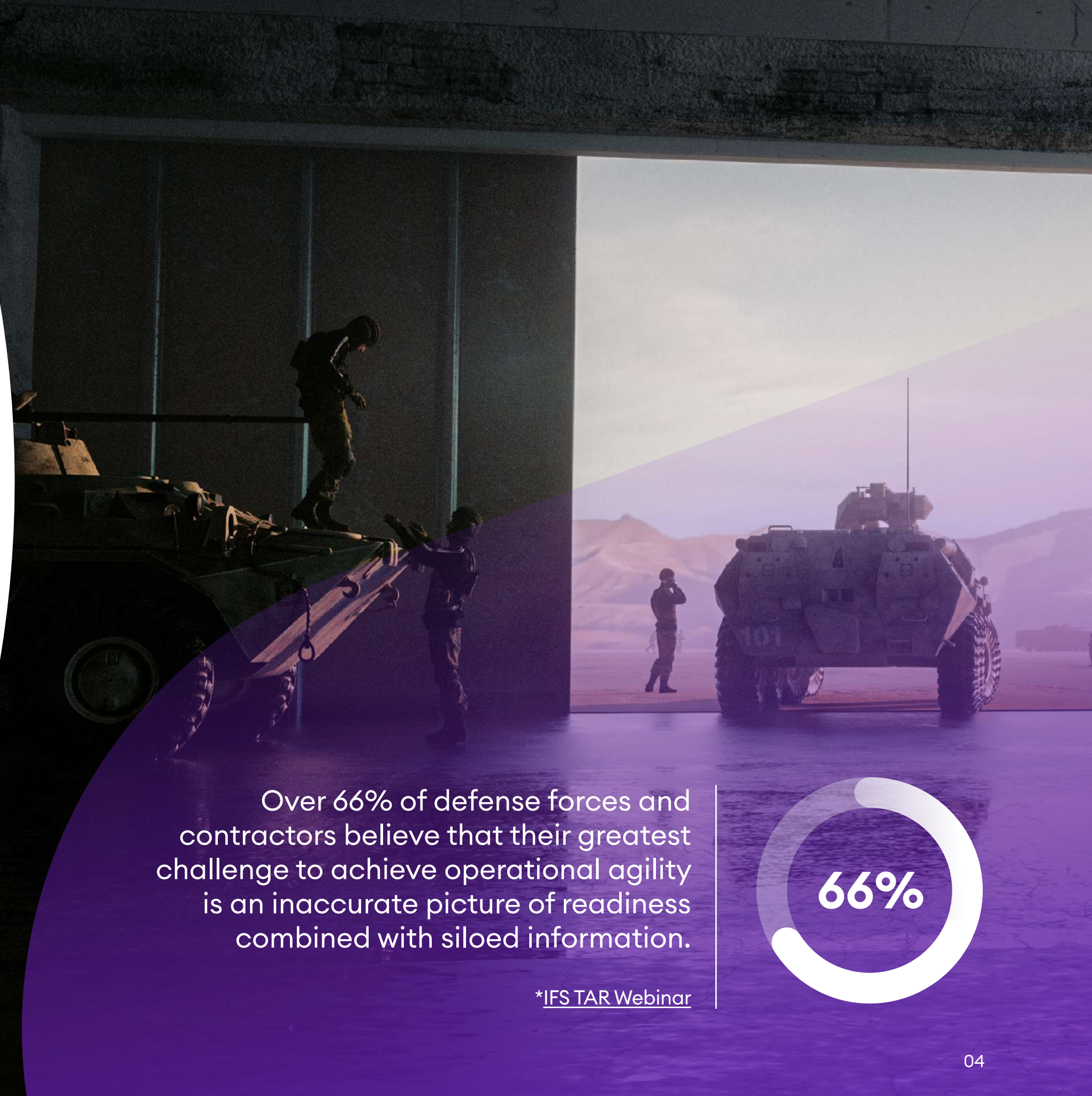
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The challenge

Getting a picture of how prepared a military force is for any given operation is not an easy undertaking. On many occasions, commanders are having to piece together critical information on thousands of assets and personnel from an IT infrastructure currently held in separate stove piped databases.

This operational shortcoming results in wasted expenditure and personnel time. Commanders must know exactly what assets are available when planning critical missions–and an inaccurate or partially complete picture is simply not good enough.

Failure to achieve the required level of asset readiness compromises mission success. For this very reason, readiness issues are a constant concern for military forces.

Read on to discover the five key requirements for defense forces and defense contractors to achieve Total Asset Readiness.

Over 66% of defense forces and contractors believe that their greatest challenge to achieve operational agility is an inaccurate picture of readiness combined with siloed information.

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66%

#1

IoT sensors and Artificial Intelligence and Machine-learning mean better data feedback to unlock the power of predictive maintenance–at base or in the field

With real-world data availability increasing enabled by Industry 4.0 technology, Deloitte is predicting that asset readiness will become more attainable.

The USAF is already using predictive analytics to improve the readiness of its fleet of 5,400 aircraft. But if, for example, we add to this IoT-enabled sensors on individual components these can transmit data on the exact status of a given asset, regardless of its location, to an artificial intelligence/machine learning functionality in enterprise software. The data is then analysed and can accurately predict when connected assets need to be maintained.

But of course, these data-producing assets are often deployed in hostile settings, where their covertness is a top priority and connection can be unreliable. This means that software infrastructure needs to be configured to support these sorts of disconnected operations. This requires aggregating, consolidating and storing data and technical records to be sent once connectivity is re-established. This way, the picture is complete, and you have all the data you need.

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Disconnected Operations – Gain operational insights at all times

Keeping eyes on the readiness of deployed assets has become even more of a challenge as military organizations continue to shift towards a more distributed operational model across land, air and sea.

To achieve Total Asset Readiness® Military Forces require visibility into the operational availability and materiel readiness status of their assets at all times and that includes periods of planned or unplanned disconnected operations.

Learn more about IFS Disconnected Operations

#2

APIs essential to support the order of scale required by the military

The implementation of an Integrated Data Environment across an entire fighting force is a serious business, requiring not only a bigger scale than across the largest of companies but also more time to go through the various stages–91 months in a military setting compared to the average six to nine for normal businesses! During military operations, upwards of 100,000 users, requiring different roles and permission sets, can be using some element of a software platform at any one time.

It is therefore key to make sure you have an IT system that is up to the task. This is where an Integrated Data Environment can make strategic use of APIs. These perform a number of important tasks. This is why IFS software makes strategic use of APIs to help reduce implementation times and link previously unconnected IT systems.

An Integrated Data Environment, underpinned by IFS software, ensures all asset data is visible and delivered to the right person at the right time.

#3

Use containerization to package apps – downloadable anywhere on any device

There is so much happening behind the scenes in such an IT consolidation project. With apps lying at the heart of Total Asset Readiness, there are some layers of technology in the middle of the tech stack which are invisible to the user at the UX level, but essential to drive how software is delivered, particularly in application form.

This is where containerization comes in. Essentially containerization involves bundling an application together with all of its related configuration files, libraries and dependencies required for it to run in an efficient and bug-free way across different computing environments.

IFS software creates a 'docker image' to pack up the application and the environment required for it to run successfully. These docker images effectively allow an app to be scaled, reproduced and used on desktops or any mobile devices in a secure manner.

#4

New model but same security focus required – information assurance should come as a pre-requisite

Containerization is not only important from a military-grade app delivery perspective, but also from a security standpoint. Clearly, Total Asset Readiness must incorporate ever-evolving regulatory requirements while staying on the leading edge of new and emerging security threats, known and unknown.

Military software solutions must be deployed in a secure environment and meet strict regulatory requirements such as International Traffic in Arms Regulations (ITAR), cloud security mandates and the U.S. DoD Cybersecurity Maturity Model Certification (CMMC) Version 1.0.

IFS has been working with and securing highly sensitive information for military organizations across the world. Given the sensitivity of these programs, its customers and implementation teams rely on the fact that IFS has a robust approach to information assurance and the latest security mandates in the defense sector.

Watch this webinar to learn how defense forces and contractors are redefining readiness and preparedness

#5

Information in the right place at the right time – dynamic dashboards must replace outdated documents and snapshot reporting

In an age where apps are the norm in our personal and working lives and used every day by military personnel, accessibility is important for any universal software system. This is why priority should be placed on user interface (UI) and user experience (UX), to make sure the system, right down to individual screens for specific task requirements, is usable and streamlined with the end-user in mind.

This also means that to satisfy the command center need for clearer visibility over asset availability, it's time to phase out snapshot reporting through excel exports, and transition to highly configurable dynamic dashboards that can provide up-to-date and accurate information for each specific mission.

Personalized information insights can be delivered to commanders from systems that support RESTful APIs that consolidate information from multiple data streams. KPIs can be introduced into reporting and tracked in real time according to the force in question– when it comes to readiness examples, we are talking differing requirements for nuclear forces vs. a non-weapon carrying airlift squadron running C-5 Galaxy aircraft.

Total Asset Readiness: Case in point

U.S. Navy selects Lockheed Martin and IFS to deliver intelligent ship and aircraft maintenance

The U.S. Navy has turned to global security and aerospace company Lockheed Martin and enterprise applications company IFS to deliver an intelligent maintenance solution that will help power its digital transformation of multiple legacy systems into a single, fully modernized and responsive logistics information system. The solution will ensure personnel spend more time focused on the mission and less on aircraft and ship repairs.

The IFS solution comprises capabilities for planning and executing maintenance, repair, and overhaul of more than 3,000 assets including aircraft, ships, and land-based equipment. The Naval Maintenance, Repair, and Overhaul (N-MRO) solution combines artificial intelligence (AI), digital twin capabilities and predictive analytics to anticipate and react to potential equipment failures before they happen, which will contribute to the enhanced support of maintenance, supply logistics, real-time fleet management and other business functions for more than 200,000 sailors.

The digital transformation of the U.S. Navy's maintenance systems will see a consolidation of assets and parts data into a central repository that is "visualized" by the users through an intuitive, mobile-friendly experience. This initiative will lead to increased data accuracy, streamlined workflows and ultimately less asset downtime and fewer unscheduled maintenance events. Enabling Total Asset Readiness® through N-MRO will ensure information is always readily available to help the U.S. Navy achieve its desired materiel readiness and operational availability objectives.

Learn more about how IFS empowers A&D organizations at www.ifs.com/corp/industries/aerospace-and-defense/

> "Our goal is to provide capabilities that create real value across the Navy's complex, multi-site operations and optimize its mission-critical maintenance processes. We want to empower Navy personnel with tools that are easy and effective to use with intuitive interfaces, streamlined workflows and timesaving, intelligent features. IFS distinguished itself by providing all of these capabilities through a single, commercial-off-the-shelf solution."

Reeves Valentine, Lockheed Martin Vice President of Enterprise Sustainment Solutions

Total Asset Readiness:
Addressing the challenge of transparent visibility of military assets

Large scale challenge Military deployments may require up to 100,000 users on a software platform
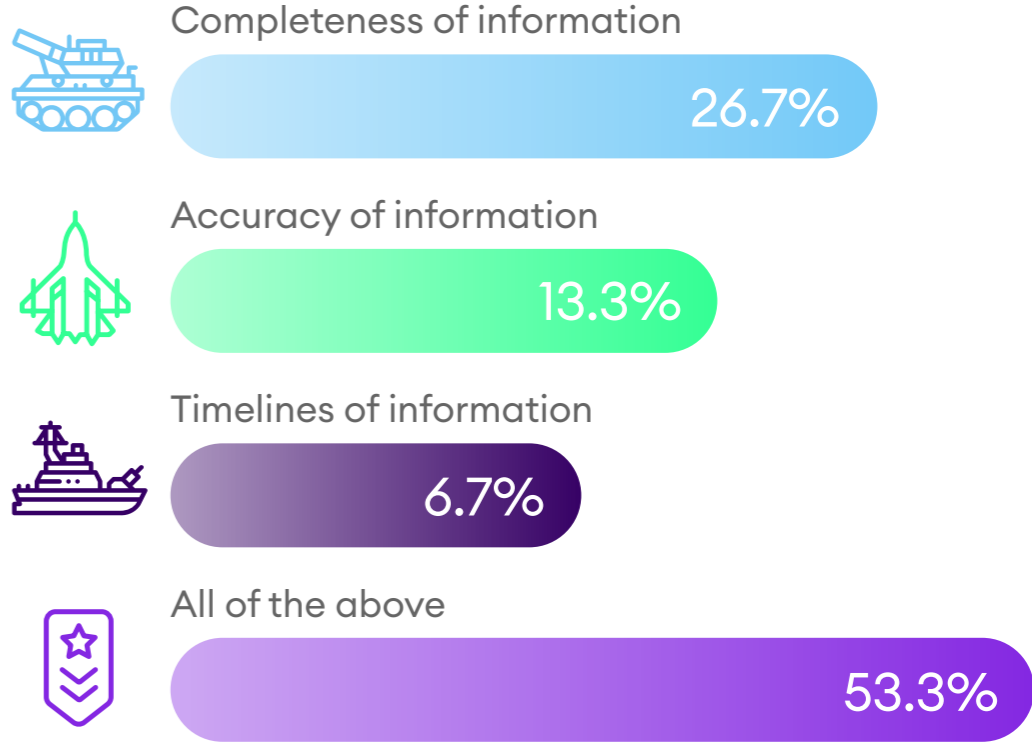
91 months

US Department of Defense

9 months

Private Enterprise
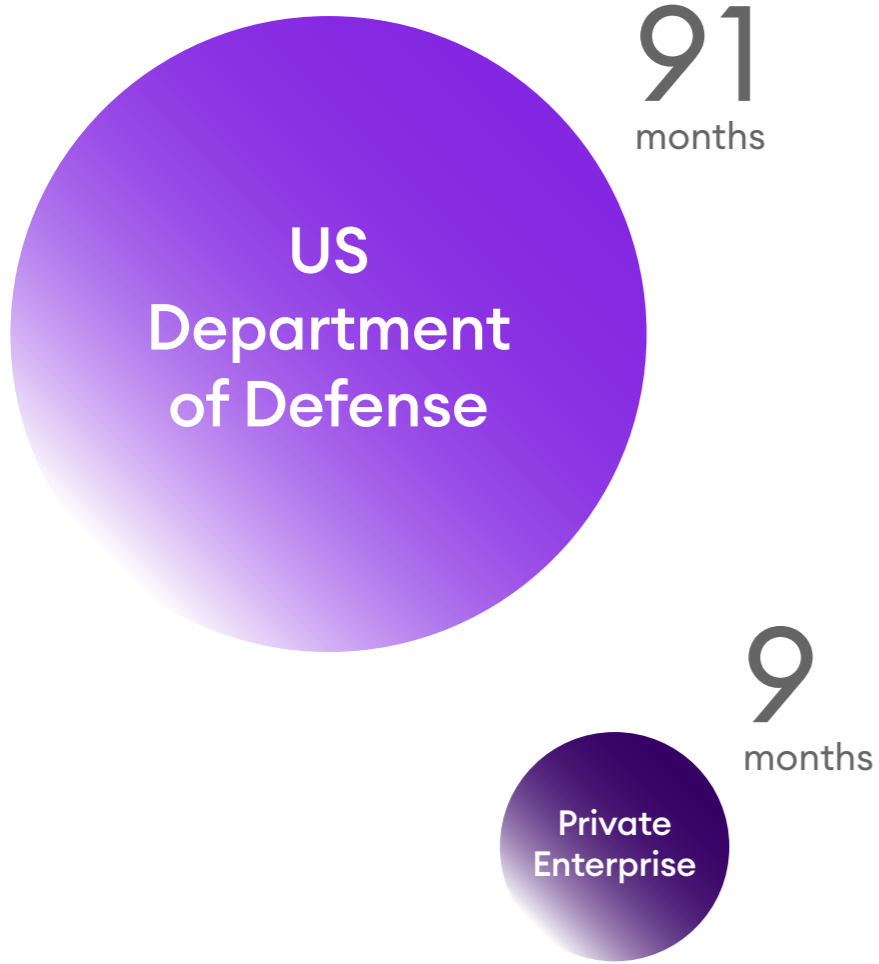
Military complexity
Average time to implement a new IT solution

What hinders your military organization's operational agility?

- 5%
- 7.5%
- 20%
- 27.5%
- 40%
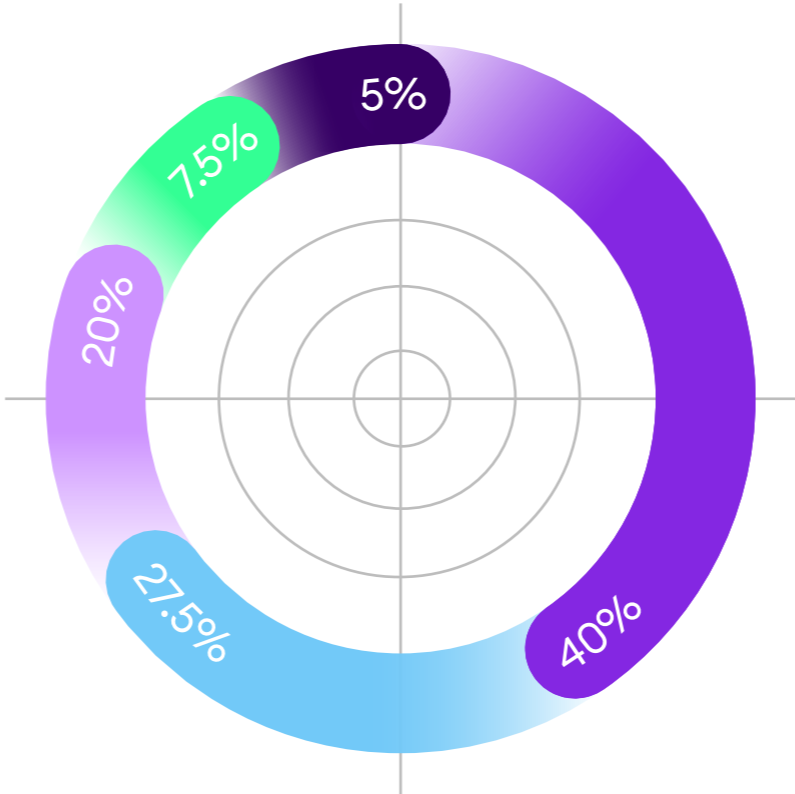
- ● Inaccurate picture of asset readiness
- ● Disparate reporting and siloed information
- ● Operational suitability of assets is below service expectations
- ● Lack of disconnected operation capability
- ● Other

Completeness of information
26.7%

Accuracy of information
13.3%

Timelines of information
6.7%

All of the above
53.3%

Military improvement

What aspects of your organization's total assets visibility could improve the most?

About IFS

IFS develops and delivers cloud enterprise software for companies around the world who manufacture and distribute goods, build and maintain assets, and manage service-focused operations.

Within our single platform, our industry specific products are innately connected to a single data model and use embedded digital innovation so that our customers can be their best when it really matters to their customers—at the Moment of Service.

The industry expertise of our people and of our growing ecosystem, together with a commitment to deliver value at every single step, has made IFS a recognized leader and the most recommended supplier in our sector.

Our team of 4,000 employees every day live our values of agility, trustworthiness and collaboration in how we support our 10,000+ customers. Learn more about how our enterprise software solutions can help your business today at **ifs.com**.

#MomentOfService

ifs.com

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