



Secure ITAR and EAR Product Development in the Cloud

Demonstrating Compliance to Win and Keep More Business



Introduction

The defense and aerospace market beckons to many product companies seeking to diversify, but also demands quality, product development efficiency, technological innovation, and regulatory compliance. Many product design and manufacturing companies in this market provide products subject to export regulations, including International Traffic in Arms Regulations (ITAR) and Export Administration Regulations (EAR), requiring compliance in technical data handling and access.

Arena PLM for AWS GovCloud is the secure product development solution for regulated companies requiring a proven cloud platform designed for their business processes.



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Key Business Questions ITAR and EAR Compel

ITAR and EAR are two regulatory structures that control the export of defense articles, including technology, technical data, dual-use articles, and more. Any business involved in the design, manufacture, or sale of these articles will need to complete ITAR and/or EAR registration and will have technical data and technology that must be secured to comply with these standards. That reality surfaces two key questions that every company operating in this space will need to fully understand and answer to be successful:

- 1 What is needed to ensure ITAR and/or EAR compliance?
- 2 How will ITAR and/or EAR compliance affect the broader business?

Foundationally, product design and manufacturing companies subject to ITAR and EAR need a secure product lifecycle management (PLM) platform that drives innovation and ensures process, policy, and system compliance. Old-school on-premises systems and manual solutions (file folders, spreadsheets, on-premises servers, and outdated legacy systems) that try to address this need create data silos, deter collaboration, and hinder visibility across product life cycles and portfolios.

In the past, some manufacturers have expressed uncertainty as to whether cloud solutions could meet these needs and truly meet regulatory requirements. Now, leading companies find that secure cloud-based PLM does fully support ITAR and EAR compliance and adds a wide array of other tangible benefits for their businesses.



Opportunities and Challenges of Defense Market Entry

Entering defense-related markets can be enticing and beneficial for product companies, especially for those that originated in commercial markets. Realizing an overall lift from defense market entry, however, is largely dependent on how well an organization is able to manage and adhere to the market's particular regulatory requirements and address the ancillary operational challenges that arise.

Defense spending in the United States is expected to grow to \$742 billion by 2023.

CHALLENGES



Divided Attention

Balancing regulated and commercial product development concurrently can divide attention and divert resources.



New Concerns

ITAR and EAR compliance commands new and incremental attention to many product development elements (policies, processes, systems, data classification, and people).



Fluctuating Requirements

Defense customers and prime contractors may demand or modify their own compliance measures at any time as part of flow-down requirements.

OPPORTUNITIES



Reduced Risk

Diversifying beyond traditional commercial offerings can reduce market risk and support growth objectives.



Higher Value Customers

ITAR/EAR-registered companies see potential for larger volume sales to single customers with longer product life and service revenue.



Expanded Market Opportunities

Promoting ITAR/EAR registration and export-controls adherence can make it easier to gain contracts with allied foreign agencies.

While some elements differ when it comes to developing ITAR- and EAR-regulated products as compared to commercial products, one thing is certain for both—developing and delivering better products faster and effectively managing the full product lifecycle is imperative for success.

A Macro View of Product Lifecycle Management

Overall, product development has rapidly shifted to meet changing customer demands, increased competition, and more stringent regulations. Product companies (including those in ITAR/EAR markets) have responded with smarter and more connected products, lean but highly productive distributed teams, and global best-of-breed partners.

The challenge? How to effectively manage these new complexities.

A big part of the answer is to ensure complete connection and full visibility throughout new product development and introduction (NPD) and beyond. That means linking all product development, quality activities, and change processes to the complete product record for one's entire team and supply chain partners in a single, reliable view.

Complying with ITAR and EAR won't get businesses to where they want to go if they don't also optimize their approach to product lifecycle management.

REALIZE THE FULL BENEFITS OF PLM



What ITAR/EAR Means for Secure Product Development

To support ITAR/EAR-compliant product development, manufacturers need to adopt measures that ensure technical data and technology—including identified product information—remain accessible where allowed and needed while protecting against loss or unauthorized access. Individual needs and requirements will vary by organization, but generally span three areas.

Data Location



ITAR- and EAR-regulated data must remain in the specified geographic location: the United States. Public commercial cloud services may not meet these requirements, as data can reside in non-U.S. locations or cross geographic borders during transit. While on-premises systems certainly meet geographic location restrictions, such solutions also may not provide team-empowering, traceable ways to collaborate on product development.

Cybersecurity Protections



Systems handling ITAR data should be designed to adhere to standards and best practices for ongoing management, monitoring, and review of the multiple layers (physical, logical, and application). Other needed protections include levels of encryption for in-transit and at-rest data. Commercial cloud offerings, either public or private, do not necessarily provide these protections. On-premises solutions may or may not, depending upon variables of systems, networks, policy definitions, and IT practices.





Sophisticated Access Management

Backend access to the PLM platform must be controlled and restricted to U.S. persons only. Commercial cloud solutions do not provide these controls; compliance of on-premises solutions depends on the product company's IT resources, physical server location configuration and access, and controlled network security layers.

Manufacturers must also consider data classification and team data access. Not all product data will be subject to ITAR or EAR. Manufacturers need the ability to easily identify the technical data that must be ITAR compliant, and therefore limited in access to particular individuals, while conversely providing for less-limited access to non-ITAR technical data. Additionally, companies need visibility of who has accessed technical data and when they accessed it.

FAST FACTS ON ITAR

The United States Munitions List (USML) defines and details the items and services subject to ITAR across 21 different categories.

In order for data to be subject to ITAR, an IT workload or type of data has to be deemed an export according to the USML.

ITAR and EAR impact not only direct holders of defense-related federal contracts, but also subcontractors and wider supply chain stakeholders.

The Newfound Benefits of Secure Cloud PLM

Managing access to technical data within “four walls” via on-premises server environments of the past was enticing because of technical simplicity and data proximity assurances. What these approaches sacrifice is the essential foundation companies need to move beyond compliance and consistently exceed customer commitments.

ITAR or EAR contracts, while important, may represent only part of a company’s product portfolio. These businesses need more than secure design control and compliance. They need the agility and visibility modern PLM systems provide for cost controls, high quality, and long-term product serviceability for all product offerings (commercial and regulated).

A secure best-in-class cloud-based PLM gives manufacturers the complete package—a competitive advantage for all product lines plus the required platform elements for ITAR/EAR compliance.

SECURE DEVELOPMENT

- Complete digitized product record
- Responsive change management
- Team collaboration

ENSURE COMPLIANCE

- Traceable requirements management through NPDI
- Streamlined training management
- Configured templates for process adherence

EXCEED COMMITMENTS

- Closed-loop quality processes
- Design with purpose (cost, manufacturing, serviceability)
- Product obsolescence management

In 2018, the United States Office of Management and Budget further updated its Cloud First strategy with Cloud Smart additions that encourage migration to cloud architecture.



[Learn more](#)

How Arena Achieves ITAR/EAR Compliance and Business Objectives

As we have noted, ITAR/EAR compliance in the Cloud focuses on ensuring that applicable technical data is not inadvertently distributed to foreign persons or foreign nations. At Arena, security and compliance are shared responsibilities between us, our data center provider (AWS GovCloud), and our customers (both administrators and end users).

For both defense-related and commercial product advancement, Arena PLM provides one place for unifying your entire product record in a secure platform. Users gain complete visibility and traceability, and support ITAR/EAR compliance at every phase, from requirements management to sustaining high-quality products that endure.

Purpose-Built With Proven Architecture

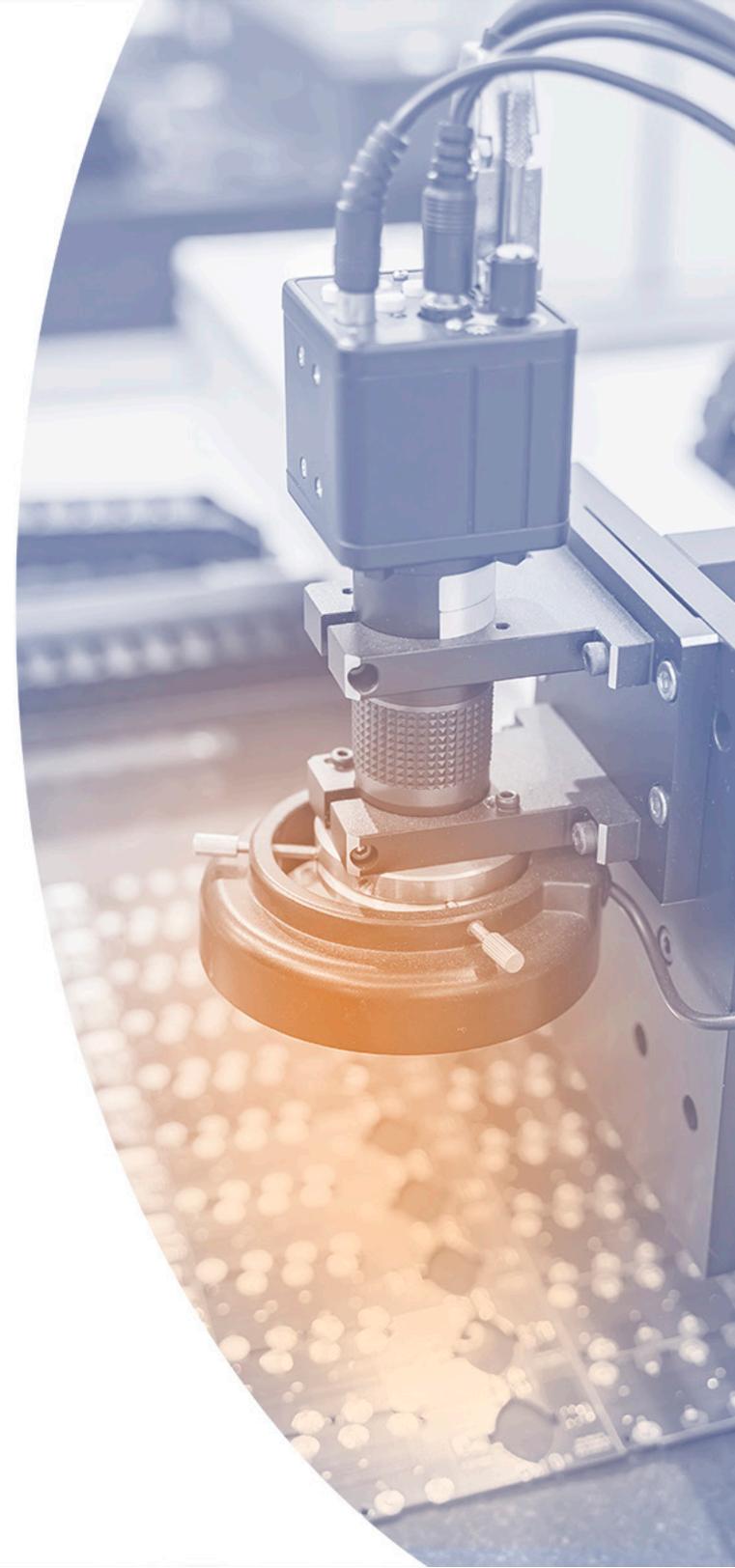


Arena is designed to address complex product realization and supply chain needs for companies of all sizes, from younger fast-growing companies to large global enterprises. Our multi-tenant SaaS cloud-based architecture streamlines regulatory compliance, formalizes design-control processes, and improves both communication and product quality for leading organizations.

Business-Ready by Design



Arena solves the complexities of PLM with a highly intuitive system that's easy to provision, set up, configure, and use—no coding necessary.





Secure AWS GovCloud Foundation

We have teamed up with best-in-class AWS GovCloud to offer Arena for regulated customers. Arena's AWS GovCloud deployment is geographically located within the United States. Continuously audited by accredited third-party assessors, it supports ITAR/EAR compliance with physical and logical administrative access to U.S. citizens only and NIST 800-171 Standardized Reference Architecture.



Process Controls for Regulated Environments

Arena further ensures information security with firm controls on the people, tools, and processes that touch the data and systems. Secure Cloud requires attention to detail, not just in the platform foundation, but in all aspects that impact the system and data. Our approach to security process controls for the regulated environment is consistent with the requirements in NIST SP and includes employees, vulnerability assessments, internal and third-party audits, security and compliance policies and procedures, operational and security monitoring, incident response, and disaster recovery and backup.



The Path to Secure Product Development and Innovation

ITAR compliance no longer means organizations have to adopt manual paper-based processes or settle for limited, often expensive, on-premises PLM tools. In fact, to win defense business and maintain commercial market competitiveness, manufacturers need to embrace the power of latest technologies and tools, including cloud systems.

Defense agencies and leading prime contractors are finding secure cloud systems to provide unparalleled flexibility, reduce overhead, and support full compliance with regulations. Now, with the availability of a purpose-built, secure cloud PLM solution, product companies of all sizes can have connected, smart, flexible product and quality management.



Learn more about how Arena achieves ITAR/EAR compliance and helps organizations build better products faster at

[Arena PLM for AWS GovCloud](#)

Sourcing:

<https://digitalguardian.com/blog/what-itar-compliance>

<https://aws.amazon.com/compliance/itar/>

