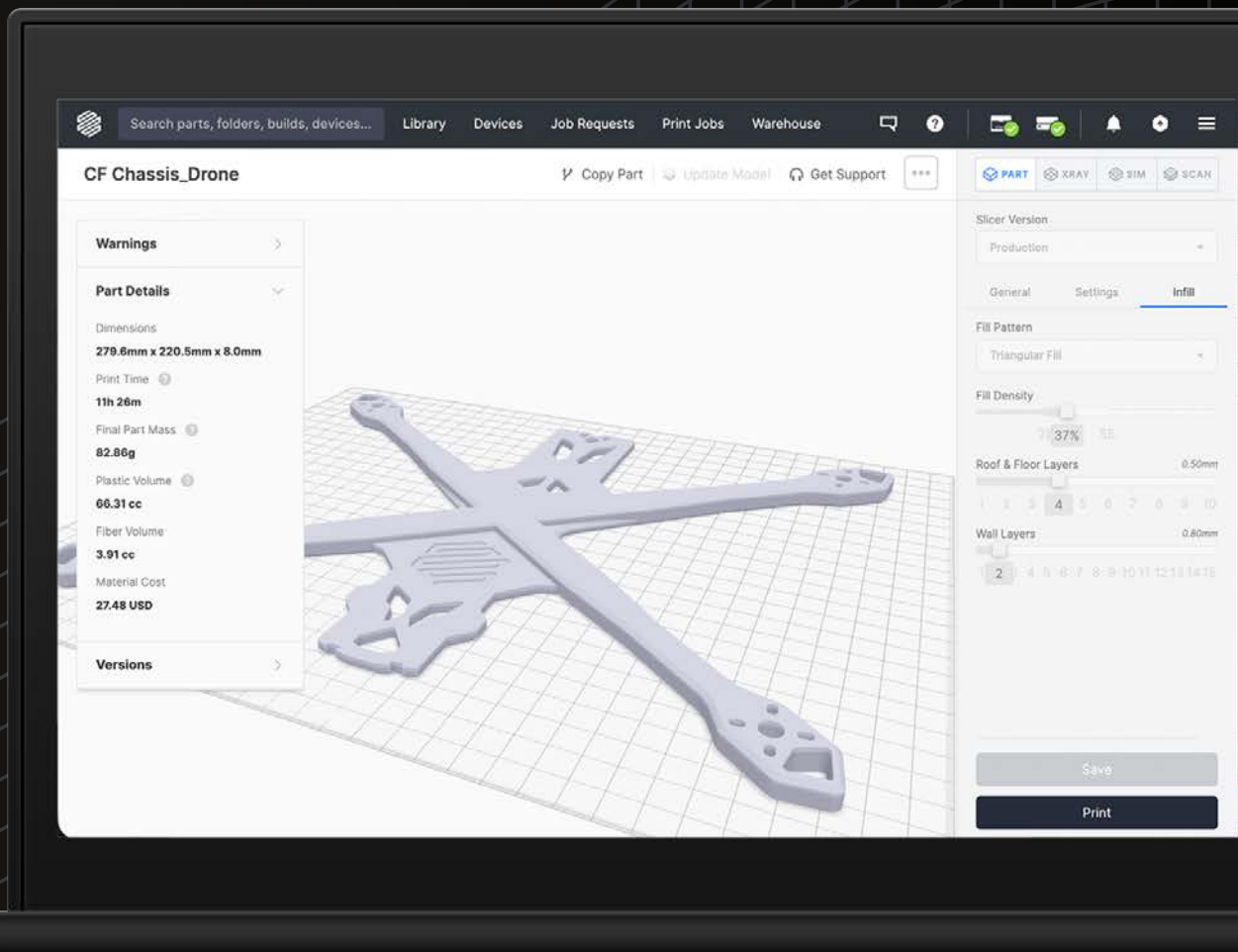


# Eiger:

Your Secure Platform for Digital Manufacturing at Scale



Eiger is the cloud-native platform at the core of the Digital Forge. It empowers enterprise additive manufacturing operations by providing centralized control across expanding printer fleets, distributed users, digital libraries, and complex workflows while delivering reliability, security, and consistent output quality.

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# Transforming Production Management: Your Enterprise Benefits

Eiger eliminates the pain of siloed data, compliance risk, and slow innovation by centralizing all aspects of your Markforged workflow.

Your Manufacturing Challenge	How Eiger Solves it	Your Business Outcome
Disconnected Production Sites	Centralized, cloud-secure fleet management and control across all global sites.	<b>Global Operations from One Platform:</b> Manage all printers and users from one dashboard with unified standards.
Production Part Management	Digital inventory catalogs make validated, production-ready part files available to the right teams.	<b>Digital Parts on Demand:</b> Easy distribution of approved parts across any plant.
IP and Data Security Risks	FIPS 140-2 compliant encryption for data in transit (TLS/HTTPS) and AES-256 encryption for data at rest, Single Sign-On (SSO), and robust Role-Based Access Control (RBAC).	<b>Secure Production Workflow:</b> Your proprietary designs and production data are protected by continuous, enterprise-grade security architecture.
Inconsistent Part Quality or Traceability	Automated, cloud-linked inspection data, version control, and digital audit trails for every part. Batch workflows and presets automate repetitive tasks and standardize print settings across your organization.	<b>High Consistency and Reliability:</b> Ensure process control, reduce human error, and strict regulatory compliance with print records for industries like Aerospace and Defense.
High IT Maintenance Burden	Automatic, over-the-air updates.	<b>Reduced Operating Cost:</b> Eliminate the need for dedicated servers and manual software management.
Unknown Return on Investment (ROI)	Usage Visibility and an ROI dashboard track real-time device status and automatically estimate cost savings realized from printed parts.	<b>Data-Driven Value:</b> Gain complete transparency into fleet performance and realized part cost savings.

# Scalability Engineered: Managing Your Global Fleet

Eiger transforms a collection of 3D printers into a unified, managed manufacturing fleet. By centralizing control, the platform delivers the operational efficiency required to scale from a single pilot site to a global production network without increasing administrative friction.

## The "Blueprinting" Effect: From Local Success to Global Standard

Scaling additive manufacturing beyond a single site is where many organizations stall. An organization masters additive manufacturing at a single plant, creating a "center of excellence." Eiger's cloud-native architecture turns that local success into a global blueprint. Once a process is validated, it can be replicated across different sites right away, ensuring that a part printed in Ohio is identical to one printed in Italy.

### **Real-World Example - Vestas:**

Global wind energy leader Vestas utilized Eiger to move from a single-site pilot to a global Direct Digital Manufacturing (DDM) program. By centralizing over 2,000 part designs in a digital repository, they enabled 23 production facilities worldwide to print "manufacturer-certified" tools and spare parts on demand.

### **Real-World Example - Dana Incorporated:**

Dana leverages Eiger to bridge the gap between their facilities in the U.S. and Italy. Using Eiger's cloud architecture, engineers share design iterations and live telemetry in real-time, scaling specialized tooling production across multiple time zones as if the teams were in the same room.

## Centralized Control and Standardized Process

Eiger's unified governance layer makes site expansion a routine task rather than a logistical hurdle.

### **Identity Management & Single Sign-On (SSO):**

Support for industry standard protocols, SAML and OIDC, offers integration with enterprise identity providers like Microsoft Entra ID and Okta. Combined with advanced networking capabilities, IT teams can manage thousands of users without friction. Adding a new user or printer to the fleet is a standardized, secure process.

### **Granular Governance:**

Administrative tools precisely manage users, teams, and printers. By organizing assets into logical groups, Eiger ensures that the right people always have access to the right parts, driving productivity across the entire global value chain.

## Optimized Workflow and Enterprise Visibility

Scaling effectively requires integration with your existing systems.

### **API Integration:**

Eiger's API enables Automated Workflows by connecting with your existing PLM, MES, and ERP systems. This integration automates the transition from design to production, accelerating adoption across your organization.

### **Advanced Reporting:**

Eiger's reporting functionality captures critical performance data, delivering the visibility needed to track fleet utilization, manage material consumption, and audit production history across all global operations.

Feature	Impact on Growth
Fleet Analytics	Provides real-time data on ROI and printer utilization across all sites.
Digital Inventory	Centralizes part files for instant distribution to any printer in the network.
Centralized Account Management	Centralized access management through SSO means access can be revoked from a single point, maintaining security and IP integrity as teams and personnel evolve.

# Reliability Redefined: Consistent Quality, Anytime, Anywhere

Global manufacturing requires more than just uptime. It requires certainty. A part printed in one facility must match the performance, geometry, and strength of the same part printed at any other site. Eiger delivers this consistency across an entire fleet, making distributed manufacturing as reliable as a traditional production line.

## Uncompromising Part Consistency

The hallmark of a reliable tool is repeatability. Eiger removes the guesswork often associated with 3D printing by locking in the variables that matter most.

### **Unified Print Engine:**

Because Eiger controls the slicing, toolpath generation, and material settings in a centralized cloud environment, the instructions sent to a printer in Singapore are identical to those sent to a printer in Detroit.

### **Repeatable Excellence:**

Whether you are printing a critical replacement part on a naval vessel or a custom jig on a factory floor, Eiger's synchronized material and hardware profiles ensure the output is consistent. You can rely on the Digital Forge to deliver industrial-grade parts on demand, regardless of the operator's local expertise.

### **Active Monitoring:**

Eiger's integrated sensors and software algorithms monitor printer telemetry, ensuring that the hardware performs within strict reliability tolerances for every layer of the build.

**Simple Design to Production Flow:** In multi-site, multi-user production environments, configuration drift and unauthorized changes introduce quality risk and operational inconsistency. Eiger mitigates vulnerabilities using the following features:

- **Part Locking** prevents modification of approved print settings.
- **Part Approval Workflow** requires a formal sign-off before production.
- **Catalogs** provide centralized, controlled access to ensure teams only use authorized parts.
- **Job Requests** centralizes print queue management in a single dashboard, eliminating manual tracking through emails and spreadsheets.

## Digital Record: The Foundation of Reliable Production

Reliability is hollow without proof. As a core subset of Eiger's reliability framework, full audit capability provides the digital record required for high-stakes industries like Aerospace and Defense.

### **Inspection:**

Markforged's Inspection software automates quality verification during printing, ensuring every part meets specifications before application. Eiger incorporates laser inspection data into quality reports that become permanent digital records for each component, catching defects immediately rather than in the field.

### **Production Logs:**

Every part printed through Eiger generates a comprehensive record. This includes the printer's serial number and the version of the design file. Additional telemetry data from the print job is captured within Markforged systems.

### **Version Control:**

Eiger prevents the "wrong version" error. By maintaining a single, cloud-synced source of truth for every part file, organizations ensure that older, unoptimized, or unapproved versions of a part are not sent to the floor.

## Real-World Example:

Hangar One Avionics leverages Inspection to eliminate time-consuming manual inspection processes for 3D printed aircraft parts. By using Eiger's automated inspection capabilities, the company reduced inspection time from 30-45 minutes per part to just a few minutes. The software inspects parts during printing and stores all data in the cloud, ensuring FAA-compliant traceability while achieving accuracy within 3-4 thousandths of an inch, which is more precise than their previous manual measurements. Hangar One is able to reliably document every part for long-term aircraft maintenance records while accelerating its quality control workflow.

## Proactive Uptime and Predictive Intelligence

High availability means systems stay online when it matters. Eiger's secure data layer enables proactive management, preventing issues before they require reactive repairs.

### **Over-the-Air (OTA) Optimization:**

Continuous improvements to slicing algorithms and firmware are delivered automatically. Your reliability can increase over time as the system evolves.

### **Fleet Health Monitoring:**

Administrators can monitor the health of every printer in the global fleet from a single dashboard. Real-time alerts for maintenance needs ensure that your production capacity is never sidelined by unexpected downtime.

<b>Feature</b>	<b>Impact on Reliability</b>
Locked Process Control	Eliminates variability by standardizing print settings across the organization.
Integrated Inspection	Validates part accuracy during or after printing to ensure it meets specifications.
Cloud-Linked Telemetry	Markforged utilizes private telemetry to track real-time machine performance, enabling the prediction and prevention of failures.
Automated Part History	Provides a full digital record for every part, from file to floor.

# The Security Mandate: Protecting Your Digital IP

Eiger's robust security architecture is designed for highly regulated industries where IP protection and audit requirements are non-negotiable. Intellectual Property (IP) remains confidential, integral, and available across your global network.

## Enterprise-Grade Compliance and Auditing

Eiger was the first Additive Manufacturing (AM) platform to achieve ISO/IEC 27001 certification. Having first attained this standard in 2019, Eiger's 2025 re-certification marks its third consecutive validation of enterprise-grade security.

This international standard validates Markforged's stringent internal policies and infrastructure for managing information security, ensuring data privacy, confidentiality, and integrity.

## Data Protection and Encryption:

For industrial manufacturers who prioritize security, Markforged and its Eiger platform are the clear choice. Low-cost, offshore 3D-printing OEMs can introduce firmware backdoors, unauditable update channels, and data exfiltration paths that operate outside an organization's control. Eiger implements encryption across every stage of the manufacturing workflow:

- **Data in Transit:** All communication with the platform is secured using HTTPS and high-grade encryption (TLS 1.2 or greater), meeting FIPS-140-2 compliant algorithms.
- **Data at Rest:** Customer part files are encrypted while stored on AWS using AES-256.
- **On the Printer:** FX-series print files (MFP) are encrypted, and all print files are tamper-resistant to prevent unauthorized access or changes to designs. Furthermore, Markforged Industrial, Desktop, and Metal printers run a STIG-compliant operating system, adhering to strict government security guidelines for use in DoD and similar environments.

## Role-Based Access Control (RBAC)

Eiger's stringent access governance controls who can access and change your proprietary designs. Role-Based Access Control (RBAC) gives administrators granular control over access levels to all folders, parts, and printers in an organization. Single Sign-On (SSO) centralizes access management, allowing administrators to revoke access for departing personnel and protect IP integrity.

Feature	Impact on Security
End-to-End Encryption	Protects data in transit (TLS 1.2+) and at rest (AES-256) using FIPS-140-2 compliant algorithms.
STIG-Compliant OS	Ensures Industrial, Desktop, and Metal printers adhere to strict government and DoD security guidelines for use in secure environments.
SAML SSO, OIDC & MFA	Streamlines identity management while requiring Multi-Factor Authentication for all critical systems.
Automated Offboarding	Protects IP integrity by ensuring immediate access revocation for departing personnel.

# The Eiger Digital Manufacturing Flywheel

Eiger converts hardware deployment into a secure, interconnected production strategy that grows with your business:

- **Adopt:** Deploy Eiger to establish secure, cloud-connected management of your AM fleet globally.
- **Expand:** Easily add new machines, sites, and users under the same secure, standardized platform.
- **Integrate:** Connect Eiger APIs with your corporate PLM/ERP systems.
- **Depend:** Your production data, compliance records, and IP are securely managed within Eiger, making it indispensable to daily operations.

In production additive manufacturing, software is the foundation that determines whether organizations can scale with confidence, maintain security under regulatory scrutiny, and deliver consistent quality across global operations. By treating additive manufacturing software as critical infrastructure rather than a feature, manufacturers gain a compounding advantage. Every part printed, every workflow standardized, and every facility connected strengthens the system as a whole. As additive manufacturing transitions from departmental tool to enterprise capability, Eiger provides the critical infrastructure for secure, reliable, and scalable industrial manufacturing.