

BISON

An advanced cybersecurity tool that provides enhanced visibility and situational awareness for Additive Manufacturing (AM) processes, leveraging proven IT security capabilities to effectively monitor and protect Operational Technology (OT) environments from emerging threats.

OVERVIEW

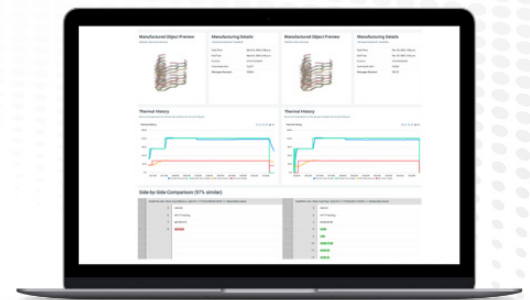
Adding Visibility and Cyber Situational Awareness into Additive Manufacturing (AM) Processes

BISON (BPL's Integrated Security for Operational Networks) is designed to enhance visibility and cyber situational awareness within Additive Manufacturing (AM) processes. Developed by BreakPoint Labs (BPL) through SBIR awards for the U.S. Army Engineer Research and Development Center, BISON addresses a critical gap in securing the AM Digital Thread. This tailored product is applicable across all Department of Defense (DoD) and commercial AM machines, ensuring robust protection against malicious cyber threats that can disrupt manufacturing integrity.

The BISON platform is configured to meet DISA's Security Technical Implementation Guides for RHEL 8. BPL subject matter experts have created over 40 detectors to expose anomalous or malicious activity. The platform can recreate manufactured objects by parsing and ordering commands transmitted to AM equipment, similar to traditional network monitoring stream reconstruction. This unique capability allows operators to visually compare expected commands against those executed by the AM machine, generating detailed incident reports that include critical data such as print start and end times, duration, thermal history of nozzle and print bed temperatures, and commands transmitted to the printer.



BISON Sensor



Centralized Data Processing Pipeline

CORE COMPETENCIES



Defensive Capabilities (Security Operations)

- Intrusion Detection/Prevention
G-Code Verification
- Diff Comparison
- OT Monitoring
- Secure Intellectual Property & AM Assets



Increased Reliability (Stabilized AM Environment)

- Continuous Monitoring
- Decrease Downtime
- Situational Awareness
- Increase Visibility & Resilience
- Identification & Alert of Malicious Commands



Quality Assurance (Increased Data Quality)

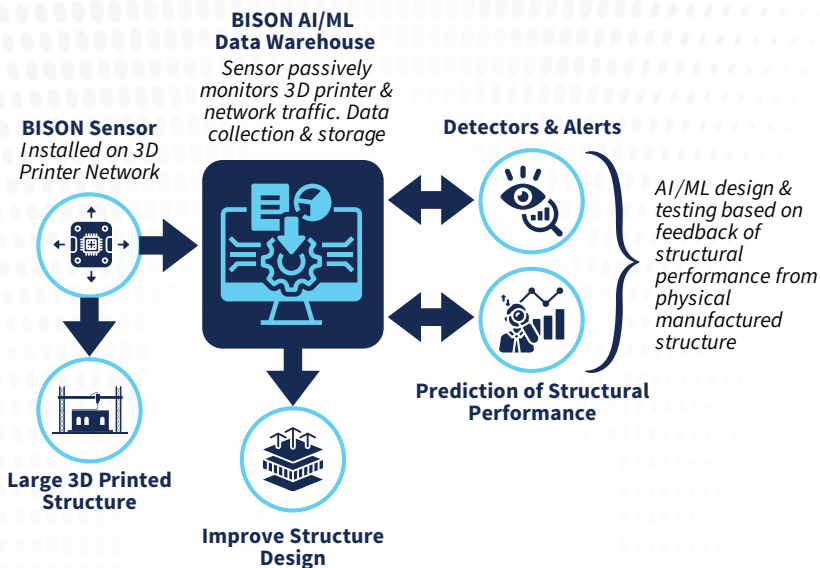
- Thermal History
- Parts Traceability
- Reduced Trouble Shooting
- Employs Compliance Requirements
- Automates Cyber Inspection

VALUE OF BISON

BISON's insight into AM processes makes it the best choice for process visibility. Without visibility into the commands executed by the printer, 3D printers are vulnerable due to plain text protocols, old firmware, and a lack of security checks.

BISON

Improving Performance of 3D Printed Structures Through Machine Learning



Cultivate Trust

- BISON provides assurance that manufactured parts do not have anomalies.

Unlock Insights

- BISON provides the certainty that what has been manufactured is as intended/meets specifications with data-driven key performance indicators.
- BISON provides advanced analytics to enable rapid analysis and innovation.

Mitigate Risks

- Incidents will happen – accurate and reliable visibility can greatly reduce the time needed to contain & respond.

PAST PERFORMANCE

Securing AM Environments for ERDC



Per a Phase 3 Small Business Innovative Research (SBIR) contract, we enabled the U.S. Army Engineer Research and Development Center (ERDC) to enhance security and performance for their additive manufacturing (AM) environments. Tailored for unique AM workflows, we deployed data collection and analysis solutions to improve visibility on their environment for security purposes and to ensure manufactured technology met complex design specifications.

COMPANY INFORMATION

CAGE Code: **7FZP3**
SAM UEID: **WAU7C2EAKGN9**
Small Business

BUSINESS CERTIFICATIONS

ISO 9001:2015 Certified: **Cert #14812**
CMMI Level 3: **CMMI SVC/ML3 Appraised**
(Appraisal #59678 | Exp Sep. 23, 2025)

NAICS CODES

541330 Engineering Services
541511 Custom Computer Programming Services
541512 Computer Systems Design Services
541513 Computer Facilities Management Services
541519 Other Computer Related Services (primary)
541715 Research and Development in the Physical, Engineering, and Life Sciences (except Nanotechnology and Biotechnology)

SIC CODES

7371 Custom Computer Programming Services
7373 Computer Integrated Systems Design
7379 Computer Related Services, Nec*
7376 Computer Facilities Management
7379 Computer Related Services, Nec* (primary)

HEADQUARTERS

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CONTRACT VEHICLES

CDAO Tradewinds Solutions Marketplace:
www.tradewindai.com

GSA SCHEDULE: **Contract #GS-35F-248GA**

GSA Highly Adaptive Cybersecurity Services (HACS)

CONTACT US



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