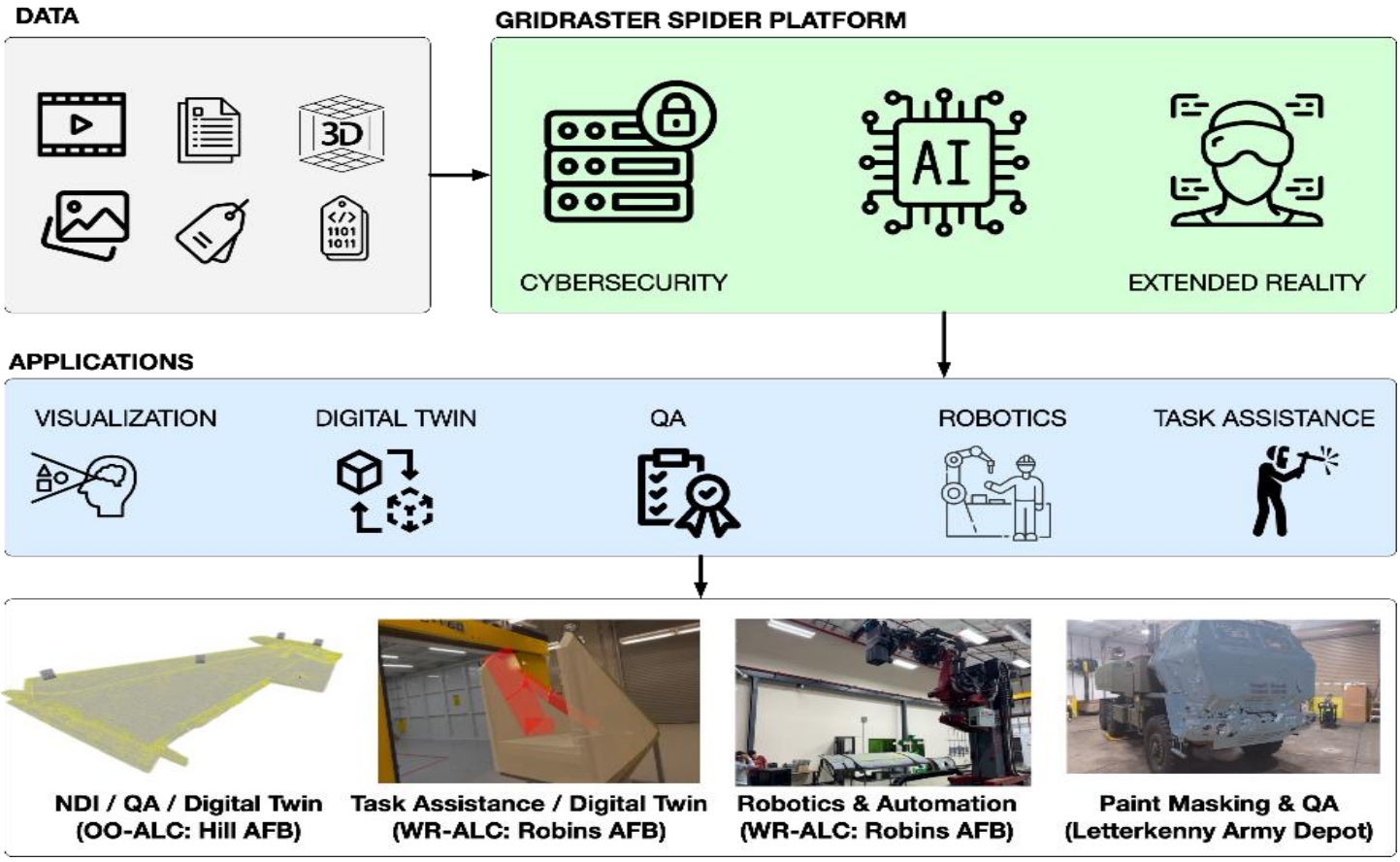
GRIDRASTER

SPIDER: *Powering Rapid Manufacturing and Sustainment using AI and XR*

Spatial Intelligence-based Dynamic Extended Reality (SPIDER) is a purpose-built breakthrough technology that enables modernization of the manufacturing and sustainment workflows in industrial environments, using software driven automation, artificial intelligence that enables fast and accurate 3D spatial mapping, part localization and tracking, active task assistance, and accurate 3D modeling using COTS XR devices.



GridRaster's Spatial Intelligence enabled Dynamic Extended Reality (SPIDER) Platform

KEY CAPABILITIES

- Fast and accurate AI-driven Automatic **Digital Twin** Creation
- Fast and accurate **object localization and alignment**, reducing human errors and accelerating maintenance processes
- Real-time **defect detection and mapping** for enhanced quality of sustainment tasks
- **Automating robotic repairs** to accelerated operations
- Providing **active task assistance** to support workforce enablement and overcome skill gap

Grid Raster Inc. | 1931 Old Middlefield Way, Ste G, Mountain View, CA 94043 | https://gridraster.com

GRIDRASTER

APPLICATIONS

Active Task Assistance:

- Wiring harness installation, inspection and removal
- Fastner placement, installation and inspection
- Paint Camo, X-Rays, Assembly and Disassembly

Robotics Automations:

- Real-time robotics path planning
- Industrial AMR-Human Collaboration
- Robotics repairs - painting, de-painting, griding, grit blast and others

Inspection and Maintenance:

- On Asset data visualization using 3D tactile sensors, eddy current sensors, blue light scanner, X-rays and others
- Paint Masking and Stenciling
- In process Inspection – Wiring harness

Training and Simulations:

- Engine and Propulsion System
- Wiring Harnessing

TECHNICAL INFORMATION

KPI	State of the Art (SOTA)	GridRaster SPIDER
Scan time (minutes) (capture/processing/total)	60 / 60 / 120	5 / 5 / 10
Automatic object recognition	NO	YES
Automatic mesh generation	NO	YES
Texture / color mapping	NO	YES
Automatic Scene Graph Generation	NO	YES
Automatic real-time Scan-to-Digital Model	NO	YES
Accuracy of Overlay Rendering and Alignment	1 inch	1-5mm
Physical Difference between the object/environment and the captured point cloud	0.5%-1%	Within 0.1%
Hardware /Cost	Custom/High	COTS/Low

Hardware Supported

Apple Vision Pro, iPad Pro, iPhone Pro and PC

CUSTOMERS & PARTNERS

U.S. AIR FORCE, DELTA, U.S. ARMY, NVIDIA, SFSA, ARM ADVANCED ROBOTICS FOR MANUFACTURING, SPACE FORCE, CLICK BOND, NAVSEA NAVAL SEA SYSTEMS COMMAND, LOCKHEED MARTIN

AWARDS & RECOGNITION

- 2026 Best Enterprise Solution Finalist Augmented World Expo
- 2026 DEVIES Award for Spatial AI & XR
- Awarded 2024 US Air Force Strategic Financing Increase
- 2024 Defense Manufacturing Technology Achievement Award
- 2024 OIB Modernization Challenge Winner
- 2024 Advanced Robotics for Manufacturing (ARM) Champion Award
- 2026 Army xTech Award

For more Information, contact:

Dijam Panigrahi | *Co-Founder & COO* | *dijam@gridraster.com* | *(857) 472-9151*

Abhishek Sriram | *Strategic Programs Manager abhishek.sriram@gridraster.com* | *(408) 621-7324*