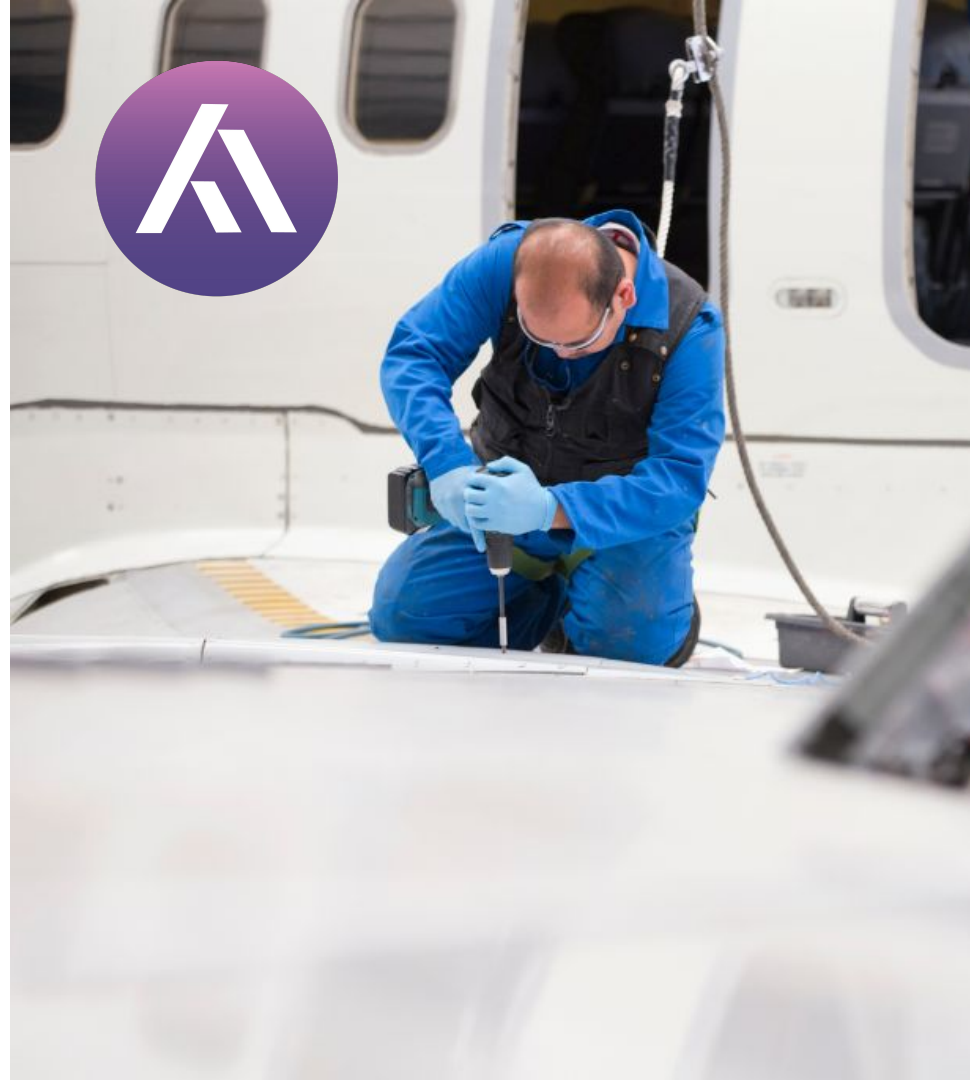




The Cost of Retirements in MRO: Risk, Rework, and Readiness: Solving Workforce Challenges with AI

AutoAlign AI

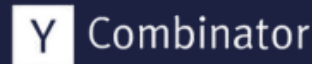
Building AI-Augmented Workforces for Aerospace Manufacturing & Defence



Leveraging 40+ Years of Experience Building Reliable AI Systems

AutoAlign brings deep AI expertise to every deployment.

Grounded in decades of experience delivering mission-critical technology. Trusted across industries including healthcare, finance, and manufacturing.



When Workforces Stall, Operations Suffer

Knowledge gaps, attrition and workforce shortages prevent growth opportunities and reduce profit from the bottom line.

\$65,000
Average
Replacement
Cost

Onboarding and training costs of replacing technicians.

11.5%
Annual
Attrition Rate

North American MRO attrition averages 11.5% per year. Most techs leave before reaching full proficiency.

\$150,000 + / hour

Average cost of an Aircraft on Ground (AOG) event, up to \$1.2M per day.

((Boeing / Air Cargo Week, 2025))

48,000 technicians short

Projections show a 27% North American MRO workforce deficit by 2027, while 38% of current techs are over 60.

Traditional Solutions and New Approaches

Legacy approaches can help. But are they enough?

Traditional Strategies

- Raising the retirement age / packages for senior workers
- Traditional retention strategies
- Building long term pipelines
 - A&P schools, colleges, AMT programs
 - Sponsorships, hosting programs, donating engines/airframes
 - Guaranteed interviews

Tech-enabled Strategies

- Enabling upskilling pathways
- Broaden talent pools, pulling from other industries with knowledge translation
- Earn-while-you-learn programs
- Creating a tech-enabled culture

Remaining tasks -
Airframe panel repair
ETC: 04:25



Verify work package ID

- Cross-check against MRO digital logbook.
- Confirm aircraft tail number and zone reference (e.g. 571 fairing section).



Inspect structural preparation

- Confirm all fastener holes are deburred and clean.
- Verify corrosion treatment and primer application.



Align replacement panel

- Use Cleros to secure temporary fit.
- Check flushness and skin owdtp with adjacent structure.



Drill and ream final fastener holes

- Follow AMM specifications (hole size tolerance ± 0.002 ”).
- Maintain drill angle perpendicular to skin.



Install approved fasteners

- Apply sealant per SRM section.
- Torque fasteners to specified value.



Conduct visual inspection

- Verify sealant continuity and surface alignment.
- Document discrepancies with photo evidence.



Javier's assistant

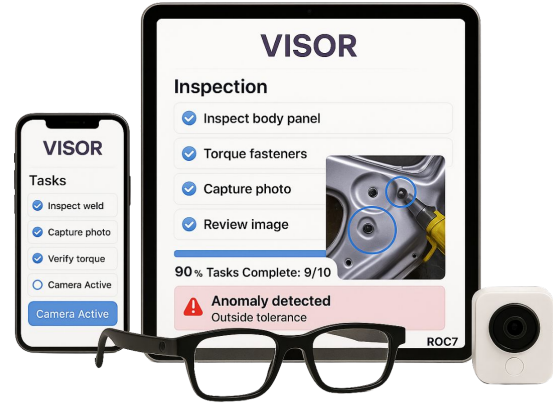
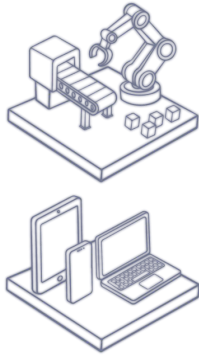


Visor delivers
AI-augmented workforce
solutions for complex
industries.

Visor enables faster
onboarding and higher
productivity with real-time
guidance, troubleshooting,
automated QC, and
hands-free documentation.

How Visor Works

Visor, understands and applies your technical documentation, sensor data, videos, and images to interpret real-world conditions and deliver intelligent, context-aware support.



Technical documentation, sensor data, videos, historical incidents, and maintenance notes is fed into Visor

Visor learns from both your content and from use to become an expert assistant



The Visor Assistant can be used hands-free through mobile devices or smart-glass platforms, learning from its use

Hardware

Visor smart glasses are IP65, MIL-STD-810G, and ANSI Z87.1 certified, ensuring resistance to water, dust, and impact damage.

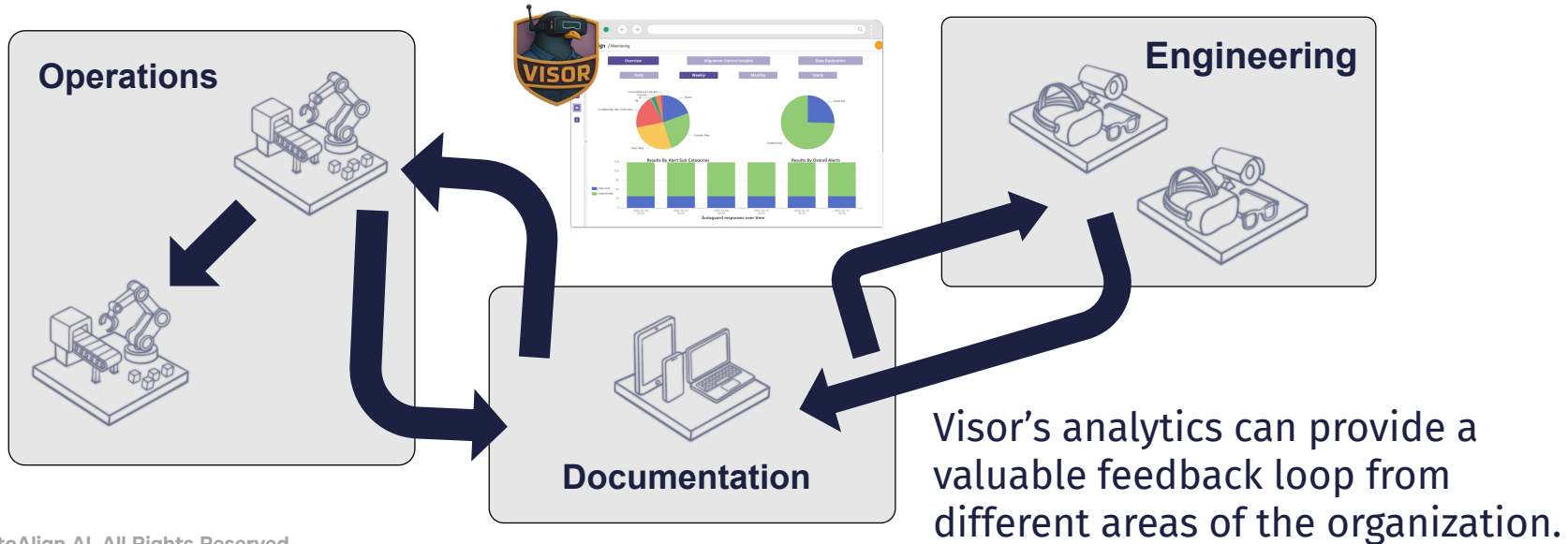


Solution

Workforce Knowledge Capture for Use Across the Organization

Visor's solution captures and makes knowledge accessible across sites and teams.

A repair from one site can provide training and troubleshooting to another, cross-training and process optimization.





Visor Example Use Cases

Visor supports technicians, operators, inspectors, and engineers throughout the production and maintenance lifecycle.

Use Cases

Workforce Training & Skill Development

Deliver interactive, step-by-step digital work instructions (DWIs) through hands-free and device-enabled interfaces. As tasks are performed:

- Guides operators through required procedures in the correct order
- Verifies completion of steps and actions
- Alerts workers to missed steps or wrong actions
- Generates traceable digital records for compliance

Proven Results

Faster ramp-up and fewer escalations **increase workforce onboarding by 15%**, helping teams meet scaling demand.



Use Cases

Quality Inspection, Safety & Compliance

Provide automated inspections, validation, and verification workflows:

- Detect issues inline during a procedure or as a separate QC process
- Verify completion of quality and safety steps
- Capture time-stamped proof of QC automatically

Proven Results

Earlier issue detection has **reduced rework, scrap, and audit effort by 20–40%**, improving quality performance across operations.



Use Cases

Automate Job Creation & Documentation

As technicians perform MRO tasks, capture actions taken to:

- Validate and record actions performed against known processes and procedures and create log notes
- Create new digital work instructions or SOPs for training
- Create invoices, control inventory or other documentation

Proven Results

Automating documentation **returned 200–300 productive hours per technician** annually, unlocking significant additional service capacity and billable work.



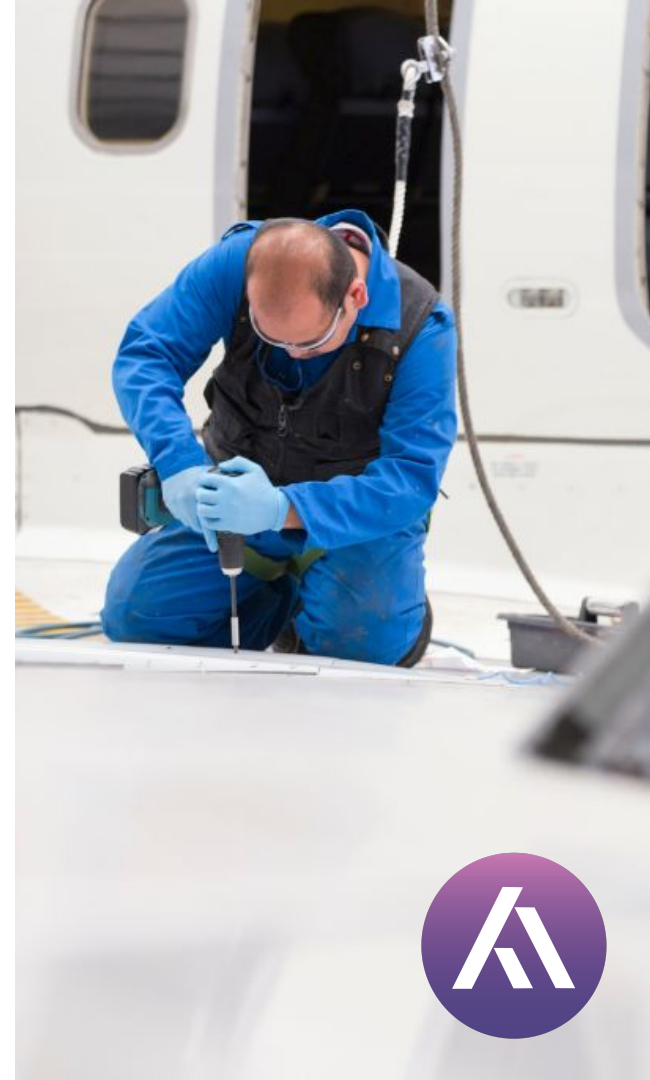
Troubleshooting & Maintenance Assistance

Visor learns from experts, maintenance records and technical documentation to create troubleshooting guidance that can be used by:

- Internal maintenance teams
- Field service technicians
- Channel partners and distributors
- End customers operating the equipment

Proven Results

Resolving 76% of issues on-site and detecting faults earlier **reduced escalation by 30–50%** and delivered multi-million annual savings from avoided downtime and repeat visits.



Practical Examples of AI Enablement

Large ROIs in accelerated training, guidance, productivity and quality

Tech-enabled Strategies

- Enabling upskilling pathways
- Broaden talent pools, pulling from other industries with knowledge translation
- Earn-while-you-learn programs
- Creating a tech-enabled culture

Approaches

- Hands-on guidance systems with AI
- Inline QC systems using AI verification
- Troubleshooting assistance
- AI for job task creation and verification
- Work capture for knowledge transfer and logbook documentation

Ready to Transform Your organization?

www.autoalign.ai
hello@autoalign.ai



1. Deep Dive

Two hour deep dive learn the details of your workforce, systems, and current processes

2. Proposal

We'll analyze your specific use cases and provide a tailored implementation plan

3. 90 Day Pilot

A 90-day pilot to see AutoAlign's impact firsthand

AutoAlign AI

Download our technical
whitepaper

