

Dawn Industries

VIM

Dawn Industries builds VIM (Virtual Intelligent Mentor), an AR glasses based frontline manufacturing OS designed for additive manufacturing (AM) production. VIM continuously captures an operator's point-of-view video/audio plus job context during real work, converts that tacit know-how into structured, reusable instructions (steps, parameters, checkpoints, and common failure modes), and then delivers in-context guidance and troubleshooting while the operator is executing.

How it's used: A new metal AM technician is assigned a production build on an LPBF machine. VIM opens the day's task card and walks them through powder safety & handling, build plate prep, machine calibration checks, and launch criteria (gas flow, oxygen threshold, recoater condition). During the run, if an alarm or anomaly occurs, the technician sees a hands-free prompt: likely causes, the exact inspection steps, and "if/then" actions based on prior successful recoveries without stopping to grab a tablet or search manuals. After the build, VIM guides depowdering, support removal, heat treatment handoff, and inspection/QA documentation, capturing evidence for traceability and ensuring consistent execution across shifts. Market potential: As AM shifts from prototyping to production, the bottleneck becomes repeatable quality and skilled execution, not machine availability. Service bureaus and in-house AM teams face high turnover, steep learning curves, and costly scrap/rework. VIM addresses this by reducing time-to-proficiency, improving first-pass yield, and standardizing best practices across operators and sites. Beyond AM teams, VIM can expand through OEMs and materials partners as a workforce enablement layer bundled with machines and validated processes.

Traction: Dawn already has a paid pilot partner in an aerospace/defense precision manufacturing environment, where we're deploying VIM to capture expert procedures and deliver on-the-job guidance, validating immediate ROI and scaling learnings across the floor. Dawn is led by two cofounders (Joohyun - CEO; Robin - CTO) with deep experience in hardware, software, and AI.

What specific application will the technology/innovation be used for?

VIM will be deployed as a shop-floor execution and support layer for additive manufacturing production, spanning metal and the surrounding process chain. First, it targets tribal knowledge transfer by continuously capturing expert operators' tacit know-

how (machine setup, powder handling discipline, build changeovers, parameter sanity checks, post-process steps, inspection handoffs) and turning that into facility-specific, searchable work instructions that match the real workflow. Second, it provides real-time vision-based guidance at the point of work - overlaying step-by-step checks and golden references through our AR glasses and AI system. Third, it's a downtime and error-response copilot for operators and technicians. When builds interrupt or alarms fire (e.g., recoater issues/crashes, powder shortage, power events), VIM can walk the responder through the correct recovery decision tree, capture what happened for root-cause learning, and standardize solution procedures. If there are additional files that support your entry, please upload them below. This is encouraged but not required.

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