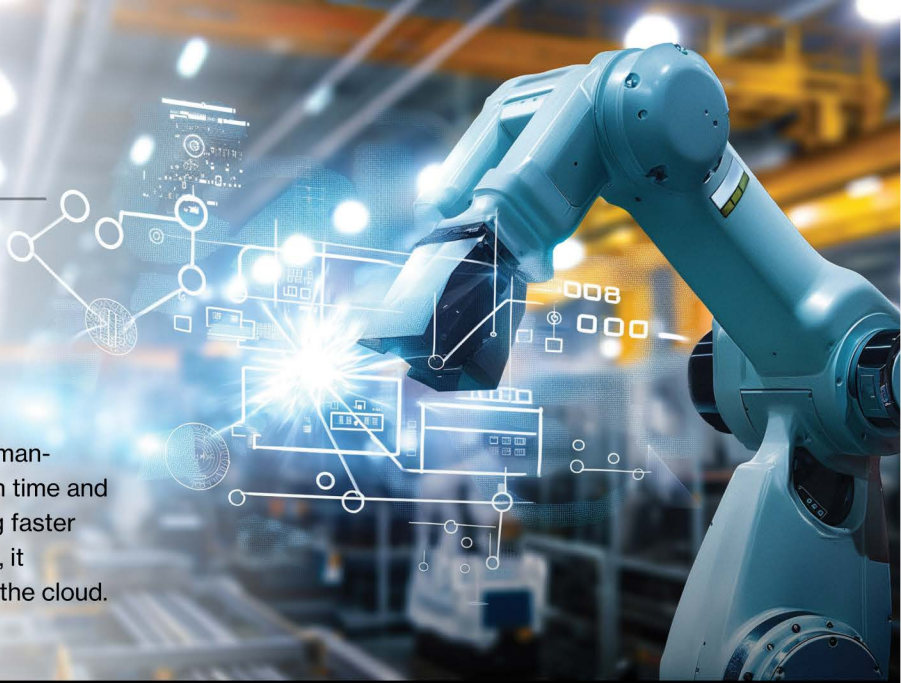


Palladyne™ IQ

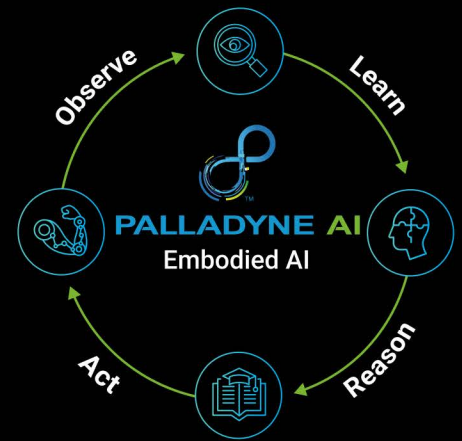
EMBODIED AI FOR SMARTER INDUSTRIAL ROBOTICS

Palladyne IQ enables automation of complex, variable, and human-intensive tasks once thought impossible. It reduces integration time and cost by removing the need for complex programming, allowing faster deployment and easier training. Operating reliably at the edge, it delivers precision, safety, and adaptability without reliance on the cloud.



A FORCE MULTIPLIER FOR THE GREAT MARGIN SQUEEZE

Manufacturers face the Great Margin Squeeze – rising labor costs, supply chain volatility, and pressure to achieve higher throughput with fewer resources. Palladyne IQ delivers a Force Multiplier for plant leaders and automation teams by enabling robots to perform complex, variable, and previously un-automatable tasks. Built on embodied AI, Palladyne IQ empowers robots to observe, learn, reason, and act with human-like intelligence in real time, at the edge.



CAPABILITIES

Human-Like Reasoning

Palladyne IQ enables robots to interpret complex environments, adapt to changes, and make real-time decisions for precise and safe outcomes without human intervention.

Minimal Training, Maximum Adaptability

Using demonstrations or natural language, line workers can teach new tasks in minutes – no programming required.

Edge-Based Autonomy

Operating fully at the edge, Palladyne IQ eliminates cloud latency and connectivity costs while ensuring continuous, secure performance.

Advanced Perception and Observation

Through multi-modal sensor fusion (e.g., computer vision, lasers, force moment, load cells), robots gain a detailed understanding of their surroundings and dynamically adjust their motion plans.

FEATURES

Low-Code / No-Code Training

Rapidly train or retrain robots via intuitive demonstration-based learning or a simple language interface.

Edge Computing Architecture

Processes data locally to reduce latency, enhance security, and enable rapid adaptation to changing conditions.

Real-Time Motion Planning

Generates optimized motion plans autonomously as conditions change.

Robot Agnostic

Compatible with most industrial robots and cobots.

APPLICATIONS

Versatile Industrial Solutions

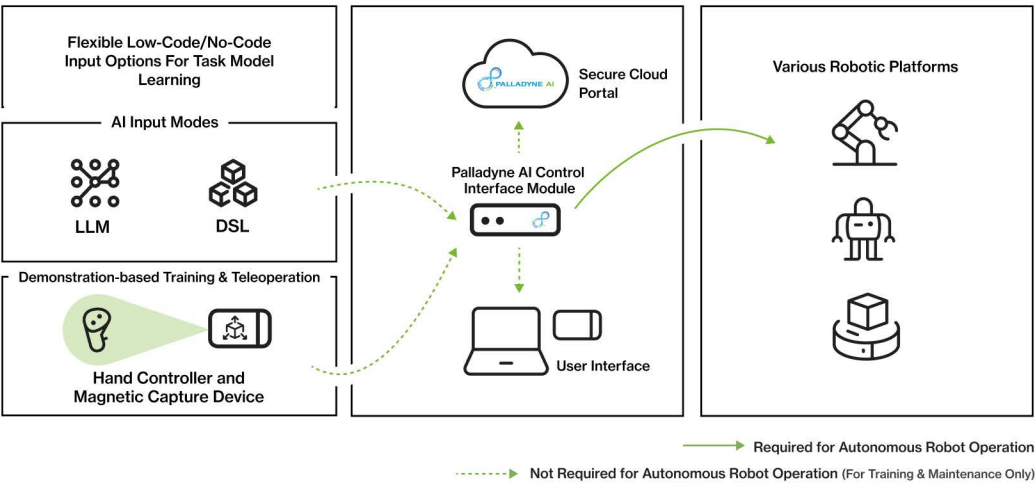
- Assembly Line Quality Inspection
- Maintenance, Repair, and Overhaul (MRO)
- Material Handling
- Pick and Place / Kitting / Parts Sequencing
- Surface Preparation and Finishing

Industries Served

- Aerospace
- Automotive
- Construction
- Defense
- Energy
- Infrastructure Maintenance
- Manufacturing

PALLADYNE IQ ARCHITECTURE

Designed to maximize system flexibility, adaptability, mobility, and learning. Cloud connectivity is not required for autonomous robot operations.



TECHNICAL SPECIFICATIONS

Supported Robots ¹	• Fanuc (M-20iD/35, R-1000ia – 100F, P350iA/45, M710iC) • ABB (IRB 1300-7/1.4) • Universal Robots (UR10e, UR20)		
Required Robot OEM Controller	• Fanuc (Controller r30iBplus or R30iB) • ABB (IRC5 OmniCore C30) • Universal Robots (CB Series, ESeries)		
Required Robot OEM Software	• Fanuc (Motion Streaming J519) • ABB (3124-1 Externally Guided Motion EGM) • Universal Robots (External Control URCap c1.05)		
Supported Sensors ²	• Luxonis OAK-D Pro PoE FF (SKU A000570) is pre-validated for use		
Supported End Effectors and Tool Changers ^{2,3}	Pre-validated end effectors and tool changers: • Robotiq two-finger electric gripper (2F-85) • Gimatic vacuum suction gripper (KIT-UR-V) • Schunk two-finger electric gripper (EGU 50-MB-M-B) • Schmalz suction gripper (SBPG X PSE 50 SVE) • TripleA Robotics (Wingman Tool Changer System)		
CAD File Format	• .ply file	Power	• 120V/15A AC power (Europe, 230V/16A)
Communications Interface	• RJ45 Ethernet • Modbus / IO Link		

¹ Robots can be mounted on rigid or mobile platforms. Most fixed-base commercial robots are supported. Contact support for other configurations.
² Contact support before using any other sensors, end effectors, or tool changers.
³ Compatible with most commercial end effectors using IO Link or Modbus.



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