



IMACHINE



IMACHINE Autonomous Vehicle Enablement Platform

The IMACHINE Autonomous Enablement Platform delivers robust, modular and fully integrated off-road robotics & autonomous vehicle solutions for industrial, mining, construction, landscaping and agricultural applications.

The end-to-end platform combines advanced autonomy, robust modular hardware, multi-layer safety and seamless integration with machinery and payloads.



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Turn-key Autonomous Solutions

IMACHINE's Autonomous Enablement Platform supports a wide range of use cases and features.

The platform enables the delivery of turn-key autonomous vehicle and mobile robotics solutions for end users while also offering integrated solutions for tech startups and OEMs.



IMACHINE's Autonomous Vehicle Platform Key On-Board Systems:

COMMUNICATIONS

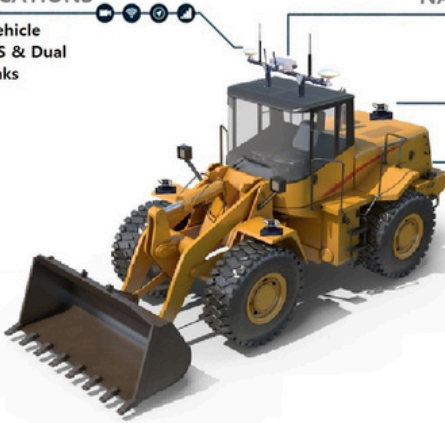
High Speed Vehicle Telemetry, GPS & Dual Redundant Links

NAVIGATION & AWARENESS

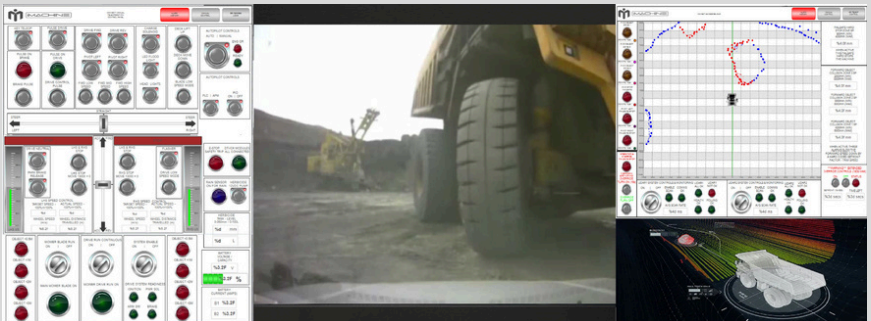
AI, Machine Vision, LIDAR & Sensing Systems Scan in Real-time for Safe Navigation with Object Detection & Avoidance

VEHICLE CONTROL

An on board processor allows autonomous platform and user teleoperation interface with throttle, brakes, steering, hoist, hydraulics and other systems.

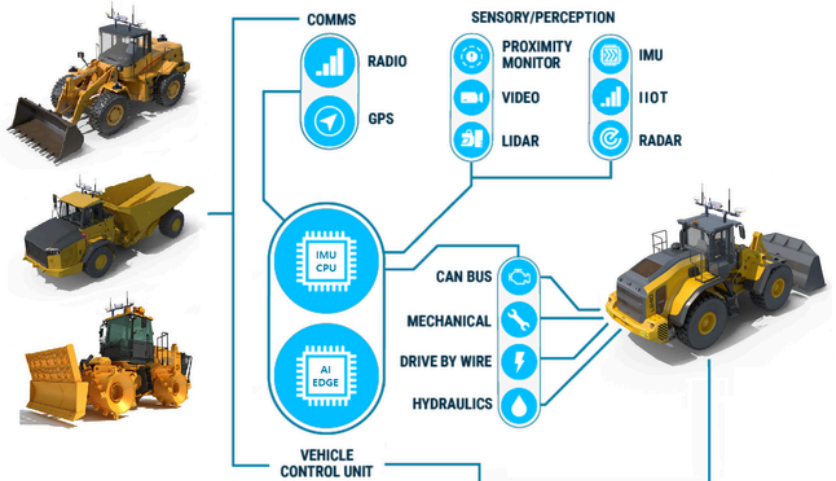


IMACHINE's Remote Operations & Autonomous Systems Software:



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DIVERSE FLEET ON-BOARD AUTONOMOUS SYSTEMS

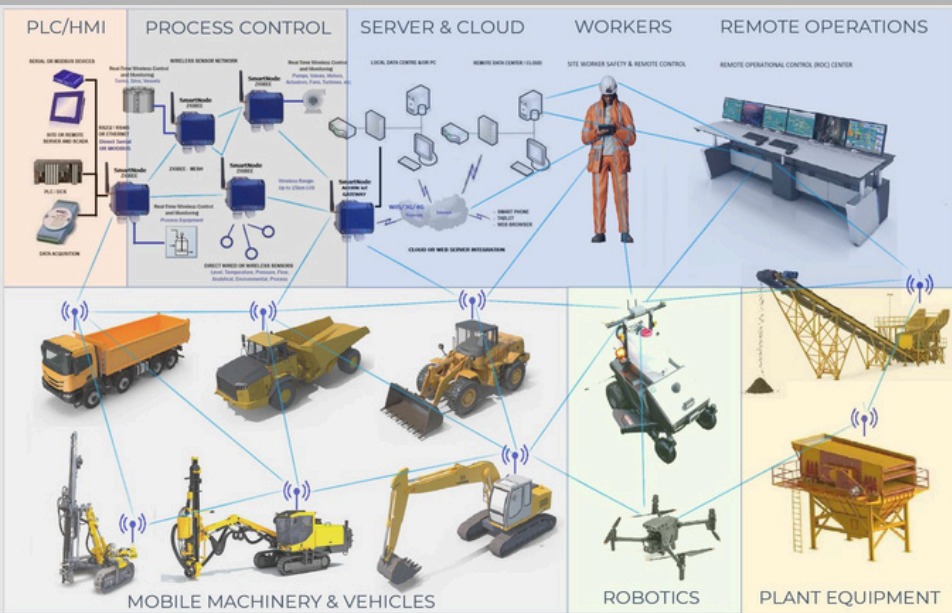


REMOTE OPERATIONS



OEM Vehicle Autonomy Upgrade Packages provide conversion of many common machine makes and models to bridge all vehicle functions with IMACHINE's Autonomous Vehicle Enablement Platform.

IMACHINE's Unifying Site to Vehicle IIoT & R2E Connectivity Platform



Maintain remote command & control of fleets at all times, with intelligent integration of vehicles, workers and operating conditions.

Ultra-long-range mesh radio and satellite backhaul for remote autonomous operations. On-vehicle and in field Wireless Modules for IIoT and R2E (Robot to Everything) connectivity, integrates vehicles with site workers, infrastructure, processes, external systems, gates and access control.

Real-time environmental, geo-technical, fleet integration and safety monitoring, enables fast situational awareness for autonomous vehicles, streaming operations and improving performance on site.



MACHINE's Autonomous Enablement Platform Core Features



At a glance, each IMACHINE platform provides the following core systems:

- **Rugged On-Vehicle Electronics, Computing & Sensors** for durability and reliability including engine, steering & vehicle control systems.
- **Advanced navigation, safety and situational awareness** systems for precise operation in complex environments. GPS / LiDAR / AI & vision system fusion guidance system with 7 layers of safety.
- **Ultra-long-range connectivity and real-time teleoperation** with multiple on-board cameras for seamless remote control and operation.
- **Full-Stack Hardware & Software Platform** for end-to-end requirements including web-based GUIs, GCS (Ground Control Station), mapping & mission planning software, on-board real-time processing of automation and vehicle systems, ECU integration.
- **OEM Vehicle Autonomy Upgrade Modules** for onboard integration with existing heavy machinery and off-road vehicle fleets into teleoperated and fully autonomous systems.
- **Onboard Payload Automation** customisable through standard PLC / SCADA type systems embedded onboard the robot to meet client requirements and evolving needs in the field. Supporting diverse operational needs and rapid changes in the field.

**Ready to launch your next robotics venture?
Contact IMACHINE Robotics for a free consultation.
Contact us at info@imachine.com.au**



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