

SOLUTIONS OVERVIEW

Intelligence for every critical industry.

Motiontrons deploys across critical industrial sectors — each with a purpose-configured combination of sensing, connectivity, AI, and control technology adapted to the operating conditions and challenges specific to that industry.

ENERGY SECTORS

Power & hydrocarbons.

Power Generation

Turbine and generator health monitoring, predictive maintenance, and real-time digital twins for power assets.

THE CHALLENGE

Thermal, gas, and hydro power plants operate rotating assets — turbines, generators, boilers — where unplanned failure carries severe financial and grid-stability consequences. Legacy SCADA systems provide data without intelligence, leaving operators reactive rather than predictive.

THE MOTIONTRONS SOLUTION

- ▶ Vibration and thermal monitoring of turbine-generator sets using MTX SenseV™ and MTX SenseT™
- ▶ Digital twin synchronisation of the full generation cycle via TwinSync™
- ▶ PredictIQ™ failure prediction for boiler tubes, bearings, and windings
- ▶ MTX Insight™ dashboards for compliance reporting and shift handovers

OUTCOME *Reduced unplanned outages, improved heat rate visibility, and automated regulatory reporting.*

Oil & Gas

Remote asset monitoring, process integrity, and electro-hydraulic control for upstream and midstream operations.

THE CHALLENGE

Upstream and midstream operations run critical rotating and static equipment — compressors, pumps, wellheads, pipelines — often in remote or hazardous locations where manual inspection is costly and delayed.

THE MOTIONTRONS SOLUTION

- ▶ MTX DriveEH™ electro-hydraulic control for wellhead automation and valve actuation
- ▶ EdgeConnect™ multi-protocol connectivity bridging legacy DCS and modern systems
- ▶ Corrosion, pressure, and flow monitoring across pipelines and process vessels
- ▶ MTX Predict™ for compressor and pump failure prediction

OUTCOME *Reduced unplanned shutdowns, improved process safety, and lower inspection costs.*

UTILITIES & PRODUCTION

Water & manufacturing.

Water & Wastewater

Pump health, flow intelligence, and remote infrastructure management for water utilities.

THE CHALLENGE

Water utilities manage geographically distributed pump stations, treatment works, and distribution networks with limited visibility into asset condition — leading to reactive maintenance and non-revenue water losses.

THE MOTIONTRONS SOLUTION

- ▶ MTX SenseF™ and MTX SenseL™ for flow and level monitoring across networked assets
- ▶ Pump health monitoring using vibration and motor current analysis
- ▶ MTX Link™ secure aggregation for distributed sites with unreliable connectivity
- ▶ MTX Asset™ for lifecycle-based capital planning across large fleets

OUTCOME *Reduced pump failures, lower non-revenue water, and network-wide asset visibility.*

Manufacturing

Machine condition monitoring, precision motion control, and OEE improvement for production environments.

THE CHALLENGE

Manufacturing depends on machine uptime and precision to meet production targets. Unplanned downtime and quality deviations directly impact overall equipment effectiveness and cost.

THE MOTIONTRONS SOLUTION

- ▶ MTX MotionCore™ precision servo control for CNC, cutting, and assembly processes
- ▶ Condition monitoring for production-critical rotating machinery
- ▶ MTX VisionInspect™ inline quality inspection with production traceability
- ▶ MTX Insight™ OEE dashboards and maintenance scheduling

OUTCOME *Higher OEE, reduced quality defects, and condition-based maintenance planning.*

HEAVY & GREEN

Mining & renewables.

Mining & Metals

Heavy equipment health, harsh-environment sensing, and remaining useful life estimation.

THE CHALLENGE

Mining and metals operations run heavy machinery in harsh, high-vibration, high-temperature environments where equipment failure causes extended production loss and safety risk.

THE MOTIONTRONS SOLUTION

- ▶ Ruggedised MTX Sense™ instrumentation for harsh industrial environments
- ▶ PredictIQ™ remaining useful life estimation for heavy rotating equipment
- ▶ MTX SteelSight™ for dimensional and surface defect inspection in metals processing
- ▶ Edge-first architecture maintaining intelligence in low-connectivity sites

OUTCOME *Extended equipment life, reduced unplanned downtime, and improved safety.*

Renewable Energy

Wind turbine condition monitoring, fleet digital twins, and predictive maintenance for renewables.

THE CHALLENGE

Wind and solar assets are distributed across large geographic areas, often in remote locations, making manual inspection expensive and infrequent — while failures directly reduce generation revenue.

THE MOTIONTRONS SOLUTION

- ▶ MTX SenseV™ vibration monitoring for wind turbine gearboxes and bearings
- ▶ TwinSync™ fleet-level digital twins for remote monitoring across sites
- ▶ PredictIQ™ failure prediction reducing costly emergency maintenance dispatch
- ▶ MTX Insight™ fleet-wide performance benchmarking

OUTCOME *Higher fleet availability, reduced O&M cost, and optimised maintenance dispatch.*

NETWORKS & PROCESS

Infrastructure & tyre.

Infrastructure & Utilities

Structural health monitoring, network-scale remote management, and capital planning support.

THE CHALLENGE

Infrastructure operators manage large networks of physical assets — structures, substations, distribution networks — where condition data is sparse and capital planning relies on age rather than actual asset health.

THE MOTIONTRONS SOLUTION

- ▶ Structural and environmental sensing for bridges, substations, and civil assets
- ▶ MTX Connect™ integration with existing SCADA and network management systems
- ▶ MTX Asset™ for evidence-based capital maintenance planning
- ▶ Network-scale dashboards for multi-site portfolio management

OUTCOME *Data-driven capital planning, reduced emergency repairs, and extended asset life.*

Tyre & Rubber

Dimensional inspection, surface quality monitoring, and production traceability for tyre and rubber manufacturing.

THE CHALLENGE

Tyre and rubber production requires precise dimensional control and surface quality assurance at production speed, where manual inspection cannot keep pace with modern manufacturing lines.

THE MOTIONTRONS SOLUTION

- ▶ MTX TyreInspect™ inline profile measurement and dimensional inspection
- ▶ Automated surface defect detection integrated with production line speed
- ▶ Per-unit inspection records for full production traceability
- ▶ MTX Insight™ integration for quality KPI reporting

OUTCOME *Reduced defect escape rate, improved dimensional consistency, and full traceability.*

MISSION-CRITICAL FACILITIES

Critical power.

Critical Power

Monitoring, maintenance and digitalisation for data centres, airports, hospitals and commercial buildings.

THE CHALLENGE

Facilities where power continuity is mission-critical — data centres, airports, hospitals — require continuous monitoring of backup power, HVAC, and electrical distribution systems where downtime is not an option.

THE MOTIONTRONS SOLUTION

- ▶ Continuous monitoring of generators, UPS systems, and electrical distribution assets
- ▶ MTX Predict™ for early warning on critical backup power equipment
- ▶ MTX Insight™ real-time dashboards for facilities and compliance teams
- ▶ Edge-first reliability ensuring monitoring continuity during network disruption

OUTCOME *Improved uptime assurance, faster fault response, and audit-ready compliance records.*

Every deployment draws on the same underlying seven-layer platform — Smart Sensing, Intelligent Motion, Industrial Connectivity, Edge Computing, Digital Twin Synchronisation, AI & Predictive Analytics, and Operational Intelligence — configured to the specific assets, environment, and compliance needs of each industry.

EXPLORE YOUR SOLUTION

Not sure which configuration fits your operations?

Speak with the Motiontrons engineering team to scope the right combination of sensing, connectivity, and AI for your industry and asset base.

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