

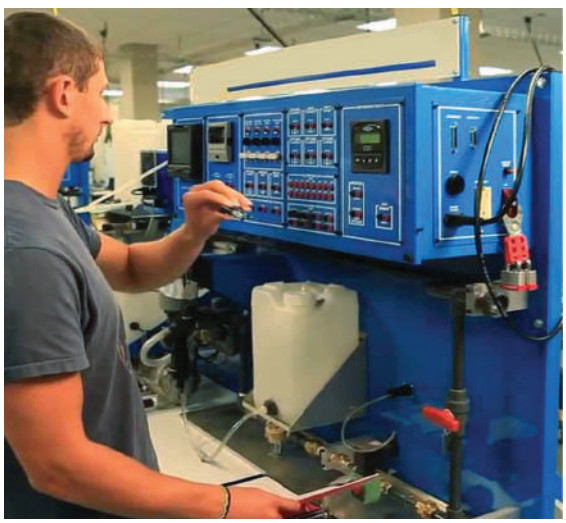
ADLINK Edge Success Story

Bringing Intelligence to CNC Machining with Edge IoT for Machine Condition Monitoring

ADLINK Technology leverages its own Edge IoT solution for real-time machine condition monitoring of CNC machines at the edge. Remotely and actively monitoring vibration to decrease CNC machinery maintenance costs, tooling replacement, and increase manufacturing uptime.

Managing CNC Machining Costs

CNC tooling costs tend to be some of the most unpredictable expenses. Despite warranty and service guidelines, rotary motors are prone to malfunction often the longer the machine runs. ADLINK desired a more cost effective way to manage CNC machinery maintenance and repair costs to eliminate production delays, employees working overtime to compensate for the delays, and the physical need for maintenance teams to inspect and service equipment. While ADLINK had PLC-based vibration monitoring, the PLCs were limited in analysis due to fixed algorithms, low sampling rates, and limited frequency range.



ADLINK Remote Machine Monitoring

ADLINK's Edge IoT solution for machine condition monitoring includes edge hardware, real-time data streaming software, and Edge IoT apps to enable smarter CNC machining. ADLINK Edge® for machine condition monitoring combines data collection, vibration analysis algorithms, computation, and cloud connectivity in one compact edge device. Powered by an Intel Atom® processor, the machine condition monitoring solution (MCM) embeds and connects within the CNC machine automating communication across the manufacturing floor with other CNC machines, tooling, conveyor systems and back-end ERP systems.

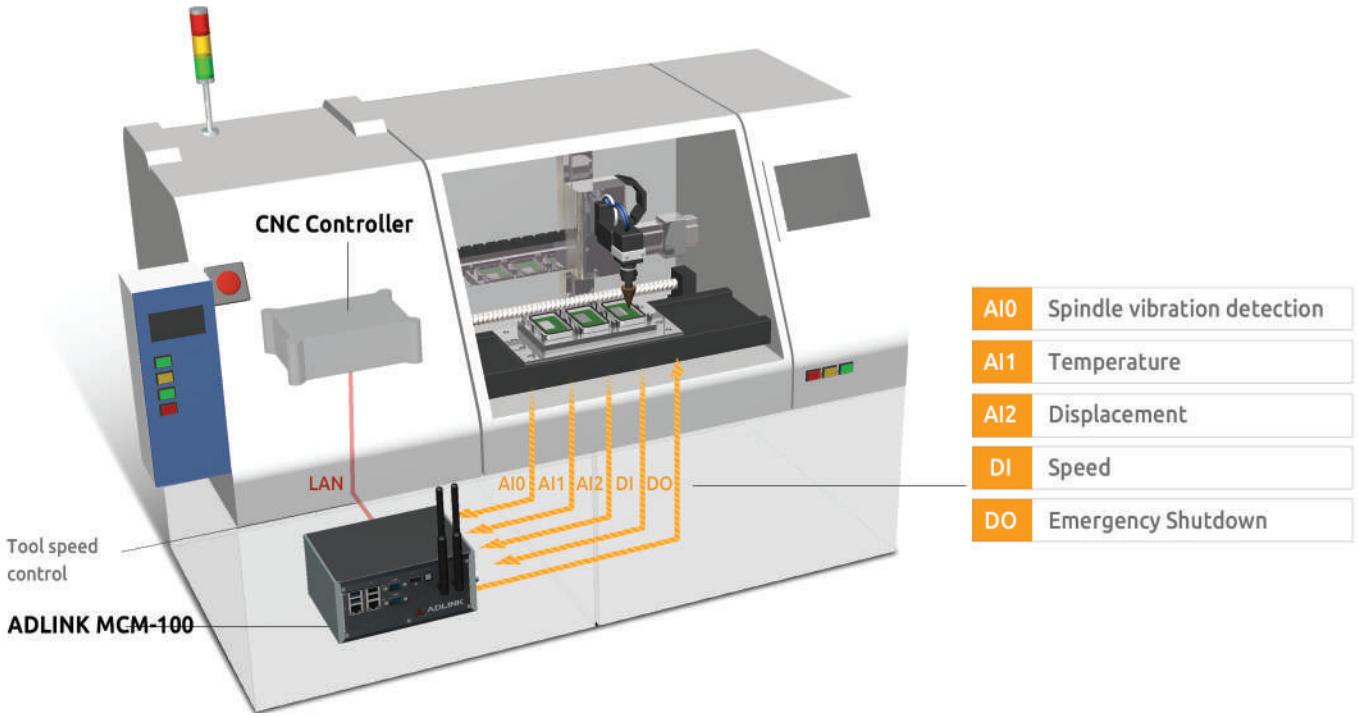
Value

ADLINK has lowered its CNC tooling repair and replacement costs and has reduced overall CNC machine maintenance. Lowering overall total cost of ownership (TCO) ADLINK has been able to proactively and efficiently maintain CNC equipment without risking interruptions due to downtime. ADLINK is looking to monetize CNC machine condition data by offering a data subscription to its CNC suppliers.

ADLINK® Leading EDGE COMPUTING

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Figure 1: Solution Diagram



Benefits

- Real-time warnings and event alerts into CNC machinery and manufacturing line operations
- Simple and fast setup, no need for programming
- Offline data acquisition, compute, and upload, no internet connection necessary
- Automates communication across CNC tooling, clouds, conveyor system and ERP
- Edge computing for fast decision making and reduced latency in system communication
- Modular architecture allows for easy upgrading and changing as needs evolve

ADLINK Solution Components

Edge Hardware	+	*Edge IoT Software*	+	*Edge IoT Apps*	=	***ADLINK Edge® IoT Smart Solution***
ADLINK Matrix Intelligent Gateway		ADLINK Edge® with real-time data streaming on the Vortex Data River™		ADLINK Edge® OT Connect ADLINK Edge® Cloud Connect ADLINK Edge® Visualization ADLINK Edge® Persistence		

About the Company

ADLINK Technology Inc. is leading Edge Computing with a mission to reduce the complexity of building. Like the company name, ADLINK provides the Analog Digital LINK to make connecting people, places, and things easy. ADLINK manufactures edge hardware, real-time data streaming software, and Edge IoT apps to form Edge IoT solutions for manufacturing, retail, networking, medical, transportation, energy & power, oil & gas, and aerospace & defense industries. ADLINK has over 1,800 employees globally, operates two manufacturing facilities and 3 design centers.

www.adlinktech.com

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