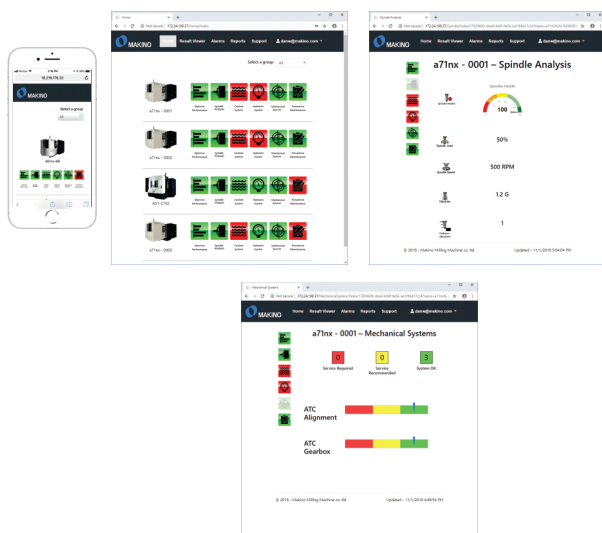




Predictive Machine Maintenance Is Now Possible

IoT technologies have offered the promise to use condition monitoring to predict equipment problems before an actual failure occurs. They commonly use a mixture of sound and vibration analysis to detect when a machine may be running outside of normal conditions relative to a known set of baseline conditions, but until recently have still required a continuation of technical development to be truly effective for reliably performing this challenging set of tasks. With the introduction of the latest technologies by one industry leader, **predicting is now a real deliverable solution.**

Introducing Makino Health Maximizer (MHmax), a game-changing predictive technology specifically designed to reduce your unplanned downtime. Only MHmax offers a tailored high-value sensory package paired with Makino's proprietary machine learning software to monitor key machine functional areas that are critical to the health of the machine. This unique, self-learning capability is able to gather and analyze thousands of data points to monitor the status of the machine and predict failures before they happen, and automatically send an email or text alert for out of spec conditions.



Three Levels of Connectivity

1. On the Pro 6 control display
2. Internal network connection enabling desktop and mobile device interface
3. Connection and link to Makino's service management system
 - a. Alarms are recorded in machine history and automated tasks created for Makino service personnel to contact you directly
 - b. Proactive call from Makino Technical Support when alerts are received (predictive, preventative, and reactive)

MHmax Includes:

- Spindle vibration, Automatic Tool Changer alignment, Hydraulic System output measurements, and Coolant System output measurements are all monitored in the standard MHmax package
- 24/7 "push" alert system that automatically notifies you of concerning detections via email and/or text to designated recipients
- MHmax works seamlessly with the majority of IT systems, as it offers flexible connectivity options
- MHmax monitored data can be viewed live on the Makino machining centers' Pro 6 control display, or on a local desk-top network connection. It features the ability to be expanded to cloud-connectivity to allow an automated connection to Makino's Service Management System
- Daily, weekly and monthly uptime and predictive reports are available and frequencies are selectable
- Optional sensors can be added

Do not let emergency downtime drive your maintenance, use MHmax, plan and schedule your service based on the actual machine health condition. Safe, secure and in real time.