

Tool Monitoring Increases Productivity with 24/7 Lights-Out Machining

RESULTS - INSTALL 6666

CHALLENGE

An aerospace manufacturing company specializing in 4&5 axis machining was being ultra conservative with speeds and feeds, programming for the worst material condition to avoid tool breakage. They were running parts approximately 12-18 hours per day, and always attended by a machine operator.



SOLUTION

The customer installed TMAC on five (5) Okuma machining centers. TMAC has enabled them to get real data off the machines to show the programmers how the machines are reacting to their part programs. They have realized some very serious gains by implementing TMAC. To start, TMAC detects worn tooling during operation. Using the adaptive control feature, TMAC automatically slows the feed rate down during rough operations to keep the tool from breaking as it begins to deteriorate, allowing them to cut more parts per tool. These parts also contain a lot of air cutting. The TMAC adaptive control feature automatically increases the feed rate in these areas to reduce cycle time. They no longer need to be ultra conservative with their speeds and feeds, knowing TMAC will make the necessary adjustments for them.

TMAC has also given them the confidence to run their machines overnight and during weekends, at times when there are no operators present. They can load up their pallet system and tool carousels and then walk away for the weekend. If TMAC detects a tool is worn, it will automatically call a redundant tool if it's available in the carousel. The TMAC interrupt program will shuttle out pallets if there is an alarm, to automatically move to the next workpiece, eliminating machine downtime. They return to the shop on Monday and everything has already been cut, or the machine has stopped if TMAC has detected issues or exhausted its tooling or pallet supply.

With TMAC, their machines run 24/7. They are running the proper feed rates which has reduced cycle time by 15% - 26%. Their productivity has significantly increased through unattended operation and proper tool life management. And, with the real-time data, they can analyze their cutting and optimize their part programs.

RESULTS

- *Reduced cycle time up to 26%*
- *Increased productivity with 24/7 lights out machining*
- *Optimized cutting programs*
- *Maximized tool life with proper insights and management into their cutting operations*

INDUSTRY

Aerospace

MACHINE TYPE

Multiple Machining Centers

MATERIAL

Titanium

SMART MANUFACTURING SOLUTIONS