

## **TOTAL PRODUCTIVE MAINTENANCE ARCHITECTURE FOR FUTURE MACHINING PROCESSES**

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**Abstract:** Machine–tools running 24 hours a day, 7 days a week, 52 weeks a year, this is the dream of any workshop supervisor or manager. Using CNC or DNC machine-tools, robots and other automatic equipment, interfaces and computer assistance is a possible solution but prohibitive and not 100% proof, because shutdowns, turnarounds, and outages. The integration of data acquisition systems with machine–tool endowed with various process sensors can ensure a good monitoring of machining process function and fault diagnose or even some down-time avoidance, but for a real-time control and machine running continuously and accurate, is not enough.

The total productive maintenance is the desirable solution, but is only a concept. To become a real solution, detailed analyses of entire machining process, hardware and software integration, maintenance planning and scheduling based on predictive methodologies and a new approach of the system architecture are needed. A vision in this field is offered in this paper.

**Key words:** data acquisition, monitoring, sensors, prediction, productive maintenance.