

Extreme in Action: Process Monitoring in Hazardous Locations



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“The cameras have survived a tremendous amount of abuse. They are in a thoroughly wet environment for up to a year at time – pummeled with coolant spray and flying titanium chips.”

Steven Wallace, Machining Technology Development, Boeing Research and Technology

Customer: Boeing Research and Technology
Sector: Industrial
Product: EX70 Compact Explosion-protected Cameras

Compact Cameras Survive the Elements

With several company-owned facilities and a network of global suppliers, Boeing Research and Technology is responsible for the implementation of advanced machining technology for commercial airplanes. Conditions inside the machines are brutal – cutters are bombarded with coolant, and chips from the titanium and aluminum parts fly at high velocities. These hazardous environments limited engineers’ visibility of the machining processes – forcing them to speculate causes of problems when they arose. The company sought a way to monitor processes for improvement opportunities and to enhance efficiency by more accurately identifying the causes of parts issues when they happen.

Problem: Extreme Conditions Impede Monitoring of Machining Processes

- Machining titanium and aluminum parts produces extremely harsh, wet environments
- Inability to observe machining processes resulted in imprecise diagnosis of problems
- Conditions unfit for people make monitoring through CCTV equipment essential

Solution: EX70 Withstands Brutal Surroundings

- Rugged NEMA 4X rated enclosure protects against ingress of liquid and prevents corrosion from harsh chemicals
- Tough design is strong enough to withstand flying debris
- NEC Class I, Division 1 certification assures safe operation in hazardous locations
- Compact size allows for effective surveillance in tight spaces
- Precision optics deliver outstanding video imaging

Results: Improved Machining Processes

- Cameras record processes inside machines and operator consoles
- Images captured help engineers quickly pinpoint problem areas in the machine control program
- Cameras installed at company and supplier facilities help improve the quality of parts when a problem exists



Cameras installed for monitoring help Boeing Research and Technology improve machining control programs.

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