

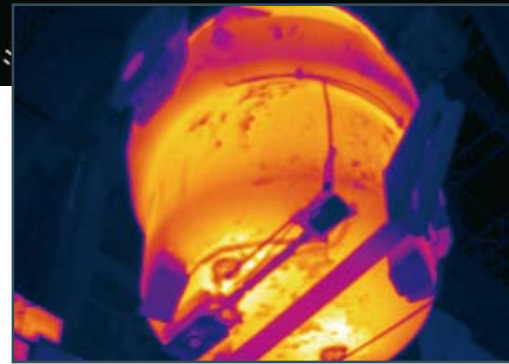
FLIR

APPLICATION STORY



FLIR Systems ThermoVision™ A 320G applied for steel ladle refractory inspection

A steelwork belonging to the world's biggest steel corporation is installing a ladle refractory monitoring system based on six ThermoVision A320G fix mounted infrared cameras

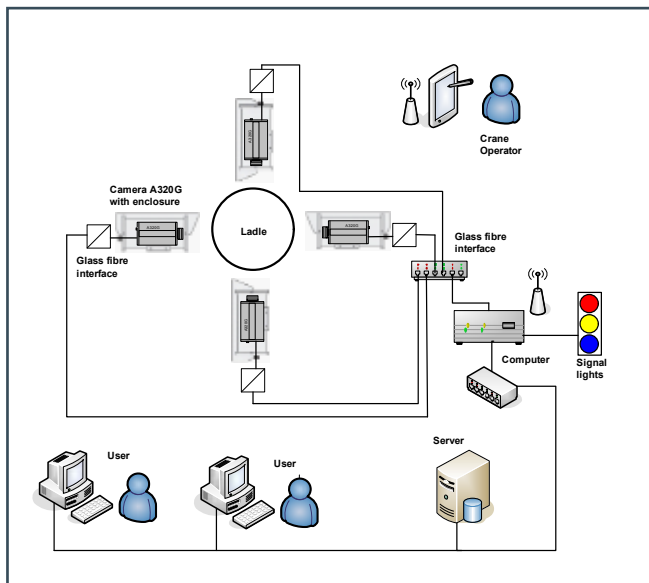


View of a torpedo ladle.

Ladles and torpedo ladles are huge containers used in steelworks to transport the molten steel to other production stages. The ladles are covered by refractory materials that are needed to withstand molten metal temperatures

during the casting process. Their quality and performance features are vital to a clean and safe production process. Refractory materials are heat proof, but also thermal shock-sensitive. If they are not exchanged timely, the ladle will burst and tons of 1,500 °C hot liquid steel will gush out in the foundry.

mounted infrared camera with its IRMonitor solution, a multicamera utility software which links up to 12 camera systems. The ThermoVision A320G is the first infrared camera to carry the GigE Vision™ camera communication protocol that allows fast image transfer with Gigabit Ethernet.



The ladle's surface temperature appears to be a reliable indicator of the refractory's condition. Consequently, infrared cameras are a perfect solution for a contactless monitoring of the ladle during operation. Automation Technology (AT), a German system integrator specialized in industrial vision and quality control solutions, has combined the ThermoVision A320G fix

The steelwork application consists of AT's IRMonitor system linking up four A320G's for ladle monitoring and additional two for inspection of the torpedo ladles to PCs. Automatic temperature measurement and analysis allow to prevent refractory failure and its costly and at times dramatic consequences.

The system not only enhances operational safety, but also optimizes refractory exchange while minimizing costs: a built-in trending function calculates the expected thermal performance and consequently the life cycle of the refractory material.

FLIR

