



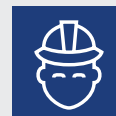
## APPLICATION SPOTLIGHT—Oil & Gas



Improve  
Productivity



Easy Data  
Management



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Safety

# CRITICAL VESSEL MONITORING

## AUTOMATED AND CONTINUOUS MONITORING WITH THERMAL IMAGING

### THE CUSTOMER'S CHALLENGE

Critical vessels, such as gasifiers, encompass temperatures in excess of 500°C internally and must be kept stable in the process. If temperatures are not kept under control the potential result could be a hazardous explosion. To monitor these units, the skin temperature of the vessel is recorded and controlled. If these skin temperatures are elevated, the material that the skin of the vessel is composed of, like iron, can become ductile. A common way to inspect and monitor skin temperatures of a gasifier is with a thermocouple. This provides immediate feedback of the skin temperature of a vessel but comes with inefficiencies. A thermocouple only measures a small surface area of the unit and misses a vast majority of the area needed to be measured. If an incident occurs in an area outside of the thermocouple reading, (e.g., between two thermocouples) the device would not catch the potential failure.

### A SOLUTION

Thermal imaging technology is an ideal way to monitor critical vessels continuously in order to catch problems before a failure occurs. An automated camera, such as the FLIR A310 ex, is a reliable thermal imaging solution for viewing an entire unit in explosive atmospheres, which is where many of these vessels are located. Thermal imaging provides a full picture of potential problems, as well as the areas between thermocouples that are often missed. This allows an operator to feed the data to a control room for immediate action to resolve the problem and lower the skin temperature readings.

### THE RESULTS

Using thermal imaging to monitor critical vessels is a precise way to identify overheating on the unit before it causes a failure. With this data communicating to a control room, a facility can better plan maintenance activities or even shut down a vessel if an impending failure is likely. This streamlines the process and helps ensure a safer work environment for those working in the plant.

For more information about FLIR in the oil and gas industry or to schedule a product demonstration visit:

[www.flir.com/oilandgas/processing-refining](http://www.flir.com/oilandgas/processing-refining)

Imagery for illustration purposes only.

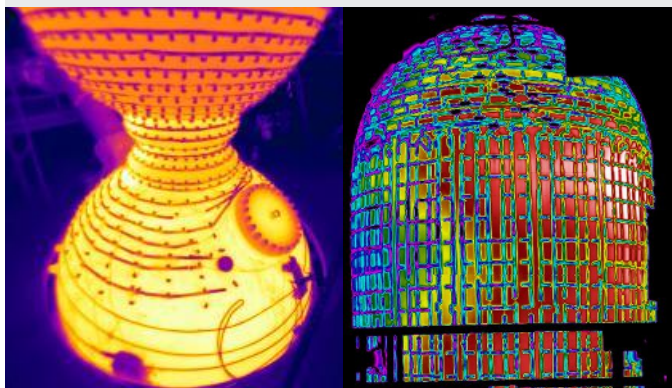
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*Critical vessels must be continuously monitored to keep temperatures stable to prevent hazardous explosions.*



*Thermal imaging can provide a full picture of potential problems before a failure occurs.*

FLIR A310 ex

