

CASE STUDY

# Detect and visualize leaks in a tire manufacturing process



Tire molding machine.  
Encik Tekateki/ CC-BY-SA-4.0

Nitrogen, steam and compressed air are widely used in the tire manufacturing process. In the curing phase, steam is used to implement 8 bar pressure to liquify rubber compounds—and nitrogen is used for applying 24 bar pressure to shape the tire. If predefined pressure cannot be applied, the tire cannot pass the quality checks and is separated as waste. Beside the production losses, recycling the waste tire is also another source of additional cost.

**Location**

Maintenance in tire manufacturing

**User/department**

- Maintenance managers
- Energy managers

**Application**

- Steam and nitrogen usage in curing process
- Leaks in molding machinery due to high temperatures

**Why use the Fluke ii900 Sonic Industrial Imager?**

- Ease-of-use
- Visual localization of leaks
- Quick detection from the distance
- Time saving benefits
- Reliable operation in noisy environment
- Improved process control, less recycling
- Increased efficiency
- Leak quantification
- Easy documentation



**Today's practice**

Identifying the leaks is a big challenge as the process leads to too much noise. Also, due to safety reasons, the machines are located behind fences, making it difficult to reach all the piping and detect the leaks. Spotting the correct location of the leak is therefore extremely time consuming. Finally, because of the high temperature, the process equipment deforms, which then causes further leaks.

**Our solution**

The Fluke ii900 Sonic Industrial Imager enables maintenance teams to improve process control, increase energy efficiency and reduce costs by detecting N2, steam and compressed air leaks. The ii900 helps to easily and visually detect leaks in noisy environments. Leak quantification feature simplifies the estimation of losses and helps prioritize repair actions based on ROI.

We asked a maintenance engineer from a tire manufacturing plant: **“Why did you choose the Fluke ii900?”**

*“We were looking for a tool to easily detect the leaks and visually see the location as this is a pain point for us. We are glad that Fluke came up with a solution, which is beyond our expectations .”*

*“Safety is our priority, we are working in harsh environments—steam and high pressure is being used in various sections. Detecting the leaks easily and visually from the distance is a major advantage.”*

*“The ii900 helped us perform preventive maintenance, we are able to reduce downtime by detecting the problems in advance.”*