



Shoreline AI

Extruder Alert Avoids Production Line Shut Down

Shoreline AI Helps Global Appliance
Manufacturer Prevent Catastrophic Failure



Customer Background

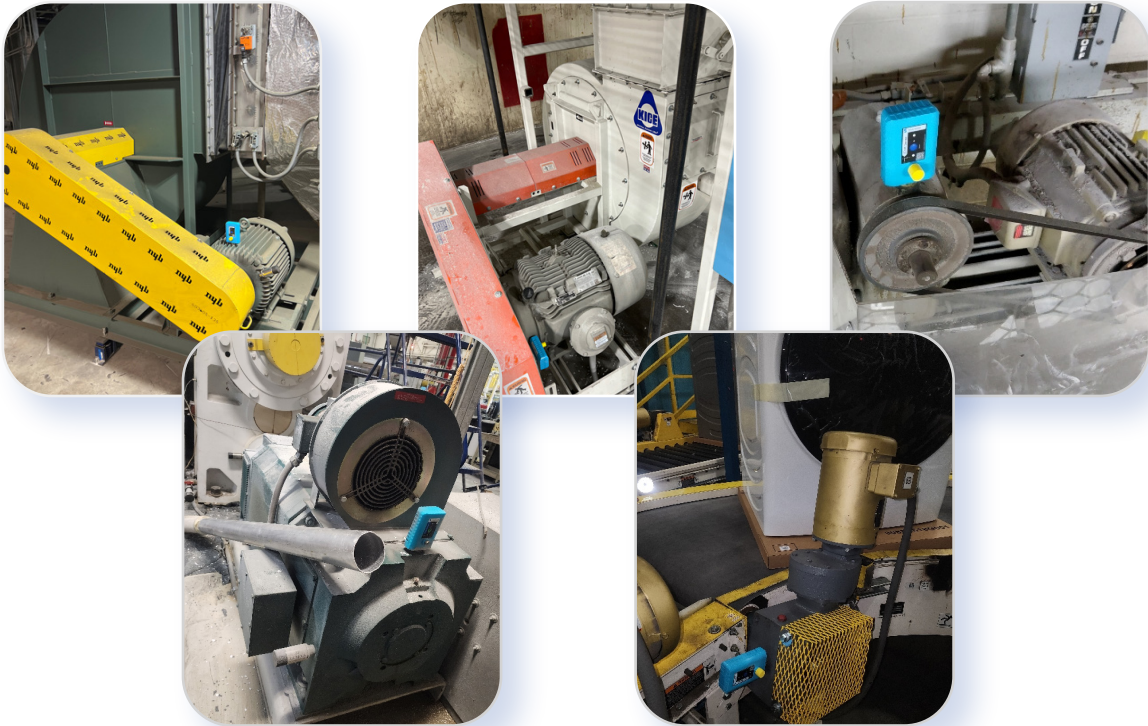
Shoreline AI's Global Appliance Manufacturing Customer has appliances in 50 percent of all U.S. homes. They manufacture and sell products including refrigerators, freezers, cooking products, dishwashers, washers, dryers, air conditioners and water filtration systems.

The company uses a variety of machines in the production process, including electric motors, gearboxes, extruders, pumps, blowers, fans, conveyors, press, balers, HPUs, and chillers. They deployed Shoreline AI's industrial asset performance management (APM) solution across 7 plants and 400+ assets to gain real-time visibility, automate inspections, and enable early detection of asset maintenance.

Industrial APM is critical to appliance manufacturers because it can help them to improve the reliability, availability, and maintainability of their production assets. This can lead to significant reductions in downtime, costs, and waste, as well as improvements in product quality and customer satisfaction.

- Analyst, ARC Advisory Group

Customer's assets being monitored by Shoreline AI



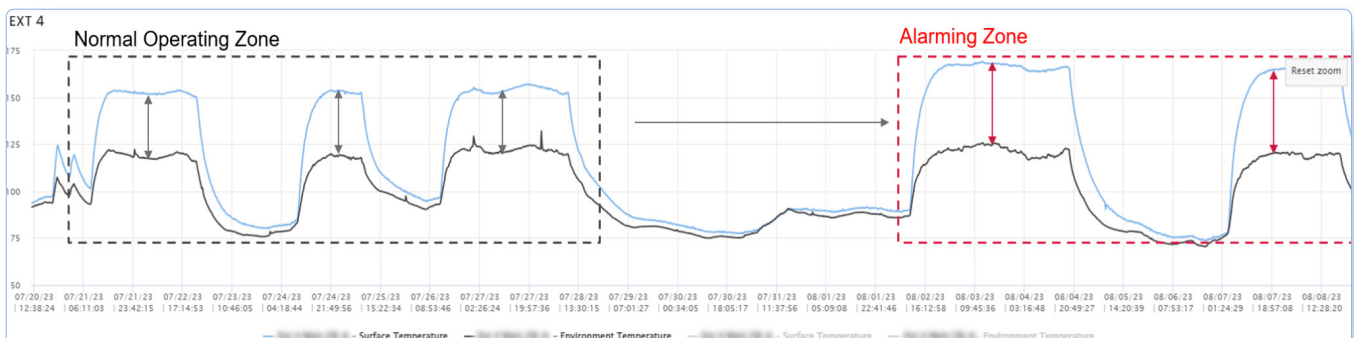
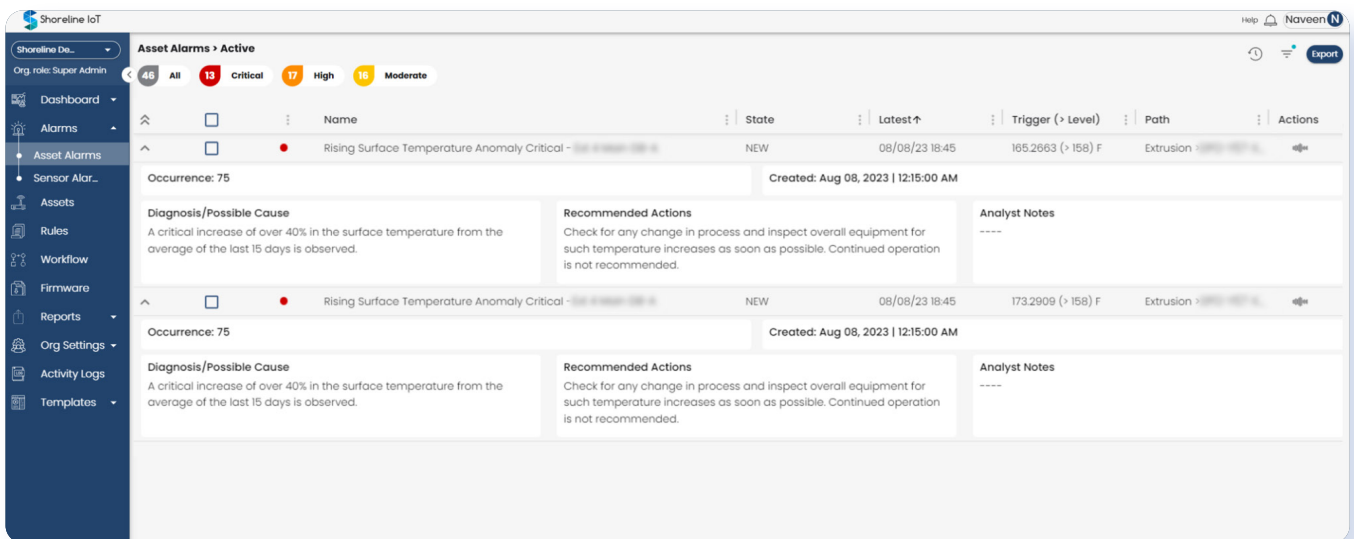
Shoreline AI's predictive maintenance analytics prevents extruder failure

One of the critical assets in the customer's manufacturing process are extruders, which are used to melt and shape plastic, and other materials into various forms. Extruders are used to produce a wide range of components, such as refrigerator door seals, dishwasher baskets, and range drip pans.

Recently, Shoreline AI's predictive model comparing current extruder behavior to baseline operating characteristics initiated a predictive maintenance alarm notifying the team of excessive temperature on one of the extruders. At first glance, the high temperature readings seemed puzzling, given that extruders naturally generate heat under load. However, as the team dug into the problem, it became clear that the shift operator had been running the machine without activating the heat exchanger consistently. This oversight not only led to excessive wear and tear on the gearbox but also posed the risk of catastrophic failure.

Thanks to early warning of the temperature anomaly sent to a smartphone via the Shoreline AI mobile app, the team was able to quickly diagnose the root cause and prevent machine failure. A failure of this type would have resulted in significant disruption. Extruders take hours to warm up, load, and begin production. Had this issue gone unchecked, it could have led to a bottleneck and an entire shift's shutdown, causing substantial production and machine losses estimated at almost \$6,000 per hour of downtime. Extruder replacement or repair can take up to 3-4 months, resulting in massive downtime and lost production.

Shoreline AI's Intuitive Alarm Dashboard with advanced insights



// *With Shoreline's solution we are now able to better manage risks and operational costs on our equipment, not just the high-end critical ones. Our downtime has been reduced and the production environment is more stable with higher throughput than before.*

– Director of Operations //

Results

As a result of implementing the Shoreline AI's solution, the customer is expected to eliminate unplanned downtime, reduce maintenance costs by 40%, and prevent millions of dollars in production losses. The expectation is this investment will also improve the quality of its products and increase customer satisfaction.

About Shoreline AI

Shoreline's plug-and-play asset performance management delivers breakthrough simplicity and cost efficiencies. Completely self-installed by non-experts, smart sensors automatically connect to the cloud and are auto-provisioned via a rich library of 30,000+ pre-built asset physics models.

This cloud-native approach requires no new CapEx, on-site experts or data scientists, operationalizing in days and delivering powerful machine-specific analytics. This highly secure, 100% subscription approach creates unprecedented industrial APM economics and scales easily for new applications such as emissions monitoring.

Shoreline helps clients in asset-intensive industries maximize the performance and profitability of their operations, create a proactive and predictive approach to asset management, and accelerate sustainability initiatives. The company's solutions are designed for machinery serving the energy, manufacturing, pharma and data-center cooling industries.