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CIO JOURNAL

‘Predictive-Maintenance’ Tech Is Taking Off as Manufacturers Seek More Efficiency

Pepsi, Colgate and other firms are populating their plants with sensors from AI startup Augury to ‘listen’ for machinery problems. And other up-and-coming ‘machine-health tech’ firms are offering similar wares

Anna Farberov, general manager of PepsiCo Labs, said predictive-maintenance tech at four of the company’s Frito-Lay plants reduced unexpected breakdowns, interruptions and costs.

PHOTO: JOHN MARSHALL MANTEL/ZUMA PRESS

By Angus Loten

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Startups that make technology designed to predict industrial equipment failures before they happen are seeing a surge in demand, as strained supply chains prompt manufacturers to squeeze more efficiency out of production lines, startup founders and analysts say.

Anna Farberov, general manager of PepsiCo Labs, the technology venture arm of PepsiCo Inc., said that over the past year so-called predictive-maintenance systems at four Frito-Lay plants reduced unexpected breakdowns, interruptions and incremental costs for replacement parts, among other benefits.

Developed by New York-based startup Augury Inc., the technology has helped Frito-Lay add some 4,000 hours a year of manufacturing capacity—the equivalent of several million pounds of snacks coming off the production line and shipped to store shelves, Ms. Farberov said.

PepsiCo is now sending the technology to most of its U.S. Frito-Lay plants, and plans to roll it out in its Southern U.S. beverage plants and eventually to all its bottling facilities in North America, she said. “We had a very clear business target to achieve,” she said.

Other manufacturers appear to be following suit. The global market for predictive-maintenance technology, also called machine-health tech, is expected to reach $18.6 billion by 2027, growing at a compound annual growth rate of just over 26%, according to data analysis firm Research and Markets. When Covid-19 struck in 2020, closing factories and disrupting shipping routes, worldwide spending on predictive maintenance stood at roughly $4 billion, the firm said.

Augury expects to add up to 50 new industrial customers by the end of the year, said Saar Yoskovitz, the company’s co-founder and chief executive. In addition to Pepsi, current customers include Colgate-Palmolive Co. , DuPont de Nemours Inc. and Hershey Co. , among roughly one hundred beverage and food producers, pharmaceutical firms, consumer packaged goods makers and other large-scale manufacturers, the company says.

Launched in 2011, Augury makes wireless sensors that attach to factory equipment and pick up the sounds they emit. The data is transmitted to its cloud-based platform and analyzed by artificial-intelligence software trained to recognize more than 80,000 industrial machinery sounds at various life cycles of operations—from functioning smoothly to falling apart—and overlays these sounds to detect patterns. Augury’s system then relays its insights to the plant’s maintenance team in real time, enabling them to better focus equipment inspections and get a jump on maintenance needs.

Co-founders of Augury Gal Shaul, left, chief technology officer, and Saar Yoskovitz, chief executive.
PHOTO: COURTESY OF AUGURY

Other tech startups offering similar predictive-maintenance technology include C3.ai Inc., DataProphet and Senseye. Though the technology isn't new, soaring demand—driven by added supply-chain disruptions in the wake of Russia's invasion of Ukraine and ongoing Covid-related shutdowns in China—is making these and other startups increasingly valuable to manufacturers.

Senseye, a predictive-maintenance software developer based in the U.K., in June was acquired by Siemens AG . In announcing the deal, Siemens said Senseye's technology can reduce unplanned machine downtimes by up to 50%, while boosting maintenance staff productivity by as much as 30%. Terms weren't disclosed.

In October, when Augury raised $180 million in a Series E funding round—which took its private-market valuation above $1 billion—its lead investor was oil-field giant Baker Hughes Co. Another was the corporate venture arm of Schneider Electric SE.

A turbine made by Siemens Energy in western Germany. In June, Siemens purchased Senseye, a predictive-maintenace software developer.

PHOTO: SASCHA SCHUERMANN/AGENCE FRANCE-PRESSE/GETTY IMAGES

Under the terms of the deal, Baker Hughes took a seat on Augury's board of directors. It also signed a multiyear commercial agreement, Augury said.

In May, Augury itself acquired Seebo, an AI-based process-intelligence startup, in a deal valued at more than $100 million.

Mr. Yoskovitz, Augury's chief, said his long-term goal for the company isn't to get acquired by a giant manufacturer or IT provider, but to go public "when the time comes."

Large information-technology vendors are increasingly offering their own predictive-maintenance tools, ratcheting up competition in an already tight market.

"The value of startup vendors such as Augury has initially been the combination of hardware and software predictive-maintenance solutions, especially machine learning-driven," said Emil Berthelsen, vice president and analyst at IT research and consulting firm Gartner Inc.

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By using multiple data sources, such as historical and operational data, acoustic sensors and images, Mr. Berthelsen said, "the quality and levels of predictive-maintenance insights continues to improve."

Warren Pruitt, vice president of global engineering at Colgate-Palmolive, said the company turned to predictive-maintenance tools in a bid to improve machine performance and reduce machine downtime. Previously, the company relied on preventive and calendar-based maintenance to manage equipment, he said.

Colgate-Palmolive has put Augury's platform to work in all of its North America plants, as well as many in Europe, Latin America and Asia, he said.

"Our predictive-maintenance program also upskills our workforce, giving our employees the bandwidth to look at the big picture and consider how to employ new technologies and initiatives to continuously improve our operation," Mr. Pruitt said.

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