

Predictive Sensor System Can Save Industrial Equipment

By [Ken Briodagh](#) June 23, 2015

Figuring out if an industrial component has already failed is important, and well within the capabilities of existing M2M technology. The power of the IoT, however, is in the potential for predictive prevention measures.

DataArt is making some inroads in that direction with a prototypical project using MS Build and Azure. The system, shown at work in the video below, is capable of predicting when industrial equipment is going to fail and letting companies solve the problem before it happens. DataArt is a consultancy on cloud, big data & IoT solutions and created the open-source DeviceHive, the first IoT & big data platform that makes different IoT standards talk to any app. For that project, DataArt partnered with Microsoft and Canonical, the company behind Ubuntu.

The solution is meant to work on a very simple principle: in the industrial world, lots of industrial equipment like pumps, actuators, fans and HVAC systems will start showing early signs of troubles by increasing the frequency or strength of vibrations. Now, equipment outage has to be avoided, so this system uses accelerometer-based sensors to create a vibration profile of the system, which can be captured by an on-premise gateway and analyzed in the Azure Cloud. Once the working profile is compiled, it can be used to detect malfunctioning equipment and trigger a maintenance alert, if needed. For this project, DataArt connected a sensor and Raspberry Pi to a fan to identify variances.

In short, the time has come to start looking ahead at what is likely to become a problem and preempt trouble before it begins. We don't need a psychic anymore, just statistical patterns. To find out more about how well-compiled data from sensors can help you prognosticate your business' future, join us at [IoT Evolution Expo](#) in Las Vegas at Caesars palace August 17 to 20.

Edited by [Maurice Nagle](#)

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