

Using IoT for environmental monitoring

In the first environmental monitoring article in this series, we talked about the purpose and importance of monitoring processes that can have an ecological impact. This blog post explores the critical role of IoT and how industries seeking ways to improve their environmental stewardship can utilize the Internet of Things to create change.

IoT-based monitoring

First, let's talk about an environmental monitoring system definition and how IoT supports these processes. IoT-based environmental monitoring is the consistent collection of measurements and data from our physical environment, using sensors and connected devices. Sensors embedded in irrigation systems, pipelines, tanks, weather stations, oceanic applications, and industrial equipment — anywhere on the planet — can detect temperature, moisture, water levels, leaks, and other physical properties.

Intelligent, connected devices with embedded communications modules can then process that information using edge computing technology, and rapidly send critical data to the cloud or a data center for further action or analysis.

Power plant cooling tower

These monitoring systems can be programmed to detect abnormalities or specific conditions, then trigger alerts via email or text, as well as automated processes. These can include anything from launching service tickets to shutting systems down to thwart a disaster. In other words, an environmental monitoring system using IoT acts as the eyes, ears, and mouthpiece for an application — watching, listening, and reporting on a vast range of processes — and even taking action to thwart damage.