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A New Solution for an Old Problem

H2O Flow Pro - An IoT Success Story

CASE STUDY

The Problem

Irrigation Damage and Water Waste

Global demand for fresh water now exceeds supply. States such as California are in the midst of severe drought, and water waste intensifies these problems. While it may be a tech industry cliché to strive for "making the world a better place," IoT water-resourcing solutions could significantly decrease water loss across the planet. One man has made it his mission to do just that, albeit on a much smaller scale to start.

Bret Berry has been an irrigation business owner in Texas for over 30 years, and from a conservation and commercial perspective, water loss has long been the bane of his existence. A primary frustration is his inability to be proactive. "We're always reactive when it comes to issues like broken pipes and damaged sprinkler heads, and these systems often run at night," said Berry. "When they break, the property owners don't realize it quickly enough, and by the time it's fixed, a lot of water's already been wasted." Berry understands the ins and outs of irrigation and knows the key to preventing water loss and responding quickly to leaks lies in effective water-flow monitoring—as he's fond of saying, "The flow tells the story."

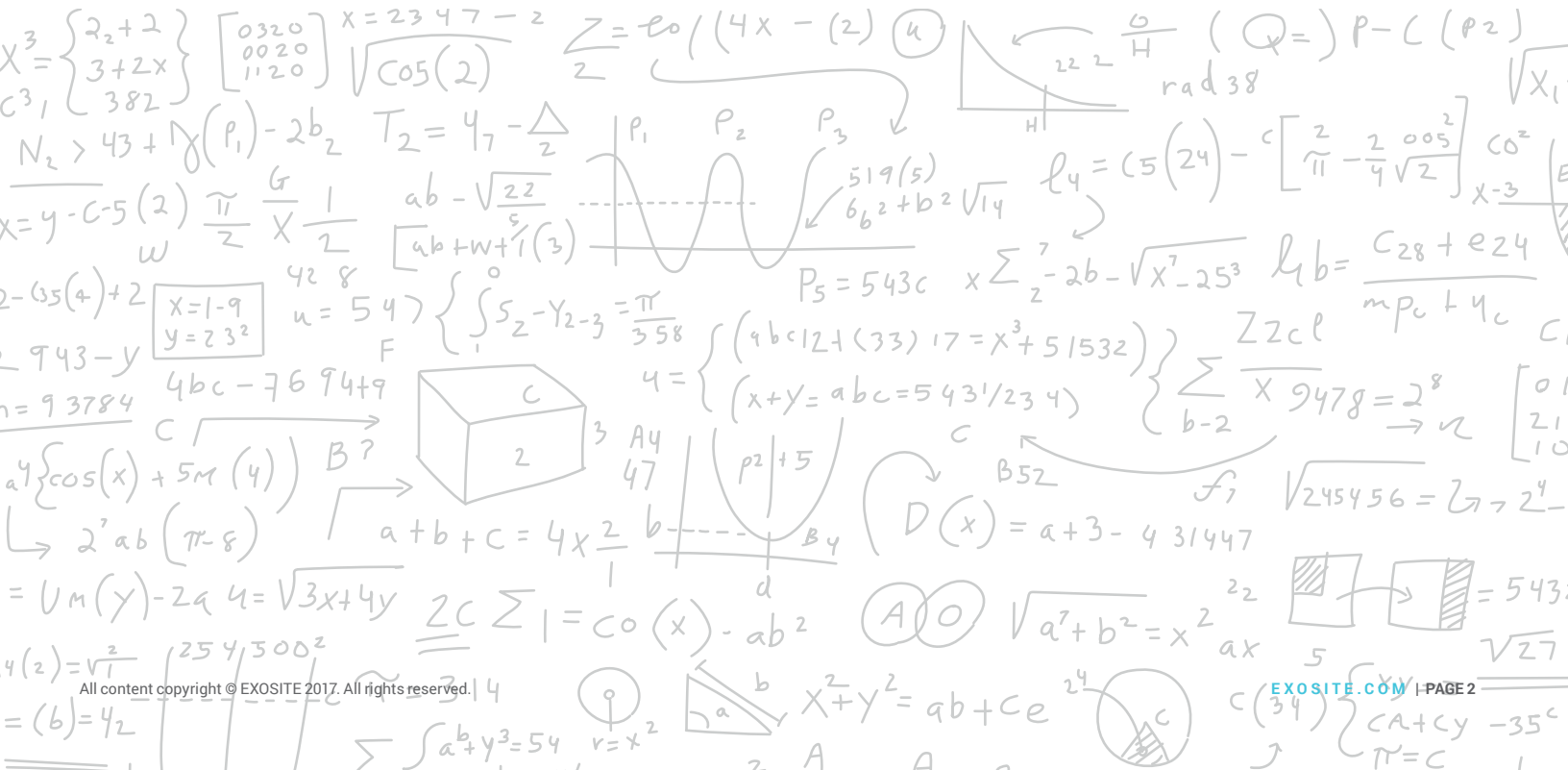
> With Exosite, our engineers could focus on building the best device hardware without having to worry about the software side of the product.
>
> - Bret Berry, CEO, H2O Flow Pro

The Opportunity

If It Doesn't Exist, Create It

Flow monitoring technology isn't an entirely new concept. Wire-connected flow sensors have existed for some time, but adding them to existing irrigation systems requires digging expensive lines through hardscape surfaces and is, therefore, not conducive nor economical to retrofitting. Berry works with irrigation systems that, in some cases, are several decades old and would require something far less invasive. He determined a wireless solution would be his best bet for easy installation. In 2013, he began to explore available options for wireless monitoring systems to install at client sites, but he was surprised to find that the technology didn't exist and manufacturers weren't even putting much effort into the idea.

Not to be discouraged, Berry took matters into his own hands. He knew the value a wireless solution could provide would be a great benefit to irrigation contractors everywhere, especially if it had the ability to send real-time alerts and automatically shut down broken systems. He drafted some conceptual drawings of his vision and teamed up with a few good engineers to see what they could build. After a period of intensive R&D trial and error, they came up with a rough prototype to demonstrate the concept's validity and pique investor interest. From these beginnings, H2O Flow Pro was born, a new company with a revolutionary product. They were missing just one critical ingredient: connectivity.



The Prognosis

An Agile IoT Platform

Berry contracted the extremely skilled engineers of PCDworks (Product Concept Development, Inc.) to build H2O Flow Pro's hardware, but IoT software development is a real beast of a different color. Rather than risk a deep dive into a bottomless pit, Berry and Co. searched for existing software frameworks and were relieved to discover Exosite, an IoT software and services company that could meet all their connectivity needs. With Exosite, Berry could buy an existing end-to-end platform that provided the necessary functionality, security, and scalability, while also having the flexibility and freedom to build H2O Flow Pro's own user interface on top of it.

"It was much easier and a lot more efficient to find an off-the-shelf platform rather than invest all the time, energy, and resources into developing our own software from scratch," said Berry. "With Exosite, our engineers could focus on building the best device hardware without having to worry about the software side of the product."

The IoT Data Flow

The Solution

The Flow Tells the Story

The H2O Flow Pro controller is an IoT, water-resource-management system with a universal design that allows it to be easily retrofitted in any commercial or residential irrigation network. Once a controller is installed in an irrigation system's zone wiring, it immediately learns the normal flow rate for the zone and begins transmitting measurements to Exosite's cloud. When the sensors detect irregular flow, caused by a line break or leaking sprinkler, a transmitter sends an alert to the product user's personal device. If the flow level goes too high, the controller will also automatically shut down the affected zone to stop water loss and prevent further damage. An irrigation contractor can then dispatch a repair tech, with the potential to have all systems fixed and operational again within 24 hours.

"It allows for predictive maintenance before something goes wrong and also gives everyone a lot more peace of mind," said Berry. Historical data from customer irrigation systems, such as flow levels and gallons of water used per day, gets sent to, stored in, and processed by the Exosite platform. When users log in to their H2O Flow Pro account, they can easily visualize and utilize this data. The system also provides helpful features like a budget setting that sends alerts when a user has reached 50 and 75 percent of their monthly budget.

H2O Flow Pro's generation-one production model is now market ready, with field test units already deployed and operational in California, Arizona, and Texas. Exosite's platform enabled a seamless connection, and Exosite's experienced specialists will continue to provide dedicated support to ensure smooth operations going forward. Leveraging Exosite, H2O Flow Pro gained a competitive edge in their market with a first-of-its-kind offering.

The Results

A New Solution for an Old Problem

The H2O Flow Pro IoT solution delivers a wide range of benefits to all its prospective customers and users. Irrigation system distributors and contractors can use it to improve service models and effectuate analytics-driven efficiencies, and property owners with the installed controller will be empowered by the data provided to make better-informed water management decisions.

Ready-Made Platform Implementation

Exosite's IoT software platform enabled H2O Flow Pro to quickly connect their controller product and create a user-friendly, marketable application.

Real-Time Data and Notifications

Users of H2O Flow Pro gain access to real-time information and alerts from their site(s) that improve water resourcing and allotment and allow for predictive maintenance.

Retrofit Design

The H2O Flow Pro controller's retrofit design makes it universally applicable and easy to install in existing irrigation systems, no matter the age or size.

End-User Savings

Property owners using H2O Flow Pro will see major cost savings from lowered water bills and the decreased risk of property damage expenses and over-watering fines.

Automated and Remote Water Management

Irrigation contractors can save on time-consuming site inspections with H2O Flow Pro's automated, accurate data and the immediate shutdown of trouble zones.

Making the World a Better Place

H2O Flow Pro is a sustainable technology solution that conserves water and, if installed on a large scale, could significantly remedy the worldwide water shortage.

H₂O Flow Pro

Exosite will help enable your connected-product strategy and expedite your IoT success story.

Connect with our team
of IoT experts to learn more.

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