



Oasen adopts a pioneering approach to public water provision with Azure IoT

Oasen prides itself on providing “impeccable, pristine” drinking water to hundreds of thousands of people in the Netherlands. Using Azure IoT, the company is introducing scalability, flexibility and greater innovation to its operations through remote management and predictive maintenance of its water processing plants.



Customer

Oasen

Website: www.oasen.nl

Country: Netherlands

Industry: Non-profit

Company size: SMB

Customer profile

Oasen provides Holland with sustainable drinking water. Its integration with Azure and use of AI and IoT have created intelligent bots for enhanced customer care, a model for predictive maintenance and a Smart GRID solution.

Software and services

Azure IoT
Hololens



“Our goal is to replace traditional water treatment equipment with digital technology and connected devices across our supply network.”

Nino Marino, CIO at Oasen

Oasen is a non-profit social enterprise that supplies 48 billion litres of high quality drinking water every year to 750,000 residents across municipalities in the South Holland region. Rooted in the quagmire of nineteenth century urban pollution in Gouda, the company’s mission is to preserve public health with clean, running water delivered to homes and businesses within its service area.

Smart infrastructure for better water supply

Walter van der Meer, Director of Oasen, explains: “In the 1800s, poor water management in our region caused a cholera outbreak that killed hundreds of people. The local council promised to make clean water freely available to fight the disease, and founded the Water Pipe Company of Gouda.”

“We feel a responsibility to keep that promise and to do so at a fair price to the customer. That means keeping our operating costs low, continuously innovating and reinvesting in our business. Our resources are limited, so we rely on technology to fulfil our purpose.”

Oasen, which means ‘bringer of life’, is using Microsoft Azure IoT to build a smart grid infrastructure that will achieve those aims through business improvement and process automation. The company has begun extracting data from smart water meters with Azure IoT and is installing an initial run of 20 smart valves in its pipelines, which it can open and close remotely with IoT Central.

“Our goal is to replace traditional water treatment equipment with digital technology and connected devices across our supply network,” says Nino Marino, CIO at Oasen. “We are starting to connect and integrate system components centrally instead of using distributed logic controllers to operate plant machinery. Eventually, we hope to control and monitor our entire infrastructure remotely with IoT technology.”

Predictive maintenance and improved customer service

Oasen began its IoT journey in 2017 by migrating the company website to Azure and moving operational data to the Azure Data Lake. In the first year following the migration, Oasen was able to predict 50 percent of all burst water mains using Cortana Analytics; enabling Oasen to save hundreds of litres of water, eliminating repair costs and reducing risks like contamination.

On average, the company replaces 40km of pipeline every year to keep the network in good shape. Now, it uses machine learning to predict which pipelines are most at risk of damage from subsidence and need to be replaced first.

Oasen is also using artificial intelligence to improve customer service. 80 percent of Oasen's customers submit meter readings through the Azure website. At the end of 2018, a chatbot was introduced to its website to increase customer satisfaction by answering questions quickly, fully automated and with high quality. At the same time, it is reducing the number of calls at their customer service centre.

Building on this initial success, Oasen constructed a 3D digital model of one of its water processing plants, using Microsoft HoloLens to represent operations in real time with Azure IoT Suite. The model shows how Oasen is able to remotely control pipeline valves using and how service requests are automatically generated in Microsoft Dynamics 365 when a fault is detected.

More recently, the company has implemented Office 365 with SharePoint and Teams to improve collaboration and team working. It has also developed a supervisor app with Microsoft Power Apps and Microsoft Flow to automate business processes in the field.

Azure IoT is at the heart of Oasen's smart grid system and is helping to deliver results. They expect the smart water shutters and the smart meters will lead to an 80 percent reduction in manual work. Soon, the first of its smart valves will go live, which will inevitably lead to more efficiency gains.

Nino says, "Everything we build with Azure drives bottom line cost savings, giving us more for innovation. And the beauty of Azure IoT is that we can test and prove easily using IoT Suite before going live with IoT Central. So far, it's been a smooth process and we're excited to see what the next few years hold."

"Everything we build with Azure drives bottom line cost savings, giving us more for innovation. And the beauty of Azure IoT is that we can test and prove easily using IoT Suite before going live with IoT Central. So far, it's been a smooth process and we're excited to see what the next few years hold."

Nino Marino, CIO at Oasen

“As we continue to expand our use of this technology, we are gradually reinventing ourselves. Eventually, we will be a very different company to the one we are today.”

Nino Marino, CIO at Oasen

The future is digital (and 3D)

In December 2018 Oasen launched Dynamics 365 FieldService for its maintenance and servicing processes. It is about to go live with Dynamics 365 Operations and planned to implement D365 CRM for its customer care centre before the summer break.

“Over the next 10 years, we hope to connect all 300,000 of our smart water meters to Azure IoT, so we can collect data centrally,” says Nino. “This will enable us to apply analytics across all of our operations to continue to improve performance, cost efficiency and customer satisfaction.”

Oasen has also started a pilot using drone-captured and laser-scanned images of one of its processing plants, to look into the possibility of developing a digital model of its entire supply infrastructure using the Azure Digital Twins service. It also intends to replicate the HoloLens 3D digital environment to plan and implement remote management at all 14 of its water processing plants.

Nino is optimistic about the future: “As we continue to expand our use of this technology, we are gradually reinventing ourselves. Eventually, we will be a very different company to the one we are today.”

Partner:

ICT Automatisering

Partner Web Site:

www.ict.eu

Digital transformation to:

- Empower employees
- Engage customers
- Optimise operations
- Transform product
- Transform business

To find more stories like this, visit the global evidence website:

customers.microsoft.com