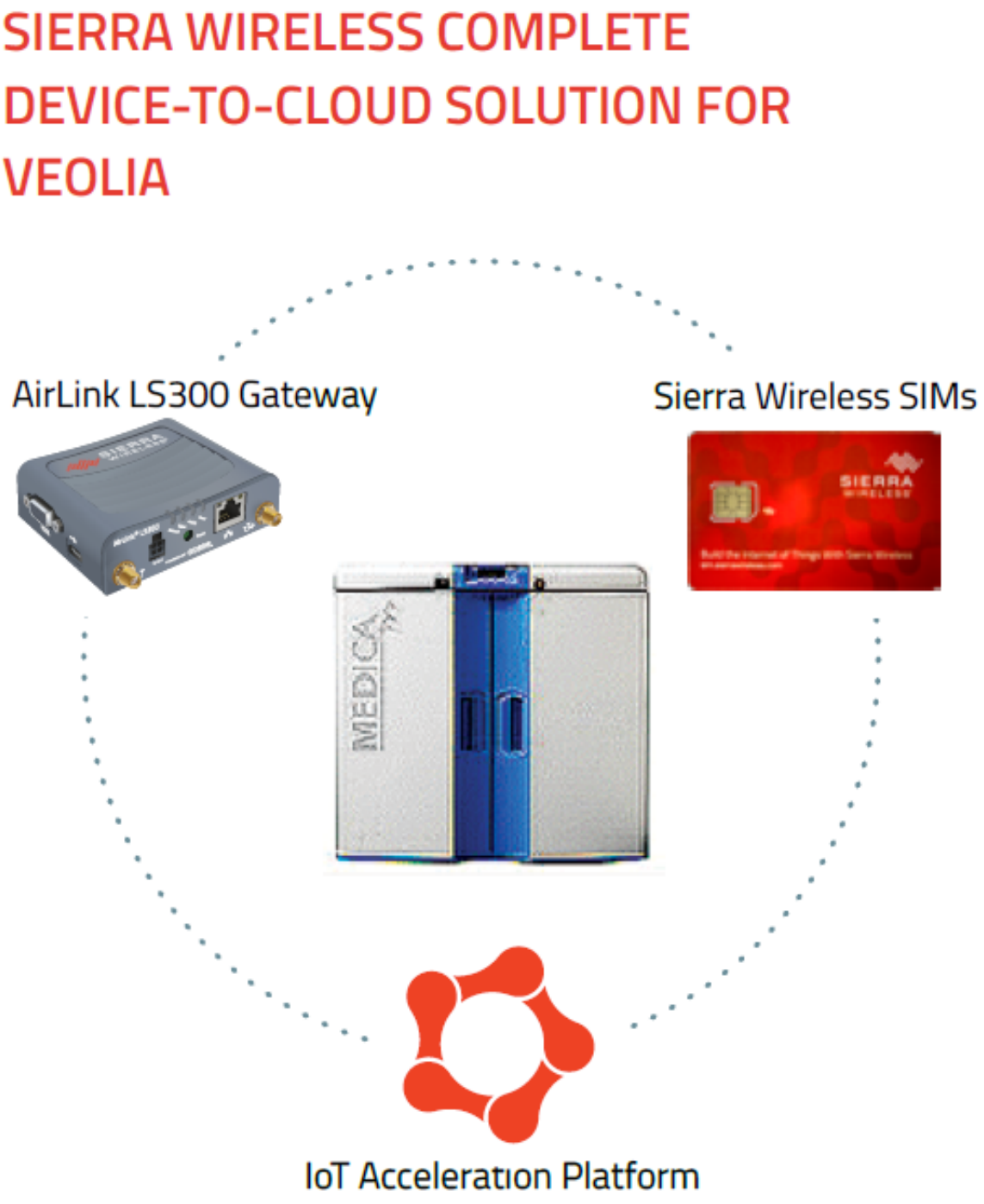
Veolia Water Technologies (Veolia)

Using the Internet of Things for Real-Time Monitoring of Water Purification Systems - A Sierra Wireless® IoT Solution



Using the Internet of Things for Real-Time Monitoring of Water Purification Systems

A Sierra Wireless® IoT Solution

CUSTOMER CRITICAL CHALLENGE

- Use the latest technology to deliver a great customer experience. Taking their water treatment product and service offering to the next level

SOLUTION

- 24/7 connected water treatment systems powered 100% by Sierra Wireless® IoT infrastructure
- Development of an online customer portal
- Fixed location cellular data provided by Sierra Wireless SIMs and Connectivity Service

BENEFITS

- Manged service 24/7 - round the clock system monitoring, increased system uptime and increased water treatment efficiency
- Moving to a predicitve maintenance model meets their customers’ needs for 24/7 water treatment system availability, ongoing recommendations for improved efficiency and water savings

- Using IoT infrastructure from Sierra Wireless, Veolia reduced its time to market and allowed them to focus on the customer experience

Customer Critical Challenge

Veolia supplies water treatment equipment and services into the Pharmaceutical,Food and Beverage, Chemical Processing, Power, Research and Healthcare industries.All of these industries rely on purified water and waste water treatment to keep their businesses operating efficiently.

Veolia provides a range of service packages to support their customers watertreatment systems throughout the product life cycle. The AQUAservice packagesinclude a range of features including guaranteed on site response within 4 hours, 24/7emergency technical support, planned service and preventative maintenance visits.Veolia wanted to further enhance their customer experience focused on deliveringan even more efficient service. Moving from preventative to predictive by using theIOT to predict when a technician would be needed. Developing reports, using theircustomers system data, to recommend new technologies for saving water or energy.Implementing 24/7 managed service connecting their Engineers to critical sites 24/7
- if there is a problem with the water system Veolia Engineers will know before their customer and they can react instantly.

Sierra Wireless IoT Solution

To develop the remote monitoring capabilities needed for their IOT project, Veoliaturned to Sierra Wireless, a leading provider of IoT infrastructure for implementing managed IoT services.

Veolia uses Sierra Wireless technology to drive the entire IoT process of collectingmachine data and making it available to customers and service representatives.Sierra Wireless AirLink® LS300 gateways collect data from each water treatmentsystem and automatically send it to the Sierra Wireless IoT Acceleration Platform,a cloud-based repository for machine data. Pan-European cellular connectivity isprovided through the Sierra Wireless SIMs and Managed Connectivity service.

Veolia uses data and alerts from the IoT platform to enable predictive maintenanceservices, and to make recommendations for operational improvements. Datafrom the IoT platform is also available through Veolia’s own Vision Air portal,so Veolia’s customers can view and interact with the information too. The resultis a comprehensive IoT service platform that lets Veolia

offer fully managed service contracts.

- ***AirLink® LS300 Cellular Gateway***

  The gateway provides the water treatment system with a secure connection to theInternet, using 3G cellular communication. Veolia was able to use the gateway rightout of the box, so there was no need to design custom IoT hardware for machineconnectivity. That saves time, and makes it much easier to retrofit existing machinesin the field.

- **IoT Acceleration Platform**

  The IoT Acceleration Platform provides all the capabilities that companies like Veolianeed to create IoT solutions for their customers. The Platform is integrated with theLS300 gateway, so it’s easy to collect machine data and transmit information to thecloud. The Platform organizes and stores all IoT data, so Veolia only has to accessit as required for use in their Vision Air portal. The Platform also handles all themanagement activities required to keep machines online and communicating withremote monitoring and updating of the LS300 gateways.

- **Sierra Wireless Managed Connectivity**

  Veolia was one of the first production customers to use Sierra Wireless’ newlyacquired Managed Connectivity service, a unique offering that provides an operatorindependent SIM for IoT use cases. Veolia uses a single SIM and connectivityplatform wherever their machines are deployed.

Sierra Wireless for Cellular Connectivity

Veolia wanted control over the connectivity of their machines deployed in the field.This meant that they did not want to use onsite wired or Wi-Fi networks to connecttheir water treatment systems. Cellular connectivity allowed Veolia to completelycontrol its network of connected machines.

Another aspect of connectivity is that Veolia’s machinery is fixed in place, and is ofteninstalled in basements and other locations where it’s hard to get a cellular signal.Choosing the wrong Mobile Network Operator (MNO) can add to the problem, makingit difficult to install fixed equipment. Using the Sierra Wireless

Managed Connectivityservice removed this as a concern. The service is operator agnostic, and can provideaccess to multiple MNO networks in any given location, so it’s an ideal choice for fixedIoT use cases.

Customer Benefits

Veolia’s new Vision Air service lets customers access a fully managed service formaintenance, reporting, and analysis of their water purification systems. Driven byreal-time data, the Vision Air platform enables customers to minimize equipmentfailures while maximizing uptime.

PREDICTIVE MAINTENANCE

> The VisionAir platform is built on real-time encrypted performance data, includingalarms and equipment status. This makes it possible to track important metrics, likeflow, pressure, temperature and conductivity, in each water treatment system.

BETTER DECISIONS

> By analyzing real-time usage data captured by the Vision Air platform, Veolia can makebetter decisions about servicing their water treatment systems, enhancing businessefficiencies and reducing administration. Veolia’s customers have access to the datatoo, so their own technicians can monitor their systems, even from a remote location.

FASTER DEPLOYMENT

> Having access to integrated IoT infrastructure, with a single supplier for gateway,SIM, and cloud-connectivity technology, helped Veolia save time during the earlystages of deployment, since the technical team didn’t have to stitch together varioustechnologies from different suppliers and then test them all for interoperability.

GLOBAL REACH

The initial rollout of Vision Air in the UK and France, has been very successful, and willserve as a model of future expansion, throughout Europe and beyond. Using the SierraWireless operator independent Connectivity Service, Veolia can expand its serviceglobally and have access to the best network, regardless of service provider, whereverits machines are installed.