



# Kurita enables real-time water monitoring

Kurita Water's S.sensing<sup>®</sup> system allows water treatment conditions to be monitored and controlled, powered by Vodafone IoT.

The future is exciting.

**Ready?**



# Vodafone IoT provides a global, seamless network for Kurita's water treatment remote monitoring service, S.sensing®

Kurita Water Industries Ltd. (Kurita) is a global company with a wide range of businesses focusing on water and the environment. Its many services are used in cooling water systems, water treatment equipment and plants and factories that require water treatment chemicals. In recent years the S.sensing® system has been the focus of a great deal of attention.

This system monitors water treatment data remotely, and controls chemical dosing in real-time according to changes in water quality. Kurita plans to expand S.sensing® into 30 countries around the world in about 10,000 locations. Since 2013, Vodafone IoT and its partner Toshiba Corporation (Toshiba) have been working together to support this project.

## The challenge

### Fully-fledged global expansion of cutting edge water treatment IoT services

Kurita launched remote monitoring of water treatment conditions in the 1990s. It differentiated itself from other companies in the industry by responding swiftly to customer needs and by pioneering remote monitoring technology. That was the start of S.sensing®. But as this groundbreaking remote monitoring technology spread to many more customers, it needed to obtain greater quantities of data even more quickly. Kurita's conventional remote monitoring system faced difficulties in attempting to satisfy that need. Thinking to the future, Kurita wanted to do whatever it could, given the importance of a fully-fledged global expansion, to innovate.

“ Unexpected situations often come up in the process of developing a global business. Toshiba and Vodafone IoT are constantly envisaging what might happen, and are ready with measures to resolve problems as quickly and accurately as possible. This gives us peace of mind. ”

**Kuniyuki Takahashi,**  
Core Technology Group,  
Research & Development Division,  
Kurita Water Industries Ltd.

At that point, Kurita sent out a Request for Proposal (RFP) to several companies, including Toshiba and Vodafone, seeking a proposal that would evolve S.sensing® into a remote monitoring system that could provide high customer satisfaction throughout the world.

Kurita required these conditions for its new S.sensing® system:

- A secure system that could digitally check water treatment conditions in real-time, anywhere in the world
- A web portal with excellent visibility, operability and ease of use
- Potential to cut communication and operating costs
- Flexible customisation of the tools according to the situation
- A system that could provide high added value through automatic analysis of the collected data, linking with other data etc.

“ Not only does Vodafone IoT have the widest coverage on a global basis, but it responds meticulously and diligently to difficult challenges. We feel Vodafone is an extremely strong partner for the next expansion of our global business. ”

**Kazutoshi Nagano, Consulting & Business Development Dept.,  
Toshiba Corporation**

## The solution

### **The global power of the Vodafone Managed IoT Platform**

Having received Kurita's RFP, Toshiba considered that high added value could be created in the system by using its own M2M/IoT application and User Experience Design (UXD) for screen design with superior usability. However, it seemed that even more powerful help would be needed to expand the system globally.

The project manager, Mr Kazutoshi Nagano of Toshiba, says, "Our M2M/IoT application has been very successful in Japan, but this project was our first actual expansion overseas.

We thought we'd be able to gain an advantage in winning public tenders by collaborating with Vodafone, with its thorough knowledge of communications in countries around the world, its global network and extensive proven success."

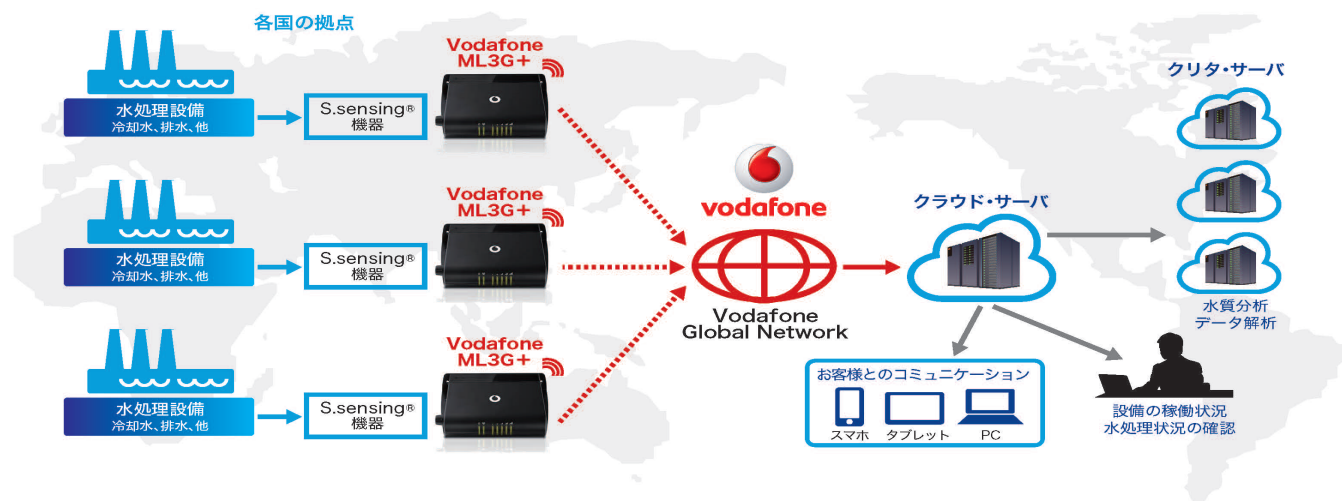
Toshiba and Vodafone participated in Kurita's tender as a team. The proposal was meticulously prepared, down to the smallest details, enabling the team to gain Kurita's trust.

Kurita's project manager, Mr Kuniyuki Takahashi, explains, "The RFP for S.sensing® contained several points, but one of the most important ones concerned what would be used for the communications gateway. Their proposal was to load Toshiba's programme onto Vodafone's global communications terminals. Combining the compression and encryption technologies developed by Toshiba with Vodafone's global communications terminals would achieve flexible data communication at global level and at low cost, and we felt there were great advantages in that."

Not only does Vodafone's communications business encompass many countries, its collaboration with IoT partner networks and telecommunications carriers means it can exploit a worldwide network of several hundred companies. This formidable coverage makes it possible to connect 'things' to the Internet.

Also, the extensive track record and experience of Vodafone's IoT specialists, located all over the world, support all aspects of the customers' global IoT projects.





The communications terminal used in this project is MachineLink 3G Plus, developed especially for IoT. When loaded with the Vodafone IoT global SIM, and with a variety of connection interfaces, the customers' assets can be connected to the Internet. It has telecommunications certification in the major countries, and can run the customers' applications on the loaded Linux platform, so also demonstrates its edge computing capability.

One challenge in IoT is how to manage communications flexibly and efficiently. The Vodafone Managed IoT Platform rises to that challenge. It incorporates the necessary functions for communications management, including SIM activation, communication volume verification, alerts when a certain volume is exceeded, and so on. And because it can keep communication pathways closed, data arrives securely from customers' assets, and communications from external networks can be blocked. Furthermore, web and Application Programming Interface (API) allows customers to manage which carrier they use and changes in communication rates.

Vodafone IoT technology is backed up by experience and proven performance. It supports the highly flexible, secure operation of S.sensing<sup>®</sup>, and provides new added value.

## The Future

### Creating a foundation for business expansion by building a highly versatile system

With its updated system, and having expanded globally, S.sensing<sup>®</sup> can obtain measurement data and information about the water treatment situation in real-time, digitally, from anywhere in the world, as long as it has an internet connection. It can be operated from a PC, a smartphone or tablet, and this ease of use has earned praise from customers.

"Our goal is to introduce S.sensing<sup>®</sup> in many locations overseas and become a top class water treatment chemical business. Toward that end, S.sensing<sup>®</sup> must continue to evolve into a system that responds to our customers' needs at a very high level. We're counting on the efforts of Toshiba and Vodafone to help us achieve this," says Mr Takahashi, Kurita.

Vodafone intends to continue its support for global expansion at S.sensing<sup>®</sup>. It will work on increasing its ease of use and advantages, for example, with smooth switching of communication speed to 4G and 5G, and customisation according to clients' conditions.

Mr Noriyasu Okitani, Head of Toshiba's IoT & Media Intelligence Business Creation Div., says that the collaboration between Toshiba and Vodafone, each with their respective strengths, resulted in the system created for this project. The success of this co-created system ensures the future collaboration of these partners. "With the acquisition of Vodafone as a strong partner, we have great expectations for the future development of our global business. We'd like to work with them on other needs such as narrow band IoT and satellite communications."

IoT is a big trend, to make use of it as a solution, not only is technology needed but insight and flexible thinking are also indispensable to understand customers' needs. The opportunities for Toshiba and Vodafone will continue in the future.



#### About Kurita Water Industries Ltd.

- Against the background of heightened awareness of the environment worldwide, Kurita is striving to become the leading water treatment company and implements “forward-looking management of water and the environment”
- Kurita plans to expand its remote water treatment monitoring service, S.sensing®, to around 10,000 locations in 30 countries
- [www.kurita.co.jp](http://www.kurita.co.jp)

#### About Toshiba Corporation

- Toshiba has been creating products and building infrastructure systems for many years, and applies its acquired knowledge of the industry and technical know-how in its IoT services. Toshiba provides total solutions, from collection, storage, and visualisation of big data, to higher added value for equipment and products, and optimum control
- By utilising its accumulated semiconductor technology, hardware technology, integration and software development power, Toshiba adds new value to its customers’ IoT use and provides solutions to their problems
- [www.toshiba.co.jp](http://www.toshiba.co.jp)

#### The bottom line

- Global, seamless network enables water treatment management regardless of time and place
- Devices can be managed via the Vodafone Managed IoT Connectivity Platform, helping eliminate wasted communications connections and allows cost reduction on a global scale
- Vodafone’s specialised IoT teams are located around the world, offering comprehensive IoT support

**[vodafone.com/iot](https://vodafone.com/iot)**

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