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## Data-Driven Cleaning Practices with IntelliClean IoT Solution

**TEKTELIC Communications Inc. and Swiss Post Real Estate Management and Services Ltd. are working together to Collect and Provide Building Utilization Data for Optimized Efficiency in Building Cleaning Practices.**

The Internet of Things is advancing a new breed of technological innovations in building and facility management functions. IoT technologies are creating opportunities for data collection and analysis that will have a profound impact on the way buildings are managed and operated. IntelliClean's solution stands out as one of the most promising use cases for IoT technologies in the smart building landscape.

IntelliClean is Swiss Post Real Estate Management and Services Ltd.'s innovative and data-driven cleaning solution. IntelliClean is changing the concept and model of professional cleaning practices by offering its customers a set of data and metrics that can be utilized to make better decisions about cleaning services. Using occupancy and space utilization data, IntelliClean generates efficient and practical cleaning routes based on occupancy data and algorithms, rather than arbitrary schedules.

### Challenge

To intelligently plan, schedule and optimize cleaning routes, IntelliClean required the ability to deploy reliable and highly scalable IoT networks to collect and integrate occupancy data associated with building utilization. To achieve this, IntelliClean needs cost-efficient and easily-deployable passive infrared (PIR) motion sensors with reliable, always-on connectivity, long battery life and excellent indoor RF performance. Furthermore, IntelliClean required gateways to act as a secure intermediary between the sensors and the cloud, handling communication and managing information moving in both directions. When looking for a hardware partner, IntelliClean selected TEKTELIC Communications to provide best-in-class IoT sensors, gateways, and wireless LoRaWAN® network connectivity for its solution.

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## Solution

IntelliClean found that TEKTELIC's highly scalable KONA Micro Gateway and Smart Room Sensors were an excellent hardware choice for supporting the collection of key data metrics associated with room and building occupancy statistics and patterns. Sensors employed by IntelliClean enable a streamlined and efficient data gathering process, providing the accurate, occupancy data needed to determine actual cleaning requirements and generate dynamic routes for cleaning staff.



A key decision factor in IntelliClean's selection of the KONA Micro Gateway and Smart Room Sensors was their reliable "Always On" connectivity, long battery life and excellent indoor RF performance. These products can be quickly and cost-effectively deployed in the intended location and will provide the reliable LoRaWAN® connectivity required for the IntelliClean solution. LoRaWAN® is the ideal technology to provide scalable, long-range, low power, and secure bi-directional communication with deep indoor penetration.

LoRaWAN®'s multi-usage capabilities can accommodate high device capacity in a single network. LoRaWAN® gateways, such as TEKTELIC's KONA Micro Gateway have the capacity to simultaneously send and receive hundreds of messages every second from the devices deployed in its vicinity.

## Results

- » TEKTELIC has provided the connectivity required to deploy the IntelliClean solution in 3 countries, planning and steering 55 cleaning tours and 715 hours of cleaning each day.
- » The fast-growing deployment has captured over 2 million IoT events and has processed more than 80,000 work hours to date.
- » IntelliClean has been proven to increase cleaning productivity resulting in worker time savings of up to 15%.
- » Fact-based data visualizations and a transparent basis for decision-making

To learn more about the **IntelliClean solution** please visit  
[www.immobilien.post.ch/en/innovation/intelliclean](http://www.immobilien.post.ch/en/innovation/intelliclean)

To learn more about **TEKTELIC's complete End-to-End IoT solutions**, please visit  
<http://www.tektelic.com> or contact [info@tektelic.com](mailto:info@tektelic.com)

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