

RIIKINVOIMA, LEPPÄVIRTA, FINLAND

PERFECT COMBINATION: FULLY AUTOMATED CRANES AND REMOTE OPERATING STATION

RIIKINVOIMA is an energy and heating plant in Leppävirta, Finland. With about 150,000 tons of waste handled and burned every year, it is a major energy producer in the area. Steam from the boilers generates 180 GWh of district heat and 90 GWh of electricity for the surrounding region.

The plant produces clean energy using source-sorted municipal waste as fuel. Because recyclable materials have been previously removed, there is less need for human interaction with the cranes at the core of the process. Riikinvoima chose to automate the entire material flow with Konecranes solutions.

The plant's design calls for two cranes over the waste-reception hall to load waste into a shredder, a process that helps it burn uniformly. Then, the cranes feed the processed material into the boiler, where it is incinerated to produce steam. Either of the cranes can complete the process alone, or work in tandem with the other crane. A third crane performs service and assembly tasks in the turbine hall.

CHALLENGE

This material flow was ideally suited to utilize Konecranes Remote Operating Station (ROS) technology, but this solution had not yet been implemented in a waste-to-energy plant, although Konecranes had routinely supplied it in other industries. Before making a decision, the Riikinvoima team needed to see how it could benefit the efficiency and ergonomics of their operation.

Most of the time, the cranes operate in full automatic mode, working on their own in the waste storage bunker. Konecranes demonstrated how the ROS allows the crane operator to drive the crane from screens in a control room based on camera views. It is safer than running the cranes from a glass-walled pulpit over the pit, and also allows the operator time to focus on other tasks. A single operator can potentially run both refuse cranes, resulting in significant efficiencies for the plant.



Operator is using Konecranes Remote Operating Station.



Konecranes fully automated 12 ton waste-to-energy cranes at Riikinvoima plant in Finland.



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SOLUTION

In the end, Riikinvoima decided to purchase the ROS for their automated cranes, with only one chair and pulpit as a backup.

“Although our Remote Operating Station is new to the waste-to-energy industry, Konecranes has used it extensively for its Rubber Tired Gantry cranes for the port industry,” says **Joseph Botros**, Konecranes Director, Head of Waste-to-energy industry. “What we’ve done here is to standardize and package a proven solution specifically for waste-to-energy customers.”

The combination of Konecranes automation with the main user interface (MUI) is also very user-friendly, allowing plant personnel to easily create weekly work orders to manage the pits. Konecranes MUI, together with the ROS, have taken pit management to the next level in the industry. Standard Smart Features like restricted areas, sway control, shock load and slack rope protections have made driving the cranes via camera in ergonomic comfort a reality.

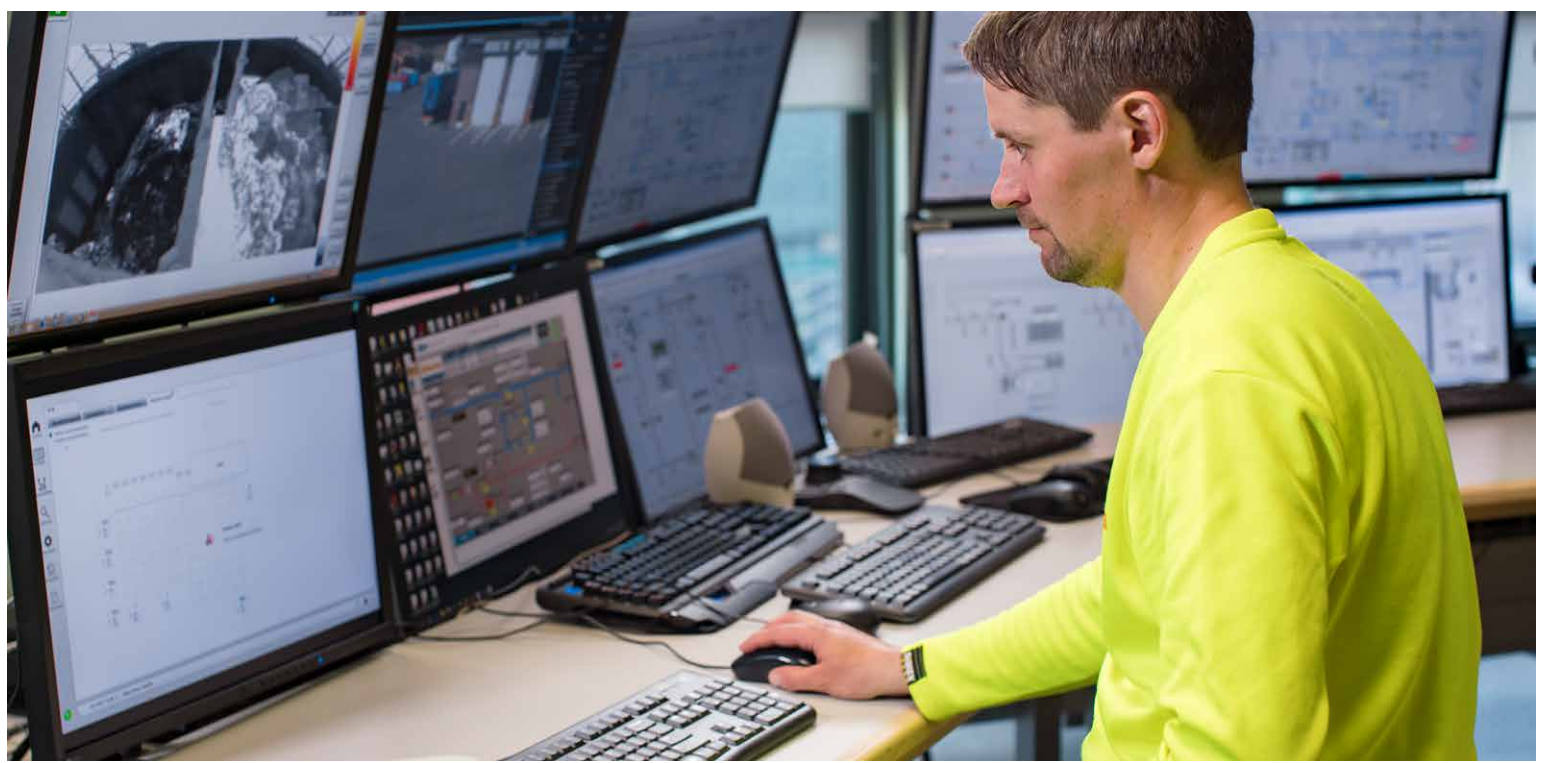
RESULTS

One year into the plant’s operation, **Juha Räsänen**, Managing Director, Riikinvoima Corp. is enthusiastic about the ROS.

“I think it’s very easy to use and our whole staff uses it,” he said. “That’s a good indicator that the user interface is successful when the staff gladly adopts it and the information is easy to find. If we were to build this plant now, we would consider leaving the separate pulpit and chair out completely.”


Räsänen goes on to say that a fully automatic crane system and Remote Operating Station has proved to be a perfect combination.

“So far, feedback for the Konecranes equipment has been positive. Automatic functions and tools have been useful. The plant’s utilization rate has been very high during the first heating season and not a single malfunction has occurred.”



Konecranes Remote Operating Station’s screens.

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