



## METALWORKING

### FANUC for NTM Finland

**Task** Enable NTM to increase production capacity of garbage trucks and compactors at its Finnish factory, without the need to expand the plant or interfere with existing production.

**Solution** A collaborative robot solution involves a FANUC M-2000iA/2300 lifting and rotating compactor sections, which weigh up to two tons, and a FANUC ARC Mate 100iD/8L expertly welding the sections in the unmanned factory at night.

**Result** NTM can meet growing demands for its products without the need for a nightshift. Much of the heavily lifting is now done safely by the robots instead of employees.



## Automating the nightshift to meet growing production demands

NTM is one of Europe's leading providers of refuse trucks and compactors. With its headquarters in Närpes in northern Finland, the company has over 400 employees and several subsidiaries across Europe.

The refuse collection business is growing. More people means more garbage, which is great if you are in the business of building refuse trucks and compactors. NTM, which offers hundreds of build specifications to cater for the growing trend of recycling diverse waste products, has seen a year on year sales increase of 10–15% in recent times.

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A growing order book doesn't come without certain problems. To meet new demands, NTM had to increase production, which meant introducing a nightshift or automation – two options that can be unpopular with employees. “Automation was our preferred choice,” says Simon Grönqvist at NTM. “But it was a big challenge due to the broad range of designs we offer customers, and because we didn't want to extend the factory or interfere with production.”

### Automating the Nightshift

In the end, NTM decided on automation. The plan was to automate much of the heavy lifting and some of the welding – and to do it during night, in the same way an extra shift would have worked. “When we announced we were going ahead with automation, staff weren't

*thrilled, but once they learnt that the robots would be a compliment to their jobs and work the nightshift – so they wouldn't have to – they became positive to the introduction of new robots,”* continues Grönqvist.

### Choosing FANUC Robots

The project was put out to tender, and a number of robot manufacturers offered their services. Several months later FANUC's Finnish service partner MTC Flextek was awarded the contract for delivery, installation and service and maintenance.

*“There were several reasons why we decided to go with FANUC,”* says Grönqvist. *“Firstly, MTC provided the best holistic solution for our needs. Secondly, the FANUC M-2000iA/2300 is the only robot that can handle the heavy payloads, which can weigh up to two tons. And thirdly with this solution we can easily create new welding programs for the FANUC ARC Mate to work on through the night. The solution is also compact, safety focused, and fits into our existing manufacturing plant. And finally, as we already have a FANUC robot in the factory, our team are familiar with the operating system.”*

**“...the FANUC M-2000 is the only robot that can handle the heavy payloads, which can weigh up to two tons.”**



During the day, the robots are prepped for the nightshift. This involves placing the heavy payloads around the safety pit and setting up the operating system with the lifting and welding requirements.

*"We also experiment and test the capabilities of the robots during the daytime,"* continues Grönqvist. *"This is done in real-time with a control panel. The software logs the simulations, which we can run at night, if we choose to do so."*

**A Safe and Reliable Unmanned Operation**

The robots operate unattended throughout the night. During this time they complete about ten full sections. The FANUC M-2000iA/2300 lifts a section from its base plate into a ringed secure zone and rotates into the right position for the FANUC ARC Mate to expertly weld all the contours of the section. Once a section is completed it is returned to its base plate, and the process begins again. When the first shift arrives in the morning the welds are checked by hand, and the sections are moved to the next stage of assembly.

*"If there is an error during the night, an alarm is generated by the operating system, the robots automatically shut-down and we receive an alert",* says Grönqvist. *"However, since the robots were installed, everything has run smoothly, and we haven't received many alerts."*

The solution has been designed to meet growing demand for NTM products for the coming years. The robots can also be put to work on weekends should it be required. However Grönqvist doesn't believe this is the end of automation at NTM. *"The collaboration with FANUC and MTC Flextek has been a great success. Thanks to the robots we're able to produce more refuse trucks, which ultimately means a better service for the public, as garbage is cleared and recycled effectively."*



*We're now looking at other ways that automation can assist our staff and help meet the growing demand for our products",* concludes Simon Grönqvist at NTM.



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