



GROVEN+  
BELGIUM

# FROM MANUAL TO FULL AUTOMATION

Port House Antwerp - Architect Zaha Hadid

**Groven+ is transforming its production process to optimise efficiency. The company is discovering the many benefits of Industry 4.0 with the expertise and guidance of LVD.**

### **Complex large projects**

Groven+ is an expert in building façades for non-residential use: windows, domes and external cladding. Because of the size and especially the complexity of these projects, there's a lot to consider. An average project covers approximately 4,000 m<sup>2</sup> in cladding, with peaks up to 35,000 m<sup>2</sup>. An innovative project of which Groven+ is particularly proud is the Port House in Antwerp, designed by the famous architect Zaha Hadid. "These are projects with high architectural freedom, characterised by non-standard dimensions, shapes and colours. This is the type of project

we want to focus on in the future," says Jeroen Van De Putte, Production Manager, Sheet Metal.

For such projects, you need a high-performing engineering and project management team. Based on the architect's plans – often not even in 3D – the engineers create concepts, calculate stability, thermals and acoustics, and conduct feasibility studies. Project management monitors the project from there on. Groven+ produces their profiles and façade elements in-house and is responsible for installation and site monitoring.

### **Automated punching system**

"The production of components used to involve a lot of handling. The sheets were cut to the required size using guillotine shears, and were then punched and bent sheet by sheet. It was a time-consuming process, labour-intensive for our operators," explains Van De Putte. Thanks to the installation of the LVD *Strippit PX 1530* punch press with an *Extended Tool Magazine (ETM)* and *Flexible Automation (FA-P)* last year, there are now one-third fewer manual operations. The punch press is also linked to a warehouse with five towers, including 20 pallet positions

per tower. The complete system runs on CADMAN® software.

### Efficient flow

As the level of automation increases, so does the amount of work preparation. It all begins with the import of the CAD-file into CADMAN-SDI. The files are then accessible for CADMAN-B and -P, LVD's offline bending and punching software, to ensure that, in case of punching, the sequences, nestings and tool selection can be optimised. From there, the files are sent to the machine. When the operator starts a job, a signal is sent to the warehouse to pick up a pallet of sheets. FA-P loads the sheets and places the punched parts directly onto the correct pallet once the job is completed. Then they are either sent on pallets to the two press brakes or returned to the warehouse.

The Strippit PX single-head punch press has 20 indexable tool stations. Although Groven+ already had a wide range of options using multi-tools, they also decided on an ETM

for 40 additional stations. Stefaan Martens, Sales Manager at LVD: "ETM optimises the tool selection before the job is started to ensure the PX has all the required tools. Tools not required by the machine are released, for example to be inspected for sharpness."

### No mass production

Groven+ is not engaged in mass production. The parts change for every new project. Isn't it surprising then that Groven+ has chosen for far-reaching automation? Not according to Van de Putte: "Due to the scale of the projects, the nestings are sufficiently large. One nesting can be used for 100 sheets. It is always a mix of one-off pieces and parts of which large numbers are needed. This makes our system financially viable." Martens adds: "Automation is no longer exclusively modelled on mass production. The software is designed to make automation practical for smaller batches. You should also remember the costs of manual handling. These can be quite substantial."

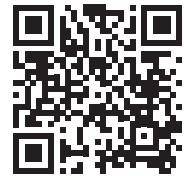
### Tripled productivity

The system has been in use for one year, so it is time for the first evaluation. Van De Putte: "Commissioning this type of system entails a steep learning curve. At the start, we processed 200 to 300 sheets monthly, but we're now closer to 1000. That volume can certainly be increased, because for the time being, we are not running at night but that is the intention in the long term."

Pierre Comhaire, Punch Press Product Manager at LVD, adds: "This system offers a lot of value because of its capacity to punch, form, tap and more. They will get to know all the possibilities step by step, they may upscale their warehouse or sorting unit in the future, or analyse their KPIs via CADMAN-JOB to further optimise processes. LVD systems are modular and can grow at the customer's pace."

Kevin Vercauteren – Metallerie

Watch  
the Groven+  
testimonial



Complex building façades



Jeroen Van De Putte (Groven+)