



# Reinforcement production made sustainable with automation and software

You have to know what is traditional to implement what is up to date. In line with this motto, GP Wapening is now expanding its machine pool from reinforcement production lines purchased second-hand to a new high output mesh welding line and special bending solution for cage production, as well as a complete software solution package for rebar shops - all from Progress. Construction sites will hardly be supplied at all, as the focus is on the special needs of precast production facilities in the Netherlands. In Holland, it is quite common for reinforcements to be supplied by specialised rebar shops. This means it is important to remain innovative in order to keep up.

## New, well-proven machines

Founded in 2017, the young rebar shop acquired a new M-System PowerMesh mesh welding plant in 2022 from Progress Maschinen & Automation as well as advanced software solutions for production planning from Progress Software Development - both companies of the Progress Group. Yet, it is not just new machines that ensure high quality and adherence to delivery times. GP Wapening also works with machines that have been purchased second-hand: an MSR straightening, cutting and bending machine from 1999 and two EBA automatic stirrup benders from the late 2000s, which have also been doing a good job for some years. Their thinking is sustainable and functional automated machines are still used because they still work well.



*Pieter de Haart, managing director and virtually from birth in the reinforcement business, has now successfully run GP Wapening, a Dutch rebar shop specialising in supplying the precast industry with cages, since 2017. He grew up in the reinforcement business and knows it and the market like*

*no other. His main focus is and remains innovation and the ever-advancing automation associated with it.*

"I personally worked with Progress for the first time in 1999. I bought a new MSR. At that time, it was the first type with an automatic bending mandrel changeover system and automatic cutting - a prototype. I found this machine to be very good because it is easy to maintain and repairs are usually easy to carry out or the spare parts are easy to get," says De Haart and adds: "My experience is that Progress is an open organisation where you can get things done quickly."

*GP Wapening was founded in 2017 and is one of the most advanced reinforcement producers in the Netherlands*



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*Production is automated*

### Investing in the future

The need for efficient, sustainable construction methods is great as well in the Netherlands and is becoming increasingly more urgent. The precast industry is expecting high growth. Precast concrete elements are already widely utilised in construction work in the Netherlands due to the great housing shortage. The time saved, and thus the CO<sub>2</sub> emissions saved on a construction site itself, as well as the long service life of precast concrete buildings will make this market increasingly important in the future. GP Wapening is responding to this by increasing the size of its machine pool and embracing sophisticated innovation in automation and software solutions for cutting-edge production. The company began in a hall of 3,000 m<sup>2</sup> in a small neighbouring village of its current headquarters. Because of the new mesh welding line, a new hall of 9,500 m<sup>2</sup> was also built at the same time, thus investing in the future and planned growth. According to their own assertion, they are well positioned to supply reinforcement cages to precast factories in the Netherlands and Belgium, and should the case arise, of course, to Germany as well.



*The high output of the M-System Evolution mesh welding plant is especially impressive*

“Taking the step towards maximum automation was a forward-looking decision for us: the mesh welding plant, which can optimally produce all types of cages fully automatically, as well as the software with data and work management. Everything is automated to the maximum. We have implemented Progress’s e<sup>2</sup>bos, together with stabos and profit – so pretty much the whole “rebar shop software package” from Progress is in use,” explains Pieter De Haart his investment.

### Very high output

The decision to invest in the M-System Power Mesh was based on the fact, that the machine could deliver the most production amount in square metres per machine area. It was also a question of generating the greatest volume of output



*Plans can be visualised in 3D models with the appropriate software solutions, thus facilitating accurate results*



GP Wapening can produce flawless special cages rapidly using the maximum number of welding heads and additional innovative bending solution

with high quality and little waste. Especially when current steel prices are taken into consideration, production from a coil, as is standard with all Progress machines, is the more sustainable solution because it minimises waste. The M-System PowerMesh with 20 welding heads is the ideal solution for generating high output with special curved cages. It boasts a sophisticated bending solution featuring a combination of single and side benders for positioning mesh elements and then mounting a corresponding 2D top mesh on top. The maximum is 4 tonnes per hour. The system works in three shifts, two during the day when cages are produced and a night shift when it is the turn of flat meshes and more simple curved cages. Cages and meshes for solid walls can be manufactured, some with recesses, but also balcony cages and the like for supports in the range of 6 to 16 mm wire diameter.

**Software renders state-of-the-art production truly perfect**

As production is still mixed today, with traditional manufacturing and automation, planning has become more difficult and some new software solutions have been needed. The software solutions from Progress now make this easier. The new e<sup>PC</sup>bos® ERP system ensures that, when a bent lower cage is placed on the welding table, the cage has already

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A magnetic crossbeam transports the meshes and cages fully automatically to the next station



Recesses and bends exactly according to plan are no longer a problem with the innovative automation solutions

been projected to the welder on a screen or beamer as a 3D representation. What the end product looks like is thus clearly visible according to design planning. This makes the work easier and reduces the error rate - which additionally supports paperless, and thus even more sustainable, production. The e<sup>mbos</sup> system thus helps organise production correctly and is supported by the "profit" software, which takes over production planning and sends all data directly and cleanly to the MSR straightening, cutting and bending machine as well as the EBA automatic stirrup bending machines. This happens at exactly the right moment thanks to the good interaction of software and automated machines, so that the add-on material is ready at its assembly station even when the M-System is engaged in production. Everything can be planned, produced and assembled as needed with this innovative software and the automated machines.

"Automation and software go hand in hand," de Haart confirms and adds: "Yes, the Power Mesh and the whole automated system are fantastic, but the software makes the whole system perfect." ■



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