



Megens Installations



Megens Installations: Well measured, well made.

When there is plenty of work but skilled workers are scarce, there is a lot of pressure on the productivity of MEP contractors. To ensure that productivity remains high, Dutch contractor Megens Installations has found a solution in technology.

Solution

Rapid positioning tool

Measuring solution for MEP contractors.

Winning time by laying out points quickly, easily and accurately from the model.

[Read more on mep.trimble.com](http://mep.trimble.com)

Context

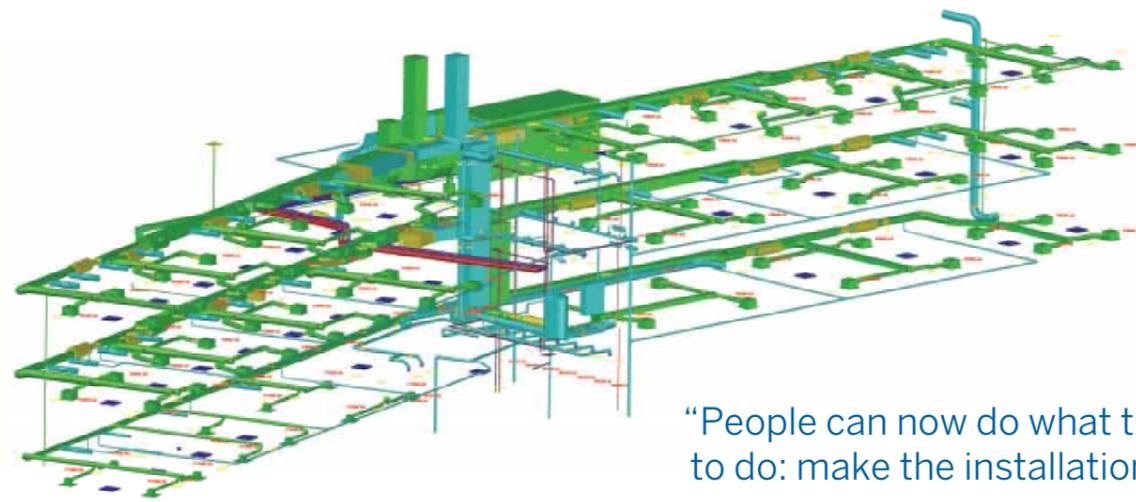
Digitization and BIM play an important role in the construction logistics processes at Megens Installations, a Dutch MEP contractor. According to technical director Armand van Andel, this has brought the company many advantages: “Think of excluding clashes, generating bills of materials from the model that can be ordered directly through our ERP system, and saving time by working with prefab software. The transfer of information is central to all of our processes. Our vision is that if we do something, we should do it in such a way that the next person in the construction workflow can proceed with it.”



CHALLENGE

What proved to be a challenge over the past few years, was the transfer of knowledge from the office to the mechanic who had to install the designed systems. Armand explains: “We have all of the information, but the big question is: where and how do you share it? We often hear that it takes a lot of time to get the information from the model correctly to the construction site. Think, for example, of the time it takes to get the dimensions right. Moreover, a printed 3D drawing contains so much information that becomes difficult to read for the mechanic who is still working with 2D drawings on the job site.

Additionally, the layout of MEP systems when construction begins, is in many cases a tough job, says Armand: “The moment the mechanic gets to work, he has heard the plans, he is standing on a 100 m² field with a pole in the ground, and then he has to start measuring. In order to get this done correctly, a lot of knowledge and experience is required. And the mechanic shouldn’t be busy measuring things, he should be making things.”



“People can now do what they have to do: make the installation.”

SOLUTION

From tape measure to robot

Megens Installations has found the solution in technology: a robotic positioning tool that translates the information from the BIM model to the construction site. The tool uses a laser beam to identify the exact locations on the building site that correspond to points in the BIM model. In this way, the information conceived in the office is brought to the building site, quickly and accurately. Armand: “We use the robot to help our people get on their way quickly and layout the dimensions correctly.” Measuring tape is no longer required.

But, says Armand, this is not the biggest advantage; “Apart from the time you save because you can perform layout jobs faster, you can now allow people to do what they are hired to: making – not measuring - the installation. And since qualified people are hard to find these days, the biggest challenge in our industry is not getting the job – but getting the job done. If you can improve the amount of time that employees spend productively by 10%, you are on the right track.”

Fast dimensioning

In addition, the robot not only allows the firm to save time on the construction site itself, but also during modelling, explains Armand: “The number of hours detailers spend on adding dimensions to the model are reduced considerably.” After the model has been designed in their BIM software, modellers can easily create layout points with the Trimble Field Points plugin. These points can then be exported quickly to the tablet that is controlling the robot, which saves a lot of time.





Perfect start

The first project in which the firm has implemented this new way of working, was the expansion of a Waldorf school in the East of the Netherlands. For this project, the floor openings, pipe routes and suspension systems for the installations were laid out using the positioning tool. A remarkable project, according to Armand: "The project is unique in terms of construction, but not very large or complex. There are no internal walls, only open floors and a staircase. So there was no need to re-calibrate. It was the perfect project to use the tool for the first time. We only had to move the robot once to layout all the points, and we were done. The feedback we received from our team on the construction site was very positive. This is something they really appreciate."



RESULTS

In order to layout points, measure distances and find positions on the job site quickly, easily and precisely, Megens Installations has made the choice for Trimble MEP's rapid positioning tool RPT 600. This tool allowed the team to complete the layout of the entire ground level in just one visit, tells Armand:

"We only had to move the robot once to layout all points and we were done."



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