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Global maintenance via built-in modem - Sollas leads the way with 'full servo' overwrapping machine

Nearly two years ago, Sollas in Wormer, the Netherlands, launched the FSX overwrapping machine. Thanks to the motorised adjustment facilities and the fact that the overwrapping machine is fully servo driven, it can be changed over to another product in as little as 6 minutes. Another USP is the standard built in modem for remote maintenance which allows the company to quickly resolve malfunctions worldwide without the need to travel on-site.

Nearly every week, a lorry travels from Oldenzaal to Wormer. Its load? Wrapping machines with different cuts, in different stages of completion. Serial production of parts and assembling of machines takes place in Oldenzaal. Single piece production, as well as building the high-end machines materialises at the head office in Wormer, where all machines are finalised to be sold.

The frequency of the lorry journeys reflects Sollas' success. Annually, the machine manufacturer sells approximately 100 machines, of which 90 to 95% are immediately exported. Half of the sales made in the Netherlands are also shipped abroad, through line integration of third party production lines.

More servo

Showpiece in Sollas' range is the FSX overwrapping machine. Dirk Verbeek, Head of the Operating Systems Department in Wormer, was, as a 'self made' motion and servo specialist, closely involved in the development of the servo driven machine. "After my degree in mechanical engineering in Alkmaar seven years ago, I was immediately offered a job at Sollas, initially as a mechanical engineer in R&D. As servo technology became increasingly more popular, and considering my mechanical engineering background and love for computers and programming, I was asked to specialise in operating systems. During a six month period of

trial-and-error, I mastered motion control and took on the FSX motion. It was then that the R&D and engineering departments were merged: technical developments progressed rapidly and, as many developments come about as a result of client's needs, it made sense from a capacity and knowledge sharing point of view to merge the departments. All engineering capacities now focus on development or client specific designs which are often set as a standard. We currently have fifteen employees in the engineering department; five on my operating systems team and ten on mechanical engineering."

Automatic change-over

An important market for Sollas is the cosmetics industry. "In the past, large batches would be produced and stock built up. Nowadays, batch sizes are reduced to 2000 to 3000 items which are wrapped up in an hour and a half. Our clients therefore requested a machine with reduced change-over times. The change-over time then was 20 to 30 minutes. The requirement was rigorous; 7 minutes!"

Thanks to the use of the motorised adjustment facility, Sollas has managed to beat this requirement by one minute: only 6 minutes are needed. "An added bonus is the increased reproducibility. Once the machine has been programmed correctly and all packaging sizes have been set in the software, it is only a matter of selecting the correct profile and the motorised automatic adjustment facility works its magic. The only manual task that remains is positioning the product specific spare parts that are used to push in the products," says Dirk Verbeek. In comparison to the 'old-fashioned' positioning using a screw gun, flexibility has greatly improved. This is also an added bonus for the high-end cosmetics market which typically has many different product sizes, both for single product and multi-pack packaging.

"The user only has to enter the dimensions of the product and the packaging size on the screen. This will determine the film size, how the servos must run and which profiles they must run through. In theory, nothing can go wrong."

Maximum speed of the FSX is 110 strokes per minute, ample for cosmetics companies that usually have an output of 45 strokes per minute. "Production lines are still characterised by rather a large amount of manual work; chains are manually tied to bottles; same for lids. Huge diversity in product shapes makes it hardly cost-effective to automate such procedures."

There is a far bigger market for an overwrapping machine with a thermal sealing process and an output of 110 strokes per minute. One of the reasons why the FSX is also popular in different markets is, for example, for packing biscuits and tea. "There is a high demand for these machines. The FSX has been on the market for nearly two years and is selling well above expectation!," says Dirk Verbeek enthusiastically.

Global player

With nineteen out of twenty machines exported abroad, Sollas relies on carrying out maintenance as efficiently and cost-effectively as possible. "We tried service contracts, however this proved to be unpopular with clients.

In comparison with other machines in the line, our machines are relatively inexpensive, between € 60,000 and € 250,000. The costs of a 24/7 service contract are therefore comparatively high considering the purchase price," explains Dirk Verbeek.

As it is not efficient for Sollas to fly out a service engineer to India or Russia for every malfunction, the company has been using modem technology for years as it allows them to dial in from Wormer and diagnose and service the machine from a distance. Initially this was carried out using analogue telephone modems. "For several reasons, we abandoned this option. The use of analogue telephone lines has greatly reduced, and in those countries where we supply our services that still have analogue lines, the quality leaves much to be desired; it simply doesn't work. Or you have to go via a switchboard. No matter how often we stressed that a direct line is required, you still end up speaking to the receptionist."

Communication via VPN

For the last three years, Sollas has been building in an industrial VPN LAN router from **eWON** into the high-end and midrange machines. By using this router, in combination with the **Talk2M**

server, secure communication between Sollas and the (machine of the) client is guaranteed at any time. Dirk Verbeek explains this process. "We never communicate directly to the machine; this always takes place via the Talk2M server. An outgoing connection is established from us to the server, and from the client to the server. The actual link is set up on the server. In most

cases, communication takes place through a WAN Ethernet port, establishing a secure outgoing VPN internet connection. The modem is also equipped with analogue functionality, enabling the client to establish a connection if internet is not present.

Virtually all clients use the long-distance service and enjoy its advantages; i.e. malfunctions are dealt with quickly and adequately. However, clients have different approaches. "Increasingly more clients have created a separate network on a stand-alone server for these types of application, including for other machines; we are not the only machine manufacturer that builds in this type of modem. Those clients will often have their machines permanently online, which also happens in companies that are not actively dealing with this. They simply forget that they are online. No problem, not only do we just log on at the client's request, no one else is able to connect to the machine. We only log the number of strokes and time spent; hardly anything exciting. I recently had a client who preferred to not set up the connection, and who refused to have the modem installed. He outsourced the entire data network to a third party that sets out which devices are allowed to connect to the network. The eWON failed to meet the requirements as it was impossible to check what happens over the VPN. This is the greatest compliment you can receive about your data integrity, though it is hardly pragmatic. The client soon found out when problems arose after two years and the request to install the modem came soon after!

Self-installation

Raster Products, the eWON supplier in the Netherlands, has written a script for Sollas which allows clients to set up the modem themselves. "The process is similar to the list of questions you run through when adding your new PC to your network and setting up your email. The different options are loaded on a webpage, the client enters the necessary information, saves the settings and the configuration is complete. One final step is logging the modem on to the Talk2M server, When everything is successfully set up (which in fact is always the case), we receive a message that the modem is online so that we are now able to support the client from a distance."

The support service from a distance works really well.

New requirements that arise on delivery, firmware updates, and at a later stage diagnostics for hardware problems, such as a faulty cable, broken display or a door that wasn't shut properly. However small and straightforward the solution may be, saving yourself a trip to India or New

Zealand by using the modem, is more than worth the investment. And don't forget how much clients are benefiting from having their problem resolved within a day."

All components are easily accessible through the modem, however, certain matters such as firmware updates of the servo drives cannot always be carried out via the modem. "In this case, we ask the client to take the card out of the control box and connect it to the PC using a card reader. We then take over and install the new software from a distance." Turns out he had switched the entire machine off, simply forgot the difference between reset and restart!," says Dirk Verbeek.

Offline

Not all problems can be resolved through the modem. "It is sometimes impossible to fix a problem from a distance. This may not be due to the technology but may be caused by miscommunication, for example, language barrier or basic technical knowledge on the client's side. I recently asked a client to reset the machine, which we don't do through the modem for security reasons. Next thing I see is the modem going offline. Turns out he had switched the entire machine off, simply forgot the difference between reset and restart!," says Dirk Verbeek.

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