

A Higher Level of Standardized Work

Professionals at Haarlem Lead the Way in Operationalizing AGV Maintenance and Guided Augmented Task Execution



Haarlem's fleet of AGVs

Introduction:

Minimizing human error and ensuring consistent execution are key concerns in pharmaceutical manufacturing and packaging environments. MSD Haarlem is no stranger to managing complexity and continuous improvement. It's part of daily work at a site that produces, packages and distributes over 3,200 different SKUs (country-specific medicines and vaccines) to 140 countries worldwide.

Haarlem is Merck's 'flexible packaging' site in Europe and can switch packaging lines quickly enabling it to supply numerous markets with both MSD and Organon products. Packaging at Haarlem takes many forms including bottles, blister packs, vials and syringes. But for the medicine to be delivered to markets, the correct packaging and information leaflet is required for each market.

To facilitate the enormous amount of work performed at Haarlem, their fleet of AGVs has recently been upgraded to help get things done. AGVs or 'Autonomous Guided Vehicles' are material handling robots that move material around the Haarlem site. In addition to providing time savings, it's an incredibly clever solution - as AGVs are treated as extensions of the warehouse. Therefore, moving material across the site from the "highbay" warehouse to packaging lines can be executed autonomously and without any chain-of-custody transactions.

Against this complex backdrop of people and automation minimizing human error is a huge priority, as even a small mistake can prevent an entire batch of life-saving medicine from shipping to where it is needed. For things to run smoothly, it is vital for knowledge workers to be equipped with consistent and clear information to allow them to do their jobs right first time.

Opportunity:

René van der Born is a Senior Specialist MPS Engineer based in Haarlem with vast experience in process optimization and packaging operations. Of the many roles René has at Haarlem, one of most important is devising and arranging training to standardize practices across the site. René and his colleagues quickly recognized the potential and scalability of using Guided Augmented Task Execution or GATE to transform the consistency of practice at Haarlem. "There was so much enthusiasm for GATE across all groups across the site", said Van der Born, "it was clear that a guidance would be needed to standardize how to implement GATE so we could realize the transformational potential on practice at the Haarlem site."

Additionally, the AGV fleet at Haarlem was recently upgraded and the team responsible for maintaining AGVs wanted a better way to capture and review information than written documentation. In person, it was easy to demonstrate how to troubleshoot, service or park the AGVs for the weekend – but there was no good way to leverage that demonstration over-and-over to ensure the process was standardized and executed the correct way each time.

Solution:

GATE is a modern Augmented Reality (AR) platform, created using PTC's Vuforia Expert Capture augmented work instruction solution, that displays step-by-step instructions on any screen – computers, laptops, tablets, phones or hands-free on SmartGlasses like RealWear and HoloLens. After being trained by a trainer, then relying on memory and a set of written standard operating procedures (SOPs) to complete a task, operators can follow a GATE procedure which typically includes short videos and annotated photos to help them perform the task. When using GATE, knowledge workers get the information they need in the context of what they are doing, and right in the flow of their work.

Value:

The AGV team is very satisfied with their new GATE procedures. The most junior teammate is now provided the same standardized, detailed information as the most senior teammate in a user-friendly format.

But this is only the beginning. Given Haarlem's enthusiasm for GATE, it's easy to see this early success as the beginning of the value that GATE will provide the site. René and his team's foresight in realizing that GATE's potential can only be achieved by standardization which is critical for deploying GATE in an organized way, so knowledge workers are provided with consistent information across the site. René said:

"As a lot of standardized work takes place on the site, it is important that regular tasks at the packaging IPTs like changing temper evident labels, cleaning printers and changing 'blister' packaging line foil are conducted in standardized ways. Also, for the CoE's Quality there are lots of opportunities to use GATE at the Laboratory and for IPT Global Logistics there are enormous possibilities. We're excited to execute our plan and realize the value that GATE provides – standardized, contextualized information in real time to knowledge workers."

Lessons Learned:

The success of the GATE implementation at Haarlem, along with the successes at sites like North Wales, has shown that the modules to get the information they need in the context of what they are doing, and right in the flow of their work is transformative and scalable. Haarlem's structured approach in planning, prioritizing and standardizing GATE implementation will bring benefits to the site, and can be adopted as a best practice more broadly.



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René van der Born, Senior Specialist MPS Engineer

To learn more about how AR transforms SOPs, download the **"Faster, Clearer, Easier SOPs"** eBook.

