



Wall-E teaches UNS and MQTT to communicate better

03 December 2025, 14:03

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Smoother communication between systems improves productivity on Altachem's shop floor

What do you do when your robot, which you have called Wall-E, regularly stops doing its job? How do you fix the communication failures that are the cause of its poor performance? Altachem sat down with Sirris and came up with a new configuration that makes network traffic much more efficient, thereby improving productivity on the shop floor.

Altachem is world leader in the development and production of aerosol valves and foam applicators number 1 worldwide in the development, production and commercialisation of valves, application tools and accessories for 1KPU (1-component PU foam) in pressure containers. In the Lindal Group, an international player in the development and production of aerosol valves, the Harelbeke-based company with its team of 28 passionate professionals is well known in the world of 1KPU foam.



Wall-E, the automated guided vehicle, was frequently stopping

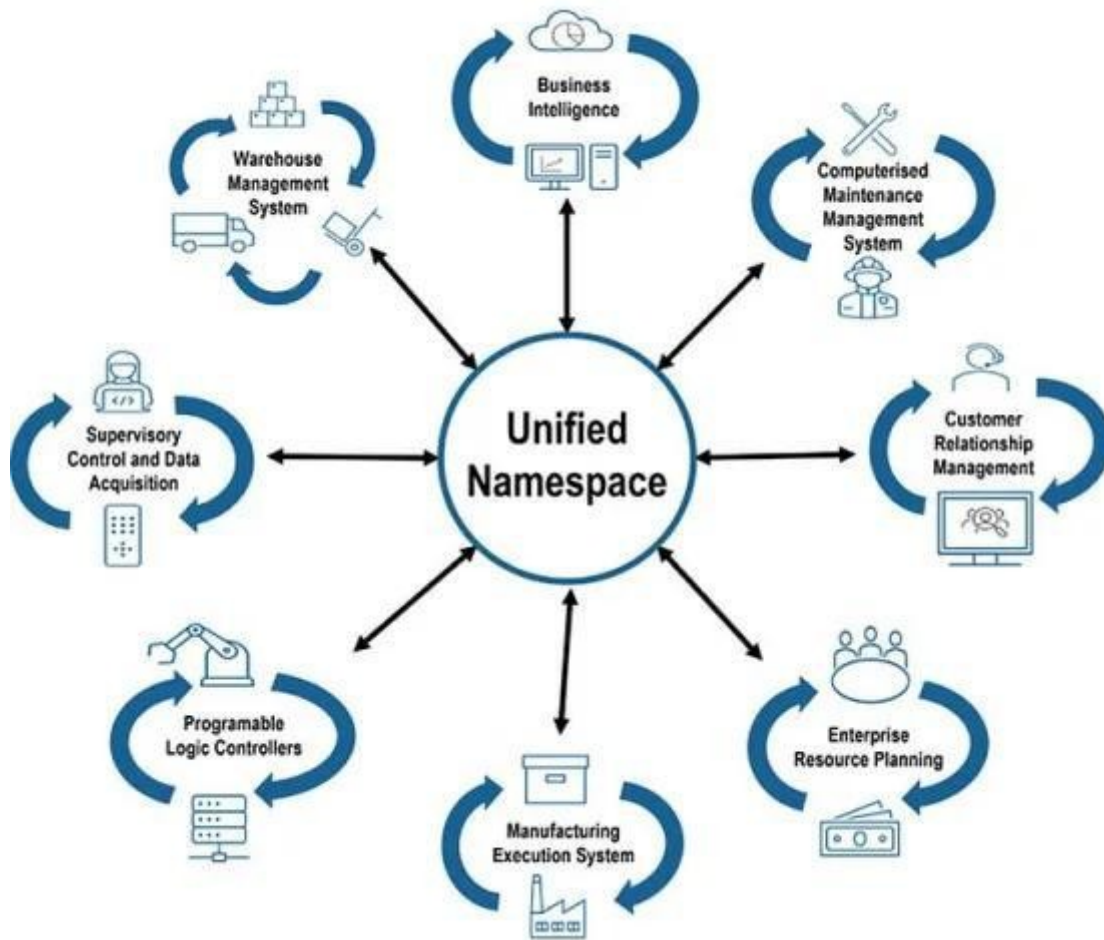
Since 2021, some of the internal transport at Altachem from a storage area to the shop floor has been carried out by an automated guided vehicle (AGV), better known to employees as 'Wall-E', since 2021. Wall-E carries out its missions on the basis of the instructions it receives via the MES system (manufacturing execution system) from 24Flow.

This communication between Wall-E and the MES system has not always gone smoothly. The system had to query the robot server on a regular basis to find out the status of the robot and transport, and this sometimes resulted in missed messages or status reports. That then caused Wall-E to stall, and the AGV then had to be manually restarted, reducing efficiency and productivity. Altachem had to look for a more reliable communication solution to avoid the loss of network messages as far as possible.

UNS to the rescue: central server controls network communication traffic

Together with partners [24Flow](#) and Sirris, Altachem solved this problem by switching to MQTT (message queueing telemetry transport) communication in combination with the unified namespace (UNS) principle. This creates a central communication server that manages communication between all devices, regardless of the communication protocol between them.

On this server, 24Flow can 'subscribe' to relevant messages such as vehicle status and it automatically receives updates sent by Wall-E. This avoids a lot of network traffic, resulting in much smoother and more robust communication without downtime or extra follow-up.



The project: from proof of concept to fully operational

Sirris worked on a proof of concept for Altachem using Node-RED as the low-code platform and MQTT as the central messaging system. Both systems were set up as independent Docker containers, allowing them to continue functioning regardless of the (changing) environment.

When this solution produced the desired results, Altachem was able to take over the operational tasks. The new configuration is now being further monitored and maintained by its IT/OT team. This also marks the start of a further expansion of automation.

The result: smooth communication with Wall-E and the rest

With the new configuration, internal transport provided by Wall-E has become much more reliable. Outages due to poor connectivity have been completely eliminated, and Wall-E now runs without interruptions. Other forms of communication in the workplace also run much more smoothly. Thanks to the combination of UNS and MQTT, messages are exchanged more smoothly and reliably.

This has a positive impact on the production site's efficiency and productivity. Much less manual follow-up is now required thanks to more reliable transport and [more efficient data exchange](#) between 24Flow and the automatic vehicle.

Curious how 24Flow can streamline your shop floor communication and boost reliability?

Share your production challenges with their team and explore how modular planning, real-time visibility, and robust connectivity can reduce lead times and support a future-proof operation.

[Book a demo with 24Flow](#)

An environment focused on growth and on the future

The introduction of the additional layer for communication between different systems and devices makes the entire environment much more efficient and creates room for growth, including both new devices and innovative applications.

A logical next step, for example, would be for all error messages from the system to come directly to the operator on duty via a smartwatch, so they can intervene quickly if necessary. A sensor on Wall-E is also a possibility. After all, a robot can still break down or it may have to make an emergency stop when an unsafe situation arises. In that situation, a rapid intervention by the team on the spot can make a world of difference.

Sirris's input: innovative know-how and practice-oriented approach

The project's success is largely due to the excellent cooperation between the project partners 24Flow and Sirris on the one hand and the customer Altachem on the other. Sirris guided the process step by step and gradually familiarised Altachem with this innovation so that it was able to take over effortlessly afterwards. 'That's the great added value of Sirris,' says Desmet Dempsey, Supply Chain Specialist at Altachem: 'As well as their knowledge and expertise around innovative environments, they've also managed to get us all on board with this brand-new approach, which is very promising.'

Want to know more about using MQTT and UNS in production environments?

Read the extensive article on [the use of UNS in the Industry 4.0 age](#). Or contact christophe.michiels@sirris.be, the author of this blog, to discuss how you too can optimise your business through this kind of innovation.

[Contact us](#)

Want to see UNS and MQTT in action? No problem!

Sirris has also implemented this way of working in its demonstrator at the House of Manufacturing in Kortrijk. You can arrange to visit the demonstrator via karl.verhelst@sirris.be.

[Request a visit to the demonstrator](#)

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