# WIRELESS ACCESS POINTS FOR SMART FACTORY WI-FI MESH NETWORK

## HIGHLIGHTS

- In order to leverage automation, smart factories require equipment interconnectivity and network centralisation, which can be costly and complex to implement.
- A Wi-Fi mesh network enabled via a fleet of DAP140 and DAP142 wireless access points is the ideal solution—enhancing wireless coverage while supporting up to 50 end devices per access point.
- An integrated DIN rail bracket, two RJ45 connectors, and 3-pin power input all make these Wi-Fi mesh access points extra-suitable for industrial applications, while the DAP142's RS232 port allows it to directly connect to key equipment.

## THE CHALLENGE – READY, MESH, GO!

Industrial automation has never been as widespread and sophisticated as it is today. The global smart factory market size, for example, accounted for $155.62 billion in 2024 and is estimated to surpass $386.36 billion by 2034, growing at a CAGR of 9.52%.

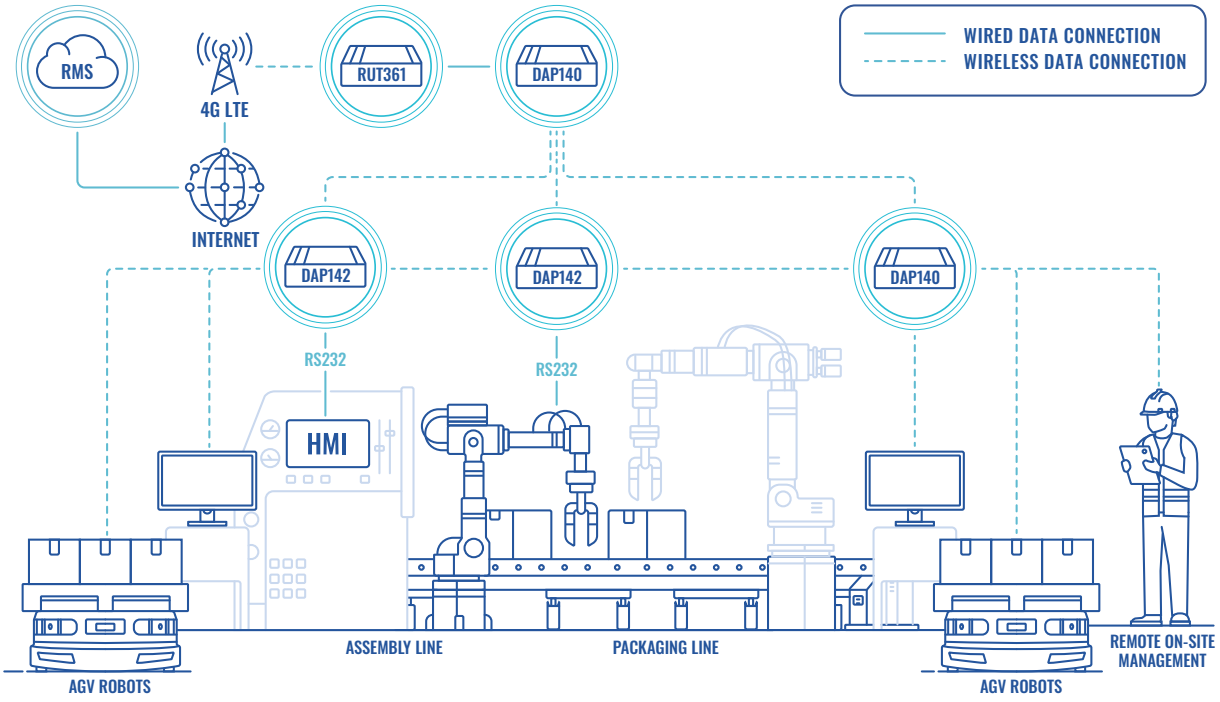
A smart factory leverages myriad automation technologies to eliminate human errors, maximise efficiency and productivity, minimise costs, and produce invaluable data with which future optimisation is built upon.

The lifeblood of such smart factories is, of course, the interconnectivity of machines. Without it, the moving parts of this innovative orchestra cannot communicate with one another, and automation without communication is, as we all know, no automation at all.

As such, robust and reliable connectivity and network centralisation are priority number one. In the context of factories—industrial spaces spanning thousands of sqm—every inch of the facility and the machines therein must be connected. Such a feat cannot be achieved by a single mobile router, but a large fleet of routers would be costly to deploy.

Luckily, there is a simpler, more affordable solution: a Wi-Fi mesh network enabled by wireless access points tailor-made for industrial environments.

# TOPOLOGY




# THE SOLUTION – THE MESH MAGIC OF WIRELESS ACCESS POINTS

Kickstarting this industrial IoT solution is Teltonika's RUT361 mobile router, providing our smart factory network with a source of LTE Cat 6 connectivity, capable of cellular speeds of up to 300Mbps with carrier aggregation.

The RUT361 is then connected to a Teltonika DAP140 wireless access point via one of the latter's 10/100 RJ45 connectors. From there, the access point relays a wireless signal to a fleet of wireless access points deployed strategically across the facility. Specifically, DAP140 and DAP142 industrial access points. The fleet creates a mesh-formation area of wider total coverage that is larger than the sum of its parts.

Both of these rugged Wi-Fi access points share myriad features designed for industrial applications, such as Wi-Fi 4, Wi-Fi mesh, and Fast Roaming support. The key difference between them, however, is the DAP142's RS232 port—enabling it to directly connect to staple equipment such as robotic arms and HMIs.

With each Wi-Fi access point supporting up to 50 end devices, the result is a robust network covering the entire smart factory, leaving no piece of equipment behind. And with network centralisation taken care of, automation is now free to perform its Industry 4.0 magic.

In addition, these wireless access points feature an integrated DIN rail bracket for easy mounting, a 3-pin power input, and industrial-grade aluminium housing engineered for the most challenging of industrial environments.

In summary, the DAP140 and DAP142 Wi-Fi mesh access points enable a low-cost and low-complexity Wi-Fi mesh network. This network enhances wireless coverage and encompasses all equipment within a smart factory, thus enabling full-fledge automation. When it comes to industrial Wi-Fi mesh networks, the DAP140 and DAP142 are among the best wireless access point for the job.