



INGRAM MICRO[®]


Hewlett Packard
Enterprise

Authorised
Distributor

horizon.

Connect your factory

index

3

Industry 4.0

The connected factory

5

6

Connect your factory with HPE

Why use Ingram Micro for your production environment connectivity projects?

12

Industry 4.0

We are without a doubt immersed in the fourth industrial revolution. With the greatest technology advances and the possibility of true connection between people and machines thanks to the networks and key trends of Digital Transformation: Cloud, Mobility, Analysis and Social.

This new Industry 4.0 era will allow companies to capture and analyse a large quantity of data originating from any device connected via IP, and be able to take more adequate decisions to improve the processes in the production plants. This will make them more productive, with faster and more efficient processes, and will permit personalisation of the products that are manufactured upon client request.

The idea of Industry 4.0 is focused on the digitalisation that must be undertaken in the production plants. It is fundamentally based on the adaptation of the IT infrastructure necessary to implement the IoT (Internet of Things) from robots to simple sensors of any type, with the clear objective of integrating all production processes, improving the product quality, client satisfaction and the reduction of costs.



The new paradigm of Industry 4.0 will imply structural changes in three key areas: the chain of value from design to commercialisation, the conception of the industrial product (including new differentiating digital concepts) and the business model after these products.

Industry 4.0

The new Industry 4.0 era must provide the following benefits for companies:

1

The capacity to offer personalisation of products in an industrialised manner, manufacturing according to the needs of each person or company, without the need to increase the sales price.

2

Agile and flexible manufacturing thanks to the key IT trends of Digital Transformation. The analysis of the information generated by the machines and devices in real time allows the production plants to adapt quickly and with flexibility to the needs of the business.

3

Benefit from a true "Connected Factory 4.0" that permits:



Access to new markets and clients through new digital sales channels and new business models, adapting the production, thanks to IoT and providing factories with necessary intelligence.



Capacity to collaborate with factories on all levels, with design teams, logistical suppliers or sales points, thus achieving personalised sales.

The connected factory

This new Industry 4.0 era occurs thanks to the implementation of new and advanced production methods, with great benefits for all sectors, meaning an immense potential for the future. The true differential factor for Industry 4.0 lies in the fact that, as well as connecting any device or machine with IT systems to analyse the information and make decisions in a quick and efficient manner, there is a clear objective to connect with people and their specific needs.

This objective means that it is not sufficient to approach Industry 4.0 as a greater increase in the level of automation in production methods, but companies must evolve towards a new “Connected Industry 4.0” model leading to new chain production.

But how does the new production chain in the Connected Industry 4.0 work?

The new technological trends, Cloud, analysis, mobility and IoT are leading the way. They permit a new intelligent automation model in the production chain. This new model means that industrial companies can reach their customers in a more direct manner and allows them to adapt to new business models that the markets require.

When the software and robotics are integrated into new types of assembly lines, the chain production becomes more and more sophisticated. Hence personalisation becomes routine. As personalisation is the common denominator in a factory, the client specifications are directly transmitted to the assembly line, creating 100% satisfactory products. Quality and reliability of design and services create a transformed, digitalised and more capable culture rather than just a manufacturing focus.

This Industry 4.0, which is still being developed, does not only aim to connect machines and systems in order to make faster and more efficient decisions. It also aims to connect people. The objective is to create algorithms that change and personalise processes up to a point which was impossible before now.

This fact will not only change the types of personalisation, but also the types of shopping. “Connected factories will allow you to place your order fully online, for that order to reach the factory and, from there, for it to be organised in seconds with the specific request that you sent, thus permitting not only time savings but also great savings for resources and money.”

Connect your factory with HPE

However, for an Industry 4.0 to become a “Connected Industry 4.0”, it is critical that the production chain does not face unexpected difficulties, that all of the machines are used in the most optimal manner, that both production and sales are correctly coordinated with each other, that the work environment is secure and that the available information leads to the right decisions.

The cost management is decisive. This means that not only must the machines continue to operate, but the network must be available at all times. For this reason, the redundancy is critical. If a switch or other essential component of the network fails, it is essential for another switch to automatically take over and it is fundamental to avail of a robust and extremely reliable wireless network in order to carry out the monitoring and tracking in the entire production chain with technologies such as RFID or bar codes.

HPE Aruba for the “Connected Industry 4.0”

Today, wired and wireless networks must provide much more than connectivity, they must provide actionable information to accelerate the transfer to mobile devices.

Activate the digital plant

Offer employees access to the information they require, production data, product specifications, asset performance and service manuals, to take timely and well-founded decisions. Add internal maps, orientation (way-finding) and other location-based content that allows employees to be more productive.

Mobility Access Switches for the “Connected Industry 4.0”

The Aruba switches contribute performance and reliability to the campus, prioritising mobility. These industry-leading switches are scalable, secure and have HPE Smart Rate multigigabit ports for high speed connectivity.

Connect your factory with HPE

Ethernet multigigabit

The Ethernet multigigabit with HPE Smart Rate technology leads the way from the standard 802.11ac Wave 2, providing an incomparable connection speed and PoE power, using cabling existing on the campus.

Prepare the wired infrastructure

The expansion of mobile devices and IoT demands that wired networks manage wireless technologies with great capacity. The HPE Smart Rate technology integrated in the Aruba 3810 and 5400R switches permits increase of data speed while offering investment protection for those that want network infrastructure with a future guarantee.



Connect your factory with HPE

5400R Series

The 5400R uses a strong ProVision ASIC for policy compliance. It offers AP, scalability and flexibility to improve the network experience in large areas.

Level 3 modular switches that offer high performance, low latency and resistance to improve the network experience in large areas, giving priority to the “mobile-first” mobile connectivity. The 5400R switch has the industry standard OpenFlow technology and is suitable for SDN applications such as HPE Network Visualizer, Optimizer and Protector.



Wired network compatible with 802.11ac

Ethernet multigigabit with PoE+ for high speed AP 802.11ac with the cabling present.



Resistance and high availability

Capacity for continuous switching and routing with low latency and cable speed of 40 GbE for aggregation of wireless traffic.



Single view of the network

A wireless experience with standardised cable with the ClearPass policy manager and AirWave network management.

3810 Series

The 3810 switch is based on the strong ProVision ASIC and is suitable for business-type resistance high speed with Ethernet multigigabit HPE Smart Rate. It is an ideal access solution for large companies, SMEs and branches.

The level 3 advanced Aruba switches offer stacking capacity through their rear panel, as well as low latency and resistance, which improves the network experience in large areas where “mobile-first” connectivity needs to be offered.



Wired network compatible with 802.11ac

Ethernet multigigabit with PoE+ for high speed AP 802.11ac with the cabling present.



Power and performance

The ProVision ASIC increases scalability, reduces latency and provides cable speed of 40 GbE.



Software-Defined Networking

The Aruba 3810, with the industry standard OpenFlow technology, is suitable for SDN applications such as HPE Network Visualizer, Optimizer and Protector.

Connect your factory with HPE

Wi-Fi access points for the “Connected Industry 4.0”

The Aruba 802.11ac wireless access points offer an excellent Wi-Fi performance. Aruba Instant access points can be implemented, managed by controller or without a controller, depending on the design, scope and scale of the wireless network. Also, our most recent Wave 2 access points provide incredible 11ac speeds with ascending multigigabit link with HPE Smart Rate technology to improve network performance in high density environments.

AP-228 802.11ac for difficult interior spaces

The resistant AP 228 wireless for interior spaces provide a Wi-Fi performance with gigabit speed for the 802.11ac mobile devices in difficult interior environments such as warehouses and stadiums.

Its exclusive industrial design admits a wide range of temperatures, specific for places that do not have heating or cooling systems. The 228 also has six RP-SMA connectors for external high gain antennas in large public areas.

With a maximum data speed of 1.3 Gbps in the 5 GHz band and 600 Mbps in the 2.4 GHz band, the AP 228 provides triple the speed of the AP 802.11n and a similar performance to a cable connection.



AP-270 Wi-Fi with gigabit speed for exterior business spaces

With an innovative and elegant design, HPE's APs for exteriors in the 270 series provide an 802.11ac Wi-Fi performance that is quick and reliable in any meteorological conditions.

The 270 series with three flows also allows the 802.11n mobile devices to operate up to three times faster for the same AP distance.

Exclusively designed to face the most adverse exterior conditions, the APs of the 270 series can withstand extreme temperatures, permanent moisture and precipitation. Also, they are fully sealed to avoid the entry of particles and contaminants.



Connect your factory with HPE

The most advanced WiFi solution for the Industry



Obtain better performance

The patented ClientMatch™ technology improves performance and avoids problems in terms of changing the access point (sticky client) when using the roaming system.



Protect service quality wirelessly

The AppRF technology permits prioritisation and implementation of essential policies for business applications such as Microsoft Lync.



Freedom of choice

The AP 228 can be managed through an Aruba Mobility Controller or implemented in the Aruba Instant mode without a controller.



Easy to purchase, easy to install

The 270 series is as easy to install as a video camera for exteriors and has integrated antenna options for simple implementation.



With incorporated beamforming functions

It offers the performance advantages presented by beamforming functions in exterior spaces, where maximising the



Discreet and elegant design

The APs of the 270 series (with or without external antennas) are totally discreet and look like any other exterior element.

Security Automation in the “Connected Industry 4.0”

Mobility and the IoT currently present significant risks

Mobile solutions and IoT are transforming approach to Network Access Control (NAC). Follow the Aruba 3-step plan to:

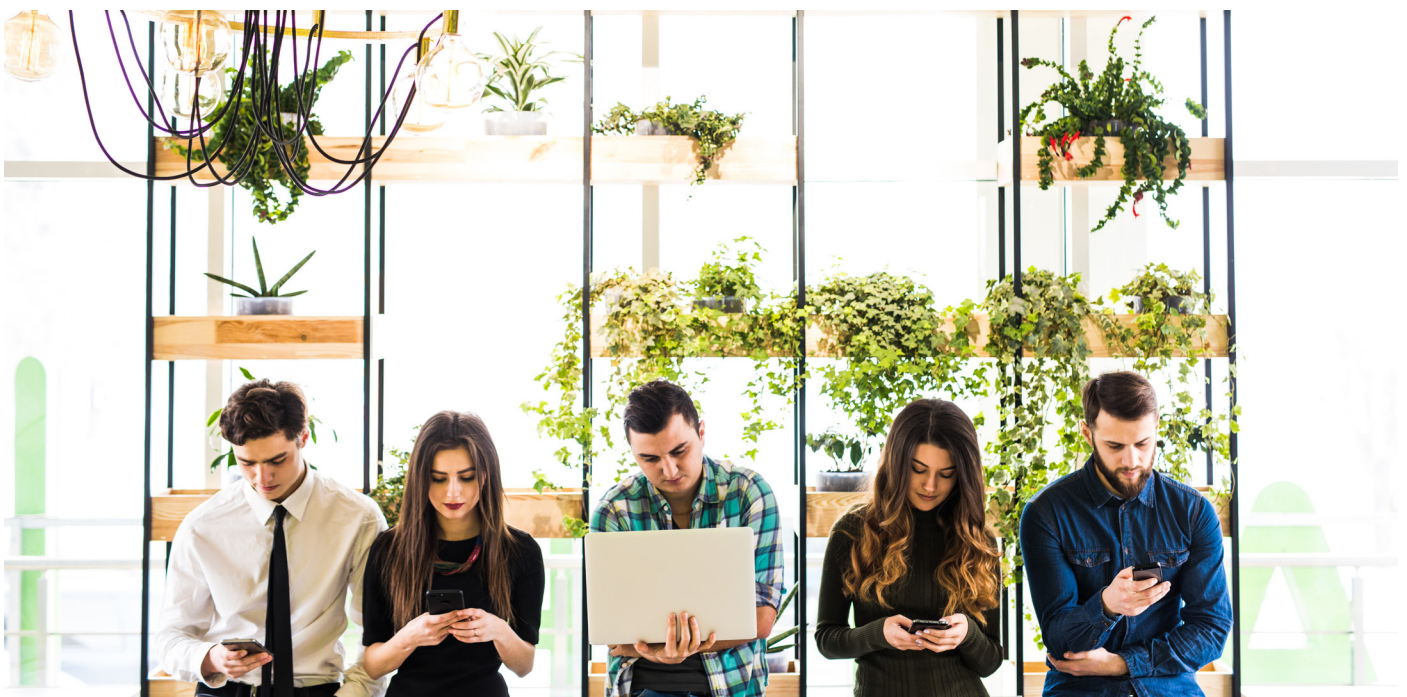
- 1 Identify devices.
- 2 Enforce compliance with policies.
- 3 Protect the network

Connect your factory with HPE

Mobility and IoT are changing our way of understanding Network Access Control

The objective is to maintain visibility and control of all connected devices in the production plant in the easiest way:

- 1 Identifying the devices** that are being used. Continuous knowledge both of the changes and of the devices that connect and disconnect allows for the visibility necessary in the long term.
- 2 Apply accurate policies** that provide an adequate access for users and devices, independently of the type of device being connected. The companies must adapt to the evolution of current devices and their use, regardless of type.
- 3 Protect resources** through dynamic policy controls and a solution for real threats that extends to third party systems. This is the last piece of the puzzle. Being prepared for unusual network activity at 3 in the morning requires a unified approach that blocks traffic and changes the connection status of a device.

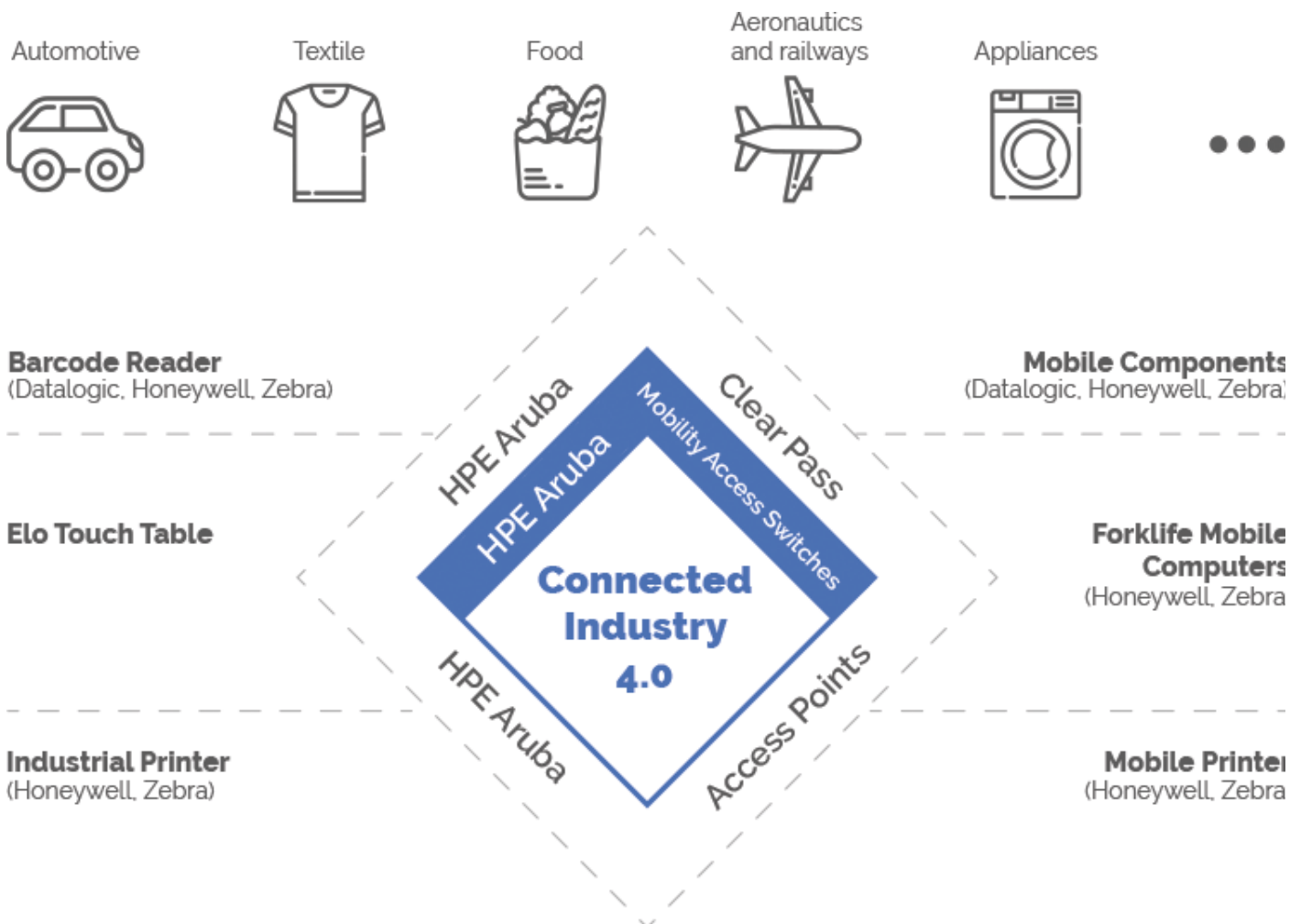


Why Ingram Micro?

Ingram Micro will help you make the most of the technology that you develop, implant, sell or use, with the objective of responding to the challenges brought up by your clients.

At Ingram Micro, we benefit from a DC/PoS specialised department, and have agreements with the most important manufacturers in the sector.

For the adoption of “Connected Industry 4.0”, we suggest the integration of our DC/PoS solutions (Datalogic, Honeywell, Zebra and ELO) with the HPE Aruba Smart Rate approach, with switches and access points.



Why Ingram Micro?

With our great global infrastructure and our experience with Cloud services, mobility, production and technology, we can collaborate with you in a more efficient way and achieve greater success in the sectors you work in so that you can access new sectors and generate more business opportunities.

Our mission is to become your business partner. To support you wherever you need it, and for you to count on us to offer complete and solid solutions, efficient and intelligent work processes and to shorten the sales cycle as much as possible in order to achieve greater profitability and faster adoption of the technology.

Our aim is to offer a comprehensive solution in order to approach the complete life cycle, from evaluations, planning and design to installation and launch, passing through administration of solutions and foreseeing obsolescence of technology, with the best market solutions.

For more details or for help in selling this solution to your customers, contact our dedicated HPE sales and presales specialist teams at Ingram Micro.



Connect your factory

A man with a beard, wearing a grey suit jacket over a light blue shirt, is seen from the side, looking out of a large window. His hand is resting on a ledge. Outside the window, a city skyline with various buildings is visible under a clear sky. The image has a professional, corporate feel.

Thanks for reading!