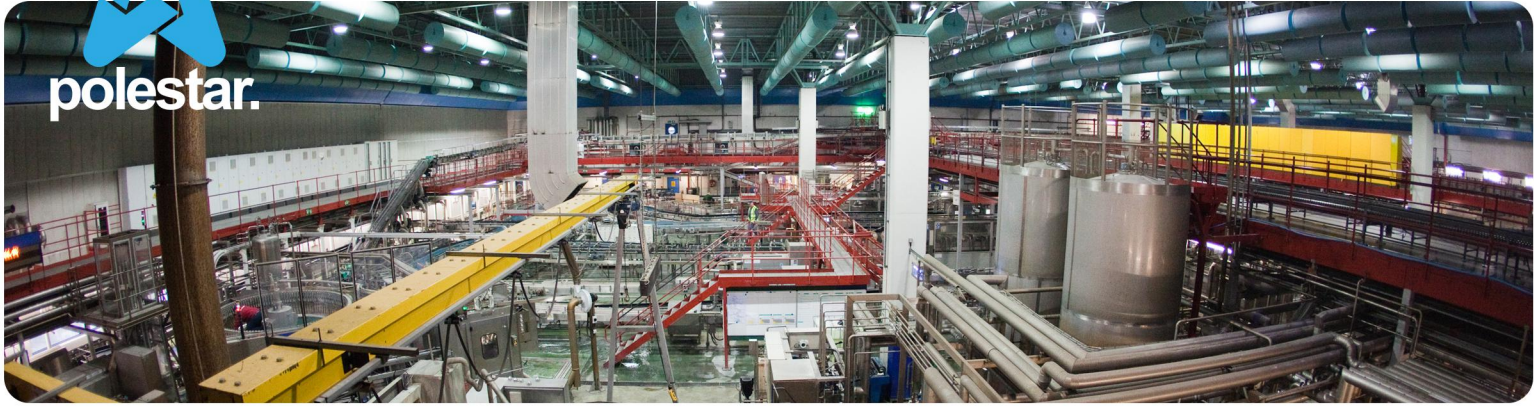




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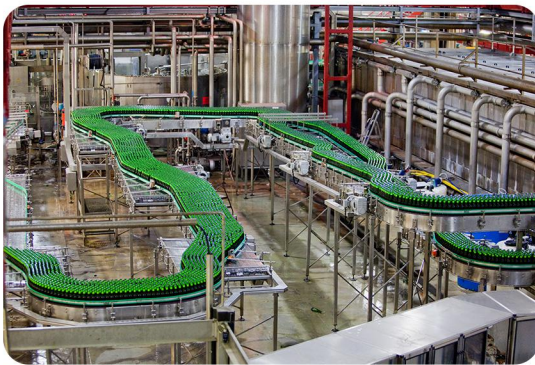


Carlsberg Wi-Fi Project

If you do a quick survey at your local and ask people what goes into manufacturing a pint of their favourite beer, the answers will revolve around water, barley, hops, and yeast. Although this isn't the wrong answer, the reality is that there are many other 'ingredients' required for manufacturing the perfect pint of lager. Industrial automation specialist, Polestar, was recently involved in a complex project at a Carlsberg manufacturing site which proves that brewers actually rely on more than quality hops to create a winning tipple.



The Carlsberg Group, founded in 1847 operates in three main regions - Western and Eastern Europe, and Asia - and is the fourth largest beer producer in the world. Its Northampton site alone has a production capacity of 6.7 million hectolitres of beer per year.



Polestar has been working with Carlsberg Group globally in all three regions for the last 14 years, providing consultancy, aid with strategic decision making, support with cyber security policy and guidance in achieving high process availability. Polestar has thus been instrumental in bringing the benefits of IT developments into Carlsberg's production system environments across many industrial sites.

On this occasion though, Carlsberg's goal was to push out its SAP implementation to the ground level of its manufacturing operation as part of its global Business Standardisation Program (known as BSP1). Carlsberg asked Polestar to provide a complete turnkey solution for the mobility part of the SAP BSP1 project. Polestar designed, planned, commissioned and managed the entire delivery of the project to Carlsberg within the required timescale of less than a year.

"We introduced a preventative maintenance system in March 2014 and Wi-Fi was required to make this work" explained Chris Thompson, Service & Systems Manager at Carlsberg UK. "BSP1 is extremely important to Carlsberg as it enables us to realise efficiency improvements by facilitating a single integrated supply chain, supported by a uniform system and set of processes. For example, the focus is on brewery efficiency gains and reducing waste and utility consumption. With warehousing and logistics, the focus is on optimising warehouse operations, productivity of the distribution network, centralising transport operations and sourcing practices. ***Polestar understood our philosophy and offered a solution that could be implemented in an extremely short period of time and without disruption***".

Customer:

Carlsberg UK
www.carlsberg.co.uk

About Carlsberg (UK):

Carlsberg UK is one of the country's largest beer and beverage companies. They are part of the Carlsberg Group, the fourth largest brewer in the world. In the UK, Carlsberg employ around 1,800 people and have a number of sites nationwide. The most notable is their flagship brewery in Northampton.

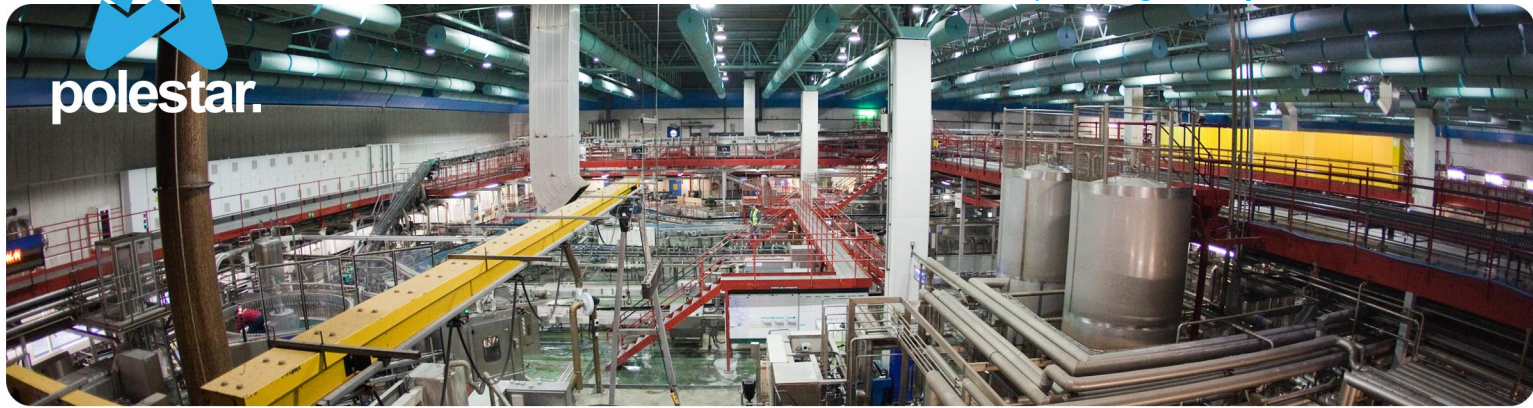
Working with Carlsberg:

Polestar has been working with the Carlsberg Group globally in all 3 regions for 14 years, providing consultancy, strategic decision making and High Availability / Cyber Security policy and processes. We have brought the benefits of IT developments into Carlsberg's OT and production system environments.

About Polestar:



Polestar Interactive Ltd is uniquely placed to help organizations gain competitive and operational advantage from Industrial IoT. For years we have been delivering enterprise and industrial IT infrastructures across the UK, Europe and North America.



Carlsberg Wi-Fi Project



Wi-Fi was chosen as the ideal mechanism to track up to 10,000 key assets and resources around the UK plant.

This enables staff to use mobile handheld computers to scan objects and resources in order to automate process delivery, and as a result, work more effectively.

These handheld computers needed to connect from the shop floor back to the corporate ERP (SAP) system in Denmark, with a Wi-Fi connection through the company's WAN (Wide Area Network). Polestar's aim was to deliver a solid and reliable WLAN (Wireless Local Area Network) through the entire site despite having to deal with a wide variety of environmental conditions and strict requirements that would also include specifying the protocols and transport systems for integration with the corporate network, firewalls and switches.

Another requirement was for reliable and robust Wi-Fi coverage for all user types (production/corporate/guest) across the whole site. This included the below ground basement areas as well as some extremely high locations such as silos and tanks. The Wi-Fi access points had to be Zone 2 ATEX (explosive atmospheres compliant) in certain areas due to the presence of malt dust in the Brewhouse.



Due to the complexity of the requirements, and the need for ATEX compliant equipment, Polestar carefully selected the hardware as well as the appropriate software for network management, service delivery and product lifecycle management. A Mobility Services Engine platform was chosen for visibility of devices within the field and deployment of Wi-Fi based location services. Finally, WLAN Controllers were used for managing the network policy and security settings across the site.

There are approximately 70 Access Points across the whole site and Polestar operatives onsite used a combination of Enterprise and Outdoor Mesh APs for the project. For the hazardous and outdoor areas, specific ruggedised and optimised APs were selected for harsh outdoor and factory environments, to ensure safety of personnel and operations.

"What is indeed impressive is the way in which Polestar looked at our requirements from all angles: quality, reliability, information security, health and safety and six-sigma efficiency" added Thompson. "The network had to be as secure as possible, using appropriate encryption and authentication standards. After several site surveys were carried out, Polestar specialists were also able to ensure that the radios did not 'bleed' into non-physically secured areas. They had thought of everything!"

Did you know?

- Carlsberg UK employs over 1,800 people across the country.
- They have a 14.2% share of the UK beer market.
- Owns 4 of the top 15 beer brands in the UK.
- Somersby is now in the Top 10 On-Trade cider brands
- Carlsberg UK are the only national brewer with its own distribution network - you will see their lorries on the road daily!
- They made a £20m investment in a new bottling line at the Northampton brewery in March 2013.
- Carlsberg is the official beer of the England football team.

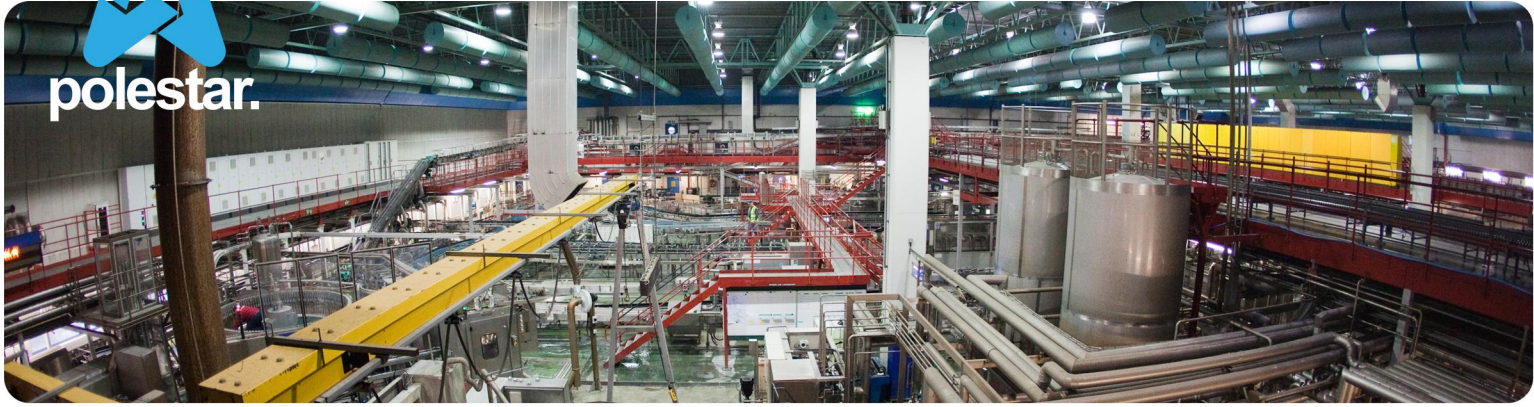




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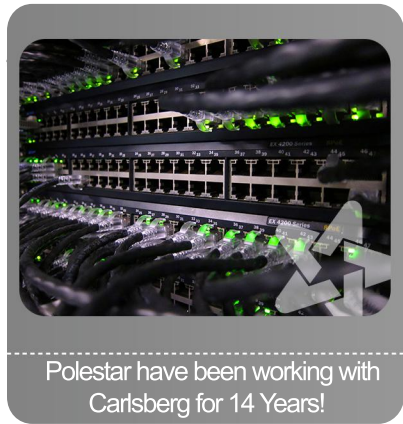


Julian Smith, Managing Director at Polestar explains more about compliance in factory environments: “A lot of the information that we got from our supplier of equipment, was based on North American standards, so we had to adapt our working methods to incorporate European safety and electrical power distribution standards into the design of the network, panels and in implementation. We had no reference sites to work on from the vendor, but as we’ve been involved in many challenging Wi-Fi projects over the years, we had the experience to make things work for Carlsberg as well.”

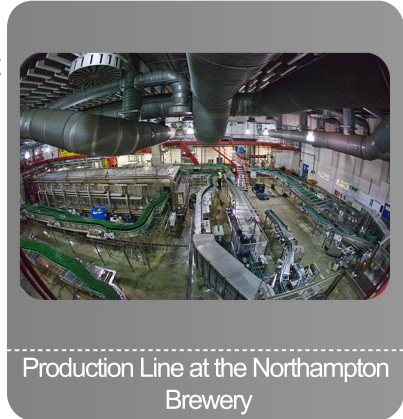
In addition to designing and implementing the Wi-Fi infrastructure, Polestar also assisted Carlsberg’s supply chain company in drawing up the cabling and power specifications for the implementation of all data networks – not just the wireless networks – across the entire Carlsberg Group.

“Everything was delivered within three months from starting work – early and within budget and what’s more, over the Christmas period!” recalls Thompson. “There was no downtime during installation and I credit the extremely hard work put into this project by the Polestar team and also the systems integrators who installed the data cabling and the electrical requirements. After every single detail was completed, we were so pleased with the results that we took all the teams for a memorable night out in Northampton to say thank you.”

Carlsberg’s Wi-Fi system has been in place for almost two years now and, thanks to Polestar’s technical expertise and top of the range technology, production has improved significantly. The site is now safer, leaner and more efficient than ever. So if you still think beer only requires four simple ingredients, this case study has just added quite a few technological extras. Now that’s something to tell your friends at the pub next time you’re enjoying your pint together!



Polestar have been working with Carlsberg for 14 Years!



Production Line at the Northampton Brewery



Carlsberg’s Somersby Cider