Hewlett Packard Enterprise

Transforming sustainable circular steel production

CELSA Group strengthens global collaboration to optimize production of circular steel

As a global leader in the production of steel, CELSA Group continues its journey towards becoming a net carbon positive company through the adoption of IoT and AI-powered solutions. Through the adoption of a unified, scalable, and secure global SD-WAN, CELSA accelerates progress towards its goals, creating a greener, more efficient future.

Pursuing opportunity in the circular economy

CELSA Group is a Spanish industrial giant. The business, based in Barcelona, contributes nearly 1.2% of the country's industrial GDP. Its heritage is in steel production, but its future is in one of the world's most important new business sectors: recycling. CELSA Group claims to be the first producer of circular steel with low CO_2 emissions in Europe. "We are the second largest recycler in Europe," says Manuel Parra, CTO & head of IT architecture at CELSA Group. "We've been active in the 'circular economy' before it was even a phrase. Today, 93% of our production comes from recycled material."

With sustainability a priority for governments and economies worldwide, recycling presents a huge opportunity for CELSA Group. It now has operations across Europe and is on the hunt for strategic acquisitions — which will need to be seamlessly onboarded and integrated into the group.

"Ensuring a standardized architecture is crucial for efficient network operations and swift onboarding of potential future acquisitions, highlighting the strategic importance of simplicity and uniformity in connectivity," explains Manuel Parra.

CELSA Group wants to reduce the cost of connecting its international network of 70 offices, recycling plants, and factories across Europe, and be quicker and more consistent in deploying new business applications, especially as they are increasingly cloud-based.

CELSA GROUP™

Industry: Manufacturing
Country: Barcelona, Spain

Vision
Become a sustainable, net carbon positive company by 2050.

Strategy
Leverage technology innovation to advance energy efficiency, adopt a circular economy approach, and foster global collaboration.

Outcomes
- Provides consistent, granular, and manageable site connectivity
- Eliminates MPLS, and enables adoption of fast internet SD-WAN
- Delivers 40% cost savings while boosting performance and security

In a growing and increasingly dispersed organization, MPLS connectivity had proved costly, slow to update, and wasteful, requiring a primary line and an expensive back-up circuit. With highly prized industrial IP being moved around the business, Manuel Parra López says the security and reliability of the network is critical: "Cost is one of the top priorities and we are conscious of waste. We don't like to be paying for something that is never used."

Transforming WAN and branch connectivity

The HPE Aruba Networking EdgeConnect SD-Branch architecture, with a unified, secure and centrally managed infrastructure layer, provided CELSA Group with a robust SD-WAN capability delivering high-performance local internet breakout for efficient and direct access to cloud-based workloads. This has transformed the way CELSA Group connects and manages communication and collaboration between its remote locations.

Delivered in two phases, the new architecture combines best-in-class wireless, wired, and WAN infrastructure with unified management and Zero Trust Security that includes assurance, orchestration and role-based access control. This optimizes performance and minimizes operational costs. The SD-WAN connectivity includes HPE Aruba Networking Branch Gateways connecting to regional Headend Gateways (VPNC) to establish secure internet breakout between all company locations. The wired infrastructure is built upon HPE Aruba Networking CX switches from core to access. All locations are also increasingly enjoying high-density Wi-Fi 6 wireless connectivity with HPE Aruba Networking indoor and outdoor access points.

The cloud-native, AI-powered HPE Aruba Networking Central provides single-pane-of-glass unified infrastructure management, AIOps, security and reporting services. It enables Zero Touch Provisioning, especially valuable for remote sites, and consolidates visibility over WLAN, LAN, WAN and VPN services.

"We preferred to have a single vendor for WAN, WLAN and LAN. We already had a great relationship with HPE Aruba Networking in Spain and with SIRT, the local partner," says Manuel Parra. "Given the scale and importance of the project, any choice could be seen as a risk, but we were confident in the ability of HPE Aruba Networking to deliver."

Bringing 70 locations under unified management

The engagement has brought 70 international locations under a single line of management. It spans production sites with more than 1000 employees to small site offices, from the UK to Poland to all the Nordic countries. Global network management responsibility resides in Barcelona.

The move was fortuitously timed. The 2020 pandemic required a drastic reduction in travel between offices. Management meetings that used to take place face-to-face were comfortably handled via Microsoft Teams. The general direction is towards standard, cloud-based applications. The new SD-WAN environment offered CELSA Group the opportunity of optimizing its connectivity circuits, to enhance performance, and to reduce costs.

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– **Manuel Parra,** CTO & Head of IT Architecture, CELSA Group

"With MPLS, it would have been impossible to have the necessary bandwidth without incurring excessive costs," says Manuel Parra. "We are moving many workloads to the cloud and colleagues need the ability to access files quickly. SD-WAN and the move to an SD-Branch architecture have made a significant impact on our new way of working."

CELSA Group uses AWS, Google Cloud™ and Microsoft Azure, and is co-located in Equinix data centers in the UK, France, Spain, and Sweden. It is also migrating its SAP® environment to S/4HANA. The new SD-WAN allows this and other critical workloads to be accessed far more rapidly through direct internet breakout, and in a secure manner.

"Cloud is not necessarily always cheaper than traditional on-prem infrastructure, but it is more flexible," says Manuel Parra. "We need that advantage."

Controlling costs to fund new ventures

Consistency and ease of management were the primary objectives, says Manuel Parra, but the impact on cost cannot be discounted: "It has meant we can move all remaining and new locations to the new software-defined architecture."

CELSA Group estimates the cost saving to be around 40%. "With MPLS, there are many links in the chain. Different providers have the 'best' solution for a particular region. This makes things complicated and by the time you have addressed any issues and found out what needs to be tweaked along this long chain, you have very likely exploded the costs and missed the SLAs in case of any incidents. So, often we do not fulfill many SLAs on MPLS links," says Manuel Parra.

The cost savings will generate funds that can be channeled into new strategic projects.

"With SD-WAN we now have an active-active setup using a high-bandwidth service provider business internet line and a basic line as backup," he says. "We can, however, aggregate and access the bandwidth of the primary and secondary lines which means we're not paying for something we're not using. Both lines are working for us. This is now possible with the software-driven and granularly managed HPE Aruba Networking architecture."

Accelerating innovation and Industry 4.0

CELSA Group is not a heavy user of high-bandwidth applications, but Manuel Parra expects this to change. New business initiatives will require the different business units to collaborate and share data.

The business is already experimenting with Industry 4.0 initiatives. It wants to increasingly use video cameras and robots powered by AI and machine

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learning to optimize the triage of recycled materials. Accurately and consistently grading materials will be important in the precise costing, as well as the quality of the recycling process. Also, GDPR-compliant facial recognition, for example, can help manage and simplify secure access to facilities. All of these initiatives will require a robust and secure network, flexible resource provisioning and streamlined management.

"It is essential to have a simple and much unified infrastructure," says Manuel Parra. "HPE Aruba Networking Central gives us a clear view of everything that is happening on our network, from WAN to all the underlying infrastructure, and allows us to manage everything in the same consistent way."

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Solution

Hardware

- HPE Aruba Networking Wi-Fi 6 Access Points
- HPE Aruba Networking CX Series Campus Core Switches
- HPE Aruba Networking CX Series Campus Aggregation Switches
- HPE Aruba Networking CX Series Campus Access Switches
- HPE Aruba Networking EdgeConnect SD-Branch
- HPE Aruba Networking Central
- HPE Aruba Networking CX Core and Access Switches

Software

- HPE Aruba Networking Central
- HPE Aruba Networking ClearPass Policy Manager
- HPE Aruba Networking EdgeConnect SD-WAN Orchestrator

Key partners

- SIRT

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