Belgium’s number one tourism attraction is not an art gallery. It is not a sports stadium or medieval church. It does not have any roller coasters.
Belgium’s number one tourism attraction is an immersive wildlife experience, featuring more than 7,000 animals, an hour’s drive south of Brussels. Visitors will see tigers, gorillas and mountain lions, and they can stay in lodges deep in the park grounds. It is considerably more than a zoo.

CREATING A YEAR-ROUND ATTRACTION
Pairi Daiza was founded in 1993, but it is only in recent years that the resort has begun a major transformation. There are now eight ‘worlds’, themed areas to house animals, from Asia to Africa to West Coast Canada. A hotel, lodges and restaurants were added in 2019.
A second hotel opens in 2020, along with a new ‘world’: the Land of the Cold.
The business wants to become a year-round attraction, broadening its offer. It wants to increase its conference and events business, and daily visitors extend their trips with overnight stays.
“Whatever the reason for your visit, we aim to create a unique experience,” says Claude Vanholsbeek, CIO, Pairi Daiza.

A network on which to build operational excellence
Technology had historically not played a strategic role at Pairi Daiza; the first permanent IT-related appointment was made in 2012. The park’s expansion, and the addition of hotel rooms, has changed this. Vanholsbeek came on board in 2017 to deliver an upgrade of the IT infrastructure.

Our aim is to become a year-round business. This presents challenges in terms of the services we’ll need to provide, to accommodate different visitors, but with Aruba we have a network that will allow us to deliver.

CLAUDE VANHOLSBEEK
CIO, PAIRI DAIZA

In this, network connectivity is critical. Not only do guests expect flawless Wi-Fi around the 70-hectare site, but there are a host of operational functions needing to connect, today and into the future. This would include digital wayfinding to security and CCTV or from environmental sensors to location-based guest services.
“We had a very flat, not altogether reliable network in place,” he explains. “We wanted the new network to be more dynamic, more mobile and easier to manage. Even today we only have one person here to manage the network.”

The goal was to create a network that would be easy to manage yet deliver enterprise-class connectivity for a range of users around the site. Vanholsbeek wanted to be able to add new devices, or new functionality, as the park developed.

**Mapping the park to deliver seamless connectivity**

Central to the Aruba solution are 300, four-metre tall stylish lamp posts dotted around the park. Pairi Daiza wants as few unnatural objects as possible throughout the park and insisted that no wireless access points would be visible. The lamp posts, or Shuffle Hotspots, designed by Schreder contain lighting, audio speakers, provisions for video cameras and the Aruba access points.

Working with the Aruba partner Orditech and HPE Pointnext Services, the location of each post had to be mapped to ensure seamless connectivity and optimised RF coverage. The team then built a mounting kit to disguise each AP. The posts are spaced no more than 20 metres apart.

A mix of indoor and outdoor Aruba APs provide full coverage around Pairi Daiza, including the offices, hotels and all other guest and conference areas.

**REAL-TIME POLICIES TO MANAGE USAGE**

Wi-Fi connectivity is only half the story. One major upgrade and transformation in the team’s operating model is the streamlining of network security, management, and control. With a combination of the ArubaOS 8 and controllers, 24/7 high availability is ensured, even during system upgrades, an operation which can be fully automated. Other benefits such as Layer 7 application visibility and control, as well as AI-powered RF optimisation, allow more granular control and application sensitivity to the IT team.

In addition, Aruba ClearPass ensures agentless and automated policy control. It allows Pairi Daiza to create policies and apply them in real-time, to efficiently manage how users and devices connect and what they can access. Additionally, guest access authentication is completed via SMS, having seamlessly integrated the ClearPass service with a mail server. AirWave is used for network management, providing the granular visibility of the wired and wireless environments.

Over 450 wireless APs are controlled by Aruba 7220 Mobility Controllers, individually dedicated to each ‘world’ and orchestrated by a Mobility Conductor. Hotel rooms are specifically using Aruba 303H unified hospitality APs with two LAN ports dedicated to the in-room IP-TV.

The network core is based on two Aruba 5406R switches which are migrating to two Aruba 8320 switches running the ArubaOS-CX operating environment. This will not only upgrade the core to higher capacity and bandwidth but will also provide intelligence and automation in the management, monitoring and troubleshooting of the core. The distribution layer is also comprised of seven Aruba 8320 switches, one for each ‘world’, while the campus edge is made up of Aruba 2930 switches. An additional pair of Aruba 7205 Mobility Controllers have been deployed to help optimise multicasting traffic for IP-TV and video streaming applications.

This architecture, in conjunction with ClearPass and the controllers, allows Pairi Daiza to implement device-to-port network segmentation through the Aruba Dynamic Segmentation solution. ClearPass allows any device, once authenticated and authorised, to be connected to the network, whether Wi-Fi or LAN and irrespective of which LAN port may be used – Colourless Ports. This Tunnelled Node segmentation solution provides the highest levels of isolation for conference or event users, retail point of sale stations or office environments.

“We have a controller-based design, converted from an initial Aruba Instant architecture,” says Vanholsbeek. “Each ‘world’ has its own controllers. It means a problem in one ‘world’ won’t impact the others.”

**Enhancing a physical experience**

The Aruba architecture means park visitors enjoy seamless connectivity throughout the park with uninterrupted roaming and security. Pairi Daiza can adjust bandwidth for different uses, meaning park visitors can post pictures to social media or event organisers can accommodate business users.

Pairi Daiza’s visionary founder, Eric Domb, accepts that technology can be used to enhance the visitor experience although be as close as possible to nature is his main objective. The park may consider, in the coming years a visitor app, with detailed information on animals popping up on smartphones when visitors approach, in a visitors’ preferred language.

“We accept this might be better than written descriptions on display boards,” says Vanholsbeek. “We may look at augmented reality too, but the priority has to be the live experience. We have to find the right balance. This is not a movie. We want visitors to have a physical experience.”

**A solid platform on which to support future development**

Claude Vanholsbeek acknowledges that Pairi Daiza is only at the start of its journey, and that the business remains reluctant to fully embrace technology. “But we finally have an architecture in place. We have a template in place that means we can easily add new ‘worlds’, all of which can be managed by one person.”

“We will become a year-round attraction. This presents challenges in terms of the services we’ll need to provide to accommodate different visitors – business visitors in a midweek in January, for instance, but with Aruba we have network that will allow us to deliver.”