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Carlos Carvalho, CTO, ACS



Data Centre

Siemon helps Flexenclosure create a data centre of excellence for ACS

Location: Luanda, Angola

Products: Z-MAX® Cat 6A pre-terminated trunking cables and connectivity, XGLO™ Multimode pre-terminated plug and play trunking cables and connectivity and Copper/Fibre Combo Panels

As one of the world's leading designers, manufacturers and assemblers of modular prefabricated data centres, Flexenclosure only uses best in class components within its facilities. That's why it used cutting edge network infrastructure technology from Siemon throughout a new facility it created for Angola Comunicações e Sistemas (ACS).

Challenge: Located on the western coast of Southern Africa, Angola is divided into 18 provinces, with the city of Luanda being the capital. One of the continent's major oil producers, Angola is striving hard to tackle the physical, social and political legacy of a 27-year civil war that lasted until 2002. As part of this rebuilding process, the country has done much to improve its IT solutions and network connectivity infrastructure, with ACS leading the way in providing private networks, hosted data and other related Internet services to a growing base of public sector and enterprise customers. ACS has rapidly expanded its business in recent years and was fast outgrowing its main data centre facility, which was not only too small, but also unsuitable to house highly sensitive ICT equipment. To compound the issue, the construction of many larger buildings around it was causing line of sight problems for its Very Small Aperture Terminal (VSAT) antennae – a significant issue with many of ACS' corporate banking clients relying on ACS for mission critical services. Having considered its options, ACS identified a large greenfield site in Benfica, the rapidly expanding new business and commercial area of Luanda, at which to locate its new data centre facility. However, there were some serious issues to overcome, as the site had absolutely no existing utility infrastructure – not even a road to get to it. Furthermore, ACS wanted the facility to be manned 24/7, therefore requiring not only data centre white space but also a full network operations centre (NOC), office environment and associated facilities to be available to its staff.

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Tomas Rahkonen, CTO, Flexenclosure

Solution: This was a considerable undertaking and rather than going for a traditional bricks and mortar construction, it was felt that a modular prefabricated data centre would offer a more scalable and flexible solution. Pioneering Swedish data centre specialist, Flexenclosure, was invited to offer a proposal and Tomas Rahkonen, the company’s Chief Technology Officer, comments, ‘Since 1989 we have specialised in designing and deploying prefabricated data centre buildings in some of the world’s most extreme environments. Our brief from ACS was not short of challenges, but we were confident in our ability to deliver exactly what the customer wanted.’

Flexenclosure’s eCentre is a custom designed, prefabricated data centre that is fast to deploy, energy efficient and easy to expand. Rahkonen says, ‘By prefabricating a data centre, the building itself becomes as much a component of the “machine” as the cabling, power units, cooling system and the server racks. And this allows for the full pre-integration and testing of all systems in a clean factory environment, with the result that a customer can be confident that their data centre is fully operational and optimised for performance before it ever reaches the site for final construction.’

A detailed design study was initially carried out to make sure that the facility would meet ACS’ needs both immediately and in the future. Flexenclosure then took on ownership of the project, as ACS wanted something that looked like a traditional building in a fully landscaped site. It provided a full turnkey operation including not only the data centre but also the entire site, including the civil works, telecommunications tower, VSAT farm, NOC, electronic security and manned guarding, office space, personnel facilities and other site infrastructure. The result is an 880m², 1.25MW data centre that has been designed to sit effortlessly within an aesthetically pleasing site. Flexenclosure’s enviable reputation for delivering facilities of the highest quality comes not only from its track record of successful data centre deployments, but also on its uncompromising use of state-of-the-art components. For the cabling infrastructure in the ACS project it used cutting edge products from Siemon’s WheelHouse® advanced data centre solutions. These included XGLO™ multimode OM3 high density plug and play optical fibre incorporating modules and FCP3 72-port and 96-port enclosures.

‘The XGLO fibre optic system is ideal for next generation backbone applications,’ explains Dan Vout, Sales and Marketing Manager, Siemon EMEA. ‘It utilises laser optimised fibre for superior transmission performance for up to 10 Gigabit Ethernet applications and exceeds all ANSI/TIA/EIA and ISO/IEC insertion loss and return loss requirements. When it comes to installing XGLO fibre optic cabling, time is also saved thanks to the use of Siemon’s XLR8™ mechanical splice-based connectivity system.’

In addition to XGLO, the ACS data centre also benefits from Siemon’s pre-terminated Category 6A copper trunks, and pre-terminated MTP-MTP and MTP-LC optical fibre reels and trunks. These were used in association with the company’s Copper/Fibre Combo Panel, which allows copper outlets to be mixed in the same rack mount space as fibre plug and play modules. The compact 1U design offers integrated cable management features and supports Category 5e to 7A and all multimode and singlemode fibre applications.

When asked why they chose to work with Siemon, Tomas Rahkonen replies, ‘We have worked with Siemon for a number of years and believe that it is one of the leading vendors of structured cabling in the market. We pride ourselves on delivering the highest quality data centres and, as such, it’s important that we work with the leading cabling suppliers. Siemon never fails to provide a total solution when it comes to quality, technical support, prompt delivery and overall value, and as a certified installer of its products, we can offer its 20-year warranty to all of our customers.’

Result: Siemon cabling was installed in Sweden prior to the eCentre’s delivery to Angola, along with all other data centre components, and the project was completed in early 2016. Carlos Carvalho, chief technology officer at ACS, is delighted with the results, and concludes, ‘We now have the most advanced data centre in Angola and it positions ACS to take an undisputed leading position in the delivery of mission critical voice and data communication services to the corporate market. I am very proud of what Flexenclosure has achieved and knowing that we have Siemon’s reliable and robust network infrastructure solutions at the heart of the facility gives us ultimate peace of mind.’