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New Exhibition Centre in Abidjan to boost tourism and economy

Strategically located next to the Ivory Coast's Félix Houphouët Boigny International Airport, the new Exhibition Centre in Abidjan is set to host its first visitors in the second guarter of 2023. BESIX was commissioned by PFO Africa, the leading construction company in Ivory Coast, and started works in 2021. BESIX's participation includes the design, manufacture, transport, and installation of a three-dimensional 37-metre-high metal structure. BESIX has also carried out the concrete shell and the installation of the roof.



Project details

Abidian **Exhibition Centre**

Location

Abidjan (Ivory Coast)

Client

PFO Africa Côte d'Ivoire SA

Architect

Pierre Fakhoury

Contract type

Design & Build **Contract value**

37 million euros

Construction period 2021 - 2023



800 tonnes

of spaceframe (20,000 bars and 6,000 nodes)

325 tonnes of sheet metal

500 tonnes of sound and thermal insulation

217 tonnes of waterproofing

7,000 m³ of concrete

48 water drains with a capacity of 48 litres per second

A major project for the country

An ambitious structure designed by the architect Pierre Fakhoury, the convention centre will have a surface area of 12,000 m² and a seating capacity of 5,200 people, and up to 10,000 thanks to modular spaces. Close to the airport, the complex is intended to host first-class economic activities, trade fairs, cultural and sporting events and international conferences, easily accessible to foreign visitors, without disrupting Abidjan's traffic.

The construction is part of the Eco-Aérocité project developed by the Ivorian Ministry of Trade and Industry. In addition to the exhibition centre, the Eco-Aérocité will house offices, hotels, shops and housing, all located in the heart of a wooded environment that respects the local flora.

Amazing structure

This building features an impressive three-dimensional metal structure, which is the first spaceframe in West Africa. Building it was particularly delicate as it required to lift a 38-tonne dome element at an altitude of 37 metres, install it in its exact location and connect it to the rest of the structure already installed. This impressive operation took no less than ten hours. The impressive spaceframe was finished in June 2022 and is made of 6,000 nodes and 20,000 bars, each of them being different. It will be painted in gold and visible from the inside.

BESIX is immensely proud to participate in the construction of the Abidjan Exhibition Centre, a project which will further strengthen the central position of Ivory Coast in the heart of West Africa. This convention centre is an exceptional project, not only by its architectural design, but also by its engineering and construction challenge, which we are looking forward to completing and which will make a significant contribution to the influence of Ivory Coast.

Guillaume Bracq, Project Manager

A roof like a puzzle

The convention centre is covered by a spectacular roof, made of 8,000 unique-size panels. These aluminium composite tiles are approx. 2.5 m² each and are fixed with stainless steel brackets on an aluminium sub-structure. Every tile has a different size to accommodate the shape drawn by the architect, so building this roof was like making a huge puzzle. The first cladding panels were installed on the roof in September 2022.

Safety first

Covering the roof was an incredible exercise in working at height. Workers, professionally trained and certified for this type of work, were equipped with a safety harness and a lifeline for abseiling. They also had to watch their step and walk on the joints between the tiles, so as to not damage the tiles, as the supporting understructure lies beneath these joints. Thanks to stringent safety measures no severe incidents were registered for the project.

Perfect acoustics

As the building will be hosting major conferences, the client required for it to have perfect acoustic insulation. In April 2022 BESIX started installing the acoustic complex on the roof, as well as the thermal equipment, to offer outstanding comfort to visitors.

Water drainage

In this part of the world, a roof like that must not fear snow loads, but the massive strain that can come from heavy tropical rainfall. Engineers designed the water drains so that they could each take 48 litres per second, enough to fill a bathtub in four seconds. The roof is equipped with forty-eight of them.

Strong partnership

This is BESIX's fourth project in the country at the initiative of PFO Africa, the leading construction company in Ivory Coast. BESIX is also building the F Tower in Abidjan, also designed by Pierre Fakhoury, which will be Africa's tallest tower, and the Abobo tunnel, as part of the Abobo Town Hall roundabout project to improve the accessibility of the Abidjan metropolitan area.. And in 2021, BESIX delivered the largest drinking water treatment plant in La Mé, to serve the greater Abidjan area. The Exhibition Centre is set to be completed by April