

Case Study - Real Estate

Arcapita Bank Building Kingdom of Bahrain

In 2015 the Arcapita Bank Building in Bahrain is still one of the most converged building in the world.

Occupied in December 2010, the building features an office block on the shores of the Gulf island state, which seems to glide on two waves.

The entire building is 150m long, 40m wide and 48m high. A total of 8 floors include the basement garage, the ground floor reception (in the waves), 5 office floors and a services floor. Each office floor has a usable space of 3500 sqm. Building constrains limited the height of the raised floors to 90mm, which, in combination with the distances, ruled out traditional under-floor cabling solutions.



Arcapita Bank Building, Bahrain, equipped with a fully integrated enterprise and building management network infrastructure

2024Sight designed and supervised the implementation of the IT network and ensured uniform adoption of the network by the building sub-system vendors, as well as by the enterprise systems of Arcapita. A GEAPON-based single fibre infrastructure was implemented carrying concurrently over just 4 fibre cables the enterprise data, mobile telephony and, 16 different real-time building IT systems, including BMS, Wifi and security. Full Wifi and mobile phone coverage is ensured throughout the building.

The adoption of a passive optical fibre infrastructure was ideally suited for the challenges of the Arcapita Building. It lead to minimal cabling and it accommodated the restricted raised floor heights, enabling the installation of power and data in the same floor void. It has also lead to very limited vertical cabling and therefore empty vertical cable trays in the risers. The empty trays are an artefact of traditional design

being replaced by a fibre-based design and very clearly illustrate the benefits of early planning for today's highly integrated buildings.

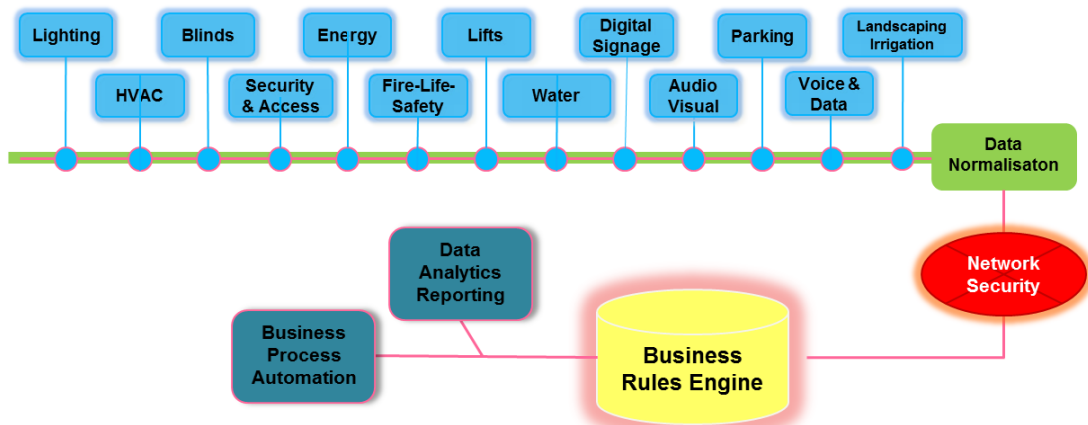


Data Centre connecting the building with 4 fibre cables.



Unused cable trays in the basement North Riser.

The Arcapita Building is managed and controlled centrally through a fully centralised, integrated and automated facilities management environment, which nevertheless allows the local personalisation of the office environment. 2024Sight has been responsible for the functional requirements of the integrated management system and supervised and assisted with its implementation.



Building Information & Facility Management Model

Data normalization through OPC enabled the implementation of the automated facility management environment. High levels of automation changed the role of facility manager and building engineer to being a supervisor of a self-managed building.

The building is equipped with a state-of-the-art data centre, which is entirely remotely controlled, and which can handle in a fault-tolerant manner the most demanding server and storage technologies. The data centre is protected against fire by means of an advanced oxygen reduction fire prevention system. The data centre houses the network infrastructure, all building IT systems and all enterprise IT systems. The functional specifications of the data centre were developed by 2024Sight and implementation of all aspects of the data centre has been supervised and facilitated by 2024Sight.