

New NATO Headquarters

Construction of the new NATO headquarters in Brussels



NATO awarded the contract for the construction of their new headquarters to the Joint Venture BAM Alliance, which combined BAM Belgium companies Interbuild, BAM Contractors and Galère with BAM Utiliteitsbouw (NL), Wayss & Freytag Ingenieurbau (DE) and BAM Construct UK.

The new headquarters is being constructed opposite the existing one, on a 40 hectares (100 acres) site. Once complete, it will house 4,500 employees in 250,000 m² of functional space spread over 7 floors. The headquarters' facilities comprise

120,000 m² of office space, a conference centre with state-of-the-art meeting rooms, media and restaurant amenities, a bank, sports and relaxation facilities, a staff centre, a technical building for energy supply, and warehouses and workshops

The new headquarters is functional and comfortable, featuring modular flexible office layouts, which can be extended and/or reorganized as the need arises.

The architects have paid particular attention to a number of areas in their design of

the building including: safety, flexibility, sustainability, functionality and budget control.

Construction started in October 2010 and will be completed by the second half of 2016.

Client:
NATO

Client's delegate and tendering authority:
Belgian Ministry of Defence

Contractor:
BAM Alliance 3 (Interbuild, BAM Contractors, Galère)

Design team:
SOM +Assar (SOM, Assar, VK Engineering)

Project Manager
Project Management Team HQ NATO

Value: €458m

Completion: Summer 2016

Area: 250,000m²

Key Features:

- 3D coordination (interference management of concrete and steel structures, masonry, finishing, MEP - total of 25 models)
- Production follow-up of façades and roofs
- Doors schedule management (9280+ doors – each door is characterized by 167 specific parameters managed by more than 12 different actors)
- Room finishes schedule management (10000+ rooms)
- NATO Nations' optional choices management (colours and specific changes requests)
- Quantity take-off
- As-build Model ready for operate and maintenance

BIM stage and approach

Due to the size of the project – it was the largest in Europe at the time of construction - BAM Alliance 3 decided to use BIM to tackle the risk of discrepancies between the different sources of information, that were issued by different parties such as drawings, schedules, bills of quantities, job description etc.

While the structural part of the building was quite rapidly modelled, it took about one year to reverse engineer the internal architecture (finishes). However, this enabled us to identify and resolve thousands of conflicts before the start of the corresponding works.

A database was linked to the models to manage the large number of non-geometrical data. Each of the 2980+ doors for examples were characterized by 167 specific parameters managed by 12 different team members (Architect, Consulting Engineers Electricity, Consultant Security, Fire and Acoustical Engineers, Project Engineer Finishes, Project engineer Electricity, Planning, Procurement, Fire and Acoustical specialists, co-signatories (Electronic Security Systems)). The same database was used to manage the NATO nations' choices (colours, finishes, etc.) in the Room Finishes Schedules.

It took weeks instead of months to coordinate the very complex MEP in the level -1 of The Common Infrastructure Building, which including components relating to the HVAC installations, the TV and broadcasting studio and restaurants, and fire protection and smoke extraction etc.

NATO now has a valid 3D model which they can use to operate their new HQ.

