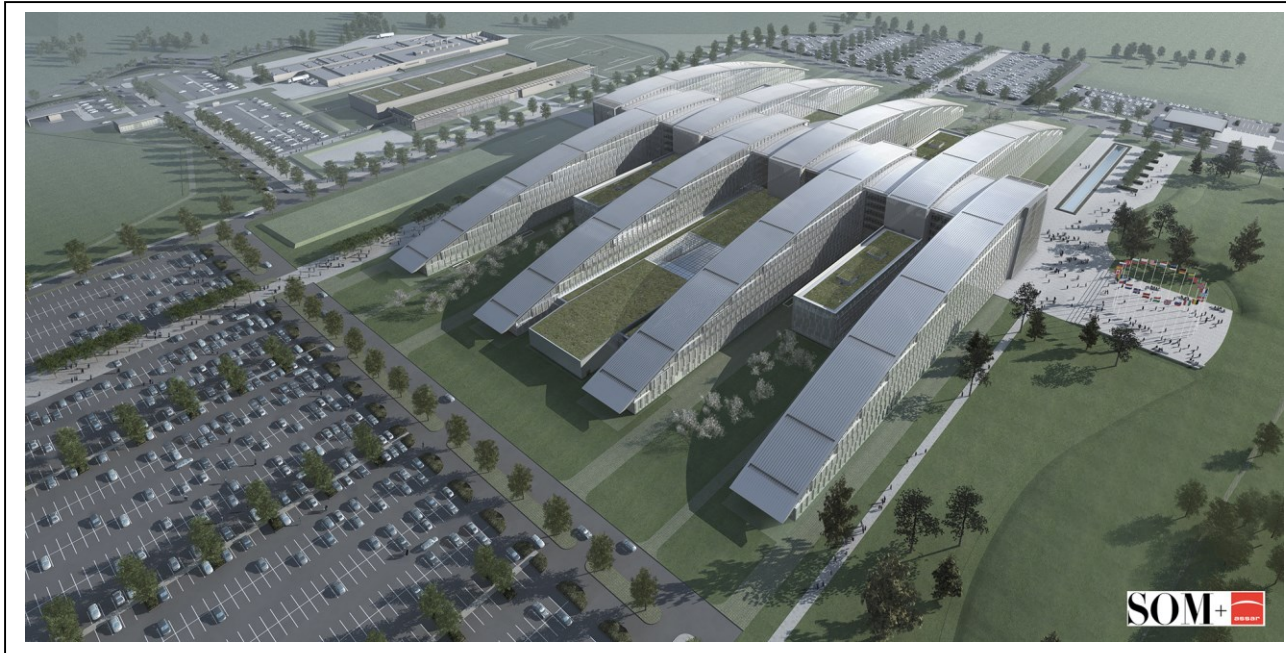


## New NATO Headquarters

*Construction of the new NATO headquarters in Brussels*



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

The new NATO headquarters are under construction opposite the current headquarters, on a site area of around 40 hectares (100 acres). Construction started in October 2010 and will be completed by the second half of 2016.

The new headquarters covers 250,000 m<sup>2</sup> functional surfaces across 7 floors. The 4,500 NATO employees benefit from 120.000 m<sup>2</sup> office spaces, a conference

center with state-of-the-art meeting rooms, media and restaurant amenities, a bank, sports and relaxation facilities, a staff center, a technical building for energy supply, and warehouses and workshops.

The architects have paid particular attention to safety, flexibility, sustainability, functionality and budget control in the design of the buildings.

The new headquarters is solid, sober and functional, while boasting a decent level of comfort with modular flexible office layouts, which can be extended and/or reorganized as the need arises.

**Client:**  
NATO

**Architect and Consulting Engineer**  
SOM +Assar (SOM, Assar, VK Engineering)

**Client's Delegate and Tendering Authority:**  
Belgian Ministry of Defence

**Project Manager:**  
Project Management Team HQ NATO

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

**Contract value:** €458 m

**Floor area:** 250,000 m<sup>2</sup>

**Completion:** Summer 2016

### Key features

- 3D coordination (interference management of concrete and steel structures, masonries, 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

Taking into account the size of this project, at this time the largest building project in Europe, BAM Alliance 3 decided to use BIM to tackle the risk of discrepancies between the different sources of information of such a project, issued by different parties, like 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). Thousands of conflicts were identified and solved 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 9280+ doors for examples is characterized by 167 specific parameters managed by 12 different actors (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 managed the NATO nations' choices (colours, finishes, etc.) in the Room Finishes Schedules.

It took weeks instead of months to coordinate the incredible dense MEP in the level -1 of The Common Infrastructure Building concentrating the technics of the HVAC installations, the TV and broadcasting studio, the restaurants, fire protection and smoke extraction etc.

The NATO has now a valid 3D model to operate her new HQ.

