

Reflection  
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### Introduction

Interior Buildings Cities graduation projects focus on the theme 'Palace': representative public buildings that have the potential to foster collective public life within and around them. This year, the National Bank of Belgium (NBB) was chosen as the studio project.

The NBB is an enormous building complex (90,000sqm<sup>1</sup>) that encompasses a triangular urban block in the centre of Brussels, largely inaccessible and 'opaque'. Superseded by the European central bank, and subject to transformations in the financial-banking sector, the NBB has lost a lot of its defining features as a national bank (such as vaults for storing gold and the minting press; all of its secure storage spaces have been/ are being shifted to other facilities<sup>2</sup>).

As such, the NBB in 2025 would primarily function as an office building for its 1500 office and research staff. The architectural competition brief for the NBB, which forms the basis for this year's IBC studio topic, proposes a redevelopment of this precinct in line with its new role.

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### Process

Research, drawing, theory and modelling overlap into a complex whole at Interiors Buildings Cities. The design process is ingrained in the way the studio is structured: through studies in model making of canonical precedents (brief 1. working together) to conceptual stands on the architectural meaning of a social plinth (brief 2. social plinth); to collective research on the Bank and its surroundings (brief 3. City bank) – all of which led up to the individual projects.

The studio also involved writing as a means of understanding one's design decisions – as well as for processing, and finding links between information that one encounters while researching diverse topics. The 'Project Journal', an integral part of the studio's working culture, is a constant work-in-progress process of documentation and thinking.

Engaging with the project meant understanding and questioning the competition brief (brief 4. Bank building) and the material conditions of the existing buildings, as well as studying them as a collection of interwoven systems. (brief 5. Intelligent ruin) We developed our own ideas and positions based on our discussions with the design and research tutors, while drawing from the earlier collective work. These conversations happened around architectural drawings and models of scale/ detail specific to the ambitions of the student.

Shaping the courtyards, public routes, representative facades, and interiors were critical concerns driving my project. Precedent studies and analytical drawing/ model-making methods were used in this investigation. Working on a strategic part(s) (brief 6. Fragment) was encouraged, allowing one to solve matters of resolution and technical detailing at key moments of the intervention.

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<sup>1</sup> Calculated based on drawings provided by the National Bank of Belgium, 2021

<sup>2</sup> Competition Brief/ Public service contract announcement by the National Bank of Belgium, 2021

## Project note/ Summary approach

In the present day, the monumental facades of the NBB enclose three service courts. This inner world, in stark contrast to the exterior, is an aggregation of ad-hoc structures that lack character or cohesion. These inadequate parts of the existing building stock<sup>3</sup> are replaced by two new volumes.

Occupying and reanimating these spaces, the additions create two public courtyards with deliberate geometry – pure symmetric shapes – clarifying the edges of the existing void, informed by studying precedents of representational, formal courtyards.

They can be read as two new facades with varying depths ‘filling the gap’ between the new courtyard and old courts; or as two distinct inside-out buildings. Programmatically, they are tightly knit with the existing buildings<sup>4</sup>: these additions provide necessary floor area for workspaces and public rooms alongside new public circulation routes.

A broad ‘zoning’ distinction can be made between the ‘private’ bank and rental workspaces, and ‘public’ institutions within this urban block.

## Public institution

The Bank as-a-public-institution has three faces: Library + Museum, Forum, and the Bank hall.

### i. Library and Museum

Facing the St. Gudula park, a triangular corner building addresses the city on behalf of the interventions within the site. Stepping back slightly from the site edge, it creates a mini-plaza in front of itself, like the Cathedral next to it.

This visually distinct building marks the public entrance to the NBB complex. At the same time, architectural gestures (like the continuous cornice, materiality and opening proportions) unite it with its neighbours. Together with the De Rycker wing, it houses the Bank Museum<sup>5</sup>, the Bank’s art collection, and Library – and is open-access to the citizens and tourists that frequent the park.

### ii. Forum

The Baeyart hotel and adjacent new volumes are programmed as a ‘Forum’ – a collective, civic institution that demystifies the workings of the Bank via expoundary exhibitions, research and discourse; and allows the average citizen to take part in the Bank’s decision making processes.<sup>6</sup>

The Forum relies on the hotel’s representative facade on Rue Du Bois Sauvage to signify the new importance the NBB places on public engagement. Its formal entrance is through the hotel’s erstwhile carriage driveway, opening into a circular arrival court. From here, visitors may head to the new auditorium, multi-purpose hall, and exhibition spaces; or access to the two principal levels of the hotel, which comprises meeting/ seminar/ discussion rooms of various sizes and importance within its opulent interiors. The interiors of the new additions are a restrained continuation of the old, with parquet flooring and wall surfaces articulated with plasterwork.

### iii. Bank hall

The Marcel van Goethem building, with its sober collonaded facade along Boulevard de Berlaimont, is retained as the ‘Bank’ within the urban block. Small adjustments such as removing the fencing and metal gates make the edifice more approachable, while acknowledging that the Bank no longer stores valuable

<sup>3</sup> Informed by my study of the historical development of the NBB precinct and its existing conditions; the buildings to be removed are deemed inadequate if they were constructed as ‘temporary’ structures (Aile Extension block), have low floor-to-floor heights for office space use or suffer poor connectivity with the rest of the complex; or cores/ lift shafts/ toilets with outdated infrastructure.

<sup>4</sup> Working on the CAD drawings of the bank for the studio cohort was really useful for this, as it let me have a clear grasp on the sectional relationships between different parts of this ensemble of buildings.

<sup>5</sup> The Bank Museum explains the history of the Euro banking network and money in general. It mostly caters to tourists and school groups.

<sup>6</sup> The NBB already creates and (virtually) exhibits explanatory research and infographics and hosts online forums for citizens to take part in the making of the Bank’s policies.

objects. Inside, the Bank hall – which was designed as a place to work and interface with the public via counters – is returned to its original condition by removing later additions (like the partitions and mezzanine floor) and bringing back workspace/ counters.

Today, while the bank hall is publicly accessible – and the open counters can be approached – they only serve to exchange coins and currency. In the competition brief, the Bank seems open to providing more functions for the counters. This scheme additionally proposes giving key banks in the country/ region<sup>7</sup> representative counters within the hall, allowing the visitor to ‘visit’ multiple banks at once; creating an exchange and giving purpose to this monumental space, while also conceptually validating the role of the NBB as a ‘Bank of all Banks’ in Belgium.

The three public faces each present themselves to the city independently, and yet collect/ coalesce at the triangle courtyard. Staircases and corridors arranged around the courtyard create an infrastructure of connectivity, seamlessly bridging the various levels of the site, and across the different buildings. It also offers the visitor glimpses into the activity within the public rooms.

The triangle courtyard is seen as an extension of all three, and can house spill-out or independent events. It is accessed directly from the monumental staircase connecting the Hotel to the Bank hall, which is treated as a passage/ public interior, inviting pedestrians to step into this urban landscape.

#### Efficient and comfortable workspaces

The Bank offices are housed above the hall in the Marcel van Goethem building. Social/ common programs of the Bank office are arranged on the mezzanine level, taking advantage of the proximity to the public routes and programs in the new courtyards. In the upper floors, the new, additional area makes the narrow parts of the building usable and efficient. The layout eschews the double-loaded logic of the existing in favour of a single-loaded circulation around the central atrium. Open plan spaces are mixed with closed office spaces along the floorplate, to break the ‘tunnel’ effect of occupying a long building such as this. Fire escape running length rules stipulate addition of new fire escape stairs along with a sprinkler system.

The rental offices allow maximum 2 tenants per floor each, using the two ends of the circulation core as possible entries. Their lobbies are accessed from the square courtyard, which also has a more commercial character in response to the residential developments anticipated around it. Like the Library + Museum, a notch in the building line announces this public entrance to the city. The green terrace over the arcade matches the height of the neighbouring Police headquarters, forming a visual continuation of landscape.

The materiality of the interior is a direct response to the constructive logic of the building: exposed CLT ceiling ribs mirror the concrete ribs of the existing structure, while the new cement flooring (with radiant heating) unites the two. OSB board (of thickness 20mm, same as the CLT layer module) is used to make fixed storage units and as acoustic insulation, arranged as strips between the ceiling ribs. Existing Interior partitions and furniture are re-used where possible.

#### Structure

The new additions are conceived as structurally independent volumes constructed out of CLT that sit in between the existing buildings like a vessel within a vessel, with openings/ connections where required. Basements and floors in direct contact with the earth are constructed in in-situ concrete.

Vertical circulation cores and the sides facing the existing buildings comprise of CLT wall panels, whereas the side facing the courtyards are made of a dense grid of CLT columns. CLT floor and beam ribs span the gap, keeping the overall depth of the structure the same as the existing buildings. (~60cm)

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<sup>7</sup> While there are a total of ~89 banks in Belgium, most are owned/ subsidiaries of 10 key banks – Research Booklet, IBC 2021

## Climate and building technology

The current system of ducts and AHUs only provide the office floors with ventilation, while cooling is supplied by cold ceiling panels (in some places) and heating via radiators. These are removed for being inadequate and inefficient.<sup>8</sup> A new, mixed air-hydronic system is proposed. Primary heating/ cooling via radiant pipes in the flooring keeps the slab at a fixed temperature of 22°C all year.

A secondary heating/ cooling supply is provided by centralised HVAC units. These new supply AHUs are located on the terrace, and spread evenly over the new cores (5 instead of 3, including the ones that run vertically with the new fire stairs). This reduces the duct branch sizes.

Exhaust is via natural ventilation. Filtered pressure vents are added to new and existing facades to aid with ventilation even where windows cannot be opened. The proposal retains the second glass roof over the atrium.<sup>9</sup> It is modified to act as a solar chimney, with openings to exhaust air from the offices. Heat recovery coil stores excess solar heat in the basement/ geothermal well.

An important concept is user control, which is a big part of user comfort in large office environments such as this. Vents and windows can be opened/ closed, and HVAC temperature can be regulated at a room level by modifying the fan speed or using a thermal mixer.

## Facades

The new facades are clad in two materials: terracotta elements that mimic the limestone yellow of the existing buildings, and anodised aluminium panels. The transition between materials is articulated as a ledge that breaks the vertical line, creating a gap between the courtyard facade 'base' or 'plinth' and the 'tower' above.

The office block reuses the existing three part aluminium windows, and adds awnings to protect the interior from glare on the south and west facing sides. New windows follow a similar language but are openable. The facade grid is a multiple of the original 3.9m grid, to resemble the order of the existing facades.

The new facades are generous to the public, with double-height arcades and furniture/ edges allowing occupation and use<sup>10</sup>. Fins and sculpted forms in the cladding are a direct reference to the articulation of the Baeyart and Goethem buildings. Ornaments in the window sills contain technical equipment for ventilation and lighting.

## Conclusion

The National bank of Belgium is envisioned as an open, transparent, publicly engaged institution that draws the city into itself, hopefully becoming a catalyst for change.

The attitude the project takes is to deeply understand and interrogate what exists before proposing changes – imbibing the studio dictum of 'economy of means'. As an outcome, the new and old buildings merge into one another and become a congruent whole – and hopefully, a successful 'piece of city'.

<sup>8</sup> While the existing heating system works well, it relies on outdated piping infrastructure. Cooling ceiling panels are less efficient for large areas than radiant floors, and reduce the floor to floor height of the office space. Ducts for ventilation cannot be used for heating/ cooling as the sizes required surpass the existing sizes by a magnitude of 2-3 times.

<sup>9</sup> The proposal acknowledges that this intervention, while spatially strange, allows the original sliding windows to be used in the internal facades.

<sup>10</sup> Learning from precedents studied in the P1 social plinth: Altes museum, Mumbai town hall

## Relevance

Interior Buildings Cities studio aims to teach one the ways of paying close attention to detail and conducting thorough research. (A design attitude/ process) The studio attempts to create designers who can deal with design challenges that go beyond the scope of the brief – in this case, a national bank. While it asks questions about sustainability, reuse, adaptability, representation, and power... centred around the architectural output, all of which qualify as relevant topics of research in their own right; perhaps the relevance of the work is more in the rigour and concerns that shapes it, moulding the designer's abilities in the process.

The graduation project and studio emphasise on the role of an architect as an interpreter as well as creator; harnessing our ability to understand wide-ranging themes and concerns and synthesising them into a coherent project. The specific architectural/ research outcomes of the process are instructive for me personally, and also to future students; as concrete outcomes of a thorough design process – as I have learnt from MSc. Architecture students who have graduated before me.

On a personal note: as a mid-career architect, this course and studio is an opportunity for me to develop new, richer ways of conducting design investigation and resolution; which would shape the modus operandi of my future architectural practice.

The MSc. Architecture course at TU Delft aims to teach students to "...design as a means to deal with the technical, social and spatial challenges in the Built environment". The project situates itself in today's precarious reality: both in terms of the responsibility of architecture as a trade in the face of the Anthropocene; and as a means of being a solution to the myriad practical issues affecting real-world organisations with regard to the buildings they inhabit.