

Yellow Window



The Metro M7 in Brussels - How to Secure Your Design DNA as an Operator

In 2021, the European capital saw the introduction of the new CAF-supplied M7 metro trains. While the project is unique for various reasons, it's significant that the vehicles' industrial design was defined for and with Brussels's public transport operator MIVB/STIB.

The designer, Antwerp and Paris-based studio Yellow Window, highlights this 'design first' approach, in which vehicles are collaboratively defined prior to tendering the project.

Innovating the Design Process in Project Tendering

From a design perspective, metros can be considered highly

pragmatic vehicles, born out of rigid tender processes and technical specifications, with attention to end-users often being little and late. And once the procurement formalities are concluded and a vehicle supplier is contracted, any operator with the ambition to modify the vehicle needs to deal with penalties or delays.

Even if exaggerated, disappointing experiences in previous offers

(and projects not quite delivering their promise) led Brussels's operator to boldly decide to specify its next metro generation to include all its design aspects, as an integral part of the technical specifications.

And so, the story of the M7 starts here, in what we call a 'design-first' approach: designing the vehicle concept with the operator and its stakeholders before going to market. Taking procurement along this route requires thorough integration of the design within the vehicle specifications. But return on investment can also start right here: the alignment of all internal processes leading to vehicle specifications, a task never to be underestimated.

And once envisioned, the aspired vehicle concept can be reviewed, co-designed and optimised with internal or external stakeholders. This 'testing' can range from the pragmatic (the optimal door width

or layout options) to emotional aspects such as styling, shape and identity.

The Ambition behind the M7

Developing a tangible design vision upfront was also the surest way to further carve out the operators' unique design DNA and to guarantee its faithful materialisation in the project. Centring around the user, MIVB/STIB's objective was to set new standards in quality and experience – to ultimately persuade more citizens towards sustainable transport.

Striving for a harmony with the environment and deep respect for the user, this translated to very un-metro-like styling cues of organic, elegant shapes and noble materials, reflecting Brussels's Art Nouveau heritage. The resulting interior is quite unique in this

sector. Atmospheric and inviting, but also offering travellers diverse choices in seating: longitudinal or transversal directions, individually or together, quietly, or close to an exit with numerous folding seats.

To realise the high level of ambition, the design concept had to have sound foundations. User research and service design techniques preceded the design stage, and clear performance goals were set to improve on earlier generations. This for instance led the design to facilitate more efficient and flexible use during the rhythms of the day, or to optimise entrances and door widths for accessibility and (real world) capacity during peak hours.

In the case of this project, the design was expanded over detailed vehicle specifications. The design stage resulted in a virtual mock-up, allowing for more realistic evaluation. Upon



procurement, a clear visual specification was shared with the industry, including 3D CAD files. On return, each of the three offers submitted closely answered the design intent. Exchanging 3D files from bid stage on improved the offer evaluation and later the follow-up and co-operation during the industrialisation phase with CAF.

Harmonising the Brussels PT Fleet

Building, upgrading and harmonising a fleet of vehicles in a metropolis is a matter of generations. Yellow Window has been supporting MIVB/STIB in innovating and upgrading its fleet in Brussels for nearly two decades. With the introduction of the M7, as well as the new TNG Flexity tramway, different generations and types of vehicles are slowly but surely harmonising towards a high-end appearance worthy of

the European capital. A fleet with a unique level of coherence in design and identity, materialised in colour and materials as well as 3D design language.

Different train operators have a history of designing their rolling stock. It can also work for a metropolitan operator, provided that the design respects standards and answers what the industry can deliver. The investment in this approach was justified by the operators' level of ambition, as well as by the determination to see their envisioned design DNA fully realised this in procured vehicle. The continuity and determination it takes are a testimony of great commitment from both the operator and its suppliers – and all within stretching to great lengths in realising these dreams.



Martijn Vogelzang

mail@yellowwindow.com

www.yellowwindow.com

+32 3 2035300





YELLOW WINDOW

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www.yellowwindow.com

mail@yellowwindow.com

