Trimble X MTECH BUILD

Building for sporting excellence

An Aquatic center dedicated to the sport event of the decade

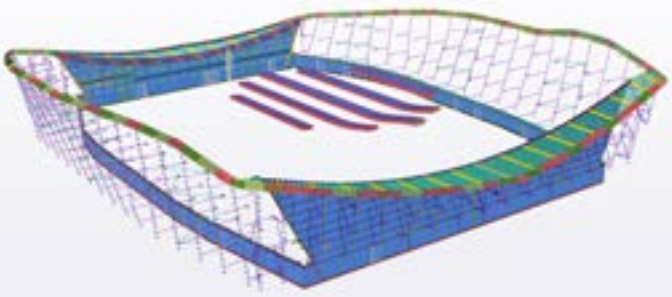
The Saint-Denis Aquatic Centre is the only sports facility specially built for the 2024 Summer Olympics. It will host the artistic swimming and diving events, among others.

MTECHBUILD shares the highlights of this prestigious project - 100% BIM.

About the « Centre Aquatique » project

Designed to become a flagship venue for sport in the Île-de-France region, this building stands out for its **moving wooden structure** and monumental and its monumental façades.

Eco-design is at the heart of this project, and the building is the largest public building in France to be equipped with the largest photovoltaic farm.



The Centre Aquatique in numbers

- Designed to accommodate **5 000 people**
- **4 600 sqm** of photovoltaic panels
- A main pool of **70 meters long**

MTECHBUILD, which specialises in creating **architectural glass projects**, is no stranger to major events.
On this unusual project, the company was responsible for the analysis, design and construction of the four glass façades, all the roof glazing and the aircraft wing highlighting the upper part of the building.

« From an architectural point of view the real technical challenge of the project is its wooden structure with a span of over 90 metres. Our task was to maintain our façades on this moving element created by the company Mathis. »

Anthony Lelaure
Technical director
at MTECHBUILD

Identifying BIM requirements

BIM was made compulsory right from the specifications stage, given the challenges of the project:

- a delivery date set at the time of the call for tenders **3 years** earlier, imposed by a **global event** and requiring increased monitoring of deadlines for each phase of analysis, production and construction;
- intensive collaboration involving **several architects and design offices** all of which had to be delivered together.

Project phases

- MTECHBUILD was approached by a world leader in construction to submit their application to a **call for projects**.
- Launch of the first **3D models via Tekla Structures** to establish the technical proposals to be presented and refine the costing.
- **Project** selection.
- Creation of the project team and launch **complete studies**, which will last more than 2 years.
- Throughout the project: sharing of **3D models via Trimble Connect** to ensure alignment with other design offices and eliminate collisions.
- Modelling of the more than 88,000 glass, aluminium and steel parts of the structure **using Tekla Structures.**

The added-value

Interfacing with the ERP means that the bill of materials for each part created can be **imported automatically**, saving months of data entry.

- Sharing technical drawings in **IFC** to all subcontractors for parts construction.
- During the construction phase, the site managers can acceess and use the **3D models on-site**.
- Updated DOE integrated into Tekla Structures for a **complete BIM model**.

BIM figures of the «Centre Aquatique»

- **7 000** hours of studies
- **88 000** different parts created using Tekla Structures
- Up to **8 designers** working on a single model

Trimble's advantages for MTECHBUILD

Adapting to an industrial context

- Speeds up **the transition from the design office to manufacturing.**
- Tekla Structures generates **files that are compatibl**e with industrialisation phase management tools and machines.
- Supports various materials (glazing, steel, wood, etc.) to assemble them into a **single model**.

Easy to use on site

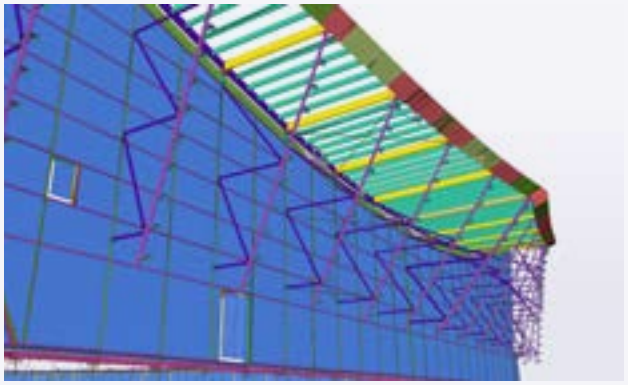
- Easy to use, even for those **unfamiliar** with 3D modelling.
- Used on site by site managers as a **reference document** and communication tool with the design office.

Better collaboration

- **Tekla Model Sharing** makes it possible for several people to work on the same project, anywhere in the world.

Anticipating maintenance issues

- Allows the **integration of specific attributes** linked to maintenance elements
- Allows you to anticipate the **second life of the building**.



« Today, with this type of complex project, we're pushing the tool to its limits. Using Tekla Model Sharing has been decisive in establishing effective collaboration between all our teams.»

Anthony Lelaure
Technical director
at MTECHBUILD

See you in summer 2024 for the big plunge!

Discover all sports projects

Trimble