Trimble x enser

Building for sporting excellence

A landmark project for optimised management of rainwater in Paris

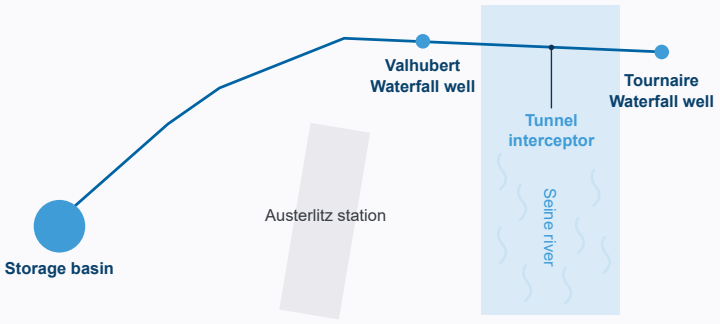
The Austerlitz basin is a major focus of the campaign to clean up the Seine that has been launched by the capital. As well as the obvious environmental benefits, the open water swimming events - which will bring together the world's best swimmers in the summer of 2024.

ENSER looks back at this historic 100% BIM construction.

About the « Bassin d'Austerlitz » project

The 'Bassin d'Austerlitz' project involves the creation of a **rainwater storage facility** in the area around Austerlitz station. The facility is designed to prevent discharges of wastewater into the Seine in the event of a violent storm, and thus improve the quality of its water.

The objective: make it possible to swim safely in the heart of Paris.



Technical details

- **2 water intake structures** on the left and right banks of the Seine
- Structures linked by a **tunnel** under the Seine about 600 m long
- Rainwater **storage basin**, with a capacity of 50,000 m3, resting on a 1.5 m thick floor

enser

A design office specialising in civil engineering

ENSER is in charge of the **execution studies** (internal reinforced concrete structures of the storage basin, cover slab, technical floor). The French branch of the international design office is also responsible for the design of **ancillary structures**, such as access galleries.

« The size and complexity of this complexity of this unusual project led us to develop our use of of BIM tools. »

Stefano Bilosi
Civil engineer & BIM Manager at ENSER

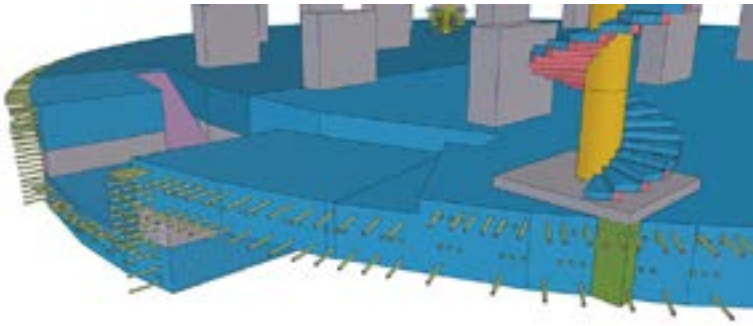
Identifying BIM requirements

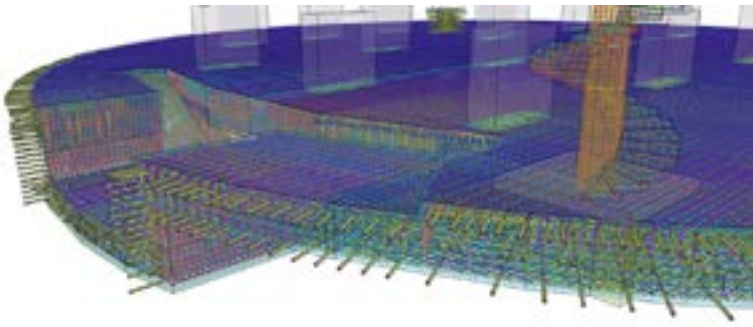
The integration of BIM technology is central to the specifications imposed by the client in order to meet the various technical and organisational challenges of the project...

- Management of **logistics** and coordination between all the players involved (design offices, network equipment, government bodies, etc.).
- Limiting **potential delays** and costly errors.
- Optimisation of the quantities of **materials** used (reinforced concrete, steel) thanks to dimensional simulations - reduction of wastage in response to an ecological issue.
- Efficient infrastructure management **over the long term**.

Project phases

- Receipt of **field data** (measurements) and launch of **execution studies**.
- ENSER modelling of reinforced concrete structures on **Tekla Structures** (roof slab, raised access floor, spiral staircase, lower floor, etc.), involving a total of around ten models.
- Collaboration between several BIM modelers on the same model via **Tekla Model Sharing.**
- Production and delivery via **Trimble Connect** 2D deliverables (from 3D models), including reinforcement plans.
- **On-site monitoring** with models continually updated in line with feedback from the field.
- **Delivery of the building** and all **documentation** to the end customer.





Trimble's advantages for ENSER

Reducing the risk of errors

- Enhances model **accuracy**.
- Allows you to **anticipate problems**, such as clashes, by visualising structures in 3D.
- Guarantees the **accuracy of the results** on dimensions (deliverables produced based on the 3D model).

Strengthening project agility

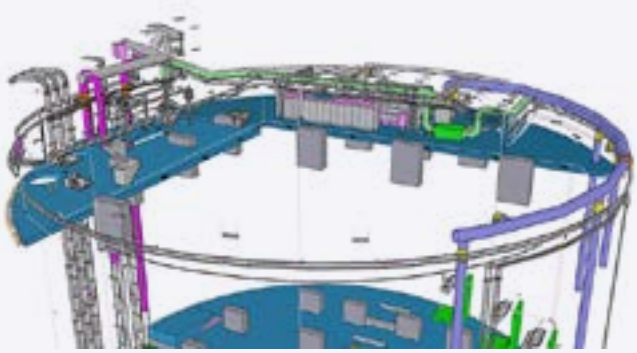
- Simplifies the **modelling** and production of the traditional deliverables expected at the end of the studies.
- Makes it possible to **quickly adapt models** throughout the project.

Collaboration **made easy**

- Facilitates the use of several BIM modellers on the same **shared model** during modelling.
- Significant **time savings**.

Better communication

- Improves communication **between construction teams** and end customers, without the need BIM skills.
- Accelerates **decision-making.**



« Certain risks are inherent in the construction of underground structures. Trimble tools enable us to adapt models quickly and very accurately. »

Stefano Bilosi
Civil engineer & BIM Manager
at ENSER

The Seine will be ready to welcome the world's best swimmers on 20 June 2024!

Discover all sports projects

Trimble