

Buildings

Saint-Denis Pleyel: a major station of the Grand Paris Express

Saint-Denis Pleyel station, which is currently under construction in northern Paris by Société des Grands Projets, is part of the new Grand Paris Express metro. The station, designed by renowned architect Kengo Kuma, will be the largest out of the 68 new stops of the Grand Paris Express. It will interconnect lines 14, 15, 16, and 17 and is expected to handle 250,000 passengers a day. Saint-Denis Pleyel is an essential component of the network that will provide better service to the Great Metropolitan region around the French capital.

With the Paris 2024 Olympic Games approaching, Line 14 will be incredibly important as it will serve the main Olympic venues, transporting sports fans to the Athletes' Village, Olympic Aquatics Centre, Stade de France, and the Orly Airport. This means there is a clear deadline. The station must be finished in time for the Olympic Games this summer.

Scope of works

The €115 million contract BESIX France signed with Société des Grands Projets encompasses all architectural and technical trades (including façades and MEP works), as well as all external works of the Esplanade of the station. Saint-Denis Pleyel covers a total area of 34,000 m² spread across nine levels, four of which are underground, extending down to 28 metres below ground. Also included in the contract are four separate access structures with shafts, to ensure passenger safety in case of emergencies, ventilation, and smoke extraction of the tunnels.

"The contract we won in 2019 to develop the station is the result of the high-quality work our Engineering Department and Business Development teams have done throughout the tender process. This involved coming up with cutting-edge solutions to optimise the project in line with the client's objectives," says René Jordens, Commercial Manager BESIX France. BESIX Group takes particular pride in building the iconic Saint-Denis Pleyel station. "Winning this public-sector tender against the backdrop of the Grand Paris underlines that BESIX has firm foundations and demonstrates our technical capacity in France", adds Andres Penalzoza, Director BESIX France.

A marathon with a challenging deadline

Construction work on the station began in mid-2020, with delivery scheduled for June 2024. BESIX's involvement in the project started with no less than 10 months of coordination ('synthèse') with both civil engineering works and tunnel equipment works (rails, catenary, etc.) already done by the co-contractors. Between 2018 and 2022, the underground

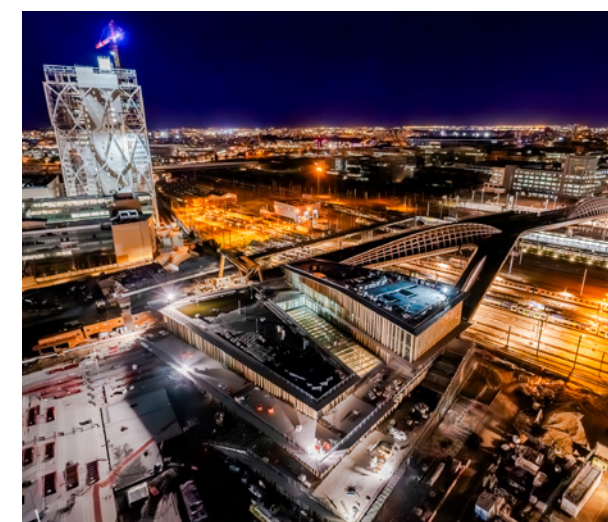
volume of the station was excavated, and the walls and levels were built to a depth of -28 metres. In 2023, it was time for the above-ground part of the station to materialise. By mid-2023, the structure reached its highest point, 35 metres, and has been gradually clad in glass and wood façades.

The biggest challenge was the logistics and coordination with co-contractors directly managed by Société des Grands Projets, including metro wagon systems and other systems related to the operation of the station (ticketing, passenger information, WiFi and SSI systems, etc.). "Another significant challenge we faced was the vast number of change orders received right up until the final days before the station's hand-over to the authorities. Despite the tight timeline, we successfully implemented all necessary adaptations in time, ensuring we met the authorities' expectations for the Olympic Games", says Marta Sagui, Head of the Technical Office of the project.

"During a critical phase of the project, we initiated an aggressive acceleration to overcome hurdles, notably those arising from substantial change orders, successfully recouping more than a year's worth of delay. This strategic push involved ramping up our resources, optimising our workflows, and deepening our collaboration with all partners and co-contractors. We not only caught up to our original timeline but also enhanced the project's efficiency and productivity, ensuring we remained on track for the scheduled completion", says Carlo Scheurs.

In July 2023, the first train drove through the station on the tracks of the extended line 14. From this point onwards, a series of tests have been carried out to check the infrastructure. Since February 2024, more than 500 trains have passed through the station each day for testing purposes.

"Every project we undertake is a part of BESIX's DNA. It is when faced with the most complex challenges, such as the construction of this station to a tight deadline, that we demonstrate the greatest creativity and flexibility. Since the start, we have been striving to excel as engineers and to coordinate the many people involved in the project to ensure the station opens on time", says Jean Di Paolo, BESIX Construction Manager for the Saint-Denis Pleyel project.



Care at the core

"At BESIX, we prioritise safety above all, which is why we conduct regular management safety walks across every one of our projects, including the Saint-Denis Pleyel project", explains Paul Callebaut, Project Director. These safety walks are more than routine checks. They are a vital practice through which leadership and workforce collaboration come to life, embodying the spirit of ISO 45001 standards for occupational health and safety management.

Driss El Ouazzani, QHSE Manager for BESIX France explains "Just like with our safety walks, we pride ourselves in our BE SAFE programme, which achieves safety through behaviour and positive reinforcement. This programme is not just about following rules; it is about creating a safety mindset that permeates every level of our operations. At the Saint-Denis Pleyel project, we are proud to have more than 30 dedicated BE SAFE ambassadors championing this cause."

More about the Grand Paris Express

The Grand Paris Express is an ambitious public transport project underway in the Île-de-France region, encompassing Paris and its surrounding areas. It represents one of the largest infrastructure projects in Europe and is aimed at transforming the urban mobility landscape of the Paris metropolitan area. The project includes the construction of four new automatic metro lines (15, 16, 17, and 18) and the extension of existing lines (11 and 14). These new lines form a network designed to connect suburban areas directly, bypassing the city centre, to alleviate congestion on existing lines and improve connectivity.

Over 60 new stations are being constructed, designed by a range of renowned architects. The new lines will add approximately 200 kilometres of tracks to the Paris metro network. The Grand Paris Express is being built in phases, with the first new lines expected to open in the mid-2020s and full completion slated for the 2030s.

Project details

Saint-Denis Pleyel Station

Location Saint-Denis, France	Engineer Egis
Category Infrastructure, Buildings	Contract type Build
Client Société des Grands Projets	Construction period 2020 - 2024
Architect Kengo Kuma	Contract value €115 million



I saw the station take shape before my eyes, thanks to the remarkable commitment of the Société des Grands Projets teams and numerous partners, such as BESIX. Their investment is palpable in bringing into service the largest station of the Grand Paris Express. This is an exceptionally complex project, the completion of which will have a profound and lasting impact on the daily lives of the people of Ile-de-France. I would like to thank BESIX for its successful involvement!"

Bernard Cathelain, Board Member Société des Grands Projets