Tecnostrutture ACADEMY

Efficient management of a distant worksite: completed in just 90 days from design start to structure assembly in Sweden

Type of work

Underground “Wiberg” garage for the maintenance of the Idre Fjäll cable car.

Location

Idre Fjäll ski resort, Sweden.

Area of intervention

2.200 m² on 2 underground levels.

Client

Taubane Teknikk.

Solutions employed

Two-storey twin-walls 250 cm module - 89 pcs, NPS® PDTI® two-storey columns - 42 pcs, NPS® BASIC beams - 32 pcs and NPS® CLS beams - 41 pcs, combined with self-supporting pre-slabs - 82 pcs and semi self-supporting pre-slabs - 89 pcs, prefabricated reinforced concrete stairs - 5 pcs.

Less than a summer from the offer request to the successful installation of the NPS® structures. The building is the new 9,000 m3 underground garage for the maintenance of the new Idre Fjall cable car, named after Olympic ski champion Pernilla Wiberg. The request for quotation arrived on 10th June; Tecnostrutture's technical-economic solution was presented, and the contract was signed after only 20 days.

Design of the NPS® structures and production in July. Delivery and assembly by the end of September of the same year. Compliance with the tight time constraints was possible thanks to the use of offsite construction solutions: 4.2x6.5 m structural mesh made up of 73 NPS® beams and 42 NPS® columns, prestressed slabs, twin- walls and prefabricated stairs.

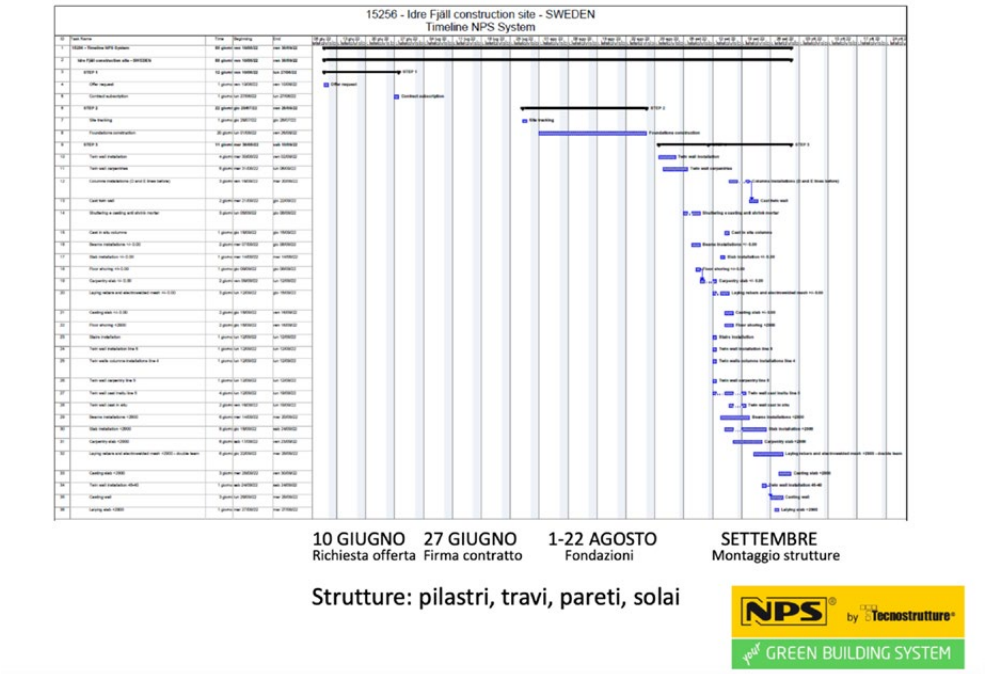
In November, the ski season could start on time also in the Swedish ski resort of Idre Fjäll, with the opening of the new Wiberg gondola lift.

Within the scope of this engineering work, a key aspect was managed: the remote co-ordination of logistics, beyond the borders of the operational headquarters.
The ability to foresee activities with a two-week margin, orchestrating the flawless delivery of prefabricated modules directly to the site and even planning additional interventions such as transport from Oslo, 400 km away, emerged from a detailed analysis of the operational stages and their interconnections.

This meticulous planning was developed in close cooperation with the customer, who made a fundamental contribution to the process. For example, on a construction site on Italian territory, if it had been necessary to introduce materials that were not available locally, it would have been possible to have them available within 24 hours. However, in this case, considering the great distance of the construction site from urban centres, the delivery time would have been up to ten days longer for any kind of material. Therefore, Tecnostrutture planned every detail scrupulously, even providing for essentials such as boxes of nails and skeins to tie the iron reinforcements.
It should be emphasised that any delay would have resulted in significant costs, amounting to more than EUR 4,000 per day just to keep the working personnel on site.

The opportunity arose on 10th June and Tecnostrutture managed the project from negotiation, through design, production, transport and finally assembly, which was completed on 1st October. Below is the timeline with all the steps taken in detail.

Timeline



Ultimately, this project revealed how vital an accurate and forward-looking logistics plan is to ensure success and profitability under the most demanding construction challenges.

This example underlines that forward thinking and planning are pillars on which any successfully completed project stands.