# Sants Station, Extension and Improvement Works . Below ground level

Barcelona, Spain / 2007

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|---|---|
| Structural type | extension and adaptation of existing structure |
| Owner | Administrador de Infraestructuras Ferroviarias (Adif) |
| Client | INECO - TIFSA |
| Constructor | UTE Sants Dragados-TECSA |
| Scope | technical support |


The arrival of the High-Speed Train to Barcelona required an important transformation of the centric Sants Station, which since its construction in the 70's has suffered the worsening effects of time.

The execution of the Works, due to their innate technical complexity and also the need to maintain the operation of the station services throughout the construction process, has required the Project to be divided into several phases, two of which are underway at present.

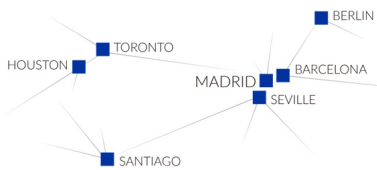
The first phase consists of the construction of the new track 14 and a four-storey car park situated on the seaward side of the station, as well as the works corresponding to the existing tracks 11, 12 and 13. The new track 14 will run between the station's existing enclosing wall and a new wall which will separate said track from the car park on the seaward side.

Another noteworthy aspect in this phase is the removal and disposal of the slabs situated next to the Parque de la España Industrial Estate, on the seaward side of the station in the area where track 14 and the car park are to be built.

The second phase of works includes the station's infrastructure, platforms 0 to 5 and tracks 1 to 10 as well as the configuration of both termini to adapt them to the functional and exploitational needs of the station. It is also foreseen, amongst other works, the construction of a new entrance to the Metro and new emergency exits from the platforms.

The most relevant areas in the second phase are: the creation of openings in the slabs in the lobby to place communication shafts and wells, reinforcement of columns between the lobby and the platforms and finally the configuration of the termini for the new exploitation of the station.

The extension of the vestibule along with the new equipment and services entails the need to reinforce the existing columns between vestibule and platform levels. This reinforcement will be fulfilled by increasing the size of the existing columns with metal sheeting which will offer a notable increase in their stress resistance than offered at present. It shall also be necessary to place bearing mechanisms on the lobby slabs over the aforementioned reinforced columns.

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