

# Metrovalencia

A SYMBOL OF A CITY  
AND ITS MODERNITY







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RESEARCH BY *Eurides Lopes*





**M**ost people are familiar with Valencia’s Metro without even knowing it. The world-renowned Spanish architect, Sergio Caltrava - whose signature style has become emblematic of the regeneration of countless cities over the past 20 years - is a son of Valencia. Arguably his most famous design is that of the Alameda bridge and Metrovalencia subway station, all managed by its parent company, Ferrocarrils de la Generalitat Valenciana (FGV).

Totalling over 150 kilometres of track, Metrovalencia makes the city of Valencia, with a population of less than 800,000 people, one of the best equipped in the world for transport infrastructure. Likewise, when the number of annual trips are compared to the local population, it is also one of the world’s most utilized systems. It’s fair to say that it has become a fabric of the city that it serves. Business Excellence decided to take a closer look at the metro system for Spain’s third largest city.

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**Overview of Operation**

Metrovalencia forms the major part of a multi-modal transport system that traverses the city of Valencia. Its operations consist of a combination of metro, light rail, and some overground trams. Around 15% of the system’s total rail lines (or just over 25 kilometres) are underground. The system takes in a total of 138 stations, 35 of which are underground, and has just over 108 carriage of rolling stock.

In total, Metrovalencia has 9 lines, with lines 7 and 9 being created through the splitting



of existing branch lines, and adding short extensions. These were the last pieces of track added to the system, and will soon be joined by line 10, more of which later. The system has a total of five unmanned stations. The rolling stock is a combination of electric and diesel-electric hybrids, with newer lines all being fully electric.

**Safe Transportation  
(Covid 19 initiatives)**

Like any transport provider, the Covid-19 pandemic has significantly impacted the day-to-day operations of FGV. The story is easily told through looking at its passenger numbers. In 2019, FGV made 81 million passenger journeys.



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## Moving beyond

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The future of mobility in our globally networked world calls for seamless, sustainable, reliable, and secure mobility solutions. We're leveraging the benefits of digitalization, engineering excellence, and our entrepreneurial spirit to master this challenge. Trusted by our partners, we're pioneering transportation, moving people sustainably and seamlessly from the first mile to the last. And we always go the extra mile to help transport services all over the globe move beyond the expected.

### SIEMENS MOBILITY SPAIN

Siemens Mobility Spain has more than 125 years of history as part of large and successful projects of rolling stock, signaling and railway electrification in more than 20 countries. The company is leader in efficient, sustainable, reliable and safe transport solutions and constantly innovates its portfolio to offer state-of-the-art technologies that allow its customers to move people in a sustainable and seamless way from the first mile to the last.

Siemens' technology in Ferrocarrils de la Generalitat Valenciana (FGV) has made possible to improve the safety and efficiency of the operation for all its lines both in Metrovalencia and in Metropolitan TRAM of Alicante, thanks to its railway signaling technology. This close collaboration with the client has allowed Siemens Mobility the successful implementation of its systems in Metrovalencia for lines 1, 2, 3, 5, 7

and 9 where there have been installed interlockings, speed code track circuits, needle motors, as well as on-board ATP and ATO systems. These systems provide FGV with the necessary tools to carry out its operations with the necessary security, reliability and frequency.

The collaboration of Siemens Mobility with FGV has allowed the implementation of successful projects, which have offered a notable benefit to the population of Valencia and Alicante, allowing a comfortable, sustainable and environmentally friendly transport model. Already in the 90s, FGV purchased Siemens a number of units of the 3,800 series that still nowadays provide service on its tram lines. Undoubtedly an experience that demonstrates the robustness of Siemens systems.

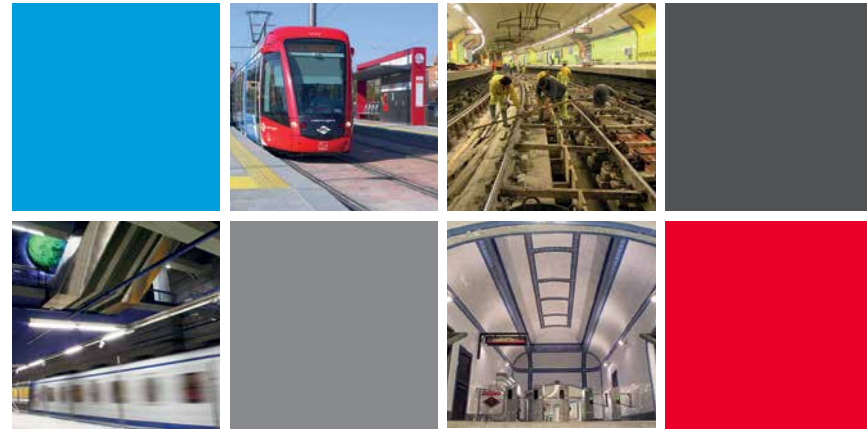
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## COMSA

COMSA Corporation and Ferrocarrils de la Generalitat Valenciana (FGV) Since the beginning of Ferrocarrils de la Generalitat Valenciana (FGV) in October 1988, COMSA Corporación, a company specialized in infrastructure, industrial engineering and services, has carried out several projects to contribute to the improvement, development and maintenance of the company's facilities.

Among its most important current works are the execution of the track superstructure, architecture and equipment of the Amado Granell - Nazaret section of Metrovalencia Line 10, as well as the upcoming renovation of detours, level crossings and various elements of Line 1, Valencia Sur - Villanueva de Castellón section of Metrovalencia, a project that has been awarded only recently by Ferrocarrils de la Generalitat Valenciana (FGV). Likewise, COMSA Corporación is also in charge of the maintenance of the overhead contact line, substations, stations and associated systems

of FGV Alicante. Another important project was the execution of the construction works for the Alicante tram garages and workshops, carried out between 2005 and 2007.

In this sense, COMSA Corporación aspires to continue collaborating with FGV in order to promote the development of public transport in the city of Valencia and Alicante through its improvement and renewal, betting on the implementation of new technologies that contribute to greater efficiency and innovation in your projects.

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*“All station lobbies also feature hydroalcoholic gel dispensers, and every three minutes, the air is completely renewed inside all of the company’s units.”*

In 2020, that figure fell to 44 million. The mere fact that it was able to provide so many journeys in 2020 is testament to the safety measures taken by FGV to ensure that frontline workers could get to and from work unimpeded.

This started with mandatory protective masks being worn by everyone within trains, stations, and TRAM d'Alacant facilities. Every station is now equipped with mask dispensing machines, where passengers can buy protective masks for a nominal fee. All station lobbies also feature hydroalcoholic

gel dispensers, and every three minutes, the air is completely renewed inside all of the company's units. Finally, the company committed to stepping up its cleaning and disinfection of the rolling stock over the past year and will also begin replacing all of the seat upholstery in H2 2021.

### Current Projects

Works for Line 10, first proposed in 2011, are already underway. When finished the new line will link Calle Alicante in downtown Valencia





with the Nazareth neighbourhood. The total investment is estimated at approximately 50 million euro and is funded by the regional government and the European Union Regional Development Fund. The line will comprise 5.3 kilometres of track (2 km of which will be underground), and 8 stations.

Elsewhere, older lines are currently undergoing a series of renovations. Most notably, this includes the reopening of Alinginet Station, a century-old station which has been closed for more than three years. Metrovalencia parent company FGV has hired contractors to undertake work on the building's roof and

*“The total investment is estimated at approximately 50 million euro and is funded by the regional government and the European Union Regional Development Fund”*



bring its safety and accessibility features into the 21st century. FGV's total investment in the renovation project is in the region of 220,000 euro.

The renovation of Alinginet is just one of a few renovation projects underway on Line 1. An 18 million euro renovation project, being carried out by local contrats Lantania and COMSA, is also in the works. The focus of these works is the replacement of the existing turnarouts with their drives and modifications of interlocks and centralized traffic control systems (CTC), owing to some changes in track configurations at stations along the line.

**Supply Partners**

In the 33 years since its foundation, Metrovalencia has built a strong network

**Did you know?**

In the 33 years since its foundation, Metrovalencia has built a strong network of partners such as Siemens Mobility, and also a broad catalogue of local service providers.

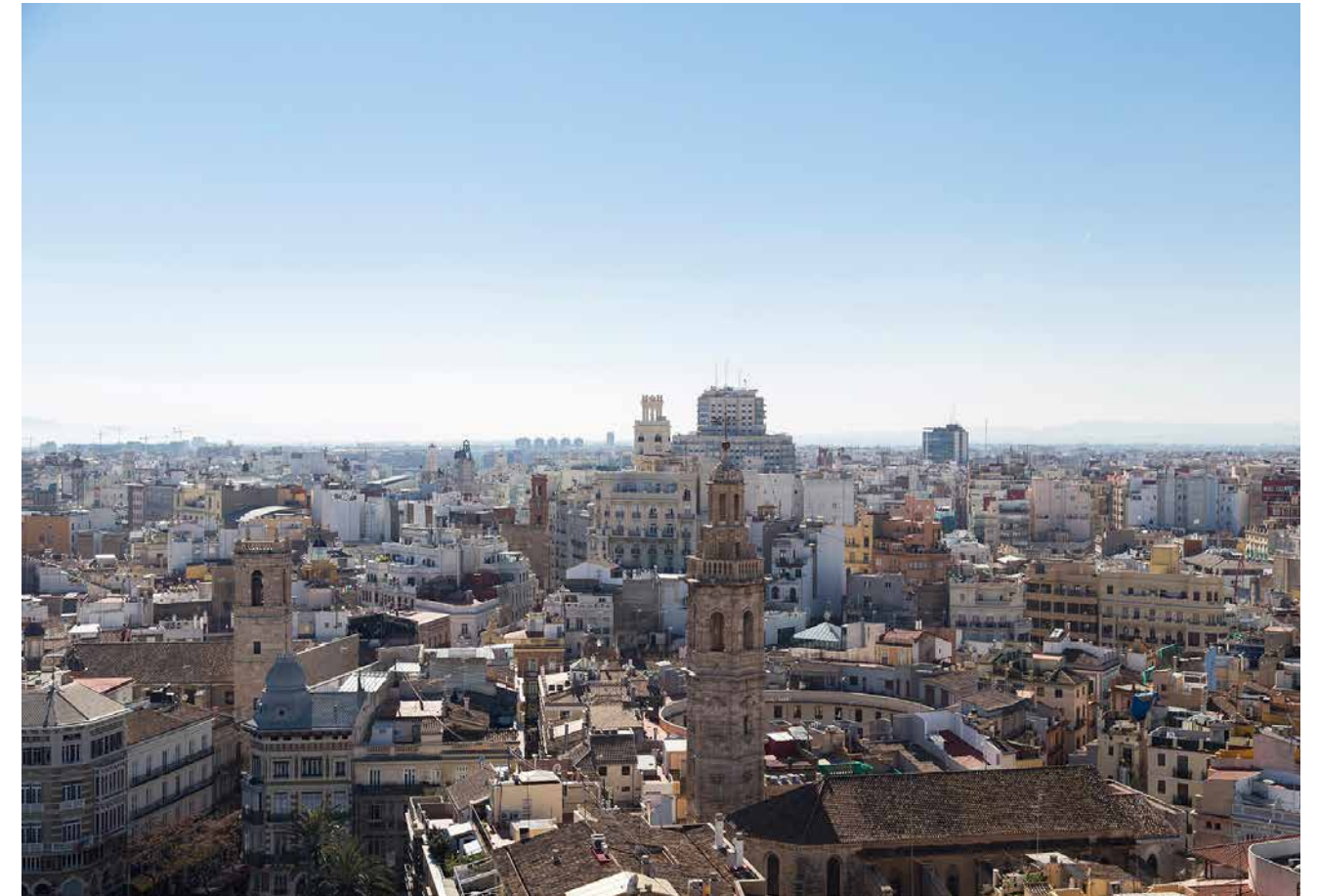
of partners and suppliers that enable it to deliver world class transport services to the people of Valencia. These include well-known international names in transport such as Siemens Mobility, but also a broad catalogue of local service providers.

Of these, construction, engineering, and maintenance works are carried out by Sociedad Iberica de Construcciones Eléctricas, Tecsa, Semi SA, Comsa (currently working on Line 1 renovation works), TPF Getinsa, and Civil de Construcción Mantenimientos y Servicios. Services dedicated to transport are provided by the likes of Faiveley Transport Iberica, PM Trans Europe, Mecos Service, Knorr-Bremse, and CPS Infraestructuras Movilidad y Medio Ambiente.





*“In the future, two new lines - Line 11 and Line 12 - are proposed. As recently as March 2021, FGV noted that work on Line 11 could theoretically begin as soon as works on Line 10 were complete.”*



Auxiliary services such as co communications are taken care of by Dimension Data Communications and Adesal. TKE ensures that the hundreds of escalators and elevators within the metro system are operating at all times, while last but not least, Garda Servicios de Seguridad provides safety in each of the system’s stations and carriages.

**Plans for the Future**

Metrovalencia will play a pivotal role in Valencia’s post-Covid 19 recovery. As vaccines are rolled out, we can expect to see a return to some normality in the second half of 2021, at which time many of the renovation works currently underway on the metro system will already be complete. Line 10 is on schedule to be completed by 2023, and will provide further connectivity between the city centre and Valencia’s suburbs.

In the future, two new lines - Line 11 and Line 12 - are proposed. As recently as March 2021, FGV noted that work on Line 11 could theoretically begin as soon as works on Line 10 were complete. Few cities of Valencia’s size can lay claim to such an impressive transport infrastructure. In a little over 30 years, Metrovalencia, like Valencia’s most famous architect, Sergio Calatrava, has become a symbol of the city, its people, and its modernity. **BE**

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