



SOL

MADRID
MAGAZINE



OCTOBER
2023

Towards smart mobility

TALGO
Sustainable
innovation in
movement

**MADRID
NUEVO
NORTE**
The
model to
follow

Strategy

**TRANSPORT
NETWORK IN
MADRID**



Madrid moves towards sustainability

In the Community of Madrid all roads lead to sustainable mobility.

From the Town Hall of the capital and the local Government, conscious of the challenges they face by the environment, the traffic and the increase in population, design and implement measures to **encourage the use of cleaner and more efficient transport.**

The infrastructures for pedestrians and cyclists increase and improve; the floats of buses are modernised with non-contaminating models; the Metro (underground) network is widened with new lines and stations; the purchase of electric scooters is encouraged with public aid...

The objective is to make it easier and more attractive for the citizens leave their cars at home and enjoy **a cleaner, healthier and more habitable Madrid.**

The urban plans are leaning towards the same direction. Thus, the sustainable solutions that industrialised construction offers are gaining importance in all the plans, the **Madrid Río** act recuperates, unites and creates green areas **to compensate the island of heat effect** and the megaproject, **Madrid Nuevo Norte**, creates a city model that puts the people in the centre.

For the future, the innovation in sustainable mobility is unstoppable. From the business school **IESE**, they investigate in order to find a solution to the challenges in the sector, and companies like **Talgo** continue with advances in digitalisation, with the development of new materials and ecological fuels to export to the world and to therefore speed up the transition towards green mobility.



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SUSTAINABLE INNOVATION IN MOVEMENT

Staff

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Don't forget.
Exhibitions, festivals,
concerts...
to enjoy Madrid.
November-December 2023.



DOWNLOAD
DIGITAL VERSION

TRANSPORT IN MADRID

COMMUNITY OF MADRID. REGIONAL CONSORTIUM OF TRANSPORT IN MADRID

1,600.7
MILLION TRIPS

623.3
MILLION KM
TRAVELLED BY **TRAINS**
AND **BUSES**

+4.3 MILLION
PUBLIC
TRANSPORT CARDS
ACTIVATED/IN USE

+21
MILLION
TRAVEL PASSES
SOLD

13,469
PUBLIC
TRANSPORT
STOPS

+4.7
MILLION QUERIES ON
THE '**MI TRANSPORTE**'
APP

UNDERGROUND (METRO) IN MADRID

571.6
MILLION
PASSENGERS A YEAR

302
STATIONS



295 km
NETWORK

+7,000
JOBS

558
LIFTS

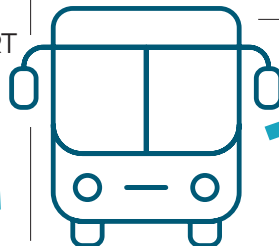
9,314
SECURITY CAMERAS

THE CITY OF MADRID. MUNICIPAL TRANSPORT COMPANY OF MADRID

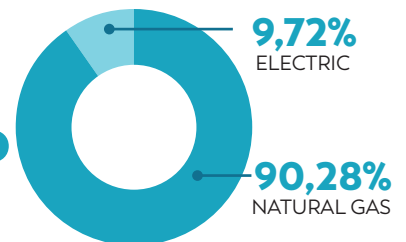
220
BUS LINES (192 DAYTIME;
27 NOCTURNAL AND AIRPORT
EXPRESS) AEROPUERTO)

372,9 M
TRAVELLERS BY BUS

96.378,889 KILOMETRES
BY BUS

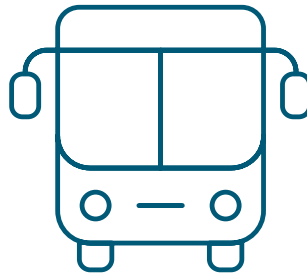


100%
CLEAN FLEET



All the **EMT buses** are accessible, have a low floor and have ramps available to ease the access for **People of Reduced Mobility** that use wheelchairs.

The fleet of EMT buses is one of the most modern in Europe, with an average age of **4.83 years**, with vehicles that incorporate the latest technological advances in terms of safety, comfort, environmental demands and universal accessibility.

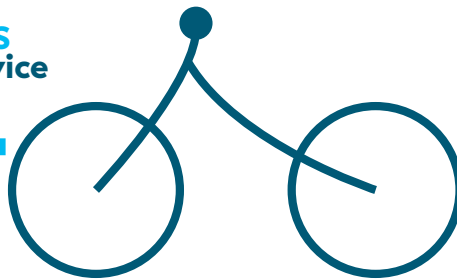


BICIMAD

It manages the Public Bicycle service in Madrid (BiciMAD) with

BICYCLES
available in service
and **264**
STATIONS

3,523
MILLION USERS
(BiciMAD and BiciMADGo)



SOURCES: REGIONAL CONSORTIUM OF TRANSPORT IN MADRID (CRTM), METRO DE MADRID AND THE MUNICIPAL TRANSPORT COMPANY OF MADRID (EMT).

BUSINESS ENVIRONMENT



MADRID INVESTMENT ATTRACTION

The Town Hall of Madrid, through MIA, creates a **Virtual Window for International Investment**. This service aims to centralise both the delivery of documentation and its relation with the different estates of the administration throughout the investment process.

IKEA: Ups the stakes in Madrid with a wave of **openings**.

The Swedish group will invest 57.3 million euros until 2025 in the development of its **network of shops and logistic capacity in Madrid**.

THE BOSCH GROUP: opens a **formation centre in Madrid** for professionals in climate control.

WORLDWIDE FLIGHT SERVICES (WFS):

Member of the SATS Group, it will open a **5th handling terminal in the Adolfo-Suárez Madrid-Barajas Airport** to increase its capacity and to safeguard its position as the biggest independent handling agent in Madrid.

MERCADONA: opens in Boadilla del Monte (Madrid) its **sixth logistic platform exclusively for on-line sales**. The investment reaches 13.2 millioneuros with a workforce of 150 staff.

IBM: opens its new **Cloud Region in Madrid**. Made up of three data centres (Madrid capital, Alcobendas y Las Rozas), which will operate in a synchronised way, is designed to allow the European clients to deploy their mission-critical workloads with high standards of resilience, performance, safety and compliance.

Transport Network in Madrid

TOWARDS SMART MOBILITY

THE MEASURES TAKEN BY THE TOWN HALL AND THE COMMUNITY OF MADRID TO ENCOURAGE SUSTAINABLE MOBILITY COMBINE TRADITIONAL POLITICS, SUCH AS THE IMPROVEMENT OF PATHS FOR PEDESTRIANS AND CYCLISTS AND PUBLIC TRANSPORT ROUTES, WITH MORE INNOVATIVE PRACTICES BASED ON INTERMODALITY AND NEW TECHNOLOGY.

By Pilar Ponce de León

In Madrid, all the public mobility plans are thought out and carried out with sustainability in mind. Starting with its name given by the autonomous government and the local government to the respective strategies in this area, it is made clear that both terms go together; to advance in one is not possible without taking the other into account.

Thus, The Strategic Plan of Sustainable Mobility in the Community of Madrid (2013-2025) and The Plan of Sustainable Mobility Madrid 360 from the Town Hall combine this binomial in each and every one of their acts, which are not few.

Two plans move Madrid

The Town Hall's plan includes 122 measures proposed in 10 strategic lines; amongst which are: **more public transport, to promote active mobility (on foot and by bike), to manage parking with sustainable criteria** and to stimulate the change in the circulation of the park towards less contaminating vehicles.

Meanwhile, the plan by the Community contemplates more than 200 programmes

within 12 categories with measures of management associated with private vehicles, the transport of merchandise and the encouragement of collective transport.

These also include **acts related to universal accessibility, the quality of the environment and the saving of energy**, as well as plans for transport to the work place and great activity centres.

In order to define this quantity of acts, both strategies have begun with an evaluation of the demographic and territorial framework concerned, the offer and demand for the transport network that it covers, as well as a **diagnosis of the environmental situation**, taking into account criteria such as the emissions of





**THE FIRST
FAST BUS LINE,
100% ELECTRIC
AND OF HIGH
CAPACITY, NOW
CIRCULATES
IN MADRID**



THE TRANSPORT SYSTEM INFLUENCES THE QUALITY OF LIFE AND THE ECONOMIC DEVELOPMENT OF THE REGION

WHO IS WHO IN PUBLIC TRANSPORT IN MADRID

Madrid's public transport system is made up of public and private companies, as well as organisations and administrations that are coordinated in different ways.

The Regional Consortium of Transport in Madrid (CRTM), formed by the local government and the Town Halls that have transport at their disposal, is the organisation at the head of the pyramid. It coordinates with the Ministry of Development in terms of Cercanías (railroad system), run by Renfe and the only mode of transport not included in the consortium. Its functions are the planning of public transport (how much and where), the elaboration of fares, the transaction of licences, inspections and fines and the coordination of the different public administrations. All the transport operators depend on it, although some have freedom in certain responsibilities.

Municipal Transport Company of Madrid (EMT).

This public company, property of the Town Hall of Madrid, is manager of the surface mobility in the city. This covers: the urban bus services, public bicycles (BiciMAD), municipal tow vehicles, public and residents' car parks and the cable car.

Madrid's Metro (underground train). This is property of the Community of Madrid and runs the suburban railway lines together with Transportes Ferrovarios de Madrid (?), which manages the track on line 9 between Puerta de Arganda and Arganda del Rey.

Metros Ligeros de Madrid. (Madrid Light Rail). A private company with the participation of Metro, which operates the ML1, and Metro Ligero Oeste (Light Rail West), a private entity that manages the lines ML2 and ML3.

Private bus companies. They have been granted the management of the interurban bus lines (also the urban transport in certain municipalities). Some only manage one line while others operate hundreds of them.

contaminating gases into the atmosphere and the quality of the air. Furthermore, both initiatives have been elaborated based on the **recommendations of the European Community in terms of sustainable mobility.** They also follow the guidelines established in the Spanish Strategy for Sustainable Mobility (2009), the nationally-renowned framework that integrates the principles and tools for coordination to guide and to ensure coherence in the political sectors that promote sustainable mobility; low in carbon.



SOURCE:
BLOG:
EMTMADRID.ES

For “smart” mobility

The objective of both public plans for mobility are ambitious and can be summarised as obtaining a system that is more sustainable, healthy, safe and efficient; which the professionals call **smart**.

The first step towards addressing these goals is **to recognise mobility as a right that the government authorities have to provide**.

Hereby stated by the capital's Town Hall: “The system of mobility in Madrid much provide transit for citizens with the lowest cost, economically, environmentally and socially.

This is an inescapable goal and more so in a city which is the capital of it's country and one of it's fundamental economic engines”.

In the Community of Madrid this means managing the transit over a surface of 8,028 km2 and 179 towns that add up to about 6.8 million inhabitants and where over 15 million transits take place every day. Of these journeys, approximately 70%

are carried out in motorized vehicles (private vehicles and public transport),

Added to this is the intense activity for the transport of merchandise, which is mostly by road.

A change of everything for everyone

From the Community of Madrid, it's President, Isabel Diaz Ayuso, has described the region on numerous occasions as the **driving force behind the Spanish economy**, as it offers the credibility, trust, appeal and stability that all businessmen or investors look for.

The numbers in the National Institute of Statistics (INE) demonstrate this. In the latest publication, which corresponds to January – May 2022, it shows that the region was the leader in the creation of companies, focusing on 22.4% (10,307) of the total in Spain.

Also in this time period, an average of 68 new, national and international, brands were established daily; in fact, the Community of Madrid is leader in foreign investments with 72.8% of the



OPTING FOR DIGITALISATION

Madrid has one of the most innovative mobility services in Europe, thanks to its more than 50 intelligent systems that are applied to the process of mobility, including planning, logistics, capacity control, safety, health or information.

Certain initiatives stand out, such as the recharging of the **Public Transport Card** (TTP) through an app; the **Aparca+T** plan (Park+T travel on public transport plan) with its methods of control and payment, the payment of interurban bus fares by card; the **BusLab**; the **Big Data/Business Intelligence** projects, which are carried out in the Regional Consortium of Transport (CRTM); the **4.0 Station** or the **Digital Underground Train of Madrid**.

In the area of roads, the Regional Consortium of Transport in Madrid works on the future project of Intelligent Roads – **Smart Road 4.0** and in the development of the mobile application that manages the data of presence and movement in real time of vulnerable users on the road.

In the Metro Network (underground train) the company has set up a communication network, known as Rainet, versatile, safe and of great capacity, that will allow it to cover the suburban areas in the future.

In terms of infrastructures, the Community's introduction of the information system Navilens, in 100% of the stops, stands out as it allows the users with reduced sight to receive information through the installation of adapted codes.





**THE GOAL IS TO
BOOST MOBILITY
WITH THE LEAST
COST, ECONOMICALLY;
SOCIALY AND
ENVIRONMENTALLY**



national total (20,943 million euros).

The transport system has a direct effect on this economic development in the region and on the quality of life for its citizens.

In this respect, the Community of Madrid recognises that “the mere construction of infrastructures of public transport, by itself, doesn’t change the guidelines for mobility.” For this reason, they point out that **the success of a Plan for Sustainable Mobility is based, among other things, on a broad institutional, political and social consensus.**

With that in mind, the administration in Madrid works in a coordinated manner on

the development of it's programmes but, also, on the cooperation with other public and private organisations.

They do this firstly with the State Administration, given that this holds numerous important competences in different aspects related to mobility.

Secondly, they work with the citizens and their organisations, divided into social groups (children, youth, pensioners, people with reduced mobility,

blind, foreigners with language difficulties, groups with low income...), groups of users (pedestrians, cyclists, users of public transport, drivers...), companies and associations of professionals in the transport sector (taxis, goods, buses...).

Finally, the plan highlights that the collaboration between institutions is not limited to those directly related to mobility but also is opened up to include all those who play



CREATION OF THE GLOBAL LOGISTIC HUB IN THE SOUTH OF EUROPE

The extense network of transport infrastructures in Madrid, and with this the possibility that the region offers to quickly reach other markets, is for 40% of the big **foreign companies that operate in the region, the main reason for investing or settling in Madrid.**

Here is centred 60% of the flow of international merchandise that enters into Spain and 33% of national merchandise, which in total is **54.1% of the national turnover** in the sector of goods transported by plane.

With the objective of the Community continuing to be competitive in the sector of distribution, the Regional Government works with the **public-private collaboration** to convert the region in the global logistic hub in the south of Europe, which connects to Africa and reinforces its actions with Asia, in order to explore new horizons.



3 KEYS TO MAKING MADRID A SMART CITY

The Strategy for Sustainable Atmosphere Madrid 360 was born to reduce the contaminating emissions in the capital, transforming it into a sustainable city.

The goal for the Town Hall is to achieve a reduction in congestion levels on a work day in 2025 to the average level on a work day in July of 2018, which supposes a reduction of between 5 and 10% in the volume of traffic, depending on whether the first half or second half of the month is contemplated. Furthermore, the traffic congestion on a work day in 2030 must be reduced to that of a work day in August 2018.

To this end, the City Council's plan highlights three points:

To Guarantee "the 15 minute city". To design an urban planning that allows citizens to find everything they need for their daily life in a radius of 15 minutes from home. The direct consequence of this will be the reduction of obligatory daily mobility in motorised vehicles.

To Promote micromobility, in particular for short distances. To this end, they are working on the improvement in the offer of public spaces for this kind of transport (widening of pavements, pedestrian priority, bicycle lanes, car parks...) and boosting, through new technology, the sharing of more eco-friendly vehicles.

More and faster public transport. In this area there are two priorities, both related to the bus service. The first is to widen the offer to transit that is not currently covered. The second is to improve the speed of this means of transport where the possibility to do so exists, by revising the route, separating it and or removing obstacles.

The goal is to reduce the transport time in surface public transport between the different areas of the city by an average of 32.5%, so that the speed on the outskirts is similar to that of the nucleus.

a part, however small, in the formation of the demand.

This implies the participation of institutions that are competent in areas such as territorial and urban planning, health, sport, the environment and education on all levels.

Innovate from the university

The Community's document specifically states the participation of some collaborating institutions: **The College of Civil Engineers for roads, canals and ports in Madrid, The local Chamber of Commerce, The Federation of municipalities in Madrid and the Politechnic University of Madrid (UPM).**



MICRO-MOBILITY IS BEING PROMOTED AS AN ALTERNATIVE FOR SHORT DISTANCES



THE LIGHT UNDERGROUND NETWORK CONNECTS LOCALITIES OF THE METROPOLITAN AREA TO THE CITY

With the latter, the Regional Consortium of Transport in Madrid has collaborated since 2004, through the Professorship of Research into Sustainable Mobility affiliated with the Centre of Investigation of Transport (TRANSyT), in the improvement of public transport.

“Public universities are the place where society, companies and administrations have always come to find the solution to new problems that can only be solved through

innovation, applying existing knowledge and through investigation to find new knowledge and with it the missing pieces that make up the solution”, stated Guillermo Cisneros, rector of the UPM.

This situation is so true that, less than a year ago, the Council of Transport and Infrastructure announced the start-up of **an investigation network with all the universities in the region** to develop projects that improve the transport network. ■



Marc Sachon

Professor of Operations,
Information and Technology
of IESE Business School

“Spain in the top 3 in Europe in terms of automation”

By Pablo Molina

Mobility is a basic human need and a key element in national and global economy. What challenges does it face nowadays?

We can summarise them as the following. First, the technological change involved in moving on from the combustion engine car to the electric engine. This means adapting to digital culture and reducing mechanical culture in order to gain agility in surroundings defined more by *software* than by *hardware*.

A second important challenge is the lack of talent and the need to train it (up & reskilling).

In third place are the geopolitical aspects, in particular the position of China as an increasingly strong player. Up until now it has been the manufacturer and the biggest market in the world but now it also has products for exportation for the global market. ●●●



MARC SACHON

is an **ordinary professor in the department of Operations, Information and Technology in IESE**. Before entering the academic world, he worked for Airbus and in IBM in Germany.

He has a **Ph.D. in Industrial Engineering and Engineering Management (MS&E) from Stanford University**; he has an **MBA from IESE, University of Navarra**; and a **Master in Aerospace Technology from the University of Stuttgart, Germany**.

His investigational work focuses on operational strategy (in particular in the automotive industry) and 4.0 Industry. He has been published in academic magazines, such as **IEEE Transactions**, and in business magazines, such as **European Business Forum (EBF)**.

In this context, is the notable new strategy of the German Government in China, where companies like the Volkswagen Group have to manage the risk of having a great percentage of their profit in that country.

Is the future of the this sector uncertain ?

Very, and also as far as legal areas are concerned, for example with the Eur7 regulation, proposed by the European Union (EU) with the objective of regulating the emissions of motorised vehicles. We still don't know how it will be and how it will affect the big cities (more areas without cars, the change of mobility mix, etc.)

The same happens with the RGPD (General Regulation of Data Protection), which complicates things considerably for the companies that wish to use the data of its float in the European Union to improve their post sales service and, in the future, to help the autonomous car.

The uncertainty also affects the infrastructure of cargo for cars in big cities and on motorways. Moreover, this is related to the circular economy of batteries; that is to say: how we face the necessity to open more mines (lithium, nickel, cobalt, rare soils) and how to guarantee higher levels of recycling (of significant standard) for reuse. Right now only 5% of lithium is recycled due to the complexity of the process.

Finally, we need to highlight the overregulation of the business world in the UE. For example, 30 years ago the OEM (Original Equipment Manufacturer) had to comply with about one hundred laws to certify a new car on the global market. Now there are more than 2,000. This complicates being agile.

To face these challenges, how is the business ecosystem of mobility transforming, with the automobile industry in the centre ?

The large OEMs are increasing their collaboration with companies further down the chain (in the past they only did so with the big companies such as Bosch or Gestamp) to accelerate the I+D+i, especially when related to the business model.

They have also developed plans to guarantee the *up & reskilling* of its talent. They take the business res-

pensibility of their employees very seriously. Finally, its worth highlighting that the European OEMs are reevaluating their strategies in China.

What role do the people play in such a technological scene ?

The people play the most critical part, both in the field of I+D+i as well as in the management of the transition and the world of "new mobility".

On the other hand, the OEMs have to improve their communication. They have to be capable of exposing young talent to the extremely interesting challenges that exist within the industry and the quality of work it offers (good wages, job security, the possibility of working in other countries, etc.)

The OEMs also have to adapt to the markets that they serve with their talent. The majority have a high percentage of foreign staff on the executive committee; in other words in the headquarters of the branch. Furthermore, they need more diversity (they are working on it) and more digital profiles.

What tools do you consider to be essential to speed up the process of I+D+i in the sector ?

First, the change of mindset in the companies; second, new organisational structures. Before, the OEMs had to be excellent most of all in performance. Now, they also have to be very good in the management of innovation: technology, processes and business models. This requires other organisational structures.

Finally, more diverse talent.

What profiles and skills are required ?

In general, more digitally-skilled professionals, less traditionally-skilled. It can be seen that there is a lack of talent with these characteristics.

But, there is talent...

The automotive companies are in the top 3 sectors in terms of patents and innovation. This comes from the need to handle a lot of technology at once, from AI in autonomous cars to models of staff management in the factory, which can also be defined as technology.



“In cities like Madrid or Barcelona the mobility of the city will be multimode”; that means mobility with small shared electric vehicles and public transport”

In Spain, does the university education and business culture encourage the new mobility ?

Spain is in the top 3 in Europe in terms of automatis; before it was number 4.

In general, we can see that education in the MINT areas (Mathematics, Computer Studies, Natural Science and Technology) have suffered in the last 30 years in the whole of Europe, except in the nordic countries.

All the industrial fields need more engineers, especially in computer science, robotics, materials, etc. but also talent with business studies to handle the transition.

How does the IESE work towards this ?

In 1986, Professor Pedro Nueno launched the first encounter in the automotive sector in Spain, of which today he is *chairman*. Currently, we are preparing to celebrate, in 2024, the 38th edition.

In the IESE, there are many professors that are researching into the field of sustainable energy, intelligent cities, AI and other relevant subjects for the sector.

We also use many cases in the field of mobility (for example, Cupra, Porsche, Share Now) to understand management, marketing, operations or finances, among other disciplines.

Moreover, we take the students of our programmes to visit and chat with the top directors of companies in the sector such as Audi, BMW, Cupra, SEAT and others.

What will mobility be like in the future ?

In cities like Madrid and Barcelona the mobility in the future will be multimode; that is to say, micromobility with small shared electric vehicles and public transport. In rural zones we are going to see a prolonged use of traditional cars, due to the lack of infrastructure for cargo.

What innovation in mobility would you like to see ?

I would like to see an accelerated appearance of e-fuels and of heavy hydrogen vehicles to avoid the complex challenges of battery-powered cars in terms of the increase in quantity of mines (and their negative impact on the ESG field) and recycling. ■



A person wearing a blue shirt, black shorts, and a green helmet is riding a bicycle on a paved path. The path is bordered by a low wall made of large, light-colored rocks. Behind the wall is a lush green area with tall trees and bushes. The sky is clear and blue. The image is partially covered by a large white circle on the right side, which contains the title and text.

MADRID RÍO

THE LIVEABLE CITY

After almost 20 years of construction work, the Madrid Río project comes to an end. With this, the city has not only recuperated the area surrounding Manzanares on its way through the city, but has also **gained a 10km long park in the heart of the urban centre** for the use and enjoyment of the citizens. Madrid is a more balanced sustainable city with a better quality of life.

By Pilar Ponce de León

The megaproject, Madrid Río (Madrid River) concludes this autumn. Only the creation of a garden on the surface of the up-roofed M-30 remains, in the ground that until 2017 was occupied by the Vicente Calderón Football Stadium.

In its place will be a meadow of 67,000m² with 1,200 trees and 9,000 bushes of different species that will add continuity to the set of green spaces, historical gardens, urban parks and forests that were scattered but now make up this environmental corridor of over 10km along the River Manzanares on its way through the city.

First came the Calle 30 Plan

18 years have passed since the Government Area of Urban Planning in the Town Hall of the capital presented the Madrid Río plan to recuperate the Manzanares River area.

The project has meant the biggest operation of ecological rebalance in the recent history of the city and has become a reality thanks to another project

started two years earlier; in 2003, The Integrated Reform and Management Plan for the M-30.

This planning, more commonly known as Calle 30 (Road 30), entailed the reform and improvement of the route and the infrastructures and spaces related to the M-30 ring-road, which was built between 1970 and 1974 with the characteristics of a motorway.

“The transformation means not only a policy of the modernisation of an obsolete and problematic structure but also provides an essential element to the strategy of mobility in the city, which is headed towards a sustainable model” as stated in the document for the project’s presentation. ●●●

Madrid Río is a great work of urban transformation and the biggest operation of ecological rebalance in the recent history of the city





9 CONNECTED AREAS

The environment is structured around nine areas. The **Salón de Pinos** is its main artery. It is a 30m wide, tree-lined pathway of over 6km in length that runs along the right riverbank of the Manzanares. It is shared by cyclists and pedestrians alike, with rest areas and functioning as a backbone,

giving access to six great gardens distributed from north to south: **the gardens of Aniceta Marinas, Virgen del Puerto, The Segovia Bridge, Toledo Bridge, Matadero and Arganzuela Park.** Completing Madrid Río is the **boulevard of the Avenida de Portugal** y the **Huerta de la**

Partida. The first replicates the Avenida da Liberdade in Lisbon, one of the great gardens in the Portuguese capital. The second has 38,000m² of surface area, which appear in the plans of Madrid in the 16th century, repopulated with fruit trees and providing access to the Casa de Campo.



From Madrid Río, Toledo Bridge leads to the meadow of San Isidro, painted by Goya in 1788

Alberto Ruiz-Gallardón, who was the Mayor of the capital at that time, highlighted that road safety and the flow of traffic in the city, the recuperation of the space occupied by cars to be converted into gardens; thereby also eliminating the barrier effect produced by the M-30, were, broadly speaking, the objectives and advantages of the reform.

Why did the river become detached ?

The work planned in Calle 30 was set out in 15 joint projects ,with geographical criteria, in four blocks: Projects North, South, East and West.

The latter urban section crossed the River Manzanares and at that time it did so parallel to the motorway, restricted on both sides by the lanes of circulation (three in each direction) and by the crowded buildings close to its riverbanks.

The growth of the population was mostly responsible for the fact that the fluvial environment ended up demonstrating this panorama, but also because the Manzanares was never an important urban reference.

All the sources describe it as “a shallow river with little flow, surrounded by thickets and with an important amount of sands that accumulated on the banks and central islands”. Nothing like the big rivers that flow through other capitals of Europe, such as the Seine, the Thames or the Danube, on their way through Paris, London or Vienna.

“This always provoked ridicule and derisive comments from authors, from the Golden Age (Quevedo actually dedicated a poem to it where he referred

to it as an “apprentice stream of a river”) to Rafael Alberti, and the derision of the European kings, saying that it was the best river in the world as it was the only one that could be navigated by horse”, recalls the Plan for Renaturalisation of the River Manzanares by the Town Hall of Madrid.

The truth is, that for one reason or another, in the second half of the 20th century the Manzanares became detached, with practically no ecological value, let alone beauty, nor space for any activity.

So it remained inaccessible and socially ignored until the beginning of the 21st century when the Calle 30 Project included it in its plans.

The Madrid Río Project is born

To bury the river was the first step to recognising its value. The second, initiated in 2005, was when the Town Hall of Madrid called an International Contest for Ideas to recuperate the traffic-free spaces and the riverbanks for the use and enjoyment of the citizens.

Eight projects were presented and the winner was the M-Rio team, made up of three architecture studios from Madrid -Burgos & Garrido, Porras La Casta and Rubio & Álvarez Sala- in collaboration with the Dutch studio of urban planning and landscaping, West 8. The international jury highlighted the clear ecological vocation of the proposal directed by the architect; Ginés Garrido.

Amongst other aspects it pointed out, “their objective to recuperate the continuity of the forests close to Madrid, thereby generating an uninterrupted system of green areas that the river offers in ●●●



The project took off in 2005 thanks to the reform of the M-30 ring-road started in 2003





Madrid Río is a bid for soft mobility, which encourages the parking of cars to get out and walk or cycle

ACCESSIBLE SPACES FOR EVERYONE

The reform of the M-30 was an extraordinary initiative for mobility that has improved the connections between the main roads, by creating a **more efficient system to distribute the traffic, resolving the problems of the congested areas and reducing the accident rate.**

With this project, the people of Madrid save 120,000km of daily travel and **the number of cars in circulation has been reduced to 80,000 a day.**

Madrid Río is a bid for soft mobility, which helps to park contaminating vehicles and encourages walking, running, skating, cycling etc...

Its creators also define it as **"a park with universal access"**. It is easy to approach from any point thanks to the numerous entrances distributed along its 10 km of length, all of which can be reached by different options of public transport.



A CULTURAL WALK

Madrid Río increases the tourist attraction of the capital as it holds **monuments of Madrid's historical heritage**.

The park has, among other elements, the Arganzuela Obelisk, build to celebrate the birth of Isabel II, and the Puerta del Rey (The King's Door), which Jose Bonaparte ordered to be constructed in order to reach the Casa del Campo from the Royal Palace.

Along its path, the following can also be seen: **The Cristal Palace Greenhouse of Arganzuela**, **the Ermita de la Virgen del Puerto (The Hermitage of the Virgen of the Port)**, **the Puerta de San Vicente (Saint Vincent's Gate)** and **the instalations of the Madrid Slaughterhouse**. The latter, currently in use for cultural activities, conserves its neumudejar style since the beginning of the 20th century, when it functioned as a town slaughterhouse.

Furthermore, the new green lung of the capital has **five vantage points for looking out over the city**. These viewpoints are: Saint Vincent's Roundabout, the Segovia Bridge, the Arganzuela Bridge, the pedestrian and cyclists pathway from the South Node and Huerta de la Partida. The latter offers views of the river, the Royal Palace and the Almudena Cathedral.

FACTS & DATA

TOTAL SURFACE
OF THE OPERATION

1.210,881 m²

TOTAL COST
OF MADRID
RÍO PARK

370 M€

PEDESTRIAN
AND CYCLISTS
PATHWAY

10 KM
IN LENGTH



35,963
TREES

WATER AS THE MAIN FEATURE

Water is one of the main features in the new green corridor, not only due to the presence of the river along its way, but also because it has fluvial ponds, **13 ornamental fountains and an urban beach** formed by three aquatic enclosures in the Arganzuela Park.

This space responds to the demands made by the children in the Children and Youth Madrid River Competition. In its over 6,500m² of surface, there are high spurts of water and changing effects with pulverised water clouds. All this is surrounded by a large rest area with hammocks hanging from its almost 300 trees.



The Beach in Madrid is a new aquatic space of 6,500m², integrated into the urban park in the Arganzuela district

637

BIKE RACK
FORKS ON THE
BICYCLE LANE

33

BRIDGES,
DAMS AND
WALKWAYS

9

SPORTS
INSTALLATIONS



the centre of Madrid, functioning as a backbone and recuperating the space for the citizens".

10km of nature in the urban centre

Today, Madrid Río as a project can be spoken about in the past tense. "It was the great work of urban transformation that city of Madrid has had throughout all its recent history", explained the current mayor of the city, José Luis Martínez-Almeida, last March during the presentation of the last stretch left to complete, the burial of the lost Vicente Calderón Stadium.

He also defined it as "a risky but very ambitious proposal, both from the urban planning point of view and from the perspective of the environmental rebalance of the city".

And so it is. Where there was once tarmac, traffic and acoustic and atmospheric contamination, there is now 1.019,681m² of green areas with almost 36,000 trees, 210,898m² of meadow, an urban beach, 17 children's play areas, 9 sports installations, and 10km of lanes for cyclists and pedestrians.

In Madrid Río everything is devised for leisure, sport and disconnection. It is a recuperated habitat that has returned the natural flora and fauna of the riverbank to the capital.

The Madrid Río project has received more than twenty recognitions both national and international. Among which are: in 2004, the Dubai International Award for Best Practices to improve the Living Environment. The award has the backing of ONU-Habitat, the programme of the United Nations that promotes the urban development of sustainable human, social, cultural, economic and atmospheric settlements, in order to achieve a better quality of life for the people in cities. ■

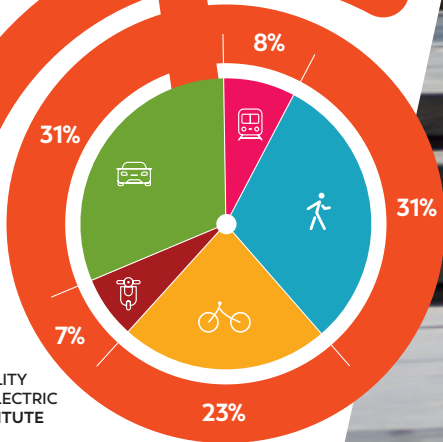
Electric scooters

A smooth ride forwards

Circulating in a big city like Madrid with a means of transport that is **agile, economical and cheap** is a dream that many people have reached thanks to electric scooters. Partly for this reason, its boom seems unstoppable but this is only one reason, there are many other motives that boost the use of this **Personal Mobility Vehicle**.

By Rocío Hernando

HOW DID ONE GET AROUND BEFORE THE ELECTRIC SCOOTER ?



SOURCE: MOBILITY SURVEY; THE ELECTRIC SCOOTER. INSTITUTE OF MOBILITY





THE USE OF
THE ELECTRIC
SCOOTER TOOK
OFF AFTER THE
PANDEMIC AS
AN ALTERNATIVE
TO PUBLIC
TRANSPORT

IT IS THE STAR OF MICROMOBILITY VEHICLES, SURPASSING THE BICYCLE IN SOME YEARS

The electric scooter is easy to use, it's fast, sustainable, economical and modern. These are the motives that their users give for using them, according to the latest *Survey on Mobility with the Electric Scooter*, carried out by the Institute of Mobility.

The reasons carry enough weight to explain

the boom in Spain of this type of Personal Mobility Vehicle (VMP).

The numbers reach giddy heights, such as the 1,021% rise in demand between January 2019 and January 2020, according to the Idealo comparison.

Just before that year, hardly any scooters were seen on the streets

and those that were, were used by children. They were practically a toy until the arrival of COVID-19.

The pandemic encouraged their usage

During the post lockdown phase, the use of this vehicle took off as **an alternative to the crowding on public transport**.

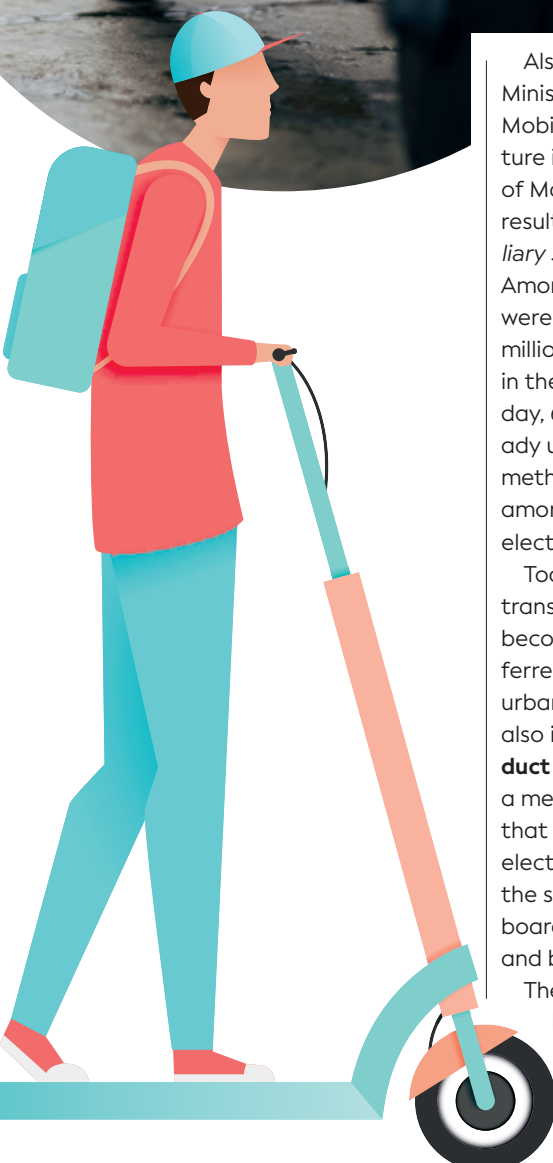
The study, *The bicycle and the scooter in times of pandemic in the urban zones of Spain*, carried out by Cities Bicycle Networks (RCxB), showed that more than 370,000 Spanish citizens incorporated it then into their daily lives. This put our country at over a million users, reaching precisely 1.133,000.

THE 3 MAIN USES OF THE ELECTRIC SCOOTER

1 For short trips, whether it be to go to work, to the university or to carry out leisure activities in the city. Many users combine the electric scooter with other means of transport to speed up their transit and avoid the annoying waiting time involved in moving through the city by car in the rush hour.

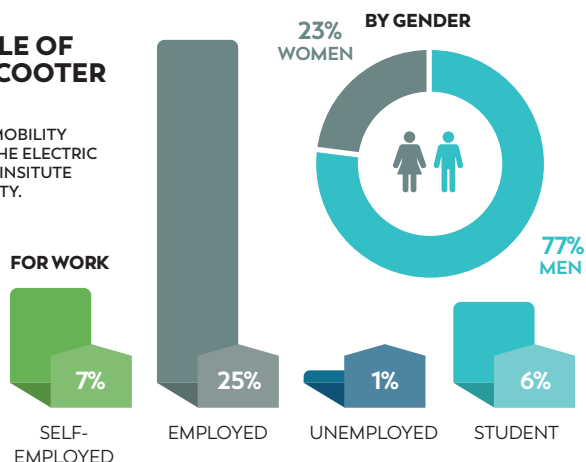
2 As a work vehicle. It wins, in particular among riders, people who work in delivery services such as take-away food, parcels or on-line shopping through digital platforms. This is due to the innumerable advantages that it offers, both on an economical level, as well as the level of speed, efficiency and comfort.

3 For fun. Fans of the world of electric mobility that use the scooter to explore and learn about places of interest.



PROFILE OF THE SCOOTER USER

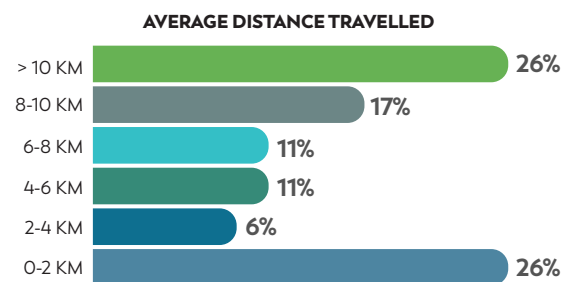
SOURCE: MOBILITY SURVEY; THE ELECTRIC SCOOTER. INSTITUTE OF MOBILITY.



Also at this time, The Ministry of Transport, Mobility and Infrastructure in the Community of Madrid published the results of the *Domestic Survey of Mobility*. Among its conclusions were that of the 15.8 million trips carried out in the region on a work day, 61% were already using sustainable methods of transport, among which was the electric scooter.

Today, this means of transport has not only become one of the preferred choices for daily urban commutes but also it is **the star product for micromobility**, a means of transport that includes other light electric vehicles such as the segway, the hoverboard, motor scooters and bicycles.

The electric scooter beats the others, even managing to knock the



bicycle off its first place in some years. In 2021, for example, bicycles monopolised 76,21% of the demand and one year later they hardly had more than 27%, according to Idealo data.

More and better infrastructures

The option of moving by electric scooter continues to rise because apart from the motives that encouraged its usage (which are still valid today) new rea-

sons have been added: the rise in the price of fuel, the uncertainty of purchasing after the irruption of electric vehicles, the greater environmental awareness and the grants that increasingly more public administrations contemplate to encourage their purchase or renovation.

"For example, the Community of Madrid has initiated, on numerous occasions, the **Plan de Ayudas Cambia 360** (Aid to encour-

THE PUBLIC SUBSIDIES FOR THE PURCHASE OR RENOVATION OF SCOOTERS ENCOURAGE THEIR USAGE

ge sustainable vehicles), which offers different subsidies to reduce the greenhouse effect gases", points out David Palomo, commercial director of SmartGyro, brand leader in manufacturing and on-line sales of electric mobility vehicles, with more than 100 shops in Spain and more than 400 thousand users. "We are talking about - conti-

nues David Palomo - a credit of 110.8 million euros for the annuities of 2021, 2022 and 2023, which is divided into two lanes of subsidies: those destined to sustainable mobility, which considers the majority of the investment with 67.5 million euros, and the subsidies for urban regeneration and energy efficiency, with 43.3 million euros".

To this needs to be added the infrastructures that the city already offers for the circulation of this type of vehicle, such as the **65km of the Cyclists Green Ring** which is separated from motorised traffic and encircles all the urban centre of the capital.

It also should be highlighted that in this area operations are in motion, through the



Sustainable Mobility Plan Madrid 360, approved by the Governing Board in 2022, which will back the politics for mobility in the capital until the year 2030.

As far as the Autonomous Community is concerned, the local Government has been working since 2021 on the development of the **Basic Network of Cycle Lanes**, which is considering 250 new kilometres to improve the communication between towns in a sustainable and healthy way. The plan has an investment of 85 million euros, it is to be developed in two phases and its final date is set for 2027.

Its appearance is regularised

Does this mean that the electric scooter is here to stay? David Palomo doesn't doubt it. "Of course! So much so that many cities in our country are adopting their rules to incorporate and regulate its usage, which clearly indicates an official recognition of its presence, utility and promise for a very interesting future to come".

The same is happening on a national level; in fact, in January



Great improvements IN A FEW YEARS



David
Palomo

"In recent years, the electric scooter has experienced advances that have contributed to a better functionality, safety and comfort. This makes it more attractive to many users", states David Palomo, commercial director of smartGyro, a brand that specialises in the manufacture and on-line sales of electric scooters. The expert highlights the following improvements in the technical characteristics of this Personal Mobility Vehicle:

Autonomy. The capacity of the batteries of the electric scooters is higher than that of the first models. Some offer up to 100 km autonomy on only one charge.

Power and strength. The motors have improved, which has allowed for an increase in benefits such as power. There are models that work with a double motor that allows for the power to be dosed depending on the needs demanded by the terrain.

Suspension. Now it offers a smoother, more comfortable experience. In smartGyro, in fact, all the electric scooters have improved suspension systems and various models have the patented, Ultraboost®, which helps to absorb the bumps and vibrations of the terrain, especially on irregular surfaces.

Safety elements: We are talking about the incorporation of LED lights in the base for a better visibility in the dark, more efficient reflectors and brakes, indicator lights on the handlebar grips and on the base of many scooters, more efficient folding systems, etc.

Digitalisation. In the most recent devices by smartGyro, a mobile application has been set up that allows users to control and personalise different aspects of their scooter, such as the lighting, a stand start or a kick start, to consult interesting data such as the kilometres travelled, etc.

In a position to choose

Looking forward to finding out what it is like to move about by electric scooter? In that case, good advice is key when it comes to choosing one. SmartGyro will clean things up. "The first things we ask when a client enquires are these 4 – 5 points:

What is the estimated **budget** for their purchase?

What will be the **usage** of the scooter? Will it circulate on tarmac or urban areas, or in rural or irregular **zones**?

How much **autonomy and power** will they need throughout the day?

Will they travel a long or short **distance**? Do they plan on travelling on sloped terrain or will their trips be mostly in flat areas?

What is the client's **estimated weight**? The heavier the weight, the higher the performance needed.

IN 2024, A NEW REGULATION WILL COME INTO FORCE THAT WILL REGULATE THEM IN SPAIN

of 2024 a new rule is foreseen to come into force by the General Traffic Management (DGT) which will regulate its appearance in Spain.

The commercial director of SmartGyro says that **the objective of the rule is to establish guidelines that join and identify all the devices on the market**, for example, its power cannot surpass 1000w nominal and the maximum speed of the scooter, 25km/h. Also to highlight that the idea of this is to offer better control and safety for the users, pedestrians and other vehicles.

"On the other hand, it is important to men-

tion that all the electric scooters bought before 2024, although they won't conform to the demands of the rule, will be able to circulate until January 2027", added David Palomo.

Slow lanes and cities

And while the sale of electric scooters continues and the public administrations regulate their usage and improve the infrastructures for their circulation, the interurban public spaces are reconfigured, in part, to give them a free path.

Thus, the **Slow Lanes** are born, brought about by a town planning that

creates meeting points, widens the pavements and encourages sustainable mobility with acts such as the reduction of surface parking spaces and the layout of new bicycle lanes or the enforcement of Low Emission Zones.

"The truth is - the head of SmartGyro points out - that the adaptation of the cities to electric mobility varies according to the location and the level of development of the city in question".

Even so, take into account that it is increasingly more normal to see how big and medium-sized cities take significant measures to encourage and boost commutes using such a beneficial vehicle. "Let's talk about, for example, the installation of public infrastructures for charging electric scooters, for bicycle lanes and exclusive areas that allow the users to move around the city comfortably with their devices, the special rules and regulations, the incentives and subsidies, and even of awareness through campaigns to inform and educate the citizens about the benefits and rights of electric





mobility and the ideal way to drive in the city”.

All action is good action if it guarantees a safer, more ecological and more effective urban mobility, but also to take on the foreseen demographic changes in the near future in the big urbs.

Just in Madrid alone and its region, the population has risen by almost 21% between 2001 and 2021, that is

1.378,818 more inhabitants, and the projections carried out by the National Institute of Statistics show an increase of 15.35% for the period 2022-2037.

With this data in mind, the citizens themselves put forward initiatives to encourage an agile, responsible and sustainable mobility, that guarantees harmony between pedestrians and the rest of the vehicles.

In this respect, movements like **Slow City** stand out as it advocates for less frenetic and more human cities, or the **Manifesto for slow cities in the 21st century**, which lays out the benefits of a cultural change towards sustainable mobility: “Slow is healthy; slow is safe, slow is sustainable; slow is quality of life; slow is the future”, are some of its values. ■

**THE
SO-CALLED
SLOW
STREETS ARE
THE RESULT
OF URBAN
PLANNING
THAT
PROMOTES
SUSTAINABLE
MOBILITY**

MADRID NUEVO NORTE

Intelligent and Sustainable Connectivity

Sustainable mobility is the base on which the mega urban planning project, Madrid Nuevo Norte, has been designed. Key reforms in Madrid gravitate towards it, such as the **burying of 20 hectares of train lines**, and others of national relevance, such as the construction of the **new Chamartín Station**, which will become the main centre of the **High Speed Railway in Spain**.

By Pilar Ponce de León



Almost
350,000
jobs
connected to
the project

As a whole, Madrid Nuevo Norte has the ability to generate **201,576 jobs in its construction phase and 146,488 during its future activity**, which will be created in the offices and shops in the new neighbourhoods. There will be jobs for all types of professions at all educational levels.

SOURCE: TECHNICAL REPORT ON THE SOCIOECONOMIC IMPACT OF MADRID NEW NORTH. DIRECTED BY JULIAN PÉREZ, UNIVERSITY PROFESSOR FOR THE AUTONOMOUS UNIVERSITY OF MADRID (UAM) AND DIRECTOR OF THE UNIVERSITY INSTITUTE OF ECONOMIC PREDICTION, L.R.KLEIN.

Madrid Nuevo Norte (MNN) is the most important urban transformation operation that the capital of Spain will undergo over the coming years and one of the major operations of Europe.

The project will be developed over an immense band of land, 5.6 km long and 1 km wide, which has been occupied for more than 50 years by a bundle of train lines that divides the area in two, driving a wedge between neighbourhoods, separating neighbours and creating serious problems with connections and traffic in the north of the capital.

With this urban procedure, more than 2.3 million m² will be reclaimed through a planning that responds to the social, economic and environmental challenges that today's cities demand.

For those in charge, the goal is **to create a model city that is compact and for mixed usage**, that puts the people first, allowing them to live, work and reach all the services without the need to travel long distances.

The Chamartín Station at the heart of the project.

The strategy for sustainable mobility is the basis of the MNN design and the Madrid-Chamartín-Clara Campoamor train station is the great infrastructure that gives it meaning.

Currently, this station is the centre of all railway communication from Madrid to the north of the mainland.

To this effect, it has 10 platforms and 21 railway lines that offer commuter trains; Medium distance, Long Distance and High Speed. According to data provided by Renfe, **1,120 trains travel along it daily and 28 million passengers use it every year.**

The place is also well-travelled because it works as a transport interchange where the following meet: two underground train lines, two urban bus lines, three interurban lines and station 252 of BiciMad, the public bike-hire service offered to citizens and visitors in the city of Madrid.

It is, therefore, an extremely important hub which will become, moreover, **the main operational centre for Spanish High Speed Trains (AVE), thanks to the**

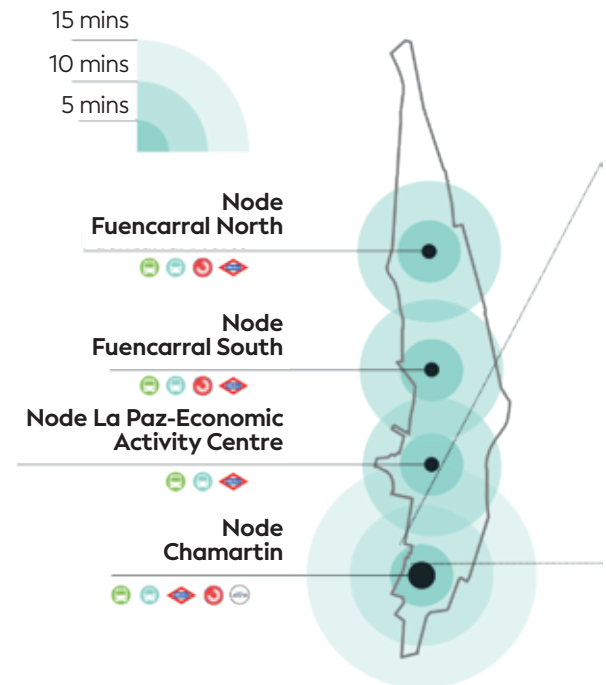
tunnel which connects it to the Puerta de Atocha Station and that will unite all the high speed lines in the country, thereby supporting a unique and transversal network with its centre in Madrid.

When the construction work is finished in the Chamartín area, which includes the burying of 20 hectares of railway lines, the station will have 16 platforms and 31 lines; 18 for high speed trains and 13 for short distance journeys that the Cercanías service generally offers.

With this ambitious operation, **the station will be totally integrated into the urban surroundings and linked to the future Chamartín Business** ●●●

The mobility model changes

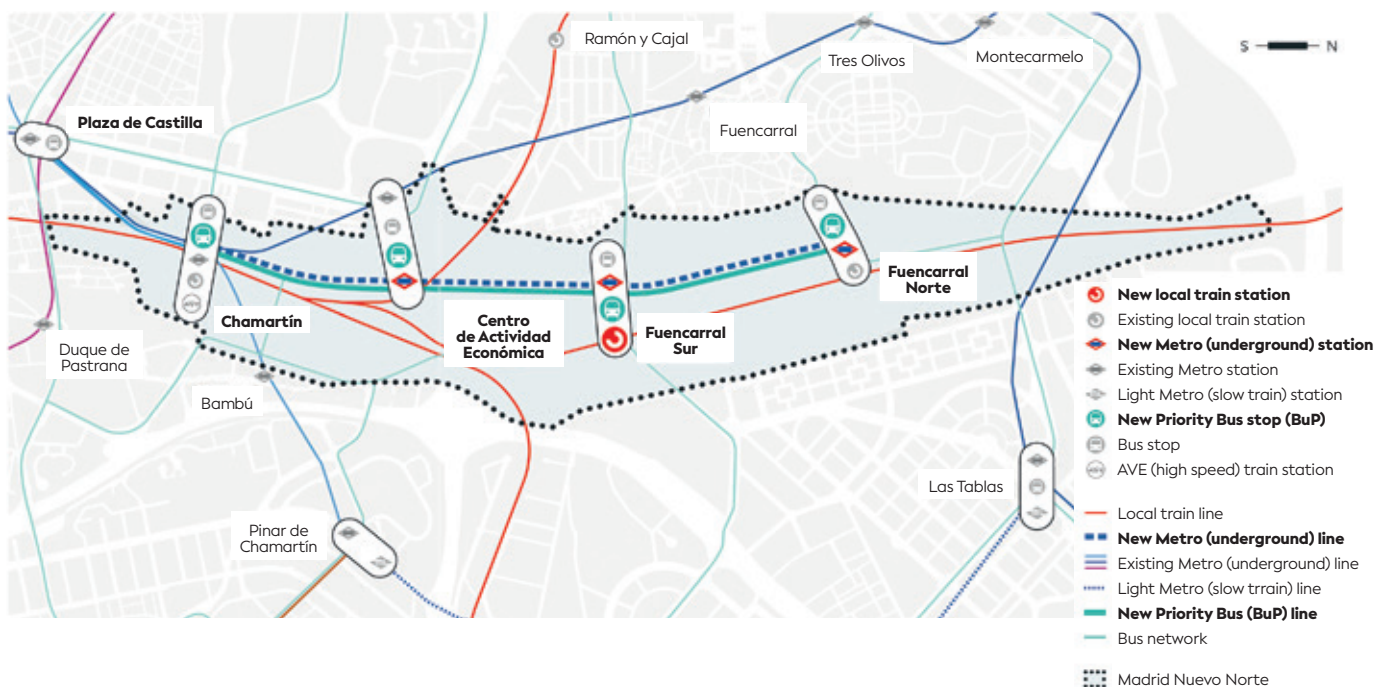
In Madrid New North **+94%** of the people will be at **less than 10 minutes walking distance** from the public transport network connected to residential areas, offices, health centres and areas for cultural and leisure activities.



Public transport will be the protagonist, passing through a city designed for the automobile, committed to intelligent mobility



PUBLIC TRANSPORT NETWORK



The options of sustainable mobility allow for a fast connection to other areas in Madrid, Spain and the world



Madrid, laboratory for the decarbonisation of European cities

It is one of the ten chosen to participate in an initiative directed at the development of climatically neutral cities.

In April, 2023, Madrid was chosen by the European Commission to participate in the programme, **100 Intelligent and climatically neutral cities in Europe before 2030, by and for the citizens.**

With its participation in this act, the capital will be converted over the next few years in an experimental centre, in which innovative processes related to mobility in the capital, energy systems and natural spaces will be set up with the idea of drastically reducing the greenhouse effect gases emitted until 2030.

The follow-up objective is that the other regions will implement the successful experiences found in these 100 cities before 2050.

The proposal for Madrid to be included in this initiative, which is part of the framework for Investigation and Innovation (I+D) Horizon Europe, led to the decision that the Business Centre in the Madrid Nuevo Norte project be declared a **Demonstrative Area for Climate Action (Area DEMO 360).**

The list of candidates wishing to take part in the programme amounted to 362 cities in all the member states of the EU and the eight associated countries. Apart from Madrid, amongst those selected, there are six other Spanish cities: Barcelona, Sevilla, Valencia, Valladolid, Vitoria-Gasteiz and Zaragoza.



Centre district, as a continuation of the current CBD of Madrid.

Nowadays, this business park is what most attracts businesses to the capital for its privileged location next to the Paseo de la Castellana avenue, one of the main arteries of the city, and for its proximity to the key nerve centres such as the IFEMA trade fair centre, one of the biggest event and conference centres in the world.

Moreover, the new business district in Madrid Nuevo Norte **will be connected to the Adolfo-Suárez Madrid-Barajas airport in only 15 minutes via high speed train**, which will help to further boost the area towards being the biggest business and innovation nucleus in the south of Europe.

Within the infrastructures associated with Madrid New North, a **new transport interchange** is also envisaged.

The building will occupy 33,000m² and have 400 parking spaces. It is designed to offer a service to over 105,000 travellers per day and permits the intermodality of four train types (high speed, medium/long distance, suburban and underground) and two wheeled types (urban and interurban buses from 37 bus shelters). The goal is to offer real alternatives to private vehicles to those who need to travel longer distances.

The remodelling of the station will duplicate its capacity.

When talking about the Chamartín station as the nerve centre of Madrid Nuevo Norte, this automatically implies the inclusion of the **Chamartín Open Ecosystem** project, as this will take on the total remodelling of the station to duplicate its capacity.

The proposal has been signed by the team, formed by UNStu-

dio, b720 Architecture and Esteyco, who were the unanimous winners in March of the most ambitious international competition celebrated in decades in Spain, in which the top engineering and architectural companies in the world participated.

Their proposal was defined by three elements; arches, terraces and towers. This "will complete the transformation of the area into a world reference for sustainable, multimodal, intelligent and integrated mobility – points out Adif – as it will become **an ecosystem based on five pillars of sustainability**: the use of natural and recycled materials; the circularity to achieve a closed circle for the carbon footprint; responsible consumption and management of water through intelligent solutions and the recuperation of rainwater, and the generation and good use of energy through solar panels covering the majority of covered surfaces".

The project, furthermore, improves the access for pedestrians and the underground and taxi connections with the future bus interchange. It will also incorporate spaces for sustainable - shared and private - forms of transport in the aim to boost active mobility.

The Chamartín Open Ecosystem includes last-mile areas for courier services for the delivery of goods through vehicles with zero emissions and charging points for electric vehicles, all in line with Adif's Ecomilla project (Ecomile), that aims to create areas of sustainable mobility in all its stations.

An extense public transport network

In addition to the installations of the future Chamartín station, Madrid Nuevo Norte will reclaim the street for pedestrians and will use the more than 13 ●●●

11,069 M€
of strategic
investment

To transform
the north of Madrid
will cost **9,256
million euros of
private investment
and 1,813 million
euros of public
investment.**

The private
investment through
the buying and
selling of properties
will increase this
number, **reaching
a total capital
movement for
the project of
25,197 M €.**

SOURCE: TECHNICAL REPORT ON
THE SOCIOECONOMIC IMPACT OF
MADRID NEW NORTH (UAM)

Madrid Nuevo Norte will have the biggest area of zero emissions in Europe

The Governing Board of the Town Hall in Madrid, agreed to declare the future Business Centre of Madrid Nuevo Norte a **Demonstrative Area for Climate Action (Area DEMO 360)**.

Through this it will become the biggest climatically neutral urban development in Europe.

The DEMO 360 Area will have public transport with 100% zero emissions, priority bus with segregated platform, exclusive bus lanes, a wide network of charging points for public access, zero emission car parks, 100% renewable energy, stations for transport at less than 5 or 10 minutes and a low-emission system of waste collection. It also takes into account the naturalisation of the spaces and the construction of buildings with materials that reduce emissions.

The new public transport infrastructures and the management of parking, with criteria of low emissions, allow for an estimation that **only 20% of the transit generated by and attracted to the Business Centre will be carried out in private vehicles, which will mean savings of more than 4,000 tonnes of CO₂.**

According to those in charge, the adopted measures will also allow for the following reductions: 100% of the emissions related to the use of buildings and street lighting, 57% of those related to transport and 49% of those associated with the water supply.

Lastly, the vegetation foreseen for the area will help to capture more than 225 tonnes of CO₂ every year.



The Business Centre, one of the four areas that make up this great project of urban regeneration, will be situated at the extreme north of the city centre in the Chamartín district, to the south of the axis that will mark Madrid Nuevo Norte.

AREA DEMO 360





A
15,200 M€
impact on
the GDP

The impetus of the project on the economy will surpass the limits of the region of Madrid and will effect the national GDP. It will provide, **approximately, the equivalent of 1.3% of the current GDP**

SOURCE: TECHNICAL REPORT
ON THE SOCIOECONOMIC IMPACT
OF MADRID NEW NORTH

The pavements and the streets will be reclaimed for the pedestrians and cyclists, giving priority to their safety and enjoyment

new kilometres of bicycle lane to boost this means of transport and the connectivity for cyclists in the neighbourhood.

The project will also make the most of the accessibility of the area to spread out widely from there with a complete network of public transport which will include: interurban buses, Priority Buses (BuP), a new local train station and a new underground line with three new stations: Centro de Negocios (Business Centre), Fuencarral Sur and Fuencarral Norte.

The latter infrastructure **“will operate as the first automatic underground (Metro) line in Madrid** and

will therefore join the underground systems without a driver for which Asia, for example, is the world leader”, according to Isabel Diaz Ayuso, President of the Community of Madrid.

This system of automatic trains that are supervised and programmed from a control centre, **will improve the frequency at rush hour, increase the average speed** and, at the same time, reduce the possible incidents as well as the waiting time and the time spent at the stations.

Furthermore, it will ease the reduction of the total cost of cars per kilometre, thanks to the savings in energetic consumption in comparison with the conventional lines and it will reduce maintenance costs.

The new Metro line will be three kilometres long and **will cover a possible demand of 40,000 travellers daily**. It has an estimated budget for its design and construction of 290 million euros, of which 141,000 will go towards the Castellana Norte District, which is foreseen to be up and running by 2029.

Parallel to this Metro line, but above ground, will run **the new Priority Bus line (Bup)**. Here, 100% electric buses of high capacity will circulate with right-of-way at traffic lights in the intersections and a passing frequency of between three and ten minutes.

The incorporation of this new means of transport with similar characteristics to the Light Metro is one of the measures that the Transport Department will incorporate as part of the strategy for clean, technological and safe mobility, as established by the autonomous Government. For this, they will be equipped with **the latest advances in digitalisation**, such as virtualisation systems for certificates and bank notes, non-contact payment or monitoring of the demand in real time, with the purpose of optimising the service and the frequency. ■

TALGO

Sustainable innovation in movement

The train is making its mark as the **the most effective and efficient means of transport for the masses** in a decarbonised or carbon neutral economy, especially in Europe. At the forefront of the development in this industrial sector is the Talgo Group, **leader in design, manufacturing and maintenance of light high speed railway vehicles.** The Spanish company is recognised world-wide for its competence in innovation and reliability, as well as for its unique characteristic energy-efficient technology.

By Pilar Ponce de León





+18,3%
VARIATION IN
INVESTMENT IN
I+D
2022 IN RESPECT
TO 2021

80 YEARS OF
EXPERIENCE

299 HIGH
SPEED TRAINS
IN SERVICE

2.733
EMPLOYEES

8 COUNTRIES
WITH INDUSTRIAL
PRESENCE



An activity linked to the Objectives of Sustainable Development

The activity in the Talgo centres is circumscribed by the Objectives of Sustainable Development (ODS) included in the 2030 Agenda to **contribute to the care of the environment through the reduction of the environmental impact** derived from their activity.

For their Government and control, the Group has more than **40 indicators**, highlighted among which are those designed to measure the carbon footprint, the recyclability of trains, those associated with the environmental declarations of the product and all of those related to the ISO 14001 certification,

the international standard that certifies the effort made by the business owners in the management of the environmental risks that could occur with the development of an activity.

Other strategic indicators are: **those of equality, accident rates, due diligence, ethics and many more up to the almost 250** that are framed on the dashboard of corporate sustainability.

The follow-up of these measures allow the company to evaluate its ecological footprint in order to improve each



“The road towards an economy that is low in carbon is irreversible. The realistic and immediate solution to reducing the carbon footprint caused by means of transport, such as the aeroplane or the automobile, is the train”, pointed out Carlos Palacio Oriol, president of Talgo, in 2019 during his presentation in the Climate Change Conference COP25, for which the Spanish railway Group was the sponsor.

Today, Ana Lucena, commercial director of Iberia, corroborates the interest of the multinational company in tackling the challenges in the railway sector with the focus on sustainability, by incorporating innovative technological

solutions in their designs that go hand in hand with the care of the environment.

In this respect, Lucena highlights the **Avril Platform for High Speed**, “developed and manufactured entirely in Spain, which has received the highest technological certification in environmental terms in the railway sector, as set out in the Environmental Product Declaration”.

The document, which provides quantifiable and verifiable information about the environmental performance of a product, a material ●●●

Talgo has the capacity to produce 400 – 500 units (carriages for passengers and locomotives) per year.

year and be able to reduce the environmental impact of its products and services.

As a short-term challenge, in 2023, **Talgo wishes to be a pioneer and example for the compliance with the legislation for sustainability in the European Union.** To this end, it will meet the demands of the future law of due diligence in business sustainability, the new Corporate Sustainability Reporting Directive (CSRD), which will substitute the EINF of 2018, and the demanding standards of the report on sustainability for the European Financial Advisory Group (EFRAG).





By and for the industrial innovation of the railway

The Federation of the Official Chambers of Commerce of Spain in Europe, Africa, Asia and Australia (FEDECOM) has chosen Talgo in 2023 as **Company of the Year**.

They received the award from the Group in recognition for their 80 years in the field as an industrial leader in their commercial development in Spain and as a distinction for the work of all the members of the team that have converted the company into one of world reference.

For their part, for the last 20 years, Talgo annually award the **Talgo Prize for Technological Innovation**. These awards have become an important event capable of promoting the development of projects that bring additional value to railway technology.

“The engineering and innovative talent in Spain is huge” recognises Ana Lucena, commercial director of the company Iberia, who pointed out how they have discovered, in the two categories of the prize, (Railway Technology and Mobility) an enormous amount of groundbreaking ideas.

Amongst which, one of last year’s winners stands out, which developed a **method of calculating the critical speed in railway sections** to help increase the speed on highly congested lines and, at the same time, reduce the cost of maintenance and labour.

She also remembers a **novel development for visually-impaired people** that substituted the traditional white cane for one that detects and warns the user of possible aerial obstacles.

“To name other interesting developments – adds the spokesperson for Talgo –, we have awarded prizes to projects of **intelligent sensor** networks for train tracks that reduce the cost of installation and maintenance or to projects for new based materials, **porous nanocomposites**, which reduce energy consumption and have great resistance”.

THE AVRIL PLATFORM, DEVELOPED AND MADE IN SPAIN; HAS OBTAINED THE BEST TECHNOLOGICAL CERTIFICATION IN ENVIRONMENTAL TERMS IN THE RAILWAY SECTOR



The design of the carriages, with a low floor at platform level, eases the access to the seats for travellers.

or a service according to the ISO 14025 norm, demonstrates that Avril registers a level of energy consumption lower than 13.7% for each kilometre travelled, which means 24% less in comparison to the 18kW/km that were, until now, the best results in the category of high speed trains.

New sources of energy and materials

Also in environmental matters and to contribute to the challenge of energy efficiency in the railway sector, Talgo concentrates its efforts on the minimum consumption of materials, therefore requiring less resources for their manufacture, and incorporates advances with the use of some lighter and

more resistant materials that can furthermore be reused, hereby giving importance to recyclability.

In fact, **the products it designs reach a recoverability rate of 94%**, which means that the quantity of material to be recycled per person is one of the best in the field. To give a specific example, the Avril platform has a recoverability of almost 96.9% and only generates 3.1% of waste.

Hereby the commercial director of Iberia sums up some of the company's achievements in this area: "Our trains are 20% lighter than the standard comparison in

the industry, they have wider carriages and allow for the transport of almost 1,600 people with only one machinist in low-fare operations. We are also **innovating in the useful life-span of the trains, which can last more than 35 years**, and developing solutions to provide energy efficiency to the train operators with less resistance to movement through carriages of lower height, less mass, better aerodynamics and a lower number of axles. All these qualities make the Talgo trains the most sustainable option of mobility".

In this context, **Talgo also moves forward in the investigation** ●●●



and development of new sources of energy such as railway fuel.

"Our business model constantly adapts to encourage the implementation of more ecological and technological solutions, hence we participate in projects related to hydrogen, such as the collaboration with Repsol to boost the creation of renewable hydrogen trains or the collaboration with the Basque Hydrogen Corridor (BH2C)", explains Ana Lucena.

The Innovation in the DNA of Talgo

As well as innovating for sustainability, progressing in railway engineering is also (and it couldn't be any other way) a priority for Talgo.

It is not a coincidence that precisely that, an innovation, gave rise to the company in 1942, thanks to a pioneer project that modernised the railway in Spain.

The result was a faster train, that allowed for a reduction in energy consumption, tensile stress and the travel time, increasing the safety and comfort of the passengers.

This is how Carlos

Palacio Oriol reminded us in the anniversary of the eight decades of the company's history, celebrated in 2022:

"These 80 years have been defined by the fundamental innovative spirit for which we are renowned and which has allowed, since the early days, to put ourselves at the forefront of industrial development".

If we look back briefly on the solutions for rolling material that the company has incorporated throughout its history, and which have distinguished them from other manufacturers, the following stand out: the independent and self-guided roller, the passive and automatic sway, the change in width of the track, the accessibility throughout the train and the manufacturing of wider carriages.

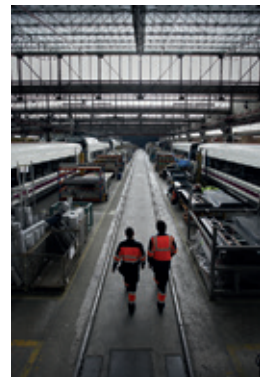
Furthermore, in recent years, Talgo has carried out improvements in the materials, such as the **novel use of carbon fiber** for the manufacture of the frontal part of the motors of Avril, which serve to optimise the total weight of the

TALGO COLLABORATES WITH REPSOL TO BOOST THE CREATION OF RENEWABLE HYDROGEN TRAINS AND WITH THE BASQUE HYDROGEN CORRIDOR

structure and increase the aerodynamics, or the manufacturing of the bodies of the **carriages with aluminium profiles to make them lighter** and therefore comply with the approved load limitations per axle.

Ana Lucena also underlined the **digital advances and innovations** designed to offer a more connected service: "En this sense, we have developed cutting-edge technologies such as the system of train box elevation and 5G maintenance, which improve efficiency".

In the area of accessibility, Talgo uses "rollers" instead of bogies, which serves for a **barrier-free design; from the platform to the seats.** In addition, the trains have a natural



The Group has two factories in Spain: one in Las Matas (Madrid) and the other in Rivabellosa (Alava), which means 63,000m² of industrial surface.



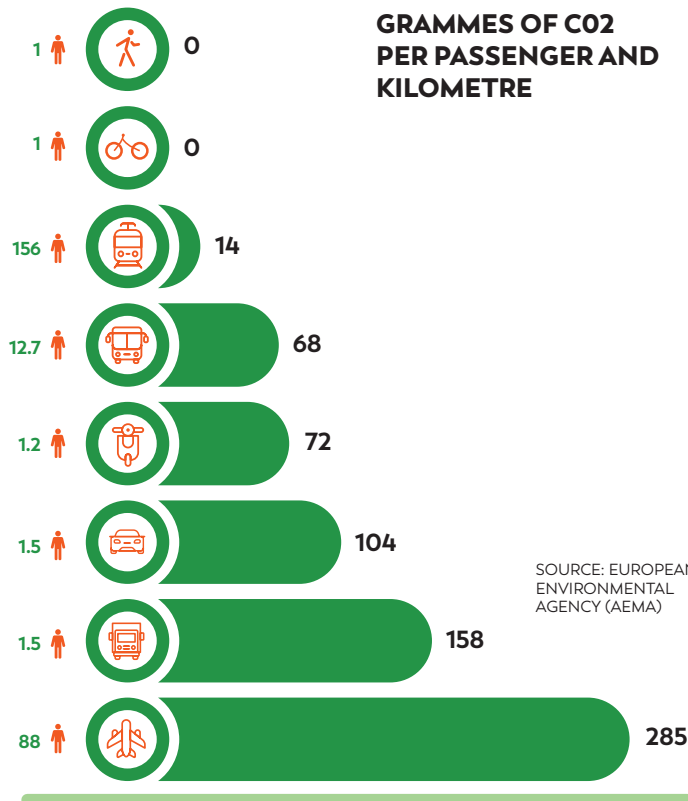
DIRK WITTMANN | DB AG

Why is the train the most sustainable option for mobility?

The railway depends, to a large degree, on electricity for its performance, which allows it to use **100% renewable energy**, something that does not happen in other means of mass transport, which are still dependant on fossil fuels.

Furthermore, in Talgo's case, it manufactures trains that use **increasingly less energy** because they are **lighter, more aerodynamic**, they make the most of the forward inertia in a more efficient way and they are more sustainable thanks to their use of **recyclable materiales**, equally or more resistant than those used traditionally.

VEHICLE AND
NUMBER OF PASSENGERS



SOURCE: EUROPEAN
ENVIRONMENTAL
AGENCY (AEMA)



GERMANY SIGNED THE BIGGEST ORDER IN TALGO'S HISTORY IN MAY: 56 TRAINS TO RENEW THEIR HIGH SPEED LINES

sway mechanism to reduce travel time in the parts of the track with tight curves, which, furthermore, prolongs the service life of the infrastructures on which they circulate.

Unique technology in the world

Do Talgo's innovations improve the clients' experience ?

Ana Lucena confirms: "On a social level, we consider that we have

to better meet the needs of the travellers. The carriages should be cosy, comfortable and barrier-free for people of reduced mobility: people who use a wheelchair, but also parents that travel with a pushchair or pram with their baby, someone who is carrying heavy luggage or who is injured and their mobility is affected".

The train platform intercity Talgo 230 is a good example of how the Group put its social



From Las Rozas (Madrid) to the world

The headquarters of Talgo is in Las Rozas, just a few kilometres outside Madrid. However, **the customer orientation has led the company to a direct and permanent presence in countries all over the world.**

Currently, it has offices and production and maintenance centres in: Germany, Saudi Arabia, China, United States, India; Kazajistan, United Kingdom and Uzbekistan.

In the interior design of the carriages, priority is given to the safety and comfort of the passengers on board.



goal into practice and the contract signed with Deutsche Bahn to provide them with one hundred units of this model; proof that the results are convincing.

“It’s worth remembering that Germany is one of the most important, dynamic and demanding railway hubs in the world. Hence, this order is another sign of confidence towards the technology and reliability of the

Talgo trains”, says the spokesperson for Iberia in reference to the Spanish company.

The agreement with the German public operator materialised in February 2019 with a first strong order for 23 units and it has been increased in May 2023 with a new order to supply the German Federal Railway with 56 more units, **the biggest order in Talgo’s history.**

The float will be operated throughout Germany under the commercial name ICE L (Intercity-Express Low-Floor), which designs long-distance and high-speed services. It will have a low floor, at platform level, in all its carriages and they will be, therefore, completely accessible; a characteristic that only the Spanish company offers to the world railway industry.

“The German operator wanted

to transform its commercial service and has chosen our platform Talgo 230, to meet their main needs: lighter trains that consume less, that are equally resistant, with an elevated volume of recyclability, that can run along tracks with different voltages and areas without electrical power; they were also looking for versatile and comfortable interiors that allowed for the entrance into the carriage on the same level as that of the platform, with no steps, in order to ease the access for people of reduced mobility”, states Ana Lucena, who ends on the following note:

“All these developments pursue a single goal; to count on a railway service that is more ecological, safe, comfortable and also with which to build the society of the future that we want to be”. ■

A large crane is lifting a prefabricated wooden building module. The module is a rectangular box with a wooden exterior and a grey interior. It is suspended by a yellow crane arm and blue cables. The background shows a blue sky with white clouds and a modern building with a wooden facade. The text is overlaid on the left side of the image.

INDUSTRIALISED
SOLUTIONS ARE BECOMING
A PROMISING OPTION IN THE
CONSTRUCTION INDUSTRY,
TURNING TOWARDS THE
DEVELOPMENT OF
SUSTAINABLE INNOVATION

SUSTAINABLE ARCHITECTURE

IN THE CURRENT URBAN PLANS IN MADRID AND ITS COMMUNITY, THE MANAGEMENT OF MOBILITY TOWARDS A MORE SUSTAINABLE MODEL IS NOT ALONE. SUSTAINABILITY ALSO MAKES ITS MARK IN THE CONSTRUCTION OF BUILDINGS; IN THIS CASE, IT DOES SO THROUGH THE SOLUTIONS OFFERED BY INDUSTRIALISED CONSTRUCTION.

By Pablo Molina

A sustainable city is not only one that happens on street level to encourage less contaminating mobility but is also one that is built using the solutions offered by industrialised construction. This model of construction applies the latest innovations in disciplines such as robotics, logistics and digitalisation to build the structural components in the factory in an automatised way (walls, floors, facades, roofing... even a complete kitchen or bathroom in a single model).

Afterwards, these elements are transported to the construction site, where they are assembled. In industrialised construction, artificial intelligence, big data, blockchain, Building Information Modeling (BIM), digital twins, virtual and augmented reality, to name but a few, are the order of the day.

The advantages associated with this model of building, both in new construction and reforms, are multiple. In summary, the best offer a production that gains in quality, energy efficiency, sustainability, work safety and management of resources, while costs are reduced.

The challenge: 40% of industrialised housing by 2030

In view of the potential that industrialised construction offers to face the challenges in the building sector, it is not surprising that the AEC professionals (Architects, Engineers and Constructors) see it as an alternative to the traditional model.

There is still a long way to go to reach the levels of the UK, with almost 7%, Germany with 9%, and Holland with 50%, according to the Platform for The Industrialisation of Housing (PIV). Nevertheless, the Building Groups foresee that by 2030, 40% of single homes in Spain will be industrialised.

To reach this challenge, the main promoters and constructors that work in the private sector are now making the transition towards the new industrial model. Many other agents in the value chain face the need, if not the obligation, to begin using it as soon as possible. ●●●



The Infanta Leonor University Hospital in Madrid (2008) has a modular industrialised plan.

SUSTAINABILITY AND INNOVATION IN CONSTRUCTION ARE IN CONSTANT EVOLUTION

Axis of urban planning in the Community of Madrid

In public construction, industrialisation is also increasingly more present. One of the physical examples of this is Plan Vive, launched in 2020 by the Government of the Community. In fact, in its presentation, those in charge claimed that it represented “a change in the paradigm of construction in new public buildings towards industrialisation and sustainability”.

Plan Vive has planned to put up for rent some 25,000 homes and at price up to 40% cheaper than the market price until 2028. Their objective is to make it easier for particular groups such as young people under 35, the over 65's, people of reduced ability and women who are victims of gender violence.

PROJECTS OF YESTERDAY AND FROM NOW ON

Since the 19th century, as a consequence of the First Industrial Revolution, the idea emerged among architects and engineers to make the most of the advantages of industrialisation in construction.

This trend is reflected in Architecture for the first time in The Crystal Palace, constructed for the Great Exhibition in London in 1851.

The advances in industrialisation applied to buildings reached Madrid in 1887 with a building similar to a church: The Crystal Palace in The Retiro Park in Madrid, work of Ricardo Velázquez Bosco in 1887.

Since then, buildings with industrialised components have been finding their place in the city. The Atocha and Chamartín train stations, the Columbus Towers, the Pavillion of Hexagons and the BBVA building are some of the first examples.

Amongst the most recent the following stand out: 102 social housing units in Carabanchel, Bamboo House and the Verona (203A) Building.

The first two phases of the programme will come to an end in 2023 and will generate 6,600 homes in twelve municipalities in the region, and will include different levels of industrialised construction.

Along the same lines, the Ministry of Environment, Housing and Agriculture announced the **Youth Solution Plan**, in 2022, that will have 1,200 industrialised houses at the disposition of young people under 35. These will be of a maximum size of 70m² and their monthly rental will be less than 600 euros in six municipalities in the Community.

More recently, in February 2023, the local Government presented their **Global Housing Strategy** for the next term. In the act, those in charge highlighted the **incorporation of industrialised construction in all their public housing promotions**.

Added to this firm bid, made by the Community of Madrid in favour of transforming the model of building, is the creation of the **first and biggest industrialised construction hub in Spain**.

To this end, in the medium term, the local Government foresees reuniting the plants of the constructors and promoters in the technological parks of the region

The sustainable alternative to traditional construction

INDUSTRIALISED CONSTRUCTION BRINGS WITH IT IMPORTANT ADVANTAGES IN THREE AREAS.

Economic sustainability

The production of components in the factory is more efficient, the manufacturing is more precise and the completion times are faster.

With the automatising of processes, many of the typically unforeseen incidents in construction are avoided and it is possible to work all year round, regardless of the climatic conditions. Thus, **completion times can be reduced by up to 50%.**

Simultaneously, the quality standards are raised and the cost of maintenance throughout the useful life of a building is reduced. **The building costs are reduced during the process by up to 20%.**

Social sustainability

Workers operate in surroundings that are less susceptible to the common risks in construction, such as falls or those related to the manipulation of materials. Experts calculate that with the industrialised model, **the accident rate will be reduced by between 20 and 30%.**

The new model encourages the incorporation of young people, women and people of reduced capacity into a sector that, until now, was unattractive to them.

Moreover, it opens the way for highly-qualified professionals and encourages generational replacement in an ageing sector.

Environmental sustainability

In the implementation process, the CO2 emissions and the residue generated is reduced by 60%, because less materials are used, and some more sustainable ones are introduced such as wood and concrete.

This system of construction opts for buildings of high energy efficiency, even of zero consumption, in line with the criteria of **bioclimatic architecture** and the **Passive House model.**

As a result, the needs of climatisation during the use of housing stock are less than 15kwh/m2 per year, which means a **reduction of up to an average of 90% in energy consumption.**



that are well-communicated to the main lines of distribution and commercialisation of their product. Furthermore, in this area they can count on auxiliary industry that will generate synergies.

The Town Hall in the capital prioritises industrialisation

As far as the action being carried out in the capital to encourage the industrialisation of constructive processes is concerned, the Town Hall has been working since 2021 within the **Industrialisation Group (Clúster de Industrialisation)**. Also since that year, it has prioritised industrialised construction in public tenders and licenses.

Amongst the motives for this decision, pointed out by the urban planners, is the need to introduce aspects of environmental, social and economic sustainability, which are considered fundamental for the construction of cities with a better quality of life. ■



THE CAPRICHIO PARK

This historical-artistic garden of 14 hectares is the only one from the Romanticism period that remains in Madrid and one of the few examples that are still in the recreational areas that have surrounded the city since the end of the 18th century and throughout the 19th century. It was constructed between 1787 and 1839 according to the wishes of María Josefa Pimentel, Duchess of Osuna, who funded the work and cared for it until her death.

The person chosen for the design was Jean-Baptiste Mulot, from the gardening school in Versailles, who depicted three styles: the parterre (flower bed) or French garden, the English landscape and the giardino italiano (Italian garden). The Little Temple of Baco (in the image), the bush maze, the hermitage and the ballroom are some of the places in the area, which have unmissable streams, fountains and ponds.





Who would have thought to tell the kings and noblemen that designed great gardens and parks for leisure in Madrid centuries ago, that today they would serve to mitigate the so-called **“island of heat”** effect.

This is produced in all the big cities today by the pollution and heat accumulated in the buildings and on the tarmac during the day, provoking a thermal difference between the city centre and the outskirts which, in particular in the capital, reaches 8°.

The temperature drops as the buildings become less en masse and in areas close to the green zones. Hence the public administration's interest in compensating for this phenomenon by protecting the natural spaces that have existed in Madrid since long before cars passed through the city.

By Pilar Ponce de León





CASA DE CAMPO AND WEST PARK

The more than 1,500 hectares that make up the Casa del Campo convert this natural space in the biggest public park in Madrid. King Phillip II used it as a hunting ground when he decided to move the court to the in 1561. Today, in many of its parts, it conserves its original forest aspect.

Despite covering a much smaller area (75.65 hectares), West Park is full of remarkable places such as the Cable Car, The Egyptian Temple of Debod (from the 2nd century AD), to the Ramón Ortiz Rose Garden, which has hosted the International Competition of New Roses of the City of Madrid every year since 1956. It is an easily accessible green space, located right in the heart of the city.



THE RETIRO PARK

Due to its location and its history, the Retiro Park is one of Madrid's icons. Designed by Phillip IV in the 17th century as an estate for the leisure of the kings in the Casa de Austria (the Habsburgs). In 1868 it became part of the local heritage, opened to the public of Madrid in 2021; recognised by UNESCO, together with the Paseo del Prado, as World Heritage.

It is not the biggest in the city (125 hectares) but it is the one that has the most elements; among which are: the Grand Pond, with its pier and its spectacular monument of Alfonso XII. Along its paths, an infinity of sculptures await the locals and tourists that pass by on foot or by bike.





QUINTA DE LOS MOLINOS

This public park of 25 hectares was originally, around 1920, an urban rustic leisure estate with areas of Mediterranean style market farming activity.

It is found in the district of San Blas and although it has extended areas of olives, pine trees and eucalyptus, the star is its 1,610 specimens of almond trees that flower between February and March, offering a sensational show.









MONTE DE EL PARDO

Of all the spaces that paint the city of Madrid green, The Monte de El Pardo, in the north of the capital, es the largest. Its almost 16,000 hectares makes it the most import Mediterranean forest in the Community and it is one of the best conserved in Europe.

It constitutes an important ecological and biological reserve for oak trees and for the different indigenous fauna that inhabit it. Its environmental value rises given its ability to absorb CO₂ and to generate oxygen. It is estimated that 1km of forest produces a thousand tonnes of oxygen a year.



MADRID IS A JOURNEY



By Alicia Aza.
Poet.

There are cities that have a very consolidated unique identity. They are what they are. They have always been so and will continue to be so. These cities, you take them or leave them. Either you fall in love or they leave you cold.

There are others full of nuances, contradictions, diverse colours and chiaroscuro. Of lights and shadows. But, they are always bright cities. They come from moments and places far away, in which the impressions then have given way to other points of view. The cities observe us, they examine us and we must learn to see ourselves in their mirror. The cities in this second category are transforming cities and in that transformation we find Madrid.

Madrid with its history and its stories. A live city in constant effervescence and yet, with values that never change, that always remain. Its warmth, its permanent hug, its call and its claim. Its already mythical and well-known blue sky the keeps the secrets of all who watch its sunrise. Madrid, city of celebration and hustle and bustle but also of serenity and silence.

One can be many things at the same time and Madrid has a corner for every one of them. It is this

big and encompassable. We move around as part of our routine to fulfill our obligations. They are established paths, accepted by all who inhabit the city. By underground, bus, car, taxi, motorbike, scooter or on foot. They are simply that, transits in which we drift while metaphorically asleep with the sole pretence of reaching our destination as soon as possible.

But one day, you discover that you have not been able to stop for a second to realise that the trees in your street create shade in the summer. That Madrid is a green city and invites us to pass through. That its parks are many and that many of us go for a walk, to rest, to run or to do sport. That there is a new bakery and when passing by it smells like home. That some roses rise up in the middle of an avenue or, that an acacia, a platanero or a poplar tree talk to us on a rainy day. That a puddle reflects a new building that has just been built or one of its emblematic fountains. That there is still the churreria you used to go to when you were a child with your parents to get porras for breakfast. That the markets are full of life, of friendly meetings, of gastronomy and culture. A coffee in the your local bar or a new one that has just opened with new aires and aromas. That living in Madrid embraces you with a very positive energy.



The city is your faithful companion and offers you a world of possibilities. Varied leisure options, often free and of good quality.

Madrid is a journey. You can get lost, feel out of place and not want to find yourself. You can trace a path, advance along the streets and recognise the emotion of joy as you discover a sculpture on a roof. A corner where a part of everyone's history was recorded. A plaque that commemorates a relevant character for our memory. An old cinema, today converted into something else. There is a constant inhabit and live in the different and varied cities that make up Madrid. Each one is a neighbourhood, a different landscape, a different light. All of them are, and we are, one. But you can also live and die in your own neighbourhood and make your own square your personal Ithaca, nothing else needed. There is always a microcosmos within a chaos that we love.

Because Madrid is created by us all, each and every one of us who lives here leaves behind our footprint and the city frames it. We all have a place on this road and we are all welcomed, because everyone likes to smell the same vigorous and stimulating air.

MADRID HAS SOUL, IT IS TRANSPARENT AND ENVELOPING

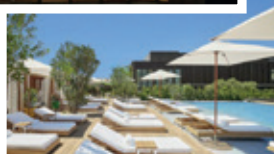
A cult Madrid with its museums, galleries, art centres. Its cinemas and its theatres. Music halls, libraries, and that café bar where they recite poetry or seduce you with a jazz session. Football for all tastes and colours and mountains on its outskirts. City for birds and flowers. Its botanical garden and its urban orchards.

Madrid has soul, it is transparent and enveloping. It has a pure heart, that little by little becomes blurred to create new lines full of mixes and nuances. It also has a vertebrate brain, the best underground train that reaches everywhere and everyone. Bus stations, train stations, an airport for coming in and out, because whoever lives in Madrid and leaves, always wants to return, and whoever visits for the first time is mortally wounded and knows: from Madrid to heaven. ■

NOVEMBER-DECEMBER 2023

Don't forget...

At the end of the year, Madrid is far more than a coloured light show dedicated to Christmas. Sign up for these suggestions and enjoy your visit. **You will return to Madrid.**



From 3rd to 12th November
The Hotel Business Association of Madrid (AEHM) organise the seventh edition of this initiative that allows attendants to taste **the best offers in gastronomy, cocktails and experiences related to history, art, sport, music and technology.**

EVENTS

41st Autumn Festival From 9th to 26th November

13 spaces in the city and 15 in the region
Three weeks in which the theatre, music and dance share the stage. In this edition, the Autumn Festival welcomes 38 companies, groups and artists, coming from 12 countries and 6 Spanish autonomies.

Art & Wine. Madrid Tour Until December

An experience created by the National Thyssen-Bornemisza Museum and the San Miguel Market. These two icons of the city unite to offer two routes that delve into gastronomy and art and ends it all with a wine tasting, the main theme of both routes.

EXHIBITIONS

Amazônia

Until 14th January
Fernán Gómez Cultural Centre of the City
The photographer Sebastiao Salgado presents an exhibition envisaged to raise

awareness of the fragility of the main ecosystem of the planet. The project has already captivated 14 million visitors around the world.

Fake News. The Factory of Lies Until 19th November Espacio Fundación Telefónica

An exhibition that takes on the phenomenon of false news throughout the centuries and proposes a reflection on the impact that these have on society. The exhibition brings together historical pieces, works of contemporary artists and real case studies.

Monet. Works of Art from the Marmottan Monet Museum Until 25th February

CentroCentro Cultural Centre
The first great exhibition in Madrid dedicated to the father of Impressionism. The exhibition is made up of over 50 works that cover his artistic path through the paintings that he was most attached to; those that he conserved until the moment of his death in his home in Giverny.

MUSIC

Jazz Madrid 2023 From 2nd to 27th November Various places

The International Festival Jazz Madrid returns with

its traditional proposal: a powerful exhibition of the best international jazz combined with a strong presence of the best artists from our stages.



Chicago From 6th October to 3rd December Apolo Theatre

The Broadway musical, which has just celebrated its 25th on-stage anniversary, comes to Madrid. Set in the decade of 1920, Chicago has all the elements of the best shows: a universal story of fame and fortune, a mythical score and a choreography recognised among the best in history.

School of Rock, the musical Until 10th December Espacio Ibercaja Delicias

After taking Broadway by storm, the adaptation of the popular film School of Rock comes to Madrid. A show full of humour and music, with guitar riffs and a touching love story.



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