

Our commitment, your success

IDOM

Urban Light Transport Systems

[IDOM.com](https://www.idom.com)



About IDOM

€290 M
turnover

64
years

We are an **association of independent professionals** working in the fields of Consulting, Engineering and Architecture, sharing common objectives and work practices, at the service of our clients.

125
countries

45
offices

3,800
professionals

893
partners



If you want to know more about our activity and our projects, scan this code with your phone to see our corporate video

Our pillars

Our activity is governed by elements that allow our **professionals to grow and resolve the challenges of our clients.**



We believe in **excellence**.
We strive for excellence in
everything we do.



We believe in the **power of human relationships** as a motivating force to overcome difficulties.



We are **passionate about resolving problems** that no one has solved before.



Innovation is present in all our activities.

Our soul

We are a free association of professionals united in the ownership of the company, working together, facilitating the professional and human development of our people, while providing the highest quality of service for our Clients.

What do we understand by commitment?

Assuming the needs and difficulties of our clients as our own.

Involving ourselves in projects, personally and professionally, striving for excellence.

Working closely with the client to achieve their objectives.



The Client

The centre of our activity.
We provide the highest quality service, based on the highest technological standards.
We resolve problems with solutions which are innovative and efficient



Professional development

IDOM is a company of highly qualified people who seek excellence in the development of their work, while tackling the most ambitious challenges with enthusiasm.



People

The basis and foundation of IDOM.
For more than 61 years, we have developed our own philosophy, a style of personal and professional action, committed to the success of our clients.

Our activity

Our consulting, architecture and engineering multidisciplinary teams are developing **sustainable projects that contribute to making the world more livable.**



CITIES

We transform cities into habitable, resilient territories, competitive, sustainable, social and economically viable.



ELECTRONICS & TELECOMMUNICATIONS

We implement the latest technology, for the purpose of helping our clients achieve their business objectives.



INDUSTRY

Our commitment is to help industry be more competitive and environmentally sustainable, by providing innovative solutions.



HEALTH

We pay special attention to one of the important challenges of today's society: improving access to quality healthcare.



ENERGY

We are participating in the most advanced energy projects in the world, providing innovative solutions for the energy of the future.



TRANSPORTATION SYSTEMS

Transportation systems are the backbone of the economic and social activity of cities.



DIGITAL

We use digital transformation to overcome challenges, creating innovative solutions and ensuring the transfer of ideas to the market.



SCIENCE & ASTRONOMY

We participate in large scale astronomy and nuclear physics projects, and we provide high performance and precision instruments.



PUBLIC SECTOR

We approach challenges with innovative and feasible solutions, of the highest level, capable of responding to local needs.



WATER CYCLE

We contribute to extending the universal right to water and sanitation in many different countries.



ARCHITECTURE

Faced with a perspective that architecture is reduced to a mere product, we want to show greater sensitivity towards the process as a whole.



ENVIRONMENT

Sustainable development is the focus of our projects on climate change and the circular economy.

URBAN LIGHT TRANSPORT SYSTEMS

The implementation of an urban transport system involves a range of different disciplines. Delivering the correct expertise at the correct time during the development of a project is a key success factor.

IDOM possesses the expertise and experience to cover all the phases of an urban transport system project, from conception to commissioning and beyond.

We will accompany the client by providing the correct technical assistance required for the decision making process.

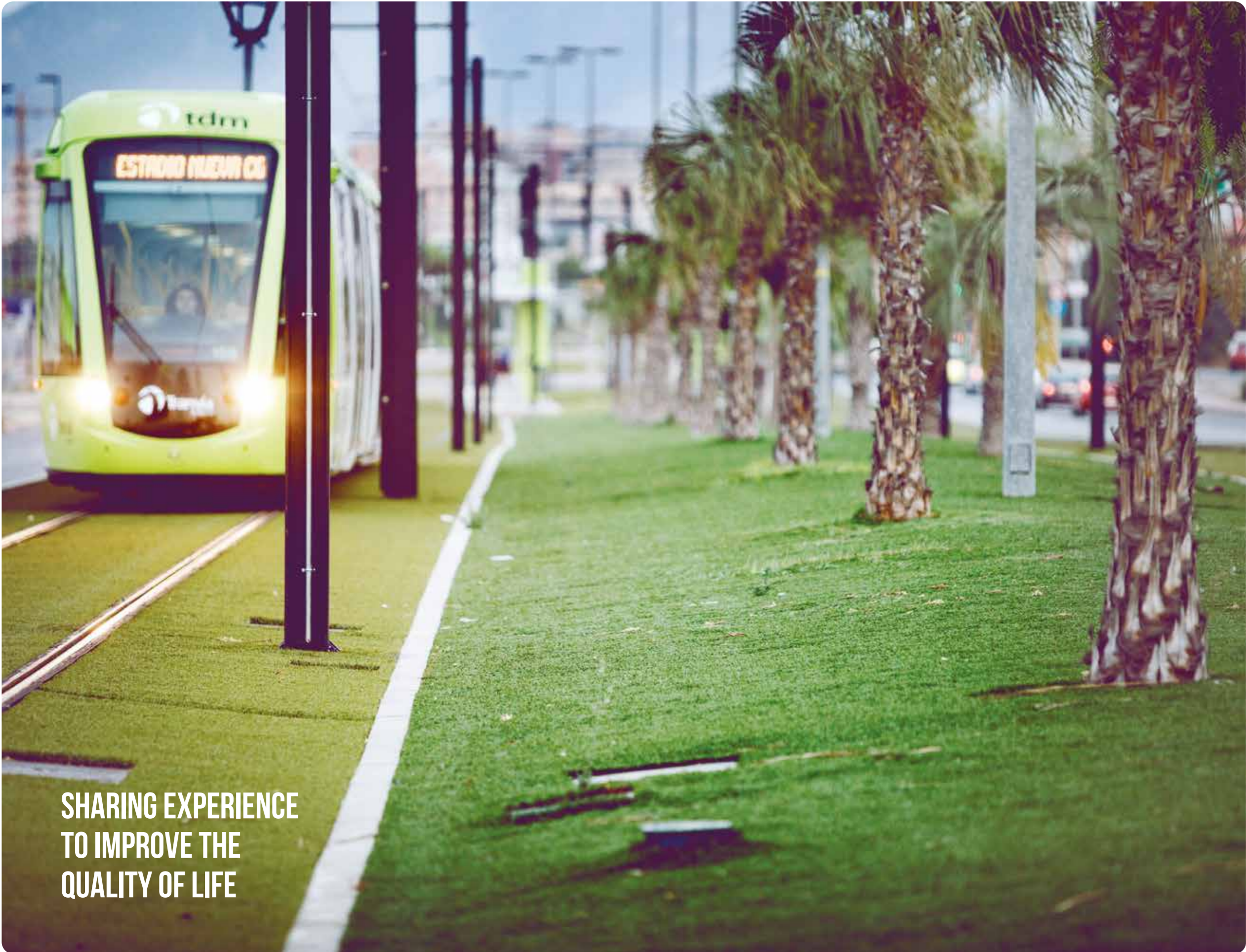
Some of the specific work we carry out includes:

- > Support in preparing the technical and administrative specifications for design
- > Feasibility studies
- > Advisory studies
- > Preliminary designs
- > Environmental impact studies
- > Basic and detailed design
- > Public information campaigns
- > Operational and maintenance plans
- > Testing and commissioning
- > Follow up during training and operation

IDOM has developed its own specialized software for track alignment, noise and vibration, traction and power supply simulation, as well as mobility and operational studies.

WE ADD VALUE AT ALL STAGES OF THE PROJECT

- ▲ URBAN INTEGRATION & LANDSCAPING
- ▲ TRACKS - NOISE & VIBRATION MEASURES
- ▲ STATIONS
- ▲ ELECTRIFICATION
- ▲ SAFETY & SIGNALLING
- ▲ TELECOMMUNICATIONS
- ▲ WORKSHOPS & SHEDS
- ▲ ROLLING STOCK



**SHARING EXPERIENCE
TO IMPROVE THE
QUALITY OF LIFE**

URBAN INTEGRATION & LANDSCAPING

The unique characteristics of the location, both social and physical must be understood to ensure the successful implementation of the urban light rail solution. Light rail solutions are much more than transport systems, they are of social and urban relevance and can involve important changes to the city in which they are located.

IDOM combines its expert in-house knowledge with a full understanding of the context to guarantee the client an urban integration and alignment design which is carried out to exacting international standards, considering all national and international safety and security regulations.

Our urban integration projects achieve full coordination and integration with all other modes of transport, existing and planned for the future. We carry out dynamic simulation exercises, models and studies to deal with crossings and traffic coordination.

- > [Alignment Design](#)
- > [Following International safety and security standards](#)
- > [Integration with other transport systems](#)
- > [Dynamic simulation models](#)
- > [Sympathetic landscaping](#)



PROMOTING PUBLIC TRANSPORT & RECOVERING URBAN SPACES

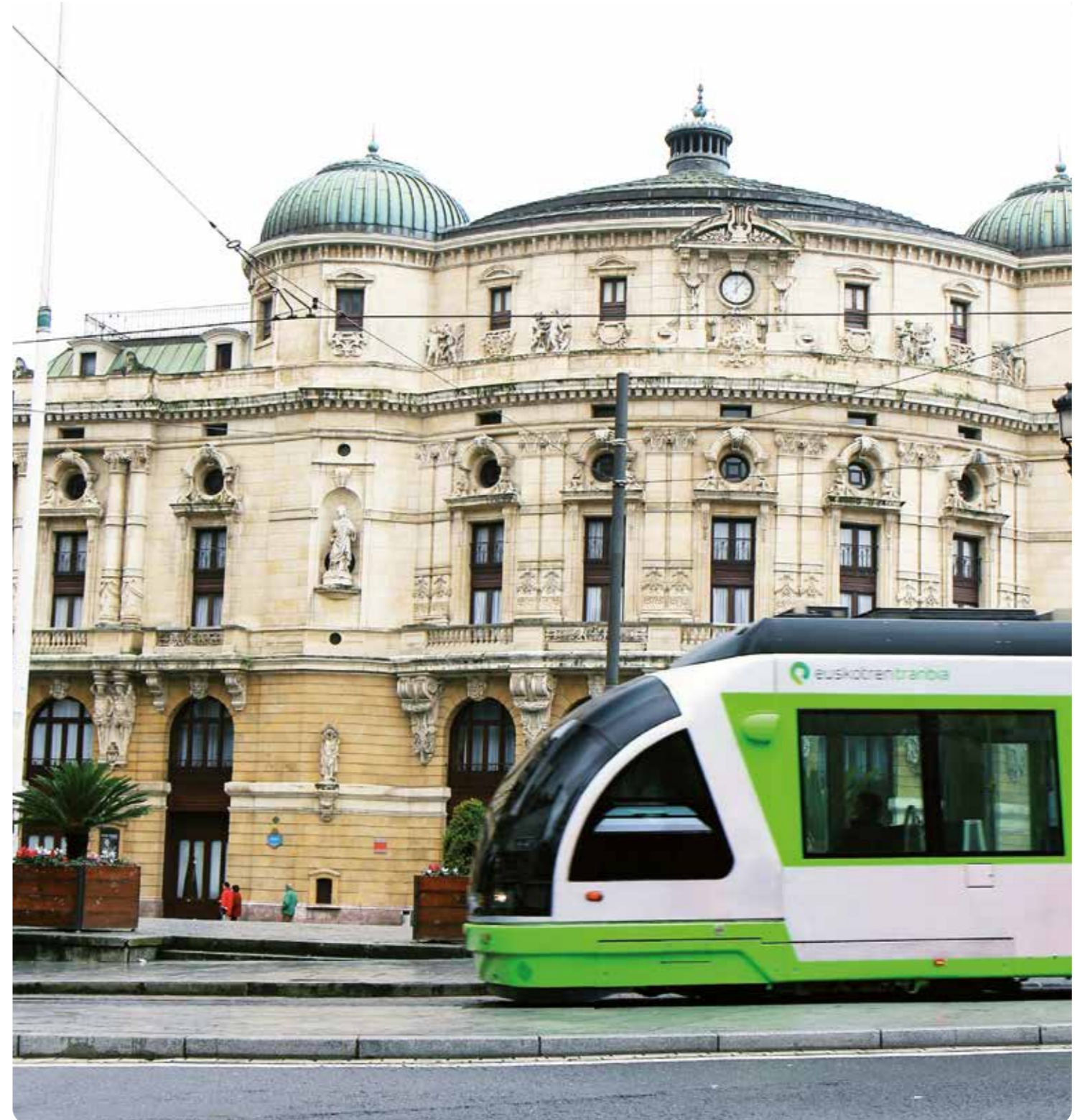


TRACKS- NOISE AND VIBRATION MEASURES

Track design must meet the criteria of integration with the urban environment while being sympathetic to the surrounding landscape.

However, the design must also consider environmental and maintenance aspects by addressing the question of noise and vibration. Specific studies are carried out to simulate mitigation measures (noise and vibration) while considering all rolling stock interfaces.

- > Maintenance & environmental priorities
- > Noise & vibration analysis
- > Interface with rolling stock





STATIONS

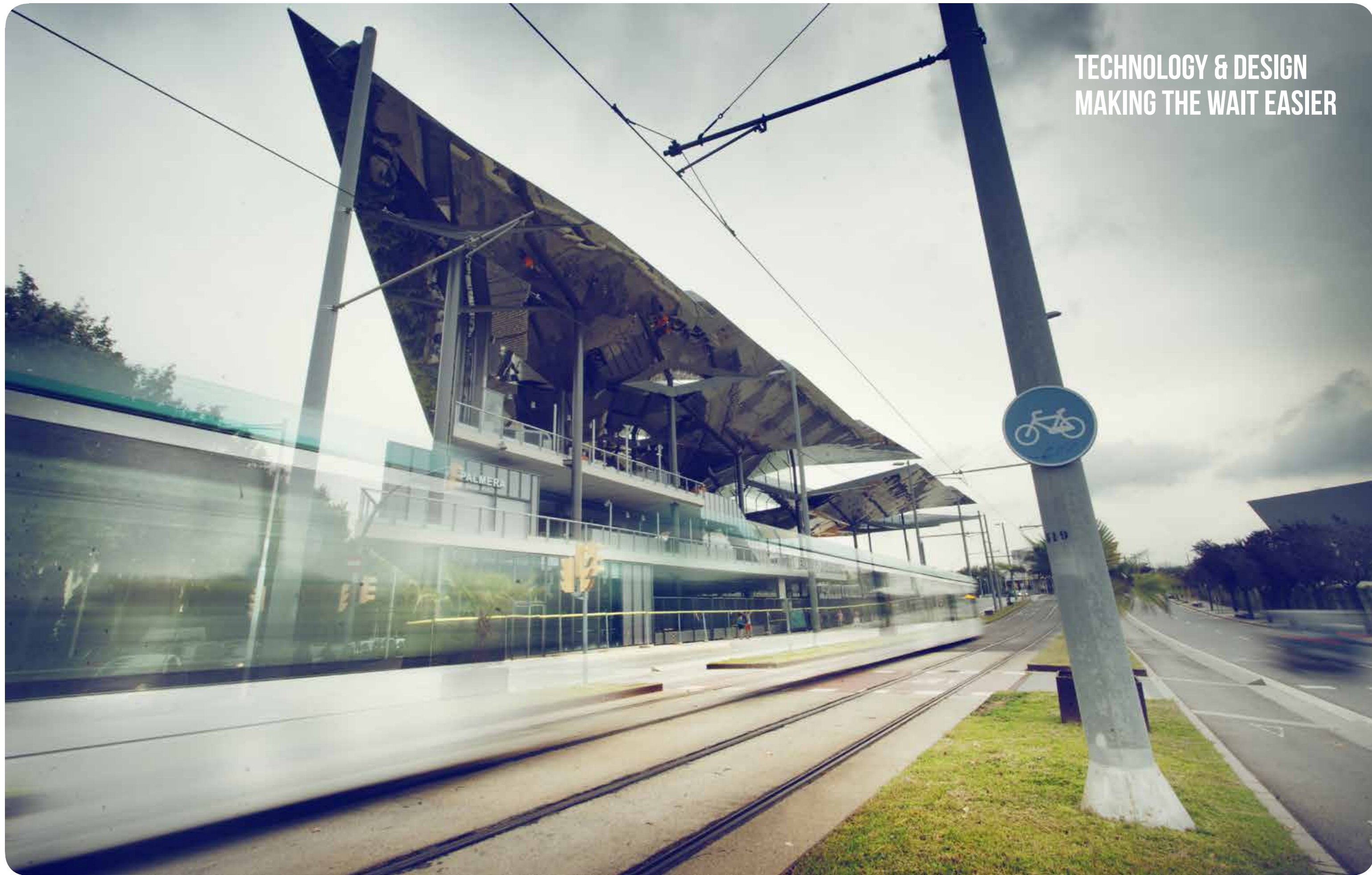
We make full use of our engineering and architectural background to design stations which are highly functional and unique to the setting. Our designs are tailor-made solutions for the city, considering climatic and operational conditions.

Accessibility is always priority in the design. We incorporate the latest technology in travel information systems and ticketing, as we consider the correct contact interface between the user and the urban light rail solution to be essential for the system to be effective, safe and attractive.

In the station design process, we will analyse the correspondence and compatibility with other local transport systems as well as the control and communications centre.

- > **Tailor-made solutions**
- > **Accessibility is priority**
- > **Safe & attractive**
- > **Compatible with other transport systems**

**TECHNOLOGY & DESIGN
MAKING THE WAIT EASIER**



ELECTRIFICATION

Our extensive experience and technical understanding of electrification technologies means that the design of our light rail systems combines different electrification solutions depending on the alignment characteristics of the section to be resolved.

We use our own Railway Electric Power simulation software (IDOMREPS) to carry out consumption estimation and make the necessary calculations for the dimensioning of the different electrical elements related to the electrical traction rolling stock, traction substations and electrical grid connections.

We use data from real urban light rail systems in operation to calibrate our designs.



POWER SUPPLY, CUTTING EDGE TECHNOLOGY & INCREASED EFFICIENCY



The design and integration of overhead contact lines represents a real challenge in the urban environment. Our designs incorporate overhead electrification solutions with the lowest visual impact possible.

IDOM has proven experience and extensive knowledge in the design and use of catenary-free systems and all associated technologies, as well as rolling stock suppliers.

To choose the most appropriate solution, we conduct regenerative and energy efficiency studies. We also carry out a full analysis of the life-cycle costs related to our electrification designs.

- > Low visual impact, integrated design
- > Electrical simulation
- > Calibration with real operation
- > Life-cycle costs analysis



A blurred light rail train is crossing a street. The train is white with a yellow-green stripe. The street has a red brick pedestrian crossing with yellow diagonal lines. A sign with a pedestrian symbol is visible. Traffic lights are on the left. The sky is overcast.

SHARING WITH OTHER
MODES OF TRANSPORT,
SAFELY AND SECURELY

SAFETY AND SIGNALLING

Our urban light rail solutions incorporate safety systems and are designed to be highly compatible with all other modes of transport (pedestrians, cars, buses, and bicycles), as well as including priority traffic lighting for urban public transport.

We develop specific studies based on the experience of similar operations carried out in other cities. These studies allow us to estimate reliable travel times, ensuring the safe and secure operation of the line.

We carry out all studies and analysis based on the accepted international norms and standards of the RAMS approach.

Other studies that we carry out include analysis of the traffic affected during the construction and design phases (temporary sites, alternative pedestrian, cycle paths and bus stops, and traffic detours).

- > Compatible with other transport systems
- > RAMS studies
- > Reliable travel time estimations
- > Affected traffic analysis





TELECOMMUNICATIONS

While meeting all international standards and interfaces, our urban light rail telecommunications designs are both functional and smart. We incorporate state of the art technologies for all the elements of the system, from public information visual display units to the complexity of the control centre.

Security and safety are of utmost importance, and as such, we have developed security access control, platform door, secure communications, and CCTV systems. Our systems use both radio (Tetra, GSM-R ...) and telephony (VoIP) communications technologies.

If electromechanic systems are required, these will be designed in close coordination with all necessary civil and architectural works in the station.

- > Functional & smart
- > Information visual display
- > Complex control centre design
- > Interface management



SMART TRANSPORT & SMART CITIES

WORKSHOPS AND SHEDS

We design workshops and sheds which are both functional and operational. One of the many services we provide is the development of preoperational and maintenance plans for the system. Our design includes the specific needs and requirements of the facilities in the definition of the spaces and layout, as well as the equipment to be installed.

Given the importance of this component in the overall urban light rail infrastructure and its urban location, we understand the architectural value which must be achieved in the design, while meeting all functional requirements.

- > Functional & operational
- > Specific requirements
- > Definition of space & layout
- > Architectural design

**FUNCTIONAL BUILDINGS,
EFFICIENT OPERATION
& MAINTENANCE**



FINDING THE BEST SOLUTION IN THE MARKET, CROSS FUNCTIONAL DECISION



ROLLING STOCK

Given the nature of IDOM as an independent company; our designs, supervision of works and testing, and commissioning are carried out while exercising complete impartiality.

The preparation of rolling stock specifications is a task which should be coordinated with many other activities in the development of the light rail project as a whole, as well as involving many different disciplines. Therefore, it is essential to put in place the correct interface management practices from the outset.

We understand that each project is conditioned by many factors such as environmental, operational, and capacity requirements, as well as climatic conditions. Therefore, each project like each city is unique. We can draw on our knowledge of technologies and rolling stock suppliers to offer the client the best solution backed up by the firm's proven experience in projects with similar characteristics.

- > [Independent & impartial](#)
- > [Preparation of rolling stock specifications](#)
- > [Interface management practices](#)
- > [Conditioning requirements](#)
- > [Knowledge of technologies and suppliers](#)

CANADA

Finch West LRT (Toronto)

11 KM

Eglinton LRT (Toronto)

19 KM

MEXICO

BRT Aguascalientes

12.5 KM

GUATEMALA

Train-Tram Guatemala

20.5 KM

COSTA RICA

Train-Tram San José

74 KM

ECUADOR

Cuenca Tramway

10.5 KM

PERU

BRT Trujillo

5 KM

BRAZIL

Sao Paulo Tramway

28 KM

COLOMBIA

Carrera 80 Tramway (Medellin)

13 KM

Ayacucho Tramway (Medellin)

4.5 KM

Tram-Train Bogota Occidente

42 KM

Tram-Train Bogota Sur

14,2 KM

AMERICA



1,166 KM
 55 CITIES
 26 COUNTRIES

EUROPE

IRELAND

Luas Tramway (Dublin)

5.6 KM

Cork LRT

17 KM

UNITED KINGDOM

Luton Airport People Mover

5.9 KM

SPAIN

384 KM

PORTUGAL

Oporto Tramway

10.2 KM

ITALY

Taranto BRT

80.5 KM

SWEDEN

Lund Tramway

5.9 KM

DENMARK

Odense Tramway

14.5 KM

Ring 3 LRT (Copenhagen)

28 KM

ROMANIA

Arad Tramway

16 KM

MACEDONIA

Skopje Tramway

7 KM



AFRICA

ALGERIA

Constantine Tramway

26.6 KM

Sibi Bel Abbas Tramway

17.8 KM

Ouargla Tramway

5 KM

ASIA

KAZAKHSTAN

Almaty LRT

23 KM

CHINA

Tianjin-Beijing LRT

35 KM

VIETNAM

Hanoi LRT

12.5 KM

LAOS

BRT Vientiane

12.5 KM

MALAYSIA

Kota Kinabalu LRT

34 KM

OCEANIA

NEW ZEALAND

Airport-Botany BRT

18 KM

AUSTRALIA

Melbourne: Caulfield-Rowville LRT

20 KM

384 KM

SPAIN

