



HISPA@LD

Railway HVAC Systems

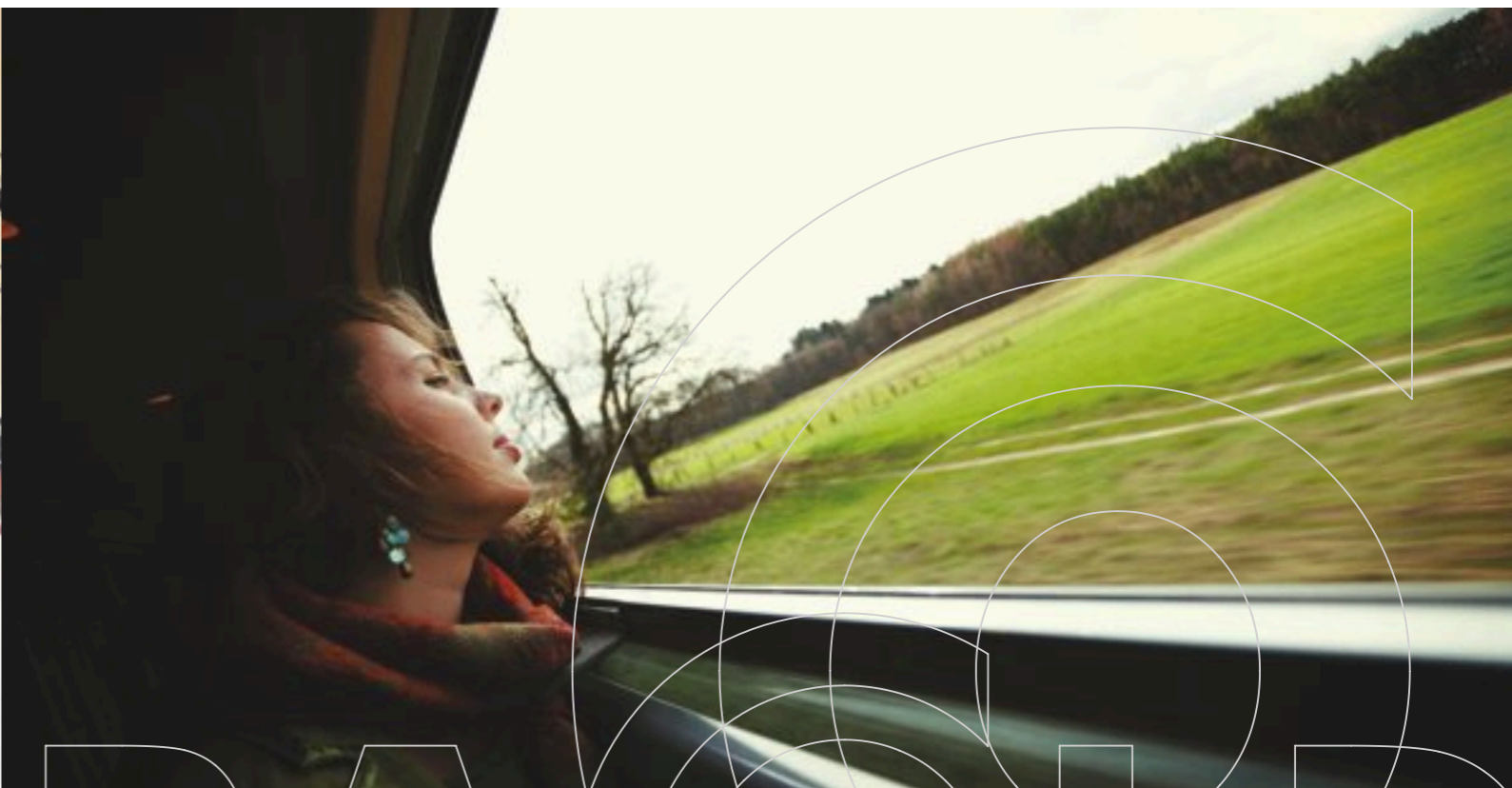
specialists in passengers' comfort

Hispacold, a World leader company for climate systems specialized in comfort for people with more than 30 years' experience.

Hispacold designs and manufactures HVAC solutions for all rail vehicles: trams, metros, EMUs, DMUs, LRVs... with proven and reliable technology solutions.

In Hispacold each activity is based on a solid quality culture and on a real commitment with the environment. Quality certifications ISO 9001, ISO 14001, OSHAS 18001 are only the smallest part of this working way.

Hispacold's presence in the five continents guarantees the best technical assistance at any place of the world.



HISPAOLD

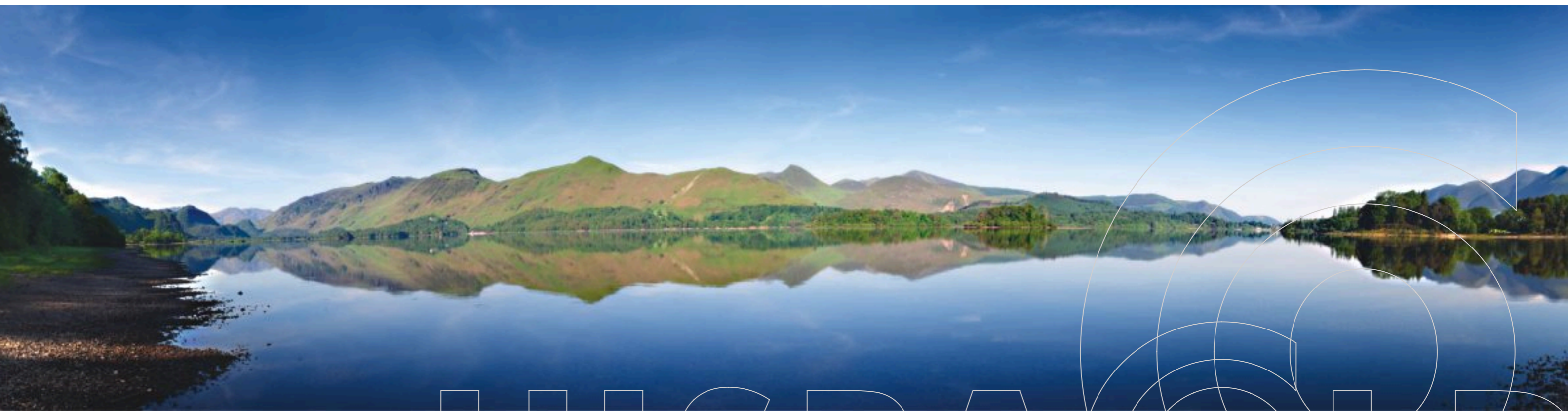
real commitment with the quality and the environment



The growing need to preserve the environment, to reduce greenhouse effect emissions and to achieve complete sustainable development has become one of the main company objectives.

In this regards the transport sector is tackling the serious challenge of providing transport solutions which take care of the natural environment and which respond to the progressive global demand for modern and comfortable transport networks.

Integrated Quality and Environmental management system is the base of Hispacold activities from design to customer service. ISO 14001:2004 and ISO 9001:2208 certifications are only examples of the real commitment of Hispacold with the environment.



HISPAOLD

world presence



Hispacold systems are running in the five continents and in more than 100 countries. Hispacold service net is spread all over the world in order to assure the best technical assistance to every customer needs.

Hispacold considers that technical assistance and an excellent service are key factors for the future of the company.

Hispacold is a company of Irizar Group SC, which employees more than 3.000 people in the five continents and has a global turnover of more than 550 Million €. This gives Hispacold the benefits from a multinational organization while maintaining an individual company spirit.

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HISPA

own technology and innovation



Nowadays, passenger comfort is a basic issue for any transport company. The users comfort demand is increasing every day and everywhere. But people comfort is not just about cooling or heating; it is much more than that!! Humidity levels, air velocities in the comfort zone, temperature distributions and regulation, noise levels... are only the very first basic parameters to be taken into account.

Hispacold, with a long and deep experience in HVAC solutions, has designed systems for all climatic conditions and for all configurations of thermal load. Our engineers work in projects from the beginning of the definition of the vehicle or with vehicles already manufactured and now in use.

For new projects it is possible to consider standard catalogue products or to design and develop a particular solution, depending on the specifications of the project and Client's preferences.

Know-how and Advantages:

- Lightweight and reduced dimensions.
- Improved passenger comfort fulfilling all the applicable railway standards (EN, ISO, UIC).
- Wide range of solutions for all climatic zones.
- Energy savings and drastic power consumption reduction possibilities.
- Low maintenance costs with full information about the status for every component of the system.
- Advanced microprocessor controller.
- Fully automatic functioning and regulation.
- Communications ports integrated in every unit (Open CAN, RS-485, Ethernet, USB).
- Ultra low-life cycle costs.

HISPA-COLD



| | | DMU | TRAM | EMU | LRV | METRO |
|-------------|------|-----|------|-----|-----|-------|
| Saloon Unit | S100 | | © | © | © | © |
| | S200 | © | | © | | |
| | S300 | | | © | © | © |
| | S400 | | | | | © |
| Cabin Unit | C100 | | © | © | © | |
| | C200 | © | © | © | © | |
| | C300 | | | | | © |

Design Specifications and Preliminary Studies:

The correct selection of the HVAC solution which best fits in each project is based on specifications and particular requirements. The main issues to be studied and developed are:

- Optimization of the needed capacity through detailed and personalized calculation of the thermal load.
- Complete CFD calculations to validate the concept solutions.
- Complete definition of the comfort regulation diagrams.
- Definition of air flows and air movement in the vehicle.
- Acoustic performance level expected.
- Required special working modes for the system.
- Applicable legislation and standard compliance.
- RAMS studies.
- Life Cycle Cost (LCC) studies.



Maintenance:

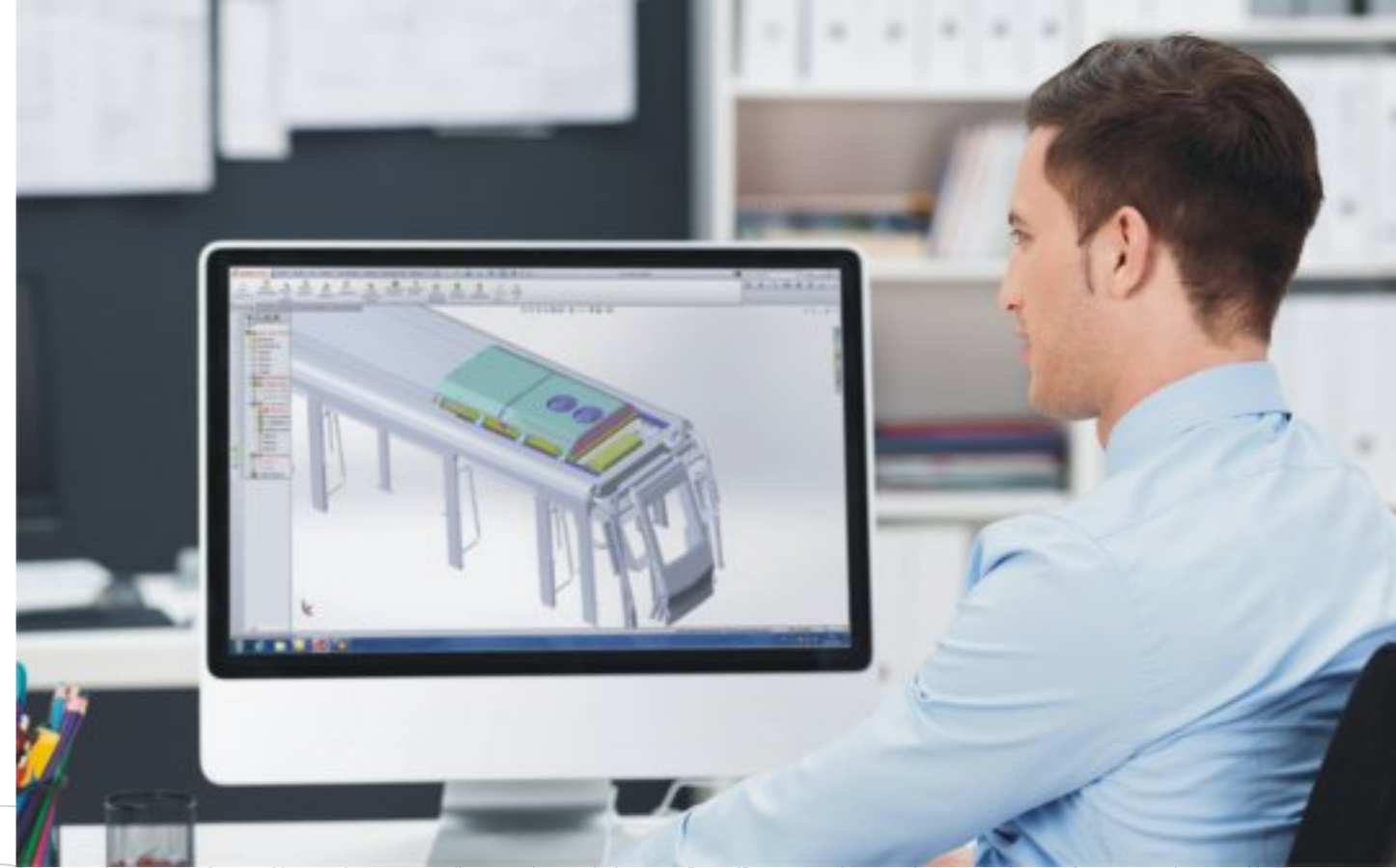
Reliability, cost-effectiveness and a high degree of maintainability are some of the most valuable features of our systems.

On-board tools, such as an embedded maintenance website, accessible through an Ethernet port that allows performing maintenance tasks without the need of installing complex software applications, are included as standard throughout the entire range of our products.

Hispacold Diagnostic Tools, known as one of the newest and most powerful maintenance set of tools of the market, consists of a multiplatform remote monitoring package that makes fleets' systems maintenance management an easy task.

Some of the proven benefits obtained from using Hispacold HVAC systems are the following ones:

- Breakdown time reduction.
- Operating cost reduction.
- Global remote fleets' maintenance management.



our projects

EMU/Regional Trains/DMU Projects

- Regional DMU of Sardinia (Italy)

8 UT of a HVAC system for saloon and cabin, including water heating system for recovery of the wasted heat from the Engine, platform heating, WC heating, forced extraction system. This is a Diesel train developed for medium and long distance.



Metro Projects

- Metro Málaga (Spain)

HVAC systems for saloon and cabin for 14 UT metro/light rail.



- Metro Mexico L12 (Mexico DF)

Ventilation system for saloon and cabin for 30 trains of 7 cars.



- Metro Bucharest (Romania)

HVAC system for cabin for 16 UT of 6 cars.



TRAM/EMU/LRV Projects

- Tramway of Belgrade (Serbia)

HVAC system for saloon and cabin for 30 tramways of 5 modules, including floor heating convectors.



- Tramway of Birmingham (UK)

HVAC system for saloon and cabin for 21 tramways of 5 modules.



- Tramway of Cuiabá (Brazil)

HVAC system for saloon and cabin for 40 tramways of 7 modules.



- Tramway of Stockholm (Sweden)

HVAC systems (saloon, cabin, floor heating convectors and forced extraction system) for urban and suburban applications (22 UT). Special project since extreme working conditions for the systems can be reached.



- Train-Tram Bahía de Cádiz (Spain)

HVAC system for saloon and cabin for 7 UT of a mixed application between a train and a tramway.



- Tramway of Kaohsiung (China)

HVAC system for saloon and cabin for 9 tramways of 5 modules. In testing stage.



- Tramway of Budapest (Hungary)

HVAC system for saloon and cabin for 47 tramways of 5 and 9 modules, including floor heating convectors. In production stage.



- Tramway of Tallinn (Estonia)

HVAC system for saloon and cabin for 20 tramways of 3 cars, including floor heating convectors. In production stage.





Hispacold advantages

Making possible your Comfort and our Environment.

Energy consumption and weight of the system down to the minimum.

Low Life Cycle Cost is a reality with high reliability, maintenance friendly design and powerful tools for operators.

World wide presence as a guarantee of service support.

High Technology systems adapted to every customer and to every application.

Hispacold gets involved with the train builders since the very first step up to the first field service support. Hispacold is your right HVAC partner!

HISPAOLD

ISO 9001
ISO 14001



BUREAU
VERITAS
Certified EN15085-2
N° 6038937-2



Member

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