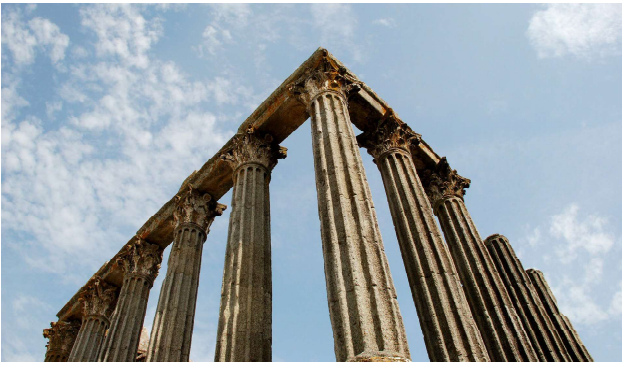
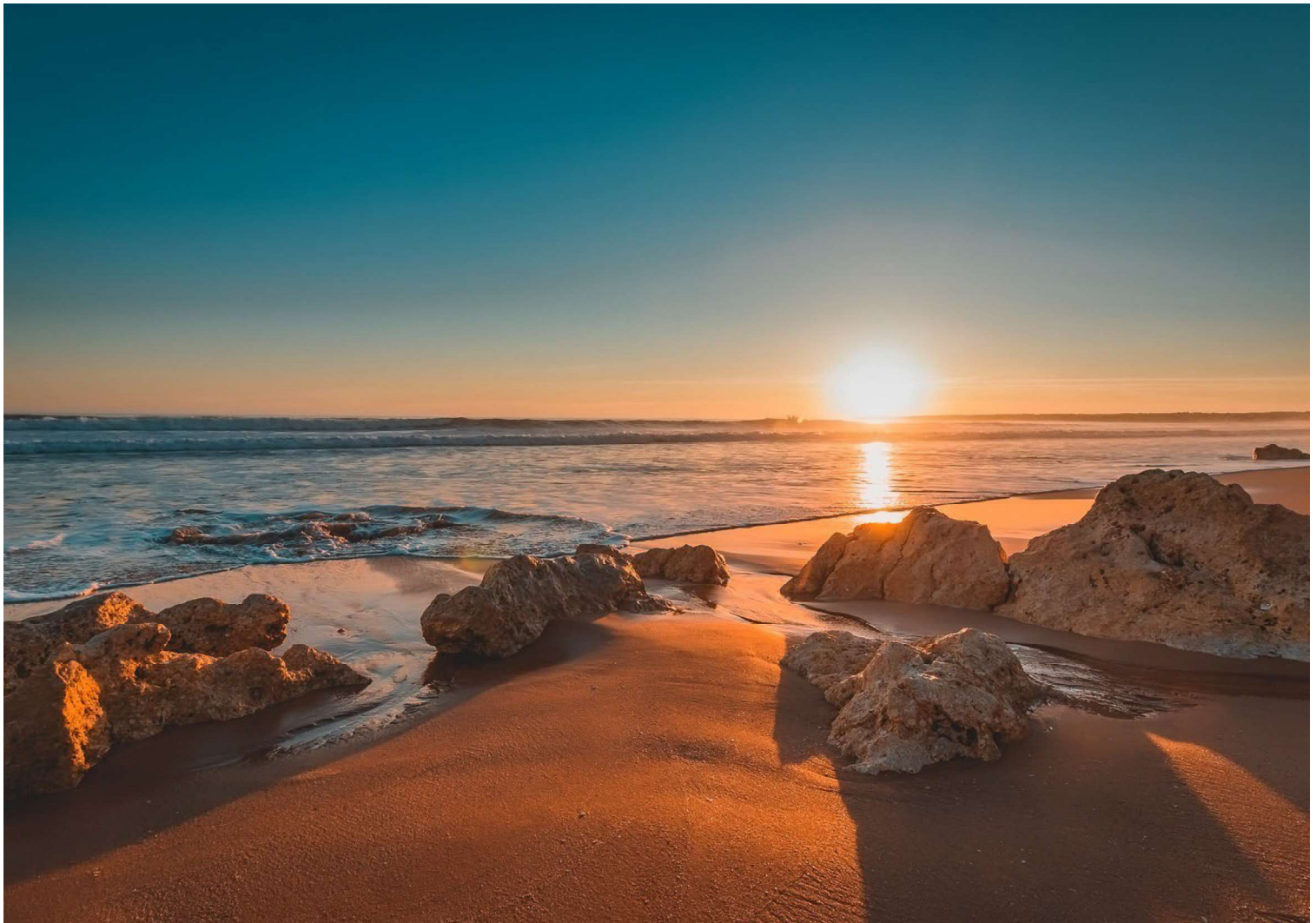


# 2019 YEP Field Trip Portugal

Lisboa • Évora • Alqueva  
22nd to 26th August 2019



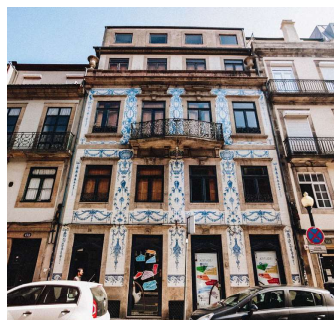
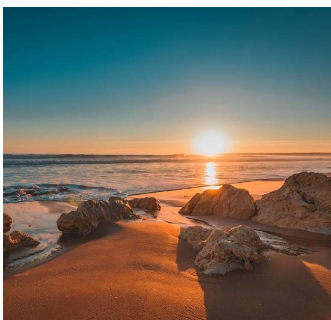
Participation fee 200€



# ABOUT PORTUGAL

In the southwest corner of Europe lies Portugal, one fifth of the Iberian Peninsula it shares with Spain. Portugal has its own language, the 6th most spoken in the world (think Brazil-Portugal's former colony), its own culture and cuisine. Portugal's shape is rectangular, the longest north-south distance is 349 miles/561 km and widest east-west distance is 135 miles/218 km. It's roughly the size of the U.S. state of Indiana. The country's modest dimensions make it easy to visit when time is short. Portugal is divided into regions, each offers unique features, history, scenery and cuisine. The regions are from south to north: Algarve, Alentejo, Lisbon and Lisbon Coast, Estremadura and Ribatejo, the Beiras, Douro and Tras-os-Montes and the Minho.

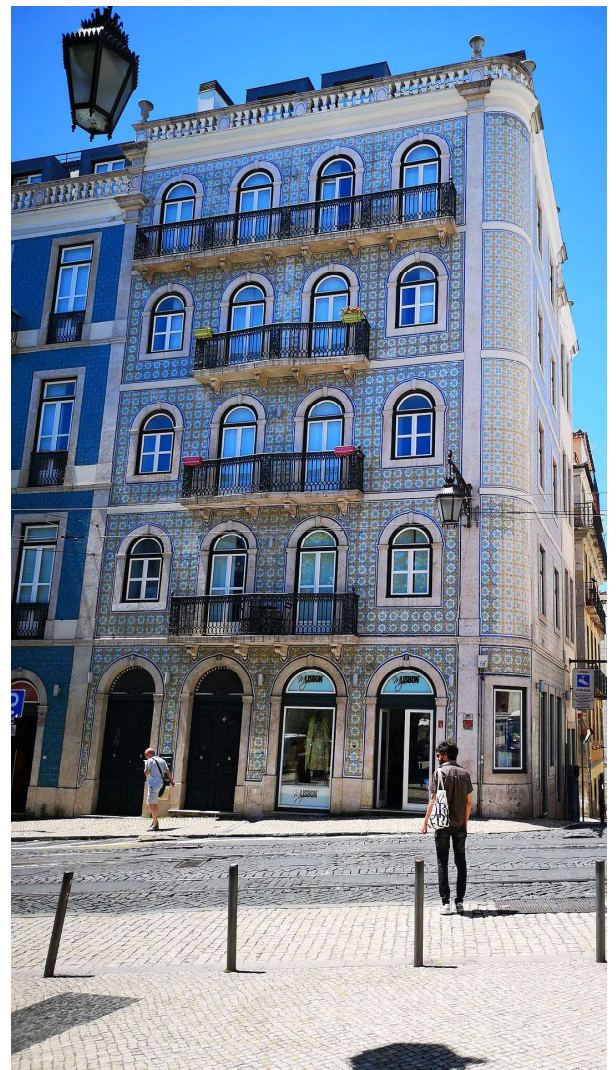
Portugal also includes two island groups: the Azores (800 miles southwest of Lisbon) and Madeira (600 miles south of Lisbon)



# ABOUT LISBON

Lisbon is a historical city full of stories to tell, where the sun shines 290 days a year and the temperature rarely drops below 15°C. A city where you feel safe wandering around day or night, where the cuisine is dedicated to creating over a thousand ways to cook the beloved bacalhau (salted cod), and where you'll find hotels and restaurants to suit every taste, budget and requirement.

Discover Lisbon, a city full of authenticity where old customs and ancient history intermix with cultural entertainment and hi-tech innovation. Lisbon is ageless, but it loves company, as you'll find out if you meet someone and ask them to explain, with lots of gestures and repetition, where the best place is to listen to Fado. After all, Lisbon is famous for its hospitality and the family-like way it welcomes visitors.



## DAY 1

### 22nd August - Thursday

Arriving and concentration in Lisbon at Portuguese Engineers Association

#### **Ordem dos Engenheiros** **The Portuguese Engineers Association**

The Ordem dos Engenheiros (OE, Portuguese Engineers Association) is a public professional association that dates back to the 19th century, being the heir of the Portuguese Association of Civil Engineers, founded in 1868.

Its main mission is to contribute to the progress of engineering, stimulating the efforts of its members in scientific, professional and social areas, as well as complying with rules of ethics and professional deontology. It is independent of State bodies and has administrative, financial, scientific and regulatory autonomy.

On the 31st of December, 2018, the OE had about 56.000 registered members, which makes it one of the largest professional associations in Portugal.

The OE is the only Portuguese institution that can assign the professional title of Engineer, granting titles and levels of professional qualification.

Throughout its history, this professional association has been a permanent ally of quality, through the defence of demanding higher education based on accuracy, as well as competent professional practices and respectful of ethics.





## DAY 2

23rd August - Friday

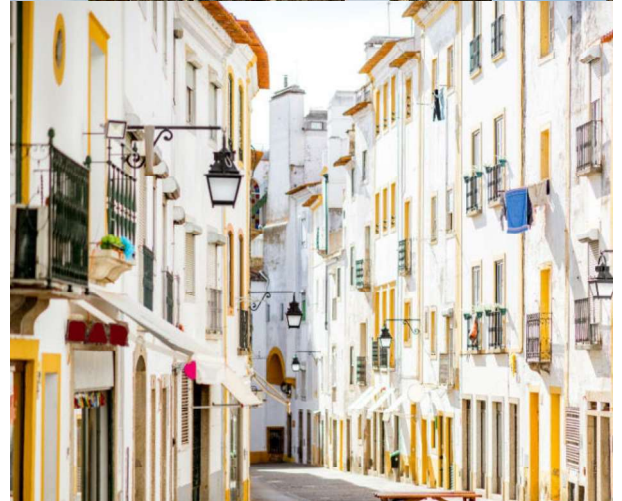
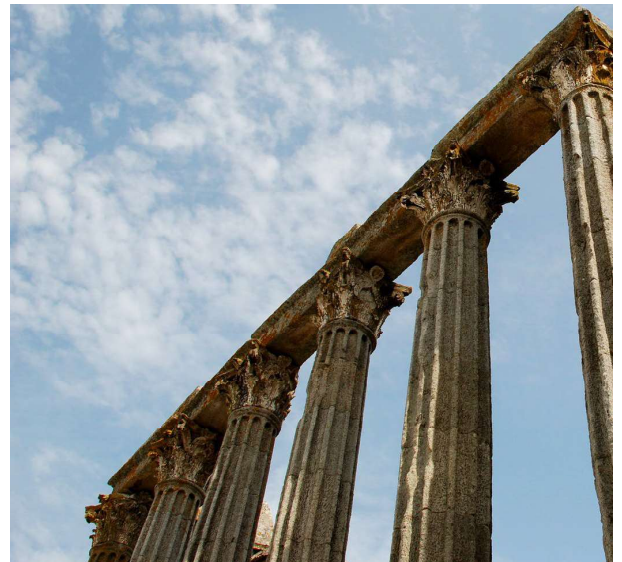
08:00 Departure to Évora

**Évora** the historic city lying at the heart of the Alentejo, is heir to a rich and diverse cultural heritage, built and preserved over time. Founded (or refounded) by the Romans and by them called Eborā Liberalitas Iulia, the city was the stronghold that was consolidated in Além-Tejo (beyond-tejo) the formation of the new kingdom of Portugal, during the twelfth century Christian peninsular reconquest. Following the consolidating of frontiers with Castela, several kings settled their courts here particularly in the period of the maritime expansion. The well-preserved historic and artistic heritage of the city, resulted in good measure of that long permanence of the royal court. The monumental set that these golden times bequeathed to the city in harmony with the urban fabric of popular nature, underlie the classification of Évora as World Cultural Heritage since 1986.

In addition to this heritage, unique in the country, the region around Évora has much more to offer the visitor, meaning the unique megalithic archaeological landscape, one of the oldest and monumental in Europe, perfectly integrated into the surrounding countryside, being the megalithic enclosure of Almendres its utmost expression.

Évora hides the fascinating character of ancient cities, both in the fabric of old medieval alleyways, in the exuberance of palaces, monasteries and churches or in places to socialize and taste the exquisite flavours of traditional cuisine. But, upon this historical matrix again reassumes itself as the centre for development of the region to face the great challenges of the future through the creation of large equipment, focused on the qualification of products and services of excellence in the field of tourism, intensive cultural offer, along with the creation of urban infrastructures that give priority to the welfare of its inhabitants.

In Évora Region you will explore Portugal and its power industry from hydro power generation to the latest projects on Smart Grid and MV Battery Storage Systems.



# DAY 2

23rd August - Friday

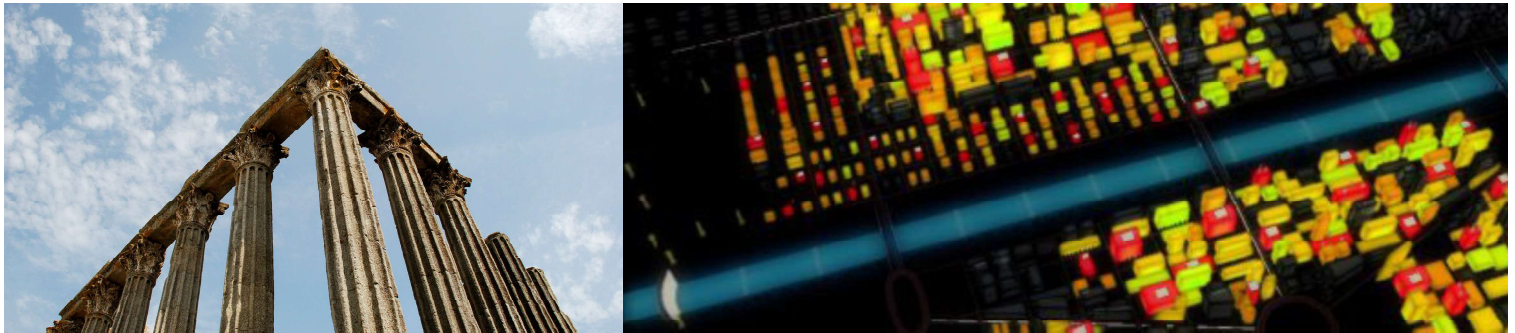
## 09:30 Évora InovGrid Project (Smart Grid Distribution Project). Battery Storage at Medium Voltage Grid

Évora, a World Heritage City, was the first Portuguese town to receive the Smart City Technologies - Évora Inovgrid. The main objectives of the intervention in Évora, which covers all consumers in the municipality, are to assess the impact of InovGrid, with regard to consumer benefits and network operations; gain experience for future roll-out; and improve national and international visibility to the project.

The broad scope, level of integration and careful assessment of results are a differentiating element of Inovgrid, receiving clear international recognition: the InovGrid project was selected from 220 smart grid projects by the European Commission Joint Research Center (JRC) and Eurelectric as the single case study for testing and validation of the Business Case Assessment Methodology (EPRI).

InovGrid is the future of energy distribution in Portugal: a smarter energy distribution, more efficient, more competitive and more responsible future.

Associated with the Inovgrid project, EDP Distribuição Company installed, at the end of 2015, the first power storage solution connected to the medium voltage network, using 472 kW stationary lithium-ion batteries and a storage capacity of 360 kWh. As part of the contribution of energy storage to the innovation and energy efficiency strategy, a considerable effort has been made to test and implement new features with a view to adapting it for use in various case studies supporting distribution network management, both in stand-alone operation and as part of a broader control perspective.



# DAY 2

23rd August - Friday

## 12:30 Lunch

The Lunch will be provided by the organization. The location will be announced briefly.

## 14:00 Alqueva Hydroelectric Power Plant

Alqueva Dam is a Portuguese dam and hydroelectric power plant, located on the Guadiana river in the Alentejo region. The construction of this dam allowed the creation of the largest artificial water reservoir in Western Europe, also called the Great Lake. The Alqueva Dam, with a 250 km<sup>2</sup> reservoir and a perimeter about 1100 km, is the largest artificial lake in Europe. The dam has a height of 96 m above the foundation and a crowning length of 458 m. The installed capacity of electric power production started to be 260 MW, having been the target of a power boost that allowed the project to increase the capacity of the project to 520 megawatts (MW), with two reversible generator sets, which should produce 381 gigawatt hours per year. (GWh).

## 18:00 Back to Lisbon





# DAY 3

24th August - Saturday

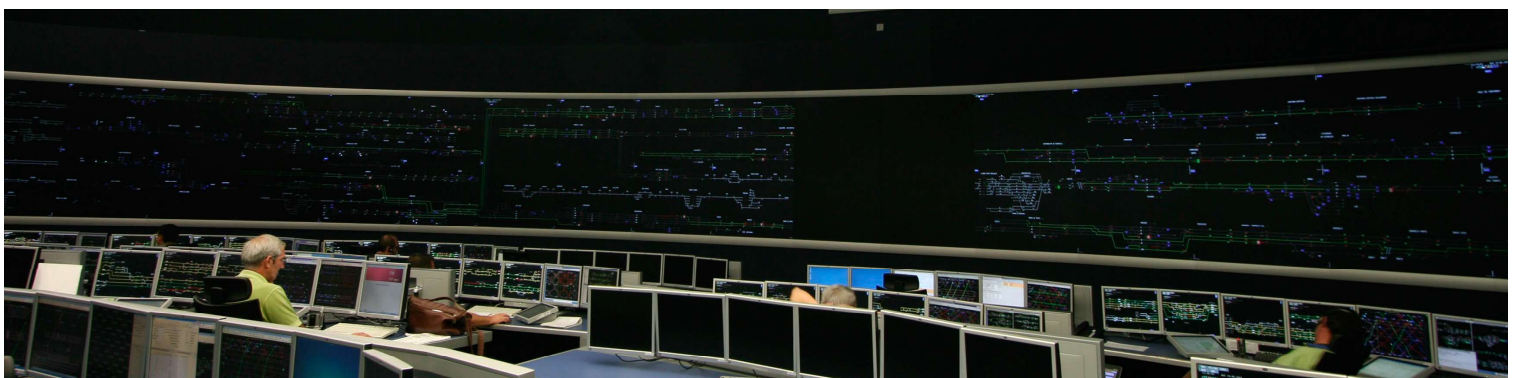
## 09:30 Railways Operational Control Centre

In the Lisbon Region, on Saturday, 24, there will be a visit to the modern part of Lisbon, at Parque Expo Lisbon Region you will visit the Railways Operational Control Centre where the Portuguese railways company (REFER) monitors the North and Beiras railway lines and a CCTV system for the stations.

The Railways Operational Control Centre (OCC of REFER in Lisbon) is established since 2009. The OCC is a global system of rail traffic management allowing to boost the rail network's efficiency and capacity by integrating all of its exploration, operation and maintenance tools in one place. The Lisbon OCC centralized control of about 65% of the country's total rail traffic and represent a significant technical and functional evolution from the previous systems.

The main role of the OCC is to command, control and supervise all functions and activities relating to rail operation processes, within their area of coverage. They also allow network operation to be optimized, increasing its available capacity and improving the quality of the service provided with higher levels of reliability, availability and safety.

The centralization of command-control in a reduced number of centres and the existence of modern automatic systems to support operations means that highly accurate information on the circulation situation is available at all times. With the introduction of new electronic signaling technologies and remote command and control of itineraries, it is possible today to control and regulate traffic from strategic points in the network so as to achieve optimized safety conditions, maximized capacity and quality of service plus reduced operating costs.



# DAY 3

24th August - Saturday

## 12:30 Lunch

The Lunch will be provided by the organization. The location will be announced briefly.

## 14:00 Cultural Visit at Gulbenkian Foundation

You will get to know the country better by diving into it's culture e.g. at the Gulbenkian Foundation.

The Calouste Gulbenkian Foundation was created in 1956 by the last will and testament of Calouste Sarkis Gulbenkian, a philanthropist of Armenian origin who lived in Lisbon between 1942 and the year of his death, 1955.

Established in perpetuity, the Foundation's main purpose is to improve the quality of life through art, charity, science and education. The Foundation directs its activities from its headquarters in Lisbon and its delegations in Paris and London, with support provided by Portugal in Portuguese-speaking African Countries (PALOP) and East Timor, as well as in countries with Armenian Communities.

The Foundation has a museum, which houses the Founder's private collection, alongside a collection of modern and contemporary art; an orchestra and a choir; an art library and archive; a scientific research institute; and a garden, in a central area of the city of Lisbon, where educational activities also take place.

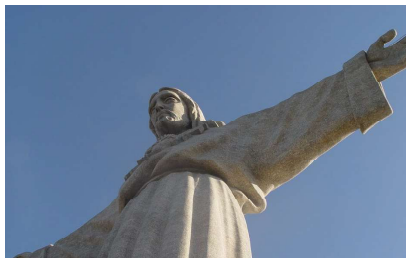
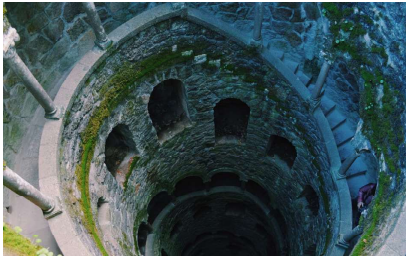


DAY FOUR  
LISBON

# DAY 4

25th August - Sunday

Free time to visit Lisbon





# DAY 5

26th August - Monday

## 09:00 Control Centre of Different Client Facilities at SIEMENS

Siemens is a technology company with core activities in the fields of electrification, automation and digitalization. The company strives to make real what matters. With innovations that improve life. For customers, for society and for each individual.

Siemens has been in Portugal for 113 years, and currently employs 2,469 employees. The company has several World Competence Centres located in Portugal, which are dedicated to energy, infrastructures, information technology and shared services. These centers export services made in Portugal to all five continents. Further information is available at [www.siemens.pt](http://www.siemens.pt).



# DAY 5

26th August - Monday

## 12:30 Lunch

The Lunch will be provided by the organization. The location will be announced briefly.

## Free Time and Departure from Lisbon

## Registration

For registration please use the green button "Anmelden" on the Eurel or VDE site.

For technical reasons, the registration form is unfortunately only available in German. If you have any questions, please contact the office or translate the page

# HANS BRINKER HOSTEL LISBON

## How to get

Arriving at Lisbon airport, if you prefer the less expensive solution to reach the hostel (Hans Brinker Hostel Lisbon) from the airport, please take the Subway.

You have the terminal station of the **RED LINE** at the airport and take the subway-train to the other line extreme "S. Sebastiao Station". After that you have to walk five minutes to the hostel.

Of course you can use a Taxi or a Uber Car.

### ADRESS

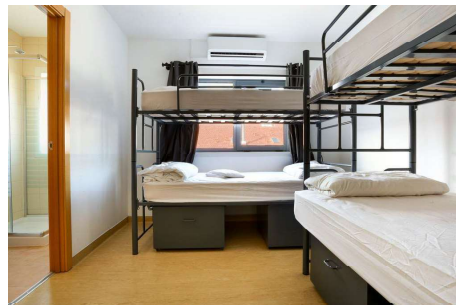
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**EUREL**  
Convention of National Societies of Electrical Engineers of Europe



ORDEM  
DOS  
ENGENHEIROS