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L'aventure de l'électricité

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# Electropolis Museum

## The adventure of electricity



New area The future is electric © EDF/Xavier Popy-REA

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Association pour le Musée

de l'Energie Electrique

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## **The Electropolis Museum**

### **the history**

The **Electropolis Museum** opened its doors in October 1992 in Mulhouse, with the support of EDF. It all began with a steam engine and an AC generator which had been in use since the early 20<sup>th</sup> century and didn't want to die ...

#### **1978**

The Dollfus Mieg & Cie (D.M.C.) company in Mulhouse wanted to save a Sulzer steam engine which powered a BBC AC generator. The two were built at the beginning of the 20<sup>th</sup> century and had been standing idle for 25 years. The company got in touch with the Town of Mulhouse, the *Société Industrielle de Mulhouse*, the Chambre of Commerce and Industry and EDF. Various people in these organisations mobilised and started to think about what could be done to save what they considered to be a part of Mulhouse's industrial heritage. This led to the museum project and the beginning of a long story.

#### **1980**

The *Association pour le Musée de l'Energie Electrique* (AMELEC) was founded.

#### **March 1983**

Construction work began on the museum.

#### **18 November 1985**

With the help and advice of a British specialist in the restoration of steam engines, the generating set was started up again. A few months later, it was presented to the political and industrial organisations who were to provide the financial backing for the museum.

#### **30 May 1986**

The museum was named Electropolis.

#### **6 June 1987**

The building housing the BBC-Sulzer machine and a small number of other museum exhibits was temporarily opened to the general public.

#### **1987-1990**

Part of the museum was revealed to the public and a number of cultural events were held. During this period, plans were laid for further work on the museum and on 21<sup>st</sup> April 1990 the covers which had been raised on what was to be the Museum of Electricity were lowered.

#### **October 1992**

On 3<sup>rd</sup> October, the museum, whose mission it was to enlighten the public on all aspects of electricity, was finally opened.

#### **1996**

The museum was granted the status of "Musée contrôlé", today "Musée de France", by the French Museums Administration, thereby officially recognising the quality of the museum's collections.

**July 2001**

On 7<sup>th</sup> July, over 600 m<sup>2</sup> of entirely renovated permanent exhibition space was opened to the public, which tells the story of electricity from Antiquity to the 19<sup>th</sup> century.

**September 2002 - May 2003**

The museum was closed for extension work. On 28<sup>th</sup> May 2003, the museum reopened with over 1000 m<sup>2</sup> of permanent exhibitions entitled "Electricity in the 20<sup>th</sup> century".

**December 2006**

New permanent exhibition area "Electricity. What's behind the socket?" especially for children and parents. This exhibition was co-produced by the Cité des sciences et de l'industrie and EDF.

**April 2007**

New temporary exhibition area.

**December 2009**

New permanent exhibition: "Divine wrath".

Bronze statue representing the Greek god Zeus by Robert Wlérick (1937), an extraordinary work of art, donated by the EDF Foundation.

Visitors can discover an 11-metre high wind turbine in the garden.

**2012**

The documentation centre was renovated in order to accommodate 8,000 additional volumes of documents from the former EDF collections.

Part of the collection's items were transferred to a new storage building which meets the standards for preserving collections.

**October 2015 – January 2016**

The museum is closed for repairs from 1<sup>st</sup> October 2015 and reopens on 27<sup>th</sup> January 2016.

**15<sup>th</sup> June 2017**

Julien Villeret is elected as President of the museum by the board of directors of the managing association. He has been the Communications Director of the EDF Group since 2014.

**15<sup>th</sup> November 2018**

After closing for 3 weeks to carry out works, the museum opens a new space entirely devoted to innovation as well as energy and digital transition, with part of the tour having been modernized.

**Project 2019-2020**

Continuation of the development study for the garden revolving around the challenges facing energy and energy transition, due to open in the Spring of 2020.

## **The Electropolis Museum: a whole philosophy**

The ambition of the **Electropolis Museum** is to "display the invisible" by bringing it into the limelight. The idea is to interest, amuse and educate visitors in order to give them a chance to better understand and appreciate their technological environment so that they feel more at home with it.

The museum tells the great history of electricity through the relationship Man has had with it, by following a chronological thread. It starts with the birth of the great ancient civilisations which treated lightning, the main natural manifestation of electricity, as a symbol of divinity or as an instrument used by the Gods to express their wrath. Then we move on through the main steps in its appropriation by Man through to the present day, where electricity is at the heart of so many human activities.

This well-known and much-used chronological approach was a deliberate choice. In contemporary museological practise, the process is far from unique. At the **Electropolis Museum**, the visitor follows a thematic path, which is simple and easy to decode. Surprise, innovation and invention stem on the one hand from the attempts to contextualise the subject, and on the other hand, from a totally original museographic and scenographic approach.

The scenography takes the visitor into atmospheres that evoke the methods of spreading knowledge at various periods in history: the curiosity room, world fairs, the arrival of digital... Elsewhere, the objects are presented in certain contexts: a middle-class drawing room from between the wars...

## **The Electropolis Museum : a whole architecture**

Built on a 20,000 m<sup>2</sup> site, the initial building – a cube measuring 25 metres by 25 by 25 - houses the BBC-Sulzer machine. A new building with a dynamic shape now winds itself around the cube. Four semi-cylindrical pavilions form the technological garden.

Designed by local Mulhouse-based architectural firm AEA and Fanuele in Paris to provide a communication space, these buildings contain the permanent and temporary exhibition areas as well as all the museum departments. The aim of the architecture is to provide a fine setting for the story of electricity.

The renovation work from 2001 to 2003 on over 1,600 m<sup>2</sup> of permanent exhibition space was the fruit of close cooperation between the museum's own staff, two Canadian firms Plani-Museum (museological design and programming) and GSM Design (museographic design) as well as the Mulhouse architects, AEA.

You know the history, you can see the decor, now we invite you to follow the history of electricity through the ages from Antiquity to the present.

## **The Electropolis Museum an exciting journey**

### **Entrance hall**

Ample volumes and an original decoration whet the visitor's appetite. An impressive anamorphosis representing the Greek god Zeus questions the visitor. The museum shop offers educational toys and books for all ages. The visit begins with an immersion into an atmosphere of light and sound which invites the visitor to think about the source of electricity in nature and the energies of tomorrow.

### **The great model with sound and light**

The discovery of all the wonders of electricity begins with an 80-metre long model, featured in a new light and sound show. Visitors are carried along electricity's own path, from a seaside town to a power station high in the mountains. They are guided along this unusual itinerary by a dialogue between two teenagers pondering the sources of electricity production, its new uses and the transformations of our towns and cities which are becoming increasingly smart.

### **The discovery of electricity, from Antiquity to the 19<sup>th</sup> century**

Four main areas deal with the following themes, staged in decors inspired by the periods visited, present a very lively approach to the history of electricity, through audiovisual projections, animations and new technologies:

- **divine wrath.** In the ancient civilisations, lightning was always a source of fear and mystery, whence numerous interpretations, beliefs and superstitions: certain plants, such as sweet bay, were thought to protect Man against lightning, which was also thought to be divine as it was believed to be a creation of the gods... The visitor comes upon a bronze statue almost 2.50 metres in height, representing the Greek god, Zeus, which is a donation to the museum from the EDF Foundation. A work of art commissioned by the Compagnie Parisienne de Distribution d'Electricité from the French sculptor, Robert Wlérick (1882-1944), the statue of Zeus was presented for the first time in Paris in 1937 at a gigantic international exhibition, "Arts and Techniques in Modern Life".

- **first sparks,** area dedicated to the pioneers of electricity (Thalès de Milet, William Gilbert). Here we are in the 17<sup>th</sup> century, in the hushed atmosphere of a curiosity room whose display cabinets are filled with treasures such as stuffed animals, fossils and amazing machines. So many questions ! Does the way amber attracts feathers when you rub them mean it has a soul ? Do all bodies conduct discharges ? Many extraordinary items have been added to the collections of machines and instruments belonging to the pioneers of electricity, thanks to loans from other regional museums and collections.

- **worldly electricity** with experiments with static electricity. In a fine 18<sup>th</sup> drawing room that a demonstrator shows visitors, just as the abbot Nollet did, the extraordinary powers of electricity. Few fields of knowledge have been built up with as much pleasure as that of electricity. There are so many strange phenomena to be observed: the wind effect of the convective discharge, the point effect, the machine that makes your hair stand on end... The bravest of the visitors are awarded the 100,000 volt diploma !

- **discoverers of the invisible** with Volta, Ampère, Faraday and Gramme. The 19<sup>th</sup> century saw a scientific and technological revolution with the work of Galvani and Volta. The times of amateur *electricians* merely showing off were over. Knowledge was progressing thanks to the rigorous observation of phenomena and debate between learned colleagues. The visitor is told their astonishing story, admires the objects born of their work, even hears them explaining their discoveries thanks to the magic of sound or holovision.

### **Electricity revolutionises industry and society in the 20<sup>th</sup> century**

In a display where live presentations, collections of extraordinary objects and domestic items alternate with special and interactive effects, four themes are illustrated in scenes inspired by the periods visited:

- **the World Fairs era (1875-1920)**. The arrival of electricity in society profoundly changed the idea of and the need for comfort. It made its first public appearance in 1881, at the Paris World Fair. The visitors were fired up with enthusiasm for this new form of energy, which fascinated as much as it frightened. But progress was to be slow, and private homes were not immediately changed by electricity. First of all, industrialists needed to be able to produce, transport and distribute the new energy. Dynamos, alternators, transformers and electric motors would progressively revolutionise industry. A revolution then took place in transport, communications and lighting. At the end of the 19<sup>th</sup> century, electricity was synonymous with pleasure and enchantment. Even the ballerinas at the Opera wore luminous jewellery on stage!

- **the electric light: the incandescent lighting (1879)**. The development and the industrialization of the incandescent lighting by the American Thomas Alva Edison revolutionize the world of the lighting, at the end of the 19<sup>th</sup> century. The electric light finally enters homes. At this end of the 19<sup>th</sup> century, electricity rhymes with pleasure and enchantment. Up to the ballerinas of the Opera, who carry bright jewels on stage !

- **the electric servants: the arrival of electrical appliances in the home (1920-1945)**. Although France was electrified in the 1920s, subscribers were conspicuous by their absence. Similarly, household electrical appliances, although they seemed indissociable from modernity, remained inaccessible to most French homes. When sitting comfortably in Art Déco armchairs visitors can view an early example of advertising, extolling the virtues of electricity and excerpts from the silent movie "The Electric House" made in 1922 by Buster Keaton and Edward F. Cline.

Young and old alike can play "Ribouldingue", a predecessor of the pinball machine or test their perspicacity by trying to identify some peculiar objects !

- **a new show revolving around the big Sulzer-BBC machine**, which provided a large part of the energy supply of the Dollfus Mieg et Cie (DMC) factory in Mulhouse, from 1901 to 1947. A new panoramic projection of three sequences lasting three minutes each, takes the visitor on a journey back in time. "The Enlightenment", "Deep within the great machine" and "A machine and men" are told like a historical testimony, illustrated with humorous touches. The moment when the machine is lubricated by a museum technician is then visible in bright light every hour.

## **The future is electric : the energy challenges of the 21<sup>st</sup> century**

This new space for discovering and engaging in reflection is dedicated to the energy-related challenges of the 21<sup>st</sup> century and the electricity consumption of tomorrow. The scenography revolving around the digital world takes the visitor into the heart of innovation, as thought today. Objects are becoming rarer to leave room for questions about major technological advances in the field of electricity. The visitor is invited to play and wonder about the links between electricity, the climate and our societies' future way of life.

### **- The passer-through-walls**

The visitor is invited to observe a projection of often familiar objects, whose evolutions have consistently marked their time. From the floppy disk to the cloud, from the first computers to ultra-flat screens, from the incandescent lamp to the LED, these everyday objects mark the symbolic passage into the 21<sup>st</sup> century.

### **- A digital big bang**

New objects, new uses, new worlds, the digital revolution is under way! A large mural presents four societal themes which connected objects will profoundly transform: the city, the home, health and mobility. Among other things, the visitor discovers a smart gaming robot which accompanies autistic children, the internet using light, a flying car project, a smart mirror ... These themes and connected objects will be renewed regularly.

### **- Planet energy**

Planet energy invites visitors to consider our collective responsibility in terms of electricity production and consumption and their impact on the future of the planet. What future solutions for low-carbon electricity generation? What impacts for the climate? Located in the heart of the new space, this mosaic of screens appeals to the visitor through the display of grandiose images and alternating historical and scientific data.

### **- Smart Sky**

Here, the visitor is invited to curl up in large, generously sized seats facing a constellation of screens. The animated film Smart Sky features "innovative actors" who are inspired by history, nature, ancestral techniques or even tests or mistakes to innovate. The paths of creation are the result of projects based on teams, who interact and combine complementary skills. The Smart Sky is an invitation to think and collaborate. It is a message sent to the inventor, the creator in each of us.

### **- Watt'time, the energy clock**

The digital installation represents the variation in national electricity consumption on a daily basis. Superimposed on the representation of a clock, visualising this load curve makes it possible to access the impacts of human activities in real time, but also to compare them to days gone by. The digital installation is designed by designer and programmer François Brument.



### **- The games of light**

Several small islands allow children and their parents to have fun with light and think about the challenges facing electricity through animations and interactive games.

**Kids' corner** (3-5 years, non readers). This theatre of illuminated images depicts electricity in everyday life and displays the activities of people living in a neighborhood as Chinese shadows. The young visitor chooses the season and the magic happens.

The artist Patrick Suchet designed the **Firefly** installation, an artistic photo booth which reinvents the forms of graffiti and invites the visitor to have a photo taken using the light painting technique. Upon leaving the booth, they can send their light creation by e-mail from a tablet and share it on social media.

**I draw with light** invites the visitor to write or draw with LED lights on a phosphorescent paint wall.

**Energy puzzle** : an interactive game board challenges primary and secondary school children to find the right combination of sources of production used to produce the electricity required to meet the needs of a city or a country, at any given time.

### **Other permanent exhibitions complete the chronological approach to the discovery of electricity nowadays**

#### **What's behind the plug?**

This play area is devoted to 5 to 12-year old children, and offers several experiments to discover the various aspects of electricity. Interactive exhibits, games, real or over-sized objects and video displays illustrate what is behind the plug. It is co-produced by Cité des sciences et de l'industrie and EDF.

#### **The garden**

An outdoor walk complements and enriches the visit to the museum. In two pavilions and a pleasant landscaped garden, the visitor can see some exceptional equipment, including some real technological sculptures; turbo-alternators, circuit breakers, disconnecting switches, rectifiers, scale models... and a wind turbine almost 11 metres in height.

## **The Electropolis Museum at the heart of the industrial history of Mulhouse**

Mulhouse, at the heart of Western Europe, close to the Rhine and flanked by the twin mountain ranges of the Vosges and Black Forest, has always made the best of its geographical location, in the immediate vicinity of Germany and Switzerland.

As early as the second half of the 18<sup>th</sup> century, Mulhouse laid the foundations of its future economic and industrial growth. The industrious and enterprising middle classes had created an industrial boom, thanks to printing on cloth. Amongst them, Jean-Henri Dollfus, Samuel Koechlin and Jean-Jacques Schmalzer, three pioneers of industry who would enable Mulhouse to enjoy a remarkable period of expansion.

In the 19<sup>th</sup> century, the town's infrastructure developed and in 1839 the first railway line was laid. As a result of this industrial expansion, the city developed a particular interest in all things technical, technological development and social progress.

An early example was the founding in 1826 of the *Société Industrielle de Mulhouse (SIM)*, an association whose aim was to promote progress for people, in culture and the economy, and which even today wields considerable power and influence.

Mulhouse has always been a city of science and progress; it was here that the first Engineering schools were founded, Chemistry in 1822 and Textiles in 1861. This lively context of scientific and technical culture also led to the creation of a number of technical museums such as the Museum of Printed Fabrics, the Wallpaper museum, the Automobile and Railway museums... which together make Mulhouse the European capital of industrial heritage museums, welcoming 650,000 visitors every year.

This unmatched potential and Mulhouse's rich industrial heritage made the city the ideal site for the **Electropolis Museum**, which provides an overview of insights into 19<sup>th</sup> century industry, the transformations seen in the 20<sup>th</sup> century and the latest technologies.

## The Electropolis Museum thanks its partners

### EDF, major sponsor

Since 1980, EDF has provided its support in operating and investing in the Electropolis Museum. The company has offered exemplary patronage from the outset and has made it possible to create, develop and sustain the museum exploring all aspects of electricity.



### Principal partners

The museum benefits from corporate sponsorship and the support of public partners, united alongside EDF (the major sponsor) in the Association Gestionnaire du Musée Electropolis (Electropolis Museum Management Association).



### Odyss Elec

#### The story of Electricity : the network of iconic sites

In 2018, the EDF group launched an initiative to promote its industrial heritage by offering visitors a new experience.

An artistic and cultural programme is gradually being rolled out on several emblematic electricity heritage sites, including the **Electropolis Museum**, the Kembs hydroelectric power plant and the EDF Hydrelec Museum.

By bringing industry, innovation and creation together, the EDF group tells an odyssey, the electric odyssey, and invites you to discover the great adventures of electricity through a new programme called Odyss Elec.



## **The Electropolis Museum in figures**

### **Opened**

3 October 1992.

### **Surface area**

3,600 m<sup>2</sup> opened to the public including permanent exhibitions: 2,765 m<sup>2</sup>  
A 20,000 m<sup>2</sup> garden.

### **Collection**

A unique collection in Europe, boasting 12,000 objects, 1,000 of which are on display.

### **Reserves**

2,786 m<sup>2</sup>

### **Documentation centre**

Specializing in works and periodicals on electricity and its applications since the 18<sup>th</sup> century, the documentation centre open to researchers, is the most comprehensive library in France in this field:

- 9,500 volumes on electricity, science and technology,
- over 3,000 images,
- nearly 300 periodical titles.

### **Seminar room**

Capacity: 45 people.

### **Staff**

14 employees

### **Visitor numbers:**

2015 : 32,423 visitors (January to September)

2016 : 43,505 visitors (from 27<sup>th</sup> January)

2017 : 39,970 visitors

2018 : 34,583 visitors (closed from 8<sup>th</sup> January to 12<sup>th</sup> February and from 22<sup>nd</sup> October to 14<sup>th</sup> November)

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## **The Electropolis Museum opening hours**

**2019**

**The museum is open from Tuesday to Sunday.**

**from 10 am to 5 pm :**

- From 2<sup>nd</sup> January to 31<sup>st</sup> March
- From 2<sup>nd</sup> November to 31<sup>st</sup> December

**from 10 am to 6 pm :**

from 2<sup>nd</sup> April to 31<sup>st</sup> October.

**Closed:**

Mondays,

1<sup>st</sup> January, Good Friday, 1<sup>st</sup> May, 1<sup>st</sup> and 11<sup>th</sup> November, 25<sup>th</sup> and 26<sup>th</sup> December.

**A trilingual museum**

The texts and audio comments are translated into German and English.

**Accessibility**

For several years, the museum has been working to improve accessibility for disabled visitors.

**Contact us**

T+33 (0)3 89 32 48 50

[reservations@electropolis.tm.fr](mailto:reservations@electropolis.tm.fr)

Web : [musee-electropolis.fr](http://musee-electropolis.fr)



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## The Electropolis Museum ticket prices for 2019

### **Individual ticket prices**

Adult	€ 9
Child from 4 to 17	€ 4
Child under 4	free
Family (2 adults + 2 children)	€ 22
Student	€ 4,5
Works council	€ 7.5
Job seeker	€ 4.5
Disabled	€ 4.5
Teacher	€ 4.5

### **Group rates**

(over 20 people)

Adult	€ 6.5
Child from 4 to 17	€ 3.5
Disabled	€ 4.5

### **Guided tours available by appointment in French, German or English**

(maximum 30 people)

Adult	€ 48
School group	€ 36
Disabled	€ 28

### **Birthday parties**

10 children and 2 adults	€ 130
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**Combined ticket with the Railway Museum (for individual or groups).**

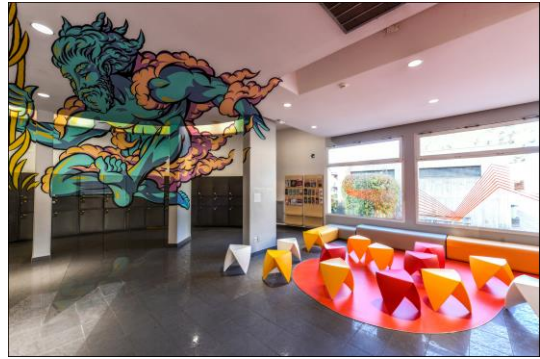
**Combined ticket with the Automobile museum (for groups only).**



## Electropolis Museum in pictures



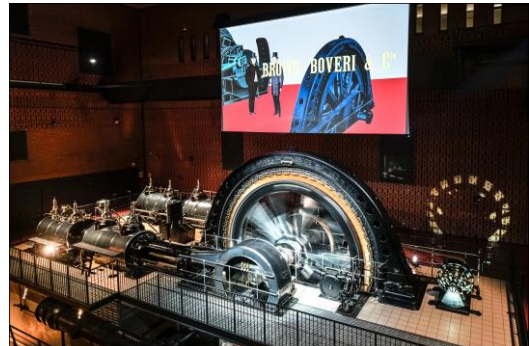
Electropolis Museum © Marc Barral-Baron



Anamorphosis Zeus par Truly Design © EDF/Xavier Popy-REA



The great model © EDF/Xavier Popy-REA



The great Sulzer-BBC machine (1901) © EDF/Xavier Popy-REA



The electrical servants © EDF/Xavier Popy-REA



The electric light. © EDF/Xavier Popy-REA



What's behind the plug ? © MMSA/Catherine Kohler



Electrifying experiments © EDF/Patrick Bogner

## Electropolis Museum in pictures : new area « The future is electric »



The future is electric © EDF/Xavier Popy-REA



The future is electric : planet energy © EDF/Xavier Popy-REA



The future is electric : planet energy © EDF/Xavier Popy-REA



The future is electric : a digital big bang © EDF/Xavier Popy-REA



The future is electric : energy puzzle © EDF/Xavier Popy-REA



The future is electric : a digital big bang © EDF/Xavier Popy-REA



The future is electric : smart sky © EDF/Xavier Popy-REA



The futur is electric : kid's corner © EDF/Xavier Popy-REA