



Elektromobil Club der Schweiz



TRANSEUROPEAN 2000 for electric and hybrid vehicles

The TRANSEUROPEAN is a touristic demonstration event for electric and hybrid vehicles. Its aims are to show the feasibility of electric vehicles for use in urban and suburban traffic, providing the availability of charging infrastructure. The presence of publicly accessible charging points, which can be easily provided under the form of suitably located power outlets, significantly enhances the operational flexibility of the electric vehicle. Furthermore, it aims to positively demonstrate the performance and reliability of series-built electric vehicles.

The second TRANSEUROPEAN, organised in July 2000, linked Monaco to the Expo 2000 in Hannover.

Planning (You can click on a stretch of the map):

- [Prologue](#)
- [09 July 2000](#): Monaco - Imperia - Savona
- [10 July 2000](#): Savona - Acqui Terme - Alessandria - Asti - Torino
- [11 July 2000](#): Torino - Vercelli - Novara - Mendrisio
- [12 July 2000](#): Mendrisio - Bellinzona - Airolo - Altdorf
- [13 July 2000](#): Altdorf - Luzern - Olten - Basel
- [14 July 2000](#): Basel - Colmar - Strasbourg
- [15 July 2000](#): Strasbourg - Karlsruhe - Mannheim - Darmstadt - Frankfurt am Main - Bad Homburg
- [16 July 2000](#): Bad Homburg - Marburg - Kassel
- [17 July 2000](#): Kassel - Northeim - Hannover

[Participants list](#)

[Conclusions](#)

Information

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Prologue



An electric vehicle on board a Motorail wagon

Vehicles for the Transeuropean came from different countries. Some of them took the long trip to Monaco using Motorail services, which also of course involved environmentally friendly electric traction.

The hybrid Toyota Prius drove from Brussels to Monaco over the road



The Toyota Prius hybrid



The Citroën Saxo from Morocutti, Vienna, Austria

Other electric vehicles also made it by road, using intermediate charges, including this vehicle from Vienna. Its owner, Mrs Helga Morocutti, uses it as a service vehicle for her [cutlery shop](#).

A trip along the scenic Côte d'Azur completed the journey to Monaco.



On the Azur coast: "Battery point"; could one charge here? :-)



All vehicle came together to Monaco, to the closed park on the quay near the harbour, ready for the start.

The closed park in Monaco

09 July 2000: Monaco - Imperia - Savona



The first day of the Transeuropean saw the departure of the vehicles from Monaco. Mr. Viora, president of CITELEC, together with Mr. Laffont of the Monaco electric utility [SMEG](#), gave the departure signal for the vehicles.

Departure in Monaco

The Automobile Club of Monaco assisted with the timekeeping and official registration of the departure.



Signing the time sheets



Along the Riviera coast

The first part of the trip happened to be a very scenic one, following the Mediterranean coastline all along from the Principality of Monaco, through a bit of the French Côte d'Azur through the Italian Riviera.

The road of choice was the Via Aurelia, the old Roman road where up to today the mileposts show the distance to the eternal city of Rome.

A mid-day charging pause was provided in Imperia, courtesy of So.l.e. , a subsidiary of Enel. This company showed a large interest in the event; it is actually deploying electric vehicle charging infrastructure in a number of Italian cities.

On the continuation of the trip, leading to the city of Savona, the electric vehicles got to know the traffic problems associated with a summer Sunday on the seaside: long traffic queues, which they endured silently and cleanly however.



Charging in Imperia



Charging connections inside the support vehicle

Charging operations were focused on the support vehicle, N° 0, provided by the Electromobile Club of Switzerland. This vehicle provided for energy counting.

10 July 2000: Savona - Acqui Terme - Alessandria - Asti - Torino

On the morning of 10 July, the vehicles gathered on the Piazza Mameli in Savona to start the next leg of the trip.



The Toyota Prius ready for departure



The departure in Savona

The departure in Savona was given by the vice mayor of the city, together with delegates of the transport company ACTS who hosted the overnight charging. Savona takes part in the Thermie project "Sagittaire", in which framework ACTS is deploying hybrid buses.

The Transeuropean now left the coastline to proceed inland. The first mountains had to be negotiated, up to 500 m elevation, in order to reach the city of Acqui Terme, where the vehicles were aligned on Piazza della Bollente, in front of the hot springs that made this town famous since Roman times, and the beneficial waters of which the participants could readily enjoy.



The hot springs of Acqui Terme



The courtyard of the Politecnico at Alessandria. The prototype vehicle developed by Professor Ferraris is in the foreground.

On it went to Alessandria, where a lunch break was taken at the Politecnico. The electrical engineering team of this institution, enthusiastically led by Professor Paolo Ferraris, is strongly involved with electric vehicle development.

At the departure, a break was taken to visit the historical centre of Alessandria, with a small ceremony on the "Piazzetta della Lega Lombarda", where the city's assessor for the environment, Mr Bobbio, welcomed the participants, underlining the environmental benefits of electric vehicles. Professor Maggetto further stressed the value of infrastructure development to allow widespread use of electric vehicles.



Professor Maggetto, Professor Ferraris and Assessor



Mr Georges Dick of the AMAVE electric vehicle association of Monaco receives a commemorative plate of the City of Alessandria

Participants and organisers of the Transeuropean were given a commemorative plate on behalf of the city. The visit of the Transeuropean to Alessandria dynamised the synergies of the Politecnico with local authorities to further organise the deployment of electric vehicle infrastructure.

The road continued for a short charging break in Asti, where a city delegate offered the participants a souvenir pack containing a bottle of local "Asti Moscato" wine. To be enjoyed after the driving, off course! All were now ready for the last leg, leading to Torino, where the arrival was organised on the historical Piazza San Carlo.



A warm welcome in Asti!

11 July 2000: Torino - Vercelli - Novara - Mendrisio

The magnificent Piazza San Carlo harboured the vehicles for their visit to Torino. At their arrival, they were welcomed by the city's assessor for the environment, Mr. Hutter, and by Mr. Giorgio Morre from Pinerolo Sport. The city of Torino is very keen on the electric vehicle, and is currently developing a network of charging infrastructure. In March 2001, it will host the "12 Electric Hours" of CITELEC.



The Piazza San Carlo in Torino



A Peugeot 106 from the EasyMove fleet

Several participating vehicles were from the [EasyMove](#) fleet. This award-winning scheme, resulting from a collaboration of the Mendrisio project and the Swiss federal railways, presents electric vehicles for rental at major railway stations (Bellinzona, Chiasso, Locarno, Lugano and Mendrisio) in Ticino, Switzerland.

From Torino, the road was taken to Vercelli: a long straight trek through the ricefields of the Padane plain, origin of the famous "risotto"...



Below grows the food for the drivers, above flows the food for their electric vehicles...



Professor Maggetto explains the operation of the hybrid Prius

The short charging break in Vercelli attracted an interested audience. During the Transeuropean, local press was present everywhere to report on visit of the vehicles.

The main lunch break was taken in Novara, where the vehicles charged near the historical city centre. Like on all Italian sites, the electric power was provided here by So.l.e. .



In the centre of Novara, Italy



A "Park and Charge" infrastructure in Mendrisio

Before starting the last leg of the day, towards, Mendrisio, Switzerland, a torrential thunderstorm broke out. All vehicles however made it safely to Mendrisio, the Swiss pilot city for electric vehicles, where publicly accessible charging infrastructures are a part of the urban landscape.

12 July 2000: Mendrisio - Bellinzona - Airolo - Gotthard - Altdorf

At the morning departure at Mendrisio's "Mercato Coperto" (of ExpoVEL fame), drivers listen attentively to the traditional morning briefing.



Getting the route details on the briefing



Lightweight electric vehicles

Several new participants joined the event in Mendrisio, including electric bicycles and "lightweight electric vehicles" which are popular in Switzerland

The first leg of the day went to Bellinzona, where the castle rock provided a dramatic background for the vehicles. Bellinzona is the seat of the cantonal government of Ticino, which at this occasion announced officially to extend the pilot project in Mendrisio to the whole canton.



The "Piazza del Sole" in Bellinzona, Switzerland



The electric bicycle team of the Vrije Universiteit Brussel: Frederic Dalle, Robin Lataire and Professor Philippe Lataire

Electrically assisted bicycles took also part: the VUB team, led by Prof. Philippe Lataire, Brussels responsible of the [E-TOUR project](#), which demonstrates several hundreds of electric bicycles and scooters on different European sites. Physical condition of the bikers during the trip was monitored in collaboration with the Physical Education faculty of the Vrije Universiteit Brussel.

The hybrid Toyota Prius provided the bicycles with freshly charged batteries en-route.
Hybrid assists hybrid!

From Bellinzona, the ascent of the Gotthard was started, with a charging pause at Airolo (elevation 1100 m) Another 1000 metres to go to the top!



Charging in Airolo



On top of the Gotthard

The weather conditions at the top (2091 m elevation) were appalling: fog, snow, and 3°C, and this in the middle of July! Nevertheless, all vehicles made it safely and were able to regenerate energy in the descent towards Altdorf.

A special mention of the electrically assisted bicycles, which allowed their riders to overcome the mountain without having to be a professional cyclist...

13 July 2000: Altdorf - Luzern - Olten - Basel



The court of the EWA in Altdorf

Overnight charging was provided by the electricity company in Altdorf, the village of Willem Tell.

The route through the heart of Switzerland led through a magnificent landscape of mountains and lakes.



On the shores of Lake Lucerne



At the Kongresshaus in Luzern

The futuristic architecture of the Luzern Kongresshaus provided an interesting background for a charging break. Furthermore, the delegates of an international fuel cell symposium held there could enjoy the visit of the electric vehicles.

Fuel cell powered vehicles were on display at the symposium, like this ZeTek taxi.



The ZETEK Fuel Cell Taxi



The Munziger Platz in Olten

The next stop was this leafy square in Olten, where the participants were offered refreshments by the local power company.

The day ended in Basel, where the participants were able to enjoy a reception in the Hilton Hotel. This hotel is very sympathetic towards electric vehicles drivers, offering them a recharge infrastructure.

Basel also takes part in the E-Tour project, demonstrating 400 electrically assisted bicycles.



At the Basel Hilton



Charging station

The hotel even has its own charging station, offering free recharging to hotel guests.

On the reception offered to participants, Mr Rudolf Jegge of the canton Basel-Stadt, Prof Maggetto, and Mr Andreas Meyer from the commune of MuttENZ presented their views on electric vehicles.



Mr Rudolf Jegge, Amt für Umwelt und Energie,
Baudepartment des Kantons Basel-Stadt

14 July 2000: Basel - Colmar - Strasbourg

On departure from Basel, the vehicles crossed into France, going through the Alsatian plain. The roads were quiet on this national holiday "quatorze juillet", allowing a smooth progress towards Colmar, where they were received on the historical "Place des Dominicains". The participants enjoyed a warm reception from the local energy company, being offered a bottle of the famous local Gewürztraminer wine.



Charging the vehicles in Colmar



The Prius in Colmar

The electric and hybrid vehicles showed themselves as ideal transport means for historical cities.

Further on to Strasbourg, where the vehicles were charged overnight at the technical centre of the "Communauté Urbaine de Strasbourg", a keen user of electric vehicles.



The sign on the wall reads "Think of our lungs, stop your engines". The electric vehicles in the picture have no problem with this...



Enjoying the "choucroute d'Alsace"

In the evening, the Electric Vehicle Club of Strasbourg treated the participants with a traditional Alsatian "choucroute". This famous speciality of sauerkraut with meat delicacies was sprinkled with an excellent Riesling wine.

Mr Roland Schaal, Mayor of Eschau, Vice-President of the "Communauté Urbaine de Strasbourg", President of the Electric Vehicle Club of Strasbourg, and former President of CITELEC was the host in Strasbourg



Mr Schaal addresses the participants

15 July 2000: Strasbourg - Karlsruhe - Mannheim - Darmstadt - Frankfurt/Main - Bad Homburg



The "Place Kleber" in Strasbourg

The historical Kleber square in the center of Strasbourg was the scene of the departure of this trip.

With a large fleet of electric vehicles (including rental vehicles), and an advanced tramway network, Strasbourg is clearly one of the forerunners in the field of electric transportation and related infrastructure. Furthermore, it has developed a comprehensive bicycle network.

The electric vehicles crossed the river Rhine into Germany.

Electric vehicle development in Germany is strongly connected with renewable energies: wind and solar energy.



The bridge over the river Rhine near Rastatt



First stop in Germany was Karlsruhe, where a charging connection had been provided on the central "Marktplatz"

On the market square of Karlsruhe

The participants were addressed by the mayor of Karlsruhe, who highlighted the benefits of electrical transportation.



Charging in Mannheim

Next stop was Mannheim, where the vehicles were charged at the city's landmark water tower. Not with water, of course.

Participants were received by delegates of the city and of the power company MWW Energie. The mayor addressed all participants, highlighting the role the city had played in the development of both vehicle and electric technology, and stressing the development of new technologies.



The scene seen from the water tower



Schlossplatz, Darmstadt

A short break was held in Darmstadt, in front of the city's castle.

By the evening, the big city of Frankfurt/Main was reached, where the participants were offered dinner at the premises of VDEW, the organisation of German electric utilities.



In front of the VDEW building in Frankfurt



The energy company in Bad Homburg

The day ended in Bad Homburg, where the local energy company hosted the vehicles for overnight recharge.

16 July 2000: Bad Homburg - Marburg - Kassel

On the morning in Bad Homburg, the local press was present to report on the event.



Much interest for the hybrid Prius!



In the countryside near Marburg

The trip continued through the fertile, rolling hills of central Germany.

The lunch stop was made in Marburg, where the Stadtwerke Marburg provided the vehicles with renewable energy from their photovoltaic station.



At the Stadtwerke in Marburg. On the roof of the building, photovoltaic panels are mounted.



Windmills near Kassel

More renewable energy generation facilities could be admired en route, such as these windmills.

Today's trip led to Kassel, where the energy company hosted the vehicles at their Wilhelmshöhe facility.



17 July 2000: Kassel - Northeim - Hannover

On the final trip to Hannover, a lunch stop was made at Northeim, hosted by the local "Stadtwerke".



Delegates of the city and the Stadtwerke received the participants, whileas Professor Maggetto presented CITELEC. The city of Northeim showed an enthousiastic interest in the development of electric vehicle infrastructure.

Further on to Hannover, and entering the EXPO 2000! The goal is reached!

The vehicles proceeded to the pavillon of Monaco, where they were received by Mr Badia, General Commissioner of the Pavillon, who showed a big interest for electric and hybrid vehicles.



A nice array of cups and prizes awaited the participants, offered by the Prince and Princess of Hannover, AVERE, the Automobile Club of Monaco, and the SMEG power company of Monaco.

The lowest overall consumption was obtained by vehicle n°2, driven by Joël Morocutti of Monaco. The vehicle had an average consumption of only 116 Wh/Tkm, of 290 Wh/Tkm in primary energy.

Translated in petrol consumption, this means only about 3 litres per 100 km, even taking into account the efficiencies of electric power stations!





Places on the premium stage were also there for Helga Morocutti (left), who obtained the silver prize plate offered by the Prince and the Princess of Hanover, and Els Van Crombruggen (right), who obtained the AVERE cup who was specially premiated for her fluid and rapid driving. The vehicles N°8 and N°3 had respective consumptions of 119 Wh/Tkm (297 primary) and 122 Wh/Tkm (306 primary).

Helmut Schefers and Sven Bohets (right) received from Raoul Viora, the president of CITELEC, a cup for their support in navigation and power connection. (vehicle n°4 - 123 Wh/Tkm, or 307 Wh/Tkm in primary energy)



Paola Scioni from EasyMove/Autonoleggio Sud was premiated for the most numerous participation, with 4 vehicles participating from the EasyMove fleet. Her vehicle, N°7, had a consumption of 125 Wh/Tkm (313 primary)

A prize for novice electric driver was given to Christian Catherine (center), who drove an electric vehicle for the first time barely one week before the Transeuropean. His N°6 managed 127 Wh/Tkm (317 primary)



Michèle Lataire (center) was awarded a prize for the family electric vehicle. She drove the trip with her children John and Florence (N° 5: 128 Wh/Tkm, 320 primary)

Georges Dick of AMAVE was prized for the utility vehicles. His Partner, N°1, managed 142 Wh/T km (354 primary)





A special prize for sportivity and hospitality was given to the Strasbourg team of vehicle N°9: Alfred Zimmermann (holding plate) and Danny Kuntz (with red jacket) obtained the commemorative plate from the Automobile club of Monaco.

The AVERE cup for the hybrid vehicles went to the Toyota team: Guy Basyn (holding cup), Bernard Verstraete (third from right) and Giuseppe Maggetto. Prius N° 17 consumed 5,7 litres of petrol per 100 km, or 393 Wh/Tkm primary energy.



The SMEG commemorative plate went to Ruedi Streuli as prize for inventivity in converting his lightweight City El to a hybrid with range extender. N° 19 used 179 Wh/Tkm electricity, or 466 Wh/Tkm primary energy including the fuel consumption of the range extender which was rarely needed, since only 2,2 litres of fuel were used for the whole trip.

Finally, the AVERE cup for the two-wheel vehicles went to the team of the Vrije Universiteit Brussel (from left to right: Robin Lataire, Frederic Dalle and Philippe Lataire).



Throughout the next day, electric vehicles remained exhibited before the Monaco pavillon.

Conclusions

On its 1600 km long trip through five countries, and visiting twenty-seven cities, the second Transeuropean met everywhere a warm welcome by local authorities and utilities, and received a vivid interest from the press.

It was made clear that the need for the further deployment of electric vehicle infrastructure is strongly existing, and that the Transeuropean initiative is a good way to promote this development.

The energy consumption values obtained showed clearly the value of the demonstrated vehicle technologies, both electric and hybrid, and proved their competitiveness facing conventional combustion technologies.

Electric two-wheel vehicles also showed their value, opening the use of the bicycle, and the associated beneficial physical exercise, to a larger number of people. The development of suitable bicycle path networks is also an essential element to be considered here.

The initiative will be repeated and extended next year; several of the cities visited already welcomed the next Transeuropean, which will aim for the EVS-18 in Berlin, the world's premier electric vehicle event.

TRANSEUROPEAN 2000 participants

[Electric vehicles](#)

[Hybrid Toyota Prius](#)

[Electric bicycles](#)



With the starting number 1 came this Peugeot Partner from Monaco, driven by Georges Dick, chairman of [AMAVE](#), the Electric Vehicle Association of Monaco.



This Peugeot 106 Easydrive is driven by Joël Morocutti from the Automobile Club of Monaco.



The [Vrije Universiteit Brussel](http://www.vub.ac.be), the premier research centre of electric vehicles in Belgium, was represented by vehicle n°3, another 106, driven by Els Van Crombruggen. She performs research on urban mobility and the environment.



EasyMove n°4 carried Helmut Schefers from Brusa (at the wheel) and Sven Bohets from [CITELEC](http://www.citelec.be). Their contribution as electricians allowed smooth charging connections.



In EasyMove N°5, Mrs Michèle Lataire was accompanied by her children John and Florence.



Vehicle N°6, a Citroën Saxo, was driven by Christian Catherine from Belgium.



Easymove N°7 represented Autonoleggio Sud, the parent company of the Easymove project. It was driven successively by Gianni Scagliola, the manager of Autonoleggio, and by Pietro Trovato, pictured here.



Helga Morocutti from Vienna, Austria, participated in her Saxo under N°8. The vehicle is used by her cutlery business [KnifeShop](http://www.knifeshop.com), and has performed over 30000 km in 2 years.



From Strasbourg came this 106, driven by Danny Kuntz (picture) and Alfred Zimmermann.



Ruedi Streuli from Switzerland presented his CityEl, which he converted with a new drive train, incorporating a range extender fuelled by methanol.



Johann Tischhauser from Geneva came in this Ligier, representing the well-known Scholl team.



The Twike lightweight vehicle was also present. This one was driven by Christian Galsterer from Liestal, Switzerland.



This prototype AKASOL vehicle was developed by the team of Prof. Von Bock from the University of Darmstadt.



Two service vehicles carried electrical connection and charging equipment and managed the whole event. This Peugeot Partner, N° 0, driven by Eduard Stolz of ECS, acted as the lead vehicle.



This Berlingo N° 29, driven by CITELEC's Peter Van den Bossche, acted as tail vehicle.



Hybrid vehicles were also present: with the Toyota Prius, driven by Gaston & Giuseppe Maggetto.



A second Toyota Prius was driven by Guy Basyn and Bernard Verstraete (at the wheel)



This hybrid Audi Duo is used in the [ELCIDIS](#) project in Erlangen and was driven by Christian Dürschner.



Electrically assisted bicycles took part, operated by the team of Prof. Philippe Lataire (left), Robin Lataire (right) and Frederic Dalle.