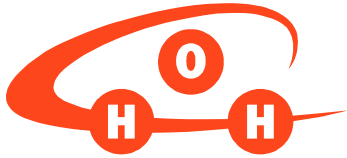


The spoken word counts!



HYSUN3000

Record Drive with Precursory Character

The HYSUN3000-Tour from Berlin to Barcelona

Speech at the press conference in Petten/NL

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(Spokesman of the des HYSUN3000-Team)*

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ExtraEnergy.org

Dear Ladies and Gentlemen,

First of all I am grateful to the Energy Research Center of the Netherlands (ECN- Energieonderzoek Centrum Nederland) for this friendly welcome and for the good partnership.

We are going to talk about the record drive of the hydrogen fuelled HYSUN3000, which started on 7th of September its drive at the "Potsdamer Platz" in Berlin and will finish it on 22nd of September at the "Plaça de los Glòries Catalanes" in Barcelona.

Who is behind the HYSUN3000?

Two years ago, a group of engineers, the most of them employees of the fuel cell manufacturer Ballard Power Systems AG, did have the idea to accomplish a 3000-kilometer-drive through Europe, with a self developed and constructed one-man-vehicle. In the meantime there are more than 30 enthusiastic fomenters working in this project, to vary from construction specialists to PR experts and designers. All of them spend their free time to transform this idea into reality. Without the great teamwork and the cooperation of all parties concerned to this project, it couldn't have been realized.

During this big project several well-known research institutes supported us, like the Energy Research Center of the Netherlands (ECN- Energieonderzoek Centrum Nederland) and several other sponsors. They supported us by giving practical help, sponsoring materials, which were necessary to construct the car or by transferring technical know-how.

The drive from Berlin to Barcelona has got -in short- four main motives:

1. The consumption: While this 3000-kilometer-drive the vehicle should only consume three kilograms of hydrogen, which equals the energy content of eleven liter gasoline.
2. The every-day-life-ability of the vehicle: the burdens of this Tour will prove this emphatically.
3. The innovative light construction: the energetically optimized construction of the vehicle is exemplary as regards the weight and the aerodynamics.
4. The idea of Europe: The fuel cell technology will only stand a chance, if it is supported across the national borders within Europe.

The motto of our record drive is:

HYSUN- The future is only 3000 kilometer away.

This says a lot, because our self-set target is to run this hydrogen-fuelled vehicle 3000 kilometer across Europe with an energy consumption of three kilograms of hydrogen, which equals the energy content of eleven liter gasoline. This is not only an ambitious goal, but also a world-record. The record would also be reached, if the vehicle consumes a little more than the planned amount of hydrogen. This is because there was so far no comparable drive with such a vehicle under everyday-life-conditions and such a low fuel consumption.

The long distance and the burden, which the vehicle has to resist, will prove its everyday-life-ability. The Tour is a heavy test. The HYSUN3000 crosses the rush-hour-traffic or conquers the extreme incline of the Pyrenees.

At the same time we are going to prove with this tour, that an up to the detail energetically optimized vehicle can be applied under normal traffic conditions. The vehicle marks out by its light weight, its extremely low air-drag and roll-friction-coefficient and the intelligent interaction between the fuel cell and the high-power-capacitors. With all this we are setting benchmarks for the development of the future cars.

Another aim is to bring this environmentally friendly technology into an international public discussion. We drive through several European Countries. The inherent symbolism is intended:

In our opinion this technology has only got a chance, if it is promoted Europe-wide, better worldwide. With the help of the press and our Internet presentation (www.hysun.de) we would like to sensitize the public.

In short words I would like to tell you about some technical data of the HYSUN3000:

The core of the vehicle is a membrane fuel cell, which transforms hydrogen and oxygen (air) in a controlled reaction to water. In this reaction electrical energy is released, which feeds the two electrical motors. A part of the energy, which is set free during the break of the vehicle, is recuperated and saved by Super Caps (High Performance Capacitors). The car body is optimized in the wind tunnel. The vehicle reaches an air drag coefficient of 0.15, which is only half the value of an average compact car (0.3). The energy-optimized vehicle consumes only 0.4 liter gasolines equivalent per 100 km. If you are interested in more detailed technical data of the vehicle, please refer to the annex of the press kit.

Like I said previously, with this record drive the HYSUN3000-Team would like to inspire a discussion about the alternative fuel cell technology.

The question is: What will be the future of this technology?

Fuel Cells are already in use for several years in a various range of applications. You can find them not only in the power engines of vehicles, but also in Megawatt Power Plants and as well in small applications like handys or computers. The NASA used them in the Apollo Space Program to reduce the weight compared with conventional battery systems.

In spite of the obvious advantages of this technology it seems to be a long way until a significant number of individual cars will be powered by a fuel cell.

This is not because of the missing acceptance of the public. A Germany wide opinion survey from June 2004 brought it out: Eighty percent of the population wishes a stronger concentration on renewable energies. This discussion gets in movement these days, not at least on the background of the latest rise of the gasoline price. Further on, there will be the need to find new energy solutions, because of the declining fossil resources. The project HYSUN3000 delivers its part to support the environmentally friendly fuel cell technology.

The innovations of the vehicle are not only the modern and eco friendly fuel cell technology, but also the weight and aerodynamically optimized car body. Thus the HYSUN3000 is not only an example for a hydrogen vehicle, but also for an energetically reasonable vehicle design. In the view of energetic aspects, small changes in this design can lead to big improvements and enhance the benefit of the vehicle.

At the end some general words about the Tour:

With the help of local partners we are going to arrange press conferences in several cities in Germany, the Netherlands, France and Spain. All over the place, where the HYSUN3000 appears, it should set a signal for a forward-looking environmentally friendly technology. If the public notice this, it will also bring new impulses for the research and development of hydrogen fuelled cars. And if the public is behind such an intention, the politics and the industry will have it much easier to promote this forward-looking technology. If this happens, the HYSUN3000 will achieve its biggest aim.

Thank you very much for your kind attention.

Technical Data

Weight (empty)	170 kg
Maximum Speed	80 km/h
Average Speed	40 km/h
Power E-Motor	2 x 700 W
Air Drag Coefficient	0,15
Power PEM Fuel Cell	1200 W
Super Cap	50 V, 90 Farad
Volume Tank	78 l
Mass H₂	1,8 kg gaseous
Efficiency (Fuel Cell)	50%

Tour-Data

Start:	Berlin
Destination:	Barcelona
Duration:	15 days
Effective Ride-Time:	12 days
Hops:	12
Length:	3069,3 km
Longest hop:	362,3 Kilometer (Osnabrück - Amsterdam)
Max. Increase:	15%
Max. Altitude:	431 meter above sea level