

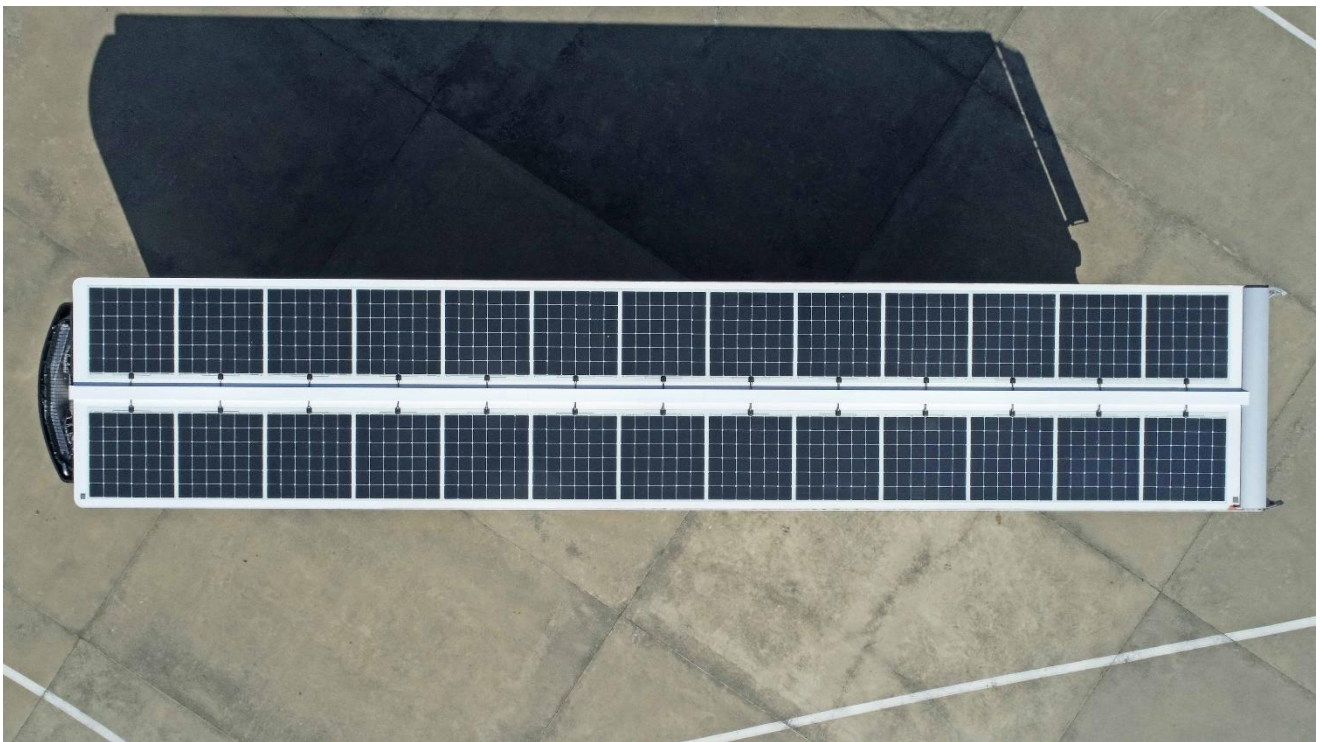


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PRESS KIT

PRESENTATION OF THE NEW ENERGY SEMI-TRAILER

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Your press contact

Aurore LEROYER

Communication and press relations officer

Mobile : +33 (0)6 65 55 80 78

Email : aurore.leroy@chereau.com





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■ INTRODUCTION

Our world is facing a necessary energy transition in order to drastically reduce global warming and its impact on the planet, but also on our daily lives and those of our children.

As some of you know, we presented our corporate values in June, and among them is that protecting the environment and preparing for the future is our choice. In practical terms, this means we don't want to wait for the law to require us to be better.

Thus, we are voluntarily anticipating very likely legislation, so that we can offer our customers relevant energy solutions to replace diesel.

We wanted to invite you during this week of sustainable development and a few weeks before the Solutrans trade show to give you a preview of some of these solutions and the way in which we hope to rapidly implement them on the market.

Good discovery and good reading.

Damien Destremau, Chairman and CEO.





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■ BETTER CONSUMPTION WITH NEW ENERGY SOLUTIONS CHEREAU

We want to allow our customers to test different solutions in order to qualify them for their specific operational needs.

It is indeed a question of being pragmatic and not only proposing a single solution, but adapting to the problems of each person.

Thus we will present at Solutrans :

- A CityTrailer with a rechargeable battery per axle and energy recovery
- A long-distance semi-trailer with rechargeable battery by axle and energy recovery with full covering of the roof in solar panels
- A CHEREAU Hydrogen Power H2 trailer





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CHEREAU HYDROGEN POWER H2



CHEREAU believes in hydrogen as a clean energy source for the future, but also today. This is why this technology has been implemented and tested on the ROAD concept and why, through the "FROM ROAD TO REAL" program, we are actively preparing its industrialization: this is the new CHEREAU Hydrogen Power H2 range.

Within 3 years we will launch the first 10 pre-series with the objective of increasing our production of vehicles with this technology from 20 to 25% within 10 years.

How does hydrogen work?

As far as green hydrogen is concerned (the only one that makes sense to us), it is made from water. Thanks to the electrolysis process which uses electricity, H₂O water is transformed into H₂ and O₂. The resulting dihydrogen gas is a storable energy source. It can then in turn produce electricity through a fuel cell. The cell, from the hydrogen in the tank and the oxygen in the air, will produce electricity and water.

CHEREAU Hydrogen Power H2 vehicles are equipped with hydrogen tanks, located in the chassis between the side rails, a fuel cell and buffer batteries. The vehicles are designed for at least two days of long distance autonomy and one day of distribution. It takes only 10 minutes to fill up.

ROAD also allowed us to clear up our questions concerning the safety aspects thanks to numerous exchanges with experts from the departmental fire and rescue services.

In terms of reliability, there is still the unknown factor of the fuel cell's lifespan, and the pre-production models, like ROAD, will help us qualify it.



Some may say that this solution is ahead of its time, because it is not mature, that there is no network yet, that it is still too expensive.... This is one point of view. CHEREAU's point of view is to do everything possible to help the hydrogen industry to have tangible examples, so that this solution can be democratized as quickly as possible. Waiting is slowing down the energy transition. Our role as market leader is to maintain this pioneering attitude, by fully assuming this market transformation. The first vehicles are more expensive than the future target price; but the price of hydrogen will inevitably fall, and there will also be more stations. Energy transition is not an option for CHEREAU. It is a necessity, well understood by the transporters who have already reserved our pre-production vehicles.

HYDROGEN: HOW DOES IT ÇA WORK?

ELECTROLYZER

Hydrogen production from water

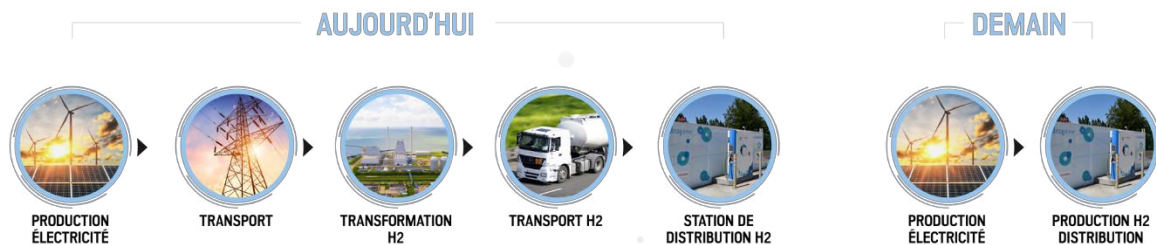


FUEL CELL

Production of electricity from hydrogen



Diagram of how the hydrogen industry works





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■ BETTER PRESERVATION THANKS TO CHEREAU INNOVATIONS

It is not only a question of replacing diesel by electric in any form, a more environmentally friendly vehicle is also conceived as a more frugal vehicle, requiring less energy.

- **Automatic shutdown of the unit when the doors are opened**

Technically there is nothing extraordinary, it is simply a matter of connecting the refrigeration unit to a door sensor.

However, this good practice is essential because the fresh air in a trailer is very quickly replaced by outside air when the door is opened and the unit is running.

- **Intelligent air curtain that preserves indoor temperature**

The air curtain is an excellent complement to prevent air exchange between the interior and exterior.

- **Interior partition**

It is a good practice for the distribution business, where possible, to reduce the compartment to be cooled as it is delivered.

- **Synchronization of the SmartOpen-C closure with the tailgate**

The synchronization in the case of a multiplexed vehicle (standard on CHEREAU carriers equipped with the SmartOpen-C), allows the SmartOpen-C to be closed automatically when the tailgate is lowered and thus avoids cold losses from a vehicle that would remain open.

- **Semi-trailer CHEREAU City Trailer = 6 VUL 3T5 12m3**

A CityTrailer is a semi-trailer with a directional rear axle, which gives it excellent maneuverability in urban environments.

It is therefore an ideal tool for massifying logistics flows.

It has a useful volume approximately 6 times greater than that of a 3T5 light commercial vehicle for a pallet capacity multiplied by 8 and a payload more than 30 times greater. All this for a fuel consumption 2.5 times higher than that of a 3T5 light commercial vehicle.





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CHEREAU PERFORMANCE



The ROAD concept has given birth to the CHEREAU PERFORMANCE range which aims at the possibility of a longer exploitation of the CHEREAU equipments, as well as the energy sobriety. The cold chain and the environment will appreciate it !

The VIP "Vacuum Insulated Panel" technology, based on vacuum (the best insulator there is), makes it possible to achieve a record level of insulation performance. A semi-trailer equipped with an ATD-C longitudinal and vertical rail system achieves a record K coefficient of 0.27.

This range offers many advantages: an insulation up to 25% more efficient with a decrease in energy required for cold production exactly proportional to the increase in insulation and a capacity to maintain the temperature in case of problem on the unit, for example in case of fuel failure which is the first cause of temperature disputes. The time it takes for the temperature to rise is also proportional to the level of insulation.

CHEREAU PERFORMANCE protects the goods in case of failure of the refrigeration unit with greatly extended recovery times.

For example, a cold load at +2°C with the unit switched off would take 3 hours and 20 minutes to reach +7°C in an INOGAM EVO semi-trailer, which is already a reference on the market, and 11 hours and 20 minutes in a CHEREAU Performance version!

Another important point is that the unit is less stressed and the bodywork is better insulated, which should logically increase the vehicle's resale value.

In addition to this starting value, we have enough experience through previous prototypes to qualify the aging of this type of bodywork with a very limited loss of efficiency over time.

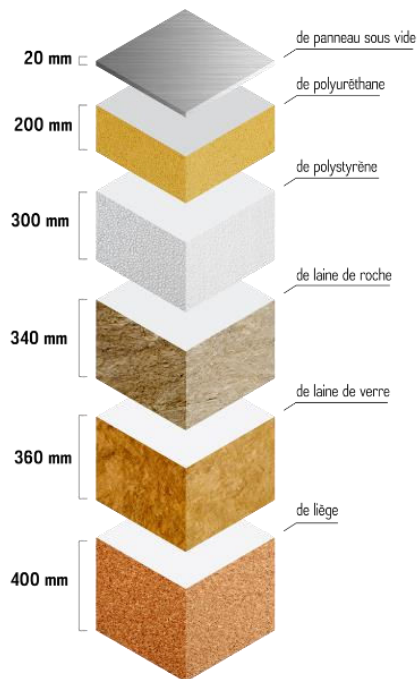


Materialization of the VIP panels in the bodywork (in black)



* For a semi-trailer equipped with a recessed longitudinal and vertical rail

Thicknesses required to obtain the same level of insulation with different materials



AERODYNAMISM

CHEREAU has developed an aerodynamic kit for its customers in order to reduce CO₂ emissions and to save the tractor about 2L / 100 KM.

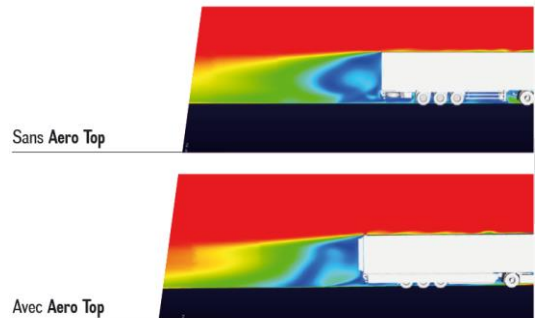
This aerodynamic kit is composed of three dissociable elements, made of 98% aluminum, and allows a reduction of CO₂ emissions from 6000 to 21000 kg/year and Nox emissions from 60 to 170 kg/year.



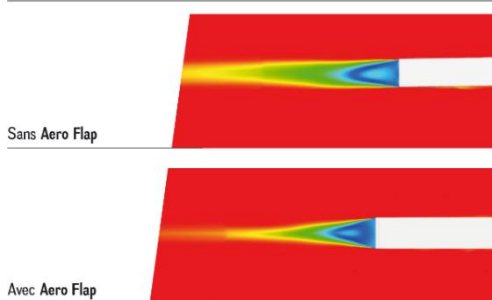
- **The Aero Top**

The Aero Top is a 50mm high roof deflector and saves up to **0.3L/100km**.

It reduces the aerodynamic drag as follows:



Réduction de la traînée aérodynamique



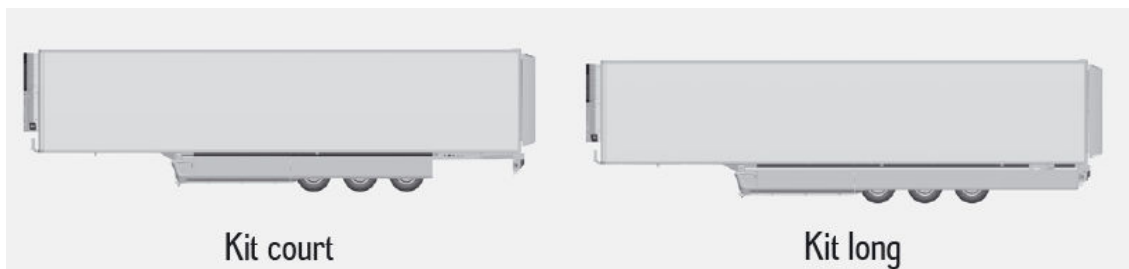
- **The Aero Flap**

The Aero Flap is integrated into the rear door template and folds automatically when the doors are opened. It allows to save up to **0,7L/100 km**.

- **The Aero Skirt**



The Aero Skirt is made up of modular panels that can be lifted and equipped with a simple and ergonomic unlocking system. It allows to save 1L/100 km for the short kit and 1,2L/100 km for the long kit.



▪ DEPLOYMENT OF OUR SOLUTIONS FOR BETTER CONSUMPTION AND PRESERVATION

Our customers know that they will have to replace diesel with other, more respectful energies, and they know today about the solutions that will eventually be available. From the energy recovery axle to hydrogen and biofuels or biogas.

As far as the refrigerated semi-trailer is concerned, it is clear that they are not in a position to make a decision on the acquisition of such or such system, not knowing what are the constraints and advantages of each solution.

Thus, we wish to launch a new energy demonstration program at the end of the next Solutrans show. We will exhibit vehicles that will all be demonstration vehicles with the following configurations:

- Hydrogen semi-trailer
- CityTrailer E-Axle semi-trailer
- E-Axle long distance semi-trailer + solar panels

We are aware that for a massive and rapid adoption of these solutions, our demonstration fleet will be insufficient, so we have launched an appeal to the Ministry of Energy Transition by proposing the establishment of a fleet composed of about twenty vehicles, or even more, depending on available funding

To date, we are waiting for the return on the instruction of this file and we strongly hope that at the beginning of 2022, we will be able to meet again for a good news on this subject.

As you can see, CHEREAU is not only about selling vehicles, but also about positioning ourselves as an actor for the energy transition.



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■ PARTNERSHIPS

CHEREAU, A PIONEER IN THE HYDROGEN INDUSTRY

NEWS FROM ENERGY OBSERVER

Our partner Energy Observer has started its three-year Odyssey across the seas of the world to discover the ecosystems, actors and energies that make the wealth of our planet. It took 25 days and 1 hour for the crew to reach Kona (Hawaii) to Noumea (New Caledonia). A navigation that was punctuated by all types of weather: tailwinds, crosswinds but also headwinds. More often in excess of energy than the opposite, the ship was able to rely on the sun and the wind. This navigation marks a milestone in the Odyssey of Energy Observer which has officially reached 10 000 nautical miles covered in 2021, that is to say 40 000 nautical miles since its departure in 2017. A milestone achieved in a record time since its 4 years of exploration!

About Energy Observer

The Energy Observer project was born in 2013 from the commitment of Victorien Erussard, merchant marine officer and ocean racer. Aware that it is vital to commit to the planet, he gathered around him a team of complementary professionals, sailors, scientists, engineers and reporters, in order to create the first autonomous ship capable of drawing its energy from nature while preserving it.



The dream became reality 4 years later, when the Energy Observer vessel was launched for the first time. Developed from a legendary racing catamaran, Energy Observer is a laboratory of ecological transition designed to push the limits of zero-emission technologies. Hydrogen, solar, wind, tidal, all solutions are experimented, tested and optimized to make clean energy a concrete reality accessible to all.

Criss-crossing the seas to meet those who find sustainable solutions for the planet every day, Energy Observer has become a movement, an Odyssey around the world where each stopover is an opportunity to learn, understand and share the energies of others.

Energy Observer has received the High Patronage of Mr. Emmanuel Macron, President of the French Republic. First French ambassador of the 17 UN Sustainable Development Goals, it has the official support of the Ministry of Ecological Transition, UNESCO, the European Union, Irena and Ademe.



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KEY FIGURES FOR 2020

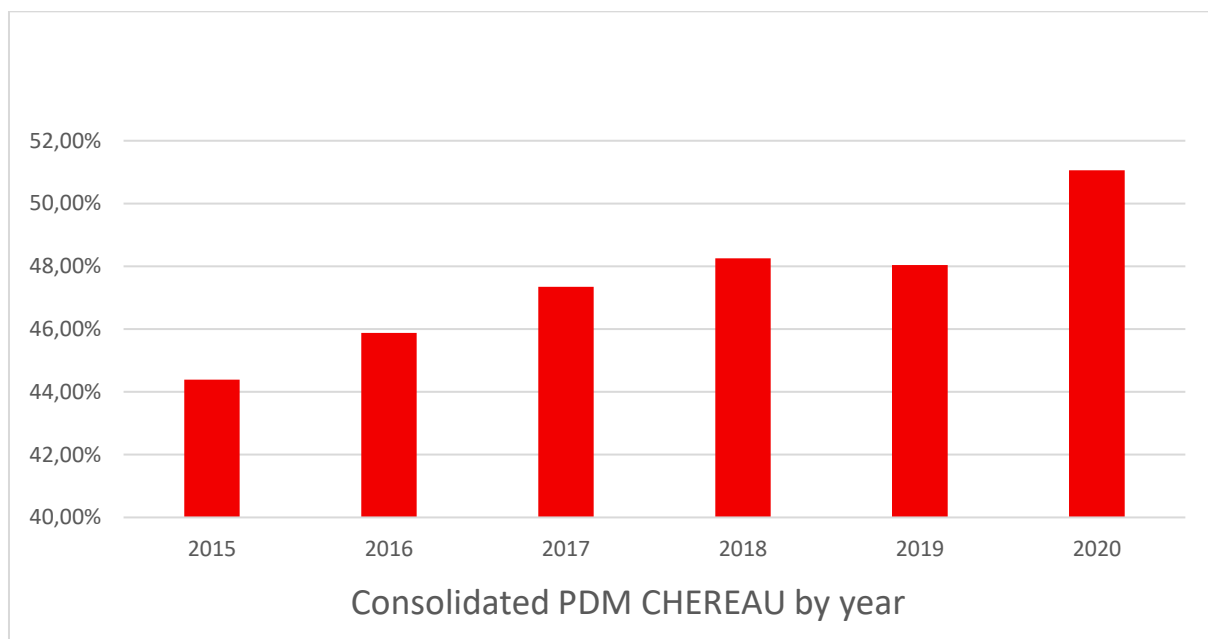
- More than **1000** employees
- **210 million €** in sales
- **43%** of export sales
- **More than 3900** vehicles produced
- **48.04%** market share in France
- **15.2%** market share Europe
- **4.1 M€** of investments in the production tool
- **2.7 M€** of fundamental and customized R&D





■ EVOLUTION OF OUR SEMI-TRAILER MARKET SHARE

EVOLUTION OF CHEREAU'S MARKET SHARE IN FRANCE



Undisputed leadership with more than one in two refrigerated semi-trailers in France by 2020. Thank you to our customers!





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Social networks:



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<https://www.youtube.com/channel/UCWGHpCuPcW4hpngHx4S1hFQ>

Your press contact

Aurore LEROYER

Communication and press relations officer

Mobile : +33 (0)6 65 55 80 78

Email : aurore.leroy@chereau.com

2020

