



INNOVATION DRIVES YOU FORWARD

PRESS kit

Press conference ROAD

4 july 2019



Your press contact

Christophe DANTON

Marketing and Communication Director

Tel : +33(0)2 33 89 38 19

Mobile : +33 (0)6 72 91 91 77

Email : christophe.danton@chereau.com



Summary

- INTRODUCTION..... 3
- COLLABORATIVE PROJECT ROAD 4
- PROJECT PARTNERS Erreur ! Signet non défini.
- COMPETITIVENESS CLUSTER Erreur ! Signet non défini.
- PARTNER ORGANISATIONS..... Erreur ! Signet non défini.
- ROAD ALREADY REWARDED ! 12
- CHEREAU KEY FIRGURES AT END 2018 13



■ INTRODUCTION

Since forever, CHEREAU innovates by offering the most relevant solutions according to its customers' needs for temperature controlled transportation.

This event is an opportunity for CHEREAU and its partners to introduce in exclusivity the collaborative project ROAD aimed at creating the refrigerated semi-trailer of the future.

ROAD is the first refrigerated semi-trailer in the world that running at on hydrogen. Its represents a share of our contribution to the energetic and ecological ongoing transition.

The ROAD semi-trailer meets the following criteria:

- More efficient
- More respectful
- More quiet
- More autonomous

This press conference marks the beginning of the last phase of a major three-year project involving many partners and requiring an investment of €5.5 million. Indeed ROAD is entering its last phase: tests in real conditions within the Transports Malherbe.

CHEREAU is clearly positioned for the future through this collaborative project, which prefigures the refrigerated semi-trailer of tomorrow, which is environmentally friendly and runs on hydrogen thanks to a fuel cell.

But ROAD is also a source of inspiration and technology for today's CHEREAU vehicles. See you in Solutrans in November to discover it.

Enjoy your reading.



▪ **Collaborative project ROAD:
The first semi-trailer on hydrogen**



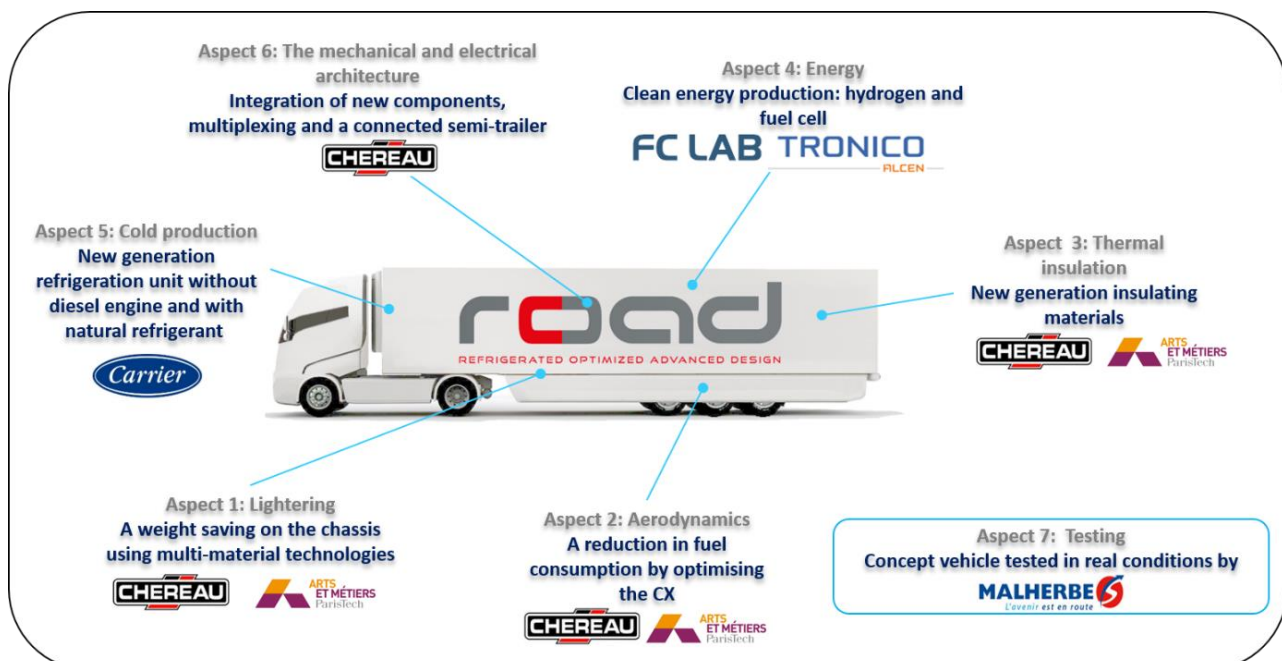
In line with its innovation strategy, CHEREAU is developing a new generation of refrigerated semi-trailer that is even more efficient and more environmentally friendly thanks to new technologies.

A double objective:

- Reduce environmental impact
- Improve exploitation conditions (ergonomics and safety)

The new features involve :

- Lightening of the chassis,
- Aerodynamics,
- Insulation,
- Clean energy production,
- Management's optimization of the various electrical equipment.



PROJECT PLANNING

- September 2016: Beginning of the project
- August 2017: Specifications validated by technological brick (including customer requirement)
- September 2017: Consortium agreement signed, start of the design of the various technological bricks
- September 2018: Completion of the technological brick design, start of vehicle manufacturing
- March 2019: Prototype manufactured, start of lab and road tests.
- September 2019: End of the tests, assessment by technological brick. End of the project.

This press conference has been the opportunity to hand over the keys to the carrier Malherbe, who will carry out tests on this innovative semi-trailer in operation in his company.

But before leaving on the road, with temperature-controlled goods, the ROAD vehicle had to be recharged with hydrogen. The hydrogen has been filled up in Saint-Lô at the station located within the department's house, just after the event.

■ PROJECT PARTNERS



AMVALOR – Promoter of Innovation for industry of the future

AMVALOR, a SAS subsidiary of ENSAM, has been a historical structure for the promotion of *Arts et Métiers* since 1973 and is the promoter of the institution's partnership research activities and the promotion of its expertise. AMVALOR promotes and develops relationships between laboratories and companies seeking for innovative technological solutions, research skills and industrial transfer engineering.

AMVALOR promotes intellectual property and innovative ideas resulting from research studies carried out by *Arts et Métiers* laboratories (licensing, maturing and spin-off of start-ups, participation in investment funds).

Its regional location, at the heart of the territorial socio-economic fabric, makes it possible to offer a range of multidisciplinary and tailor-made skills to companies, by collaborating with competitiveness clusters, business clusters, technical centers and professional unions.

AMVALOR carries the Carnot label, with *Arts et Métiers*, and manages the Carnot ARTS Institute, which develops scientific skills and technological research covering all phases of the life cycle of a manufactured product (from design to commissioning, to end of life and recycling).

AMVALOR CONTACT

151 boulevard de l'Hôpital

75013 Paris

Tel: +33 (0)1 42 16 86 76 - direction@ensam.eu

Director: Stéphane DESMAISON

Director of development: Bertrand COULON

Communication manager: Yaëlle CHARBIT

FCLAB

Research union CNRS FCLAB is composed of research teams from 5 laboratories:

- FEMTO-ST Institute, CNRS, University of Franche-Comté, ENSMM, UTBM (Belfort, 90, Besançon, 25),
- IFSTTAR's LTE laboratory (Bron, 69),
- SATIE laboratory, CNRS, in particular through its IFSTTAR supervision (Satory, 78),
- AMPERE laboratory, CNRS, Ecole Centrale de Lyon, INSA Lyon, University of Lyon 1.

The total staff of this Research Federation is about 150 people, including 70 permanent staff (researchers, teacher-researchers, IATOS staff) and 50 contract staff (doctoral students, post-doctoral fellows, ATER, contract engineers, etc.).

FCLAB's scientific and innovation axes are implemented in a matrix form, at the interface between application and methodological axes.

The application axes are as follows:

- Axis 1: Hydrogen-energy systems for micro-cogeneration
- Axis 2: Linking hydrogen-energy systems to renewable energies
- Axis 3: Hydrogen fuel cell for transport and mobility
- Area 4: Solid hydrogen storage

The methodic axes are as follows:

- Axis 5: Design and integration of hydrogen energy subsystems
- Axis 6: Performance analysis and sustainability of hydrogen energy systems
- Axis 7: Optimization of the architecture of hydrogen-energy systems
- Axis 8: Socio-technical transition for hydrogen energy

Contact :

- Professor Daniel HISSEL, Director of FCLAB, daniel.hissel@ubfc.fr
- Neigel MARX, Project manager of ROAD, neigel.marx@univ-fcomte.fr



Founded in 1973, TRONICO is specialized for third parties in the design, the industrialization and complex electronically dominated products throughout their entire life cycle.

More than its core business of EMS (Electronic Manufacturing Services), TRONICO work also as an ODM (Original Design Manufacturer) in complex systems development.

TRONICO work with following business areas:

- Aerospace/ defense and security
- Biotechnology
- Energy
- Industry
- Medical
- Transportation

TRONICO continues an innovative strong strategy with the support of its “innovation cluster” (composed with sciences doctors) and its R&D department (60 engineers).

This teams enhances scientific research by leaning on historical expertise of TRONICO, in order to meet every customer’s needs.





Carrier Transicold - an essential link in the life chain

Carrier Transicold contributes to improving transport and temperature control through a complete range of equipment and services for refrigerated transport and cold chain traceability. With more than 45 years of experience, Carrier Transicold is one of the leaders in its industry, able to provide its customers all over the world with a set of technologically advanced solutions that offer optimized energy efficiency and ecological performance, whether in containers, generators or refrigeration systems for pulley block, straight and semi-trailer vehicles. Carrier Transicold is part of UTC Climate, Controls & Security, a unit of the United Technologies Corp. group, one of the world's leading suppliers to the aerospace and construction industries.

For more information, visit the website www.carriertransicold.eu or follow us on Twitter: [@SmartColdChain](https://twitter.com/SmartColdChain)



Founded in 1953, today Malherbe is one of the French leaders of general goods transportation, in batches and groupings.

The group works mostly with agri-food industries, consumer products, mass distribution, industry, the pharmaceutical industry, the chemical industry, energy, construction and offers its customers services adapted to each case, based on five main business lines:

- Transport organization
- Goods transportation
- Vehicle renting with driver
- Logistic
- Distribution in batches and groupings

Malherbe pursues a development policy shared between external growth and organic growth, while constantly enriching its sustainable development actions.

In 2019, Malherbe has 2,150 employees, 30 branches throughout France, 2,500 engines (own fleet and subcontracting) and more than 4,200 customer references, for a turnover of 315 M€ (year 2018).



- **COMPETITIVENESS CLUSTER**

The ROAD project has been approved by 3 competitive clusters. They are the backers of this project validity toward the state.



MOV'EO - Imagine Mobility is the competitiveness cluster dedicated to automobiles and mobility.

Located in Normandy and Ile-de-France, MOV'EO leads the innovation of the Automotive & Mobility sector, promotes the financing of R&D projects and collaborative business between its members, thus contributing to the development of companies in its territory. Through its range of services: Innovation, Business, Skills, Network, the cluster supports its members on a daily basis to transform their innovation projects into products or services that are competitive on the market.

<http://pole-moveo.org/>



Develop the competitiveness of the Vehicles and Mobility sectors of the Great West through Innovation, business and performance!

iD4CAR, to achieve its mission, relies on 3 labels, a guarantee of the excellence of its support:

- Competitiveness cluster since 2005
- ARIA (Regional Association of the Automotive Industry) since January 2017
- Cluster Organisation Management Excellence Label Gold

<http://www.id4car.org/>





At a time when the automotive industry is undergoing profound change, the *Pôle véhicule du futur* offers medium and long-term prospects for companies. The priority is to anticipate the needs of the mobility market, while meeting the current needs of the automotive industry.

With 380 members, including 336 companies, the *Pôle Véhicule du Futur* benefits from a growing reputation and infuses a real dynamic in Eastern France.

The members - companies, research laboratories, training actors, economic development partners - work in synergy for the competitiveness of the territory.

<http://www.vehiculedufutur.com/>

• PARTNER ORGANISATIONS

ROAD is a collaborative FUI project (single inter-ministerial fund), co-financed by the 6 partners, the Normandy Region, the Burgundy-Franche-Comté Region and the State (BPI France).



- **ROAD ALREADY REWARDED !**

The ROAD project was awarded the Trophée des Hydrogénies, land freight transport category, on 22 January 2019.



This award recognizes an innovative project, a company or organization that has carried out an outstanding project or even developed an innovative solution in the field of hydrogen. The Land Freight Transport Award recognizes the development of a zero emission solution for road freight transport.

The ROAD project also received the Green Truck Transport Solution 2019 Award on 3 June in Germany.



This prize is awarded annually by the German magazines VerkehrsRundschau, and Trucker and honours the most environmentally friendly industrial vehicles, including the Green Truck, Green Van and Green Light Truck labels.





▪ **CHEREAU KEY FIGURES AT THE END OF 2018**

- **1,000** employees
- **220 million d'€** turnover
- **41.5%** export sales
- **More than 4100** vehicles manufactured by year
- **48.25%** market share in France
- **14%** market share in Europe
- **3 M€** of investment in manufacturing equipment
- **3 M€** of fundamental and made-to-measure customer R&D

