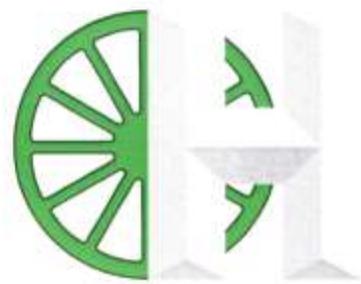




**Gérard QUÉVEAU**  
**PDG Groupe Henri Heuliez**



**Visites historiques  
chez HEULIEZ à Cerizay - Poitou Charentes**

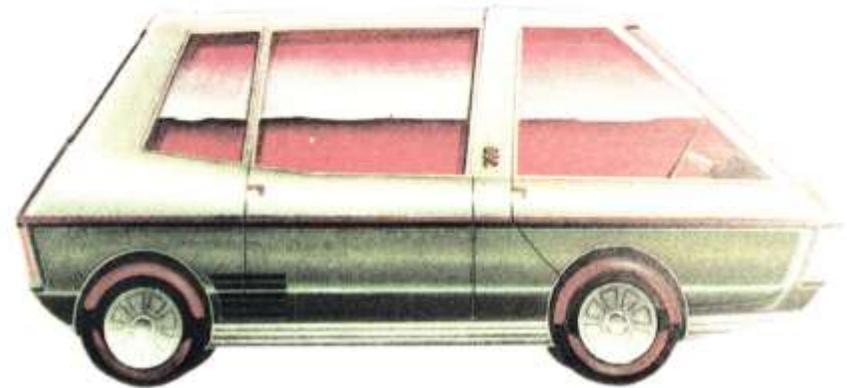


**Heuliez**<sup>®</sup>  
*Electric*

**Décembre 2007**



**1967 - Prototype Fourgonnette 937 pour SIMCA**



**1970 - Etude Van PEUGEOT**



**1971 - Etude Van PEUGEOT**



**1980 - Etude Minivan PSA**

**1996 - Projets de véhicules VEDEMAR HEULIEZ  
Léger - Acier - propulsion ELECTRIQUE**

**TPVU - 2.5**

Long 2m50

Circulation Urbaine,  
Transfert ville à ville par TGV  
Longueur variable  
(Brevet France Design).

**Très Petit Véhicule Urbain**



Embarquement sur quai standard TGV

**PVU - 3.**

Long 3m

Circulation Urbaine,  
Suburbaine - Encombrement,  
Habitabilité - Accessibilité optimisées

**Petit Véhicule Urbain**



**PVR - 3.50**

Long 3m50

Accessibilité,  
Aérodynamisme,  
Cx optimisé

**Petit Véhicule Routier**

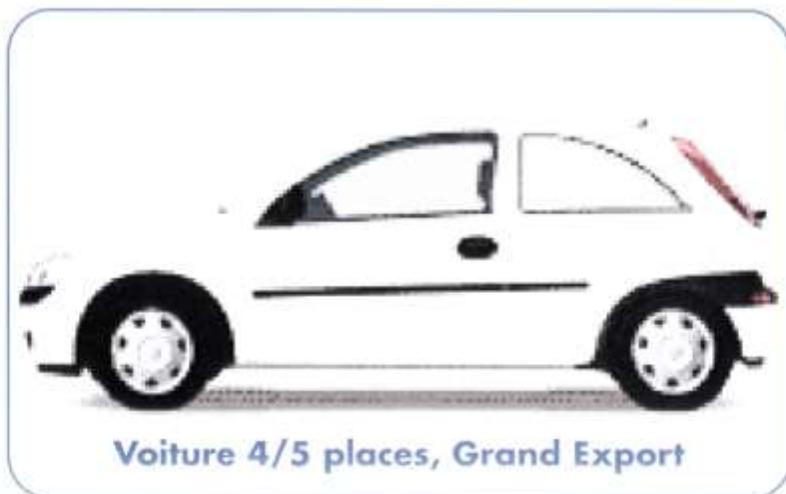




**NVNX 4/5 places**



**NVNX, 3m, 2 places**



**Voiture 4/5 places, Grand Export**



**Utilitaire léger**



**Heuliez®**  
*Electric*

***M Série***  
***TIGRA***  
***V Série***





### Caisson énergie

Batteries Li-ion à « modularité » variable (15 → 45 kWh)  
Pile A Combustible H<sub>2</sub>/O<sub>2</sub>

### Autonomie

- Versions batteries de 130 km à 250 km
- Version Pile A Combustible 400 km
- Vitesse maxi: 140 km/h
- Franchissement: 17% à charge maxi
- Version familiale : 2 roues motrices – 5 places
- 2 versions commerciales: normale et 3 m<sup>3</sup>

## MARCHÉ

2009 : 5 000 v/an

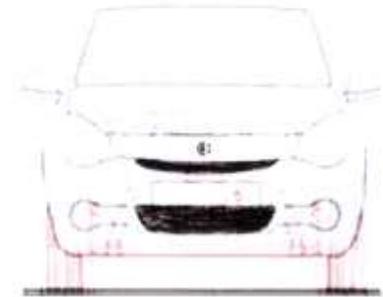
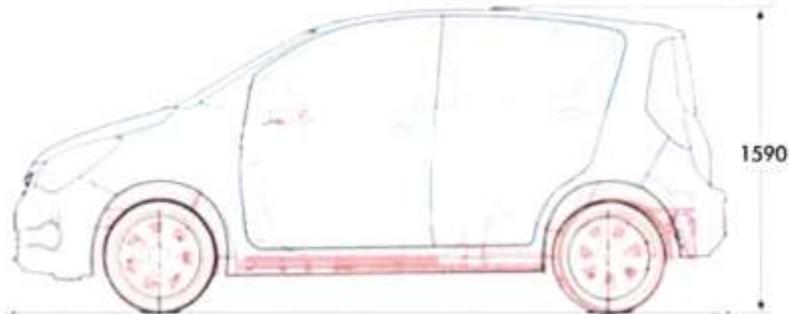
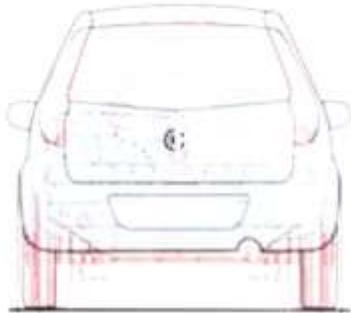
2015 : 50 000 v/an

2020 : 150 000 v/an



Prototype Mondial de l'Automobile PARIS 2008





Option : panneaux solaires sur le toit



5 places





"Agiwhy!"



Option : panneaux solaires sur le toit



Volume : 2,5 m<sup>3</sup>





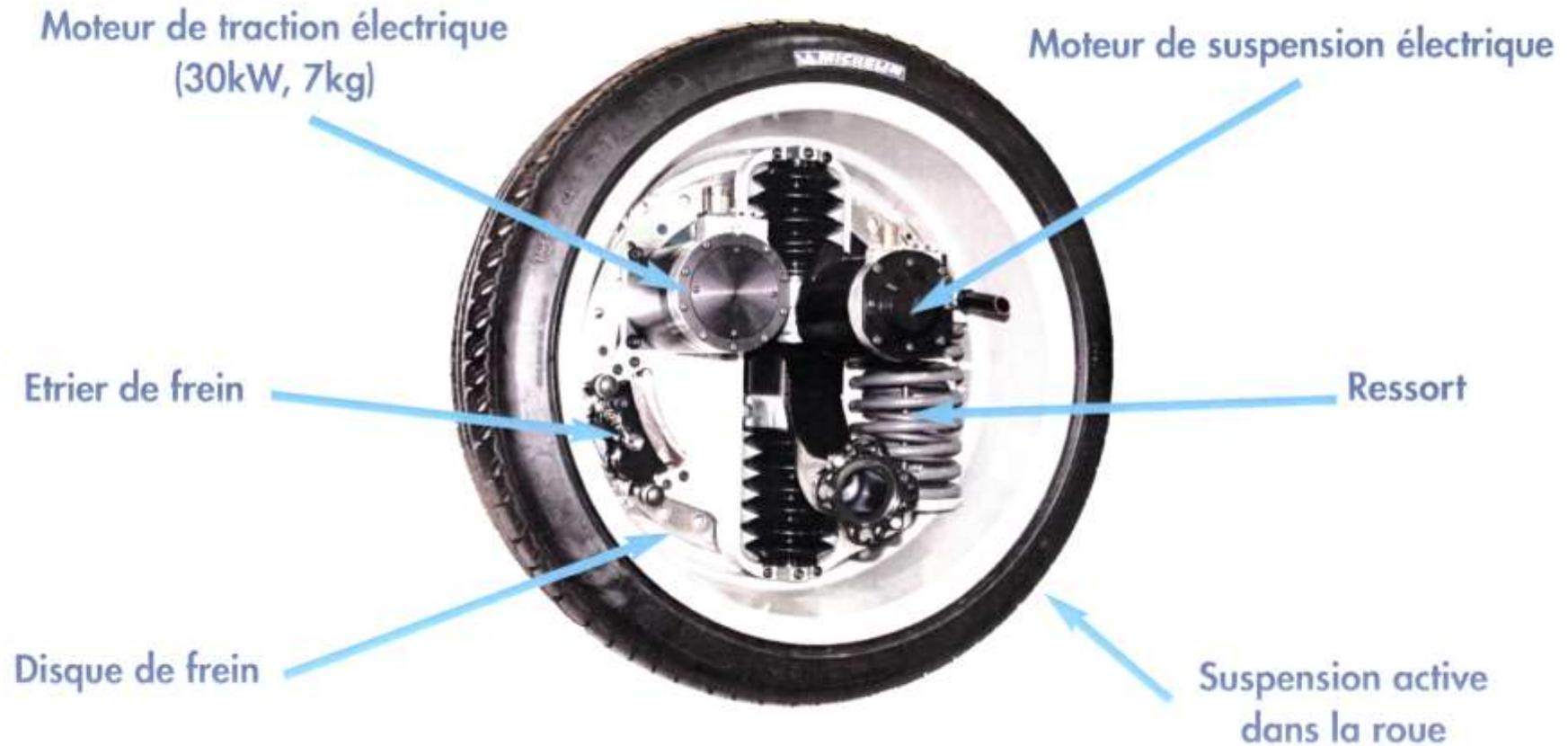
## The logo for Heuliez Electric TIGRA, featuring a stylized green wheel icon to the left of the word "Heuliez" in a bold, blue, sans-serif font. Below "Heuliez" is the word "Electric" in a smaller, italicized, blue font, and to the right of "Electric" is the word "TIGRA" in a large, bold, blue, sans-serif font.



OPEL TIGRA Twintop HEULIEZ Electric,  
*Le premier Cabriolet Coupé Convertible électrique*



**ROUE ACTIVE WHEEL MICHELIN BREVETEE**



**Masse non suspendue : 32 kg**



 **Heuliez**  
Electric **TIGRA**



- Caisson énergie**
- Batteries Li-ion à « modularité » variable (15 → 45 kWh)
  - Temps de chargement 6 heures 16A - 1/2 Heure 120A
  - Autonomie 100 - 150 - 200 km **Vitesse maxi: 140 km/h**
  - 2 roues motrices Michelin Active-Wheel
  - 4 roues motrices Michelin Active-Wheel

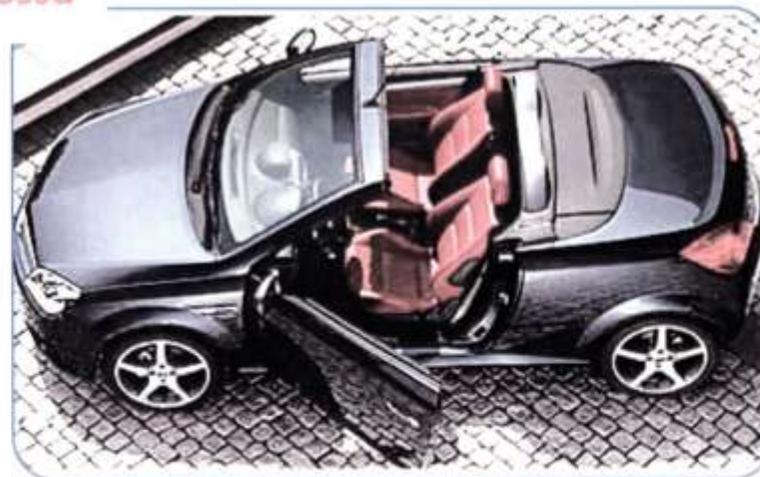


**OPEL TIGRA Twintop HEULIEZ Electric,**  
**Le premier Cabriolet Coupé Convertible électrique**





Linea Rossa



OPEL TIGRA Twintop HEULIEZ Electric,  
Le premier Cabriolet Coupé Convertible électrique

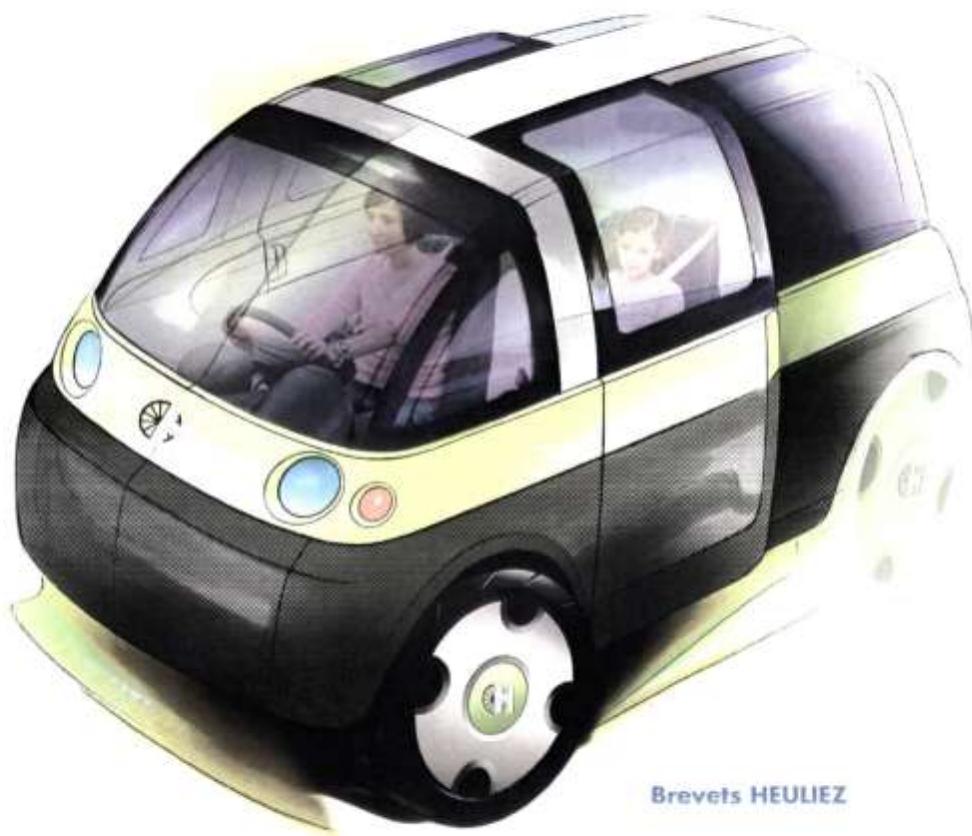




*La voiture électrique du Grenelle de l'environnement*



 **Heuliez**  
*Electric V 2.5*



Brevets HEULIEZ

**Prix de base**  
**5 000 €**

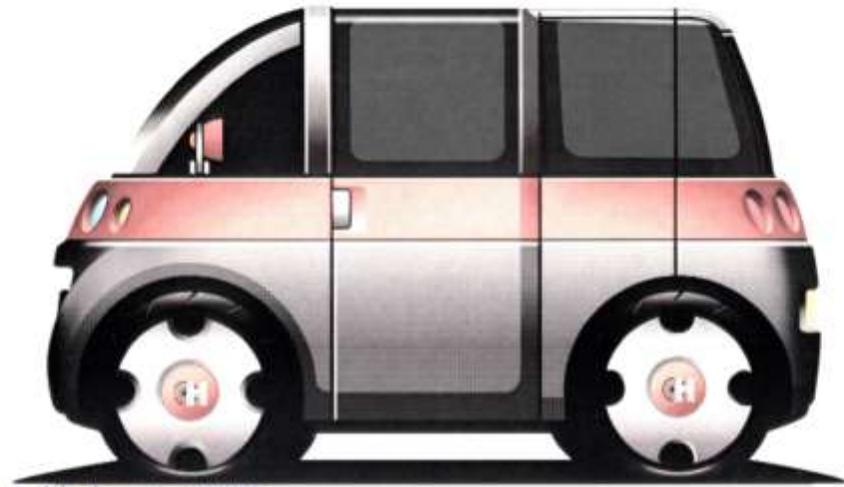
**Hors Batteries**  
**Ni-MH**  
**Li-Ion**  
**Ni-Zn**

**HEULIEZ Electric V - 3 places, l'auto électrique pour les 16 à 96 ans**

*La voiture électrique du Grenelle de l'environnement*



*La voiture électrique du Grenelle de l'environnement*



Modèles brevetés HEULIEZ

**HEULIEZ ELECTRIC V2**

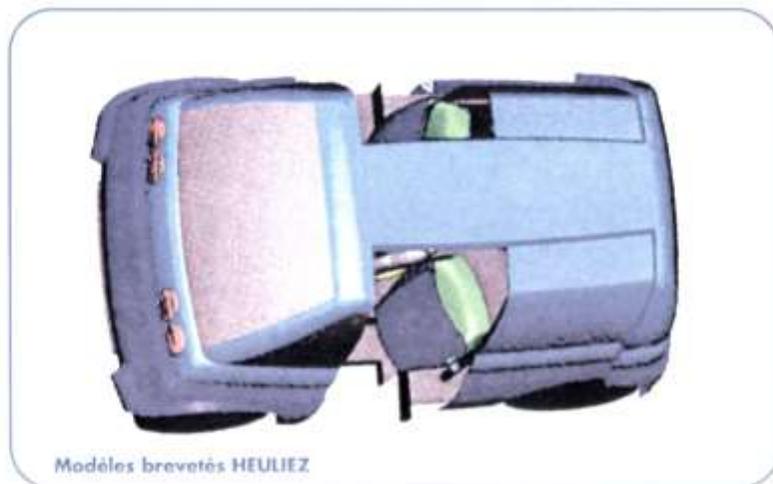
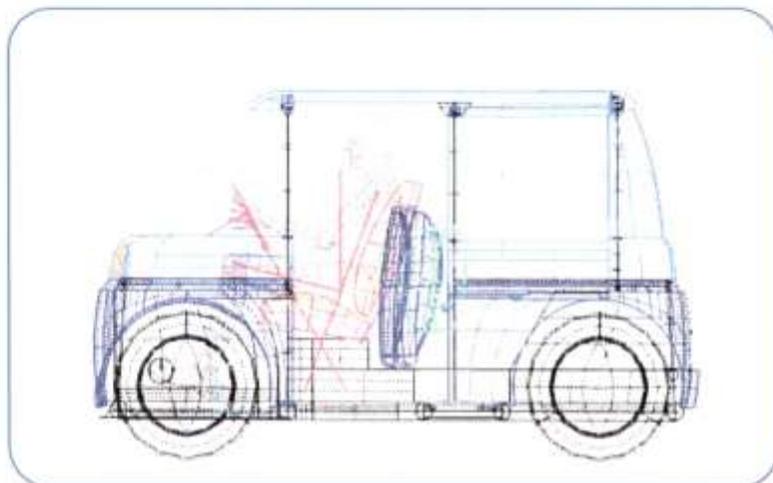


**HEULIEZ ELECTRIC V2.5**

*La voiture électrique du Grenelle de l'environnement*



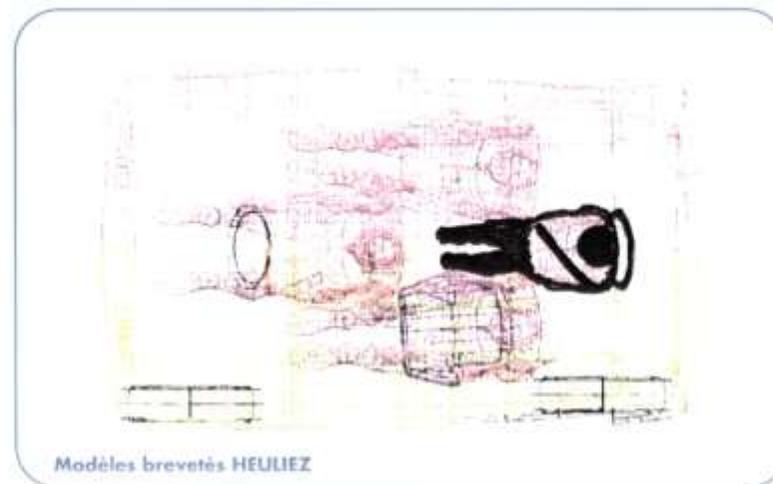
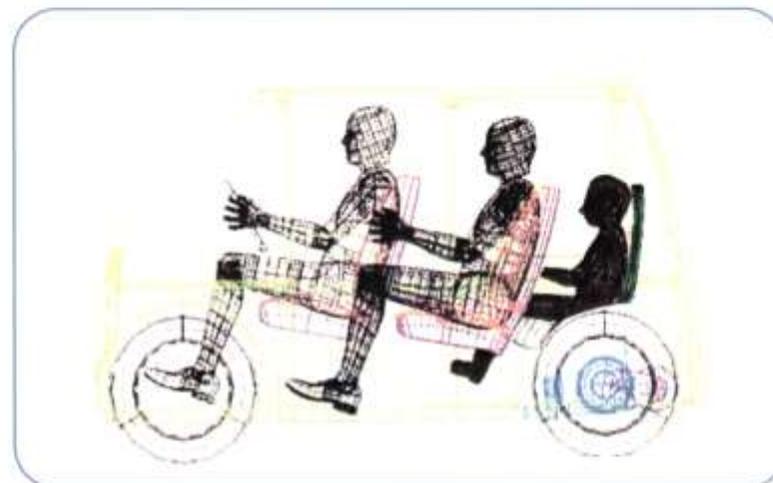
### Option : Sièges arrière repliables ou démontables



Modèles brevetés HEULIEZ

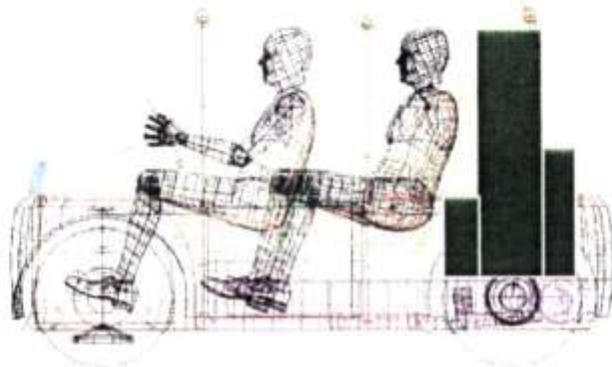


### Option : 4<sup>ème</sup> siège enfant

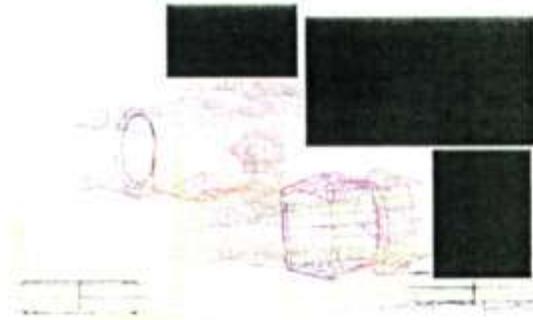


Modèles brevetés HEULIEZ

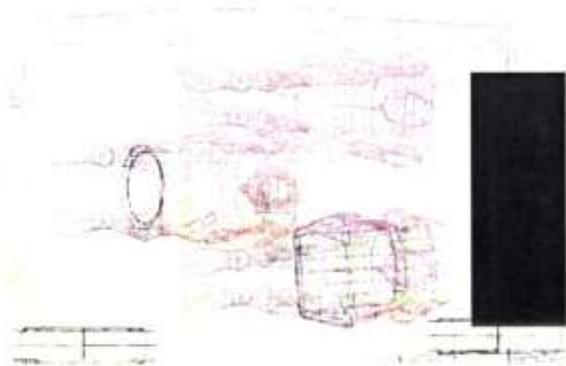
### Différentes configurations de chargement



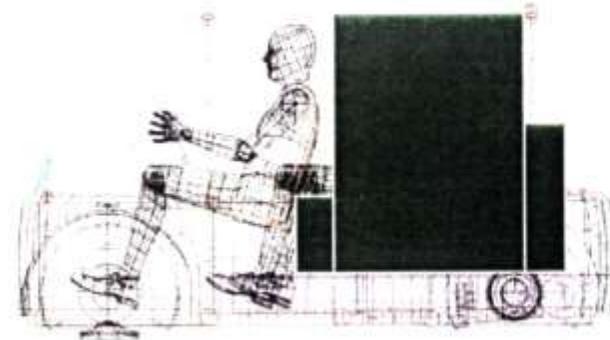
**3 personnes 550 l**



**2 personnes 750 l**



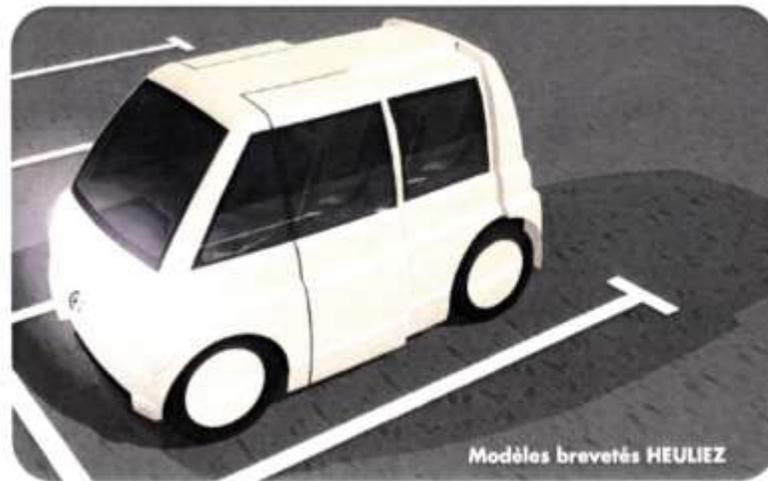
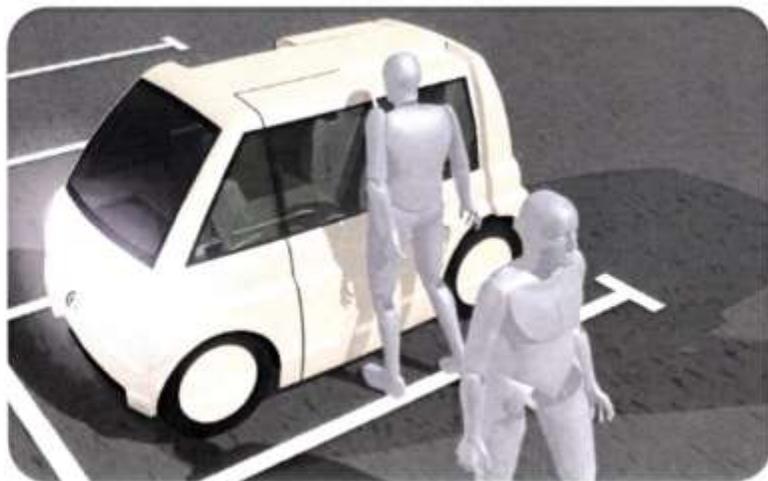
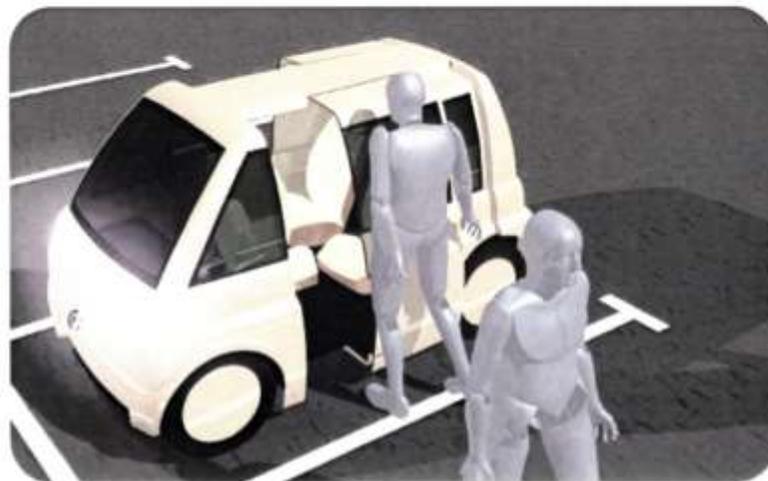
Modèles brevetés HEULIEZ



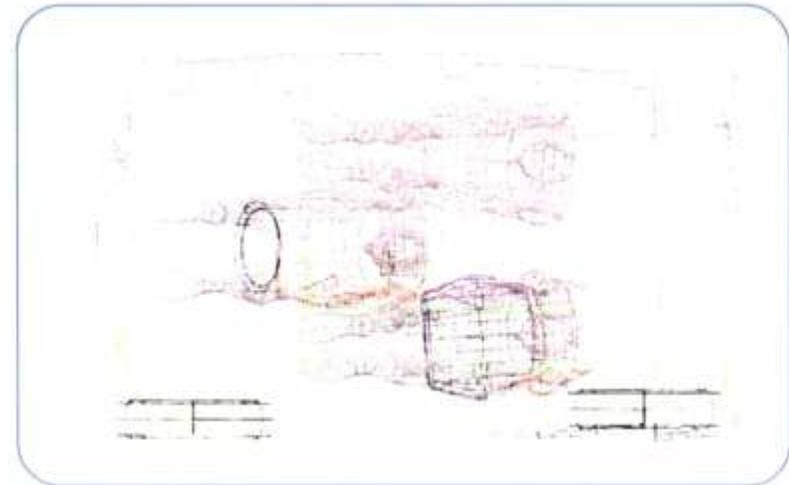
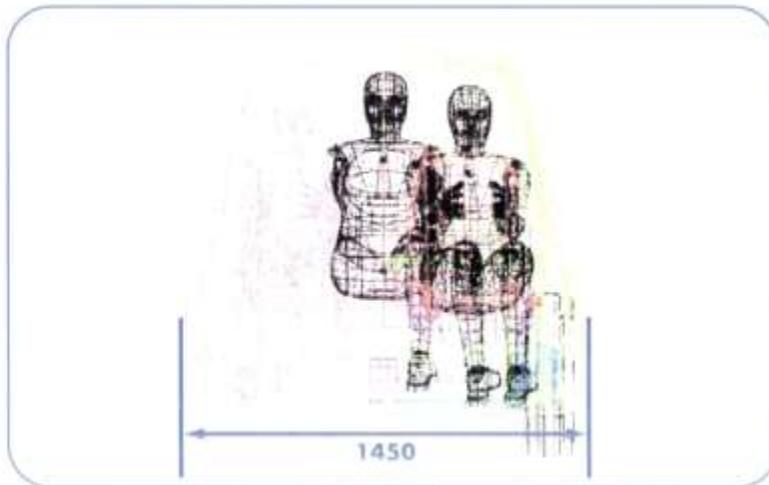
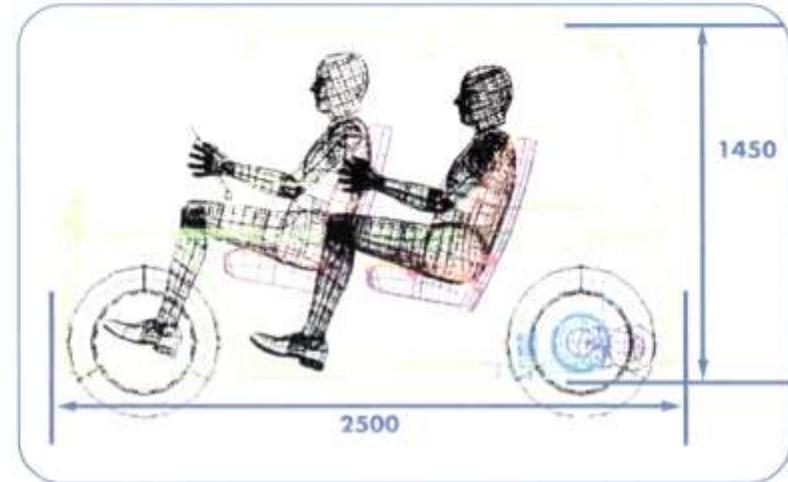
**1 personne 1200 l**



**Accessible et Confortable**



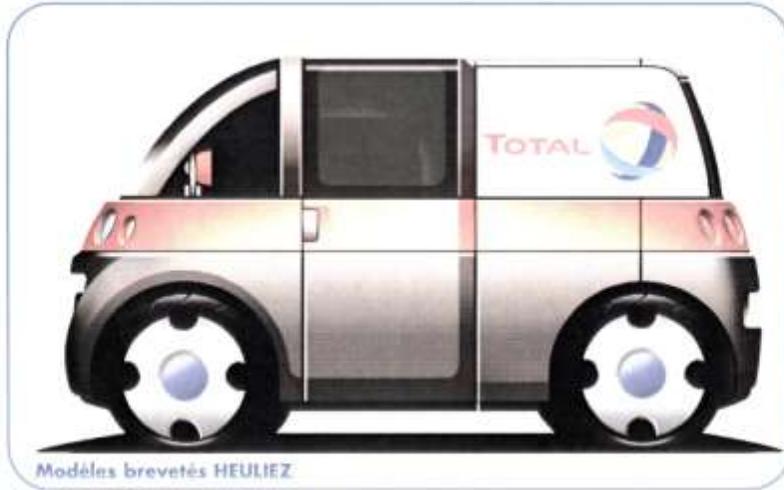
**La voiture électrique du Grenelle de l'environnement**



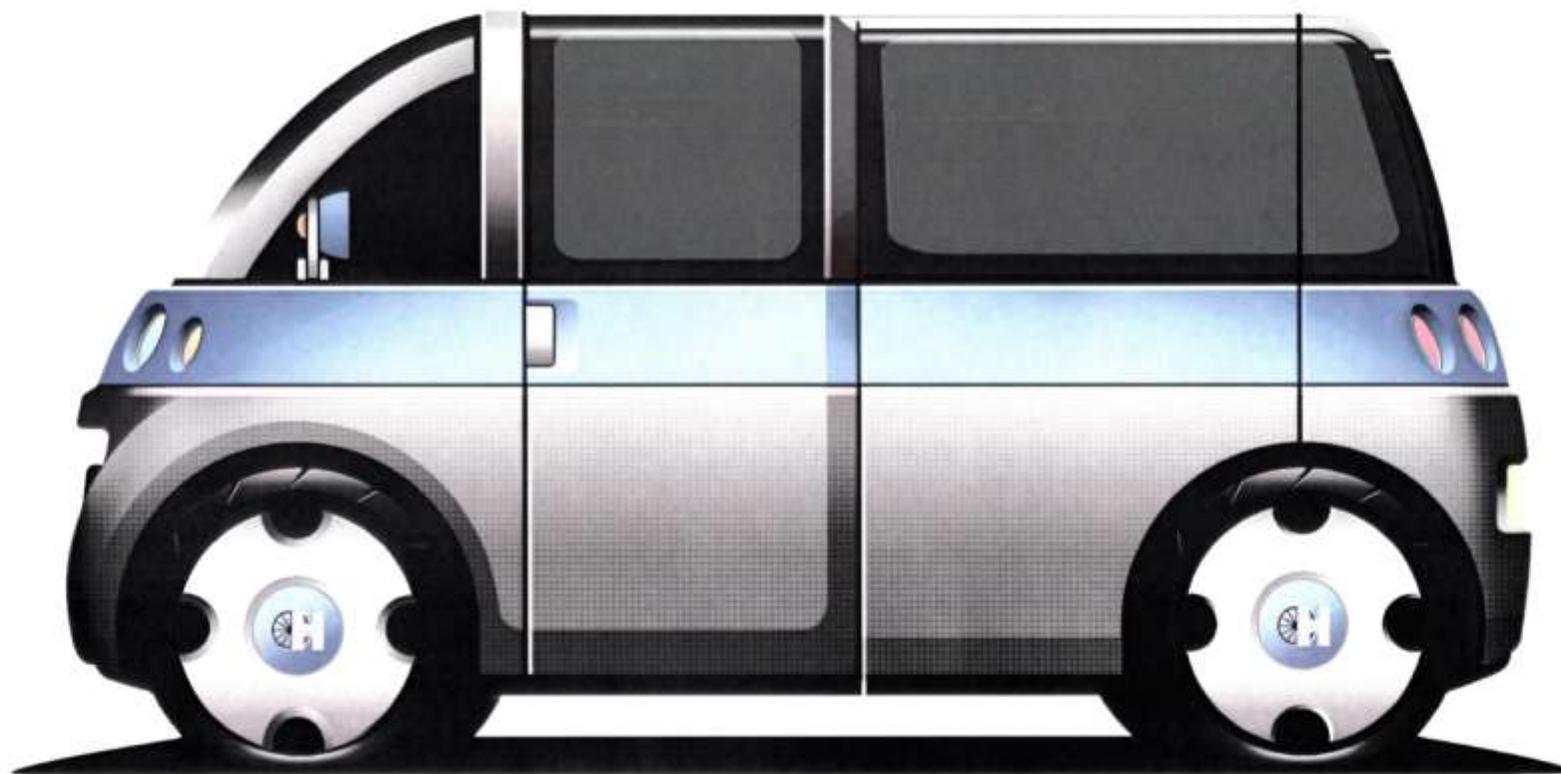
*La voiture électrique du Grenelle de l'environnement*



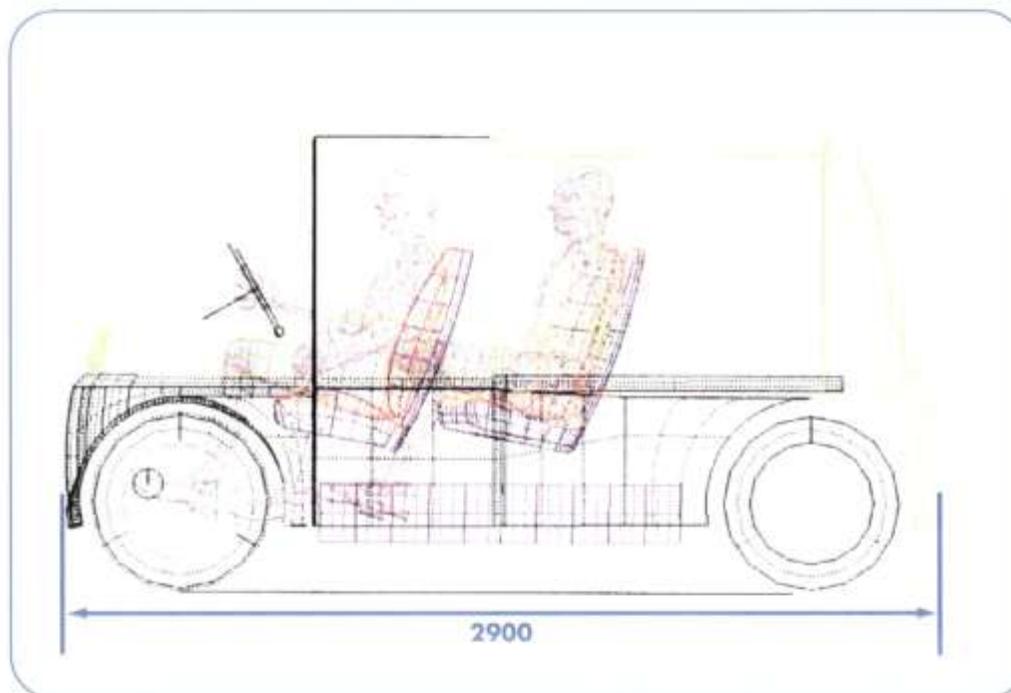
*La voiture électrique du Grenelle de l'environnement*



Modèles brevetés HEULIEZ



Modèles brevetés HEULIEZ

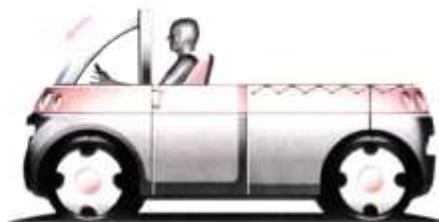
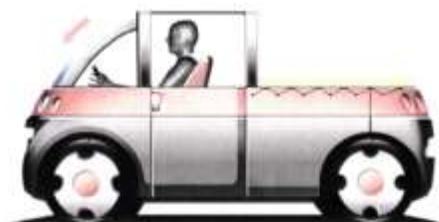
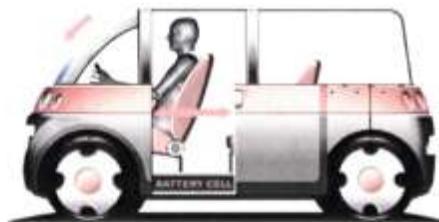
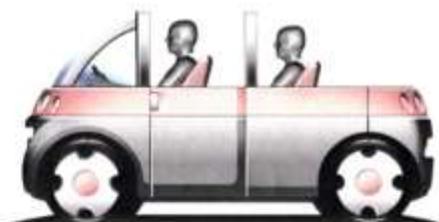
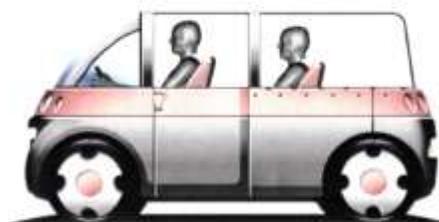
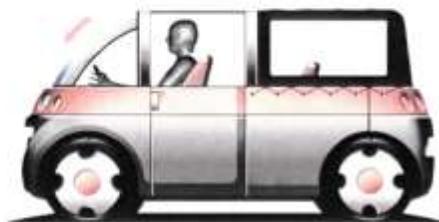
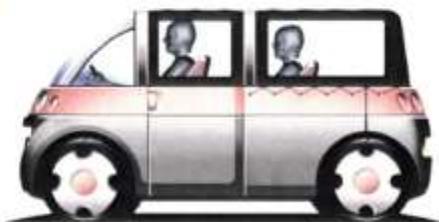


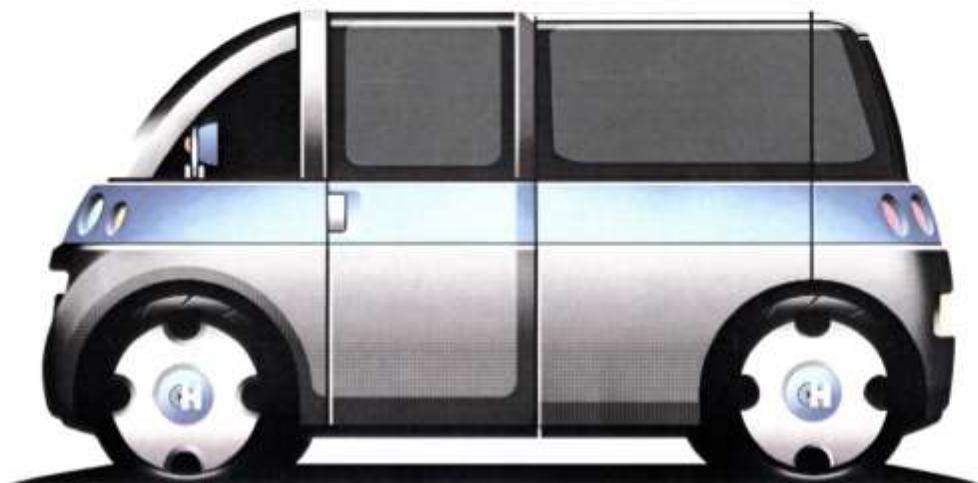
### Chargement **V 3**

3 personnes	1 000 l
2 personnes	1 200 l
1 personne	1 700 l

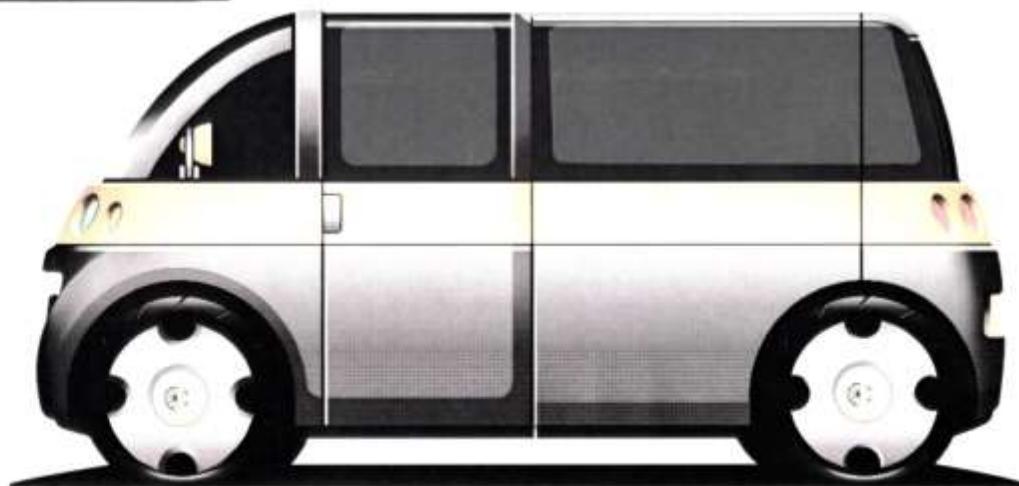


## Loisirs



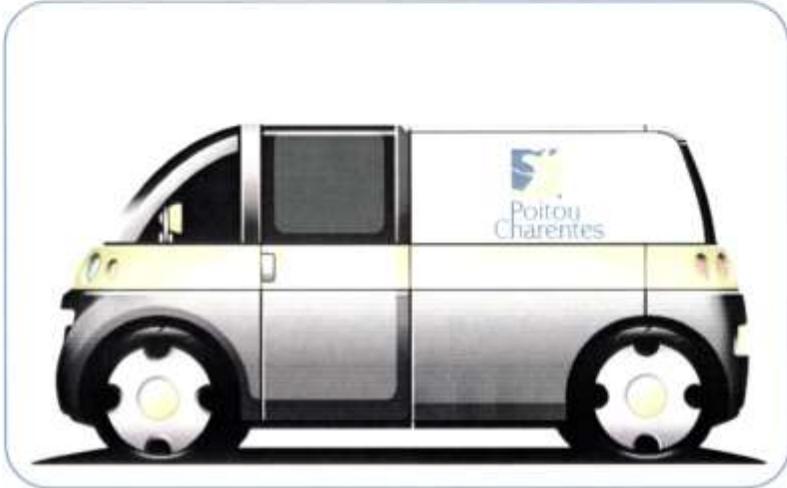


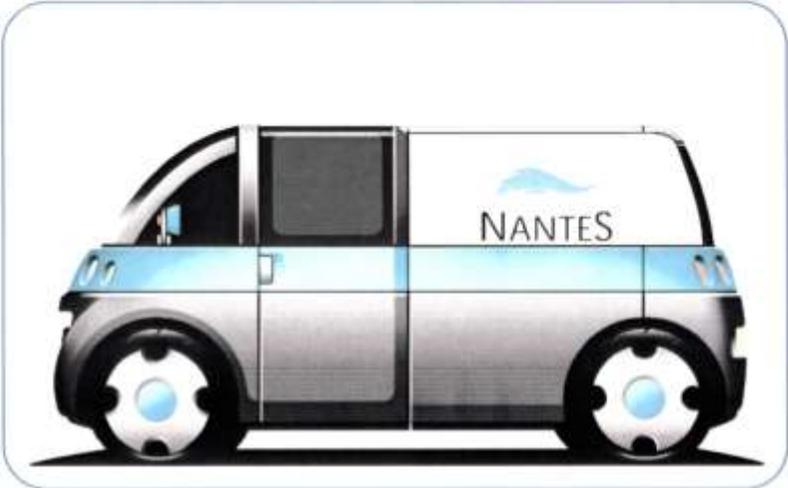
**HEULIEZ ELECTRIC V3**



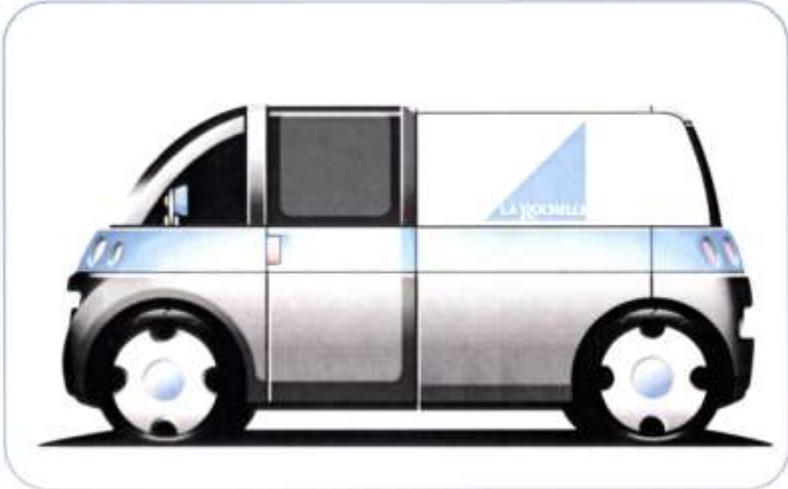
**HEULIEZ ELECTRIC V3.5**

Modèles brevetés HEULIEZ



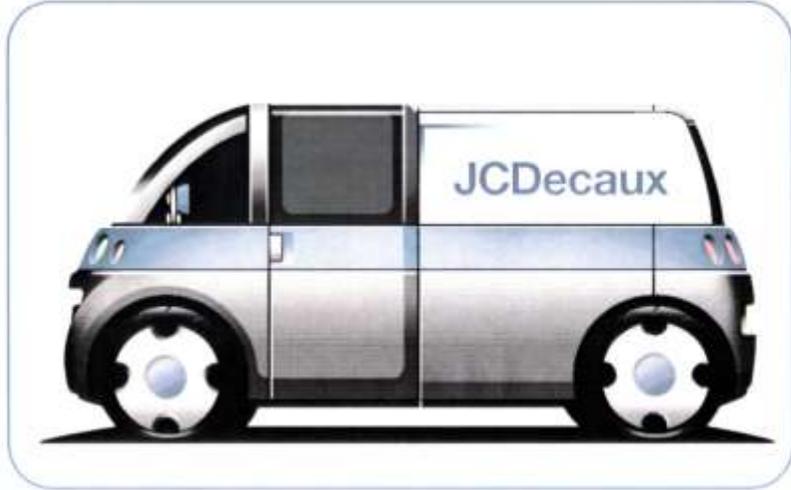


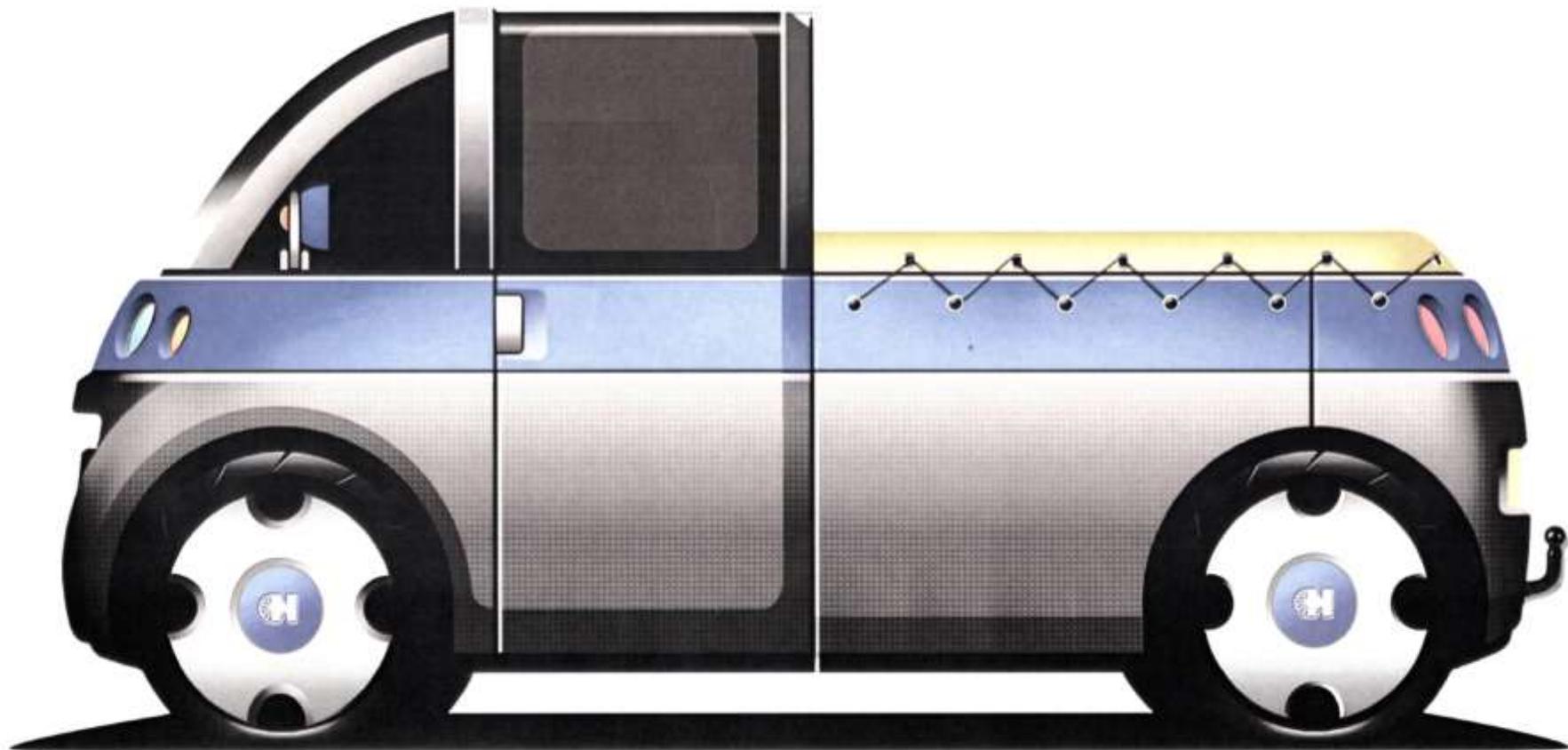
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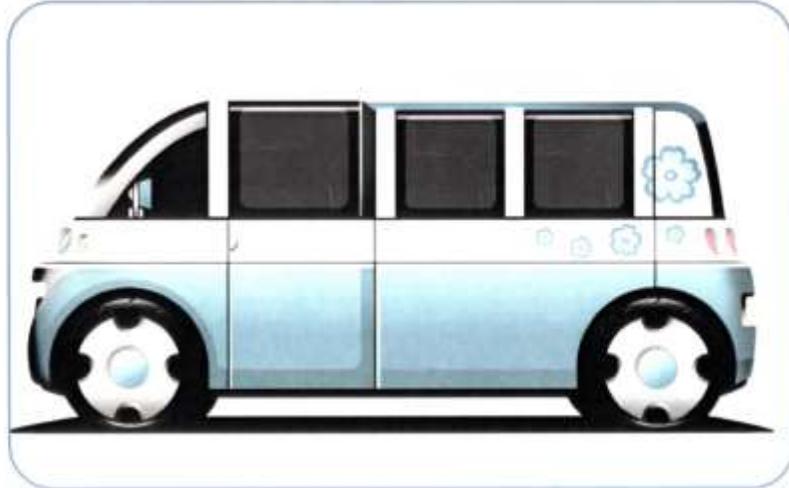
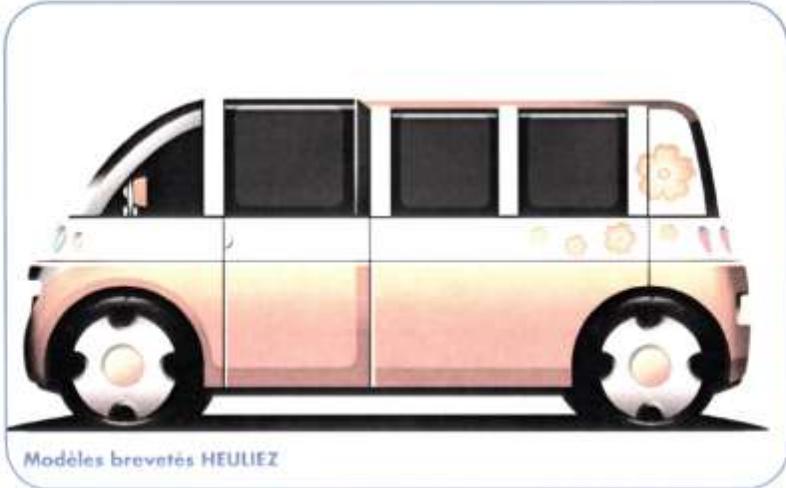
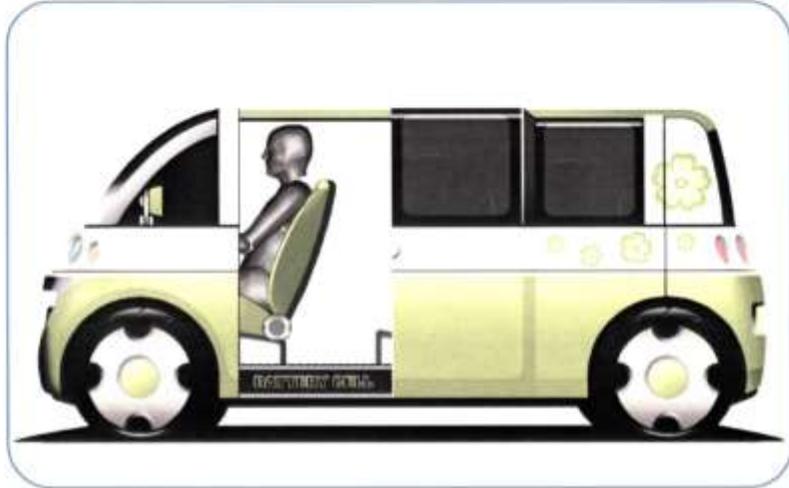
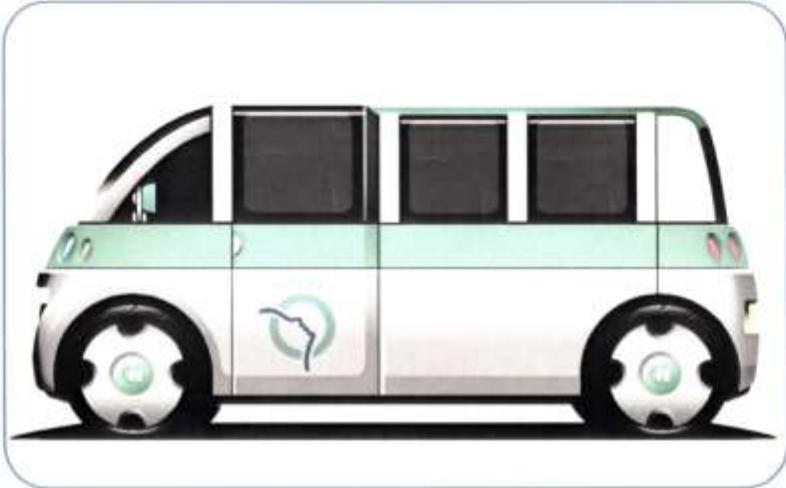


 **Heuliez**  
*Electric V 3.5*





Modèles brevetés HEULIEZ





 **Heuliez**  
Electric M 4,5



 **Heuliez**  
Electric M 4



 **Heuliez**  
Electric V 3.5



 **Heuliez**  
Electric V 3



 **Heuliez**  
Electric V 2.5



 **Heuliez**  
Electric V 2



**FRANCE** - Vente directe par HEULIEZ : Etat - Administrations - Collectivités locales  
Grands Groupes - Sociétés de location

*Vente aux particuliers : Vente internet et par chaîne de grandes surfaces*

**MONDE** - Accords : J.V - ventes de licences

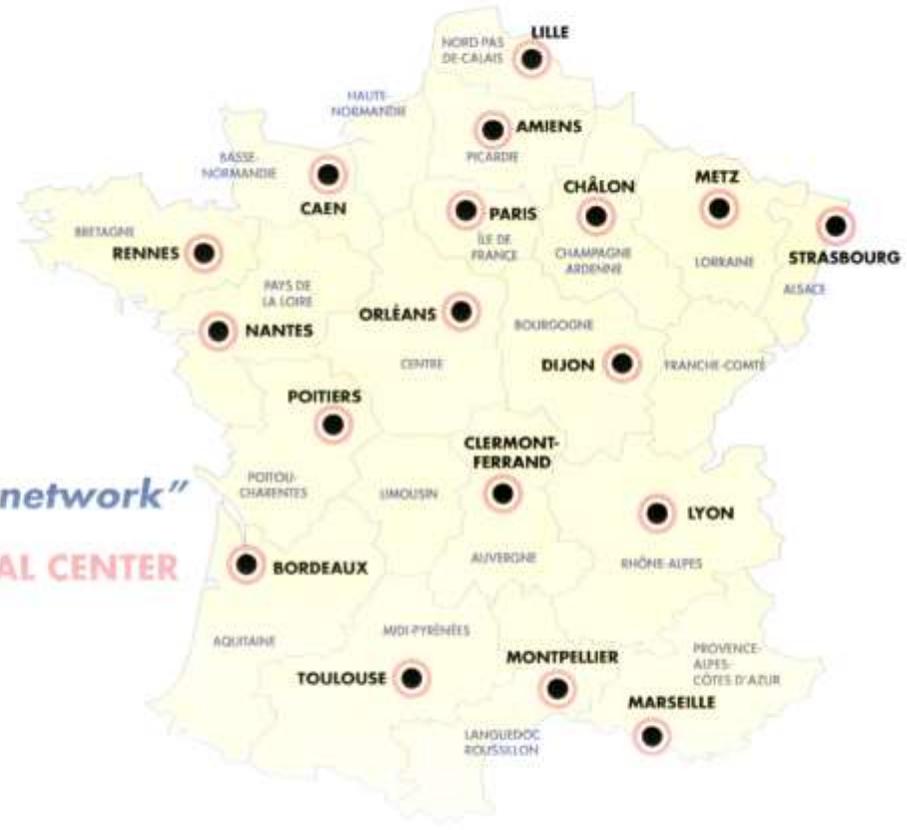
**EUROPE** - Importateurs agréés



*Vente aux particuliers  
Les nouvelles voitures  
sont exposées et  
distribuées par  
une chaîne de*

*Grandes Surfaces :*

Carrefour - E. Leclerc  
Auchan - Casino  
Hyper U - Intermarché  
Hard-discount



*"For example a new network"*

● SPARE PARTS REGIONAL CENTER

**OPAL** assure le stockage et l'approvisionnement des pièces détachées HEULIEZ Electric pour la région Ouest Atlantique.

After-sales service  
Repairing



## I

(Acts whose publication is obligatory)

## DIRECTIVE 2002/24/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of 18 March 2002

relating to the type-approval of two or three-wheel motor vehicles and repealing Council Directive 92/61/EEC

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF  
THE EUROPEAN UNION,

Having regard to the Treaty establishing the European  
Community, and in particular Article 95 thereof,

Having regard to the proposal from the Commission <sup>(1)</sup>,

Having regard to the opinion of the Economic and Social  
Committee <sup>(2)</sup>,

Acting in accordance with the procedure laid down in Article  
251 of the Treaty <sup>(3)</sup>,

Whereas:

- (1) Council Directive 92/61/EEC of 30 June 1992 relating to the type-approval of two or three-wheel motor vehicles <sup>(4)</sup>, laid down the procedure for Community type-approval of two or three-wheel motor vehicles, of components and of separate technical units produced in conformity with the technical requirements set out in separate directives.
- (2) All the separate directives, provided for in the exhaustive list of systems, components and separate technical units to be regulated at Community level, have been adopted.
- (3) The commencement of the application of Directive 97/24/EC of the European Parliament and of the Council of 17 June 1997 on certain components and characteristics of two or three-wheel motor vehicles <sup>(5)</sup> allows the type-approval procedure to be applied in full.

- (4) It is clearly necessary, in order that the type-approval system may work properly, to clarify certain administrative instructions and to supplement the norms contained in the annexes to Directive 92/61/EEC. With this in view, it is necessary to introduce harmonised norms concerning, in particular, the numbering of type-approval certificates as well as exemptions for end-of-series vehicles and for vehicles, components and separate technical units incorporating technologies which are not yet covered by Community arrangements, in the manner of the analogous norms of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers <sup>(6)</sup>.

- (5) Account being taken of currently established technologies, examination of the components and characteristics of the said vehicles has resulted in the retention only of those set out in Annex I to this Directive since all others are inappropriate for regulatory purposes. However, in view of progress and developments in technology, it will be appropriate to examine any further components and characteristics, in particular those relating to secondary safety, to be added to those already listed in the said Annex I.

- (6) The Community approval procedure is intended to enable each Member State to confirm that each type of vehicle has undergone the checks provided for in the separate directives and has been issued with a type-approval certificate. It is also intended to enable manufacturers to prepare a certificate of conformity for all vehicles conforming to the type that has been approved. When a vehicle is accompanied by this certificate it may be placed on the market, sold and registered for use throughout the Community.

- (7) Since the objectives of improving the functioning of the system of Community vehicle approval according to type cannot be sufficiently achieved by the Member

<sup>(1)</sup> OJ C 307 E, 26.10.1999, p. 1.

<sup>(2)</sup> OJ C 368, 20.12.1999, p. 1.

<sup>(3)</sup> Opinion of the European Parliament of 27 October 1999 (OJ C 154, 5.6.2000, p. 50), Council Common Position of 29 October 2001 (not yet published in the Official Journal) and Decision of the European Parliament of 5 February 2002 (not yet published in the Official Journal).

<sup>(4)</sup> OJ L 225, 10.8.1992, p. 72. Directive as last amended by Directive 2000/7/EC of the European Parliament and of the Council (OJ L 106, 3.5.2000, p. 1).

<sup>(5)</sup> OJ L 226, 18.8.1997, p. 1.

<sup>(6)</sup> OJ L 42, 23.2.1970, p. 1. Directive as last amended by European Parliament and Council Directive 2000/40/EC (OJ L 203, 10.8.2000, p. 9).

- (i) whose engine cylinder capacity does not exceed 50 cm<sup>3</sup> for spark (positive) ignition engines, or
- (ii) whose maximum net power output does not exceed 4 kW in the case of other internal combustion engines, or
- (iii) whose maximum continuous rated power does not exceed 4 kW in the case of an electric motor.

These vehicles shall fulfil the technical requirements applicable to three-wheel mopeds of category L2e unless specified differently in any of the separate directives;

- (b) quadricycles, other than those referred to in (a), whose unladen mass is not more than 400 kg (category L7e) (550 kg for vehicles intended for carrying goods), not including the mass of batteries in the case of electric vehicles, and whose maximum net engine power does not exceed 15 kW. These vehicles shall be considered to be motor tricycles and shall fulfil the technical requirements applicable to motor tricycles of category L5e unless specified differently in any of the separate Directives.

#### Article 2

For the purposes of this Directive:

1. 'type of vehicle' means either a vehicle or a group of vehicles (variants) which:

- (a) belong to a single category (two-wheel moped L1e, three-wheel moped L2e, etc., as defined in Article 1);
- (b) are constructed by the same manufacturer;
- (c) have the same chassis, frame, sub-frame, floor pan or structure to which major components are attached;
- (d) have a power unit with the same principle of operation (internal combustion, electric, hybrid, etc.);
- (e) have the same type designation given by the manufacturer.

A type of vehicle may include variants and versions;

2. 'variant' means either a vehicle or a group of vehicles (versions) being of the same type where:

- (a) they have the same shape of the bodywork (basic characteristics);
- (b) within the group of vehicles (versions) the difference in the mass in running order between the lowest value and the highest value does not exceed 20 % of the lowest value;

- (c) within the group of vehicles (versions) the difference in the maximum permissible mass between the lowest value and the highest value does not exceed 20 % of the lowest value;

- (d) they have the same operating cycle (two or four stroke, spark ignition or compression ignition);

- (e) within the group of vehicles (versions) the difference in the cylinder capacity of the power unit (in the case of an internal combustion unit) between the lowest value and the highest value does not exceed 30 % of the lowest value;

- (f) have the same number and arrangement of cylinders;

- (g) within the group of vehicles (versions) the difference in the power output of the power unit between the lowest value and the highest value does not exceed 30 % of the lowest value;

- (h) have the same operating mode (of electric motors);

- (i) have the same type of gearbox (manual, automatic, etc.);

3. 'version' means a vehicle of the same type and variant but which may incorporate any of the equipment, components or systems listed in the information document in Annex II provided that there is only:

- (a) one value quoted for:

- (i) the mass in running order;
- (ii) the maximum permissible mass;
- (iii) the power output of the power unit;
- (iv) the cylinder capacity of the power unit; and

- (b) one set of test results quoted in accordance with Annex VII;

4. 'system' means any vehicle system such as brakes, emission control equipment, etc. which is subject to the requirements laid down in any of the separate directives;

5. 'separate technical unit' means a device, such as a replacement exhaust system silencer, subject to the requirements of a separate directive, intended to be part of a vehicle, which may be type-approved separately but only in relation to one or more specified types of vehicles, where the separate directive makes express provision for so doing;



## Technologie et moyens de production



# Sites HEULIEZ en EUROPE



Groupe Henri HEULIEZ - HEULIEZ SA  
Siège social  
79142 CERIZAY



Division FRANCE DESIGN HEULIEZ  
79140 LE PIN  
92182 ANTONY Paris



Division HEULIEZ Automobiles  
79142 CERIZAY



Division HEULIEZ Embout  
79142 CERIZAY



Show-Room HEULIEZ  
75007 PARIS



HEULIEZ OUTILLAGES  
79140 LE PIN



HEULIEZ SLOVAKIA  
SK-91311 TRENCIN



CSTB - Soufflerie Jules Verne  
44323 NANTES

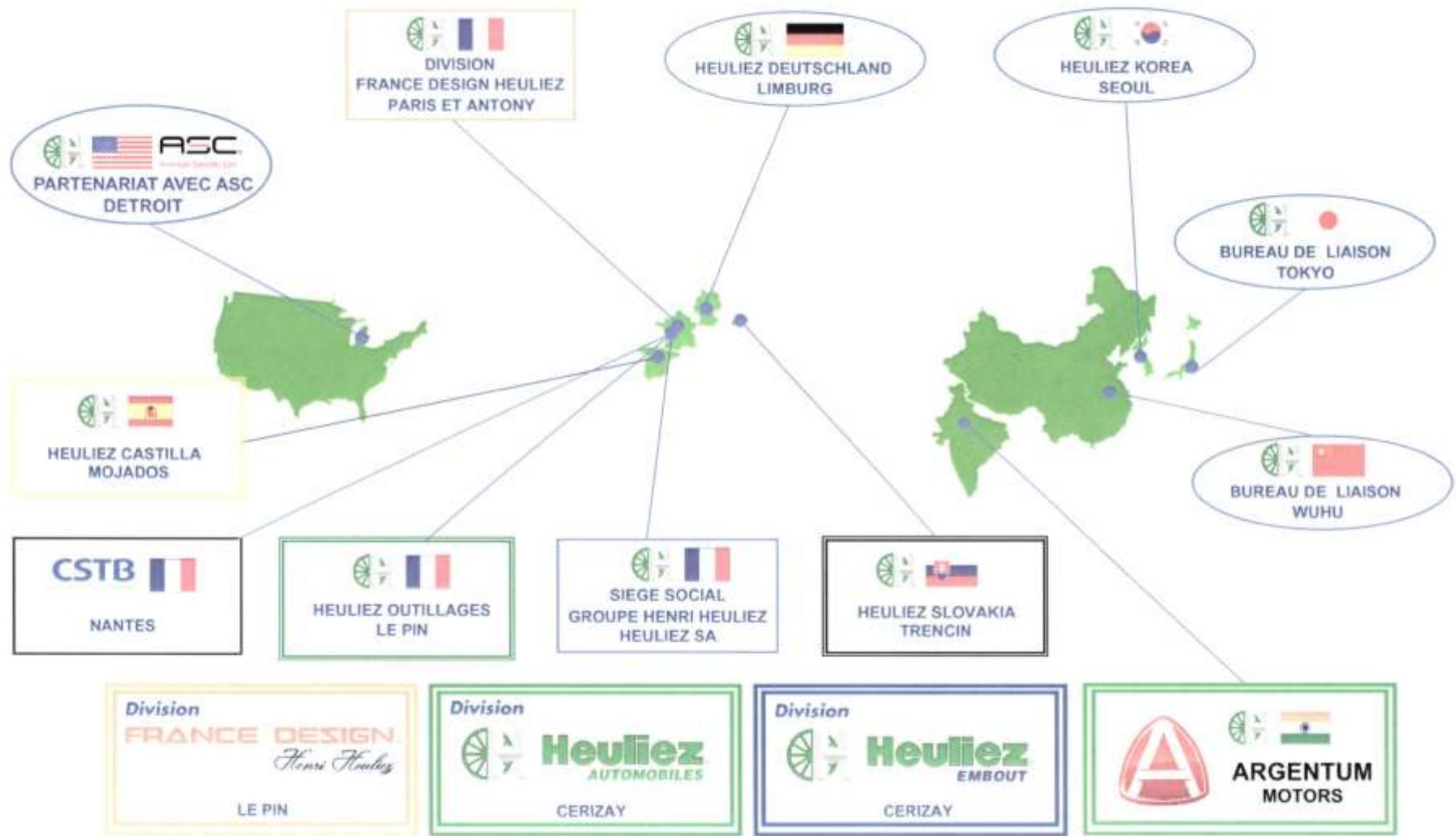


HEULIEZ CASTILLA  
SP-47250 MOJADOS



HEULIEZ DEUTSCHLAND  
65594 RUNKEL-DEHRN

# HEULIEZ dans le monde



## Les Divisions Industrielles Heuliez



Division

**FRANCE DESIGN**

*Henri Heuliez*

Bureau d'Etudes R&D  
LE PIN - ANTONY

750 Brevets Internationaux RETRACTOP

Division



**Heuliez**  
AUTOMOBILES

CERIZAY

Division



**Heuliez**  
EMBOUT

CERIZAY

Division



**Heuliez**  
OUTILLAGES

Le Pin



**Heuliez**  
CASTILLA

MOJADOS



**Heuliez**  
SLOVAKIA

TRENCIN

Division

FRANCE DESIGN

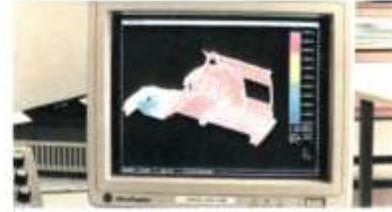
*Henri Houley*

Vue aérienne du site de Recherche & Développement, près de l'Autoroute E62



Division  
**FRANCE DESIGN**  
*Henri Heuliez*

Style - Etudes - Protos - Tests.



750 Brevets RETRACTOP internationaux (50 M €)