

# Persdossier

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# RENAULT EZ-PRO



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## Renault EZ-PRO: gerobotiseerde stedelijke distributie

In een wereld waar verstedelijking zich snel ontwikkelt en 60 tot 70% van de bevolking rond 2030 in steden woont, wordt het niet alleen een grote uitdaging om mensen te vervoeren. We staan ook aan het begin van een nieuw tijdperk voor het transport van goederen. Snelheid, flexibiliteit en betrouwbaarheid zijn essentieel om te voldoen aan de wensen van consumenten, vooral in een tijd waarin het aantal online bestellingen sterk toeneemt. Dit gaat gepaard met steeds snellere en nauwkeurigere levertijden, terwijl de regelgeving voor toegang tot steden en stadscentra alsmaar strenger worden.

Het bieden van duurzame mobiliteit voor iedereen, vandaag en morgen, is het credo van Groupe Renault. Om dit te bereiken, streeft de groep naar mobiliteitsoplossingen die voldoen aan de behoeften van een breed uiteenlopend publiek, maar ook trouw blijven aan het kenmerkende DNA. De mobiliteit van de toekomst is elektrisch, connected, autonoom en deelbaar met anderen. Dat geldt ook voor de toekomstige levering van goederen, met name de 'last mile delivery' – de laatste rit voor de levering van goederen aan de eindgebruiker.

De toekomstvisie van Renault Pro+ op het gebied van 'last mile delivery' bouwt voort op de ervaring van bijna 120 jaar op het gebied van bedrijfsvoertuigen en de passie voor innovatie om het leven van klanten gemakkelijker te maken. Dit wordt niet alleen gevoed door het kenmerkende DNA van Renault Pro+ waarbij de mens centraal staat bij het ontwerpen van voertuigen, maar ook door de openheid tegenover partners, met wie samengewerkt wordt in een open innovatiecultuur. Dit maakt het mogelijk om verder te gaan en grenzen te verleggen.

De EZ-PRO is de tweede robo-auto concept uit van de trilogie uit 2018 waarin Renault moderne mobiliteit services verkent. De EZ-GO onthuld in Geneve, EZ-PRO en tenslotte een premium robo-auto concept die zijn debuut maakt op de Autoshow van Parijs 2018.

Dit maakt deze visie uniek. Het is gebaseerd op vier overtuigingen van Renault Pro+:

- 'Last mile delivery' is een van de belangrijkste sectoren om aan te pakken, om een schone en efficiënte toekomst te creëren zonder onnodige verkeersopstoppingen.
- Commerciële levering moet flexibel zijn, waarbij hetzelfde voertuigplatform voor zowel B2B- als B2C-werkzaamheden ingezet moeten kunnen worden.
- Bezorging van pakketten moet naadloos verlopen en eindgebruikers kunnen kiezen waar, wanneer en hoe de goederen exact geleverd moeten worden.
- Het laatste en misschien wel het belangrijkste is dat de mens een essentiële schakel blijft ten aanzien van 'last mile delivery'. De visie van Renault Pro+ wordt nu geïllustreerd met de Renault EZ-PRO: een concept van een robo-voertuig voor 'last mile delivery' in stedelijk gebied, inclusief een medewerker voor de afhandeling van de levering, waarmee het menselijke aspect behouden blijft.

# Trends and key figures for the delivery market, in Europe and Worldwide

## Figures

- Rate of urbanization in 2030: 78% in Europe
- 70% in China
- Global cost of last mile delivery: \$86 billion per year
- Share of the last mile in the delivery cost for a package: 35% to 50%
- Annual growth of e-commerce in the main markets: 15% per year
- In China: 30%
- Growth in urban deliveries between now and 2030 in Europe (tons/km): 20%
- In China: 125%
- Share of logistics in the utility market: 23%

## What is happening

- People are seeking a sustainable quality of life
- Verticalization of buildings
- Restrictions on access to city centers
- Increasingly strict regulations
- Boom in e-commerce
- Pressure on prices, competitiveness

## Sources

- Oliver Wyman
- McKinsey
- UN

# Renault EZ-PRO at a glance

Groupe Renault brings its last-mile delivery vision to life with Renault EZ-PRO, an electric and autonomous delivery concept featuring connected and shared robo-pods.

- Highly modular for flexible shipping, EZ-PRO is a tailor-made platform designed for delivery companies, logistic operators, retailers and the end users. It is made up of two different components called pods (the autonomous leader pod and the driverless robo-pod), on top to accommodate a great range of uses and formats.
- EZ-PRO keeps a field-based human concierge for special deliveries and driverless robo-pod fleet management. This unique human touch in a robo-vehicle scenario shows that Groupe Renault believes that human beings will remain at the heart of transport activities for a long time.
- Thanks to EZ-PRO, end users can choose precisely where, when and how to receive deliveries, 24/7. The lockers and different delivery methods offered by Renault EZ-PRO are adapted to the range of parcels carried.
- EZ-PRO contributes to the smart cities of tomorrow by reducing congestion and pollution. The pods' styling has been designed to minimize its visual impact and enhance their integration into the urban landscape.

EZ-PRO is part of a series of Renault concepts that focus on urban and shared mobility services.

# Four pillars for developing smart delivery of the future

Smart mobility solutions for urban delivery will be developed around the four pillars that already provide the foundation of the Groupe Renault's strategic plan.

- **ELECTRIC.** The launch of the Master Z.E. in February 2018 completed the Renault Pro+ range of electric utility vehicles now composed of four models, a unique offer in the market. The electrification of the range will continue over the duration of the *Drive The Future* strategic plan and beyond to progressively achieve a fleet that is composed entirely of electrified vehicles.
- **CONNECTED.** The Renault EASY CONNECT for Fleet ecosystem, which is available for the whole range of Renault vehicles in Europe, aims to facilitate fleet management through secure and reliable connectivity. Data analysis allows customers to reduce their cost of use through fuel savings – which also reduces CO<sub>2</sub> emissions—and better management of anticipating maintenance. Future developments in this ecosystem will make it possible to save even more money, amongst other things through the increase in predictive maintenance and creating a real operations platform for vehicles.
- **AUTONOMOUS.** The driver assistance features that equip Renault Pro+ models, such as speed-control, parking aids and the blind spot detector increase safety for the driver and their vehicle. Combined under the term ADAS (Advanced Driver Assistance Systems), they will progressively evolve towards autonomous functions, such as “yard maneuver” (parking and small maneuvers close to a depot or the delivery point) and “platooning” (driving in convoys), which will free the driver from performing certain tasks to reduce wasted time.
- **SHARED.** Through Renault Rent LCV and Renault Mobility, sharing solutions for utility vehicles and corporate fleets are already available on the market. In the future, more strict regulations imposed by cities will oblige logisticians and delivery specialists to increasingly share delivery trips.

# EZ-PRO, a solution for tomorrow's urban delivery

Renault EZ-PRO (pronounced "EASY-PRO") is a robo-vehicle that is 100% electric, connected, autonomous and shared that recharges by wireless induction system. It is a concept intended for transportation and deliveries of parcels in cities. It is made up of two different components called pods, based on the same highly customizable platform on top to accommodate a great range of uses and formats:

- The autonomous leader pod hosts a human concierge who supervises the delivery of the goods and services.
- The driverless robo-pod(s) are modular and entirely customizable, and drive behind the leader pod in "platooning" mode, or independently up to their delivery point.

## For professionals

Renault EZ-PRO provides a solution to transport foods or merchandise and provide services that meet a wide variety of specific business customer needs: for specialists in delivery and last mile logistics, but also for craftsmen, entrepreneurs and trades people working in towns and city centers, when customized appropriately. It makes it possible to deliver a package or service to private customers, and its users are professionals from the private or public sectors.

## Shared

Renault EZ-PRO is a shared solution. This means that a convoy of pods leaving from the same hub and managed by the same operator can carry different types of goods and merchandise, each pod having its own paymaster, theme, clientele and delivery place. They are however operated by the same platform. In the same manner, a pod can make a series of deliveries for one online store and another series for a different store. Finally, pods can be "hired out" temporarily by their owner to a platform according to the configuration and the identified delivery requirements. These shared scenarios contribute to maximize productivity and save costs.

## Connected to smart cities

Renault EZ-PRO naturally finds its place in the ecosystem of smart cities that is being built by public authorities, municipalities and the private sector. This concept reduces congestion impact on the city. Particularly by limiting delivery rounds and the number of parking spaces required, it helps ease today's congestion. This impact is enhanced by the design of the concept, which is intended to blend into the town and reflect its environment, and through its electric drive, it is silent and non-polluting. The impact is also positive for end users, who become the masters of their deliveries both in terms of timing and location.

# A functional and people centric design

True to the Renault brand, the EZ-PRO concept embodies French Design and Easy Life principles. In Renault's life cycle design strategy, this concept, like the EZ-GO concept, embodies the "Work" petal.

Through its uses and its technical specifications, the EZ-PRO concept has a positive impact on cities, whilst its styling allows it to blend in. Its highly advanced functional design, its modular platform, its autonomous driverless capacities and stylish interior make this concept unique and deeply attached to the needs of its users, both in terms of the concierge on-board or the person who receives the delivery.

## An autonomous leader pod

The autonomous leader pod from the Renault EZ-PRO concept can make deliveries and, thanks to the concierge, is also able to carry a fleet of driverless robo-pods and supervising their deliveries.

- It is made up of two separate parts: a cab for the concierge and a hold for the packages and merchandise it carries.
- The cab and the hold are separated by a smoke tinted glazed surface that matches that on the outside of the cab.
- This surrounds the whole control and supervision station to prevent blind spots and ensure excellent visibility all around the vehicle.
- The leader pod is equipped with autonomous driving functions that allow the concierge to dedicate most of their time to supervising and orchestrating the deliveries by the different autonomous robo-pods or concentrate on other tasks with higher added value (administration for example).
- The ergonomic and simple design of the cab hosts a modular cockpit with two uses: a lateral position that serves as a mobile desk and a front facing position to supervise driving.
- A joystick allows the concierge to steer and maneuver the vehicle when autonomous mode is abandoned.

## Driverless robo-pods

The Renault EZ-PRO driverless robo-pods use the same driving platform as the autonomous leader pod but with no one on board. They are entirely configurable according to customer requirements.

- They host sparse and functional containers that can take diverse and varied forms according to the delivery assignment that they must fulfill: lockers for small packages, a large hold for merchandise, a food truck or even a mobile store.
- The modular layout of EZ-PRO is such that the containers adapt to specific and very precise needs as illustrated by the examples with our partners DPDgroup, Lomi, Patrick Roger and Piper-Heidsieck.
- They work in an entirely autonomous manner, with no driver on-board. These vehicles are reversible, the color lights (white at the front and red at the rear) show which way they are working.
- They are equipped with side doors that open upwards to give access to the storage hold or the service area that they offer, according to their configuration.
- A sliding step automatically touches the ground to facilitate access to this area.

## Blending into the urban landscape

The Renault EZ-PRO styling has been designed to reflect the surrounding environment.

- The colors used for the EZ-PRO concept and the aluminum bodywork are consistent with the EZ-GO concept. Treated to express technical complexity, efficiency and minimalism, they also embody durability and remain consistent with the commercial vocation of the vehicle.

- With no large glazed surfaces, the satin finish of the bodywork and the wheel fairings, and the more gloss appearance of the opening panels help to make the pods less massive.
- The reflective properties of these treatments create an effect that enhances the pods' integration into their immediate surroundings.
- The pod platform is treated like a technical area with a "Textured Dark Gray" finish, making it close to the tones of the driving surface. In contrast to the aluminum parts, it contributes to reducing the visual impact of the pods.

Finally, the green components underline the functional details of the vehicles like the catches that attach the containers to the platform and storage opening handles.

Ultimately, the external design of the EZ-PRO helps to minimize its visual impact and enhance the pods' integration into the urban landscape.

# A workspace for the concierge

The Renault EZ-PRO concept breaks out of the traditional driver-deliverer model, creating a new role for a concierge who organizes and supervises the deliveries of a whole fleet of vehicles from their mobile work space, whilst continuing to create a link with the recipients. Inside the autonomous leader pod, everything has been thought out to simplify their task and maximize their comfort given that their time can be spent on things other than driving.

- **Opening**

As is the case for the EZ-GO concept, the large frontal opening with its retracting step facilitates access and getting on-board. The same step also deploys when you open the sliding door of the hold.

- **Ergonomics**

The cockpit of the autonomous leader pod is the concierge's work space. Its design is based on guidelines that blend simplicity, ergonomics and efficiency.

- **Modularity**

The cockpit is adaptable and adjusts by rotation to the uses intended by the concierge: the frontal position to supervise autonomous driving and maneuvering with the joystick, and the lateral position for the mobile office for working.

- **Functionality**

The cockpit combines functional components like a control screen connected to traffic, an iPad with a specific storage area and USB sockets with more fun elements such as the joystick for controlling maneuvers. The references to the world of electronics and optics for the control buttons evoke technicality and precision.

- **Connectivity**

Thanks to its connectivity with infrastructures (V2X technology demonstrated by Renault at the end of 2017 with [SYMBIOZ Demo car](#)), EZ-PRO automatically plans the routes for its pods according to traffic conditions, traffic lights, the availability of parking spaces at the destination, etc. This ensures more efficient deliveries that are more secure, smoother and reduce road congestion.

- **Edging**

Green leather, which can be seen from outside, borders the cockpit of the control area of the EZ-PRO.

- **Opening**

Like the EZ-GO concept, the large frontal opening moves upwards to facilitate access to the cockpit. Quick and practical, in the spirit of efficiency and safety for the concierge.

- **Comfort**

The inside of the vehicle is thoroughly designed for the wellbeing of the concierge. For example, the EZ-PRO offers the concierge lighting that adapts to driving or working and practical storage areas.

- **Visibility**

Thanks to the glazed partition, the concierge can keep an eye on the merchandise they are carrying in the hold of the leader pod.

- **Materials**

As was the case for Renault's previous SYMBIOZ and EZ-GO concepts, the materials used inside come from the residential world: wool felt for the non-technical areas, black cork for the vertical surfaces, leather for seating and the seat back, etc. The combination of some of these materials (felt and cork for example) and the surface treatment (textured or smooth) directly reflect the spirit and the use of sportswear.

## A “human centric” philosophy

For 120 years, Renault has always focused on human aspects when designing its vehicles. With the EZ-PRO concept this philosophy applies in full through the attention paid to the concierge who rides on-board the autonomous leader pod.

The teams from Design, Product and the Light Commercial Vehicles Business Unit have successfully designed a vehicle that is autonomous—even driverless for the robo-pods—as well as paying attention to the comfort of the former driver/deliverer now concierge, in spite of the professional use for which the vehicle is intended. With the increase in volumes, it is vital to facilitate the task of the deliverer, who remains an essential link in the delivery chain and creates the link with the end recipients.

Groupe Renault believes that the management of the last mile will not be completely automated as human beings will remain at the heart of transport activities for a long time. The technologies and design elements offered by Renault on EZ-PRO make possible to conserve and to acknowledge true value of this essential “human touch”.

# Maximal flexibility for all

## Containers that become pods

Setting out for example from a port or a large area of warehouses, a truck carrying several containers—already loaded with merchandise or customized according to a specific storage format—heads to a loading hub at the entrance to a metropolis.

Once there, the containers are taken from the truck by a crane to be installed on the EZ-PRO platform. They automatically clip on using a specific attachment system fitted on the platform.

The driverless robo-pods formed in this way can then be integrated into a convoy and head to their point of use or delivery.

## Small deliveries

When operated by a package delivery specialist, like our partner DPDgroup, EZ-PRO proves to be an ideal tool to meet the immediate needs of professionals or individuals.

It delivers the package ordered where and when the customer wants, in a secure manner, for example using lockers that open using a code sent to a smartphone.

Delivery can also be made by the concierge who takes the package to the final recipient.

## Self-service lockers

A service store uses EZ-PRO to let customers come and collect their order at the time and place that suits them.

It may be a dry-cleaners that positions a driverless robo-pod with lockers close to a station in suburban town. Customers can drop in and collect their clean and ironed clothes on their way home from work.

They open a locker using a code sent via the mobile app' that they used to schedule the pick-up time for their order with the dry-cleaners.

In this configuration, the driverless robo-pod is equipped with lockers that can be operated daily by several stores offering different services.

## Automated sourcing

To work for a merchant, one of the EZ-PRO driverless robo-pods leave itself loaded from a hub and goes where the professional needs their cargo.

This may be the case for a Parisian florist that sends a pod early in the morning to pick up a load of flowers from a wholesale market like Rungis and then receives them directly at their store. The florist then only needs to unload the flowers and arrange them as they wish before opening their store.

After offloading, the driverless robo-pod used by the florist returns to the hub to be used by another professional.

## Grocery shopping delivered at home

The EZ-PRO can be used by several different traders to make a round of “shopping” deliveries to private individuals.

It can for example deliver to a customer their online purchases from a supermarket, to which they add their order from a butcher and their magazines for the week.

In this configuration, the final logistics are taken care of by the concierge who makes deliveries to the customers by hand. The customers therefore do not need to carry heavy boxes of groceries (bottled water, etc.).

### **Customized configuration**

The EZ-PRO can be customized in the colors of the craftsman or the company that is using it and the configuration can be adapted to suit their needs when it is loaded at night in the depot before heading out to make its deliveries and perform its assignments.

For example, for a chocolate maker like Patrick Roger, it takes supplies to the different stores in the network but also makes home deliveries to customers that order online.

For a coffee specialist like Lomi, an autonomous leader pod can take supplies to several of the brand's customer establishments whilst a driverless robo-pod transformed into a food truck will position itself in a specific place for a whole day or half a day.

For a champagne house like Piper-Heidsieck, a driverless robo-pod can be loaded with crates of bottles for the brand's customer establishments, but also carry special crates for bottles or small bags with a bottle and two glasses delivered individually.

### **Hand delivery**

When used by several traders at the same time, EZ-PRO is used to make hand deliveries—made by the concierge—after a more or less immediate request by the user.

This may mean delivering a medicine or a fragile or valuable item. It may also be certified mail if EZ-PRO is operated by a mail service.

This use can apply equally to private end customers or professionals.

# At the service of professionals and the last mile ecosystem

The Renault EZ-PRO concept is designed to be used not only by logistics and delivery professionals but also by craftspeople, entrepreneurs and traders; it is open to a wide range of uses and offers a flexibility that suits the last mile ecosystem in an urban environment. It even contributes to redefining this ecosystem to the benefit of all the stakeholders.

- **In-city hub**

More economical, more sustainable and more human, the cities of tomorrow will be redesigned to be more vertical and less horizontal. The same building may host a garden, residences, offices, a store and even a delivery hub, where the EZ-PRO can be loaded before making its last mile delivery round.

- **Food Truck**

What if a delivery vehicle could also be a place to eat? A Renault EZ-PRO can be turned into a food truck and offer its services to people as they go on their way.

- **Access all areas**

As it is lower, less wide and also more agile than a current vehicle thanks to its electric platform, its 4CONTROL chassis with four-wheel steering and its autonomous technologies, Renault EZ-PRO facilitates the implementation of new delivery methods in city centers.

- **Multi-use**

An autonomous leader pod + driverless robo-pod duo can fulfill several uses for the same place and delivery time. Packages of different sizes for customers to collect, fragile, precious or important items that will be delivered by hand by the concierge, etc. It represents a way of limiting the traffic of delivery vehicles in the same day.

- **Easy Parking**

Whilst the concierge makes their delivery, the autonomous leader pod will park autonomously in an available spot identified using its GPS and its connected functions. During this time, it does not double park or block pedestrians on the sidewalk. It meets the concierge where they tell it, after the delivery.

- **For everyone**

To suit its uses, Renault EZ-PRO can park in spaces as varied as a car park, a space in the street or a building's yard to suit any potential users, be they private individuals or professionals, the recipients of packages or people requiring a service.

- **Availability**

Renault EZ-PRO can make on-demand deliveries or be available for a few hours, half a day or a whole day in the same place. Recipients of packages can therefore choose the time when they wish to collect them according to their timetables.

- **Two-ways**

The presence of the concierge also enables the EZ-PRO to provide services for returning packages or certified deliveries. It can also pick-up new merchandise at a delivery point to take it elsewhere. The free time that the concierge has thanks to the autonomous driving functions allows them to process the administration of these returns.

# A totally new delivery experience focused on recipients

Online consumers who place orders are now demanding fast, flexible and accurate deliveries that can be tracked and controlled in real time using digital tools. The features and the operation of the EZ-PRO concept make it possible to provide new experiences that meet, or beat, these expectations.

- **Where I want**

A fully autonomous EZ-PRO driverless robo-pod can park at the closest spot to where the recipient lives or on their route to make deliveries easier. The location can even be redefined during delivery.

- **When I want**

Renault EZ-PRO can be used on-demand to meet the needs of its users in terms of timing. A trader can therefore have their products delivered just before they open their store.

- **Concierge**

Not all packages can be directly collected by the end recipient. Not all end recipients can necessarily go to collect their packages. In either case, the concierge is there to help!

- **On your doorstep**

Renault EZ-PRO is a zero-emission delivery vehicle specifically designed for town centers, which can make doorstep deliveries for all the residents.

- **Peace of mind**

The system of lockers that can be opened using a smartphone for the EZ-PRO concept allows recipients to have peace of mind: no passerby can collect their package instead of them.

- **Eat-in or take away**

In food truck mode, Renault EZ-PRO naturally allows you to take your order away, but can also be used to eat-in, thanks to a small table that folds down when the side door opens.

- **Adapted**

The lockers and different delivery methods offered by Renault EZ-PRO are adapted to the range of parcels carried, whether they are fragile items, books, clothes from the dry-cleaners, fresh food or even medicines.

- **Digital**

For the end user, the delivery experience is 100% digital, from choosing the time and place when Renault EZ-PRO should call up to opening the lockers, including real time tracking.

# Technical features

- **Chamfers**

The chamfered upper edges of each pod give them a less cubic appearance, which helps them to blend into the urban environment and block less light for the people around them. In the same way, the curved shoulder lines reduce the vehicles' visual impact.

- **Fairing**

The wheels are the only part of the platform with fairing. This acts to protect the mechanical component (which means less maintenance) and avoid spatter, for the benefit of the well-being of people in the city.

- **Sensors**

On the inside, the wheel fairings hold the autonomous driving sensors (radars, lidars, ultrasonic sensors and cameras). These technical features are therefore independent of the containers attached to the platform and are by essence interchangeable.

- **Stop light**

The rear section of the wheel fairing holds the stop light for the Renault EZ-PRO, in a vertical position, in the same way as the stop lights on the EZ-GO concept.

- **Electric**

Renault EZ-PRO is built on a specific platform for its electric drive (the same as for EZ-GO) and placed on the rear axle. The batteries are under the floor.

- **4CONTROL**

Each pod has a 4CONTROL chassis with 4-wheel steering for improved agility and safety in the city.

- **Active suspension**

When stopped, EZ-PRO has a low-profile silhouette. When on the move, the active suspensions raise the pods by several centimeters, to go over speed bumps more easily for example.

- **Built in indicators**

The indicator repeaters perfectly follow the curve of the wheel fairing, they turn with them, improving visibility for the other road users.

- **Attachment**

The upper part of the autonomous leader pod and the containers on driverless robo-pods are attached to the platform using frontal and side rods distributed around the vehicle. They can be identified by their green color, which characterizes the functional details on the EZ-PRO and the handling areas.

- **Wireless**

Renault EZ-PRO has a wireless induction battery recharging system for automatic connection without any human intervention.

- **Signature**

The autonomous leader pod and the driverless robo-pods all have the luminous signature of C-shape lights. The robo-pods are reversible, the color lights (white at the front and red at the rear) show which way they are working.

- **Safety**

The large glazing surrounding and over the top of the driving and supervision station of the autonomous leader pod offers excellent visibility all around the vehicle. This is enhanced by the cameras on either side of the cab that replace the rear-view mirrors.

- **Photovoltaic**

The roofs of the autonomous leader pod and driverless robo-pods are fitted with photovoltaic sensors that power the vehicle's electric equipment.

- **Warning**

The luminous strips at the front and rear of the pods warn passers-by of what the pod is about to do, for example parking, if it is making a delivery or leaving.

- **Life saving**

The EZ-PRO driverless robo-pods are equipped with a defibrillator that can be used by anybody if a person close to a delivery point has a heart attack.

## About us

Groupe Renault has been making cars since 1898. Today it is an international multi-brand group, selling close to 3.76 million vehicles in 134 countries in 2017, with 36 manufacturing sites, 12,700 points of sales and employing more than 180,000 people. To meet the major technological challenges of the future and continue its strategy of profitable growth, the Group is harnessing its international growth and the complementary fit of its five brands, Renault, Dacia and Renault Samsung Motors, Alpine and LADA, together with electric vehicles and the unique Alliance with Nissan and Mitsubishi. With a new team in Formula 1 and a commitment to Formula E, Renault sees motorsport as a vector of innovation and brand awareness.

### Links

[Groupe Renault Corporate website](#)

[Groupe Renault Media website](#)

[Drive The Future 2017-2022](#)

[Shared Mobility website](#)

[Easy Electric Life website](#)

### Download gallery and videos

# APPENDIX

## Technical datasheet: Renault EZ-PRO in figures

Length: 4,80 m

Width: 2,10 m

Height: 2,20 m

Wheelbase: 3,88 m

Weight autonomous leader pod: 2 500 kg

Weight driverless robo-pod: 2 800 kg

Volume

- autonomous leader pod: 6m<sup>3</sup>
- driverless robo-pod: 12 m<sup>3</sup>

Loading capacity

- autonomous leader pod 1 ton
- driverless robo-pod: 2 tons

Engine: 1 electric motor

Charging: induction

Drive wheels: REAR

Steering wheels: FRONT/REAR

# Partners

## DPDgroup

DPDgroup is the second ranking express delivery service provider in Europe and delivers 4.8 million packages around

the world every day under the brands DPD, Chronopost, SEUR and BRT.

DPDgroup designs innovative delivery solutions that meet three major challenges:

- Ever more interaction with the end recipient
- Alternative delivery points: offices, neighbors, collection points, lockers, etc.
- Sustainable urban logistics solutions to overcome the challenges faced by towns and cities: congestion of centers, pollution, noise, etc.

The partnership between DPDgroup and Groupe Renault represents an opportunity to create synergies between a leading automotive manufacturer and an expert in deliveries. This alliance is based on the capacity to imagine how last mile logistics can contribute to improving urban life, by implementing sustainable delivery solutions that most closely meet the expectations of towns, companies and end recipients.

On a highly demanding market that is growing quickly, the last mile requires particular care both for the services offered and the quality of the delivery. Performance comes from a combination of greater flexibility in the choices for the recipient and constantly seeking to optimize the processes and costs for the deliverer.

Vehicles like EZ-PRO fitted with autonomous technologies, particularly when used in city centers, could considerably facilitate the work of delivery staff, reduce their workload and greatly increase the efficiency of their operations. Ultimately, smaller vehicles than those used today, with electric or alternative power, combined with electronic services will be predominant in delivering packages.

## About DPDgroup

DPDgroup is the second largest international parcel delivery network in Europe. DPDgroup combines innovative technology and local knowledge to provide a flexible and user-friendly service for both shippers and shoppers. With its industry-leading Predict service, DPDgroup is setting a new standard for convenience by keeping customers closely in touch with their delivery.

With more than 68,000 delivery experts and a network of more than 32,000 local Pickup points, DPDgroup delivers 4.8 million parcels to over 230 countries each day through the brands DPD, Chronopost, SEUR and BRT.

DPDgroup is the parcel delivery network of GeoPost, which posted sales of €6.8 billion in 2017. GeoPost is a holding company owned by Le Groupe La Poste.

## Patrick Roger

Owner of 10 shops in Paris, Saint Germain en Laye, Sceaux and Brussels, Patrick Roger is a sculptor who gives body and life to chocolate. Elected "*Meilleur ouvrier de France*" in 2000, he is installed in Sceaux in a 2 000 m<sup>2</sup> workspace where the production of chocolate stands alongside the artistic creations, often colossal. Committed to the ecological transition for the good of the environment, Patrick Roger has been working for four years in electric vehicles.

For Patrick Roger, the partnership with Groupe Renault is a logical response to the need to evolve with the transport world. Deliveries to end customers or brand shops represent an increasingly difficult task for the deliveryman, in terms of parking and unloading. The EZ-PRO project responds to a global problem in the world of delivery that extends to the last kilometre. It shows the direction in which to work to imagine a positive future, making you want it to become a reality quickly.

## **Lomi**

Roasters of specialty coffees since 2010, Lomi works with restaurant industry professionals supplying coffee, equipment and training. They select their coffee beans directly from plantations in Brazil, Salvador and Ethiopia. They train and guide their customers in order to guarantee quality and a consistent aromatic profile. They select and offer the best coffee equipment with integrated after-sales service to increase proximity and responsiveness.

The partnership between Lomi and Groupe Renault makes it possible to illustrate Innovative delivery solutions will definitely be integrated on an ongoing basis to meet increasing delivery volumes, in ever more congested urban areas with higher ecological and environmental stakes.

The EZ-PRO concept answers a basic need for service to our B to B customers by facilitating daily delivery of big volumes of merchandise to gridlocked urban areas. This project would afford greater flexibility and precision in delivery management. Customers are extremely busy and need to be delivered in record time, reliably and flexibly. Obviously, this would also allow to reduce delivery costs because the last mile is today the most expensive.

Setting up Lomi coffee shops in a driverless robo-pod will provide truly animated spaces. The delivery vehicle will become a pleasurable spot because it's silent, aesthetic and lively. Lomi will use its creative know-how to develop a complete experience.

### **About Lomi**

Lomi – Made-to-measure specialty coffee for professionals and individuals since 2010.

Passionate roasters and baristas, we offer specialty coffee beans and equipment. Lomi is also a training school, two coffee shops in Paris and an eshop. Craftspeople from the plantation to the cup, we are drawn together by the desire to perpetuate quality expertise.

<http://www.lomi.paris> // Coffee shop 3ter: 3ter rue Marcadet - 75018 Paris // Coffee shop Printemps du Goût: 64 boulevard Haussmann - 75009 Paris

## **Piper-Heidsieck**

Founded in 1785, Piper Heidsieck is one of the oldest “Maison de Champagne” and exports more than 85% of its volume abroad. Logistics is therefore a fundamental element in everyday life. Working with the Groupe Renault means working with a company or group that is totally in tune with the pragmatic challenges that must be faced in delivery. These issues are not so much distances, because maritime transport has undergone a real revolution, but that is really what happens at the last metre. Having the ability to consolidate a path, and then having the opportunity to make this delivery to the end and in a precise way, really seems to be the way of the future.

The Renault EZ-PRO project has enabled us to work with a group whose values we share: a real force in boldness and innovation. It also allowed us to work on the challenge of the next twenty years for a company like ours and for all luxury products. We are constantly seeking to ensure that throughout this supply chain, the pleasure of tasting a bottle of champagne is as pleasant as the pleasure of looking at the landscapes that surround us in Champagne.

### **About Piper-Heidsieck**

Piper-Heidsieck is the most awarded “Maison de Champagne”. Founded in 1785, owned by the Descours family, it owes its worldwide success to the audacity of its leaders over the centuries and their concern for

excellence. With its dual certification in Sustainable Viticulture in Champagne and High Environmental Value, Piper-Heidsieck invests every day to improve the quality and authenticity of its wines.

With more than 85% of its turnover generated outside France and a presence in more than 100 countries, Piper-Heidsieck is distributed through all distribution channels, from the most renowned wine merchants to the festive places of the major capitals, as well as in all the shops and restaurants where the major champagne brands are expected by consumers.

## TO KNOW MORE

### Renault's mobility services strategy

Groupe Renault has always been a leader in innovation, through its products, their design, their developed technologies and the services offered. We are therefore creating—either by ourselves or by drawing on the advantages of our partnership with Nissan and Mitsubishi—the future of transport, with the aim of making our customers' lives easier. Our vision for providing sustainable mobility for all, today and tomorrow, involves in particular the development of [new shared mobility services](#).

#### **Operating commercial services using robo-vehicles**

During his presentation of the strategic plan [Drive The Future \(2017-2022\)](#), Carlos Ghosn, CEO of Groupe Renault, stated that the company's aim, in collaboration with the Alliance, was to launch commercial services of autonomous robo-vehicles in the near future.

To transport people, we will develop robo-vehicles and operate them in the context of on-demand services, as revealed by the [EZ-GO](#) concept unveiled at the Geneva Motor Show in 2018.

To transport goods—particularly for “last mile” deliveries—Groupe Renault does not intend to replace specialists in the field, but wishes to offer them solutions that efficiently and appropriately meet their needs and those of their customers. Solutions that begin with a vehicle that is designed to overcome their constraints and those of the areas in which they operate, and that respect the environment. These solutions will make it possible to carry out deliveries anywhere in the centers of the future metropolises and will be accompanied by fleet management and supervision services.

#### **Meeting the needs of specialists in the last mile**

Renault's brand promise is to make its customers' lives easier, be they private individuals or professionals. To design the features, functions and possible uses of a concept like EZ-PRO, which is appropriate to all the delivery companies specialized in the last mile and those of end customers, we are opening ourselves up to partners.

They provided their expertise and knowledge in the area, which helped our teams to analyze and decrypt the outlook for the development of the delivery market over the coming years. The boom of e-commerce, the impact of restrictions on traffic in cities, and new customer expectations are all data and factors that show how big the forthcoming disruptions for the delivery of goods and services could be.

The connected services developed for deliverers and their customers, the possibilities offered by autonomous technologies, the electrification and the modularity of platforms are the angles for this disruption, as are the reorganization of city centers and the creation of neighboring delivery hubs.

#### **Developing mobility services under real conditions**

Beyond its experience of nearly 120 years in the field of LCVs and transforming them to adapt to its professional customers' needs, Groupe Renault is already developing testing and marketing to private and professional customers in order to learn and to innovate in the area of last mile deliveries.

- The [Renault Mobility](#) 24/7 self-serve rent-a-car app for individuals and businesses.

- Madrid's [Zity](#) electric car sharing service (500 ZOE), which has been deployed in partnership with Ferrovial since October 2017.
- The [Moov'in.Paris](#) electric car sharing service (100 ZOE and 20 Twizy), which is being deployed in partnership with ADA in Paris since October 2018.
- The [Karhoo](#) integrated on-demand taxi and ride-hailing service booking platform, with over 250,000 vehicles in Belgium, France, Germany, Ireland, the Netherlands, Spain and the United Kingdom. Where platform users can book, modify, monitor and pay for their rides.
- The [Marcel](#) ride-hailing service, operating in Paris and the Greater Paris area, which features 24/7 vehicle booking and hailing.

In July 2018, the City of Paris and Groupe Renault also announced their intention to [share their expertise and their skills](#) to develop electric mobility for Parisians, residents of the surrounding area and visitors. Which will entail the development of an offering of electric commercial vehicles including ride-hailing and car sharing, with the aim of operating a fleet of 2,000 electric vehicles by the end of 2019.

Groupe Renault is experimenting in the field of autonomous mobility as part of the [Rouen Normandy Autonomous Lab](#), the first shared and autonomous on-demand mobility service on open roads in Europe, in a logic of serving the first and last mile.

## Renault's expertise in LCV

As a producer of utility vehicles for nearly 120 years, over its history Renault has demonstrated its expertise in terms of tailor-made vehicles and its capacity to anticipate the future of transportation.

Renault sells LCVs under the Renault Pro+ expert brand.

- Renault Pro+ is part of Groupe Renault's [Drive The Future \(2017-2022\)](#) strategic plan, with the aim of going from top regional to top global player thanks to its innovative vision of the future of transport and its new connected services.
- Renault Pro+ is a pioneer and the European leader in electric utility vehicles. The brand has every intention of keeping its position thanks to its commitment to electrifying its full line-up by the end of the strategic plan.
- The large range of utility vehicles offered by Renault Pro+ and the many on-demand adaptations and transformations available meet the needs of customers and their diverse requirements.

In 2017, Renault established a new world record for sales of LCV with 463,000 registrations, reinforcing its position in South America as well as European van leader, which has been confirmed by the results of the first half of 2018.

## Renault Pro+, a global expert brand

The Renault Pro+ expert brand makes it possible to address professional customers with specific requirements in an appropriate and legible manner, with three strong product features: innovation, ease of use and a customized offering.

Renault Pro+ offers a vast choice of utility vehicles from big panel vans (Kangoo, Trafic, Master) including pick-ups (Alaskan, Oroch), for a total of more than 650 versions available combining the panel van and flat bed offerings. These vehicles can also be adapted to diverse professional customer requirements through bespoke conversions.

As part of this range, the electric models on offer, from quadricycles to large panel vans (Twizy Cargo, ZOE, Kangoo Z.E. and Master Z.E.), meet the major requirements of professionals in terms of volume or payload, to deliver over the last mile and access city centers without releasing emissions. Also, a new ecosystem of connected services, known as Renault EASY CONNECT for Fleet, has been developed to improve fleet management and develop the activities of professionals.

The Renault Pro+ network includes 650 dealerships in 40 countries and a network of 400 approved coach builders across 29 countries. These coach builders perform bespoke transformations, to meet the needs of any professional. The teams are fully-trained and equipped to handle electric LCVs, while taking its customers' business imperatives into consideration.