E-Vivacity or the "eco-citizen" scooter

The first manufacturer to mass produce an electric scooter, Peugeot Motocycles made a sensational splash at the 1996 Cologne Motor Show. Such a strong innovation that the vehicle even had a test track on the Peugeot stand: something never before seen. The model sold 3,500 units until 2006, when production was stopped.

A sensible decision, explained by a sales volume that is still relatively limited on the electric market, stemming from the ageing of the technologies used, a high price and the absence of adequate urban infrastructures to recharge the vehicle easily. Nowadays, increasing public awareness, changing life styles and a favourable media response render the market more receptive to green solutions, resulting in a new approach to urban mobility. It is in this context that Peugeot Motocycles unveils E-Vivacity, the ultimate eco-citizen scooter.

Peugeot's electric scooter adventure goes back to the eighties, when it was already aware that the mobility of the future would involve the use of clean energy, an alternative to all-encompassing petrol. In parallel with the miniaturisation of electronic components observed in the computer sector, the automobile industry understood the advantage of this technological progress and began to study how to put batteries in its cars. Until then inconceivable due to bulk and weight constraints, the design of an electrically-propelled scooter offering performances comparable to those of a petrol scooter became a credible option.
In launching the Scoot'elec in 1996, a year after the electric 106, Peugeot Motocycles struck a decisive blow, demonstrating once again its ability to innovate, taking the lead over its era and its competitors. The technological nec plus ultra with its nickel cadmium batteries providing a 40 km operating range, 115 kg weight and intelligent electronic control, this scooter's performances even today would have no cause to be jealous of many competitors.

With the support of this valuable technological laboratory and benefiting from its unique experience, Peugeot is now planning to return to this market

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in 2011 by completing the Vivacity range, already available in three motorizations, two of which are 4-stroke. In addition to the evident need for individual mobility, the growing interest of local authorities and public services in this type of clean vehicle with a view to establishing urban fleets holds out the promise of interesting prospects.
Comparable to 50 cm3, this concept is equipped with lithium ion batteries, more stable over time and more efficient, offering power close to the maximum 4,000 watts authorised by European law for the category. These more complex batteries will also give the scooter increased autonomy, allowing trips of 80 to 100 km without needing an intermediate recharge.
The drive electronics also enable the batteries to be recharged during the deceleration phases by recovering the kinetic energy and offering the option of activating a reverse mode for vehicle manœuvres at very low speed. An integrated diagnostic module that stores the record of the charging and discharging cycles as well as the vehicle's modes of use will enable the rider to optimise his driving and the vehicle's output.
How does it work ?
The battery
E-Vivacity uses 1 Lithium Ion Cobalt battery, located underneath the storage space, leaving the storage space completely free to store a scooter lock and a helmet! More than a feat, this is a minor revolution on such a compact scooter that allows itself the indulgence of a 35L storage capacity.
The Lithium Ion Cobalt battery has many advantages: it allows a minimum of 1,000 intensive charging/discharging cycles without any harm and without a memory effect, its life means it can cover over 40,000 km under normal use conditions, its energy density is high, for an operating range of 80 km to 100 km on the road, depending on the type of use. The electronic system integrated in the battery (BMS: Battery Management System) monitors the charge and the temperature of the different elements, ensures the safety of the system, manages battery life and optimises the autonomy.

Recharging
Equipped with an on-board charger and a charging cable underneath the seat, E-Vivacity is plugged into a 230 V - 16 A domestic socket.
A complete charge (empty battery) takes four hours. The first two hours recover 80% of total battery capacity, while the last two hours are used to level out the monoblocs. The sophistication of the electronic management helps to optimise the energy output and life of the batteries.
E-Vivacity thus produces performances at least equivalent to a 50 cm3 petrol scooter. In urban use, it fits in well with the traffic thanks to its lively start: the gradual power and the torque of its motor guarantee supple, fluid driving with no jolting; its very cheap maintenance is limited to the replacement of consumables such as the tyres or brakes.
Quiet and clean, its maximum authorised speed is 45 km/h. Its easy, almost intuitive handling makes trips more pleasant than ever: lack of noise, smell

or vibrations, while retaining a surprising ability to accelerate from a standing start. An impression of calm and serenity is conveyed by this concept that gives the city a completely new face.
Back home, a simple socket enables the owner to "fill up": the seat is unlocked with the key, it is plugged in and the recharge light comes on indicating that the charger fan is operational for the 4 hours needed to charge the battery.
In addition to its incomparable driving pleasure, what makes the difference is the remarkably low cost of use: from €4 for 100km with a petrol scooter, to. only €0.4 and costs divided by 10. With an average annual distance of 4,000 kms for a 50 cm3, E-Vivacity would only cost €16 in energy to cover a whole year's trips, at zero C02 emissions!
The additional cost linked to the batteries could be offset by the possibility of leasing these energy storage elements by the month with a battery rental price that does not exceed that of a full tank of fuel.
All these advantages make it obvious that electric is the very essence of green mobility.
Technical information
Engine : "brushless" synchronous electric motor with permanent magnets, air-cooled
CC : equivalent 50cc
Fuel : Lithium ion Cobalt battery (approx. 25kg)
Modes : economical - 45km/h – reverse
Charging time : rechargeable in 4 hours
On-board capacity : 2.9 kWh
Max. power : 4kW
Clutch : direct drive electric motor
Transmission : notched belt
Frame : steel double cradle
Front suspension : ø 32 mm telescopic fork
Rear suspension : adjustable single shock absorber
Front brake: ø 200 mm disk
Rear brake: ø 190 mm disk
Front/rear tyres: 120/70 - 12
Dimension Lxwxh: 1910 x 680 x 1168 mm
Seat height: 786 mm
Dry weight: 115 kg
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