

PININFARINA CONCEPT CAR INVESTIGATES 'DISTRIBUTED PACKAGING'

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TURIN – Pininfarina will unveil next month in Geneva a concept car that will test consumer and automaker reactions to new packaging solutions offered by a fuel-cell powertrain. The Italian design and contract manufacturer will show its concept, called Sintesi or Synthesis in Italian, on March 3 at the Geneva auto show.

The four-seat coupe will be about 4700mm long and have four doors. It will attempt to redefine the usual vehicle packaging with a fuel cell system developed by Pininfarina in conjunction with Nuvera Fuel Cells.

Nuvera is a fuel cell specialist headquartered in Cambridge, Massachusetts, and Milan, Italy.

"Conventional powertrains imply a bulky volume," said Pininfarina head of design Lowie Vermeersch in a phone interview. The size of the engine and transmission to a major extent determines the shape of the vehicle, he added.

In the Sintesi, Pininfarina put an electric motor into each of the wheels, while four fuel cell stacks are positioned on the vehicle frame near the wheels.

The central tunnel houses the tank for biofuel and the reformer, which transforms the biofuel into hydrogen before sending it to the four fuel-cell stacks.

"With this layout we call 'distributed packaging' we are able to obtain a better weight distribution, more usable space for the passengers and a better drag coefficient," Vermeersch said.

The central tunnel also houses batteries that will have a dual function:

- permit an immediate start of the vehicle, without having to wait for the fuel cell system to get to operational level
- improve acceleration when needed with a power boost to the electric motors located into the wheels.

Pininfarina predicts that vehicles with "distributed packaging" such as the Sintesi could reach the market by 2015.

