



Body

## **Opel Meriva Concept: Epitome Of Flexibility**

- FlexDoors: Innovation makes monocab more versatile, more comfortable and safer
- FlexSpace: maximum rear seat variability
- FlexConsole: Individually configurable storage system between the seats

The Opel Meriva Concept takes flexibility to new heights with its rear-hinged rear doors that can be opened independently from the front doors. This innovation, called FlexDoors, makes access to the car interior much easier and also offers a range of safety benefits over conventional car doors. The concept car also boasts the highly variable FlexSpace rear seating concept familiar from the production Meriva. There is also a new storage system called FlexConsole above the center tunnel to make life on board even more comfortable.

### **Access: Rear-hinged rear doors considerably increase comfort**

The most eye-catching innovation is the FlexDoors concept. While the front doors are conventionally designed with front hinges, the rear doors swing open toward the back of the car, which makes, for instance, securing children in the back seat or stowing a briefcase behind the front seat much easier. Entering and exiting the vehicle is more convenient as the rear doors open to a much wider angle. The rear-hinged rear doors provide access at the car's highest point – just behind the B-pillars – and the door openings are not restricted by the wheelarches like conventional door apertures. A further advantage of FlexDoors is that both front and rear doors open to a 90-degree angle. In comparison, the current production Meriva's doors open to an angle of about 60 degrees. Thanks to their innovative design, the rear doors are also relatively short, making access to the interior easier in tight parking spaces.



### **Premiere: Front and rear doors open independently of each other**

Rear-hinged rear doors already on the market can only be opened after the front door has been opened, which severely limits their practicality. FlexDoors smooth operation is backed up by an array of patented innovations developed by GM/Opel engineers. In addition, a comprehensive FMEA risk analysis<sup>1</sup> was compiled that listed all conceivable operational and functional errors. The corresponding countermeasures were then defined in the technical specifications. A dual layout, electronic/mechanical fail-proof surveillance system ensures that the doors can only be opened from the inside or outside when there is no risk for the passengers.

As part of the FlexDoors concept's innovative monitoring system, the Meriva Concept also features an automatic electronic child lock, which supplements the conventional mechanical system. The rear-hinged rear doors also improve control over children exiting the car, as they cannot step out into traffic as easily as with conventional doors. Seat belt usage rates are predicted to increase as well, because rear-hinged rear doors enable parents to buckle up smaller children much more easily. The result of these combined factors is higher comfort and a considerable boost in safety.

### **Comfort: Climb in and out easily**

The FlexDoors concept was tested and optimized in an extensive series of car clinics – with potential customers. It quickly became apparent that a vast majority of participants were very impressed with the innovation and had no problems getting used to the rear-hinged rear doors.

Indeed, entering and exiting the vehicle is more convenient as the rear doors open to a 90-degree angle, creating a much wider aperture than standard car doors. Thanks to the high roofline, rear passengers also have more headroom when getting in and out of the car. The interior is much more accessible, so stowing a briefcase behind the front seats, for instance, is considerably easier.

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<sup>1</sup> **FMEA** (Failure Mode and Effects Analysis). An analytical reliability engineering method to identify possible weak points. FMEA is used within the framework of safety management to preventively avoid faults and increase the level of technical reliability.



The FlexDoors concept does not require any concessions in crash performance or body stability, as the B-pillars have been purposely retained – unlike the previous and much more futuristic Flextreme concept car. Just like in conventional vehicles, the Meriva Concept head curtain and side airbags provide additional occupant protection.

**Innovation: Flexible FlexConsole storage system between the seats**

The FlexConsole system is a further innovation which provides flexible storage space between the seats. Its realization was made possible thanks to an electric handbrake. This creates room for two rails above the conventional compartments in the center console, which extend back as far as the rear seats. Various containers can be easily fixed to these rails and pushed backwards and forwards, so that rear passengers can also make full use of the system. There is no limit to the type of containers which can be simply clicked into the space management system with spring-loaded pins. Anything is possible, from a cool box to a coffee machine, or from a mobile communication center to a chic handbag.

**Unsurpassed: Flexible FlexSpace seating system for the rear seats**

The Meriva Concept's door system also offers benefits when using the extraordinarily flexible FlexSpace rear seating system, which has been carried over from the current production Meriva. The handles to move or fold down the rear seats are now even easier to reach. In the standard five-seat configuration, the FlexSpace system offers three seats in the rear.

The layout with two single seats in the rearmost position offers particularly high levels of comfort: the Meriva then becomes an extraordinarily spacious four-seater, offering leg and shoulder room for all seats that rivals a mid-size class car. If more luggage space is required, both single outer seats can be individually pushed forward or folded away completely into the car floor quickly and easily. In this configuration, the center seat is simply folded down. Even as a five-seater, the Meriva boasts a cargo capacity of 415 liters – considerably more than usual in the compact car class. If required, the Meriva Concept can be quickly and easily transformed into a two-seat MPV with a 1420-liter load capacity.



### **Help: Moveable load floor simplifies luggage loading**

Another innovation helps with luggage compartment loading: the vertically adjustable load floor. Thanks to this innovation, heavy luggage need not be lifted up and out of the trunk. Instead, the load floor can be raised by 20 centimeters at the touch of a button.

In addition to the Meriva study's flexibility concept, the compact monocab (length x width x height: 4220 x 1760 x 1601 mm) also sets new standards in the feeling of on-board spaciousness. This was achieved by lowering the instrument panel by around ten centimeters compared to the current production Meriva, and by making the front A-pillars as slim as possible, so that driver and front passenger have optimal visibility. The lower rear door windows also ensure excellent visibility for rear passengers, as do the additional large side windows in front of the C-pillars, which have been pushed far back. Rear passengers enjoy plenty of space thanks to FlexSpace, the long wheelbase of 2640 mm and the wide track (front 1560 mm, rear 1584 mm).