

WE MAKE DRIVING SAFER.

Our concept car, designed to be the precursor of autonomous driving.

Mitsubishi Electric has developed an innovative concept vehicle (EMIRAI 3.1 x) with future-oriented assisted driving functions.



EMIRAI 3.1 x – our concept car, equipped with next-generation driving-assistance technology.

Our innovative concept car offers future drivers next-generation driving-assistance features aimed at creating greater driving safety and comfort. The next-generation driving-assistance technologies boast an interactive 3D Head-Up Display and advanced HMI technology, such as multi-bonding displays and gesture control. These features combine with driver biometric sensing to create a personalized driving environment.

Check out the future – in our EMIRAI 3.1 x

It all began with our innovative multi-bonding display: the LCD displays on the dashboard and center console are laminated using an optical bonding process for high visibility and usability as well as for aesthetic harmony with the vehicle interior.

Furthermore, larger images are achieved without larger LCDs by narrowing the widths between separate displays. The high-visibility displays reduce reflections thanks to optical bonding and optical design technology.

Also, display items can be changed in accordance with driver preferences. Cloud-content synchronization and selectable content layouts enable drivers to create personalized interiors.

However, the equipment inside the EMIRAI 3.1 x can do much more: it can be operated without having to look at the display. The driver's hand profile and motions are detected for simplified adjustment of air temperature and music volume.

The wearable device vibrates to notify specific passengers of new information etc., as required. An input overwrite function, which was co-developed with Tokyo University of Agriculture and Technology, allows the driver to overwrite letters without having to confirm each time.

And that's not all: The 3D Head-Up Display (HUD), which appears in the combiner, provides 3D images of objects up to 10 meters ahead of the driver so that the driver can continue to concentrate on the road ahead.

This technology uses 3D imaging with binocular disparity on the Head-Up Display.

In addition, the system is exceedingly flexible and can adjust the position of the display in the combiner in accordance with specific situations, (e.g. when driving onto a highway) – for even safer and easier driving.



Future-oriented: Our driver-recognition and telematic technologies

The driver's driving ability is monitored using a camera and a cardiograph that is based on a non-contact cardiograph co-developed with the National University Corporation Kyushu Institute of Technology. A camera tracks the driver's face orientation and line of vision. Safe-driving support and predictive driver assistance functions work very flexibly, and are based on the driver's behavior. Our technology also offers a proactive analysis of map data, e.g. in order to identify intersections with poor visibility. There are also cameras fitted outside the car for a better view of such intersections. Information about other dangerous road conditions is collected, and is immediately shared. The system is also adaptive, and learns to react automatically when the same location or situation is re-encountered.

Our system also takes care of the driver's wellbeing: a cloud-based application analyzes the driver's physical condition by comparing current driving behavior with past data stored in the cloud. Suitable service stations and stopping options are recommended when the driver shows signs of fatigue.

