



Innovation success

If you're into cutting-edge automotive technology, Las Vegas is the place to be for a few days at the start of each year. **Neil Barrett** reports

ONE OF THE biggest highlights on the calendar for those interested in the latest technological innovations and blue sky thinking, the Consumer Electronics Show (CES) ranks among the largest super tech-fests on the planet. It's more than just your average technological trade show. It attracts the top brands in a wide range of fields, including automotive technology.

Let's take a look at the dreams and developments in the in-car experience and safety that vehicle manufacturers have been showing off this year.

THE ULTIMATE MOBILITY VEHICLE

Korean vehicle manufacturer Hyundai has been working hard on many new technologies in recent years and this one is pretty special: their Elevate, which takes the best bits of technology found in robots and electric cars to create a vehicle which they believe can get over terrain which is beyond the reach of even some very capable traditional off-road vehicles.

The vehicle is modular. In other words the body of the car can be switched for a number of

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different options, depending on the situation. We're reassured that the robotic leg architecture (yes, really) can be folded up for what we might call normal driving but as their team boldly claim, “no other vehicle can climb a five foot wall, step over a five foot gap, walk over diverse terrain, and achieve a 15 foot wide track width, all while keeping its body and passengers completely level.”

Why is all of this important? The answer could be simple. Hyundai believes that this tech can deliver a step-change when it comes to disaster assistance. Others agreed, especially editors from Edmunds - motoring publishers similar to Parkers in the UK, who decided to award one of their Tech Driven Awards to the project at CES.

PREMIUM COMMUNICATIONS

The car is not the best place for anyone inside it to make or receive a call or, let's face it, to have an in-depth conversation with those beside you – and not just for safety reasons. This contributor has had his fair share of shouted “What?”



clear conversations that seems little short of groundbreaking.

INVISIBLE TO VISIBLE

The team from Nissan Intelligent Mobility were on good form at the event, showcasing their concept for drivers to “see the invisible”, potentially making for a more enjoyable, informative and possibly safer driving experience.

Information is gathered from a wide range of sources. For starters, there are sensors inside and outside the vehicle, gauging what’s going on in the immediate environment. Where the magic happens with this concept is the merging of the “traditional” sensor data with a plethora of information from the all-knowing cloud about – for example – what’s behind a building or around an upcoming corner.

Once the information is pulled together and distilled into what the driver wants to know, it is projected into their field of view.

As well as information, it’s suggested that Augmented Reality (AR) techniques could project a professional driving expert or a local guide, providing help with the journey, destination and whatever happens when you get there.

Other ideas that the Nissan team have in mind include projecting scenery of a sunny day inside the vehicle when it’s raining, scanning for parking spaces and monitoring people inside the vehicle to anticipate when a break might be required, or when they’re lost.

Given the amount of extra information getting beamed into the front of the car, perhaps it’s fair to assume that the driver would need to be parked up safely somewhere in order to use much of this system, although the developers suggest that some information would be displayed during the drive to make it safer, such as the upcoming changes in road conditions and warning sign information. Safety experts who want to see a reduction in the distractions available to the driver may need to be convinced about the benefits of some elements of this concept, should it take off.

Of course, as with many of the in-car concepts shown off at CES, this one might be a while away from being a component popped into vehicles on the production line – and there’s sometimes an amount of hype involved at trade shows – but this innovative idea for making the invisible visible, to enhance the journey as well as the experience at the destination, looks interesting.

That said, perhaps there will be mixed views on the option for “family, friends or others to appear inside the car as three-dimensional, augmented-reality avatars to provide company”.

It will be fascinating to see which in-car tech showcased at CES this year makes it into the mainstream. ■

moments during mid-drive conversations (although I admit that this might reveal more about the state of my own hearing than the in-car conditions) so it’s great to see that at least one company at CES has concentrated significantly on the art of conversation on the move.

Harman is introducing three key developments to improve the experience for people within the car and on the receiving end of a call:

- A combination of microphones, voice processing technology and audio signal management, to eliminate unwanted sounds from the conversation and ensure that the back row can communicate with the front row with crystal clarity, however many rows may be in between;

- Improvements in removing air conditioning sounds, road noise and even other passengers’ conversations, on the signal being sent to the receiving end of a call;

- The concept of personal communication zones, where each occupant within the car can make their own calls without the recipients hearing music or entertainment from others in the vehicle.

Those of us who have been in a traditional black taxi will be familiar with the concept of an audio communication system between driver and passenger to make those interactions work, so arguably some of this is not new. It’s the sheer extent of the technical innovation to make the driver or passenger’s individual space deliver

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