



Kia looks to post-autonomous driving era at CES 2019

- **Kia to unveil new tech with interactive ‘Space of Emotive Driving’ exhibit**
- **R.E.A.D. System is the automotive industry’s first technology converging human senses-oriented in-cabin environment control and AI-based emotional intelligence**
- **Virtual touch-type gesture control and music-response vibration seats part of R.E.A.D. System**
- **Kia presents SEED Car, a potential solution for urban micro-mobility**
- **Kia video and news from CES 2019 available at www.kia.com/worldwide/CES2019**

(SEOUL) 3 January 2019 – Kia Motors is previewing a range of new technologies developed for the post-autonomous driving era at the Consumer Electronics Show (CES) 2019, to be held in Las Vegas from January 8 to 11.

Building on the the brand’s ‘Beyond Autonomous Driving’ vision for connected vehicles presented at CES 2018, Kia is looking ahead to a time when autonomous driving has become the norm with an interactive ‘Space of Emotive Driving’ exhibit at this year’s show.

Introducing ‘Real-time Emotion Adaptive Driving’ (R.E.A.D.)

In a future where vehicles have the potential to drive themselves, Kia is laying the foundations for major technological development to improve the human mobility experience. Central to the presentation of this ‘Space of Emotive Driving’ vision at CES 2019 is Kia’s new Real-time Emotion Adaptive Driving (R.E.A.D.) System – a world-first emotional AI-based optimized and interactive in-cabin space centered on human senses.

The R.E.A.D. System can optimize and personalize a vehicle cabin space by analyzing a driver’s emotional state in real-time through AI-based bio-signal recognition technology. The technology monitors a driver’s emotional state using sensors to read their facial expressions, heart rate and electrodermal activity. It then tailors the interior environment according to its assessment – potentially altering conditions relating to the five senses within the cabin, creating a more joyful mobility experience. AI deep-learning technology enables the system

to establish a baseline in user behavior, and then identify patterns and trends to customize the cabin accordingly.

Mr. Albert Biermann, President and Head of Research & Development Division of Hyundai Motor Group said, "Kia considers the interactive cabin a focal point for future mobility, and the R.E.A.D. System represents a convergence of cutting-edge vehicle control technology and AI-based emotional intelligence. The system enables continuous communication between driver and vehicle through the unspoken language of 'feeling', thereby providing an optimal, human-sense oriented space for the driver in real-time"

The R.E.A.D. System is revealed alongside V-Touch – a world-first virtual touch-type gesture control technology. V-Touch employs a 3D camera to monitor users' eyes and fingertip, allowing occupants to manage several in-car features via an unobtrusive head-up display. Through simple finger gestures, all vehicle occupants can make changes to the cabin environment, including lighting, HVAC (heating, ventilation and air-conditioning) and entertainment systems, eliminating the need for buttons or touch screen.

Another feature of the innovative R.E.A.D. System is Kia's music-response vibration seats, where occupants can 'feel' their favorite songs as well as listen to them. The sensory-based signal processing technology adapts seat vibrations according to sound frequencies of the music being played. The vibration seats can also be set to massage mode to increase cabin comfort, as well as enhancing safety by providing haptic warnings from the vehicle's advanced driver-assist systems.

Some of the technical expertise required to make this demo possible arose out of Kia's research collaboration with the Massachusetts Institute of Technology (MIT) Media Lab's Affective Computing Group as part of Kia's Media Lab membership.

Kia giving CES visitors an opportunity to experience R.E.A.D. technology

Kia will have specially-designed experiential modules installed at its CES booth to demonstrate the potential of the R.E.A.D. System. For the first time ever, the public will be able to experience vehicle technology that recognizes their physiological emotions based on facial expressions, electrodermal activity, and heart rate. Visitors to CES will be able to witness the sensory controls react in real-time to their changing emotional state.

'R.E.A.D. Me' is a one-person cockpit that analyzes the 'driver's' emotional state and creates a 'space mood' according to its judgment, using R.E.A.D. technologies such as facial expression recognition and vibration seats. This tailored environment will include bespoke sounds and fragrances to best suit the occupant's current disposition.

'R.E.A.D. Now' is a two-person cockpit simulating a 'Las Vegas autonomous tour car' that will make suggestions on route choice and in-car entertainment based on an analysis of the driver's mood. The occupants will be invited to use the V-Touch gesture control system to play games, select music genres, modify the cabin environment and browse the internet for local information.

'R.E.A.D. Motion' is a four-person cockpit which simulates a 'mobile workspace' that is expected to be a key benefit of life with autonomous vehicles. Occupants will be invited to

take on the role of a 'Kia executive' preparing for a business trip, using V-Touch to check their schedule and meeting minutes, open emails and so on. The long-distance functionality of the system means occupants can take control of the R.E.A.D. Motion cockpit controls from a distance. The experience will finish with a live conference call on the head-up display.

Kia shows vision for future smart-city mobility

Kia is also presenting a potential solution for smart-city mobility at CES 2019 with its 'SEED Car' concept. The 'SEED Car' is a four-wheel electric cycle with a range of 100 km (62 miles) based on a pedal-electric hybrid system, requiring pedal input from the driver but with a high degree of electric power assistance to make it effortless.

The concept has been designed to make urban driving easy, fun and safe, while exploring how Kia could make the final mile of any journey possible with a personal mobility device.

For longer journeys, the 'SEED Car' is housed within the 'BIRD Car' – an autonomous shuttle vehicle capable of travelling further than the four-wheel cycle's range capabilities. Once within 100km of its final urban destination, the 'SEED Car' is 'dispersed' to complete its journey.

Interactive tours of Kia CES booth for in-depth understanding of new technologies

For an enhanced visitor experience, Kia will operate 15-minute 'Docent Tours' at regular intervals at the booth throughout the duration of CES 2019. The guided tour will give attendees a more in-depth understanding of the new technologies on display.

For more information, please visit www.kia.com/worldwide/CES2019.

Visit Kia Motors at CES 2019 on Tuesday, January 8 through Friday, January 11 at the Las Vegas Convention Center (LVCC), North Hall Booth #7029.

* Hyundai Motor Group is a global corporation that has created a value chain based on automobiles, steel, and construction and includes logistics, finance, IT and service. With about 250,000 employees worldwide, the group's automobile brands include Hyundai Motor Co. and Kia Motors Corp.

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About Kia Motors Corporation

Kia Motors Corporation (www.kia.com) – a maker of world-class quality vehicles for the young-at-heart – was founded in 1944 and is Korea's oldest manufacturer of motor vehicles. About 3 million Kia vehicles a year are produced at 14 manufacturing and assembly operations in five countries which are then sold and serviced through a network of distributors and dealers covering around 180 countries. Kia today has over 51,000 employees worldwide and annual revenues of over US\$47 billion. It is the major sponsor of the Australian Open, official automotive partner of FIFA – the governing body of the FIFA World Cup™ – and official partner of the UEFA Europa League – the world's largest professional club football competition. Kia Motors Corporation's brand slogan – "The Power

to Surprise" – represents the company's global commitment to surprise the world by providing exciting and inspiring experiences that go beyond expectations.

For more information about Kia Motors and our products, please visit our Global Media Center at www.kianewscenter.com.