

2017 HYUNDAI MOTOR

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Innovation for Mobility Freedom

In an era of technological convergence and hyper-connectivity, Hyundai Motor is striving to develop technologies that can bring disruptive innovation to the automotive industry.

We aspire to be a life partner for our customers, creating cars that transport them in safe and enjoyable environments; so our investment in R&D is growing, with a focus on our most important value – ‘human care’.

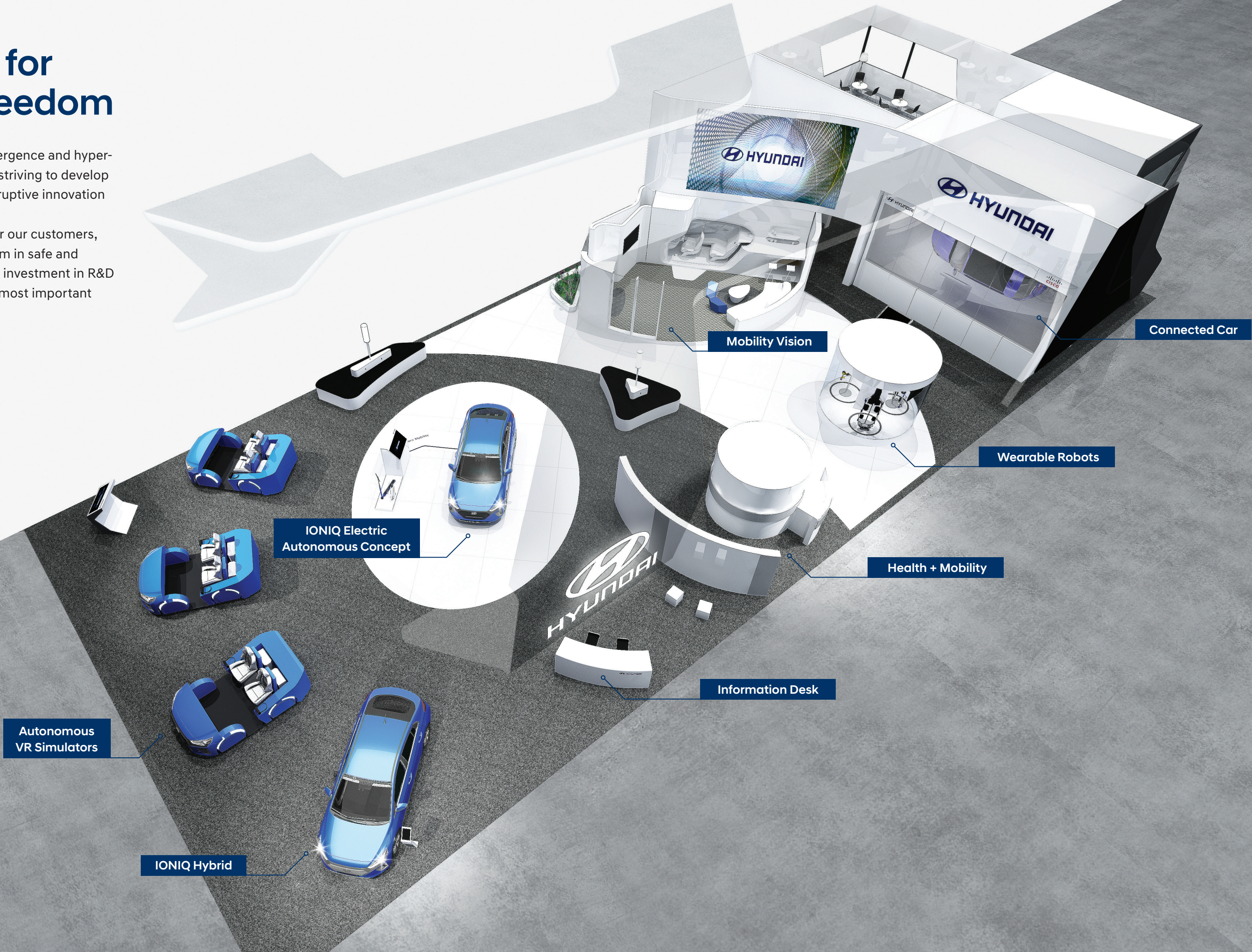


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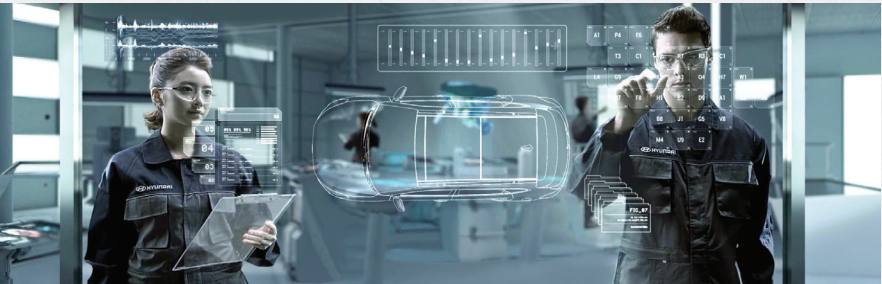


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Free from Anxiety

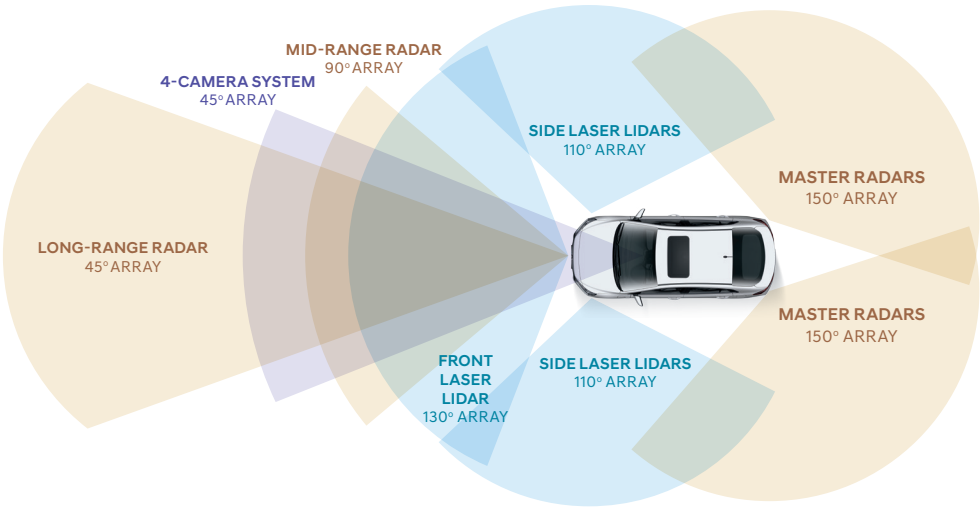
Hyundai Motor's technology is designed to provide safety-conscious, health-aware, and environmentally-friendly mobility solutions to our customers. We are developing highly intelligent vehicles that minimize the

chance for human errors while boosting driver wellness during travel. At the same time, our products and technologies achieve clean mobility to fulfill our duty as an environmentally responsible corporate citizen.

Autonomous Driving

Vehicle safety technologies have progressed from “passive safety”, merely reducing passenger injuries during a collision, to “active safety” preventing an accident from occurring in the first place. As we continue the path towards fully autonomous vehicles,

Hyundai Motor is studying how to develop each component, with the goal of minimizing complexity, while still ensuring safety and performance requirements are met.



IONIQ Autonomous Concept

AUTONOMOUS DRIVING LICENSE OBTAINED

In the course of R&D testing of new technologies, the autonomous vehicle based on the Tucson Fuel Cell obtained a license to drive autonomously in November 2015 that allowed it to drive on highways in the U.S. State of Nevada. In 2016, the IONIQ Electric and Hybrid also secured autonomous licenses, allowing them to drive in the city in all kinds of weather conditions.



Health + Mobility

SHIFTING A DRIVER'S MENTAL STATE

Hyundai Motor envisions a future where mobility and wellness are inter-connected. In this future, cars have technology that fosters a healthy mental

state for drivers, helping them focus on the task of driving and become more mindful upon arriving at their destination.



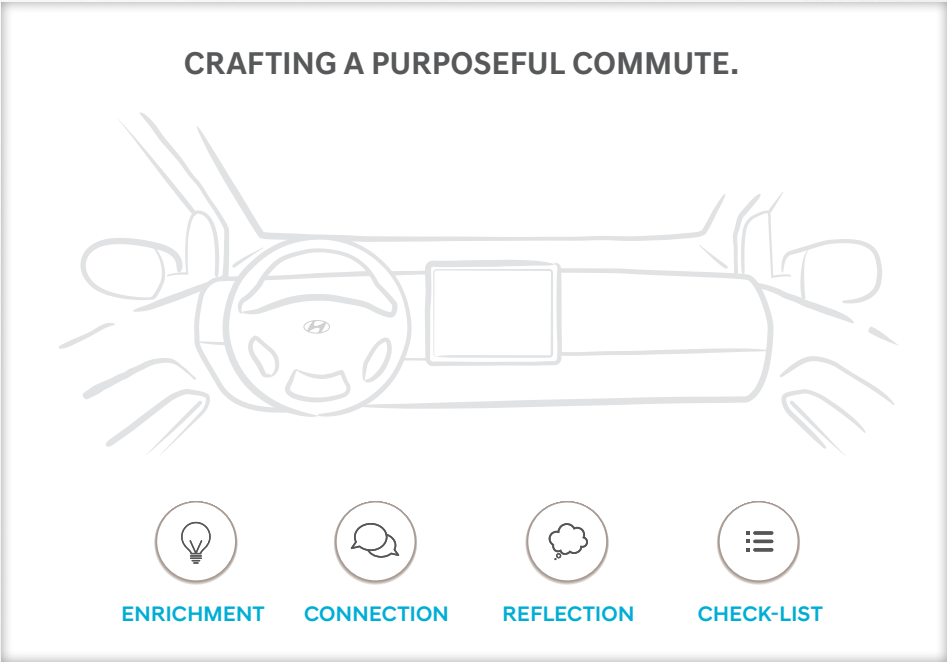
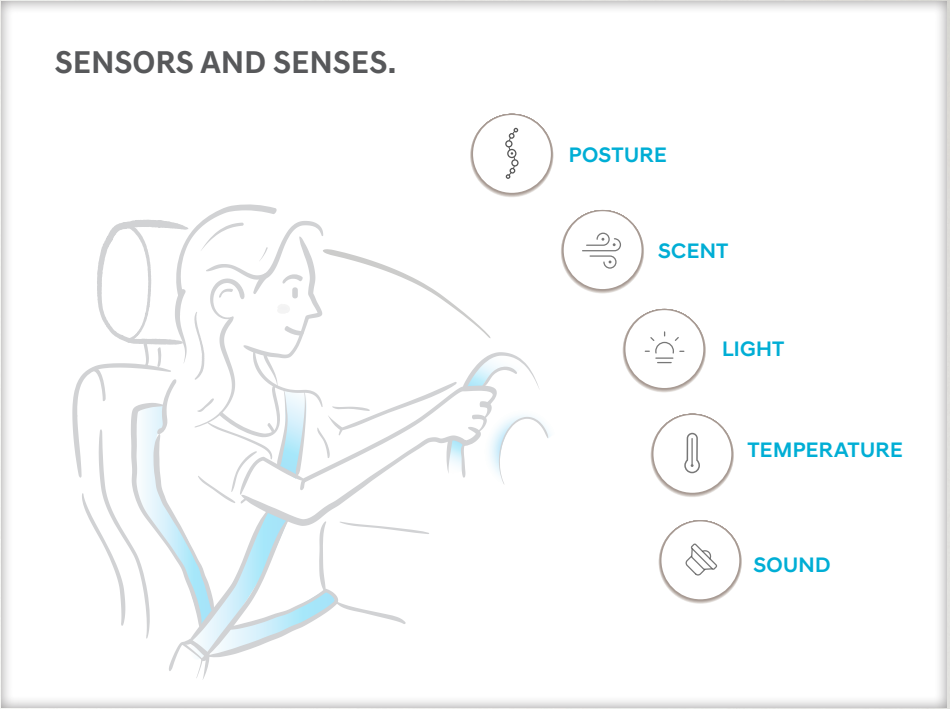
- INTEGRATED SENSORS**
Data is gathered by sensors embedded within the existing car environment rather than forcing drivers to wear accessories.
- PERSONALIZED METRICS & RESPONSES**
Vehicles leverage relevant biometric data and personalized sensory responses.
- FOCUSED INTENTION**
Drivers engage in safe, productive activities, but only one non driving-related task at a time.

- CHOREOGRAPHED SENSES**
Multi-sensory responses are synchronized, creating harmonious experiences rather than separate occurrences.
- MICRO EXPERIENCES**
Sensory “bursts” create distinct, contrasting moments rather than prolonged environmental shifts.

SHIFTING MOODS

Drivers will experience a targeted combination of sensory outputs that react to in-the-moment biometrics and deliver an orchestrated experience to promote mental awareness and focus.

These “Mood Bursts” are short, choreographed, multi-sensory experiences that energize, relax, or focus the driver. Scent, sound, air, temperature, light and posture work in harmony with embedded sensors and driver input to create a tailored burst at exactly the right time.



SHIFTING MODES

Many daily commuters feel angst and frustration from the wasted hours they spend in their car. Hyundai Motor's health and mobility concepts allow drivers to intentionally shift modes for increased personal productivity or relaxation.

Through enrichment, connection, reflection, and check-list modes, the vehicle can help drivers be both safe and productive, without having to take their eyes off the road.

Clean Mobility

CLEAN MOBILITY

The paradigm for the automotive industry is changing in response to global warming and the exhaustion of fossil fuels. In 2013, Hyundai Motor pioneered a clean technology solution, as the world's first mass-producer of hydrogen-powered vehicles.



A LEADER IN FUEL CELL TECHNOLOGY

Hyundai Motor has taken significant steps toward emissions-free motoring by starting mass production of fuel cell electric vehicles. The Tucson FCEV is available in 18 countries around the world, plus its engine is recognized as the first of its kind in the annual 'Wards Auto 10 Best Engines' review (2014). Pursuing this course, Hyundai will unveil its new fuel cell vehicle in the near future.



IONIQ

A NEXT GENERATION ELECTRIFIED PLATFORM

In 2016, the IONIQ was unveiled to provide customers an easy transition to environmentally responsible mobility, without compromising the driving experience.

The IONIQ is the world's first and only single body with three electrified powertrains (electric, plug-in hybrid and hybrid).

IONIQ Hybrid, equipped with the new 1.6-liter Kappa GDi engine combined with the permanent magnetic electric motor, boasts an excellent fuel consumption of 58-mpg, making it the most fuel efficient car sold in America without a plug.



Free To Connect

Today's vehicles are highly connected, using a smart home device to remotely start a car by voice. Hyundai Motor will continue advancing this technology into a

"hyper-connected car," connecting a car with the daily lives of our customers.

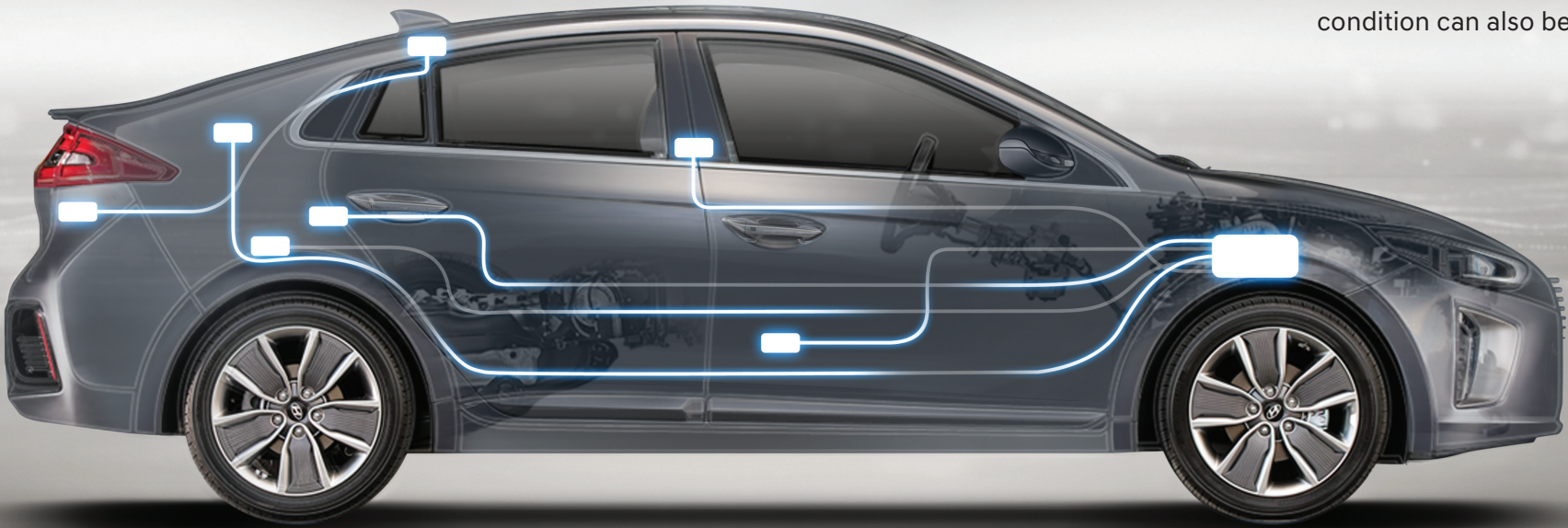
Connected Car

HYUNADI MOTOR – CISCO CONNECTED CAR PLATFORM

Hyundai Motor and Cisco are collaborating on the development of a new connected car platform. This platform features:

- A fast & flexible Internet Protocol (IP) network allowing mass data communication
- Enhanced security
- In-vehicle operating system – allows us to provide connected car services
- Cloud technologies

The Hyundai Motor-Cisco connected car platform will continue to evolve, connecting vehicles to other aspects of customers' lives, it will also allow Hyundai vehicles to communicate with other cars, and the roads on which they travel. This platform enables us to deliver a new generation of services with safety, comfort, convenience and security.



THE FUTURE OF HYUNDAI MOTOR'S CONNECTED CAR

The connected car platform enables future mobility and new vehicle experiences.

PERSONALIZED EXPERIENCE

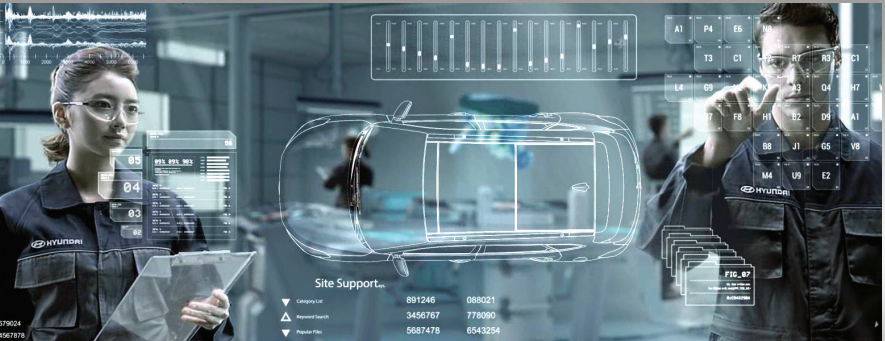
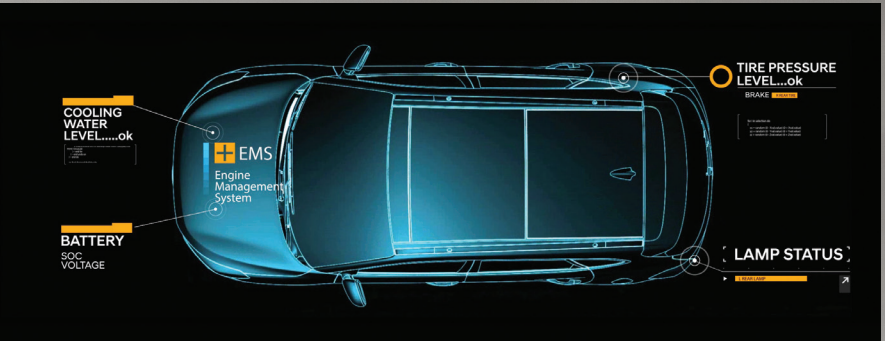
Owners can create a custom profile with personalized choices such as infotainment presets, navigation POI information, and climate control settings. By storing this profile in the cloud, it can be available on any other Hyundai vehicle.

CONNECTED VEHICLE MANAGEMENT

The Hyundai Motor-Cisco connected car platform will be available to third-parties such as fleet and rental companies, allowing easier and more efficient vehicle management.

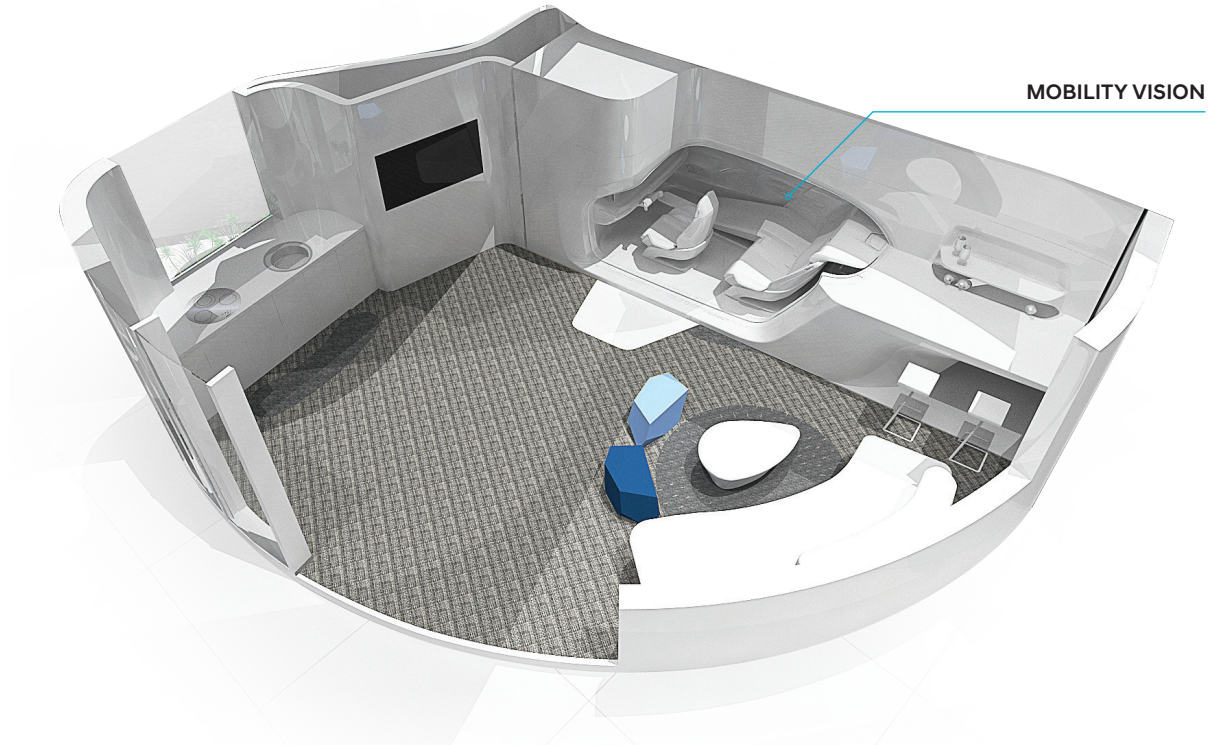
INTELLIGENT REMOTE SERVICE

Customers can add new features and capabilities to existing vehicles with "Over-The-Air" updates. The vehicle's condition can also be checked remotely.



Mobility Vision

Today, we rely on means of transportation to move between spaces. Full connectivity not only means that you will be connected, but the car will communicate with other cars and traffic systems so that you can seamlessly reach your destination uninterrupted. Hyundai Motor’s “Mobility Vision” sees your room, work place and car become infinitely connected.



MOBILITY VISION



Evolution from Mobility to a Living Space



Free To Move

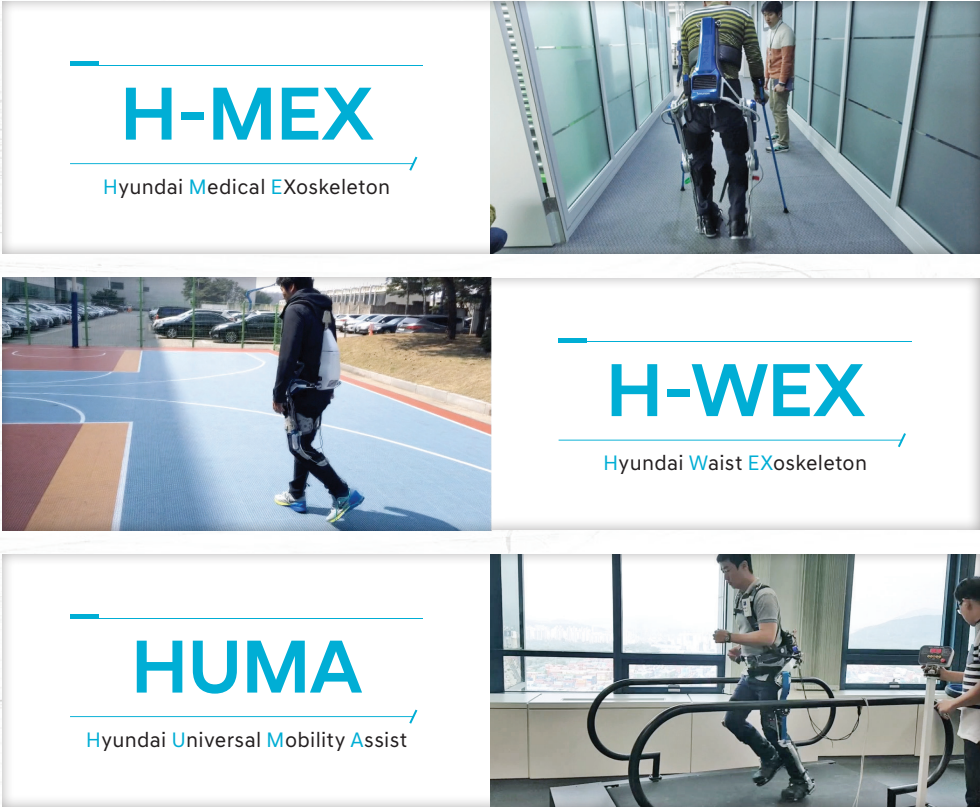
Hyundai Motor aims to provide customers freedom beyond the automobile that will revolutionize the future of personal mobility. Our latest innovations in robotics

and micro mobility will enrich the daily lives of users and form the basis for us to provide more mobility platforms for the well-being of our customers.

Wearable Robots

PROJECT BACKGROUND

Hyundai Motor’s commitments to social responsibility lead us to study the field of wearable robotics. During the course of our research, we identified a strong alignment between these devices and our development and manufacturing capabilities. As a mobility provider, such a parallel in capabilities could allow Hyundai Motor to offer a new freedom of mobility to customers who did not have it before. Hyundai Motor’s robotics research started with a “medical” robot, providing mobility to paraplegics. Our efforts have since expanded into other areas such as caring for the elderly and supporting factory workers.



H-MEX
Wearable powered exoskeleton for paraplegics

- 1. **Removable battery pack**
Rechargeable lithium ion
- 2. **Wireless connectivity**
Bluetooth low energy support
- 3. **Adjustable length**
Thigh/shank linkage length
- 4. **Unique knee harness**
Open and close mechanism
- 5. **Passive knee joint**
Universal dual cam structure
- 6. **Foot force sensor**
Optic based force sensor
- 7. **Modular actuator**



H-WEX
Wearable powered exoskeleton for workers

- 1. **Wireless connectivity**
Bluetooth low energy support
- 2. **Replaceable battery pack**
Rechargeable lithium ion
- 3. **Passive hip joint**
Abduction / Adduction
- 4. **Power Transmission**
Wire-driven mechanism
- 5. **Single actuator**
Under-actuation mechanism
- 6. **Passive Upper body joint**
Universal joint
- 7. **Adjustable length**
Height length



HUMA
Wearable powered exoskeleton for elderly, soldier

- 1. **Wireless connectivity**
Bluetooth low energy support
- 2. **Replaceable battery pack**
Rechargeable lithium ion
- 3. **Adjustable length**
Thigh / Shank linkage length
- 4. **Passive hip Joint**
Universal joint (abduction/ adduction, outward/ inward rotation)
- 5. **Poly centric passive knee joint**
Biomechanics based ergonomic knee design
- 6. **Foot force sensor**
Optic based force sensor



Micro Mobility



SEAMLESS MOBILITY LINKED TO IONIQ ELECTRIC

As part of ‘Project IONIQ’ - Hyundai Motor’s project launched to redefine future mobility through innovation - we have begun studying alternatives for first-and-last mile mobility. The IONIQ Scooter is a light and simple mobility solution that can comfortably and efficiently take customers to their destination. The IONIQ Scooter can be stored conveniently inside the front door of the IONIQ Electric, where it can also recharge.

IONIQ Scooter

MAIN CHARACTERISTICS

- Lightweight construction and easy one-touch folding structure for maximized portability
- Speed is easily controlled by the user’s thumbs
- A sensor attached to the rear tire foot brake enables smooth acceleration / braking
- An occupant detection sensor, attached to the footplate, ensures the scooter operates only when the user is safely aboard
- For maximum safety, the scooter is equipped with front and rear lights

