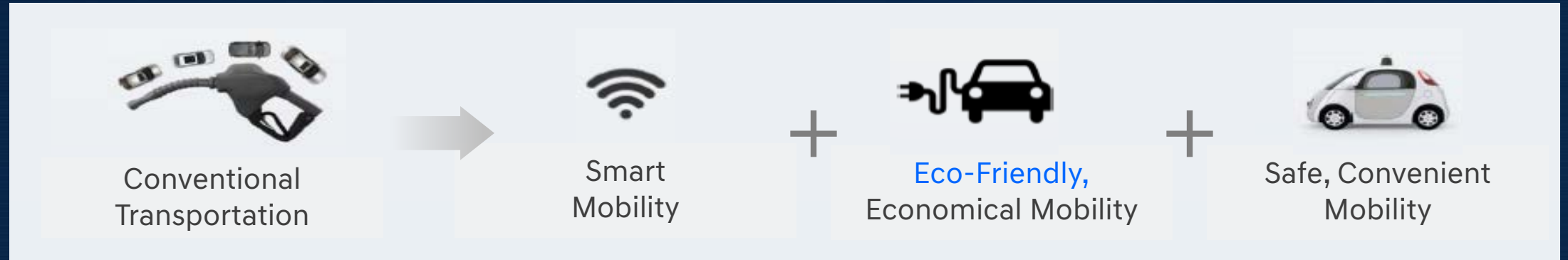


Olabisi Boyle

Vice President, Product Planning and Mobility Strategy,
Hyundai Motor America

NORTHSTAR: LEADER IN SMART MOBILITY BY 2025

Recent eco paradigm shift in automotive industry has brought a new concept of mobility



Progress
for
Humanity

GOAL: A LEADING TECH-ENABLED ECO COMPANY

Hyundai will become a consumer-centric mobility solutions provider

M

Mobility

New modes of transportation



E

Electrification

Electric powertrain



C

Connectivity

Car as a connected device



A

Autonomous

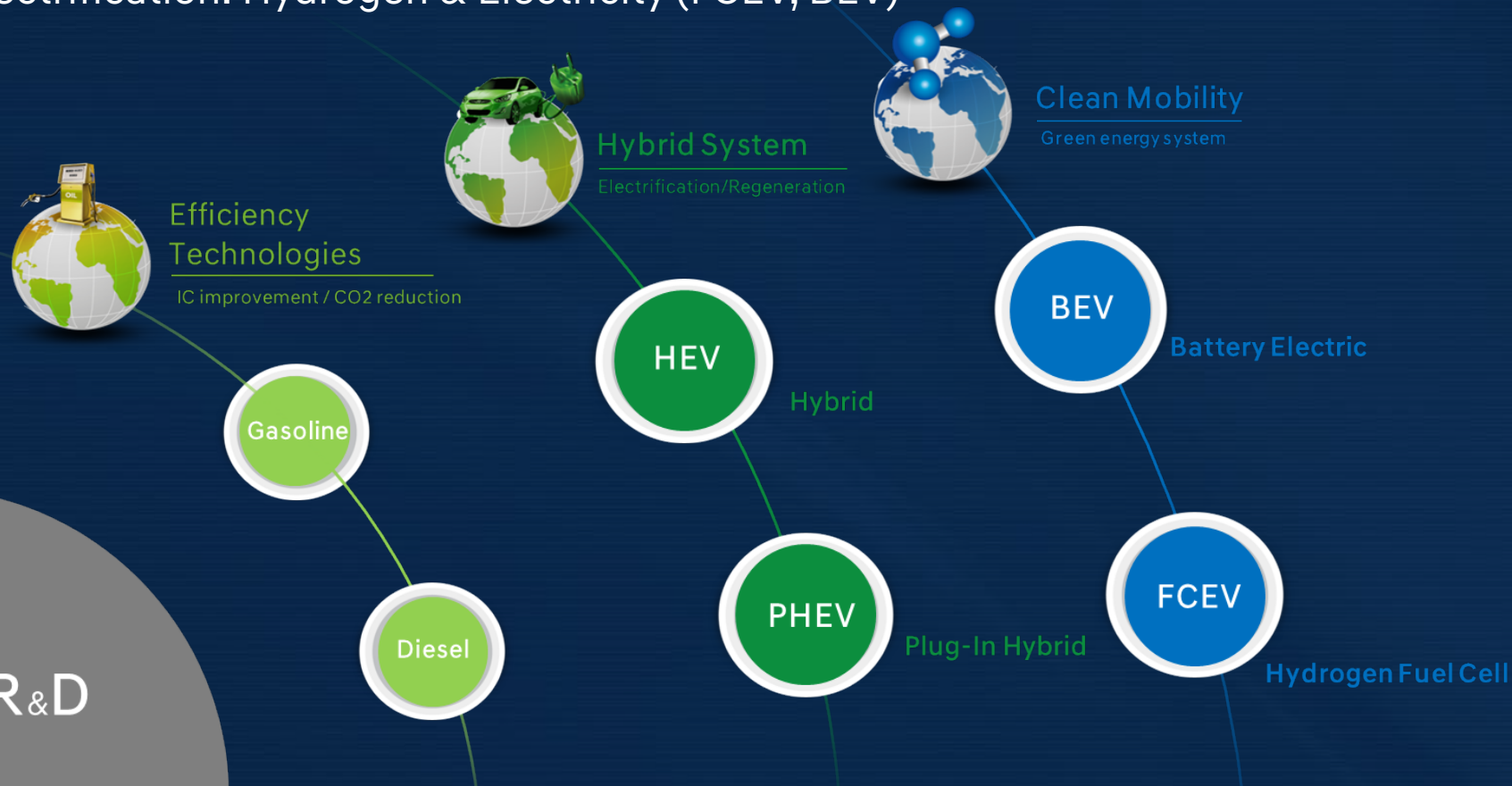
Driverless cars



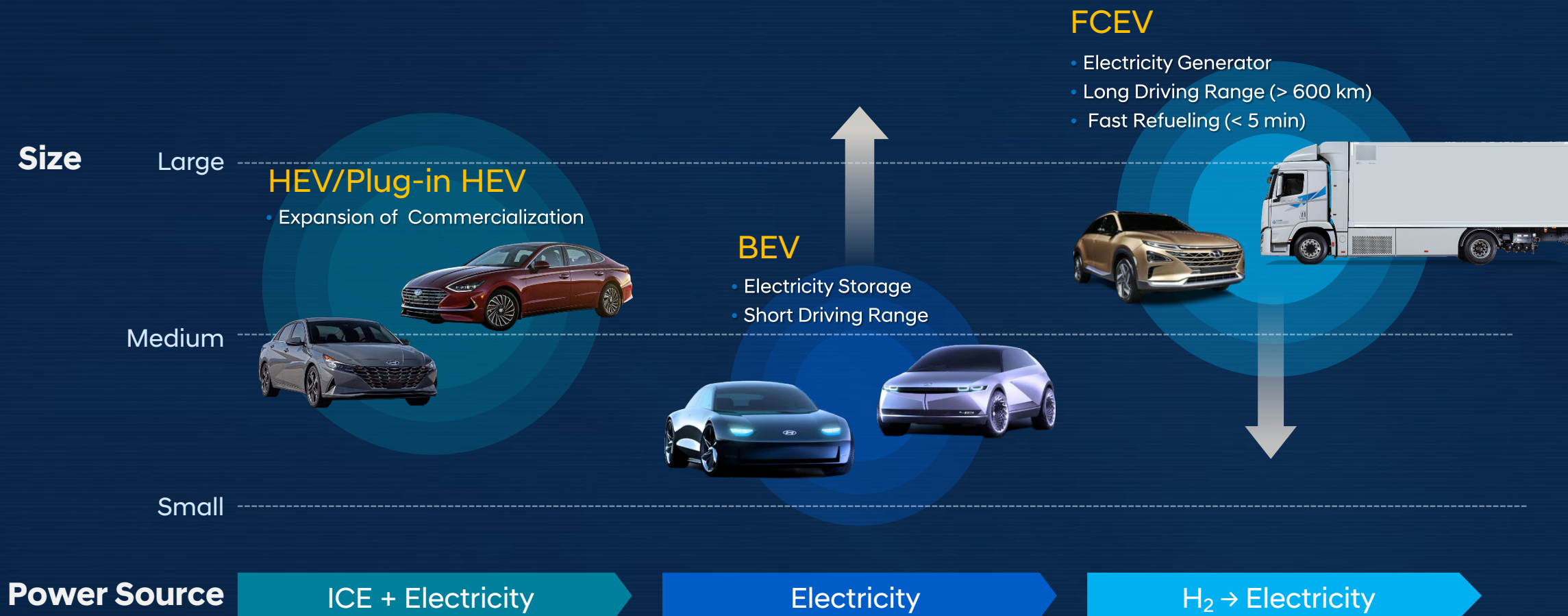
HYUNDAI'S ECO STRATEGY

Strategy

- Fuel Economy Improvement (New Engine & Transmission Technologies and Weight Reduction)
- Hybridization: Combustion + Electrification (HEV, Plug-in HEV)
- Electrification: Hydrogen & Electricity (FCEV, BEV)

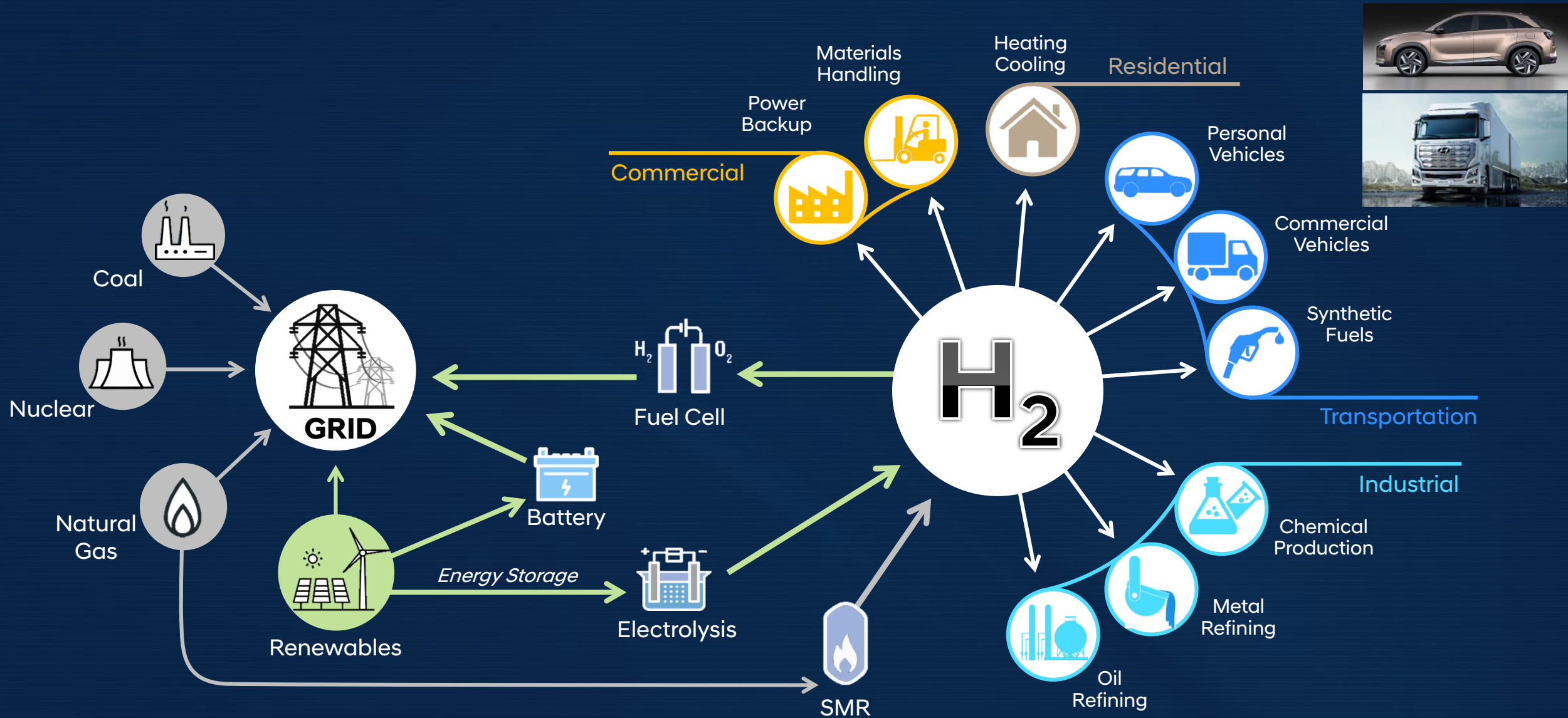


ECO-FRIENDLY VEHICLES



ICE: Internal Combustion Engine; HEV: Hybrid Electric Vehicle; PHEV: Plug-In Hybrid Electric Vehicle;
BEV: Battery Electric Vehicle; FCEV: Fuel Cell Electric Vehicle

HYDROGEN ECONOMY IS GROWING



INNOVATIVE HYDROGEN JOURNEY



1998

Initiated
Fuel Cell
development

2000

First development
model
(Santa Fe-based)

2004

Independent
development
of stack

2005

Independent
development of
Fuel Cell system

2007

Independent
development of
FCEV powertrain

2013

First-gen FCEV
World's first
mass-produced FCEV

2015

US WardsAuto World
"10 best engines
in US market"

2018

Launch of Second-gen
FCEV, NEXO
"superior maximum range and
energy efficiency"

PERFORMANCE COMPARISON

Driving Range



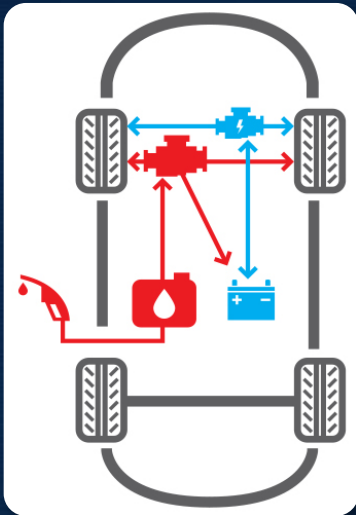
	Tucson Fuel Cell		NEXO		Toyota Mirai		Honda Clarity
Driving Range (miles)	265	+115	380	+68	312	+14	360

Driving Performance

	Tucson Fuel Cell	NEXO	Toyota Mirai	Honda Clarity
Motor max power (HP)	134	161	153	174
Motor max torque (lb-ft)	221	291	247	221

LINEUP LEADS TO LOW CARBON EMISSIONS

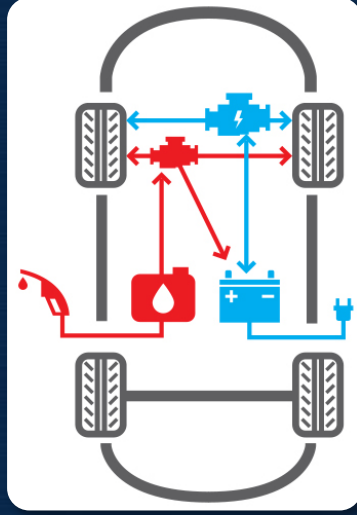
Hybrid (HEV)



Engine Power distribution Motor

Small emission reduction

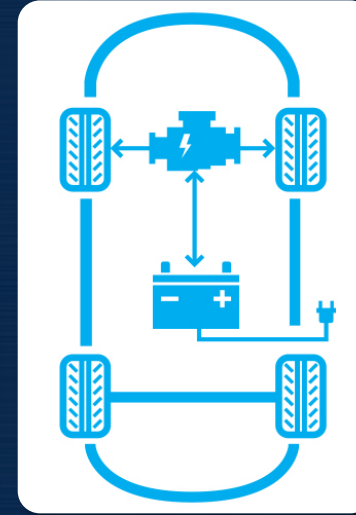
Plug-in Hybrid (PHEV)



Engine Power distribution Motor

Large emission reduction

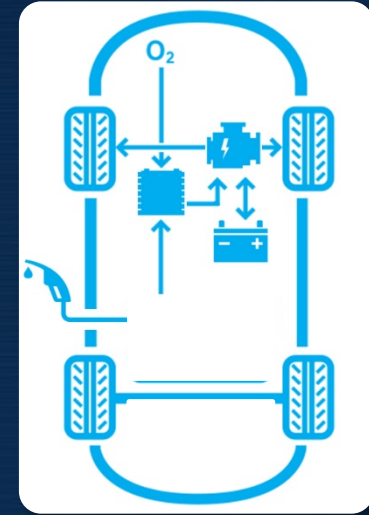
Battery Electric Vehicle (BEV)



Power distribution 100% motor

Zero emissions

Fuel Cell EV (FCEV)



Power distribution 100% motor

Zero emissions
Air purification



Gas tank



Gasoline engine



Battery



Motor



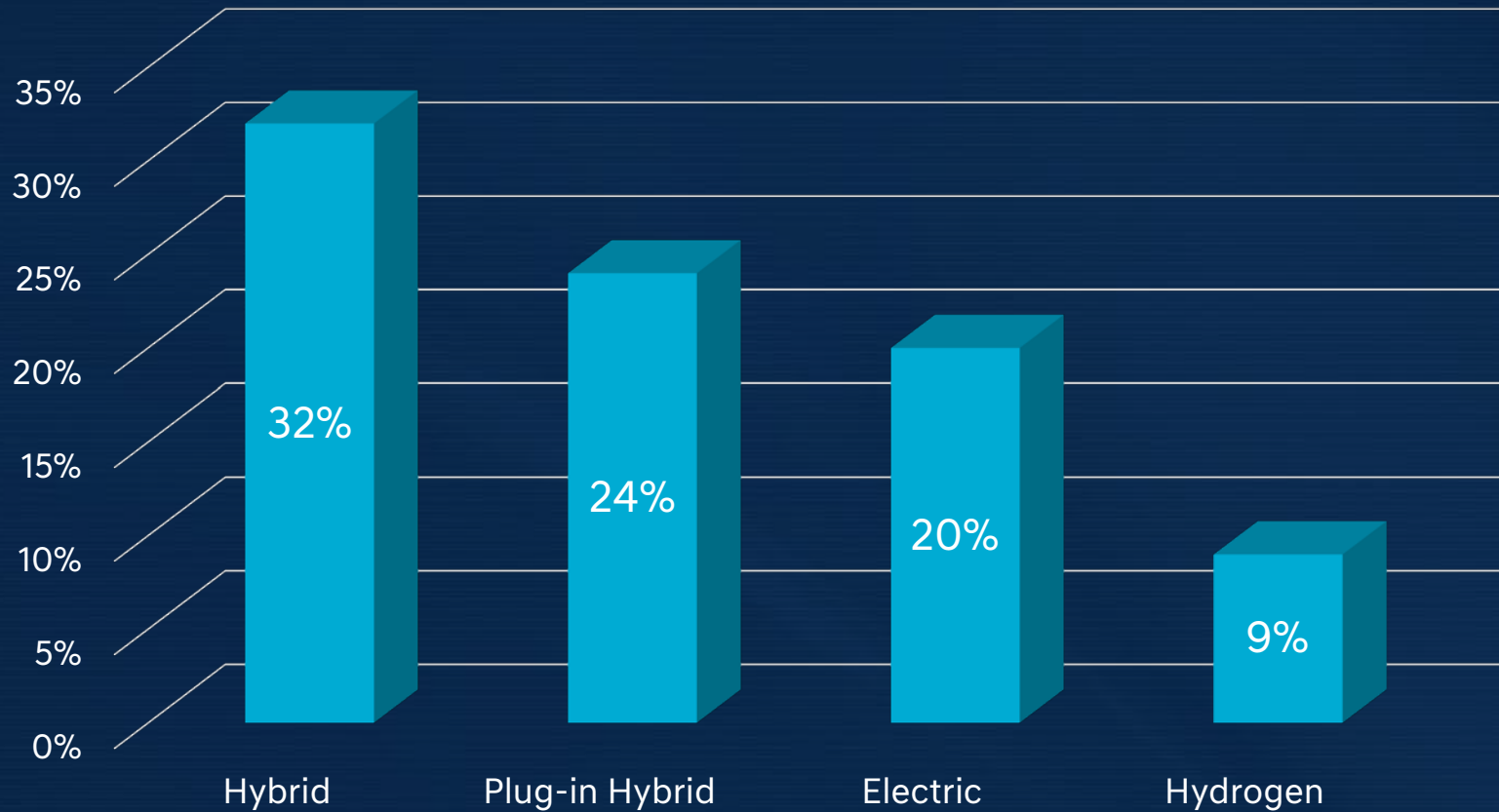
Fuel Cell System



H₂ Hydrogen tanks

ECO-FRIENDLY VEHICLES POTENTIAL

2020 Study
Top 2 Box (Definitely Would/Probably Would) Consider Purchasing



NEXT GENERATION OF EVS: IONIQ PLATFORM



ECO FULL SPECTRUM LINE-UP: 10 IN 2022

Hybrid (HEV)



Elantra Hybrid



Sonata Hybrid



Tucson Hybrid



Santa Fe Hybrid

Plug-in Hybrid (PHEV)



Tucson Plug-in Hybrid



Santa Fe Plug-in Hybrid

Battery Electric Vehicle (BEV)



Kona Electric



IONIQ 5



IONIQ 6

Fuel Cell EV (FCEV)



NEXO

► Hyundai was the 1st automaker to offer all four alternative powertrain variants

PARTNERSHIPS TO LEAPFROG TO SMART MOBILITY



€80 million investment in Rimac Automobili to collaborate on high-performance EV and FCEV prototypes by 2020



€100 million investment enables co-development of eco-friendly vans and other products for logistics, on-demand ride-hailing, and shuttle service companies



50/50 autonomous driving joint venture aimed at advancing the companies' shared vision of making mobility more safe, green, connected, and accessible.

SMART MOBILITY FUTURE





ALL-NEW 2021 ELANTRA



SEGMENT BACKGROUND

CYTD 2020 Compact Share Segment Leaders



28%



23%



10%

CY21 Forecast Top 5 Industry Segments

- ① Subcompact SUV – Tucson – 2.6M
- ② Midsize SUV – Palisade – 1.6M
- ③ Compact SUV – Santa Fe – 1.2M
- ④ Midsize Car – Sonata – 989K
- ⑤ Compact Car – Elantra – 925K

E L A N T R A

All-New 7th Generation



FULL SPECTRUM TO MEET DIVERSE BUYER NEEDS

BUYER NEEDS

VALUE



FUEL EFFICIENCY



**SPORTY STYLING/
FUN-TO-DRIVE**



**ULTIMATE
PERFORMANCE**



SE, SEL, LIMITED

HYBRID

N LINE

N

DEVELOPMENT TARGETS

STRIKING DESIGN

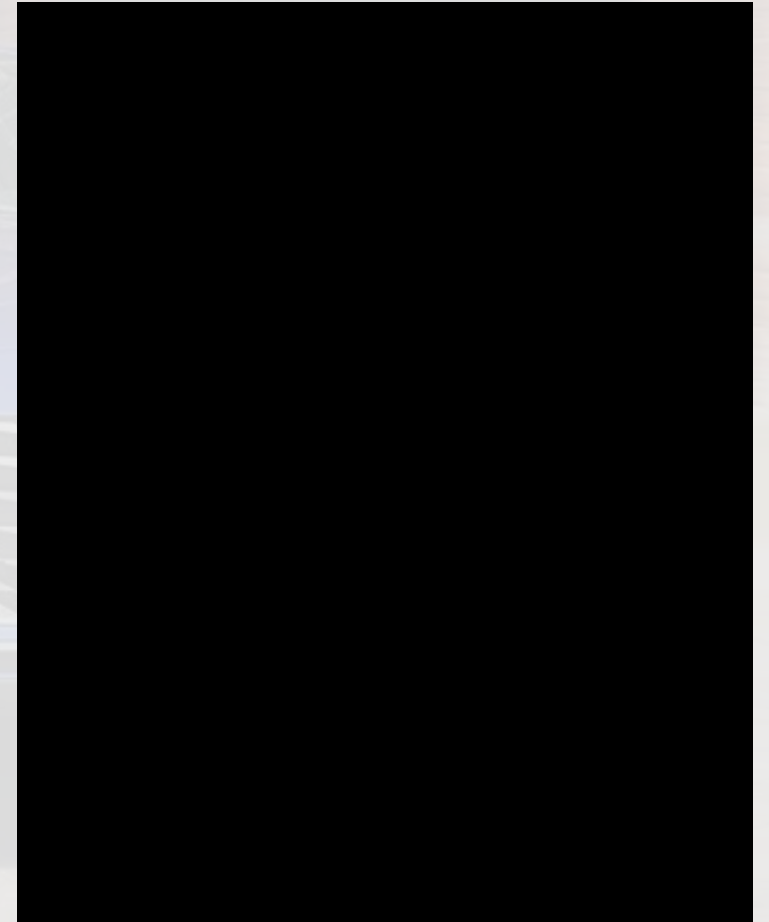


ADVANCED POWERTRAINS

Up to 54 MPG
Combined



ADVANCED TECHNOLOGIES





Davis Lee

Sr. Designer, Hyundai Design North America



Jerome Gregeois
Sr. Manager Powertrain Performance
& Electrification

SMARTSTREAM POWERTRAIN – 2.0L ENGINE

Core features for fuel economy improvement

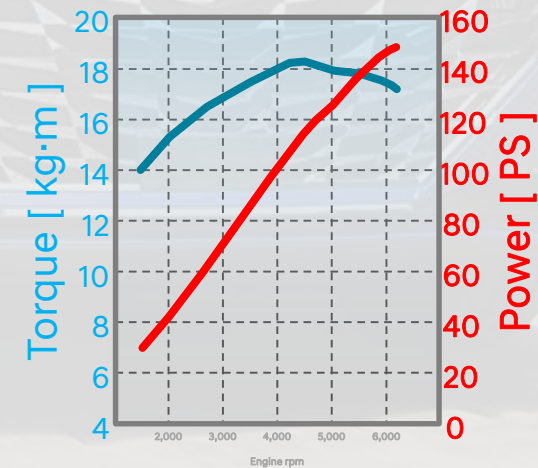
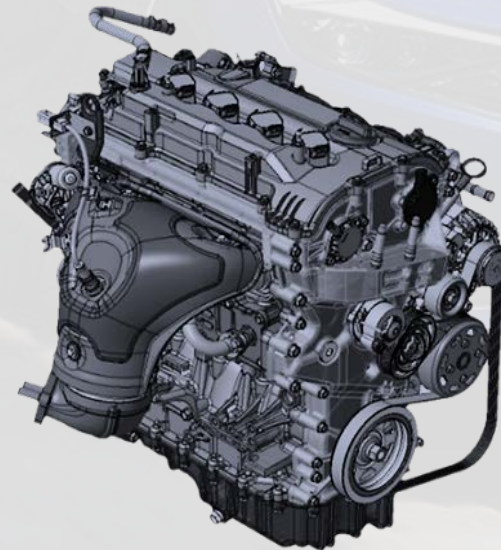
- Block integrated EGR cooler
- Variable displacement oil pump
- Piston skirt coating
- Piston cooling jet location

Nu 2.0 MPI Atkinson mated to CVT

Maximum Power **147** hp/6,200rpm

Maximum Torque **132** Ft.lb /4,500rpm

Fuel Economy **37** Combined

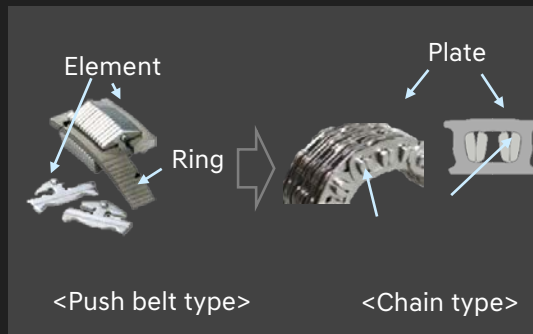
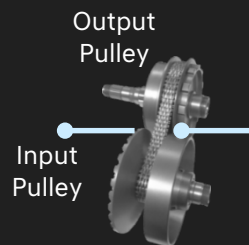


INTELLIGENT VARIABLE TRANSMISSION

Mated engine	Nu 2.0L MPI
Torque	132 ft.lb
Major features	Chain type variator High efficiency vane type oil pump
Transmission efficiency (%)	94.5

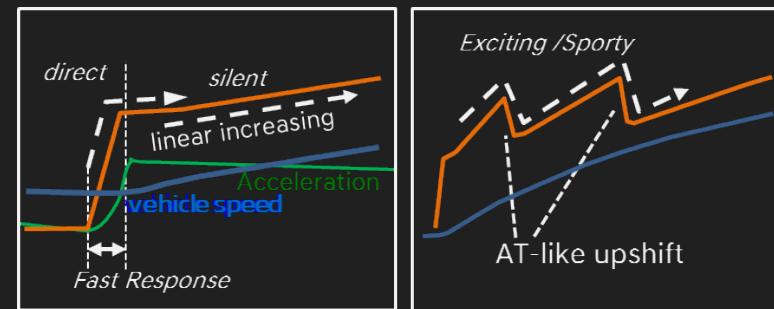
Core Features

Chain type variator



Variator efficiency improvement by 1.2% compared to push type.

Continuous & step shift control strategy



Linear acceleration mode

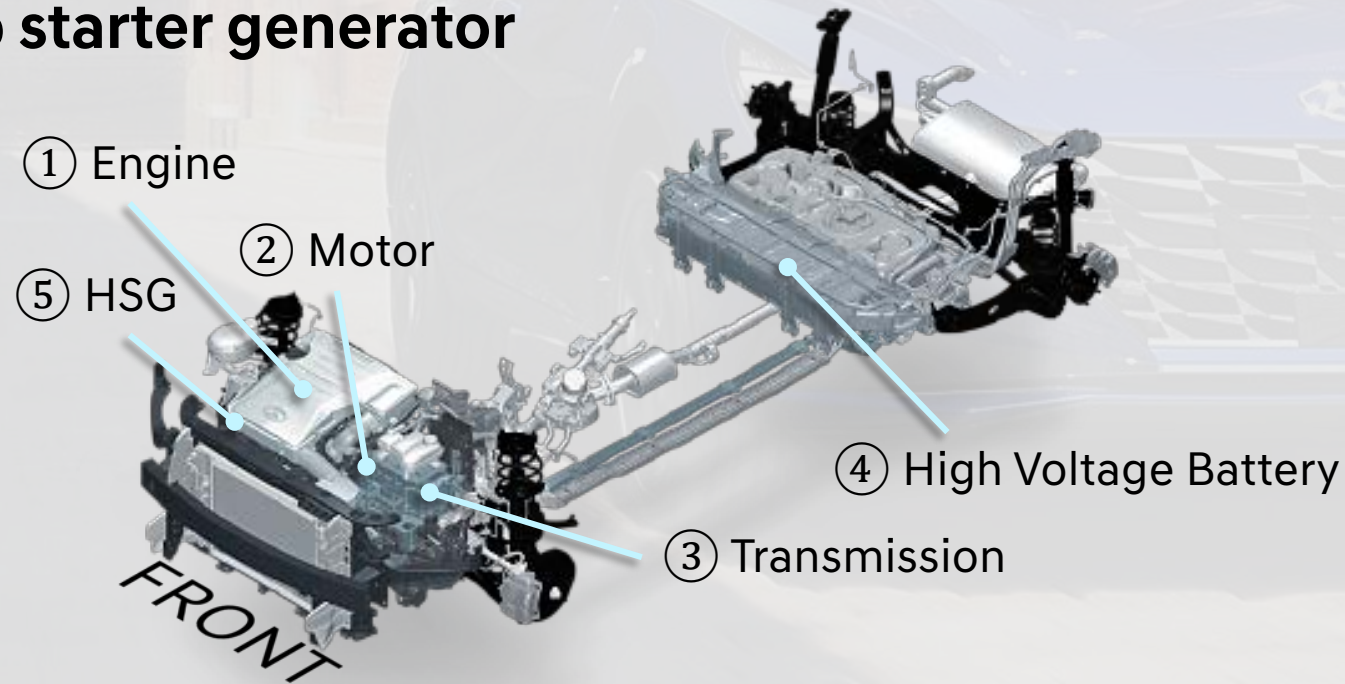
AT-like shift mode

Quick and smooth shifts similar to ATs

ELECTRIFIED POWERTRAIN – TMED ARCHITECTURE

Transmission Mounted Electric Device HEV system

1. 1.6L 4 cylinder Kappa Engine
2. 43 hp electric motor
3. 6 speed dry dual clutch transmission
4. 1.32 kwh li-ion air cooled battery
5. 11 hp starter generator



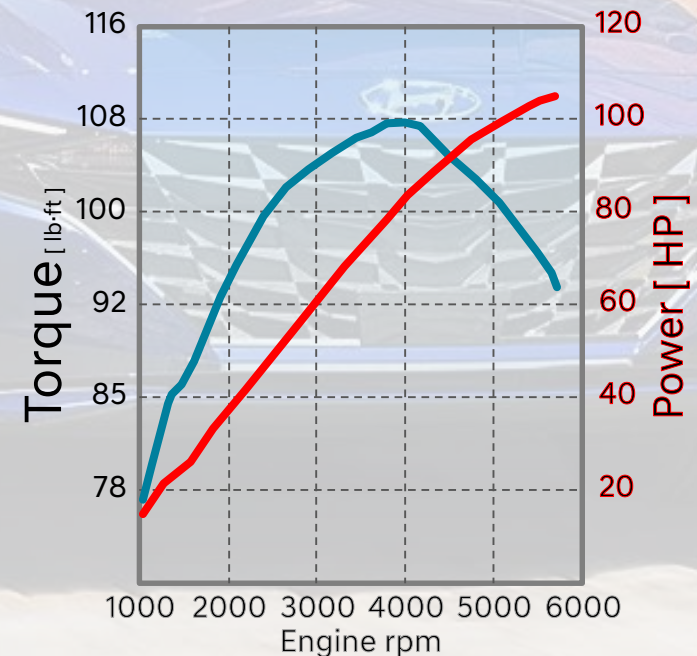
HEV (HYBRID ELECTRIC VEHICLE) - ENGINE

Core feature

- Atkinson cycle applied
- Continuously Variable Valve Timing
- Cooled EGR system

Kappa 1.6 GDI HEV

Maximum Power	104	HP
Maximum Torque	108	Lb.-ft.
Thermal Efficiency	40	%

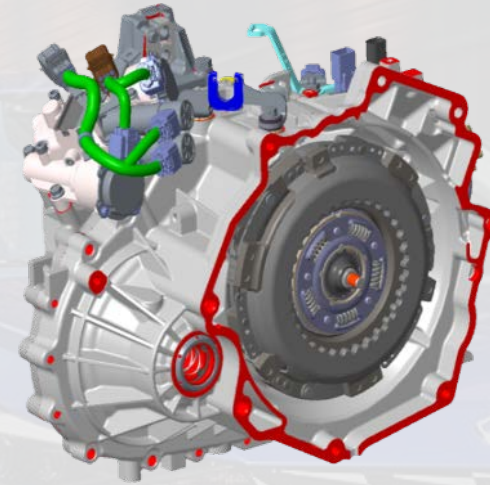


HEV - TRANSMISSION

6-Speed DCT (dry dual clutch transmission)

D6KF1 (6-Speed) specification

Mated engine	Kappa 1.6 GDI HEV
torque	200 ft.lb
Length / Shaft distance (mm)	357.6 / 197
Transmission efficiency (%)	94.5



Transfer efficiency

Application of low friction
Taper roller bearing and low
viscosity oil



Weight reduction

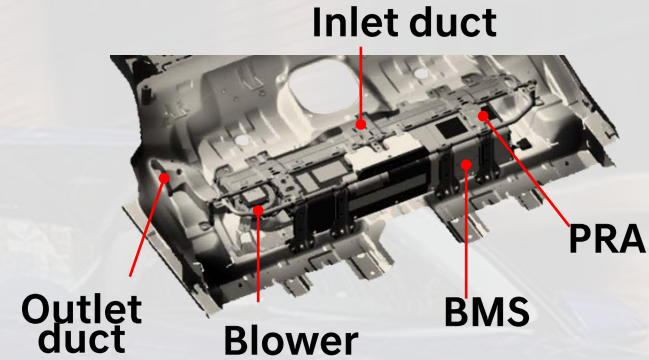
Aluminum support bracket /
Clutch size optimization matched
to motor performance



HEV - HIGH-VOLTAGE BATTERY

Function

- Provides power for:
 - EV mode driving
 - HEV mode power-assist
 - ICE start / idle charging
- Stores power from:
 - Coasting
 - Braking



Battery type	Lithium-ion polymer
Nominal voltage /Capacity	240V /5.5Ah (1.32kWh)
Max. power output	42kW

HEV - POWER/ELECTRONICS

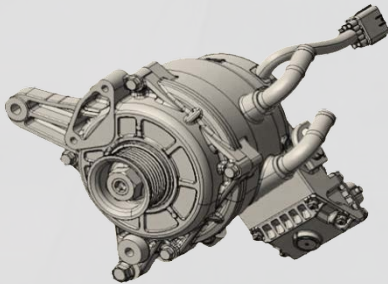
Drive Motor



- Function
 - Motoring :
EV mode driving
HEV mode power-assist
 - Generating :
Coasting
Braking

Max. power	43 hp
Max. torque	125 ft.lb
Motor efficiency	95.0%

Hybrid Starter & Generator

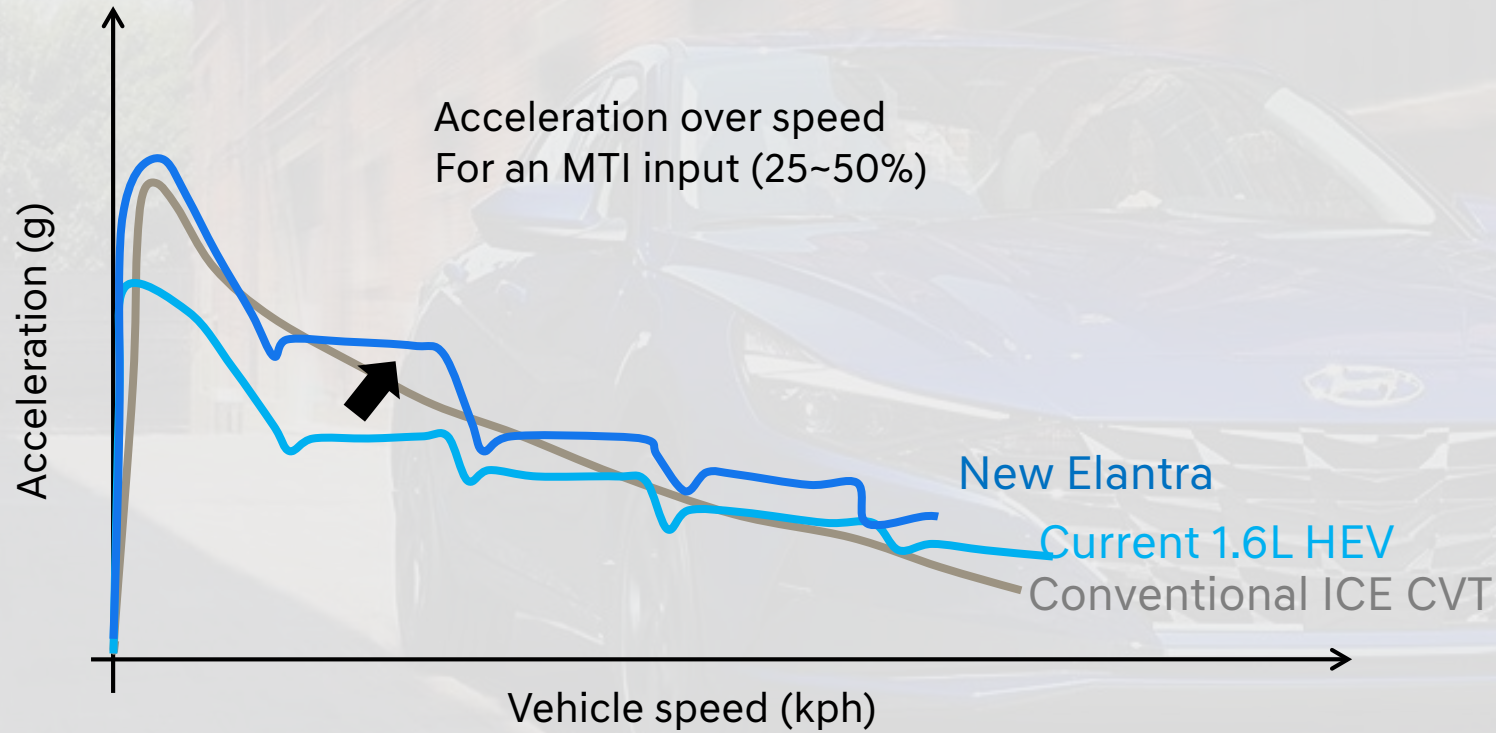


- Function
 - Motoring :
Engine restart
Cold starting
 - Generating :
IDLE / low speed & hill driving
according to battery SOC

Max. power	11 hp
Max. torque	26 ft.lb

HEV ACCELERATION

Kappa 1.6 GDI / 6 DDCT HEV



Core feature

- Performance calibration directionally more dynamic to match mainstream ICE competitors

FUEL ECONOMY - UP TO 54 MPG COMBINED

Performance

	Elantra HEV	Toyota Corolla HEV	Honda Insight HEV
Horsepower	139	121	151
Fuel economy (Combined)	Target 54 SEL 50 LIMITED	52	52 48 Touring

Note: 2021 Elantra Hybrid Fuel Economy
SEL City 53 / **Hwy 56**
Limited City 49 / Hwy 52



Manish Mehrotra
Director, Digital Business Planning
& Connected Operations

Hyundai Digital Key





Hyundai Digital Key



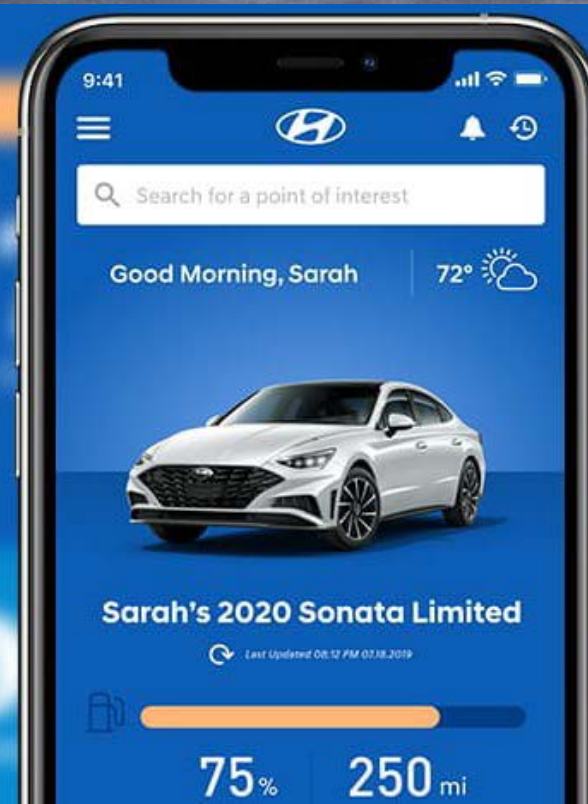
Hyundai Digital Key





Hyundai Blue Link









OK Google, Ask Blue Link to start my Elantra and set the temperature to 72 degrees.



Got it. Starting your Hyundai Elantra and setting the temperature to 72 degrees.

Multimedia Updates



Multimedia Updates











2021 Hyundai Elantra





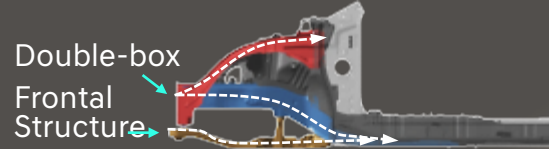
Mike Evanoff
Sr. Manager, Product Planning



CHASSIS & SUSPENSION

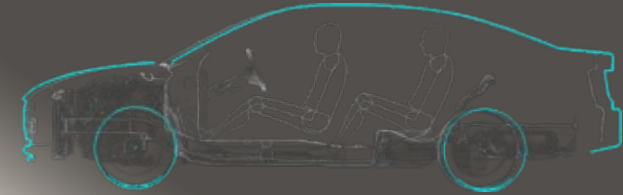
3RD GENERATION K-PLATFORM

Safety



Secure stable frontal collision performance by applying multiple load path

Style



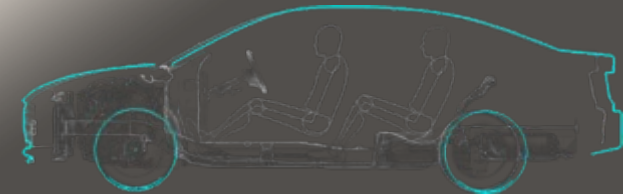
Bold & innovative sporty design w/ improved engine compartment and underbody platform)

Ride & Handling



Performance enhancement of chassis

Space



60mm increase in space between front and rear seating positions

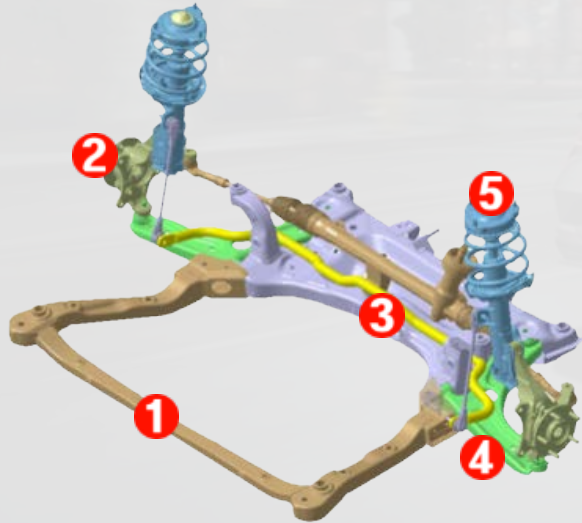
OPTIMIZED SUSPENSION

Dynamic handling



Ride comfort

Front Suspension (McPherson Strut)



① Subframe
(with front structure)

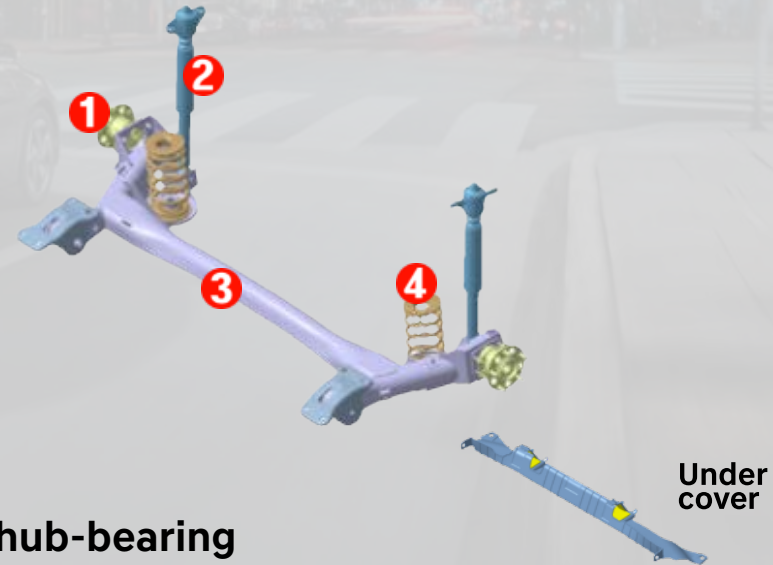
② Axle assembly
(improved geometry)

④ Lower-arm

③ Stabilizer-bar assembly

⑤ Tilting-type strut bearing

Rear Suspension (Coupled Torsion Beam Axle)



① 3rd Gen. hub-bearing

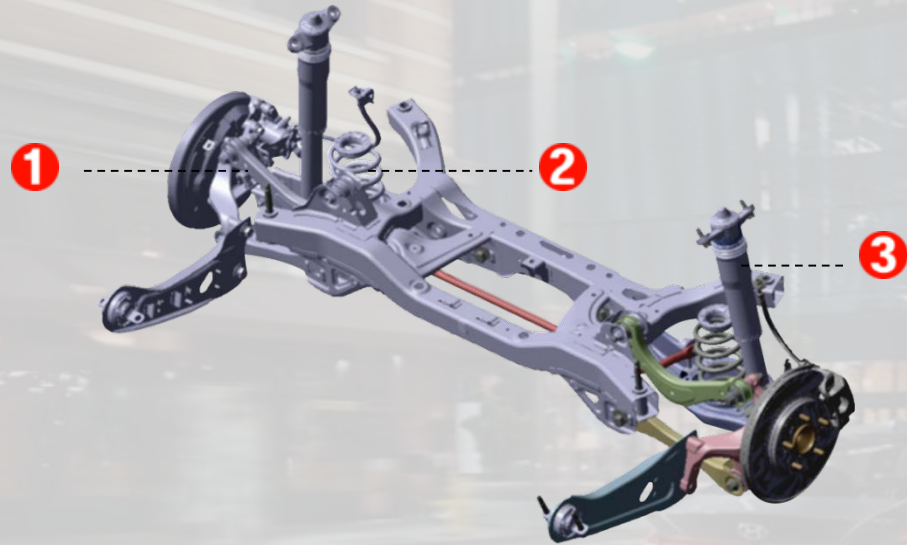
② Rear-mounted upright shock absorber

③ CTBA

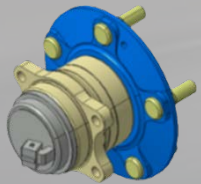
④ Rear spring

Under
cover

HYBRID MULTI-LINK REAR SUSPENSION

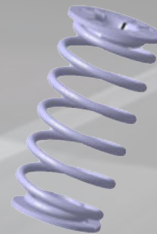


1 3rd gen. hub bearing



- Prevents foreign substances from entering the tone wheel and corrosion
- Magnetic encoder seal applied (Front/Rear)

2 Rear Spring



- Pigtail-shaped on both ends
- Newly designed upper & lower pad applied

3 Upright-type shock-absorber

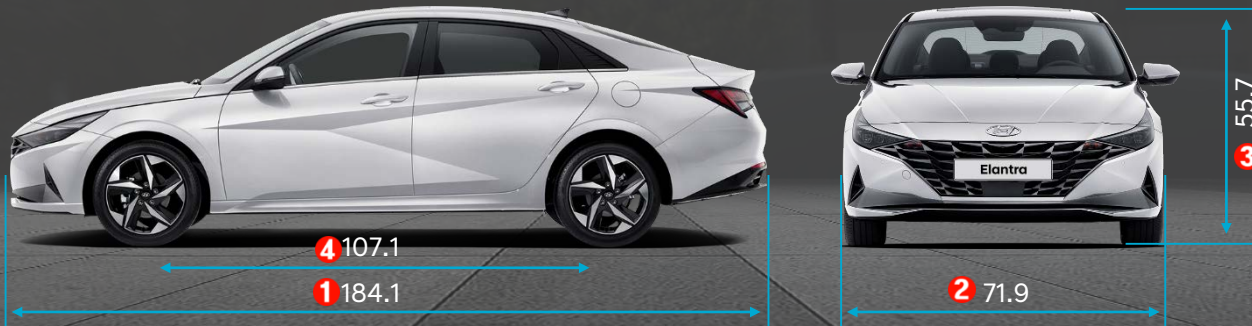
- Reduced insulator mounting angle (50 → 35 °)
- Insulator fixed dust cover applied
- RS (Retainer Sandwich) valve applied to improve the ultra-low damping force



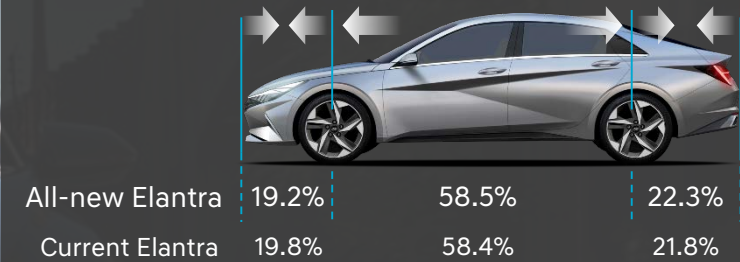


EXTERIOR & INTERIOR DIMENSIONS

EXTERIOR DIMENSION COMPARISONS

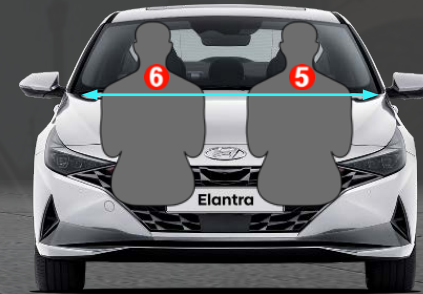
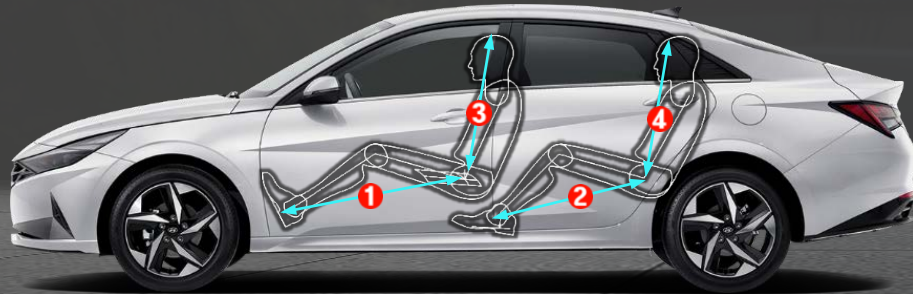


Improved Proportion



		Current Elantra	Diff.	All-new Elantra	Honda Civic	Toyota Corolla	Nissan Sentra	Mazda Mazda3
Overall Length	1	181.9	2.2	184.1	182.7	182.5	182.7	183.5
Overall Width	2	70.9	1	71.9	70.9	70.1	71.5	70.7
Overall Height	3	56.7	-1	55.7	55.7	56.5	56.9	56.9
Wheelbase	4	106.3	0.8	107.1	106.3	106.3	106.8	107.3

BEST-IN-CLASS REAR SEAT LEG ROOM



		Inches	Current Elantra	Diff.	All-new Elantra	Diff.	Honda Civic	Toyota Corolla	Nissan Sentra	Mazda Mazda3
Leg room	1 st row	❶	42.2	0.1	42.3	-0.2	42.3	42.0	44.0	42.3
	2 nd row	❷	35.7	2.3	38.0	1.0	37.4	34.8	34.7	35.1
Head room	1 st row	❸	40.3 (38.5)	0.3 (0.2)	40.6 (38.7)	0.2 (-0.1)	40.4 (38.8)	39.2	38.9	38.0
	2 nd row	❹	37.3	-	37.3	-	37.3	36.5	36.7	37.3
Shoulder room	1 st row	❺	56.2	0.3	56.5	-0.4	56.9	55.0	56.4	55.7
	2 nd row	❻	55.3	0.3	55.6	0.6	55.0	54.5	54.5	53.5

BEST-IN-CLASS PASSENGER & TOTAL INTERIOR VOLUME

	2021 Elantra	2020 Sentra	2020 Corolla	2020 Civic	2020 Mazda3
Passenger Volume (cu. ft.)	99.4	96.0	88.6	97.8	92.8
Cargo Volume (cu. ft.)	14.2	14.3	13.1	15.1	13.2
Total Interior Volume (cu. ft.) = Passenger + Cargo	113.6	111.3	101.7	112.9	106.0
EPA Size Classification	Midsize	Midsize	Compact	Midsize	Compact

More Passenger
Volume than
many entry CUVs





SAFETY & CONVENIENCE FEATURES

HYUNDAI SMARTSENSE TECH

Forward Collision-Avoidance Assist (FCA)



2 Types:

- Camera only (w/ Ped)
- Sensor fusion (w/ Ped, Cyc & JT)

STD

Lane Following Assist (LFA)



STD

Blind-Spot Collision-Avoidance Assist (BCA)



STD

Rear Cross Traffic Collision-Avoidance Assist (RCCA)



STD

Driver Attention Warning (DAW)



STD

High Beam Assist (HBA)



STD

Parking Collisions-Avoidance Assist – Rear (PCAA-R)

Highway Driving Assist (HDA)



OPT

SEGMENT FIRST REAR OCCUPANT ALERT & SAFE EXIT WARNING



Operating procedure



Rear door open



Engine off &
driver's door open



Cluster message pop-ups

WIRELESS SMARTPHONE CHARGER

- 30% improvement of charging performance
- Prevention of overheating with newly applied cooling function



DRIVE MODE SELECT



NORMAL



SMART



SPORT

CUSTOMIZABLE AMBIENT LIGHTING

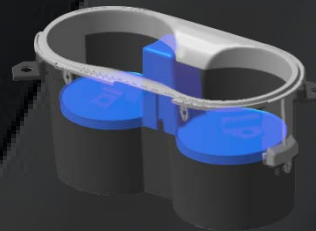
64 colors



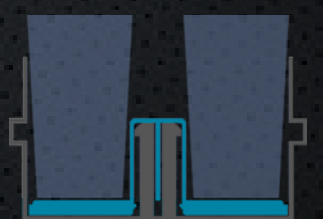
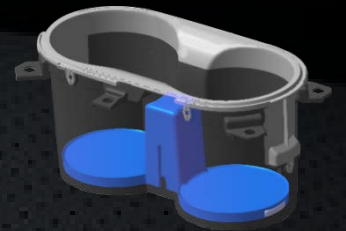
ADJUSTABLE FRONT CUP HOLDERS



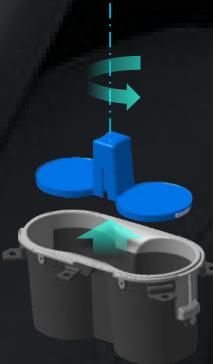
Small-sized cup



Large-sized cup



**Take out and
rotate the tray**



PACKAGING & PRICING



Elantra SE

MSRP: \$19,650

Wireless Android Auto / Apple CarPlay

Forward Collision-Avoidance Assist (FCA - camera only) w/ Pedestrian Detection & Lane Keeping Assist

Blind-Spot Collision-Avoidance Assist (BCCW) w/ Rear Cross-Traffic Collision-Avoidance Assist (RCCA)

8-Inch Display Audio AM/FM/HD Radio



Elantra SEL

MSRP: \$20,900

Proximity key w/ push button start and hands-free smart trunk release

Blue Link Connected Car Services

SiriusXM Satellite Radio

SEL w/ Convenience Pack

+\$950

Full 10.25" LCD TFT cluster

Forward Collision-Avoidance Assist w/ Pedestrian, Cyclist and Junction-Turning Detection (sensor fusion type)

Wireless Charging Pad

SEL w/ Premium Pack

+\$2,100

Hyundai Digital Key

Bose Premium Audio w/8 speakers

Power sunroof



Elantra Limited

MSRP: \$25,450

10.25-inch Navigation (10.25")

Dynamic Voice Recognition

Parking Distance Warning – Reverse & Parking Collision-Avoidance Assist – Reverse (PCAA-R)

PACKAGING & PRICING



Elantra SEL Hybrid

MSRP: \$23,550

Hybrid powertrain (50+ MPG) w/ Multi-link independent rear suspension

Blind-Spot Collision-Avoidance Assist (BCCW) w/ Rear Cross-Traffic Collision-Avoidance Assist (RCCA)

8-Inch Display Audio AM/FM/HD Radio



Elantra Limited Hybrid

MSRP: \$28,100

Full LED Taillights

Driver's Integrated Memory seating system

Ventilated front seat

2021 Elantra



- Striking styling with strong presence and proportions
- Advanced technology that provides more control and personalization than ever before
- First ever Hybrid powertrain achieving up to 54 MPG combined, more efficient than Corolla Hybrid & Insight
- Standard Hyundai SmartSense safety technology



Hybrid

