

SORENTO

Hybrid and Plug-in Hybrid



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Hybrid and Plug-in Hybrid

- 
1. Low running costs
 2. Ultra low emissions
 3. High power output
 4. Practicality

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Hybrid and Plug-in Hybrid

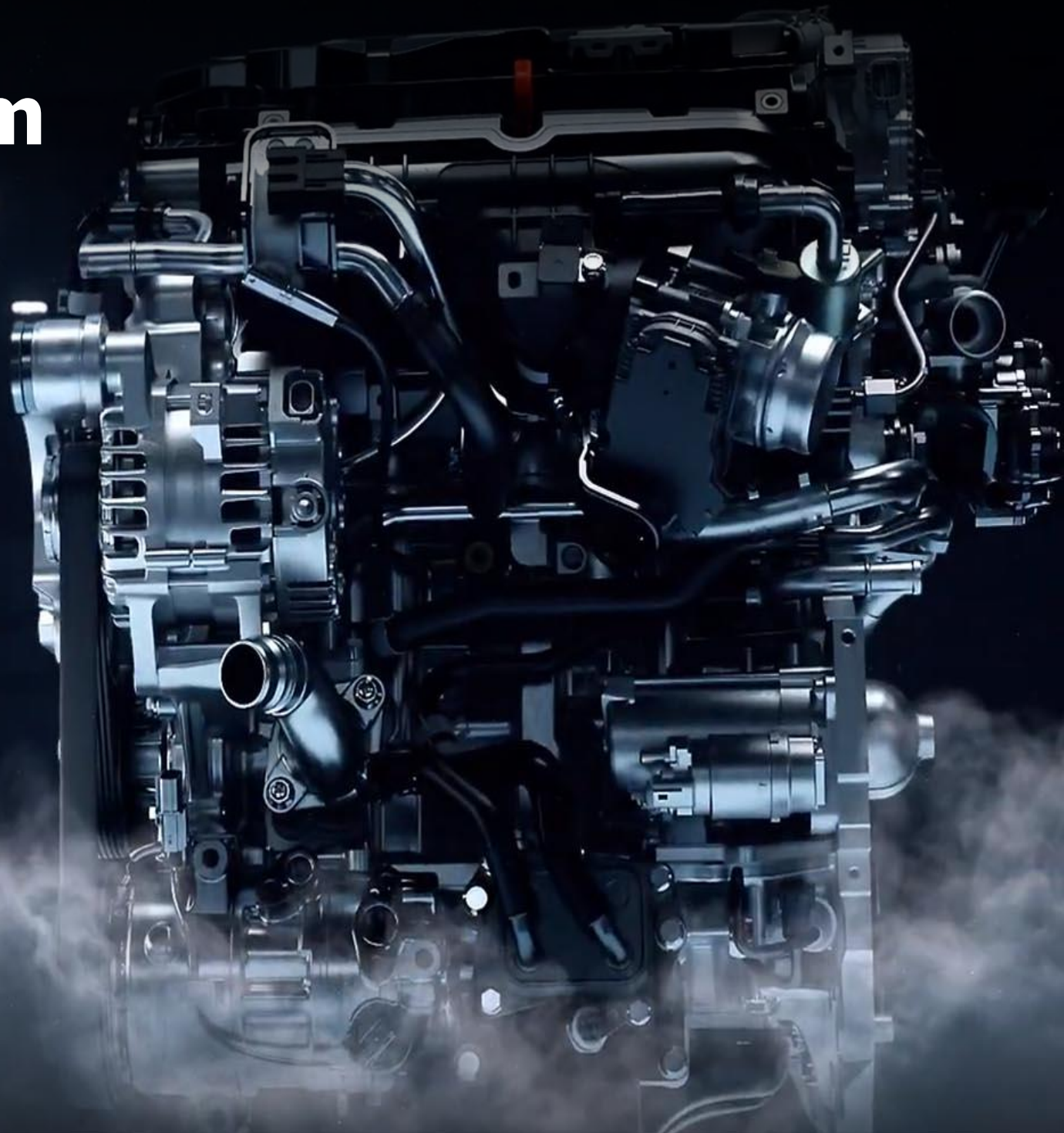
2.2 L Diesel Wet DCT - 148kW / 440Nm - AWD only

1.6 L Petrol Hybrid - 169kW / 350Nm - FWD and AWD

1.6 L Petrol Plug-in Hybrid - 195kW / 350Nm - AWD only



Introducing Smartstream



Generation II (SMARTSTREAM)

Kia's next generation engine technology.

With increased efficiency and performance coupled with reduced CO₂ emissions.

One engine, for everyone.

Generation 1 (Gen 1)

Alpha & Beta Motors



Features:

- Cast Iron Block
- MPI Fuel System

Generation 2 (Gen 2)

Theta, Lambda, Nu



Features:

- Aluminium Block
- GDI Fuel System
- Variable Valve Technology

Generation 3 (Gen 3)

Smartstream



Features:

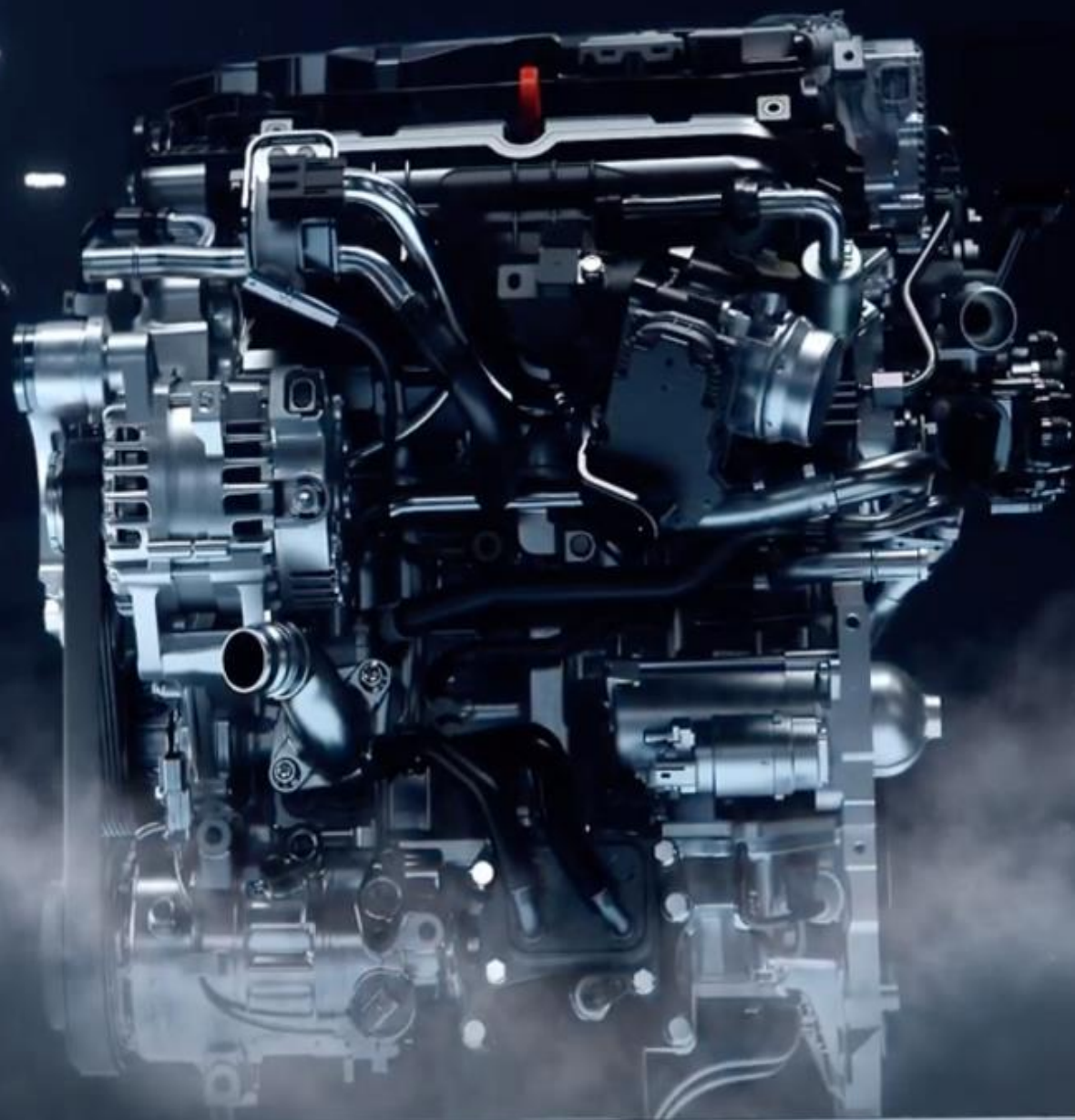
- Introduction of CVVD
- Introduction of LP-EGR

CVVD

Continuously Variable Valve Duration

The world's First CVVD

Smartstream G1.6 T-GDi Since 2019

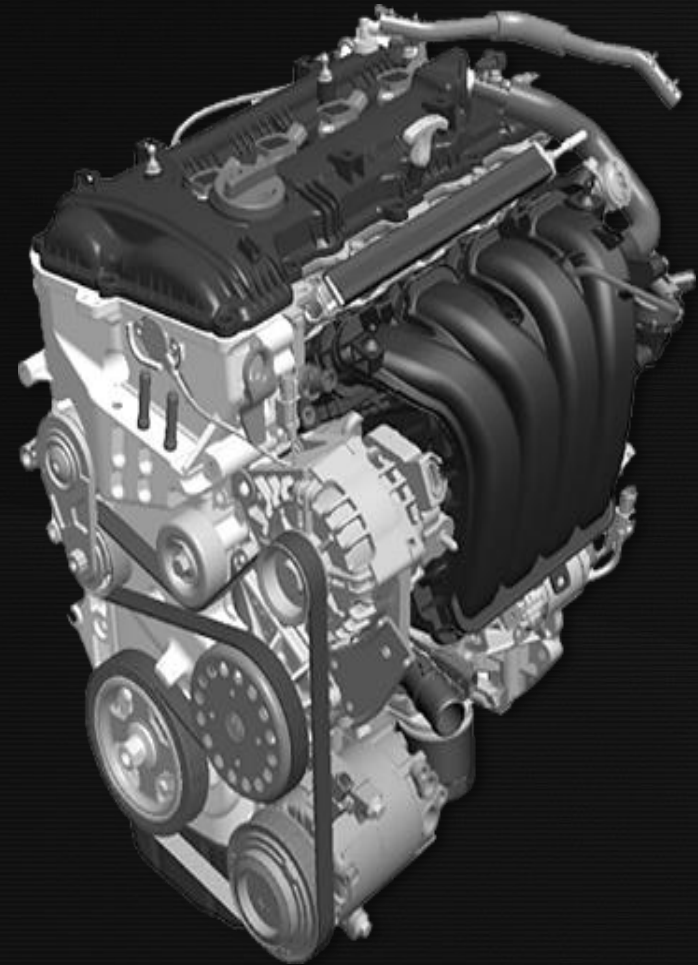


What is CVVD ?

Continuously Variable Valve Duration

- Automatically controls valve adjustments throughout the RPM range
- Valves are independently changed based on driver input for ideal usage (fuel efficiency and performance)

'the system allows for a five percent improvement in economy, a four-percent increase in performance, and a 12-percent decrease in emissions.'



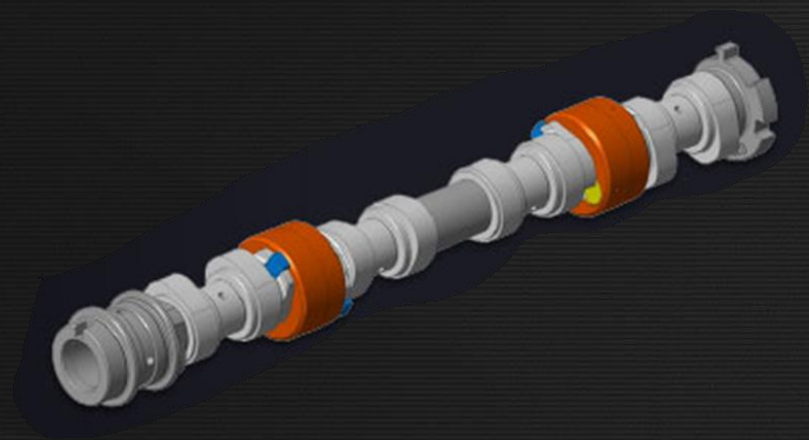
How does CVVD work ?

Standard Camshaft



- One solid moving part with fixed cam lobes
- Opening all valves to the same length / lift simultaneously
- No independence per cylinder

CVVD Camshaft

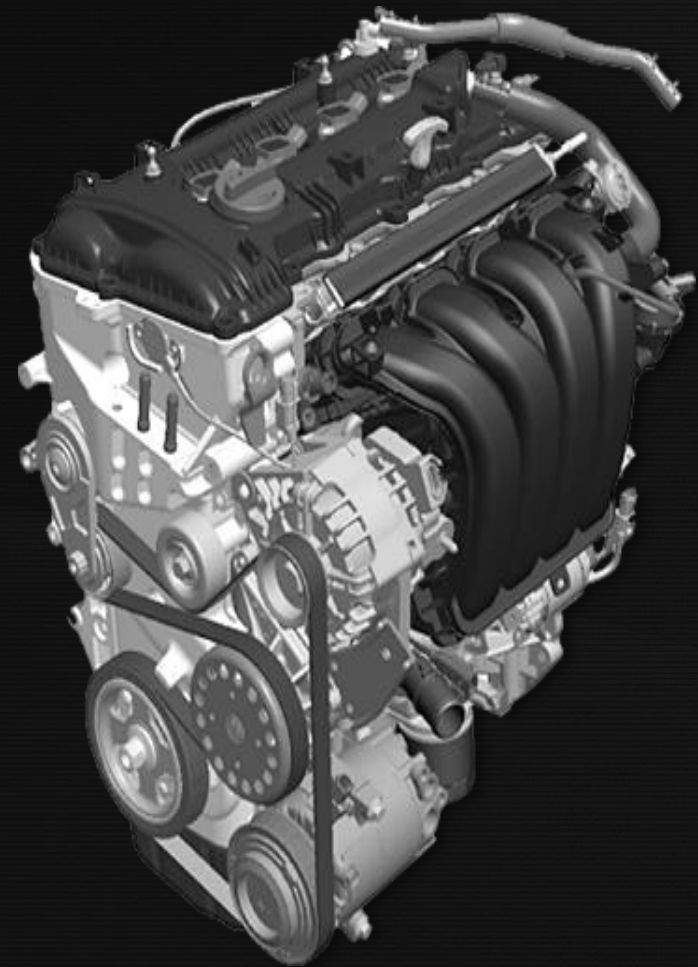


- Electronically controlled Independent Cam lobes
- Valves are independently changed based on driver input per cylinder
- Optimum driving experience

What is LP-EGR?

Low Pressure - Exhaust Gas Recirculation

- Located on the exhaust system after Catalyst cycle
- Reduces toxic emissions from exhaust
- Creates a leaner burning engine



Smartstream Summary

Worlds first technology that:

- Increases engine Performance
- Improves Fuel Efficiency
- Decreases CO₂ Emissions
- Creating a unique driving experience customizable to every drivers habits.



Hybrid Systems



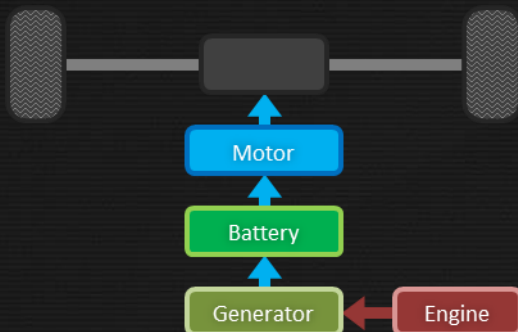
WHAT IS HYBRID ?

SORENTO



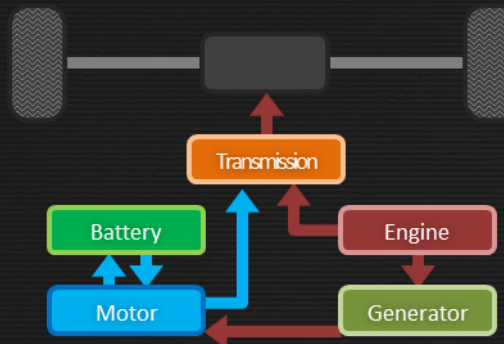
Series Hybrid

No Connection between Petrol Engine and the wheels
(Primarily European Brands)



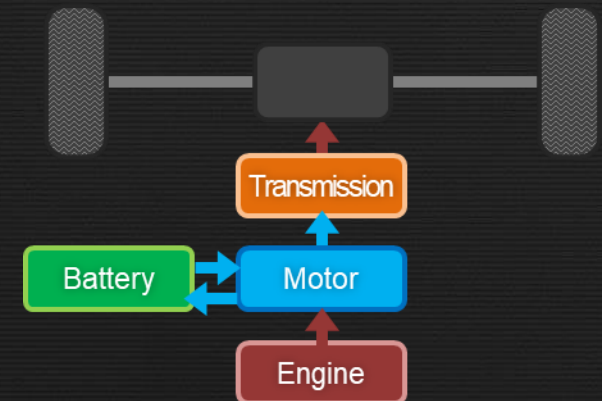
Series & Parallel Hybrid

Different feeds to the transmission, allowing alternate power options.
(Toyota, Lexus)



Parallel Hybrid

Enables fully independent propulsion via petrol or electricity
(Kia, Hyundai)



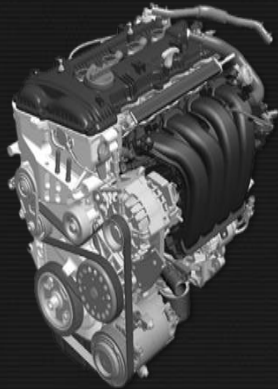
WHY SORENTO HEV (Hybrid) ?

SORENTO



Smartstream 1.6T GDI engine

Maximized efficiency with new engine technologies



Permanent magnetic e-motor

44.2 kw high-efficiency electric motor



Lithium-ion polymer battery

Outstanding charging performance compared to nickel-hydrogen battery
270 Volts 1.49 Kwh



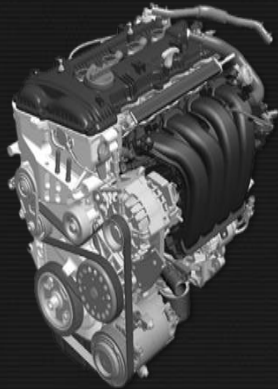
WHY SORENTO PHEV (Hybrid) ?

SORENTO



Smartstream 1.6T GDI engine

Maximized efficiency with new engine technologies



Permanent magnetic e-motor

66.9kw high-efficiency electric motor
↑ 22.7KW Over HEV



Lithium-ion polymer battery

Outstanding charging performance compared to nickel-hydrogen battery
360 Volts 13.8 kWh
Liquid Cooled



HEV / PHEV Configurations

S O R E N T O

Model	HEV Prem (2WD)	HEV Prem (AWD)	PHEV Prem (AWD)
Engine	169kW / 350Nm	169kW / 350Nm	195kW / 350Nm
E-Motor	44.2kW / 264Nm	44.2kW / 264Nm	66.9kw / 304Nm
Transmission	6 Speed Auto	6 Speed Auto	6 Speed Auto
Fuel Rating	5.4 L/100km	6.2 L/100km	1.6 L/100km
CO ₂ Output	124 g/km	141g/km	36g/km



Hybrid vs. Diesel

S O R E N T O

Premium standard specification

- 19" Alloy Wheels
- Blind Spot View Monitor (BVM)
- Parking Collision Avoidance Assist - Reverse (PCA)
- Rear Occupant Alert (ROA)- With Sensor
- Around View Monitor
- Dual LED Front Headlights (Projection)
- Panoramic Power Sun Roof
- LED Rear Combination Lights
- Interior Ambient Mood Lighting
- 14-Way Power Driver's Seat (Incl. 4-Way Lumbar Support & Cushion Extension)
- Memory Driver's Seat (2 Settings)
- 10-Way Power Front Passenger's Seat (Incl. 2-Way Lumbar Support)
- 2-Stage Heated Rear Seats (2nd Row Outer)
- 3-Stage Ventilated Front Seats
- LED Interior Lights (Front & Rear)
- Alloy Driver's Foot Pedals
- Cloth A/B/C/D Pillar Covers
- Insert Film Centre Facia
- ION Plated Interior Door Handle
- BOSE Premium Sound System with 12 Speakers
- 12.3" TFT LCD Supervision Cluster
- Sun Shade Blinds (2nd Row)
- Smart Power Tailgate (Height Adjustable)