

# Vetnisbílar

Heiðar Sveinsson framkvæmdastjóri Hyundai hjá BL ehf.

30.Maí 2018



# Markaður fyrir „Fuel Cell“ efnarafal

Hingað til hafa verið aðalega tveir hópar viðskiptavina:

- Ríki og sveitarfélög
- Vetnis hagsmunaaðliar

Ástæða innkaupa:

- Stuðningur við “ECO” ímynd, lækkun á kolefnisfótspori
- Uppfæra eldsneyti og þróa nýja tækni

“Fuel Cell” markaður er mjög háður eftirfarandi:

- Útbreiðslu vetnisstöðva
- Stuðningi stjórnvalda við minna mengandi orkugjafa



# Fuel Cell Markaður

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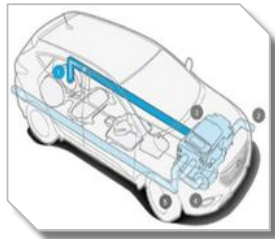
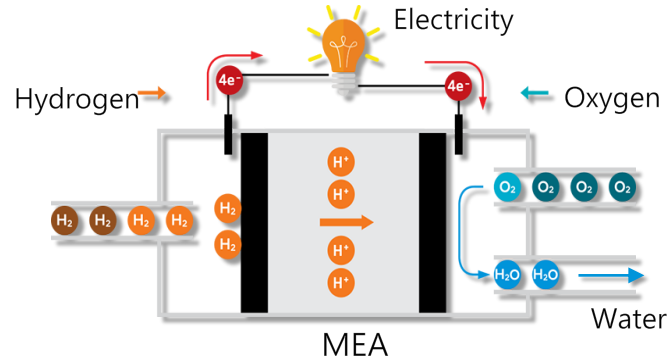
- Fram til þessa hafa eingöngu verið tveir aðilar á markaði í Evrópu, Toyota með Mirai og Hyundai með ix35 og svo Nexo
- Mercedes reiknar með að koma inná markaðinn með tengitvinbíl með Fuel Cell á þessu ári

## FCEV framboð

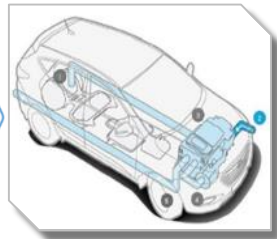


# Fuel Cell vinnuferli

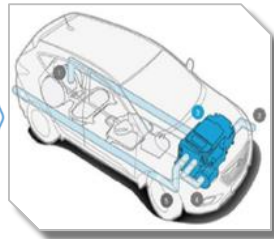
A Fuel Cell car is a EV whose electricity is generated on board by the Fuel Cell Stack



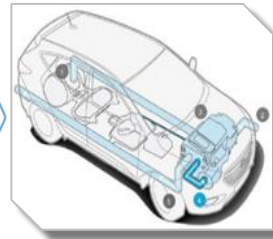
Hydrogen supplied to stack from fuel tank



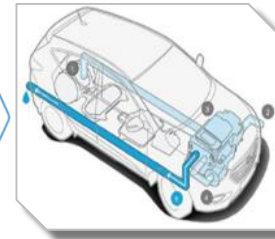
Air is supplied to stack from environment



Oxygen and hydrogen react to create power and water

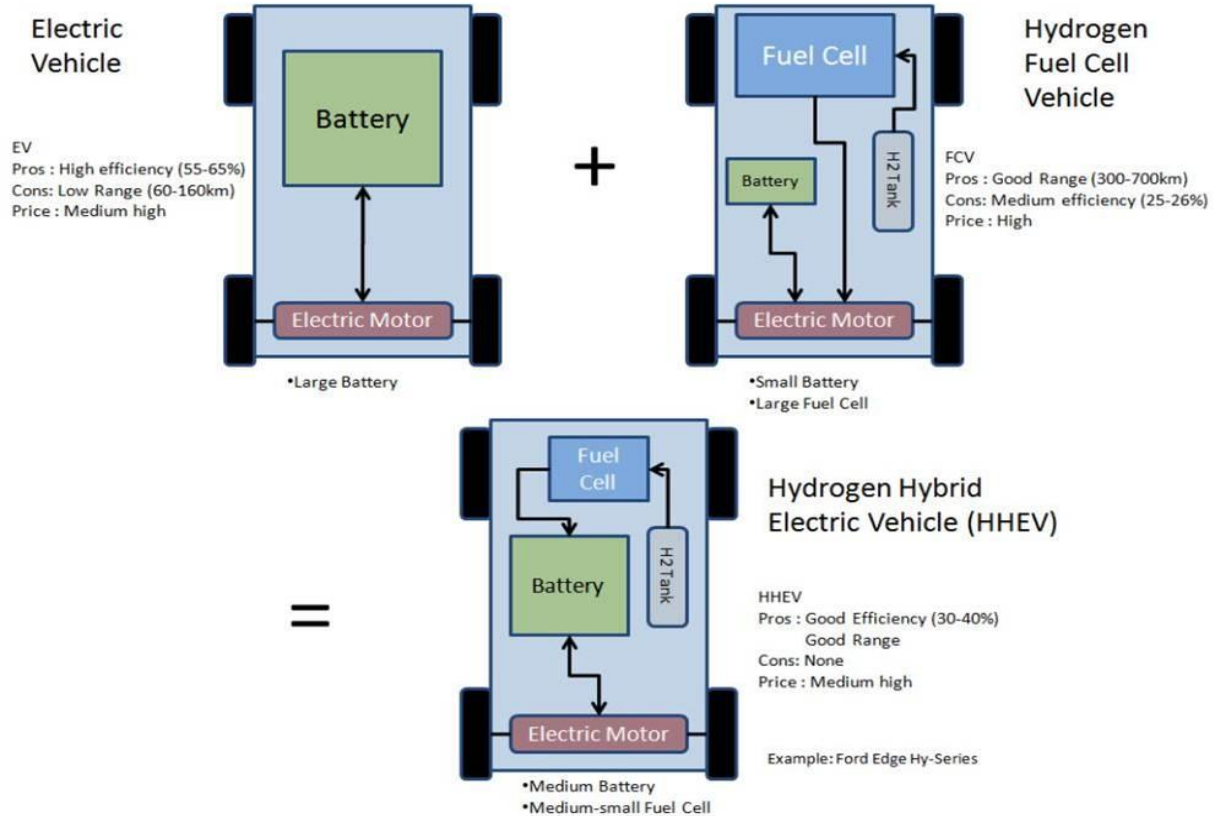


Generated power is supplied to motor and battery

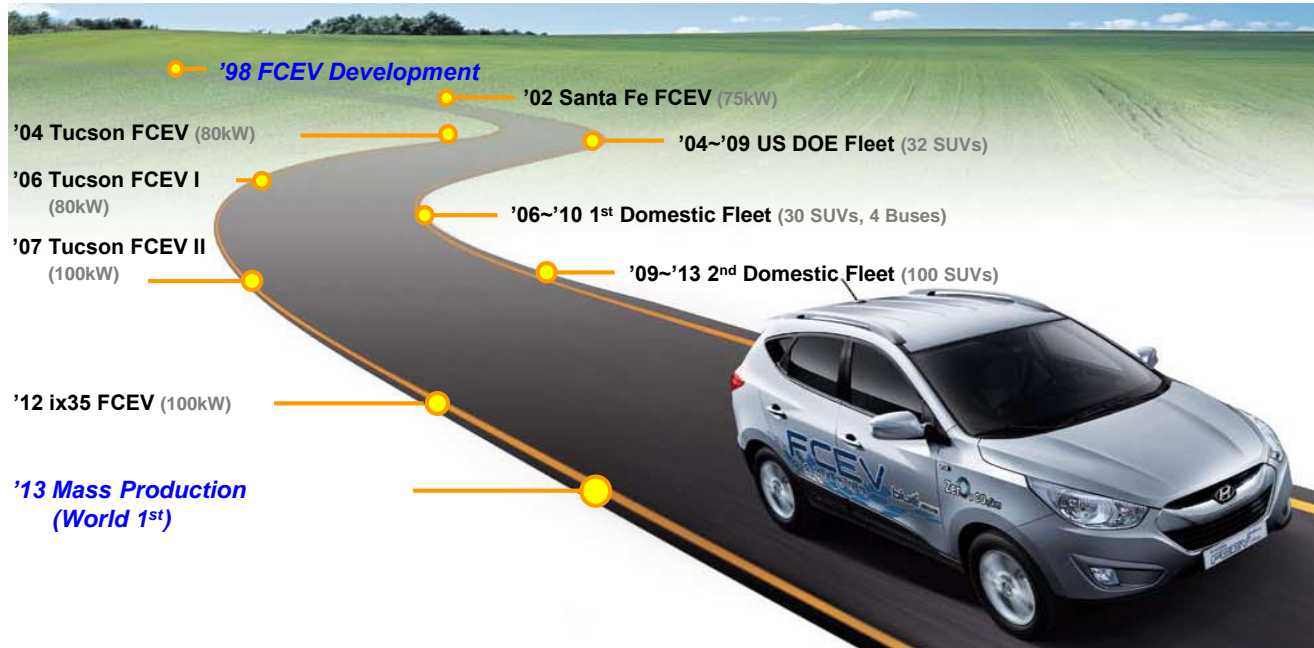


Motor moves vehicle. Water is expelled to the environment

# Rafbílar í samhengi við vetnisbíla og fuel cell



# Pioneer in Fuel Cell Vehicles



ix35 Fuel Cell

*Ground breaking powertrain with everyday usability*



# Hyundai Nexo

Product Presentation

D F HY701E



# Nexo markmið

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- Hyundai hefur verið leiðandi í fjöldaframleiðslu og Nexo undirstrikar þá stöðu í framboði á FCEV
- Nexo undirstrikar mikilvægi þess að sækja fram með nýja tækni og staðfestir hæfni Hyundai í þessum geira



## Future Utility Vehicle

### Future

#### Innovation, visualised

Horizon position light  
Auto flush door handle, 12,3" screen  
ECO Materials



### Utility

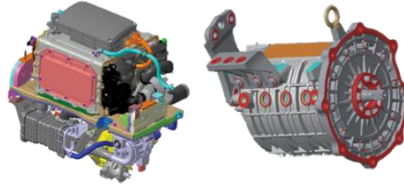
#### Brand new design, yet functional

Rear air intake, Sleek DLO

### Design

#### Ultimate Eco Friendliness

Emission free (just water)  
Air purification



#### Hassle-free operation

Fuel charge in 5 min  
High range

### Powertrain & Technic

#### Innovative

Remote parking  
Blind Spot View Monitor



#### Effortless driving

Lane following assist  
Smart Cruise Control

### SmartSense

## Future Utility Vehicle

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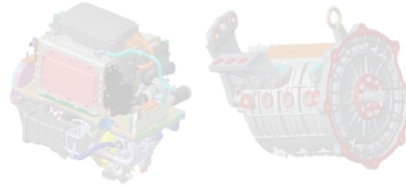
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# Design



Composite H/L & LED horizon light



Full LED Rear Comb Lamp



Cascading Grill



Auto Flush Handle

# Design



Large Integrated Display (7' cluster + 12,3' AVN)



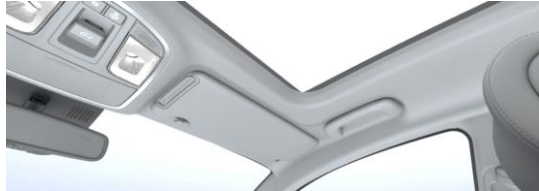
Bridge Type Console

# ECO Materials

- Bio materials applied on 47 interior parts
- 12 kg CO2 reduction per unit



Vegan Leather



Bio Headliner  
(bamboo thread based fabric)



Bio Door trim  
(Sugar cane based TPO)



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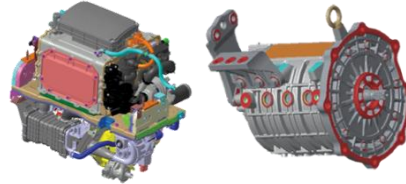
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# Powertrain & Technic

## Powertrain



Stack



Motor

142,5 kW system power (stack + battery)

-30° cold start (ix35 = -25°)

High durability (160,000 km / 10 years)

High hydrogen storage density 156,6L  
(ix35 = 140L)

## Lightweight Construction



Alloy bumper beam



Plastic fender

## Maximum Aerodynamics



Air curtain



D pillar air tunnel



Auto flush handle



Hidden rear wiper

Drag coefficient Cd = 0,329

# Air Purification

- Positive side effect from FCEV technology
- Purify 99,9% of particulate matters, fine dust and air pollutants



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### Fuel Cell System

#### Innovative

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Blind Spot View Monitor



#### Effortless driving

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### SmartSense

# SmartSense – Blind Spot View Monitor (BVM) + Blind Spot Monitoring (BSM)

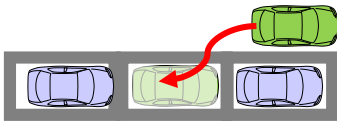
- Eliminates blind spot by displaying full rear view area on instrument cluster
- Enhanced visibility under bad weather or dark condition
- BSM works as back up system for double protection against blind spot collisions



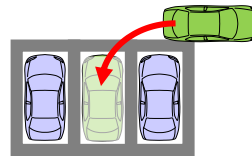


# SmartSense –Remote Smart Parking Assist (RSPA)

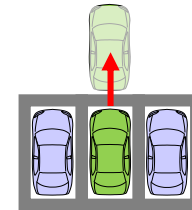
- Especially designed for narrow parking spaces or drivers facing parking difficulties



Parallel Parking



Right Angle Parking

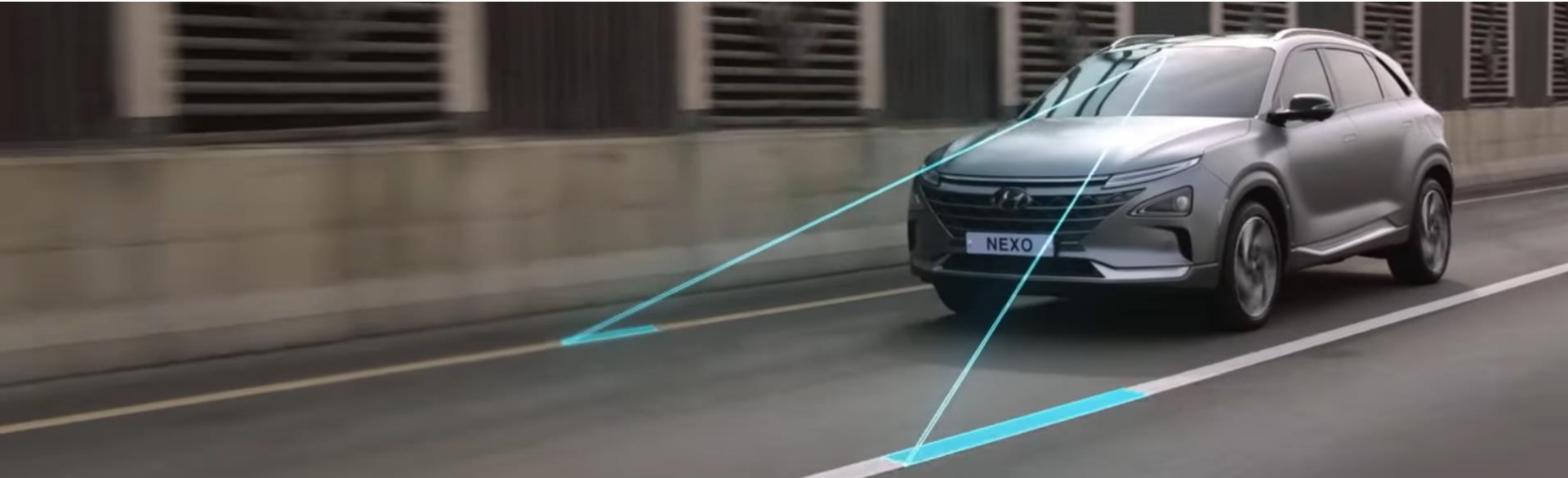


Remote Forward-Backward

## SmartSense –Lane Following Assist (LFA)

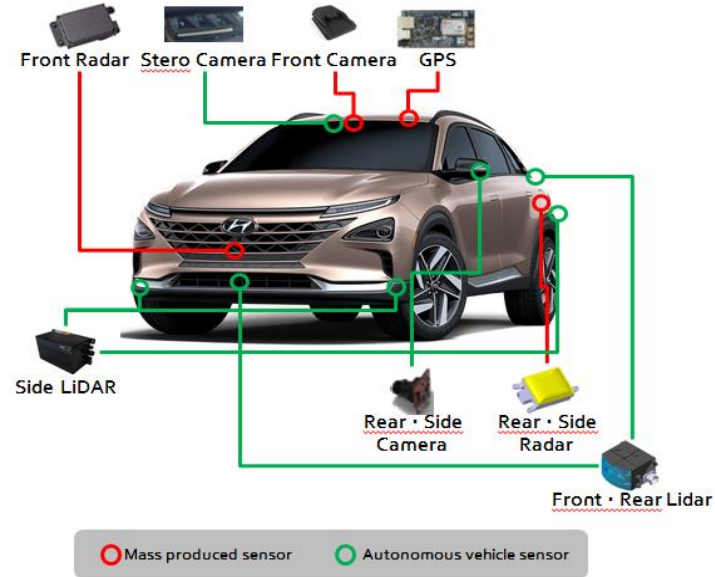
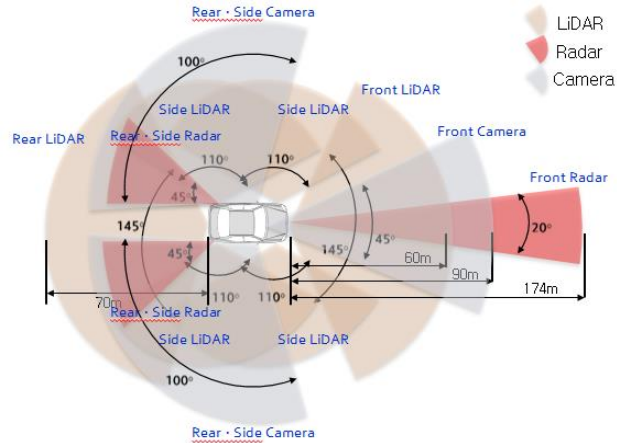
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- Actively maintains the car in the lane center
- Operative from 0 to 150 km/h



# Hyundai Showcases World First Self-driven Fuel Cell Electric Vehicle

- Level 4 autonomous driving fuel cell electric vehicles self-drive 190 km from Seoul to Pyeongchang
- NEXO fuel cell electric vehicle completes South-Korea's longest level 4 autonomous driving demonstration
- Hyundai to commercialize level 4 autonomous vehicles in smart cities by 2021
- Fully autonomous Hyundai vehicle to be available in the market by 2030



# Hyundai Showcases World First Self-driven Fuel Cell Electric Vehicle



**Takk fyrir**