

# Making the impossible possible



**Koenigsegg**



A true story about dreams, passion, grit and endurance

# TODAY'S AGENDA

The Koenigsegg story- a fairy-tale from 1994

Our business model and our challenges

Our Innovation DNA

Our sustainable innovation portfolio

How we challenge the impossible

Koenigsegg ExtremeTech Day-



The Koenigsegg factory was once home to the oldest and most legendary fighter jet squadrons from Sweden, back in the 1930's. Since they flew out before dawn and after dark in the darkness, people would rarely see them but often heard them. Hence, they came to be known as 'Ghosts' and had the tagline, 'the show must go on'.

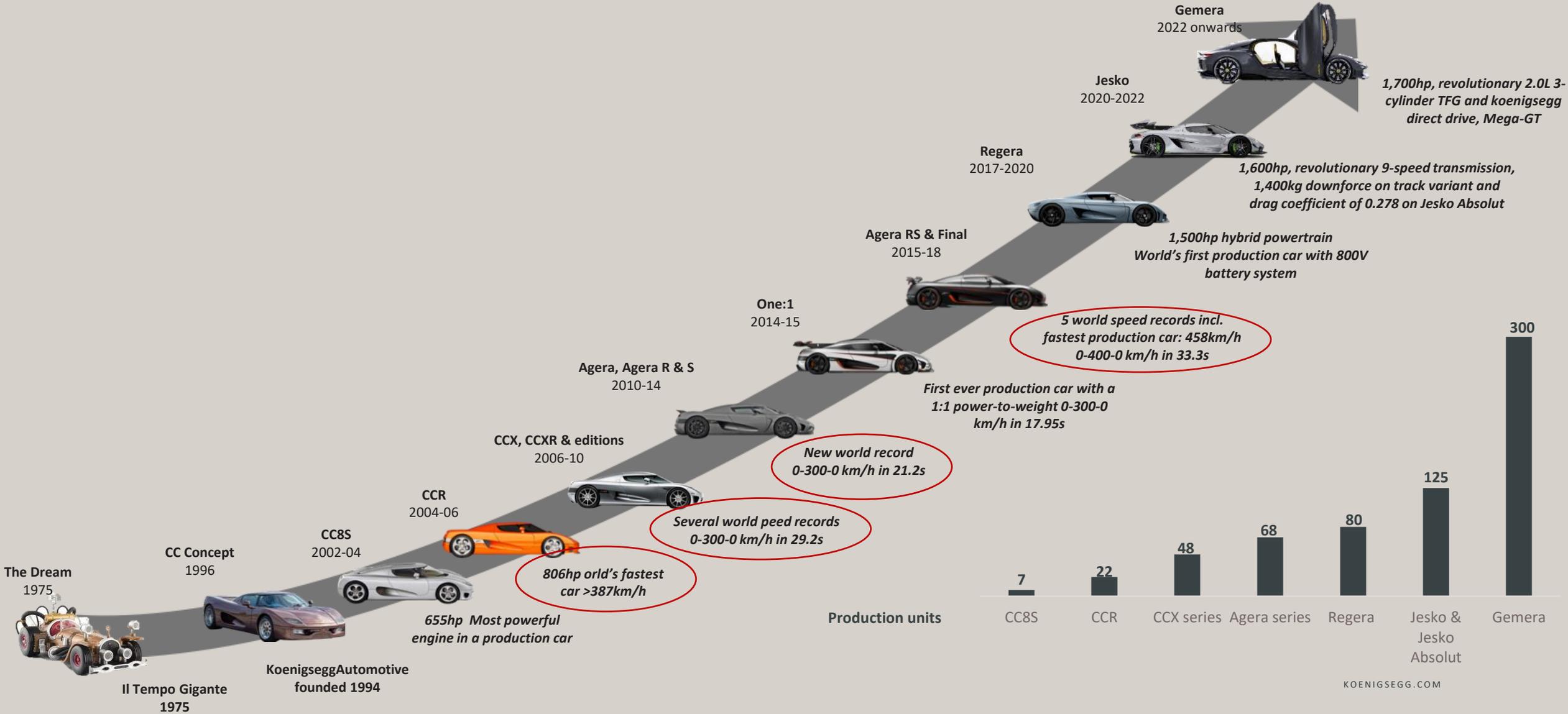
Koenigsegg has since attached the ghost symbol on every car as a mark of respect. The community of customers, staff and fans have also since been nicknamed the Ghost Squadron.

# KOENIGSEGG JOURNEY

Ultimate Performance to break new records and grounds



**Koenigsegg**



# BREAKING NEW FRONTIERS



**Regera – Fastest accelerating production car on earth**  
0-400-0 in 31,49 seconds



**Agera RS – Fastest production car on earth**  
Top Speed 458 km/h / 0-400-0 in 33,29 seconds

# OUR BUSINESS MODEL

A Koenigsegg is not a vehicle- A Koenigsegg is a piece of art

Customers don't buy a car- they make an investment- in asset and excitement

We don't sell cars- we sell trust, deliver dreams and provide experiences



**Koenigsegg**

# OUR CHALLENGES

When you buy art for investments you don't want copies



Small series and no tech carry over

Extremely small series creates no buying power



No suppliers or overcharged components

No carry over of technologies drives BOM



Cheaper to design and build ourselves

THIS IS WHY WE DO SUPERSMALL SERIES BASED ON OUR OWN DESIGN AND INNOVATIONS, MANUFACTURE AND ASSEMBLED BY HAND ONSITE IN ÄNGELHOLM

# OUR INNOVATION DNA

We don't deliver what the market wants- we deliver what WE want!

We don't design for cost- we design for ultimate performance!

Good enough is NOT perfect- good enough is lack of ambition!

Impossible is a triggerpoint- If it seems possible, don't do it!

Do not compromise with compromises!

We don't compete- we collaborate!



# TECHNOLOGY HIGHLIGHTS

- **Tiny Friendly Giant (TFG)** multi-fuel engine 3-cylinder **Freevalve** patented camless engine
- **Koenigsegg Direct Drive** system, removes the gearbox (along with weight and efficiency losses)
- **Patented world's first 9 speed fast shift gearbox**
- **Carbon fiber tub chassis technology** – 65,000Nm per degree
- **Patented 'Aircore™' hollow carbon wheels**
- **Patented Dihedral Synchrohelix doors** – drama and space-saving
- **Battery technology** – Regera features world's most power-dense 800V battery
- **Autoskin**
- **Carbon fiber CAE capability**
- **Extremely advance CFD capabilities**
- **In-house OTA and Cloud logging systems**
- **In-house electronic department** creating all hardware and software systems including infotainment



# GOOD ENOUGH IS LACK OF AMBITION: THE JESKO



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## 1600 bhp ICE with Lightspeed Transmission

Gearbox innovation comprising 9 forward gears and several wet, multi-disc clutches, capable of gear changes between any gear, at near light speed.

## UPOD: Ultimate Power on Demand

UPOD is the brain that instantly selects and engages optimum gearing for maximum acceleration.

## Up to 1400 kg in downforce

Delivers a downforce payload of 800 kilograms at 250 km/h at the car's most aggressive setting, rises to 1000 kg at 275 km/h before reaching a maximum of 1400kg.

## Double-profile, boomerang shaped rear wing

Placed as far back as possible for maximum downforce and increased control.

## Aircore™ hollow carbon wheels

## Active Rear Steering

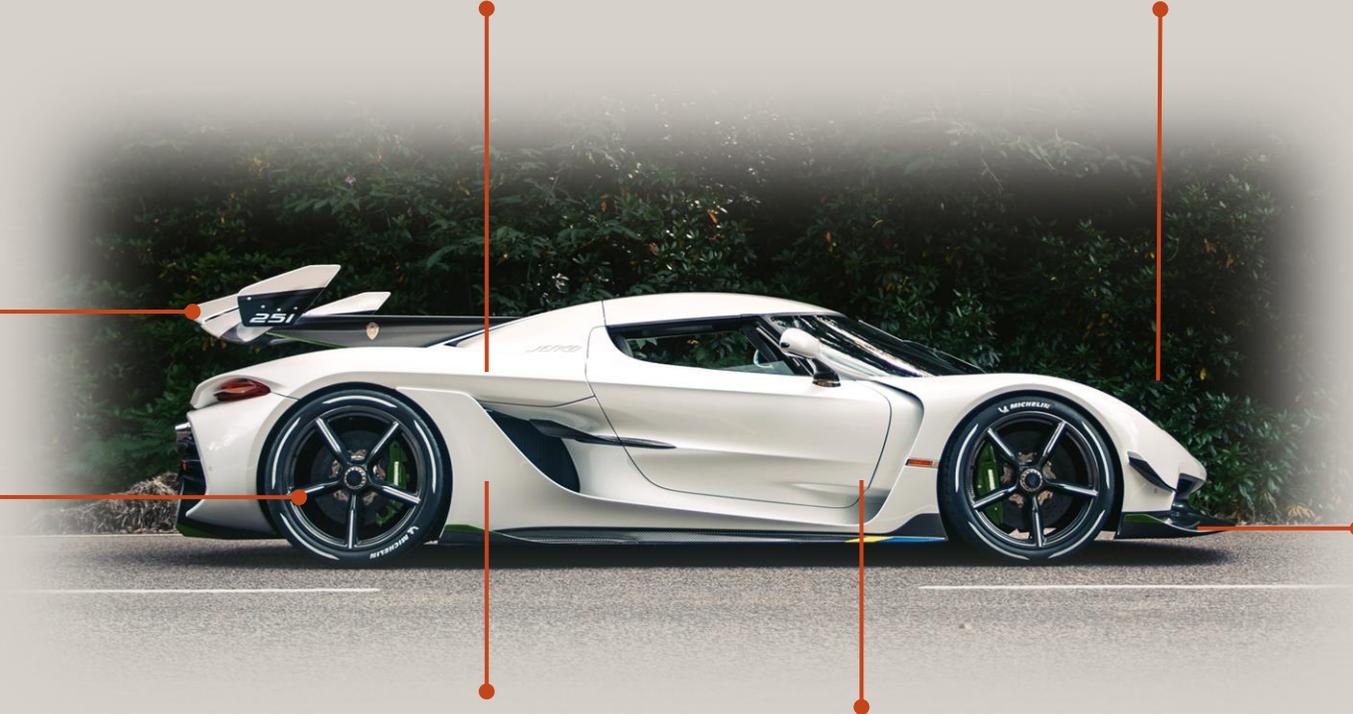
Increases responsiveness and heightens the senses at both high and low speeds.

## Redesigned dihedral synchro-helix door hinge

Opens slightly outwards and upwards to provide more room for ingress and egress, and reduces the danger of scraping high curbs.

## Front splitter

The deepest/longest ever used on a Koenigsegg. Features integrated active flaps underneath to maximise on-track performance.



# E-POWERTRAIN BY KOENIGSEGG

340 hp e-powertrain at 118 kg...or 680 hp at 146kg



## DAVID- our six phase inverter:

The ultra-compact inverter kicks out 1300 ARMS AC at 850 V (DC) over 6 phases, with up to 750 kW of power and 15 kg. As it is smaller, lighter and more powerful than what we could find out there, it has been named David, like in the story of David and Goliath.



Best size-to-power-to-weight ratio

## QUARK- our three phase e-motor:

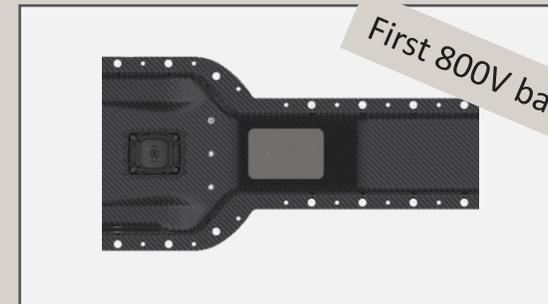
Traditionally, e-motors were either axial flux solutions (more torque-dense and less power-dense) or radial flux solutions (more power-dense and less torque-rich). However, Koenigsegg did not want to lean heavily on either, so they engineered an industry-first mix of the two topologies named **Raxial Flux**. The result is an e-motor with the best torque-to-power-to-rpm-to-weight ratio in the industry. It's tiny size; 34 cm diameter, 14 cm in width and 28 kg it provides 250 kW peak power (340 hp)



Best torque-to-power-to-weight ratio

## BATTERY- our 800V formula 1-grade battery pack:

Our Formula 1 grade, super-dense and super-compact battery pack at a weight of 75 kg. Our battery pack is key to the ability to deliver rapid acceleration. 524Kw of discharge and up to 200 kW of recharge- performance on par with Formula 1 cars and it discharge and recharge 10X faster than typical EV



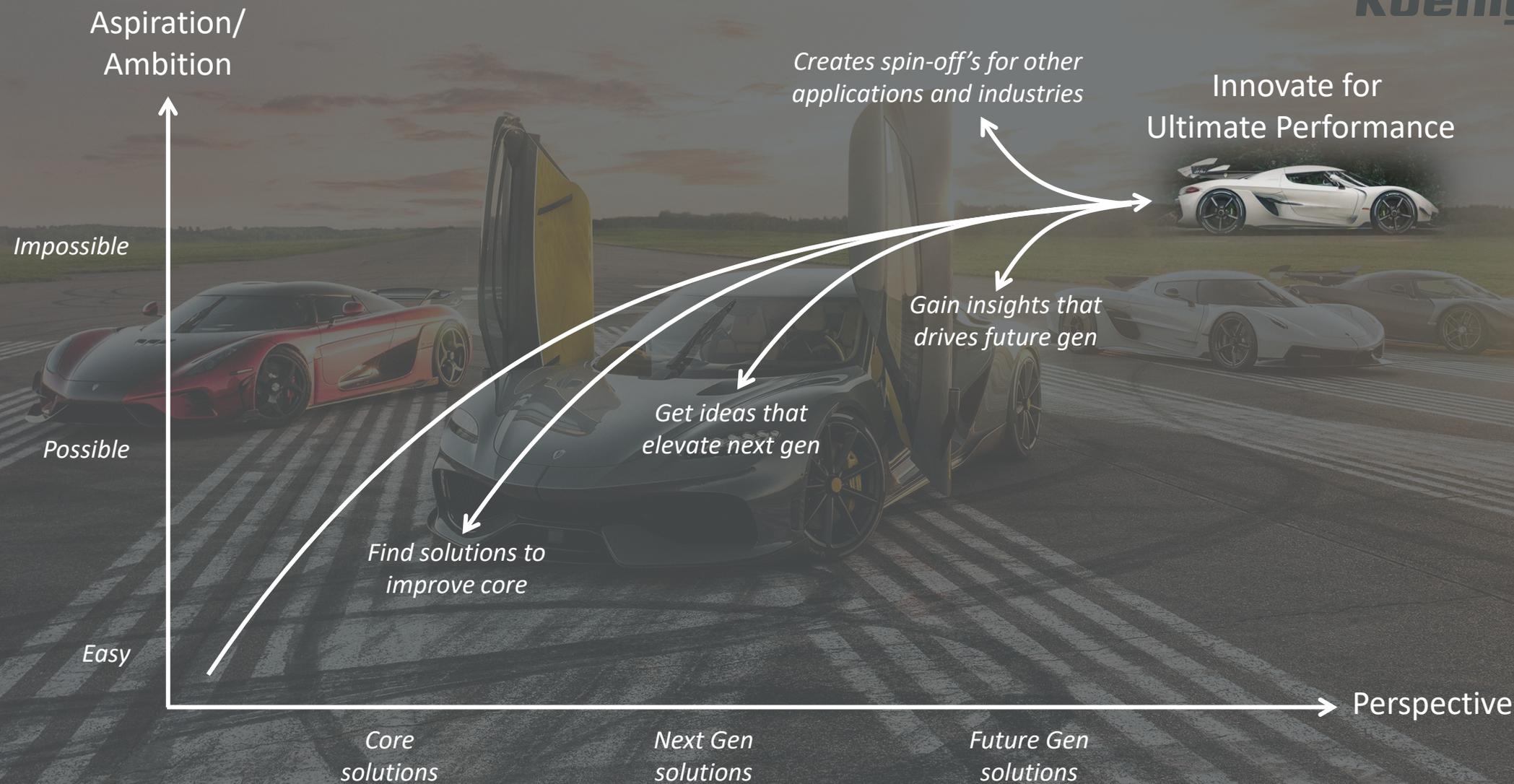
First 800V battery in production car



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# HOW WE CHALLENGE THE IMPOSSIBLE

- An ambition that fuels Swedish Innovation Systems



# KOENIGSEGG EXTREMETECH-DAY

- a collaboration to mobilize the power of ecosystems and space technologies for sustainable mobility

**7** Partners

**ONE** ambition

**twenty** Hightech's

Tripled Range  
with maintained  
performance

**8** Problems to solve

**SPACE-TECH** Thru I.S.A.A.C

**+300** Ideas to evaluate

**+10** Solutions to prototype



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# THANK YOU

Interested to CHALLENGE THE IMPOSSIBLE  
and fly to the moon with us?

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