



Chassis System of Lotus Eletre: The New Hyper SUV with Lotus DNA

Dr. Flavio Friesen

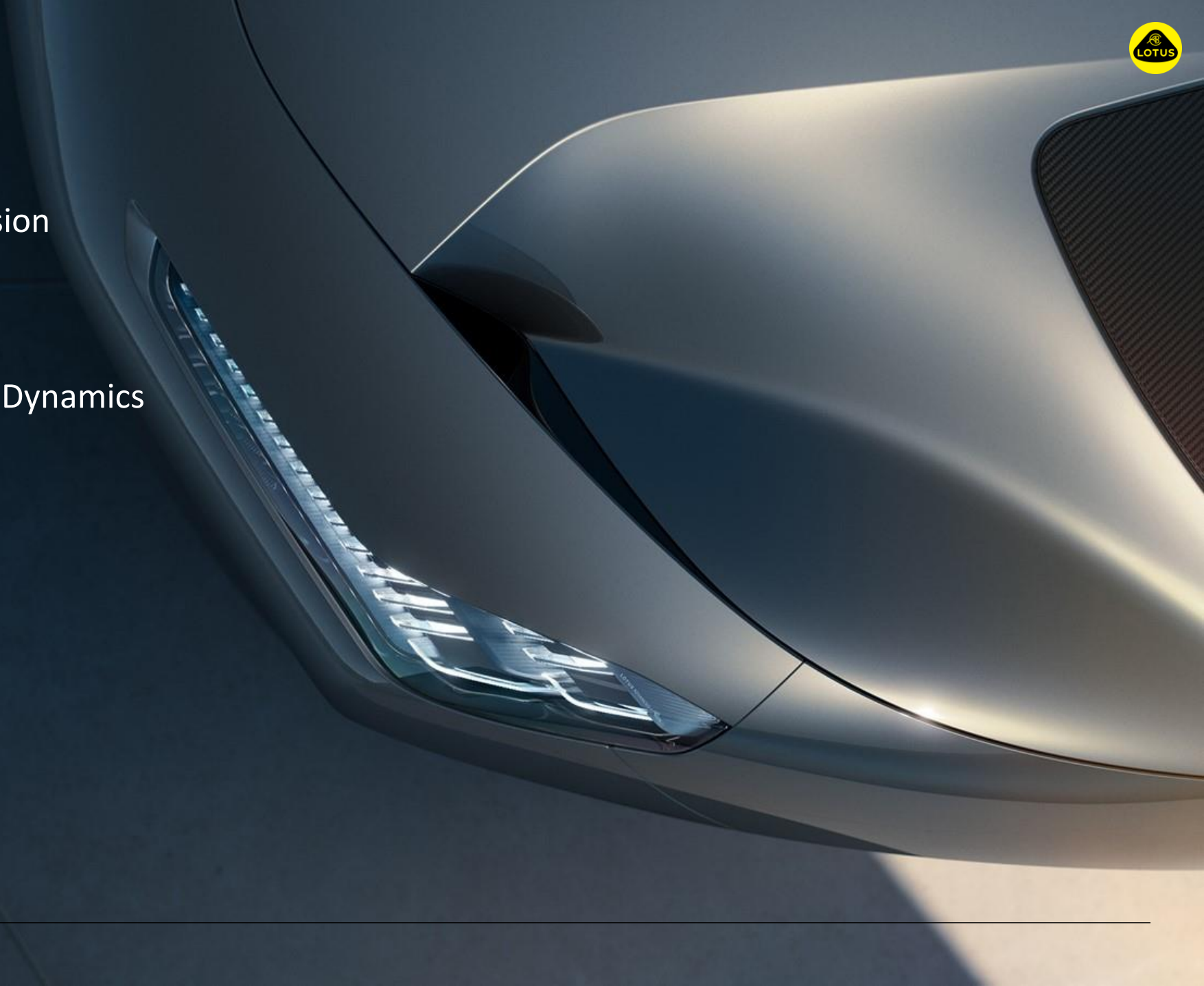
Lotus Tech Innovation Centre GmbH
























Agenda:

- Lotus Tech - Overview & Vision
- Lotus Eletre
- Next Generation of Vehicle Dynamics
- Outlook



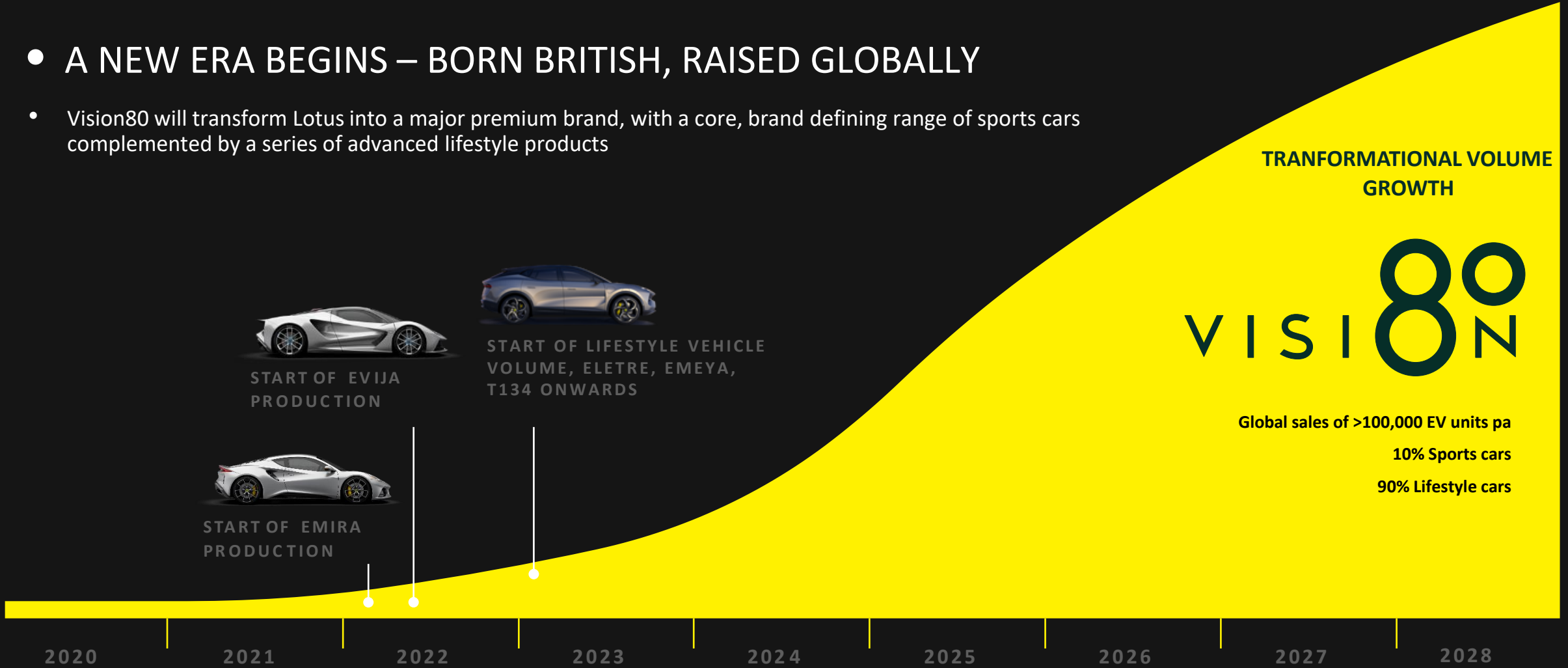
BRAND PORTFOLIO

<p>GEELY GEELY HOLDING GROUP</p>	<p>Passenger Car</p>	Geely Auto Group	 GEELY AUTO	 LYNK&CO	 GEOMETRY	 PROTON
		Volvo Car Group	 VOLVO	 POLESTAR		
		Zeekr Intelligent Technology	 ZEEKR			
		Lotus Group	 LOTUS CARS	 LOTUS TECHNOLOGY		
		smart Automobile	 smart			
		LEVC	 LEVC			
	Commercial Vehicle	Geely New Energy Commercial Vehicle Group				
	Technology	Geely Technology Group	 VOLOCOPTER			
			 TERRAFUGIA	 GEESPACE		
	Motorsport	Mitime Group				
	Mobility	Mobility Services	 CAO CAO	 STARRIDES		
	Finance & Digital Technology	Financial Services	 SAXO BANK			
		Digital Technology				
Education	Geely Talent Development Group	 GEELY UNIVERSITY OF CHINA				



LOTUS REVIVED

- A NEW ERA BEGINS – BORN BRITISH, RAISED GLOBALLY
- Vision80 will transform Lotus into a major premium brand, with a core, brand defining range of sports cars complemented by a series of advanced lifestyle products





DUAL-ENGINE STRATEGY OF GROUP LOTUS



Lotus Technology delivers global high-end intelligent BEV lifestyle models.

Lotus International delivers global high-performance sports cars.



GLOBAL R&D FOOTPRINT

89 35 45 92 79 32

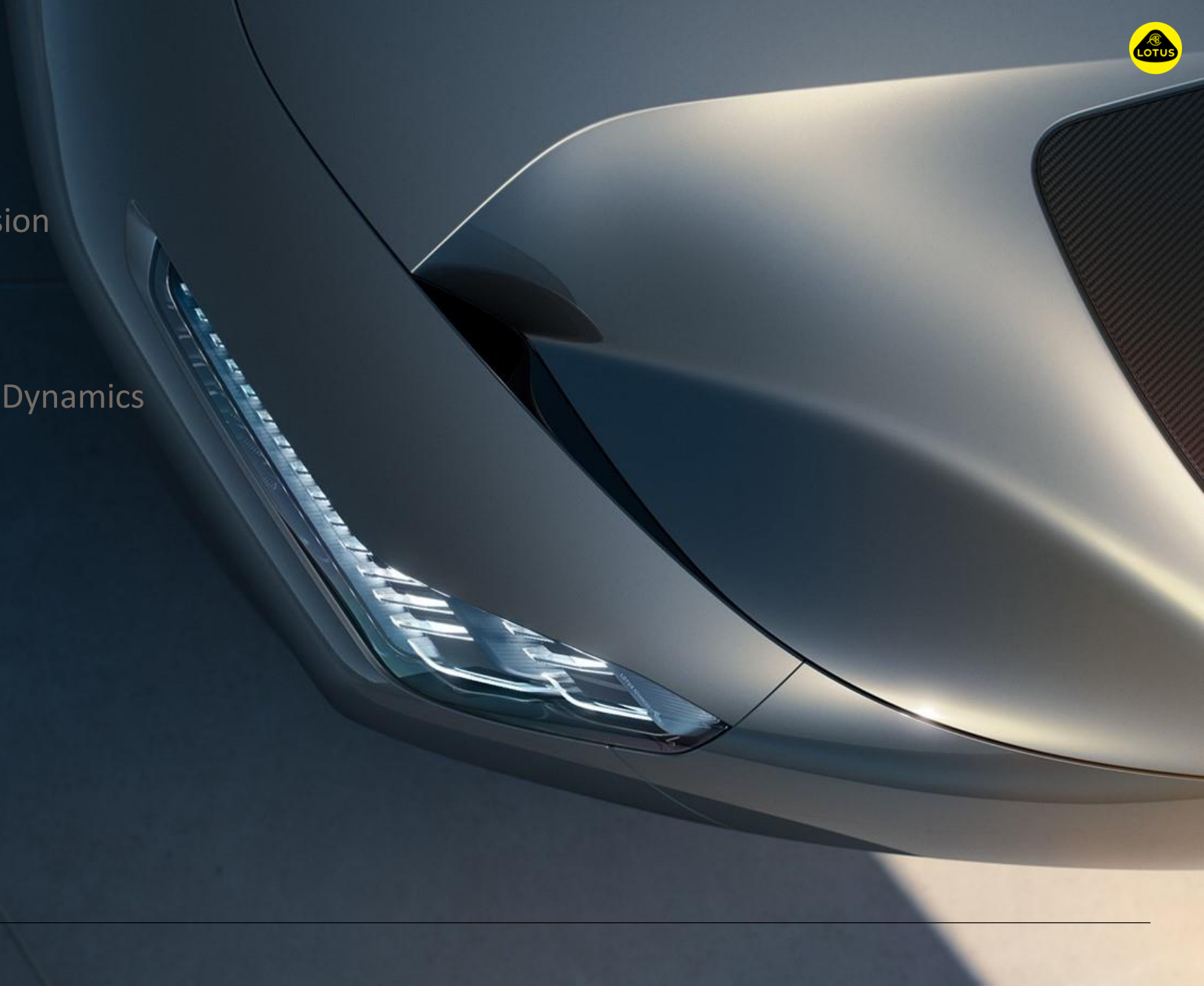


- 25
- 46
- 78
- 82
- 61
- 85
- 17
- 59



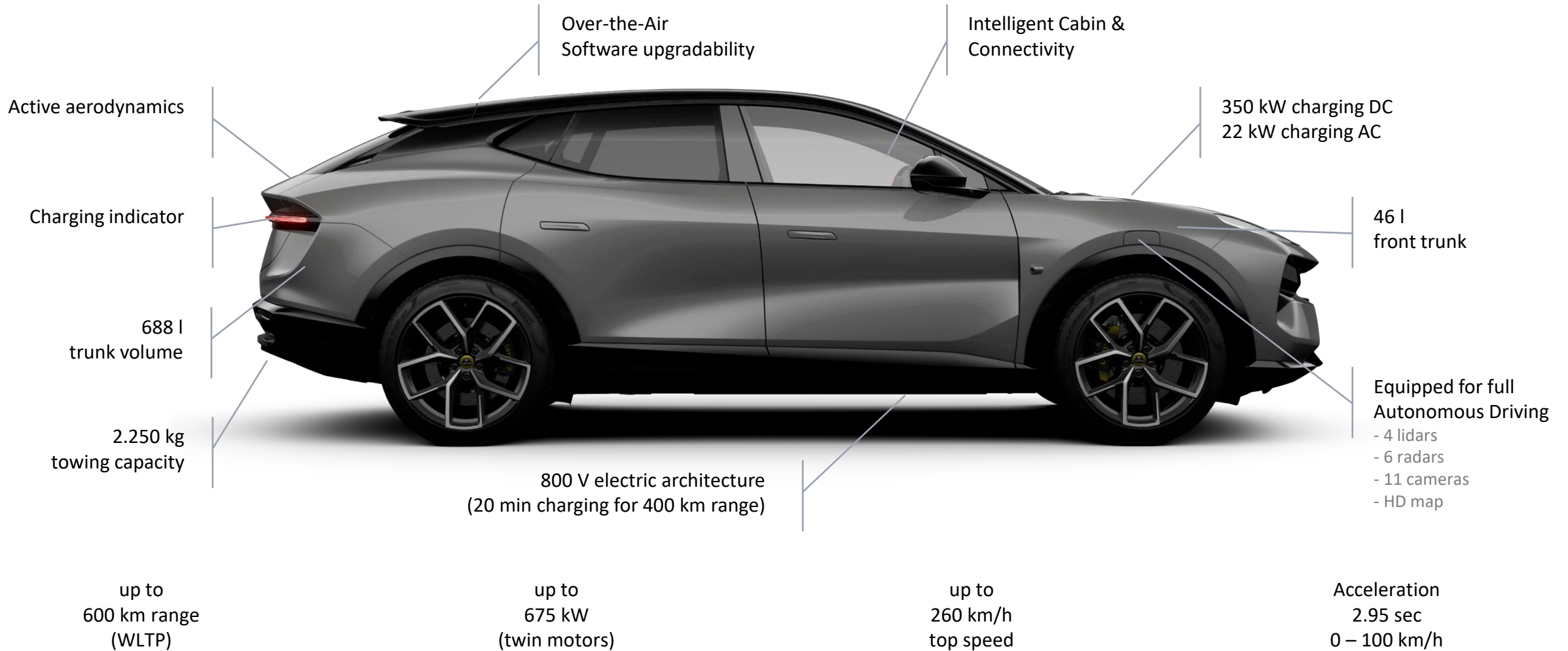
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Lotus Eletre

Attributes



EPA Architecture

Product Definition

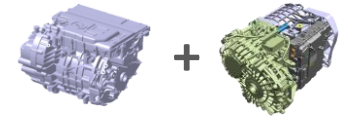


Product Attribute Profile		
Attributes		L
Dynamics & Performance	Performance	m
	Handling & Steering	m
	Braking	m
Design	Design	m
	Aerodynamics	m
	Weight	m
Technology	Digital User Experience	m
Ownership & Responsibility	Daily Life Usage	m

&

Vehicle Attributes Definition		
Target	EPA-H	
	Long range	Performance
0-100km/h (s)	<4.5	<2.95
WLTP Range (km)	≥600	≥490
Extreme driving experience: <ul style="list-style-type: none"> ✓ Inherit racing technology of steering & handling ✓ Best of braking performance in this level ✓ Lotus acceleration feeling ✓ LIDC-Lotus integration dynamic control 		
High Technology Requirements		
Extreme user experience: <ul style="list-style-type: none"> ✓ Auto Pilot L4 ✓ Fast charging (10% to 80%) EPA-H < 20.0 minutes EPA-L < 13.5 minutes ✓ 5G 		

Performance



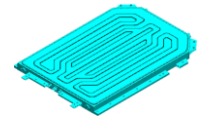
High Power E-motor: 225kw(Front) + 450kw (Rear)

Handling



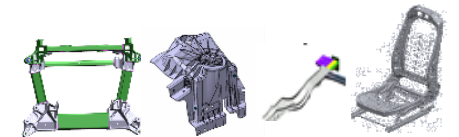
5 link + Rear Wheel Steering + Active Stabilizer Bar + Air Spring

Fast Charging



800V HV System and High Power Battery

Light Weight



Front and rear aluminum sub frame + Multi material body structure + Lightweight seat frame + ...

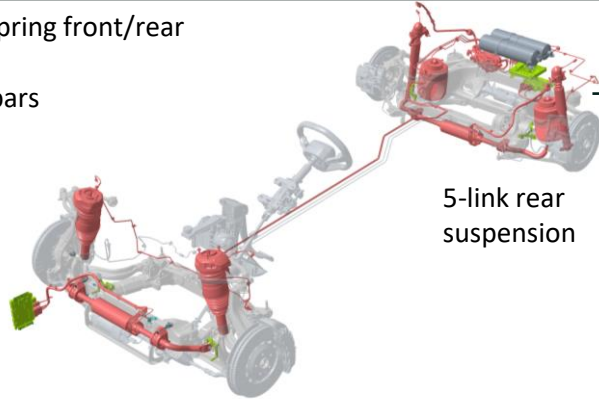
EPA Architecture

Chassis System



Suspension System

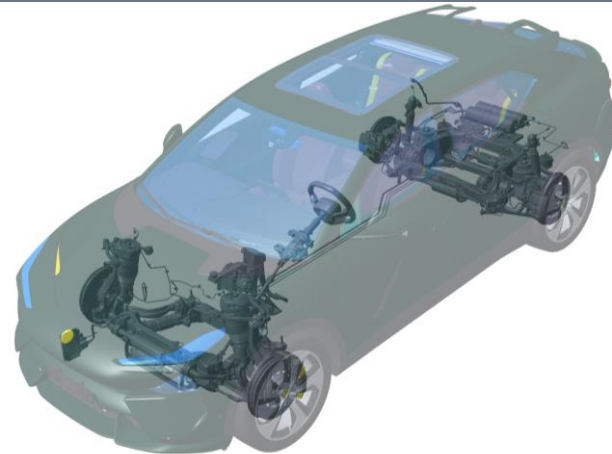
- 2-chamber air spring front/rear
- CDC damper
- Active anti roll bars



5-link front suspension

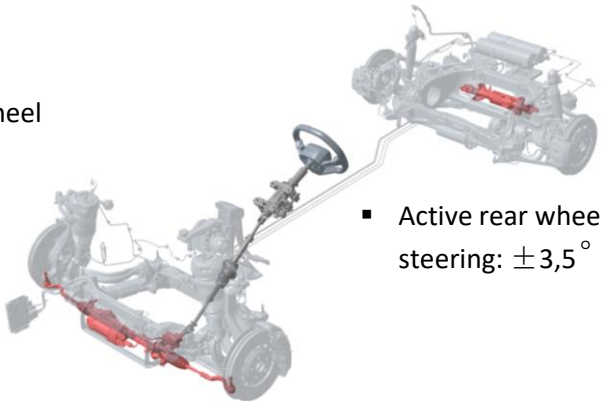
5-link rear suspension

Lotus Eletre Chassis System



Suspension System

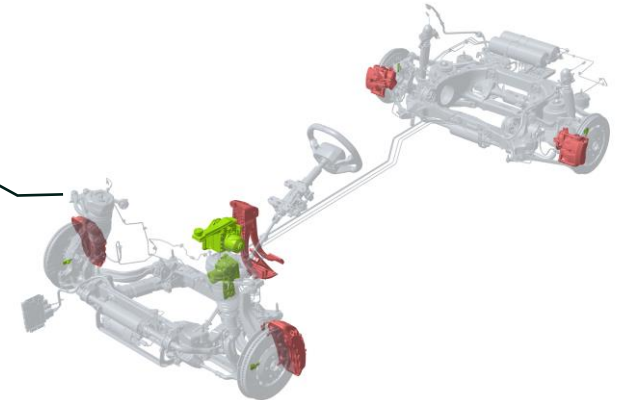
- ASIL D front wheel steering



- Active rear wheel steering: $\pm 3,5^\circ$

Brakes System

- 10 piston carbon ceramic brake front
- 4/6 piston brake front
- 4 piston carbon ceramic brake rear



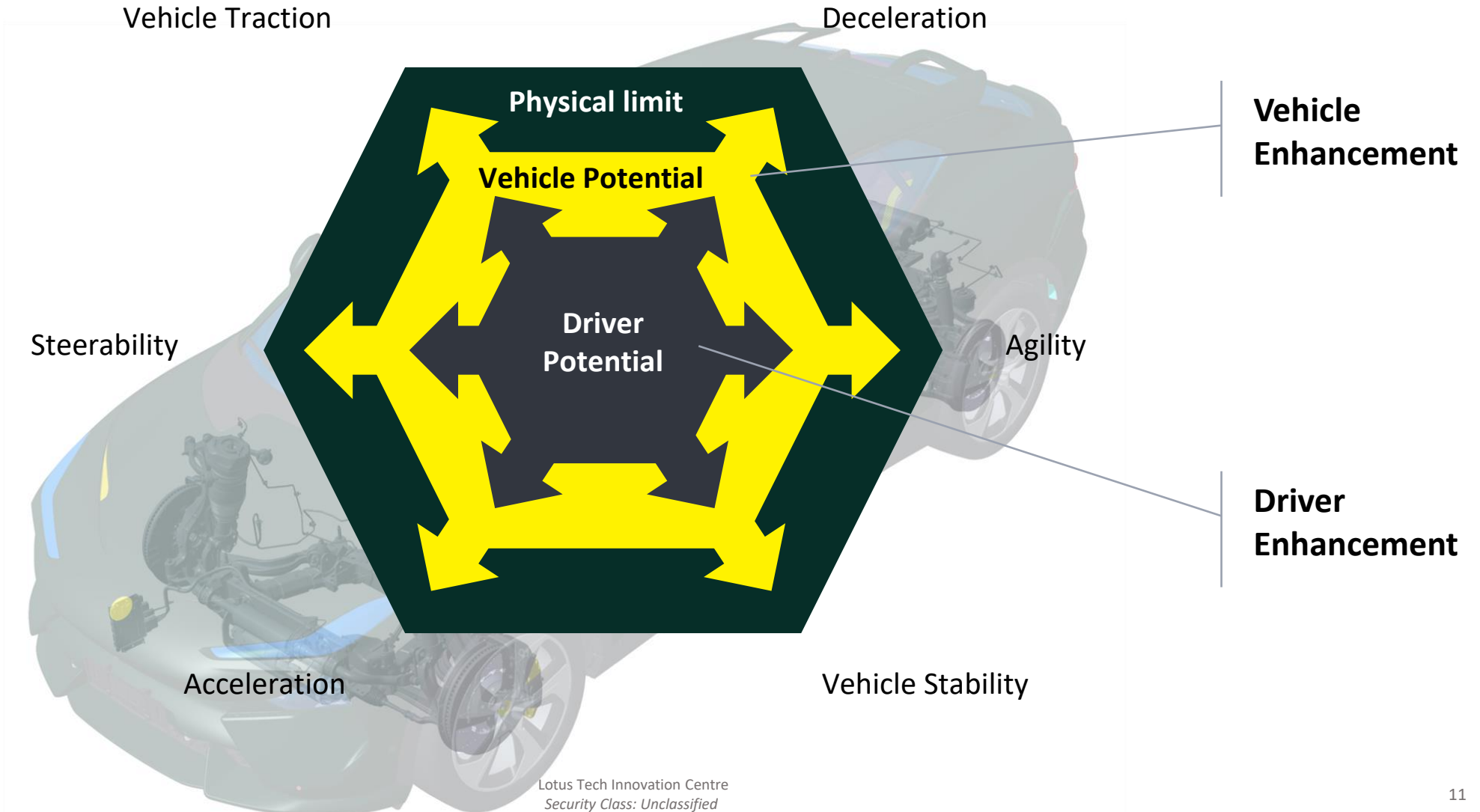
- IBC: Decoupled one box brake actuation

Integrated Chassis Control

- Arbitration of mechatronic systems:
 - Chassis mechatronic actuators
 - AWD
 - Active rear spoiler
 - AD4 capable redundant brake system

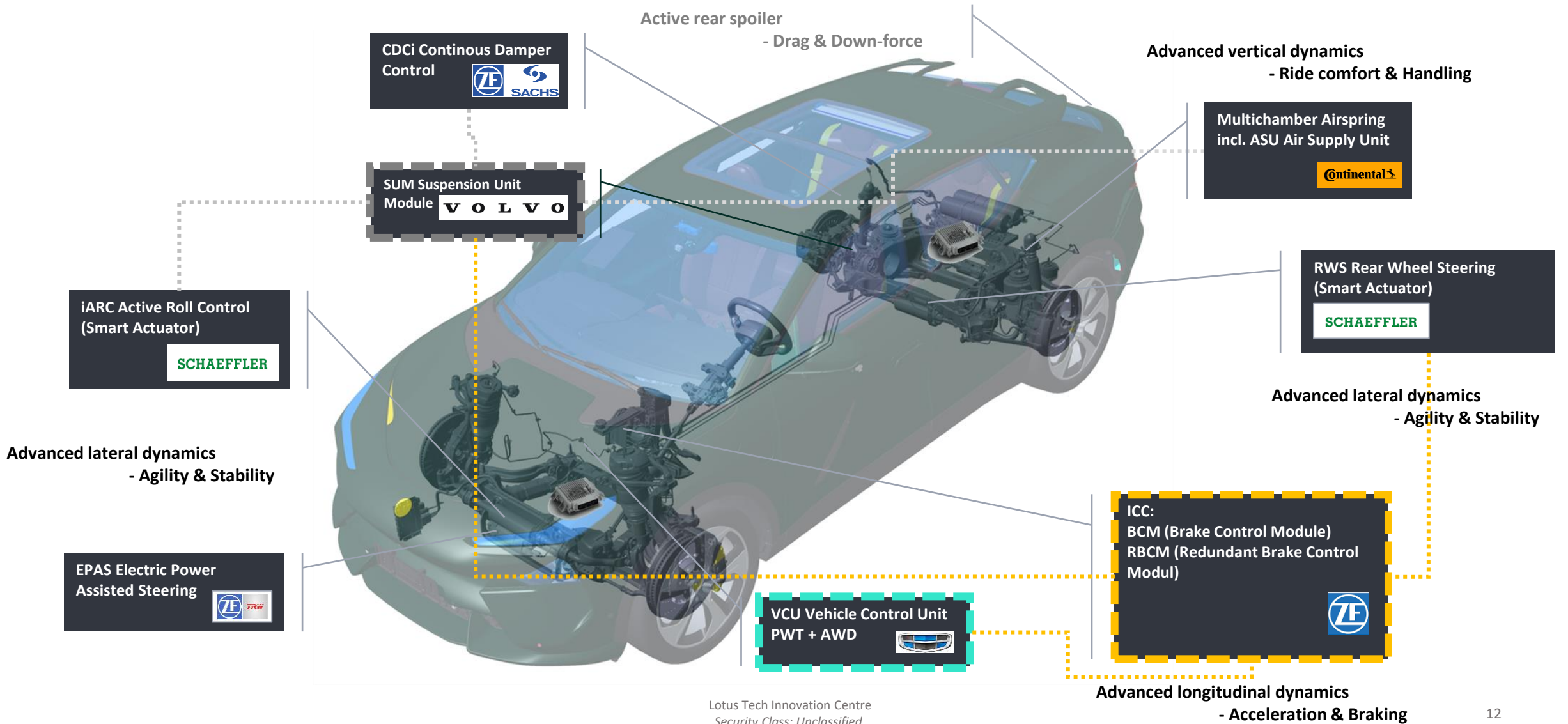
Integrated Chassis Controls (ICC)

From driver / ADAS inputs to the overall vehicle dynamic behavior



Integrated Chassis Controls (ICC)

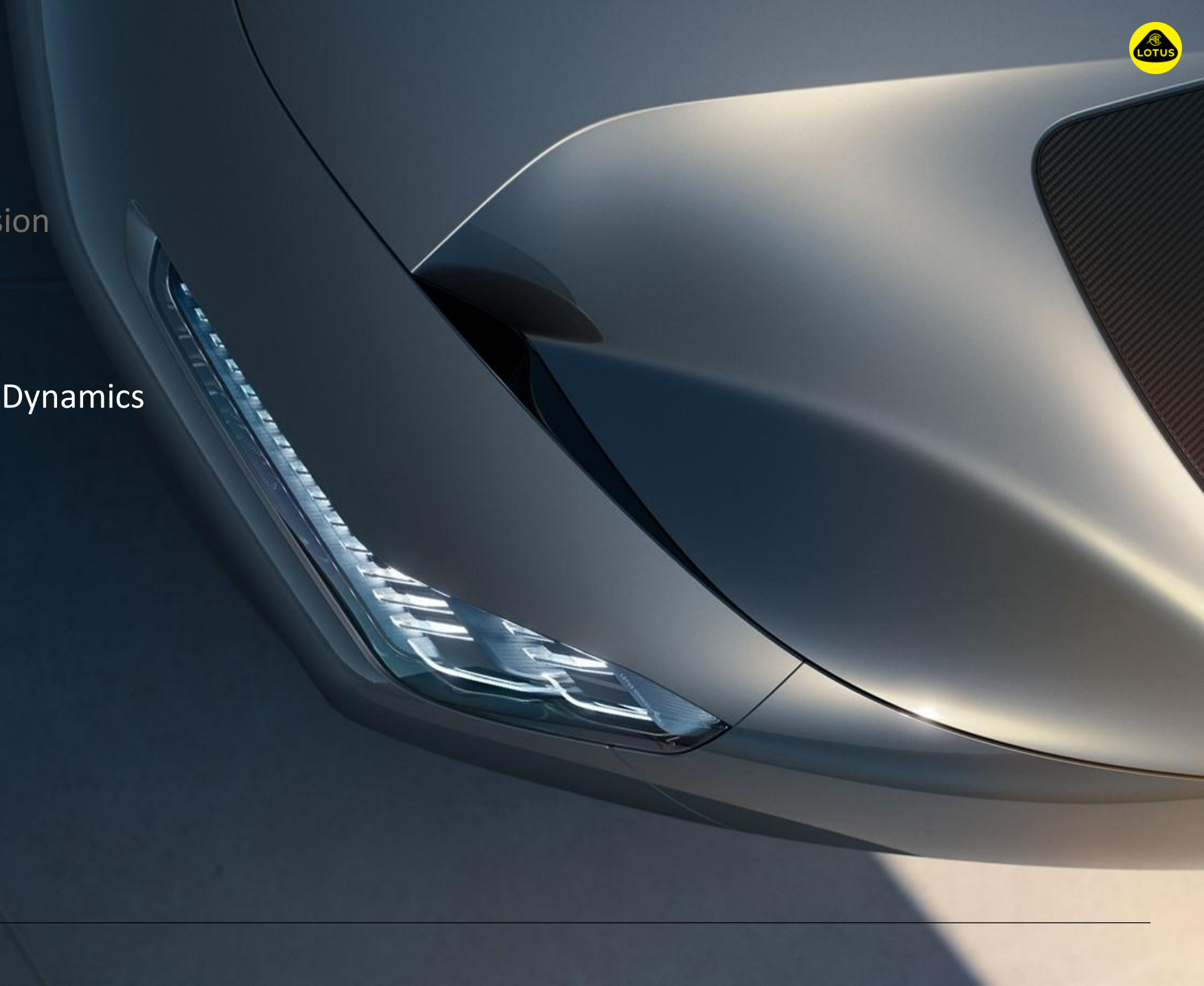
Lay-Out





Agenda:

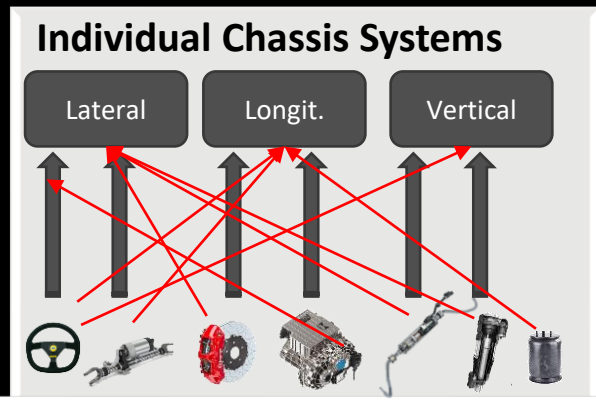
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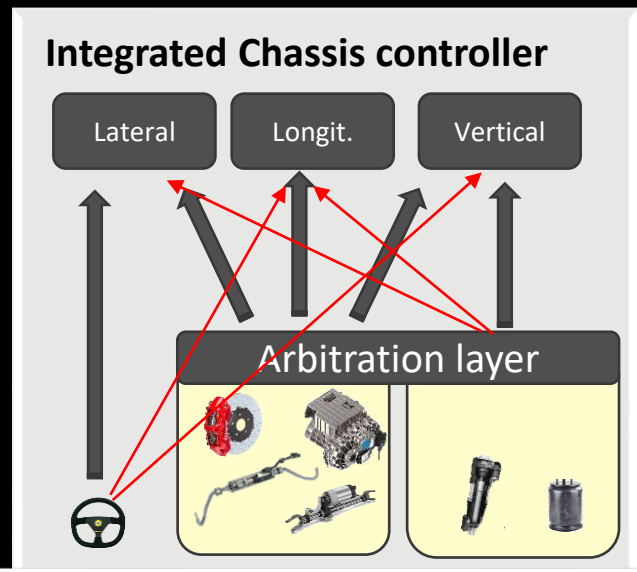
Next Generation Vehicle Dynamics

- Mastering complexity and enabling full performance

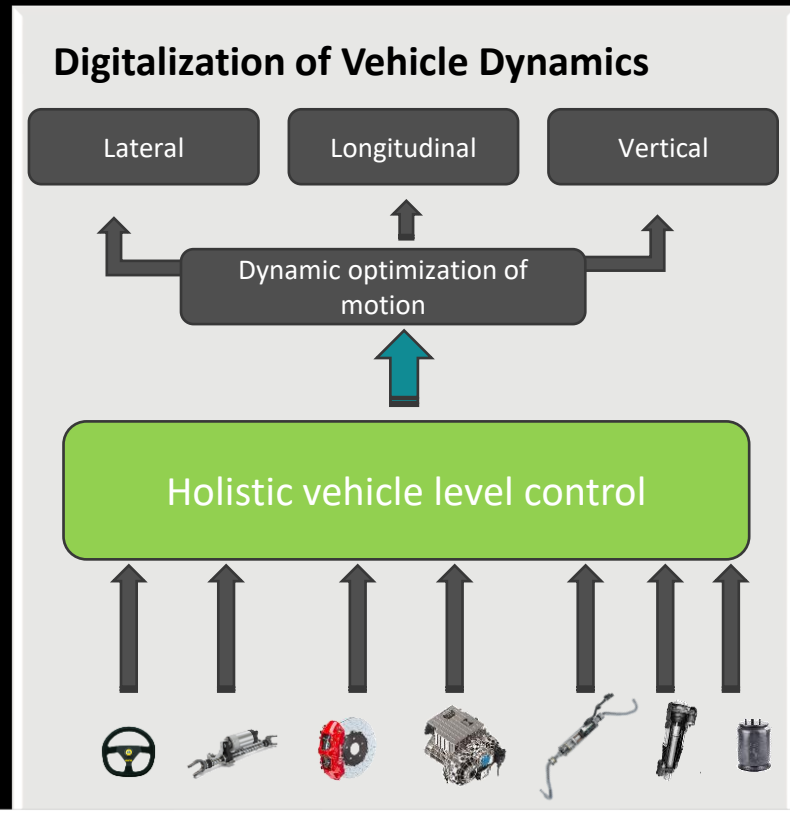
Vehicle Dynamic Performances



Yesterday



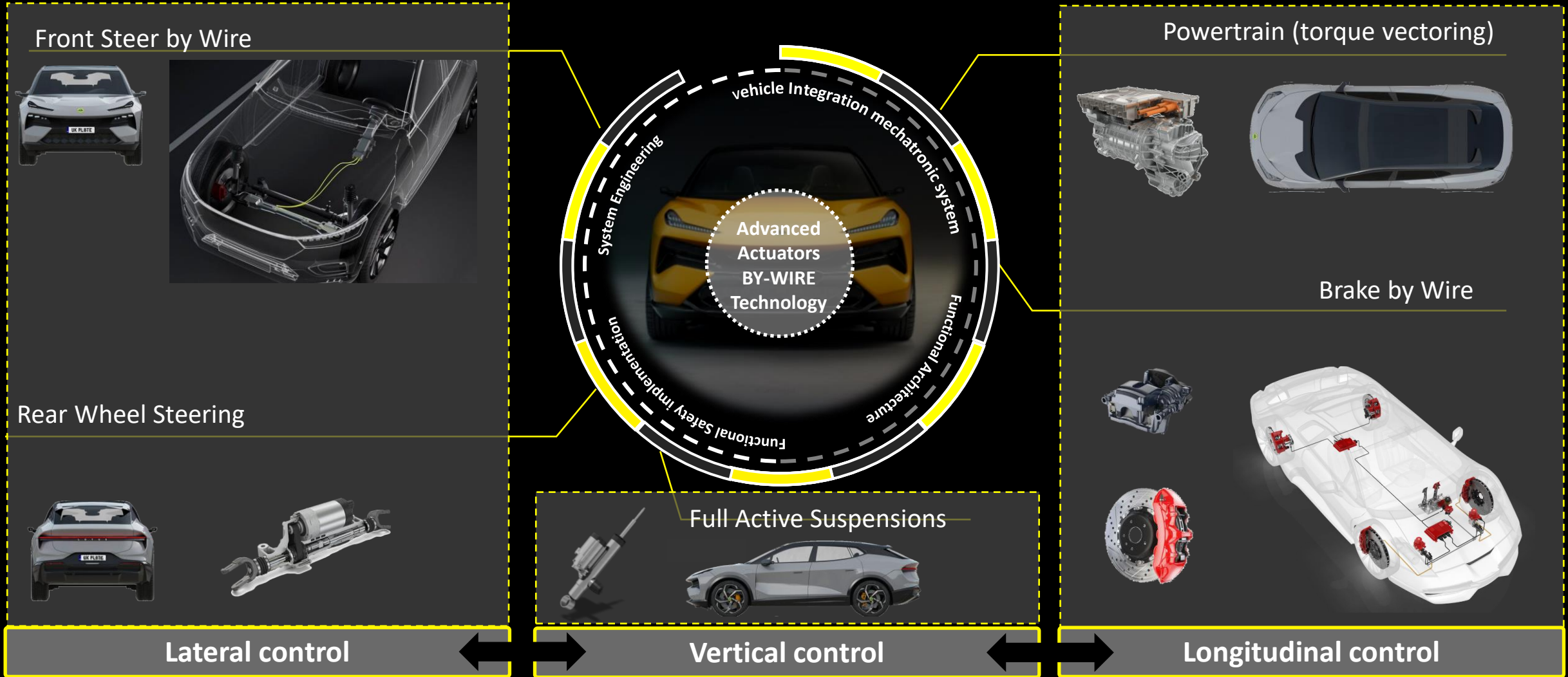
Today



Tomorrow

VD digitalization enables advanced functions & features creating enhanced driver experience & differentiation at manageable D&D efforts

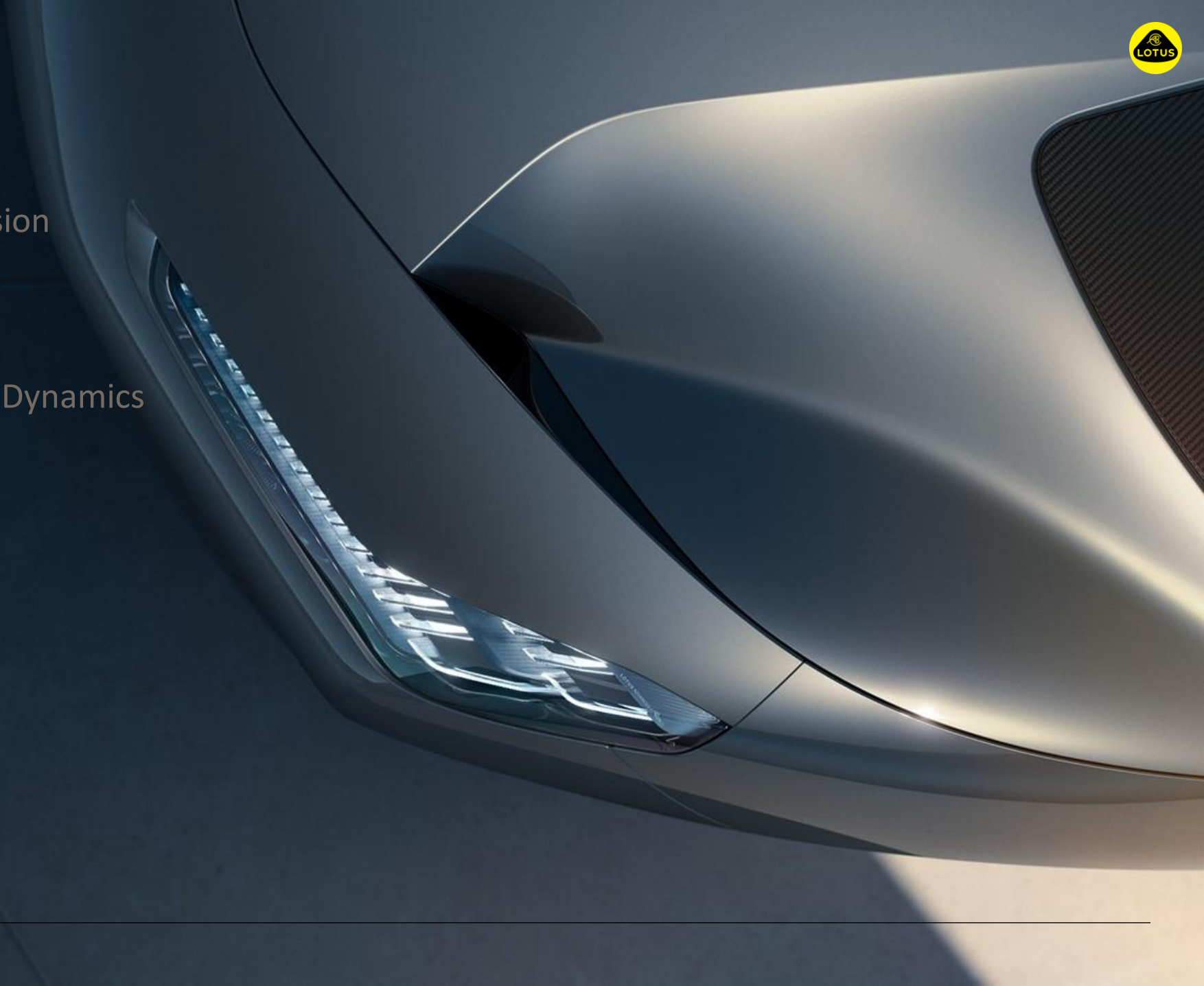
Next Generation Chassis Technologies – Future Vision





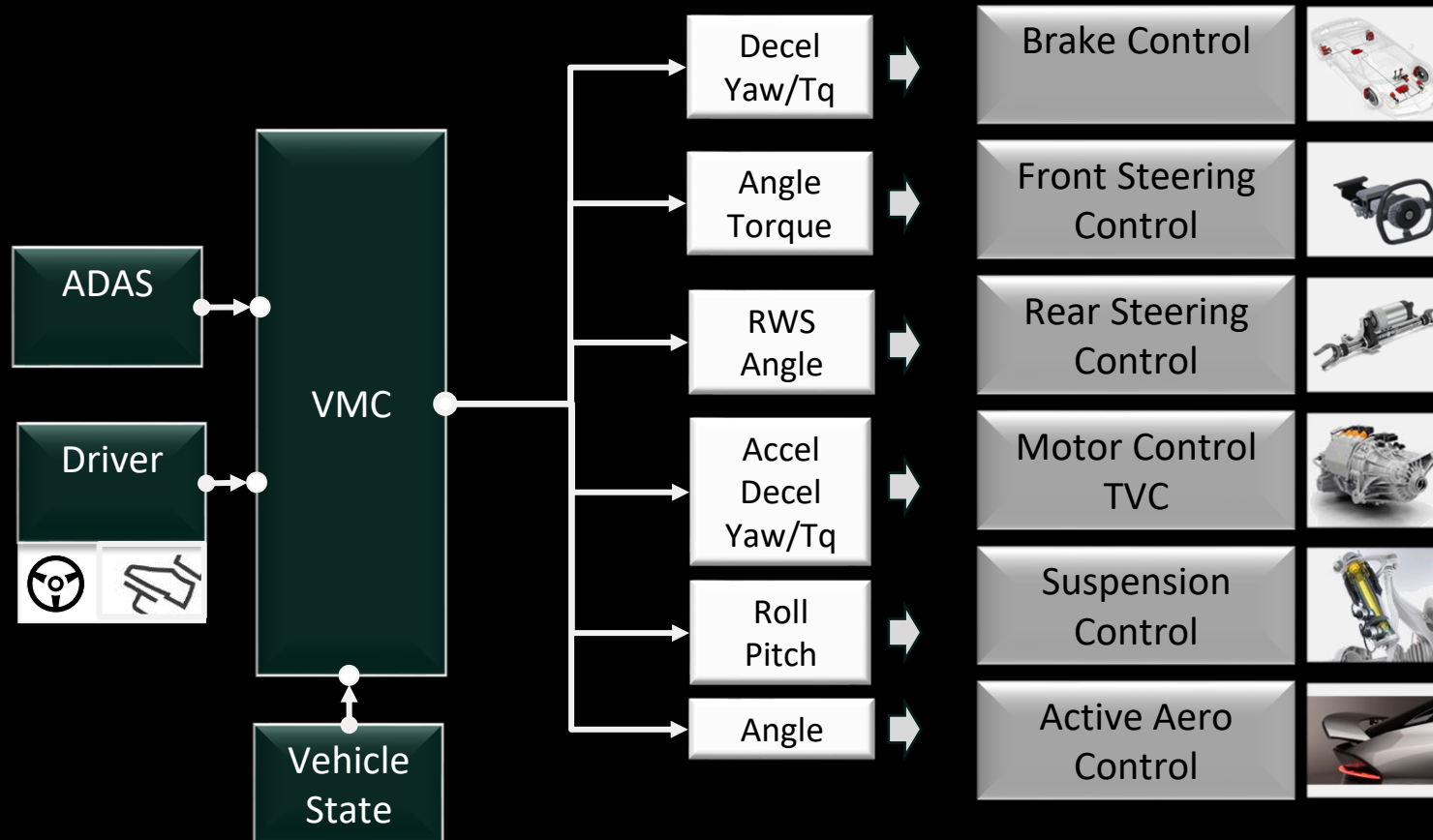
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Digitalization of Vehicle Dynamics

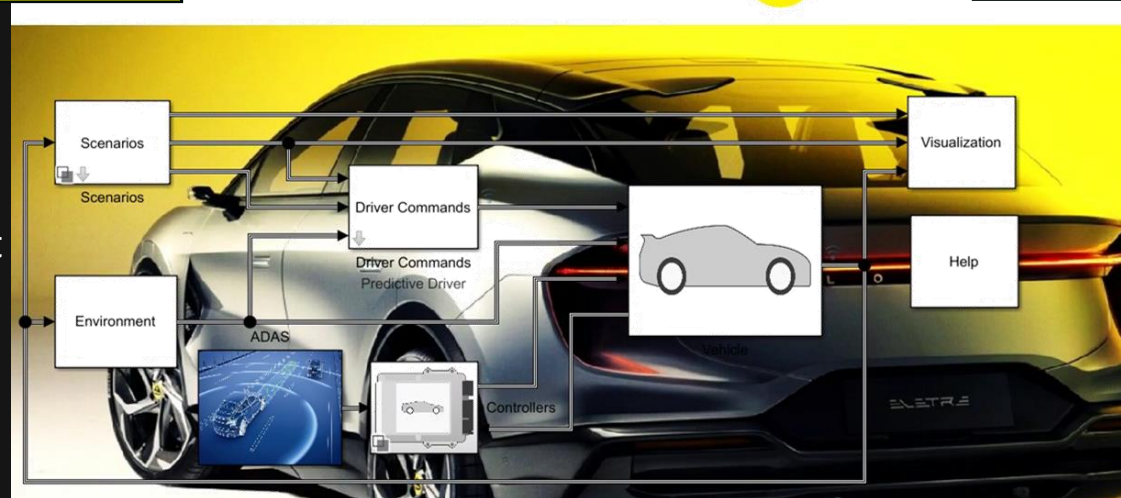
- Integration of advanced actuators and Vehicle Motion Control



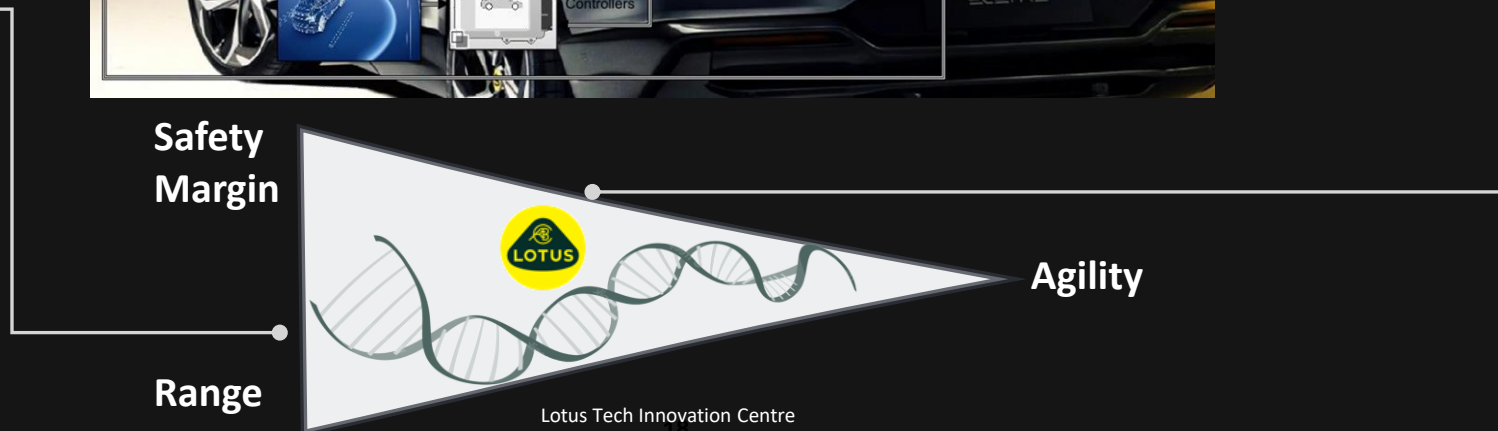
Digitalization of Vehicle Dynamics



- Translates driver input into “Lotus DNA”
- Opportunity to define different vehicle “types”



- Optimal control of all available actuators to implement drivers **high level** intention





Thank you for your attention!

