





# Perspectives from An Auto OEM: A Conversation with JLR

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What does the future hold for electrification?

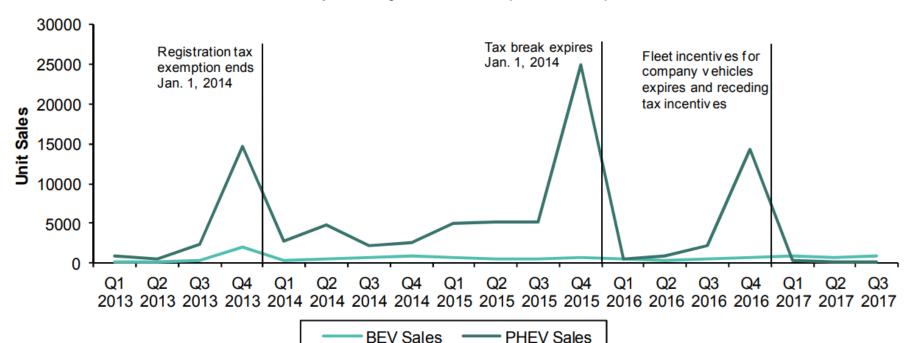
#### Incentives are driving electric vehicle adoption...





#### EXHIBIT 8: Consumer demand for EVs peaked prior to tax breaks and incentives ending, before plummeting...

#### Dependency on incentives (Netherlands)



#### ... but we also know these won't last forever











Norwegian EV incentives	2018	2020
Free road licence fee	Yes	No
No VAT on purchases	Yes	No
Free parking nationally	Yes	No

US incentives are only applicable on the first 200k EV units per OEM	2017	2018
Tesla	Yes	No
GM	Yes	No
Jaguar Land Rover	Yes	Yes

UK EV incentives	2018	2021
Vehicle Price < £60k	Yes	No
Vehicle price > £60k	No	No

# There are a number of real world barriers to buying electric vehicles







43%

Of UK consumers say that charging an EV battery would have to be as quick and easy as filling up the tank with gasoline.

Cap Gemini, Beyond the Car, May 2017

# 2 minutes

The time taken to fill a Land Rover Discovery's 18.5 gallon tank which returns 560+ miles *Discovery user* 

66%



Of property in London lacks a garage or off street parking which would allow home charging stations *McKinsey*, 2016



Of London's public charge points are out of service at any one time. *Financial Times* 

#### We all know electrification is coming, but no one really knows how quickly it will arrive







57% for rapid adoption, 36% for government target scenario 17% for slow adoption globally by 2030

Bernstein: Electric Revolution 2018: The Resistance, Part 1 - Bottlenecks, substitutes and hold-outs February 2018



**33%** globally in 2025



15-25% globally in 2025



26% globally in 2030

Global Electric Vehicle Battery Handbook:
Disruptive with strong growth July 2016



20-25% globally in 2025



24% globally in 2030
Bloomberg Electric Vehicle Outlook July 2017



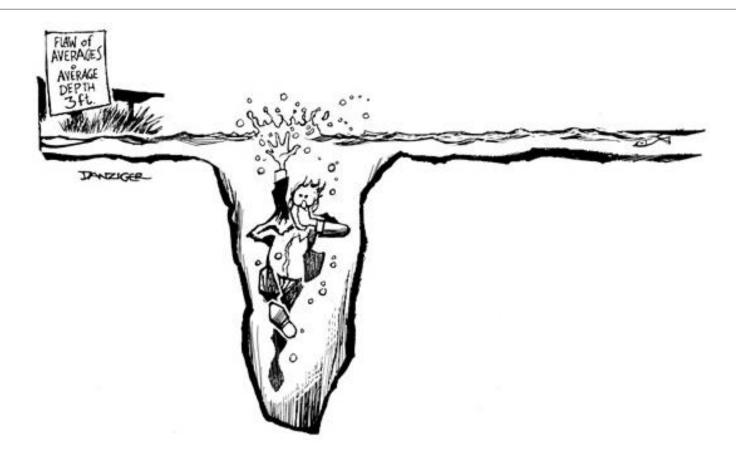


**20%** globally in 2025

### But we all know how dangerous the law of averages can be











# LONDON



# **SHANGHAI**



# **HOUSTON**







So how is JLR responding to this uncertain future?

#### On March 1st I-PACE was revealed at Geneva Motor Show



'Jaguar's I-Pace will give Tesla

a run for its money'

Globe and Mail



'Jaguar has pipped its competitors to the post, revealing its first stand-alone electric model before SUV rivals from Audi and Mercedes'

Autocar

'Jaguar's game-changing Tesla beater' **Top Gear**  'The Jaguar I-Pace has everybody buzzing' **Autonews** 

'The Jaguar I-Pace is arguably the most radical vehicle in the British manufacturer's 82-year history' Auto Express

'What's radical about the I-Pace is that it's a pure-electric vehicle based on a new platform.'

**Car and Driver** 

#### I-PACE delivers benchmark electric car performance





90kWh battery

2 electric motors

480km (298 miles) range on the WLTP cycle

45 minutes rapid charging

**696Nm** of Torque

400PS Power

0-60mph in **4.5s** 



## With a cutting edge, uncompromised architecture







### However, we don't know when, where, or what customers will buy in the future





### WHEN

#### WHERE

#### WHAT

**33%** globally in 2025

Audi

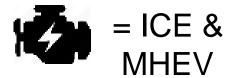
OR

**26%** globally in 2030

Global Electric Vehicle Battery Handbook: Disruptive with strong growth July 2016

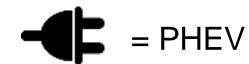
### **SHANGHAI**













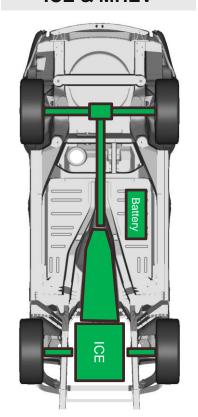


# We have decided to launch future products on a flexible architecture

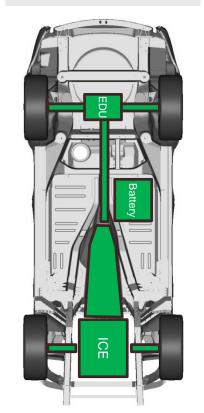




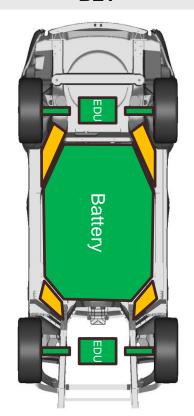
**ICE & MHEV** 



PHEV



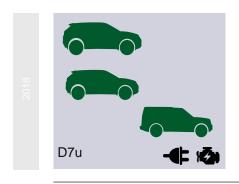
**BEV** 

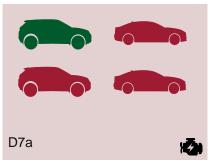


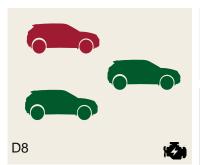
# The architecture will cater for most of our current and future products





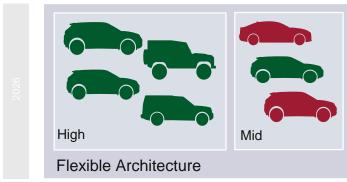


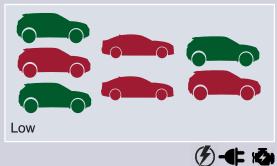






#### FLEXIBLE POWERTRAIN SOLUTIONS



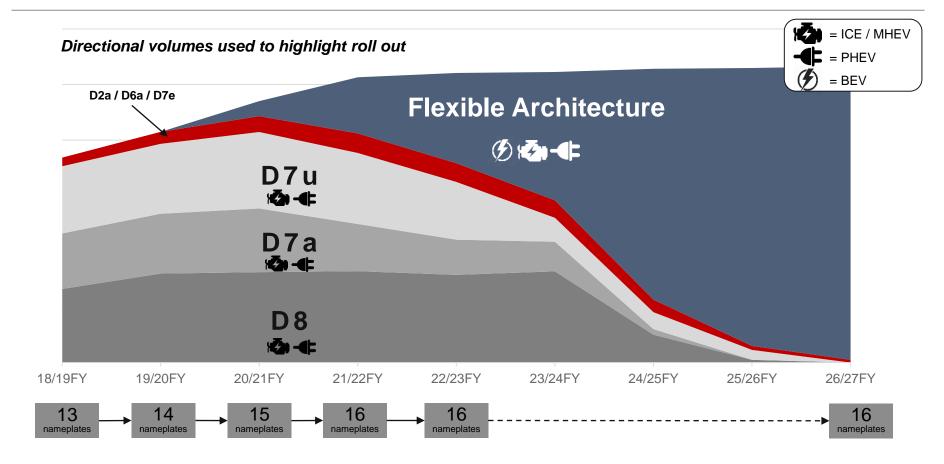




# By 2025 most of our portfolio will have migrated to the new architectures







#### We are prepared but the infrastructure needs to be in place to overcome the real world barriers









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