Recharge West Midlands Investment Case Gigafactory

WMCA Overview and Scrutiny Committee

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Background

- **A third of cars produced in the UK** come from the West Midlands
- **1 in 4 engines** and 40% of UK exports are made in the region
- In the region of **46,000 automotive sector employees**
- **£3.2bn in GVA**
- **Home to more than 430 specialist automotive firms**, including 35 of the top 50 global suppliers

All new cars and vans must be effectively zero emission by 2040

What is a Gigafactory?

- **High volume production facility for automotive batteries**
- **Facility up to 6m square feet** *(equivalent of 78 football pitches)*
- **Private investment of up to £2bn**
- **Employing up to 4,000 people and thousands more in the supply chain.**
- Principally for the automotive sector, but potential applications across industries
- Future of automotive manufacturing
- UK current has very little battery production – existential threat to UK automotive
- Government ambition to deliver a Gigafactory in the UK

UK Battery Industrialisation Centre

£129m facility funded by Government and WMCA

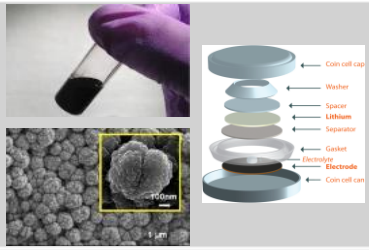
20,000m^2 manufacturing research facility located close to Coventry Airport

"*Learning Factory*" for automotive batteries

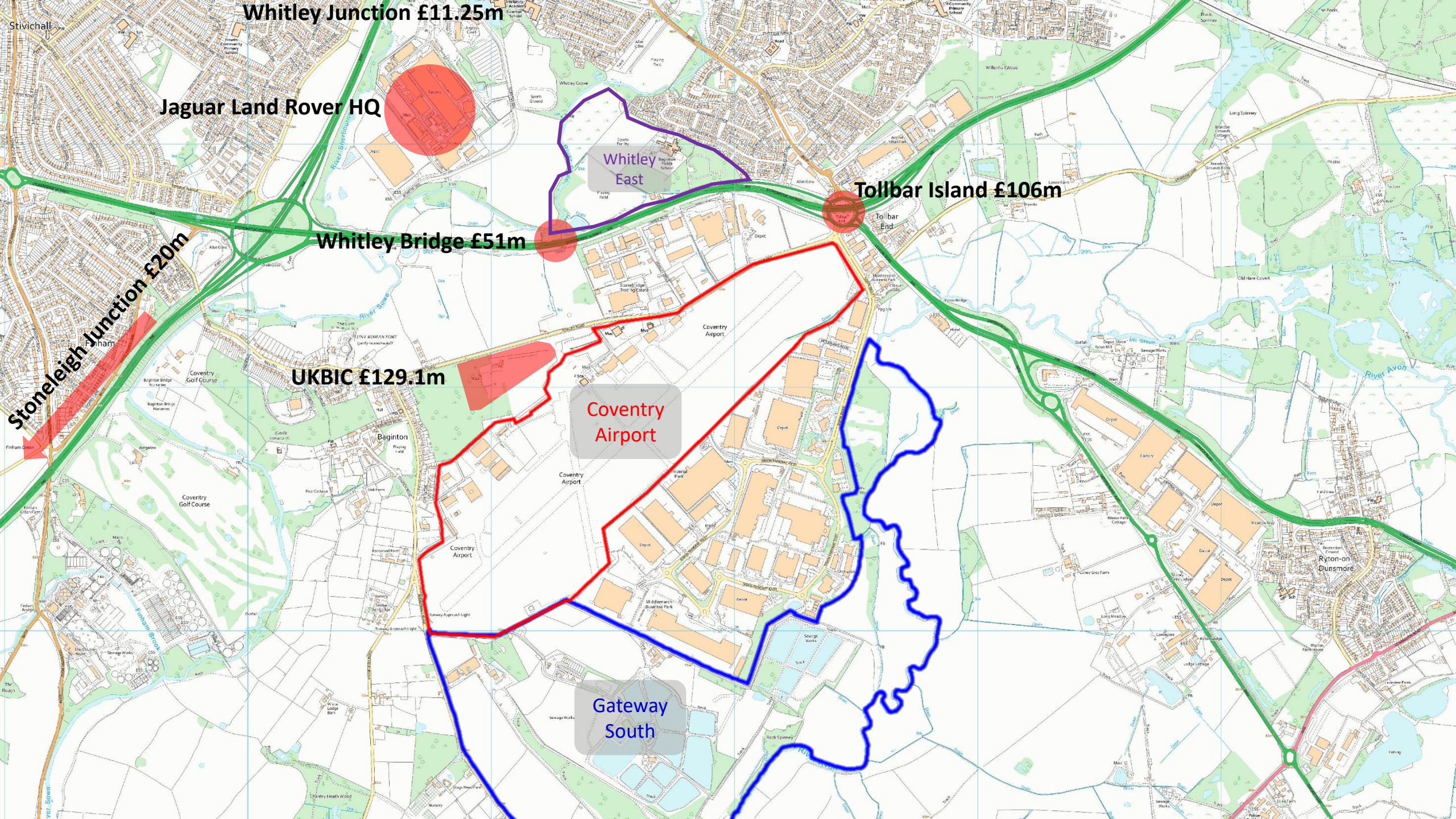
2017	2018			2019				2020				
Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
UKBIC announced WMG, CCC, CWLEP	UKBIC Ltd company established	Jeff Pratt, Managing Director joins	Site planning permission granted	1st equipment orders placed (Electrode, cell assembly)	Ground-breaking on site	UKBIC Board convened	Internal building fit-out commences	1st equipment arrives on site	UKBIC team moves to site	Machinery installation continues	Practical completion on site and commissioning	

UK Battery Industrialisation Centre

UKBIC scope

	Gramme Scale	Kilogramme Scale	Tonne Scale	Giga Scale
				
Characteristic	▪ Typically university scale research labs using small quantities of hand-made materials. ▪ Used for fundamental materials research and initial half-cell experiments at coin cell scale.	▪ Typically corporate R&D pilot line or university / Catapult centre. ▪ Used to demonstrate scalability of materials to full size cell, and to develop electrode mixtures, deposition processes and cell formats.	▪ Typically full-scale manufacturing facilities used at low output rate. ▪ Used to develop and validate materials, cell design, manufacturing processes and parameters at industry rates prior to full plant investment.	▪ Full-scale, high volume manufacturing plant. Typically 6-50GWh/year. ▪ Used to deliver very large volumes of cells with no variation or flexibility to chemistry, format or quality. Cost/kWh and process consistency are critical.

UKBIC gives us a huge competitive advantage in securing a production at the Gigafactory scale


Whitley Junction £11.25m
Jaguar Land Rover HQ
Whitley East
Tollbar Island £106m
Whitley Bridge £51m
Stoneleigh Junction £20m
UKBIC £129.1m
Coventry Airport
Gateway South
Stivichall
Coventry Golf Course
Baginton
Ryton-on-Dunsmore
River Sowe
River Avon
Finham Brook

The **Need** for Regional Action

Department for International Trade

ADVANCED PROPULSION CENTRE

Automotive Transformation Fund

UK Government measures such as a UK-wide trawl for sites suitable for a Gigafactory and the rolling out of a “red carpet” for investors by the Department for International Trade are now underway.

The Automotive Transformation Fund, run by APC sets out to put the UK at the centre of the global transition to zero emissions by supporting R&D and capital investments including investment in Gigafactory.

These measures will only achieve the best outcome for the UK if we take coordinated action as a region to ensure that the West Midlands secures its future as the heart of the electrified automotive industry.

The Opportunity

Presented to government under the **Create green manufacturing jobs** theme of Recharge West Midlands, which requested **£250m** in order to secure a Gigafactory investor in the West Midlands creating over 10,000 jobs in the process.

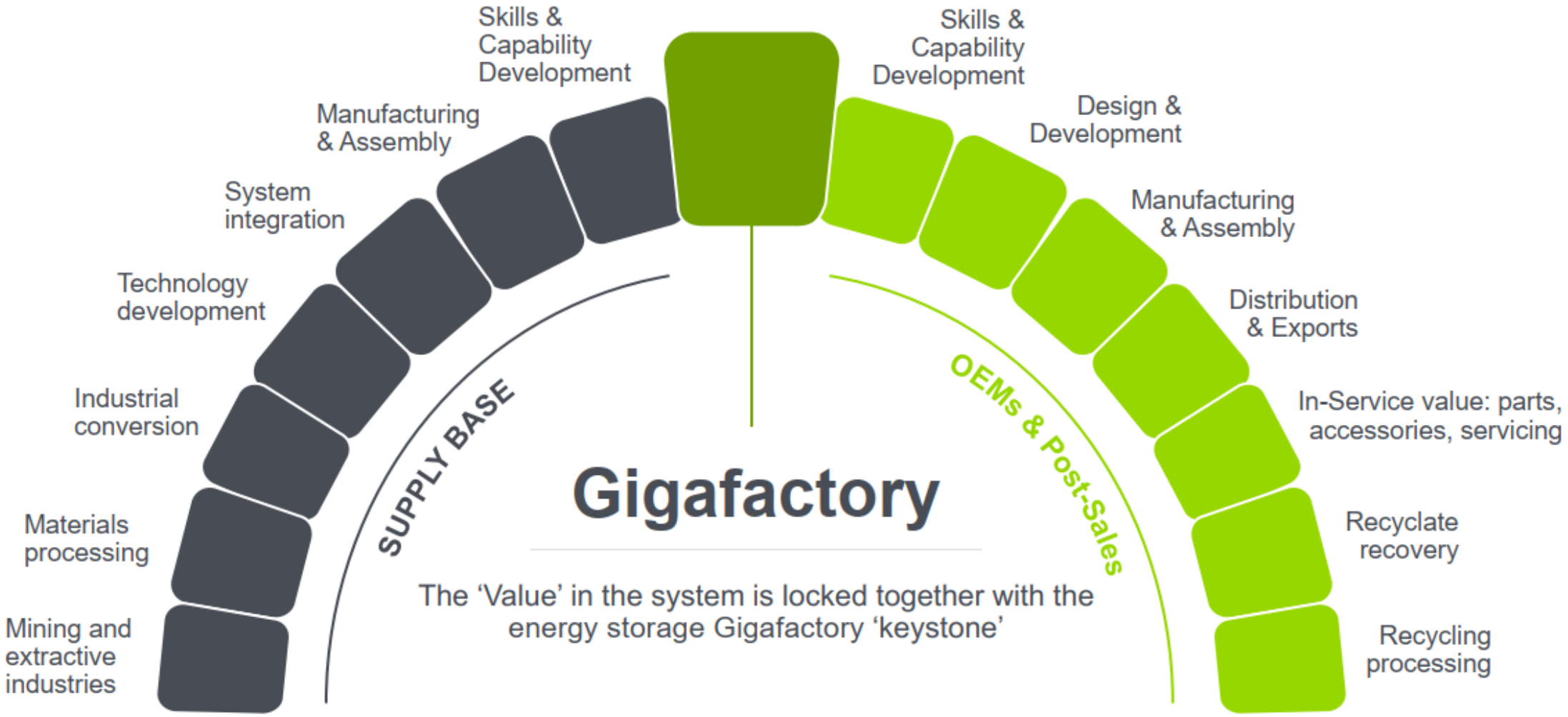
Further detailed analysis has since been completed and provided to BEIS:

Based on a 28GWh facility:	West Midlands	National
New direct jobs in battery research and manufacturing	4,100	
New indirect jobs in supply chain	6,500	TBD
Job protected in automotive supply chain as it transitions to electrification	46,500	68,500
Gross Value Added	**£729.5m**	TBD

GVA per worker in the West Midlands automotive industry has been estimated at almost **£70k.**

This would mean that that 10,600 direct and indirect jobs created by a Gigafactory investment would be worth almost **£730m** to the local economy.

VALUE OF A GIGAFACTORY TO THE UK



Source: Advanced Propulsion Centre, 2019

WMCA Role

The final decision on the location of a Gigafactory will be made by a private investor.

Available government and regional support will influence this decision, but ultimately it will be commercial one

Our role must be to position the West Midlands as the most competitive and attractive location, and to work to make the most of the supply chain opportunities.