Press release: Government investment into Faraday scale-up facility to make UK a world leader in battery innovation

- Greg Clark confirms details of £120 million of government's flagship Faraday Battery Challenge investment into making the UK a world leader in the development and production of battery technology
- £80 million set to be invested in a new state-of-the-art automotive battery development facility, the UK's first ever facility of this kind, based in West Midlands, following a successful bid by a consortium led by Coventry and Warwickshire LEP and including Warwick Manufacturing Group
- government will shortly publish details of its Automotive Sector Deal agreement reached with industry, with a strategic vision that builds on the collaborative partnership established between government and the auto sector
- Business Secretary also confirms £53 million of funding for new aerospace projects boosting the West Midlands strength in this sector

Business and Energy Secretary Greg Clark has today (Wednesday 29 November) announced that Coventry and Warwickshire will be the home of the new National Battery Manufacturing Development Facility (NMDF).

The facility, with £80 million of funding from the government's flagship £246 million investment in battery technology – the Faraday Battery Challenge – will be the UK's first ever battery development facility and will help establish the UK as one of the world leader's in battery technology and innovation.

A key part of the Automotive Sector Deal, the new centre will build on the West Midlands exceptional reputation for automotive expertise and research and development (R&D) with a facility that will host cutting-edge production and assembly processes and support the future scale-up of battery technologies.

The facility will be responsible for turning the most promising early and mid-stage battery research and development activities into scalable business propositions that are commercially viable, while also providing a learning environment to enable training and skills development. The new centre will be an independent facility that is openly accessible to UK-based companies wishing to develop battery technologies.

In a speech to the Battery and Energy Storage Conference, Greg Clark confirmed that the area had won the national competition, led by the Advanced Propulsion Centre (APC), for the new centre, following a successful bid by a consortium led by Coventry and Warwickshire LEP and including Warwick

Manufacturing Group. The open competition was overseen by APC and judged by an independent panel.

Business and Energy Secretary, Greg Clark said:

> Battery technology is one of the most game-changing forms of energy innovation and it is one of the cornerstones of our ambition, through the Industrial Strategy and the Faraday Challenge, to ensure that the UK leads the world, and reaps the economic benefits, in the global transition to a low carbon economy.
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> The new facility, based in Coventry and Warwickshire, will propel the UK forward in this thriving area, bringing together the best minds from academia and industry together to deliver innovation and R&D that will further enhance the West Midlands international reputation as a cluster of automotive excellence.

Dr Ralf Speth, CEO Jaguar Land Rover, said

> If the UK wants to stay competitive and make domestic EV manufacturing viable in the long run, a high level of ambition is required as set out in the Industrial Strategy. JLR is already investing heavily to make the vision of autonomous and electric mobility come true. From 2020, all of our new vehicles will be electrified with Mild Hybrid, Plug-in Hybrid and Battery Electric solutions, and these are already being designed in the West Midlands. We also intend to produce battery electric vehicles in the region, bringing the West Midlands to the forefront of modern mobility in the UK.

Lord Bhattacharyya, Chairman of Warwick Manufacturing Group, said

> WMG, at the University of Warwick, has a strong record of industry innovation partnerships going back many years. We are delighted that we will be home to the National Battery Manufacturing Development Facility, a core part of the Faraday Battery Challenge.
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> This will be an openly accessible centre of real impact, working coherently with the application-inspired fundamental research emerging from Faraday Institution and ensuring the transfer of technology takes place at scale to support the industrialisation of batteries in the UK.
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> This joined up end-to-end approach will be a UK first, and is critical to ensure our fundamental research translates into sustaining and growing manufacturing jobs in the UK.

Faraday Challenge winners

During his speech the Business Secretary also announced the winners of £40 million of additional Faraday Battery Challenge investment, allocated through Innovate UK led Industrial Strategy Challenge Fund innovation competitions, that will help make UK businesses a world leader in battery technology.

27 innovative projects are being funded, involving 66 organisations, covering key technologies such as the development of battery materials and cell manufacturing, design and production of modules and packs including advances in thermal management and battery management systems, and recycling and recyclability of battery packs.

Innovate UK Chief Executive, Ruth McKernan said:

> The Faraday Battery Challenge is breaking new ground because it offers for the first time a co-ordinated programme of competitions across research, innovation and scale-up.
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> It will therefore draw the very best of the UK's world-leading research into commercial technologies and put UK businesses at the forefront of electric vehicle battery development.

Aerospace R&D funding

Following the launch of the Industrial Strategy white paper, Business Secretary Greg Clark has also today announced £53.7 million of funding for 7 R&D projects to grow innovation in the aerospace sector. This funding is part of government's work with industry through the Aerospace Growth Partnership (AGP) to tackle barriers to growth, boost exports and grow high value jobs.

Today's announcement builds on the £923 million of government investment delivered through the ATI programme, which has supported 196 projects involving 208 different companies and organisations. Establishing the Institute in 2013, government and industry made a joint commitment to invest £3.9 billion in civil aerospace R&D projects by 2026.

Two of these projects, Digital Reconfigurable Additive Manufacturing facilities for Aerospace (DRAMA) and the Open Flight Deck project, led by GE Aviation, will directly benefit the Midlands. A further project – the Zephyr Innovation Programme (ZIP) led by Airbus – will develop aerospace battery technology amongst other areas.

Business Secretary Greg Clark said:

> Earlier this week, we launched our ambitious Industrial Strategy which builds on our significant economic strengths, while looking at innovative ways to improve our productivity and will ensure government continues to work closely with industries including our

UK aerospace sector.

The UK aerospace sector is one of the most successful in the world, which is why we are today announcing £53.7 million of investment in 7 aerospace research and development (R&D) projects across the UK. This investment, part of the £3.9 billion government and industry committed to this sector by 2026. The Aerospace Technology Institute plays a crucial role in helping to direct this investment and maintain UK excellence in the sector.

Notes to editors

Additional quotes:

Simon Saunders, CEO, Ariel Motor Company, said:

We face significant challenges when looking to progress our vehicle technologies toward low and zero emission platforms, with our combination of specialist niche requirements not currently being met by the existing UK supply chain. Therefore, we are particularly interested in the proposed centre of excellence and the planned capability to support such a broad range of manufacturing requirements.

Chief Executive of the Advanced Propulsion Centre, Ian Constance said:

The new National Battery Manufacturing Development facility will be a national asset and the first of its kind open to all UK-located organisations. It will enable them to develop manufacturing processes for their concept-ready battery technologies at production rates appropriate to ‘giga’ factories.

The objective is that these processes can transfer to UK high-volume manufacturing facilities.

Jonathan Browning, chair of the Coventry and Warwickshire Local Enterprise Partnership, said:

This is excellent news on every level. We have worked very closely with our partners WMG and Coventry City Council with support from the West Midlands mayor and that joined-up approach not only maximised our effectiveness but sent a powerful message to government.

We believe we are uniquely placed with our links between industry and academia to bring the National Battery Manufacturing Development Facility to fruition and it will give huge

> opportunities to local companies of all sizes and will continue our push to be world leader in advanced research and manufacturing, especially in the automotive and transport sector.
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> It will also further enhance our reputation as the Knowledge Capital of the UK in the field of engineering R&D.

Coventry City Councillor Jim O'Boyle, cabinet member for jobs and regeneration and CWLEP board director, said:

> Its brilliant news that government has decided the country's new National Battery Manufacturing Development Facility should be located here.
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> I'm glad the final decision has been made and of course I'm delighted that my home city will once again be at the cutting-edge of the automotive sector. For many years our city and region provided the innovation and skilled workforce to help the UK lead the world.
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> Car manufacturing provided a secure, well paid job for thousands of Coventry people, including me. And now battery development has the potential to do the same for a whole new generation of Coventry people.
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> I hope battery development will create thousands of new jobs and if there is one thing we know for certain, it's that having a job changes lives. That's the real reason this is such good news. And Coventry of course is the perfect choice. We have a rich heritage in motor vehicle manufacture and it's only right that we will once again lead the way with this pioneering new technology.
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> Clean air vehicles and autonomous cars are the future and now the centre of excellence will be here right where it belongs. It's the public sector, industry and education working together that has got us to this point today but now it's time for the real work to begin.

Projects linked to the Midlands

The Open Flight Deck project, led by GE Aviation, will seek to overcome the barriers to adopting new technologies on the flight deck; traditionally difficult to do because of the high cost of change and certification. Open Flight Deck will be an open platform that allows the OEM to work with a range of suppliers to develop 'apps' – easier to build, quicker to deploy, and with the potential for upgrade as new capabilities become possible. The consortium behind the project, which has received a grant of £13.1 million, also includes BAE Systems, Rolls-Royce, Coventry University and the University of Southampton.

The DRAMA (Digital Reconfigurable Additive Manufacturing facilities for Aerospace) project is led by the Manufacturing Technology Centre (MTC) with partners ATS Global, Autodesk, Granta Design, Midlands Aerospace Alliance, National Physics Laboratory, Renishaw and the University of Birmingham. DRAMA will establish leading additive manufacturing ‘test bed’ facilities for the aerospace industry and its supply chain at the National Centre for Additive Manufacturing (based at the MTC in Coventry) and the Renishaw AM Solution Centre in Stone. The project will showcase the use of digital technologies to drive productivity and reliability in AM, leading to increased adoption of AM technologies by the aerospace sector and, in the long term, other industrial sectors. It will also deliver the world’s first digitally-twinned reconfigurable AM facility and establish the UK as a global leader in additive manufacturing technology. The project, part of the ATI programme, has received a grant of £11.2 million through the Industrial Strategy Challenge Fund.

Project developing aerospace battery technology

The Zephyr Innovation Programme (ZIP) was created as a strategic R&D project to develop new cutting-edge component technologies to support Airbus’s Zephyr High Altitude Pseudo Satellite (HAPS). ZIP is led by Airbus in partnership with Axillium Research, Formtech Composites, Productiv, OXIS Energy, Newcastle University and Cranfield University. The grant of £3.6 million will support the development of key technologies in aerostructures, battery technology and energy storage, and propulsion that will enable flight performance improvements, expanding the operational capabilities of the next generation of Airbus Zephyr.