## Innovate UK

Results of Competition: IDP15: The Road to Zero Emission Vehicles, Large R&D

Competition Code: 1809\_LCRD\_MMM\_OLEV\_IDP\_R15

Total available funding is £4 million

Note: These proposals have succeeded in the assessment stage of this competition. All are subject to grant offer and conditions being met.

| Participant organisation names                 | Project title  | Proposed project costs | Proposed project grant |
|--|--|------------------------|------------------------|
| ADVANCED ELECTRIC MACHINES RESEARCH<br>LIMITED | OCTOPUS: Optimised Components, Test and simulatiOn toolkits for Powertrains which integrate Ultra high speed motor Solutions | £1,032,905             | £723,034               |
| ADVANCED ELECTRIC MACHINES LIMITED             |  | £689,073               | £482,351               |
| BENTLEY MOTORS LIMITED                         |  | £0                     | £0                     |
| Diamond Light Source                           |  | £106,423               | £106,423               |
| F.D. SIMS LIMITED                              |  | £670,294               | £335,147               |
| HIETA TECHNOLOGIES LTD                         |  | £698,233               | £488,763               |
| STFC - Laboratories                            |  | £282,479               | £282,479               |

Note: you can see all Innovate UK-funded projects here: https://www.gov.uk/government/publications/innovate-uk-funded-projects
Use the Competition Code given above to search for this competition's results

Funders Panel Date: 12/03/2019

| TALGA TECHNOLOGIES LIMITED       | £320,094 | £224,066 |
|----------------------------------|----------|----------|
| THE THINKING POD INNOVATIONS LTD | £359,556 | £251,689 |
| University of Bath               | £675,346 | £675,346 |
| University of Nottingham         | £174,620 | £174,620 |

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## Project description - provided by applicants

Integrating leading edge motor, power electronics and transmission design with next generation materials, manufacturing processes, simulation and test, OCTOPUS builds on the success of previous Innovate UK project APEX to deliver an e-axle with unique levels of integration and step change performance characteristics.

Previous project partners Bentley Motors, Advanced Electric Machines Research and The Thinking Pod innovations are joined by Hieta Technologies, FD Sims and Talga Technologies with support from University of Bath, University of Nottingham and the Science & Technologies Facilities Council in developing new simulation and testing techniques and applying an 'end to end' supply chain approach to deliver a world leading electric vehicle technology solution ready to be adopted in future vehicle programmes.

At the end of OCTOPUS the project team will deliver:

- \* \*\*An e-axle prototype\*\* incorporating the latest magnet free motor, wide band gap power electronics and lightweight transmission systems, tested to OEM DV standards using a new test protocol proven on next generation test facilities
- \* \*\*A new multi-physics simulation modelling toolkit\*\* incorporating electromagnetic, mechanical, thermal and NVH solvers operating simultaneously, validated by a never before demonstrated x-ray analysis technique
- \* \*\*Next generation lightweight high performance component systems\*\*, integrating the latest material and manufacturing techniques and tested at component, sub-system and system level and with an integration route into future vehicle designs

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