Elevator Pitches

Innovation Working Group, 4th March 2015

Transport System Catapult, MK

LowCVP
Low Carbon Vehicle Partnership

Connect
Collaborate
Influence

Smart charging for electric bus depots

Who we are

- Alexander Dennis, Dennis Way, Guildford, GU1 1AF

Area of interest

- Full electrification of the fleet of buses at an individual garage – typically 50-100 buses – could require peak power requirements of several MW.
- Local distribution network capacity likely to be a significant challenge.
- There is scope for smart charging strategies to trim peak demand at a bus garage significantly.
- Opportunity to develop smart charging hubs for bus garages.

Offer

- ADL is working with major bus fleets to demonstrate electric buses

Objective

- Interested in identifying potential partners to develop and demonstrate smart charging for EV bus depots
- Contact via LowCVP

Advanced Innovative Engineering (UK) Limited

- UK Based SME formed in 2012
- Dedicated to the design and development of innovative products and solutions for the Automotive and Aerospace sectors based around its patented rotary engine technology
- Primary goal is to produce power solutions that are simple, low cost and yet can deliver real “game changing” capabilities for end users
- Looking to work in collaboration with companies requiring high-power, low weight and compact power solutions for hybrid electric vehicles

Our innovation

- Highly integrated rotary engine power solution for hybrid electric vehicles
- Revolutionary engine core cooling / lubrication system reduces weight and increases power and efficiency

What we offer

- Proven patented core technologies
- Huge expertise in rotary power solution development
- Development roadmap

Who we are seeking

- Complimentary technology developers
- Core power solution development partners
- Tier 1 / OEM engagement

What’s the market opportunity we are addressing

- Low weight, High Power and compact power solution for hybrid electric vel
- Reduction in vehicle weight, increased range and removal of design constra

Contact Details:
Nathan Bailey
Managing Director
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01543 420700
www.aieuk.com

Who we are?

Chris Brace FIMechE, Professor of Automotive Propulsion,
The Powertrain and Vehicle Research Centre at the University of Bath

What we do / what we are seeking funding for?

Work in collaboration with industry to develop technologies, tools and techniques in the low carbon powertrain field. We can provide analytical and experimental support to powertrain R&D projects using 1d and 3d simulation techniques, engine, transmission and turbocharger experimental facilities and a state of the art chassis dynamometer. Particular interests include engine downsizing, boosting, electrical machines and transmission systems.

How to contact us?

Email C.J.Brace@bath.ac.uk, call 01225 386731 or 07967 144349

Robert Bosch UK

Who we are?

- Bosch has been active in the UK for over 100 years and in that time the Bosch brand name has become synonymous with state-of-the-art technologies, a strong focus on innovation and for providing trusted and reliable products.

What I am seeking funding for?

- interested to explore possible collaboration with other partners in R&D activities.

What I would like to get out of the consortium building event?

- Find partners, ideas, learn more about public funds.

Contact:
Eman Martin-Vignerte

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Eman.Martin-

Brunel Automotive: Next Generation Transport

With world-class facilities and people, combined with exceptional engineering capability, Brunel Automotive can be trusted to deliver outstanding research through collaboration and partnership. Our strong understanding of industry and flexible outlook enables delivery of research with impact and realisation of commercial potential.

Seeking new project partners and to join future consortia in all our key competency areas:

- **Automotive & Powertrain engineering**
- **Thermal engineering**
- **Materials engineering**
- **Electric machines and power electronics**
- **Design**
- **Mathematical modelling**

Existing track record in winning Innovate UK, European and RCUK funding

elizabeth.mullis@brunel.ac.uk **Business Development Manager 07899 940202**

Cenex Capability

Independent Not for Profit - Research, Delivery and Consultancy

- established in 2005 as a Centre of Excellence for low carbon and fuel cell technologies
- specialist in low carbon vehicle and energy infrastructure projects
- operate through collaboration and partnership working

Expertise in smart city mobility and low carbon vehicles
Experienced in delivering EU, APC, OLEV projects

H2020 Green Vehicles 2015

EV enhanced performance & integration into the transport system & the grid
GV.8 - 2015
Cenex role

- Battery management
- Virtual Power Plant development
- Trials and validation

Heavy Duty Power train control
GV.6 - 2015
Cenex role

- Duty cycle development and real world testing and validation of performance both mpg and GHG
- Fleet engagement and trial management

Contact
Keith Budden, Head of Business Development
keith.budden@cenex.co.uk 07557880959

- Programme management
- Vehicle trials – access to public and private fleets
- Data collection and validation
- Low Carbon Vehicle Technology evaluation
- Vehicle infrastructure - gas, electric, hydrogen
- Vehicle to grid, Virtual Power Plant and battery management
- Public procurement and forward procurement commitment
- Low carbon vehicle customer value proposition
- Dissemination and events
- LCV – UK premiere B2B Low Carbon Vehicle event
- Training and low carbon vehicle master classes

Contact

Mike Dickison, Commercial Director, Faculty of Engineering & Computing, Coventry University. Tel. **07974 984679**

Research Interests

- Low carbon powertrain systems (architecture, batteries, control systems, cyber security, autonomous control)
- Lightweight vehicle structures and components (aluminium, carbon fibre, high strength steel & recycled materials)
- Manufacturing technologies (joining, metrology, advanced materials, structural integrity, residual stress)
- Dedicated new Transport & Mobility Faculty Research Centre

Typical Funded Projects

- Collaborative, working with industry and other academic establishments
- PhD studentships with industry
- Wide spread of expertise - over 300 academic staff within Engineering & Computing

Objective of attending event

- Identify collaborators seeking academic partners
- Discuss opportunities for future collaborations

Who we are?

Dr Rishi Abhyankar, Research Fellow at Cranfield University

What we do / what we are seeking funding for?

Lightweight structures, coatings, mechanical testing and characterisation etc. for electric vehicles/transport systems

What we would like to get out of the consortium building event?

Get to know people/companies, networking in general

How to contact us?

Email: h.a.abhyankar@cranfield.ac.uk **Tel no: +44(0)1234758085**

Dr Keith Bevis
EValu8 Transport Innovations Limited

Who we are?

- EValu8 Transport Innovations Limited, based at University of Hertfordshire

What we do?

- We have an EV charging network (built during the Government's Plugged in Places initiative)
- We work in the real environment of a complex UK region
- We collect data from the network
- We have developed an energy Storage facility funded by DECC

What we're seeking funding for?

- Innovation based on these resources

What we would like to get out of the consortium building event?

- Partners with projects that would benefit from working with us

How to contact us?

- info@evalu8-ti.org.uk or www.evalu8-ti.org.uk

European Union
European Regional Development Fund
Investing in your future

University of Hertfordshire

eastofengland
space for ideas

Johnson Matthey

LowCVP Innovation Working Group meeting

Wednesday 4 March

- Dr Paul Millington, Senior Principal Scientist, Emissions Control Research Group, Johnson Matthey Technology Centre.

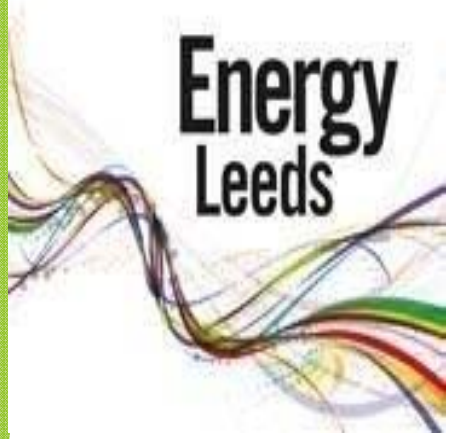
- Our group develops new aftertreatment systems (for mobile and stationary applications). As well as conventional catalysts, this also includes exhaust gas reforming/recirculation and new methods of exhaust gas treatment.

- We seek partners/funding to take the novel work beyond the laboratory/prototype scale onto engines and so seek those working with calibration/engines/vehicles. We hope to gain an insight into the best way to establish these collaborations.

- Contact: paul.millington@matthey.com

The University of Leeds:

- Large UK universities - over 30,000 students
- Top 100 of the QS world rankings in 2014
- Prestigious Russell Group member



- Energy Leeds brings together the breadth of research in engineering, environment, business and science to address grand challenges in Energy
- Expertise includes vehicle technology (tribology, light-weighting, engine efficiency, fuel development) transportation system modelling, policy, driving behaviour & choices.

Objectives:

- Find interdisciplinary funding opportunities for Energy in Transport projects
- Looking for collaborative partners

www.energy.leeds.ac.uk energy@leeds.ac.uk @EnergyLeeds

LOW CARBON VEHICLE INTERESTS

Prof Allan Hutchinson
Sustainable Vehicle Engineering Centre
arhutchinson@brookes.ac.uk

OXFORD BROOKES UNIVERSITY

Summary of interests and expertise

- Materials – light-weighting, composites, joining, adhesive bonding, disbonding, materials recovery and recycling
- Vehicle design, design for end-of-life, optimization
- IC engine combustion and emissions analysis
- Electric motors
- Lithium ion traction battery assessment
- Life cycle analysis and whole life cycle assessment
- EV markets, understanding, forecasting, strategy
- Modal shift, behaviour change, transport options
- Mobility Oxford – the Oxford Laboratory

Track record

- EPSRC TARF-LCV
- TSB projects, including MINI E
- EU projects covering mobility
- KTPs, eg with YASA Motors

We offer:

- Multi-disciplinary approach
- Comprehensive background in many areas of vehicle technology, materials expertise, life cycle assessment, future mobility
- Added value

We seek:

- Partner status in multi-partner projects

http://sustainableprof-brookes.blogspot.co.uk

Horizon 2020 Funding and consortium building event

- Tim Bennett and Ian Hay
- New Product Development Contractor
  - Practical delivery of H2020 projects
  - H2020 Proposal writing service
  - Project consortium building
  - Access to funding streams
    - H2020, Innovate UK, Patent Box,

- To promote Pera Technology as project delivery partners, as proposal writers and consortium building.
- Contact : - Tim Bennett or Ian Hay or Leap Team Sales. 01664 501501 Pera Technology, Nottingham Road, Melton Mowbray, LE13 0PB

- **Protean Electric designs and manufactures the world's most advanced electric in-wheel motors for passenger and light-commercial vehicles**

- **We are interested in collaborations and funding for projects relating to**
  - Advanced electric motor concepts
  - Advanced inverter and motor control concepts
  - Novel applications of high torque density, highly integrated electric drive units
  - Development of advanced vehicle dynamics utilising in-wheel motors

- **Contact**
  - Dr Chris Hilton, Chief Technology Officer
  - chris.hilton@proteanelectric.com
  - +44 7795 616257

Who we are?

Phil Edwards, Director, Weald Technology Ltd

What we do / what we are seeking funding for?

We design and develop low carbon powertrains for motorsport and niche road-going and off-highway vehicles.

What we would like to get out of the consortium building event?

Seeking collaboration partners who are after bespoke battery systems, control electronics and inverters, and motor/generators.

How to contact us?

See www.weald-tech.co.uk, email phil@weald-tech.co.uk, call 01825 761890 or 07737 665061