Magtec - Electric Vehicle Drive Systems

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www.magtec.co.uk
Overview

1. Who are we and what do we do?
2. How Magtec has grown over the years
3. Where can you find our products
4. What do we need to help our expansion?
5. Future challenges and opportunities
Magtec were founded in 1992 and have 90+ employees in Engineering and Manufacturing. All work takes place at our facilities in Sheffield and Rotherham.

- **Newhall Road Site**
  2500 m²
  Design Office
  Motor and Transmission Manufacture
  Power electronics Manufacture
  Test facilities

- **Bessemer Park site**
  1500 m²
  Vehicle work shop
  Fabrication facilities
  Design and engineering office
  Sales Office

www.magtec.co.uk
Magtec design and manufacture drive systems for electric and hybrid commercial vehicles. This includes motors, gearboxes, generators, power controllers, battery systems and condition monitoring systems specifically designed for truck and bus applications. Magtec is the UK’s largest manufacturer of these systems and is currently delivering systems to vehicle OEM’s and vehicle converters worldwide which are in daily use.

www.magtec.co.uk
World’s First Electric Double Decker Bus 2014

www.magtec.co.uk

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UK’s First Electric 7.5 t truck
UK’s First Electric Refuse Collection Vehicle
Magtec EV and Hybrid Drive Systems (OEM) - In Service

- 150 CNG hybrid drive systems in buses in the US
- 350 EV trucks in the US
- 120 EV single deck buses in the UK
- 60 EV trucks/vans in Europe
- 11 EV trucks in the UK
- 2 Hybrid buses in India
Magtec Timeline

- **1992**: Magtec founded by Marcus Jenkins
- **1994**: Energy storage flywheel systems
- **1997**: Military programs for Land Rovers, tracked vehicles and 6 x 6 hub drives.
- **1999**: EV automotive PMAC
- **2000**: 150 Hybrid drive systems for Buses in the USA
- **2004**: Electric and hybrid drivetrains for commercial vehicles
- **2007**:
Magtec Timeline Cont.

- 2008 – EV drivetrain for 12 tonne DAF
- 2008 – EV drivetrain for 12 tonne DAF
- 2011 – Delivers 350 drive systems to truck OEM
- 2013 – World’s first Electric Double Decker Bus
- 2014 – Magtec enters OEM supply for new sectors
- 2015 – Magtec offers EV repowers for Buses and Trucks
- 2016 – Magtec opens up second site and doubles the size of its production facility
- 2019 – Displaces Siemens to become Optare’s preferred EV drivetrain provider.

www.magtec.co.uk
Magtec Products and Services- Where We Sit

Magtec design and manufacture core driveline products that are then either supplied to OEMs or used in it’s repower program

P253 Battery systems  P182/P183 Power controller  P220 traction motor(200 kW)  P180 traction motor(150 kW)

All of the above are both designed and manufactured in the heart of Sheffield.

www.magtec-evbus.com
Future Opportunities

Long Journeys - Electric range not possible

Well known duty cycles, weight could be an issue.

Well known duty cycles, Low mileage

Well known duty cycles, Low mileage
Future Opportunities- Refuse Vehicles

- Refuse Vehicles operate mainly in urban environments
- Refuse Vehicles have a known duty cycle
- Refuse Vehicles have very low MPGs (2.5 – 4 for city regions)
Refuse Vehicles – The Business Case

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Total Cost of Ownership Over 7 years*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 0</td>
<td>Diesel RCV with London Congestion Charge</td>
<td>£601,000</td>
</tr>
<tr>
<td>Option 1</td>
<td>Refurbished diesel RCV with SCR</td>
<td>£332,000</td>
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<tr>
<td>Option 2</td>
<td>Emission compliant new diesel RCV</td>
<td>£366,000</td>
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<tr>
<td>Option 3</td>
<td>Refurbished and repowered to electric RCV</td>
<td>£299,000</td>
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<tr>
<td>Option 4</td>
<td>New electric RCV</td>
<td>To be determined</td>
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</tbody>
</table>
Any Questions

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