Results of Competition: Automotive Exceptional Projects 2018

Competition Code: 1809_CRD_CCAV_SPECPRO

Total available funding is £1,517,035

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

<table>
<thead>
<tr>
<th>Participant organisation names</th>
<th>Project title</th>
<th>Proposed project costs</th>
<th>Proposed project grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>OXBOTICA LIMITED</td>
<td>Autonomous GPS-free Off-Road Vehicle Navigation Using Low Cost Stereo Vision</td>
<td>£1,792,984</td>
<td>£1,255,089</td>
</tr>
<tr>
<td>QINETIQ GROUP PLC</td>
<td></td>
<td>£523,892</td>
<td>£261,946</td>
</tr>
</tbody>
</table>

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: 09/11/2018
Oxbotica, an innovation leader in the field of robotics and machine learning, will partner with QinetiQ, a world leader in the provision of robotics and autonomous systems for complex environments, to deliver a breakthrough in cost-effective self-driving solutions for heavy-duty off-highway equipment. This will enable benefits in productivity, safety, and well-being of operatives to be demonstrated in high-value construction, mining, and defense applications.

Oxbotica's leading-edge technology, currently under test with a number of automotive companies and in on-highway CAV projects, offers the potential to use a low-cost camera-based approach to self-driving, which enables the potential to deal with the much more dynamically changing environments of large construction projects. In this project, QinetiQ will develop a conversion kit that enables drive-by-wire control for large off-highway vehicles, and will then integrate it with Oxbotica's Selenium autonomy system. As a part of the project, we will run demonstrations that benchmark capability in tough off-road environments and explore deployment into industries ranging from airports to construction to defense. Finally, the partners will integrate a fleet-level command and control system that enables many AV's to interact with other varieties of transportation. This will include a goal-based mission planning system that optimises the route the vehicle will take and will factor in dynamic route conditions and constraints to ensure the vehicle progresses safely and efficiently.

---

**Project description - provided by applicants**

Oxbotica, an innovation leader in the field of robotics and machine learning, will partner with QinetiQ, a world leader in the provision of robotics and autonomous systems for complex environments, to deliver a breakthrough in cost-effective self-driving solutions for heavy-duty off-highway equipment. This will enable benefits in productivity, safety, and well-being of operatives to be demonstrated in high-value construction, mining, and defense applications.

Oxbotica’s leading-edge technology, currently under test with a number of automotive companies and in on-highway CAV projects, offers the potential to use a low-cost camera-based approach to self-driving, which enables the potential to deal with the much more dynamically changing environments of large construction projects. In this project, QinetiQ will develop a conversion kit that enables drive-by-wire control for large off-highway vehicles, and will then integrate it with Oxbotica’s Selenium autonomy system. As a part of the project, we will run demonstrations that benchmark capability in tough off-road environments and explore deployment into industries ranging from airports to construction to defense. Finally, the partners will integrate a fleet-level command and control system that enables many AV’s to interact with other varieties of transportation. This will include a goal-based mission planning system that optimises the route the vehicle will take and will factor in dynamic route conditions and constraints to ensure the vehicle progresses safely and efficiently.

Note: you can see all Innovate UK-funded projects here: [https://www.gov.uk/government/publications/innovate-uk-funded-projects](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: 09/11/2018**