Connected and Autonomous Vehicles 2 - Stream 3 FS

Project Title:	AVERT - Autonomous Vehicle Equestrian Recognition Technology
Lead Organisation:	Sense Media Group Ltd
Project ID:	85193-530154

How To Read Your Feedback

This document compiles the full comments made by the independent assessors who reviewed your Application. We hope you find it useful.

Typically three to five assessors review each application. These assessors are chosen from diverse professional backgrounds and expertise, and each application can be reviewed by both academic and business leaders who inevitably will have different viewpoints. Assessor comments are delivered in their words and presented by question number along with their averaged score. Note as there are multiple assessors involved there are multiple comments made per question and the views of the different independent assessors may not be aligned.

We thank you for your application and hope that regardless of the final outcome you find the assessor comments useful in the further development of your project and business.

Scope

Did the assessors consider this application to be in scope? N

The project is not collaborative and includes only the applicant as sole organisation partaking in the work. The link to the competition scope is tenuous, but could be said to partly satisfy the scope of real-time control systems for equestrian use cases.

The proposed work aligns with the Connected & Autonomous Vehicles call topics. It is investigating solutions for safe interactions between CAV and equestrian road users. The proposal is from a single micro SME industrial partner, and not being collaborative, is out of scope for the call.

This is a good example of how some road users may be forgotten in the rush to develop a new technology. It is therefore disappointing that the project fails to meet scope by not being truly collaborative that is, 2 or more grant receiving partners.

The application is out of scope for stream 3 of this competition as it is not collaborative, having only a single partner organisation.

This is an interesting niche application. This is the kind of problem that could delay CAV take off if no solution is available, so worth pursuing.

Q1. What is the business opportunity that this project addresses?

Average score for this section (out of 10): 6.00

The business case is weak. The applicant needs to demonstrate need by using evidence of the numbers of horse riders that share roads with cars and the number of accidents, casualties and fatalities. The case for understanding facial expression and equestrian body language and how that information could be used is not clear. Commercial and technical challenges are not considered and the challenge is vague. Yet there is merit in the idea of extending systems' capabilities to address equestrian use cases.

The business opportunity addressed is briefly described, and is based on improving interaction between CAVs and equestrian road users. The linkage between the proposed work and identified opportunity is plausible, but poorly explained. In particular, it is unclear what the user needs are for this technology.

The interaction of a CAV with ERU is a valid consideration but the applicant needs to justify the business need not just in terms of "nobody else is doing it" but in terms of real user examples with real world data. E.g., How often would a CAV share the same space as a ERU?

The application makes an adequate explanation of the nature of the problem. However, the material provided lacks input from the customer perspective and would benefit from backing up the assertions with evidence in the appendix.

This is an interesting niche technology that will be needed if CAV are to be deployed in rural areas. If resolved there will be international need for this type of technology. Without a solution to this type of problem CAVs may be delayed in achieving safety certification for widespread deployment.

Q2. What is the size of the market opportunity that this project might open up?

Average score for this section (out of 10): 3.60

There is no information on potential market size and dynamics. The proposal does provide some numbers related to accidents, but they require some refining. However, it would have been useful to build a picture of the possible market from these statistics. Conversations with automotive OEMs and CAV developers would have helped to provide evidence of the need and market. There is little attempt to build a business case. There is no evidence that the applicant can influence the market, insurers and manufacturers.

There is no clear explanation of the underlying market for this technology, and whilst potential end users are identified, their needs are not explained. The impact of this technology for potential income for the industrial partner is stated, but not adequately justified or convincing, and RoI is not discussed.

Key to this project is the understanding of how often any vehicle will share a road space with a horse. The stakeholders the applicant refers to must also be a target beneficiary of the technology and should therefore be able to suggest a market size.

Whilst it is noted that this is a funding request for a feasibility study, the description of the size of the market is weak. The discussion included in the application does not convince that the applicant has thoroughly research the potential market. Low confidence.

the applicant gives a limited answer here. There are significant external benefits here and the partners look well chosen to benefit directly and indirectly if this can be made to work as expressed.

Q3. How will the results of the project be exploited and disseminated?

Average score for this section (out of 10): 4.20

There is a plan to disseminate the project findings. Route to exploitation of IP is less clear, i.e. whether the applicant plans a range of products, or simply to add to the knowledge base for their consulting practice. It is difficult to appreciate the commercial opportunities this project may open up and the potential return on investment.

The main outputs are not clearly described and only a limited exploitation route is described, consisting of seeking further funding for R&D, with no timescales or specific planned actions towards or beyond this described. Outline plans for dissemination and publicity are provided, and, though limited, are adequate

The primary output expected from this competition is a Technical Feasibility Study not a market feasibility study. Although there is a need to assess the target market in these FS it is not the primary output.

The application does not present a credible route to market for the outputs of this feasibility study.

The applicant could have given an account here of a licensing model to CAV manufacturers. This is a niche application which many manufacturers will need a solution to in time. More work is needed to understand the direct exploitation of this work. Some indirect exploitation does appear sensible as described.

Q4. What economic and sustainability benefits is the project expected to deliver to those outside the consortium and over what timescale?

Average score for this section (out of 10): 5.60

Economic benefits to the applicant are modest. There are potential benefits for the applicant's tech development customers, UK R&D, and the supply chain, but none is quantified or qualified convincingly. There are a number of benefits mentioned, but the main one is that of reducing accidents, casualties and fatalities to riders and horses. The numbers illustrate that there is a problem, but the impact needs to be backed up by the CAV industry's intentions to address this area.

A brief account of the economic benefits offered by this work is provided, but is vague and lacks sufficient detail to be convincing. In particular, it is not clear how a completed FS would provide the stated early revenue stream. Societal benefits are identified and are convincing. The proposed benefits would apply both inside and outside the consortium.

The applicant has presented some quantified data to support the wider benefits of the project outputs. However, some of the points made are rather tenuous and could be described as argumentative.

There would be significant safety and economic benefits should the described technology be successfully commercialised.

There are significant external benefits which justify public support here. The answer on economic benefits does not tie in well with answer to the previous question.

Q5. What technical approach will be adopted and how will the project be managed?

Average score for this section (out of 10): 4.60

Four investigation themes have been identified, but there is no indication of R&D other than scoping for a future R&D project, i.e. there is no evidence of technical investigations and developments. A project plan has not been presented and the work not broken down into reasonable work package and task structure with roles and responsibilities identified. There is little or no mention of project management methods, governance or structure.

The technical approach is described only in terms of very general objectives and lacks sufficient detail of the specific tasks to be undertaken. It does not provide any technical targets for the work itself and no M&Ds are identified. There is no defined project plan to indicate work package timings or interactions. Management approach is briefly outlined, and is adequate.

The applicant has described a reasonably well structured technical study. This is at odds with the declared main exploitable output referred to earlier of a commercial viability study

The technical approach describes the steps that this project would take to address the problem, but fails to describe what will be done in those steps. Therefore, there is significant uncertainty as to the depth of activity and the technical methods that will be employed in examining the proposed solutions.

There is a strong research element to this project It is clear that there is limited understanding to date on how to tackle this problem. Given the challenge of deployment of CAVs in rural areas, this work is necessary.

Q6. What is innovative about the project?

Average score for this section (out of 10): 5.00

The project is said to investigate, but that term is vague and could mean desk based research and interviews. The desired goals and objectives for new solutions are not compared with the state of the art to make a case for innovation. The patents listed are said to be useful, but for distinct use cases, this needs to be explained in terms of freedom to operate and potential for new IP. The project may be innovative, but the case made is not convincing.

Scientific innovative aspects of the proposed work are claimed, relating to improved sensors and processing algorithms. However, insufficient details are presented of what new functions this would offer, or how the proposed approaches would improve on the current state of the art for CAV sensing systems. The claimed innovation is not adequately proven.

The applicant has made a good justification of the level of innovation in this study.

The area of study here is innovative and the approaches under consideration are again innovative. The application does not provide enough on what the expected outcomes will be to make a judgement on the level of innovation in the project activities.

The applicant has found related patents which combined with this work could tackle an unresolved and under researched area. Without a solution to this problem, rural deployment will be significantly delayed along with insurance complexity..

Q7. What are the risks (technical, commercial and environmental) to project success? What is the project's risk management strategy?

Average score for this section (out of 10): 4.40

This is said to be a low risk project all round. This defies the purpose of grant funding to de-risk projects. Risks are superficial and do not have sensible mitigations. Risk management is insufficiently described.

A brief discussion of risks is presented, though lacking a formal risk register or clear definition of mitigation measures that would be applied. There does not appear to be any significant technical or commercial risk associated with the proposed work. The risk management is briefly discussed and adequate.

The applicant has demonstrated a good understanding of risk management and has identified a small number of key risks.

The risk analysis is brief and does not link particularly well with the technical approach.

The risk thinking as described here is quite limited. What is given is sensible, but the management approach needs further work.

Q8. Does the consortium have the right skills and experience and access to facilities to deliver the intended benefits?

Average score for this section (out of 10): 4.40

Given the lack of details of the technical and commercial challenges to be overcome, it is difficult to assess the suitability of the team to undertake this project. Challenges need to be matched to specific expertise and experience of team members, of which little is said. There is a hint at using sub-contractors, but nothing is said about the required capabilities and the work they would undertake.

The proposing company seems to bring all the necessary skills and experience for performing the FS, but their capabilities for any subsequent product development are not adequately elaborated. The consortium does not include the direct involvement of CAV sensing equipment OEM or vehicle manufacturer, and it is not clear how the consortium will interact with such stakeholders.

Although the applicant has shown an understanding of the subject, there appear to be skills and knowledge gaps in applicants organisation that could have been filled by a full collaboration with one of the stake holder groups. As it is the project is not collaborative and falls out of scope.

The partner staff listed have a focus towards events. It would be very beneficial to hear about the skills of the technical staff that are not so well discussed, and how their experience relates to the tasks described.

The principal has a relevant track record. The answer is high level and general rather than specific to the project. The weak answers elsewhere on commercials suggest that this needs to be addressed in this next phase.

Q9. What is the financial commitment required for the project?

Average score for this section (out of 10): 5.40

Project costs have been broken down and somewhat justified, but labour costs are confusing. Subcontractor costs are not mentioned; it is not clear from the proposal if there are subcontractors (2 analysts could be subcontractors, but not clear), which seems to be hinted at in answer to Q8. 0.5 FTE over 12 months does not reconcile with 2 analysts for 12 months. Materials, supplies and equipment need to be briefly specified.

The overall project costs are clearly presented and broken down by cost category. However, the lack of detail of the work plan and of defined end points for the technical work makes an assessment of the adequacy of the requested funding difficult.

The budget is broadly in line with that expected for a feasibility study of this type. The applicant has provided a budget breakdown that seems reasonable balanced.

The overall cost of the project is reasonable. The limited detail provided regarding the technical approach leads to a low level of confidence about how the 90k labour costs relate to the activities in the approach. It is also unclear whether this labour current exists in the partner organisation or recruitment is needed.

The budget looks realistic for what is proposed. It is not clear that this would be complete enough to secure downstream funding beyond this phase as described here

Q10. How does the financial support from Innovate UK and its funding collaborators add value?

Average score for this section (out of 10): 5.00

The applicant does not justify the case for funding or say why the project would not go ahead with out it. The commitment to R&D in this area is tenuous. There is no mention of why other sources of funding are not suitable or been investigated. It is not clear why the applicant is not able to self-fund the work.

The added value offered by Innovate UK funding is not adequately presented. The benefits offered through risk reduction, reduced time to market, or overcoming restricted access to alternative capital are not discussed. It is not stated whether this work would anyway proceed in the absence of Innovate UK funding.

The applicant has made a good justification for Innovate funding.

This application presents an interesting area for investigation, but does not provide sufficient technical detail or a convincing exploitation plan. It is therefore considered low value for public investment.

The applicant has identified an under researched area which could put a break on the deployment of CAVs in rural areas. The project is immature as described and marginal. Given that this problem needs to be addressed it is worth pursuing if the caveats are dealt with duri9ng this proposed phase.

Reasons given for not recommending as suitable for funding

Overall a poor application. Technical, application and commercial challenges are not set out clearly and solutions do not have sufficient and convincing details to provide confidence that the applicant knows where to start and what to do. The project is not collaborative and does not, therefore, meet the scope of the competition. The project is said to be low risk all round. The applicant has hinted at no technical development and no desire to capture IP from the project.

The proposal is not collaborative and therefore is out of scope.

A convincing business case for the proposed work is not presented, and it lacks plausible estimates for revenue, potential market share or RoI. Exploitation plans are limited and unconvincing. The work plan lacks sufficient detail of tasks, quantified targets, or cost analysis. The risk analysis does not provide evidence of any high-risk elements. Novelty is not demonstrated. Additionality derived from Innovate UK funding is not well elaborated.

The proposal has reminded us that there are other road users that need to be considered other than cyclist and pedestrians. However, the applicant needs to work harder to clearly demonstrate a market where this technology would be adopted or describe a legislative landscape where it would be mandatory. However, the project has fallen out of scope because of the absence of grant receiving collaborative partners.

The project is out of scope, does not have sufficient detail in the technical approach and does not present a convincing exploitation plan.