

**All Party Parliamentary Group on Connected and Automated Mobility (CAM) meeting on
'Celebrating CAM technology: How the UK can maintain momentum?'**

Date: Friday 23rd July 2021

Time: 09:00 - 10:15

Location: Virtual, Microsoft Teams

Minutes

Introduction to APPG meeting

- **Background:** APPG Officer and chair of the event, Baroness Randerson, introduced herself and thanked AXA UK and Burges Salmon for their support of the APPG and Cicero/AMO for providing the group's secretariat. She outlining this was the third meeting of the APPG before moving on to introduce the keynote speaker for the meeting:
 - *Lord Grimstone of Boscobel Kt, Minister for Investment jointly at the Department for Business, Energy and Industrial Strategy and the Department for International Trade.*

Keynote Speech – Lord Grimstone, Minister for Investment

- **Introduction:** Thanked the CAM APPG for hosting him and welcomed the group's work on this policy area. He introduced his officials on the call; Michael Talbot and Jenny Laber, Deputy Heads of the Centre for Connected and Autonomous Vehicles (CCAV).
- **Collaboration:** Welcomed the progress the Government had already achieved on CAM, praising the collaboration with industry, academia and local authorities. Outlined CCAV has helped over 90 projects in this space since 2015, with over 200 organisations and £400bn in investment which brings together 28 cross sectors partners, across 6 inter-operable facilities.
- **Lead:** The UK's test centre is a leader, bringing in revenue and foreign, direct investment to the UK.
- **Regulatory Environment:** Highlighted the UK's leading regulatory environment is helping build the commercialisation of the sector.
- **Investment:** Noted the recent investments by Israel's Ree Automotive, and UK leading companies Oxbotica and Five which between them have raised \$150 million in private investment. Highlighted that a small amount of Government investment can "de-risk" industrial investment in the sector.
- **Opportunity:** Recognised an opportunity to make passenger and goods transport safer and greener, while boosting the economy and creating 30,000 jobs. Stressed the need to move the technology from development to full commercialisation.
- **Call for Evidence:** Set the scene for the call for evidence on the future of connected and automated mobility in the UK, which closed on 23 July. Stated it focuses on understanding the UK's position, what the opportunities are for commercialisation, where Government investment should be targeted and how CAM can support net-zero and levelling up.
- **APPG:** Welcomed increased parliamentary engagement on this issue which "will help develop a strong UK CAM sector" with increased investment and jobs of the future.

Questions and Answers

- **Attendee:** Considering the safety critical nature of CAM technology and its connected infrastructure, is the best way for safe deployment of CAM in the UK, for the UK to continue to lead on testing, trialling and regulating the technology? And how will the Government make this a key part of the roadmap from the consultation?

- **Lord Grimstone:** Noted that it would be a remiss to think just the UK will be the only country with ideas on how to regulate the sector, but the UK will continue with a regulatory environment that means CAM is “completely safe”. Safety will be a strong feature of the consultation as they have noted from discussions with industry.
- **Attendee:** How will the UK ensure its legislative approach continues to support the adoption of CAM and, in particular, how will the outcomes from the Law Commission’s regulatory review be prioritised when published later this year?
 - **Baroness Randerson:** Noted the need to keep legislation up to date.
 - **Lord Grimstone:** Agreed about the importance of the review and the UK’s legislative priority will be safety.
 - **Jenny Laber:** Outlined that Government will consider the Law Commission’s recommendations and respond to them and see if they need primary or secondary legislation.
- **Attendee:** Minister mentioned that CAM sensors will be critical in measuring success, as CAM can drive new and changed services markets, what is the opportunity for the UK in this area?
 - **Lord Grimstone:** Noted the need to be open minded about where the CAM sector can develop. Highlighted the sensors developed out of CAM can be incorporated into electric vehicles and that even a lack of full autonomy can still develop the safety performance of existing vehicles. Research and development work would be the building block of this, but the measurement of success will be commercialisation.
- **Attendee:** Does the Minister agree for the UK to continue its leading position in the CAM sector, we must focus on critical technologies that underpin the safe deployment of CAM?
 - **Lord Grimstone:** Agreed about the safety critical nature of CAM technologies, but the UK’s private sector must lead the way in collaboration with Government and other stakeholders.

Panellist Introductory Speeches

Alex Charr, Global Growth Business Development Manager at ARRIVAL and Chris Lane, Head of Transport Innovation at Transport for West Midlands (TFWM)

Alex Charr:

- **Introduction:** ARRIVAL is a leader in the tech sector with a specialism in the mobility sector which provides commercial electric vehicles and the infrastructure around them, including the charging infrastructure, the fleet management system and connectivity solutions. In CAM technology, all ARRIVAL vehicles have this technology, providing efficiencies from the off and are “autonomous ready” so the hardware and software is implemented for when the technology is ready for deployment. ARRIVAL is the lead pilot of the Robopilot project, part funded by CCAV, which demonstrates the autonomous system for their vans.

Chris Lane:

- **Introduction:** TFWM sees CAM technology as part of the wider eco-system of mobility supporting freight and logistics, mobility hubs, digital and data and the wider sector in this area. Highlighted that using the test bed funded by CCAV in the West Midlands will need to produce services that people want to use as a priority.

Questions and Answers

- **Baroness Randerson:** What does the Government need to focus on now, and what could they potentially do more of?
 - **Alex Charr:** Acknowledged the UK Government is doing “quite a lot” in comparison to industries in France for example. Welcomed the code of practice to develop autonomous trials. In

comparison to leaders in CAM in the US and China, the UK Government could develop on what can be commercialised at scale in the next few years and focus on these technologies instead of the public deployment, which might come later in the process. Highlighted use cases in operation that should be developed, for example in the airport, warehouses and university campuses where the technology is already delivering benefits.

- **Chris Lane:** Agreed with Alex Charr that the code of conduct is effective, and the UK is a leader in safety. Highlighted that TFWM would like to see a regulatory sandbox to develop this further. Outlined the need to get services running without any supervision outside of test beds, so the public can build confidence in them and then come to rely on them.
- **Attendee:** How are you demonstrating your automated vehicles are safe? And for Chris, what evidence would you need to show that the vehicles are safe for deployment in the West Midlands?
 - **Alex Charr:** Noted that it is all about safety to deliver the mass deployment of autonomous vehicles. Safety begins in the simulation process, in the Robopilot project, ARRIVAL has replicated public roads in the simulation environment. All the testing is done to ensure safety and is the first step for all the software. Following this, simulation is followed by proving grounds with extensive testing. The final step is public roads but this move is done in a safe way when considering all other stakeholders.
 - **Chris Lane:** Public has to have high confidence that a service is safe, but the trajectory of the vehicle must be supervised from the offset either in the vehicle or remotely. Only testing against real-world conditions will guarantee safety.
- **Attendee:** Is the UK prepared for a wide rollout of autonomous vehicles, will there need to be a wider rollout of roadside technology to be safe?
 - **Chris Lane:** Outlined that the move has begun to a digital infrastructure for roadside technology, which is welcome, but that this thinking should continue in the future. Wider digital infrastructure can inform the autonomous vehicles about activity on the road, fail safe is a good principle for this development.
 - **Alex Charr:** Called for the move to more vehicle to infrastructure technologies that can guide vehicles. Development currently is premised on the lack of development of roadside infrastructure. If autonomous vehicles are to be developed at scale, there will not be widespread digital infrastructure coverage. For mass deployment of autonomous vehicles, the building of autonomous vehicles is planned on no infrastructure in place.
- **Attendee:** How can we get the balance of CAM right, and achieve the right mix with other modes while ensuring we avoid the risk of more vehicle miles travelled by single occupancy vehicles?
 - **Alex Charr:** Highlighted data from France showing a heightened number of single occupier journeys driving more pollution. Pointed to the solution as combining all the elements of electrification, connectivity and automation. ARRIVAL is only focussing on shared mobility via public transport because of the belief in reducing pollution.
 - **Chris Lane:** Outlined that automated vehicles are second to wider transport policy encouraging shared mobility and active transport.

Final Comments

- **Baroness Randerson:** Thanked participants for their questions, panellists for their contributions, and the Minister for his keynote speech to the APPG.

Meeting closed (10:15)