The following document sets out the consortia that have been successful in securing funding under the Centre for Connected and Autonomous Vehicles CAV3 competition, managed through Innovate UK. Further details will be made available by the consortia as the projects get up and running.

**CAV3 COLLABORATIVE RESEARCH AND DEVELOPMENT PROJECTS**

COgnitive REal time SENsing SystEm for autonomous vehicles (CORE SENSE)

The Consortium is developing all weather object detection and path planning, and customised computer chips and algorithms to handle the large volumes of data that will be processed.

* Consortium Lead: Jaguar Land Rover
* Consortium Partners: Myrtle Software Ltd, University of Birmingham, White Horse Radar Ltd

A radical mode SHIFT away from cars to Integrated Mobility-as-a-Service enabled by autonomous pods

The Consortium will design, develop and demonstrate an integrated 6 month autonomous Mobility as a Service, 10 vehicle, trial in London in order to validate a business model and inform the design of an autonomous pod.

* Lead: Aipod, Ltd
* Consortium Partners: Gordon Murray Design Limited, Imperial College London, Innogy Innovation UK Limited, Oxbotica Limited, Transport For London Finance Limited

Autonomous GPS-free Off-Road Vehicle Navigation Using Low Cost Stereo Vision

The vision of this project is to deliver an AV capable of off road navigation in complex work sites and other unstructured environments using only low cost cameras for localisation.

* Lead: Caterpillar
* Consortium Partners: Oxbotica

Trumpington to Cambridge Autonomous Busway Service (T-CABS)

The aim of this project is to explore the potential for Autonomous Vehicles to become part of the future solution for Cambridge by building a small fleet of 15 seat pods and use them to demonstrate a fare paying public transport service on the Cambridge Guided Busway serving Trumpington Park and Ride, Cambridge Biomedical Campus and the central railway station.

* Lead: Richmond Design and Marketing Ltd
* Consortium partners: Cambridgeshire County Council

MultiCAV

The MultiCAV vision is to establish a truly multi-modal autonomous Mobility as a Service offer by developing an end-to-end MaaS system incorporating taxi’s, busses and on road shuttles.

* Lead: First Group
* Consortium Partners: Arrival Limited, Mepc Milton Gp Limited, Oxfordshire County Council, South Oxfordshire District Council, University Of The West Of England, Vale Of White Horse District Council, Zipabout Limited

Silicon Designs for Core Autonomy Algorithms (SiDeCAA)

This project aims to provide time based information to an autonomous vehicle and design bespoke microchips which can handle the throughput to support this, essentially providing the vehicle with a memory when objects (e.g. cylist) go temporarily out of view and thus enhancing safety.

* Consortium Lead: Myrtle Software Limited
* Consortium Partners: Wayve Technologies Ltd

AutopleX

Autoplex is a project combining connectivity and AVs to significantly enhance the cars view and capability at junctions where there may be significant differences in traffic over time and where environmental/junction layouts/elevations on approach mean a clear view is not possible

* Lead: Jaguar Land Rover Limited
* Consortium Partners: Highways England, Inrix Uk Ltd, Ricardo Uk Limited, Siemens Public Limited, Company, University Of Warwick, West Midlands Combined Authority

Autonomous Valet Parking (AVP)

The consortium will develop an AVP capability which will allow drivers to drop their car at a car park or their final destination and the car will park it, it will be supported by a mobile application to issue ‘park and summon’ commands to the vehicle

* Lead: Parkopedia Limited
* Consortium Partners: Transport Systems Catapult, University Of Surrey

ALEAD - Artificial Learning Environments for Autonomous Driving

ALEAD will be a digital environment that provides AVs with a virtual space to learn in, reducing costs and time for the companies developing those systems.

* Lead: CGA Simulation Limited
* Consortium Partners: Future Coders Limited, University of Liverpool

AID CAV

The project will develop the components in a vehicle from those supporting traditional driving to those which can deliverer autonomous driving – through ‘drive by wire’ technology and vehicle control algorithms. The components developed will be reconfigurable, which means CAV manufacturers will have no extra cost - opening the market to new entrants.

* Lead: Delta Motorsport Limited
* Consortium Partners: Alcon Components Limited, Cranfield University, Potenza Technology Limited, Titan Motorsport & Automotive Engineering Ltd, University Of Warwick

RoadLoc: A development and test framework for ground-truth vehicle localisation.

RoadLoc aims to provide a reliable vehicle localisation framework for thorough and low cost testing under real on-road operating conditions independent of other sensor or communication requirements.

* Lead: Machines With Vision Limited
* Consortium Partners: Durham University, Jaguar Land Rover

**CAV3 FEASIBILITY STUDIES**

All-Weather, Long Range Obstacle Detection for Autonomous Vehicles:

* Lead: Oxbotica
* Consortium partners: Navtech Radar Limited

Digital CAV Proving Ground Feasibility Study

* Lead: Horiba Mira Ltd
* Consortium Partners: Coventry University

Certification of Autonomous Vehicles in Synthetic Environments

* Lead: XPI Simulation Limited
* Consortium Partners: Thales Uk Ltd, University of Warwick

MaaS:CAV

* Lead: The Mobox Foundation C.I.C
* Consortium Partners: Oxfordshire County Council, Robert Bosch Limited, Source23 Limited, Transport Systems Catapult, UKAEA, Zeta Specialist Lighting Limited

Connected On-Road Autonomous Mobility (CORAM)

* Lead: Propelmee Ltd
* Consortium Partners: Cranfield University, Transport Systems Catapult

Learning through AMBient Driving styles for Autonomous-Vehicles. LAMBDA-V

* Lead: CLOUD MADE LIMITED
* Consortium Partners: Birmingham City Council, TRAKM8 Ltd, Transport Simulation Systems Ltd (TSS)

On Highway / Off Highway Communications and safety system Analysis

* Lead: Precision Decisions Limited
* Consortium Partners: Agri-Epi Centre Limited, Farmscan Ag Limited

Feasibility study on polar codes for 5G URLLC

* Lead: Accelercomm Ltd
* Consortium Partners: University of Southampton

5G Above the Cloud (AtC)

* Lead: Intelcomm (UK) Ltd
* Consortium Partners: MODUS OPERANDI LIMITED, ROBERT BOSCH LIMITED, University Of Surrey

Removing HGVs from high streets with last-mile human interactions

* Lead: Ibex Automation Ltd
* Consortium Partners: Drive Daddy Limited, Ove Arup & Partners Limited, Transport Simulation Systems (TSS) Ltd, University Of Leeds

ParkAV - the business and data chain for Automated Valet Parking

* Lead: Yellow Line Parking Ltd
* Consortium Partners: Coventry City Council, Jaguar Land Rover Limited, Westminster City Council