

OmniCAV

Simulated road users in new testing framework for connected and autonomous vehicles

Arcadis has been named as one of a consortium of 11 organisations embarking on a UK government funded project to create a high-fidelity simulation environment, including artificial intelligence (AI) trained models of road users, to test connected and autonomous vehicles (CAV).

OmniCAV, which was awarded funding as part of a competition run by the [Centre for Connected and Autonomous Vehicles](#) (CCAV) and [Innovate UK](#), will be fed by highly detailed scans of real roads, traffic camera data, accident data, and near-miss analyses. These inputs will be used to create a high-fidelity model of real-world roads, which will be populated with realistic artificial intelligence (AI) based road users. OmniCAV will also create an extensive open-access library of VR simulator scenarios to test CAV against.

The project will lay the foundations for the development of a comprehensive, robust and secure simulator, aimed at providing a certification tool for CAV that can be used by regulatory and accreditation bodies, insurers and manufacturers to accelerate the safe [development of CAV](#).

Working as part of the consortium, Arcadis will be supporting the development and implementation of the Aimsun traffic model that lies at the heart of OmniCAV, and which is designed to accelerate testing of the reliability and safety of CAV technology. The simulator technology will offer market-leading coverage of a diverse range of road networks including rural, peri-urban and urban roads.

The project will validate the realism of the simulator by comparing its outputs with data measured for the equivalent locations and scenarios in the real world. This will include tests on proving grounds and open roads. It will culminate in a CAV being put through the entire end-to-end OmniCAV testing programme, from simulator-only, to controlled environment, to on-road testing.

Through representation on international standard committees, OmniCAV's results will influence, or lead to the creation of, new international standards to ensure safe deployment and certification of CAV.