

Connected and Autonomous Vehicle
Innovation: Approaches to Navigating the
Hazards

Juliet Flavell

Technical Report

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Information Security Group
Royal Holloway University of London
Egham, Surrey, TW20 0EX
United Kingdom

Executive summary

The government has set 2021 as its target date for fully autonomous vehicles to be in use on roads in the UK. This project investigates whether the approaches being adopted to security and risk assessment are effective and whether there can therefore be assurance of security. A unique set of cyber security vulnerabilities and requirements arises due to the impact of the unprecedented scale and complexity of CAV systems both in isolation and as nodes in the intelligent transport networks they rely on. Existing security techniques may not suffice but the need for advanced techniques may not yet be fully understood and budgets may not be available. Although broad initiatives are now in place at government level, the pace of change may not be fast or broad enough to address the risks and opportunities of CAVs. The expertise needed to address all the challenges spans many different disciplines. Safety will rely on security and the two disciplines should work together but there may be a culture clash due to their differing approaches. Although a start has been made to update legislation, the existing legislation and standards framework do not yet accommodate CAV implementation adequately. This uncertainty may stifle innovation. Due to the challenges of solving the above unique set of problems associated with the CAV domain, the target of 2021 may not be achieved.