



THE PERILS OF VEHICLE AUTOMATION: LESSONS FROM OTHER TRANSPORT SECTORS FOR DRIVER TRAINING

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Increasing automation is a common feature of many transport sectors. A significant amount of research has been conducted into human factors associated with increasing automation in sectors such as shipping, aviation and rail with attention being paid particularly to assessment and training. As the introduction of automation in road transport gains pace, there are a number of lessons which have been learned in other sectors which should be incorporated into the thinking of driver trainers.

One key message is that training tends to lag behind technological developments. Furthermore, continuous professional development amongst trainers in the various transport sectors tends to be poor. This is particularly important for the road transport sector where there is likely to be a sequence of changes in the competence demands placed on drivers as vehicle technology passes through different levels of automation en route to full automation. Key aspects of human factors which driver trainers and licensing authorities will need to begin to pay much more attention to include situational awareness, the effects of boredom, the likelihood of skill fade, the effects of cognitive underload, changes in cognitive demands, particularly relating to attention and decision making, and situational recovery and emergency responding. Licensing authorities, in particular, will need to consider how their practical and theory test requirements will have to change, perhaps quite rapidly, as the level of automation increases.

This presentation will identify the key findings from research in other sectors which have significant implications for driver training and licensing and the steps taken in other sectors to address the training and assessment gaps that have emerged.



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Charles Johnson BSc, PhD, CPsychol, AFBPsS, Group Technical Director of CAS, is a highly experienced occupational psychologist who is an expert in a range of organisational and human factors relating to driving and to behaviour and performance in both high hazard industries and educational sectors. He has written and presented widely on these matters and provided advice on organisational culture, competence frameworks, assessment practices, job design, training and performance measurement and evaluation as well as on related policy and strategy to major companies, government departments, research organisations and regulatory bodies.

In addition to his role in CAS, Charles is also Managing Director of Johnson Doughty Ltd and Director of Psychological Services for Cambridge Occupational Analysts Ltd. In his earlier career he was Managing Director of Psychometric Research & Development Ltd, a company which specialised in test design and the development of assessment strategies and prior to that was a Principal Psychologist in the Cabinet Office where he was Head of the Civil Service's Test Construction Unit. From 2000 – 2005 he was Chair of the British Psychological Society's Steering Committee on Test Standards and also its Psychological Testing Centre and was a member of the Committee for a further 6 years. Since 2013 he has been a member of the Examination Board of the Institute of Assessment Management.