

# phD Position in Connected Automated Transport



Locatie

Overijssel, Enschede

<https://www.advertentiax.nl/x-958037-z>



Within the department Industrial Engineering and Business Information Systems at the University of Twente, the Netherlands, there is a vacancy in the area of planning and control of automated transport, requiring expertise in operations research and logistics. This vacancy is part of a project called CATALYST: Connected Automated Transport and Logistics Yielding Sustainability.

The University of Twente. We stand for life sciences and technology. High tech and human touch. Education and research that matter. New technology which leads change, innovation and progress in society. The University of Twente is the only campus university of the Netherlands; divided over five faculties we provide more than fifty educational programmes. We have a strong focus on personal development and talented researchers are given scope for carrying out groundbreaking research.

We are an equal opportunity employer and value diversity at our company. We do not discriminate on the basis of race, religion, color, national origin, gender, sexual orientation, age, marital status or disability status. Because of our diversity values we do particularly support women to apply.

The Faculty of Behavioural, Management and Social sciences (BMS) strives to play a pivotal role in understanding, co-engineering and evaluating innovation in society. Innovation is driven by advances in technology. Through 'social engineering' these technological advances are embedded in society befitting human needs and behaviour, within proper public and private management and business structures. For this the faculty of BMS upholds high quality disciplinary knowledge in psychology, business

administration, public administration, communication science, philosophy, educational science and health sciences with a focus on the challenges in society. Research is strongly linked to our institutes: Wetsite, Tectate, Delta and Delta Society Institute.

## Job Description

The developments of digitalization and automation in freight transport and logistics are expected to speed up the realization of an adaptive, seamless, connected and sustainable logistics system. This PhD position focusses on the required intelligence for the logistics planning and control of connected trucks (platooning, autonomous trucks, and large truck combinations (e.g., 32m dual trailers). This involves not only the planning and control of the different parts (e.g., matching algorithms for truck platooning, but



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also the combined end-to-end solution (e.g., synchronization of long-haul truck transportation with autonomous last mile deliveries from highway to local warehouses). Within these processes, we need to take into account the stochastic environment (congestion and uncertain arrival- and departure times) and varying degrees of dynamisms in planning (real-time, opportunistic, scheduled). Furthermore, we distinguish between centralized and decentralized planning approaches, which is especially meaningful when considering our end-to-end solution, as individual parts require different interfaces to work together effectively.

To assess the impact of the combined areas on the logistical performance, the PhD candidate can benefit from a library of simulation models that have been developed within our department for several related projects. The envisioned scientific contribution of the PhD dissertation is twofold:

the dynamic matching of trucks in a stochastic environment;  
the end-to-end solution combining truck platooning and large truck combinations for the long haul with autonomous last mile logistics.

#### Job Requirements

A sound theoretical background in Operations Research, preferably combined with experience in simulation, data science, and machine learning, with an MSc degree in Industrial Engineering, Operations Research, Applied Mathematics, Computer Science, Information Systems or a comparable domain. We encourage ambitious candidates with strong communication skills who like to present their work at conferences and project meetings. Proficiency in English is required. You need to provide IELTS test results (minimum score 6.5), TOEFL-iBT (minimum score 90) or Cambridge CAE or CPE. An interview and a scientific presentation will be part of the selection procedure.

#### Salary and Benefits

We offer a 4-year full-time position as a PhD candidate appointed at the University of Twente (UT), with a qualifier after 1 year. In accordance with the Collective Labour Agreement for Dutch Universities (CAO NU) the gross monthly salary ranges from € 2,325 in the first year to € 2,972 in the fourth year. Additionally, the University of Twente provides excellent facilities for professional and personal development, a holiday allowance and an end-of-year bonus, and a number of additional benefits.

We are dedicated to encouraging a supportive and inclusive working culture. Our aim is that all job applicants are given equal opportunities. When we select candidates for employment, it will be on the

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basis of their aptitude and ability. To support the workforce diversity, we are open to offer flexible working conditions on an individual basis to support work-life balance, that may include contract of employment, working hours and location, or child care.