



CERFUM

Centre for Future Mobility Solutions

Towards Future Mobility Solutions
- Call for collaboration

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CERFUM

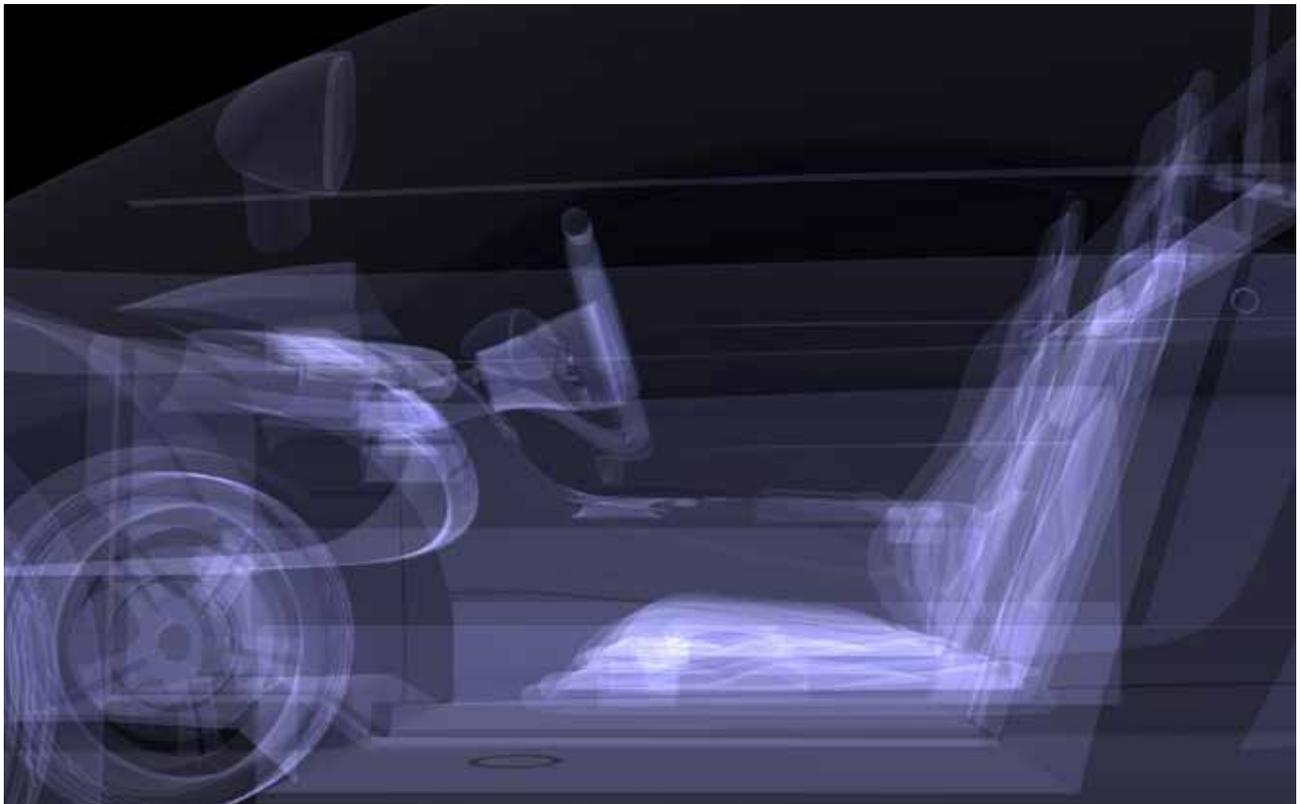


Centre for Future Mobility Solutions

Novel and enhanced modes of mobility for people, goods, and data are creating enormous opportunities and also pose substantial technological and societal challenges before us. Such systems bring about huge opportunities regarding more efficient, more sustainable, more comfortable, and safer transport, and at the same time bring about interesting challenges. The complexity of these challenges requires integration of engineering, business and user research.

Mobility is very broad and can have different connotations in different contexts. Our focus on mobility solutions pertains to *cyber-physical systems designed to facilitate movement and transport for human beings and goods that create value*. Examples of such solutions include cooperative, automated and autonomous intelligent transport systems and their placement within smart cities.

To meet these opportunities and challenges Halmstad University is planning for a new Research Centre – CERFUM – Centre for Future Mobility Solutions. The centre will be a joint research initiative together with industrial partners. The goal of the centre is to integrate university and industrial strengths to create holistic mobility solutions.



Towards Future Mobility So

Research orientation

We solicit ideas regarding the research activities foreseen by our industrial partners. Examples of such activities include:

- supporting multi-perspective (business, user, engineer) view of the innovation process
- devising scalable and accessible model-based methods, and developing a common demonstrator, and
- producing training and teaching material both for industry and academia

Challenges

The centre will respond to the internationally recognized need for system-level methods for the design of safe and secure mobility solutions.

Examples illustrating this need include:

- The vehicle industry is concerned that ICT is changing the business process landscape, safety testing, and the engineering process
- The research community faces a wide range of fundamental associated technical challenges
- The users engage with technologies that change the urban landscapes and their behaviors.

Call for partners

Halmstad University together with a number of partners will join to meet the challenges in the area. We are now looking for companies who want to take part in this work, and together with other companies and researchers from the university investigate the possibilities and challenges in Future Mobility Solutions.

Co-production

The work within CERFUM will be carried out in cooperation between academia and the industrial partners. This will be done in a number of co-production projects with different directions and in different constellations. Co-production is the process where knowledge is produced and adopted by several players – most often the business and academic worlds - and the resulting profit or value is different for the different producers. Agreements regarding different aspects including IPR will be signed for all projects.

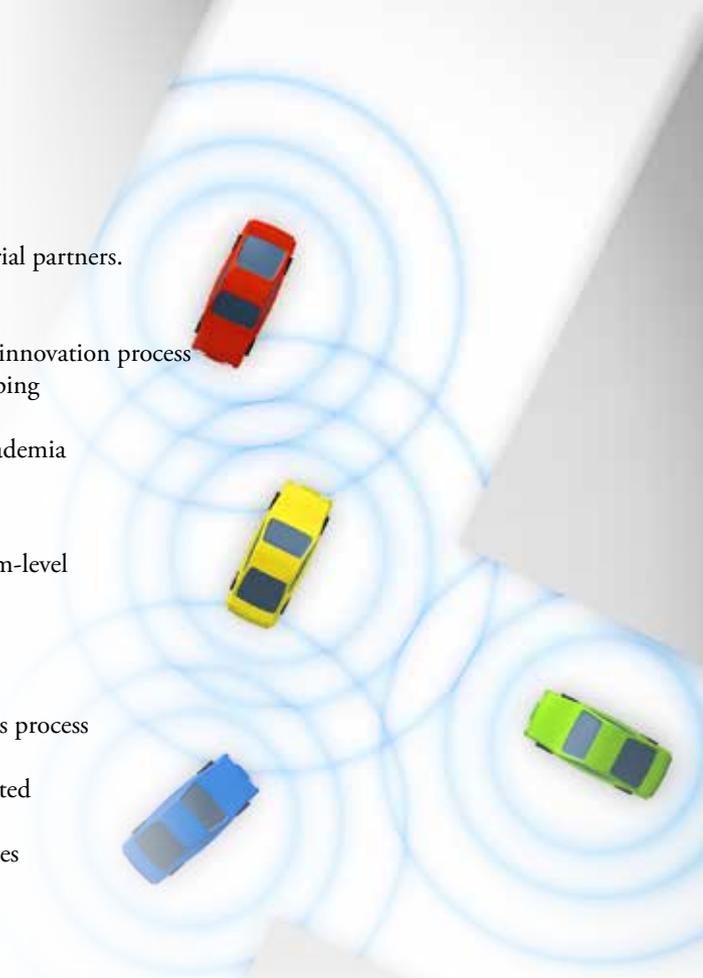
Halmstad University will apply for funding from The Knowledge Foundation. The profile will run for ten years and consist of two five-year periods. Like many other joint research projects, CERFUM will be co-funded by its partners. The co-funding can be done in different ways, a common way is to do it in kind, where the partners put in work efforts in the projects.

Example research questions:

How do we devise innovation processes that are informed by user and business concerns?

How do we extend traditional ICT testing and verification methods to cyber-physical/human systems (CPS)?

How do we engineer systems that will operate safely and securely in a wide range of distinct scenarios and in the presence of uncertainty?





Interior from Halmstad University's GCDG 2016-car. GCDG (Grand Cooperative Driving Challenge) is a competition where the teams turn an ordinary car into one which is self-driving and that has the ability to communicate with other vehicles in traffic. Here are Cristofer Englund, researcher and Thomas Rosenstatter, master student, inspecting the sensor signals in the trust system. The team from Halmstad University won the 2016 competition among the ten European teams.



About Halmstad University

Halmstad University has always been characterized by new ways of thinking and innovation. At Halmstad University, researchers are working across field boundaries to develop the knowledge required to solve challenging problems. Halmstad University has a tradition of practical applied research, which is conducted in close contact with industry and commerce, organizations and the public sector. It provides researchers with ideas for interesting research issues and real problems. This way, research will naturally come to use.

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