Euro-CASE Annual Conference 2016

Midday Session: SMARTER SOCIETIES

ATV

Date	Monday 14 November 2016
Venue	Meeting Room S09, ground floor, DTU

Midday session on Smarter Societies

European governments have an ambition of transforming their countries and cities into smarter societies. In general, this means ICT improved utilization of infrastructures as well as the creation of new and more intelligent services to the citizens, industries and society in general. The vision of smarter societies includes increased energy efficiency, improved mobility, increased health, and a higher quality of life for citizens as well as improved framework conditions for business.

At the core of smart societies lies the development of smart transportation systems, smart city concepts and smarter energy systems, including smart grid solutions. In most of these areas, Denmark has been in the forefront as a so-called “green” nation. In this session, you will meet some of the Danish frontrunners within the field of smart societies.

About the moderator and speakers:

Kim Guldstrand Larsen is a professor in the Department of Computer Science at Aalborg University within the Distributed, Embedded and Intelligent Systems Unit and director of the ICT-competence center CISS, Center for Embedded Software Systems. He is also director of the Sino-Danish Basic Research Center IDEA4CPS, the Danish Innovation Network InfinIT, as well as the newly founded innovation research center DiCyPS: Data Intensive Cyber Physical Systems. He is the Danish national expert on the EU ICT Committee. In 2013 he was the recipient of the CAV Award for his work on UPPAAL as "the foremost model checker for real-time Systems". Since 2016 he has been appointed INRIA International Chair for a 5 year period. In 2015, he won an ERC Advanced Grant with the project LASSO for combining model checking and machine learning. Also he was awarded the prestigious industrial Grundfos Award 2016.

Kristian Torp is an Associated Professor at the Daisy group, Department of Computer Science, Aalborg University, Denmark. His research interest covers spatial and-temporal databases in particular efficiently handling very large set of GPS and CAN-bus data. His research is strongly related to the two major questions how to deal with congestion and how to lower the CO2 emissions from the transport sector?

Kim Brostrøm is Head of DOLL Living Lab, Chief Technology Officer (CTO), GATE21, Responsible for establishing - DOLL Living Lab sponsored by The Danish Energy Agency, The Capital Region of Denmark, Region Zealand, The Technical University of Denmark (Risø) and a larger numbers of municipalities in Denmark. He holds a Master Sc. in Business Economics. Previously held positions eg. CTO and Project Director, DR (Danish Broadcasting Corporation) with Executive responsibility for establishing DR’s IT infrastructure, application portfolio and the technical production facilities.

Alfred Heller is Associate Professor from DTU Civil Engineering with a PhD in large-scale solar heating for district heating. He is Vice leader of the Center for IT-Intelligent Energy (CITIES) and researcher in the EnergyLab Nordhavn and other Smart Cities research, development and innovation projects. Internationally these activities are organized in amongst other IEA EBC Annex 67 and 63 and EERA cooperations between universities.

13:50 **Welcome and setting the scene:**
Professor Kim Guldstrand Larsen, Aalborg University, and Director DiCyPS

The presentation will give an overview of the visions and key challenges of Smarter Societies. Focus will be on the vision of smart societies as a driver for increased competitiveness of cities, regions, and companies by provision of public services to citizens. Examples from international smart city initiatives as well as from the Danish DiCyPS and CITIES project will be given, setting the scene for a vision for a Smarter Denmark.

14:00 **Quantifying traffic using large sets of GPS data**
Kristian Torp, Associate Professor, Aalborg University

Congestion is a major problem in many cities around the world. To quantify the congestion many solutions relies on adding expensive equipment to the road network such as cameras or loop detectors. However, with the proliferation of GPS devices it has become inexpensive to collect large data sets from the vehicles. This talk will provide concrete examples on how GPS data can be used to quantify congestion, compute turn-times in intersections, and find drivers preferred routes.

14:25 **DOLL - Lighting Up the Future of Smart Cities · Intelligent Lighting Systems · Smart Urban Services**
Kim Brostrøm, Head of DOLL Living Lab, and CTO, Gate 21

DOLL a National Green Lab for Lighting & Smart Urban Technologies
A global shift in technologies and a new focus on the impact of light on human health is emerging. Municipalities are facing massive investments due to legislation. At the same time, new photonics technologies will help reduce carbon emissions, renew the way we create energy, improve life and health quality and make urban life work.

DOLL Living Lab – Europe's largest showroom & test field for intelligent Lighting and Smart urban Services. DOLL is hosting an ecosystem consisting of companies within the area of Smart Lighting and Smart City development and innovation.

14:50 **Intelligent and Integrated Energy Systems and Cities**
Alfred Heller, Associate Professor, DTU

Cities are hubs for all types of networks and systems, comprising most human endeavor in a very limited space. Hence sustainable development has to take place in cities. The presentation will give some examples of technical solutions that involve various aspects of city technology and human interaction.

15:15 **Panel debate – SMART Denmark – visions and challenges**

- *Kristian Torp, Aalborg University*
- *Kim Brostrøm, DOLL*
- *Alfred Heller, DTU*
- *Kim Guldstrand Larsen, Aalborg University (Moderator)*

15:55 **Summing up**
Kim Guldstrand Larsen, Aalborg University

16:00 **Return to main hall "Glassalen" on ground floor**