KØBENHAVNS KOMMUNE
Teknik- og Miljøforvaltningen
Center for Ressourcer

Njalsgade 13, 4 Vær. 4092
Postboks 457
2300 København S

Att: Søren Kvist

17. juni 2013
nan/doho

DTU Statement regarding Copenhagen Connecting

DTU has had a good cooperation with City of Copenhagen over the last years on areas such as environmental technologies, transportation infrastructure, green growth and smart cities. Recently, DTU has taken active part in the effort that the City of Copenhagen is giving to the thorough and ambitious work to develop future street lighting.

DTU has been asked to give a statement concerning the Copenhagen Connecting concept with regard to the possible impact on the development of new technologies.

In regards to the proposed concept Copenhagen Connecting DTU has involved experts from a range of Departments to give a first indication of possibilities and challenges:
DTU Compute: Jan Madsen, Vice Director, Henrik Madsen, Professor, Peder Bacher, Post Doc
DTU Transport: Otto Anker Nielsen, Professor
DTU Civil Engineering: Henrik Stang, Vice Director; Alfred Heller, Associate Professor
DTU Environmental Engineering: Karsten Arnbjerg, Associate Professor
DTU Photonics Jakob Andersen, project manager DOLL
DTU Electrical Engineering Olav Breinbjerg, Professor, Michael A. E. Andersen, Professor
DTU Space, Per Knudsen, Head of Geodesy

Highlights of the comments and areas of interest:

- Mobility
  Smart monitoring, control and regulation of traffic may be enabled by integrating sensors in outdoor streetlights and traffic lights.
  Higher system reliability due to built-in redundancy in the system and a relevant and price competitive system for congestion charges/road pricing compared to GPS based systems or toll booths – DTU Transport
- Person navigation
  Geo Location is the key to actual and relevant information – utilize future satellite navigation systems and WiFi access points for person navigation - DTU Space.
- Data
  Data management and network of sensors for energy system integration, district energy management, drainage systems (cooperation with HOFOR and Krüger).

Danmarks Tekniske Universitet
Direktionen
Anker Engelunds Vej 1
Bygning 101
2800 Kgs. Lyngby
Tlf. 45 25 25 25
Dir. 45 25 71 20
Fax 45 93 40 28
nan@adm.dtu.dk
www.dtu.dk

Layers of the OSI (TCP/IP) standard and upcoming new standards that require lobbying in order to secure Danish interests – DTU Compute

- Water
  The infrastructure may enable a new set of solutions for managing water and for adapting to climate changes. Management of water supply and water drainage – existing sensors are expensive and high maintenance cost. Improved water supply, better recycling of water, reduced water wastage.
  The new ways of managing storm water on surfaces may require higher level of storm water monitoring and the infrastructure may be a relevant part of this – DTU Environment
- Flexible backbone
  The overall infrastructure may be layered to ensure robust and long-term sustainable backbone and hardware infrastructure and flexible and exchangeable soft layers on top. From the world of smart phones and their apps, we find that you never know, what your ”app” or ”service” will be used for. A CPH infrastructure should therefore be flexible and adaptable similar to the app world. Data should be open and accessible through open standardised interfaces.
  The system may be able to tackle the big challenge of integrating existing buildings in a smart grid at an effective and cost efficient way – DTU Civil Engineering.

In the light of the statements from the above scientists indicates that Copenhagen Connecting will become an relevant and suitable platform for DTU in regards to data deriving from the platform and in regards to test and demonstration of state of the art technologies within areas such as LED lighting, transport systems, water management systems, welfare technologies and smart grids. The data deriving from the platform can be used in many ways, for improving e.g. health, logistics, urban life experiences, water management and mobility, and may be core to much research at DTU once available.

In our view, the City of Copenhagen has a unique opportunity to become a “smart city” with Copenhagen Connecting and thereby become even more attractive to business, citizens and cutting edge research.

DTU supports the City of Copenhagen’s “Copenhagen Connecting” vision and DTU will be interested in contributing in workshops to identify technological challenges and opportunities as well as international best practice.

DTU propose to facilitate a short and focused process for providing City of Copenhagen with recommendations for an intelligent street light system that balances new features with known and proven technologies.

DTU sees many opportunities for cooperation in relation to Copenhagen's plans for new street lighting and look forward to continuing the discussion with the City of Copenhagen, on how cooperation can actually unfold.

With kind regards

Niels Axel Nielsen
Senior Vice President
Technical University of Denmark