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Att: Søren Kvist

Aarhus, 6 August 2013

Statement by the Alexandra Institute regarding Copenhagen Connecting

The Alexandra Institute has been working in the area of Smart City based on verticals such as Energy, Transport, Experience Economy, Tourism, Health Care for a considerable time now, demonstrating many installations, applications and services across Denmark and in Europe.

In addition to earlier architecture and design based ICT activities focussing on urban spaces and interaction, the Alexandra Institute in 2012 launched a new lab called the Smart City lab moving from the distinct vertical domains to a holistic smart city and urban design approach. Since then, the concept of Smart City platforms including novel, applications, services, and installations has been demonstrated or is in progress of being demonstrated in cooperation with the Alexandra Institute in several locations including Aarhus, Horsens, Roskilde and Kalundborg (DK), Santander (ES), Birmingham (UK), Berlin (DE) and Trento (IT).

Specifically the developments from Smart Aarhus (odaa.dk), Smart Santander (smartsantander.eu) and the Future Internet Private Public Partnership provide a solid basis for building smart city platforms.

In regards to the proposed concept of Copenhagen Connecting the Alexandra Institutes appreciates and sincerely welcomes the grandness of the undertak-

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ing. Cities are well-formed structures; physically, organisationally and socially – any transformation is a big step, which cannot be taken lightly.

The Alexandra Institute has involved the following heads of research and innovation under the guidance of the Director Ole Lehrmann and Vice-Director Martin Møller to give a first indication of possibilities and challenges:

- Mirko Presser, Smart City Lab
- Camilla Kølsen, Business And Processes Lab
- Jesper Mosegaard, Computer Graphics Lab
- Kaj Grønbæk, Interactive Spaces Lab
- Eva Bjerrum, New Ways Of Working Lab
- Lone Faber, Pervasive Healthcare Lab
- Morten Kyng, Pervasive Healthcare Lab
- Tejs Scharling, Pervasive Positioning Lab
- Jakob Illeborg Pagter, Security Lab
- Peter Andersen, Software Infrastructure Lab

Aligned with the ideas brought forward under the umbrella of Copenhagen Connecting, the Alexandra Institute sees three key areas of great relevance to its own research and innovation activities:

1. Development of ICT platforms, specifically for Smart Cities, but also applicable to sectors including Telemedicine or Smart Grid.
2. Development of novel applications, services, and installation including the analysis, interpretation, and communication of big data in and across sectors, as well as applications and installations for novel educational and cultural experiences
3. The evaluation of the impact of ICT in the city on citizens, economic growth, organisation, policies and decision-making processes.

In more detail the following areas are of specific interest, and as indicated the Alexandra Institute has experiences from earlier projects in many of the areas:

Platform thinking:

- **Connectivity:** to support connectivity of people (fixed and mobile Internet) and things (Internet of Things), including security, trust and privacy considerations when and where appropriate.
- **Big Data and Open Data:** to support the flow of information from a vast number of ICT systems, data bases and services and towards a trans-

parent governance of cities (Open Data) as well as the analysis and pattern recognition of yet unknown concepts in cities (Big Data), specifically with the aid of visualisation and analytics.

- A soft-infrastructure alongside the hard infrastructure: To support the federation of sectors (Energy, Health, Transport, Citizen Services, etc) under a common IT strategy targeting procurement, organisation, policies and decision-making.
- Robust and ruggedized sensing, energy harvesting, networking, and interaction technologies for outdoor interactive installations covering the spectrum from environmental sensing to interactive playing and sports experiences.

Applications and Services:

- Sustainability, Energy, Transport and the Environment such as Smart Phone based transportation analysis (EcoSense).
- Apps for Museums and cultural communication (Aarhus Festival, Sculpture by the Sea in Aarhus, and Digital Threads - Augmented Reality app –for Museum Midtjylland).
- Tracking and Logistics in hospital and general city environments.
- Healthcare and Telemedicine applications.

Urban Installations:

- Digitally augmented playgrounds (PIXLPark in Roskilde, and Swing-Scape in Horsens).
- Digitally augmented sports grounds (Football Lab in Herning).
- Storytelling Benches (Copenhagen Municipality).
- Outdoor School applications (Hasle Bakker, Aarhus).

The City of Copenhagen has a timely opportunity to make the most of Danish and International research and innovation efforts towards becoming a flagship smart city globally, building on strengths from the Cleantech experiences and mobilising additional experiences from national and international resources.

The Alexandra Institute supports the City of Copenhagen's "Copenhagen Connecting" vision and the Alexandra Institute is interested in contributing to the further concretisation and subsequent development of Copenhagen Connecting.



Sincerely

A handwritten signature in blue ink, appearing to read 'Ole L. Madsen', with a long horizontal flourish extending to the right.

Ole Lehrmann Madsen

Director of the Alexandra Institute