Nokia Research Center
Call for Proposals 2009
Research Areas - Helsinki

Proposals are encouraged in the following areas:

Technologies for solution delivery platform

Currently mobile devices are mostly used as terminals to access and manage information stored on centralized servers. In the future the connectivity between various heterogeneous devices and their increased capabilities (high processing power, large memory, context awareness) will be more efficiently used to offer solutions that are more tightly integrated with them. This will both enable totally new types of services and make the offering of current services more efficient. The technologies in this area include but are not limited to the following:

- Cloud computing
- Sensors and algorithms for immersive interaction
- Parallel computing models, languages and power-efficient architectures
- Technologies for machine reasoning

New ad-hoc service paradigm

Enabling "everybody" to become a service innovator and provider requires new architectures, which more efficiently allow for the composition of dynamic services that at any given time match end users' context (location, peer-group, task, interest etc.). This requires solving research problems at least in the following technology areas:

- Dynamic data management
- Machine reasoning as a service
- User privacy
- Distributed processing platforms (e.g. Distributed Gaming Platform, Local Distributed Search Engine)
- Dynamic mash-up of services

Technologies for future low carbon society

Environmental sustainability calls for a transition to a low carbon society by 2050. Currently CO2 emission from individuals and consumers comes primarily from three sources: housing, travel and food. The Information and Communication Technology sector (ICT) is responsible for only ~1% of CO2 emissions globally but smart ICT applications could enable a 15% reduction in CO2 emission from other industry sectors. There is therefore a clear intersection between information and energy efficient technologies. Interesting investigation areas at this intersection include but are not limited to:

- Packaging and recycling technologies
- Technologies for smart logistics
- Technologies for smart supply chain management and sourcing

User needs and behaviors in mobile domain

The mobile device business has proceeded beyond HW miniaturization and feature competition towards usability differentiation. What are the unique user needs and behavioral models associated with mobile devices? Especially those behavioral models that are better for mobile usage compared to PC usage. The topics of interest include:

- Novel means to consume current Internet content through mobile devices and their accessories
- Mobile user generated content
- Mobile user generated services, which may require novel input mechanisms