



Project Title: Mobile IoT

Project Leader: Sun Sumei (I²R)

Project members: Hiroshi Emoto (NICT), Fumihide Kojima (NICT), Kentaro Ishizu (NICT), Nobuyuki Asai (NICT), Hoang Vinh Dien (NICT), Thu Ngo-Quynh (HUST), Giang Nguyen-Linh (HUST), Binh Huynh-Thanh (HUST), Nordin Ramli (MIMOS), and Ernest Kurniawan (I²R).

Budget: USD 79,370

Duration: 1 April 2016 – 31 March 2018

Target of this project: We consider a Mobile IoT deployment with multiple sensor nodes and mobile gateways, and addressed some challenges pertaining to connectivity optimization, node placement, protocol stack development, and low latency scheduling. We also developed some testbeds to demonstrate the potential of the technology in addressing real world problems such as environment monitoring, video surveillance, as well as wireless grid application.

Findings and Outcomes:

- Dynamic prioritization mechanism in LTE network
- Node placement for coverage and connectivity optimization among sensors, gateways, and sinks.
- Low latency scheduling for large scale networks
- System testbeds of Mobile IoT applications.

Collaborations:

- Discussions and idea exchange among the members from NICT, I²R, HUST, and MIMOS.
- Joint authorship of papers by HUST and I²R.
- Jointly develop system testbed of Mobile IoT addressing different application scenarios.

Broader Impact and Future Developments:

- Wider application of the technology in other countries, especially in the developing countries.
- Benefits other projects within ASEAN-IVO such as smart farming and smart aquaculture.

Social Contribution:

- Published several research articles on international conferences and journals.
- Contributed to standardizations and patents.
- Participated in public exhibitions and forums.