

Report of the 1st Conference of the Technical Committee on ICT in the Smart Grid (ICT-SG)

Takuro Sato[†], Noriyoshi Sonetaka^{††}
 Waseda University[†], NEC Corporation^{††}
 Chair[†], Symposium Chair^{††}

1. Introduction

The first Information and Communication Technologies (ICT) Smart Grid Technical Symposium organized by the ICT-SG Committee [1] launched in October 1st of 2010 was held on November 18, 2010 at Waseda University. The symposium was supported by IEICE, and the Mobility Technical Committee and the EV-ICT Technical Committee were organized by Technical Committee on ICT Smart Grid Executive Staff,

Chair	Dr. Takuro Sato
Vice Chair	Dr. Kenichi Mase
Vice Chair	Dr. Yasuhiro Daisho
Symposium Chair	Dr. Noriyoshi Sonetaka



Fig.1 ICT-SG Executive Staff: Chair Dr. Takuro Sato, Vice Chair Dr. Kenichi Mase and Dr. Yasuhiro Daisho, Symposium Chair(Secretariat) Dr. Noriyoshi Sonetaka.(from left to right)



Fig.2 1st Conference at Waseda University.

- 1st Conference General Information is
- ✓ Date : November 18, 2010
 - ✓ Venue : Waseda University
 - ✓ Number of presentations : 7 (5 invited and special presentations)
 - ✓ Number of participants : 235

The topics of the ICT Smart Grid Technical Symposium were environmental issues that remain to be resolved, including global energy issues and CO₂ emissions from electric vehicles, railways, transportation systems and smart houses/buildings integrated with ICT technology, the creation of new related industries, and how to achieve safe and secure societies. The symposium invited the leaders of companies worldwide with a record of excellence to clarify future industrial societies.



Fig.3 The ICT-SG Symposium Place full Attendees

2. Discussion

There were 235 attendees at the symposium, including representatives from domestic industries, universities and foreign companies. The attending companies included electrical manufacturers, telecommunications operators, car companies, and electrical power operators. The leaders of the symposium introduced future plans concerning environments issues and

presented recommendations on the reduction of CO₂ emissions.

The symposium consisted of the following presentations: Coordination by Dr. Noriyoshi Sonetaka(NEC).

Chair Presentation: (Opening)

Global industrial structure innovations are required to solve environment issues. Presented by Dr. Takuro Sato (Waseda University).

Vice Chair Presentation:

EV as a key product to solve the problem of CO₂ emissions will hold a 50% share within the car market and huge investments will be made throughout the world. Public transportation vehicles such as buses and trucks will be targeted initially for transformation. Presented by Dr. Yasuhiro Daisho(Waseda University).

Invited and Special Presentation



Fig.4 Guest Presenter, Mr. Masaki Ogata, Dr. Boutarou Hirosaki.(from left to right)

(1st Special Presentation)

The train is the ultimate ecosystem. Visibility efforts have been made for the vehicle, regenerative braking, and batteries. We build total ecosystems with feedback, including stations and shops, in addition to working with various technologies. Presented by JR East Vice President Masaki Ogata.



Fig.5 New Generation Hybrid train (in Japanese), presented by Mr. Masaki Ogata.

(2nd Special Presentation)

Smart communities create a sustainable society for industries and economies. The cooperation of academics, industry and government will play an important role in creating smart communities. “The crisis should not be used as an excuse to postpone crucial decisions for the future of our planet.” Presented by NEC Executive Advisor Dr. Boutarou Hirosaki.

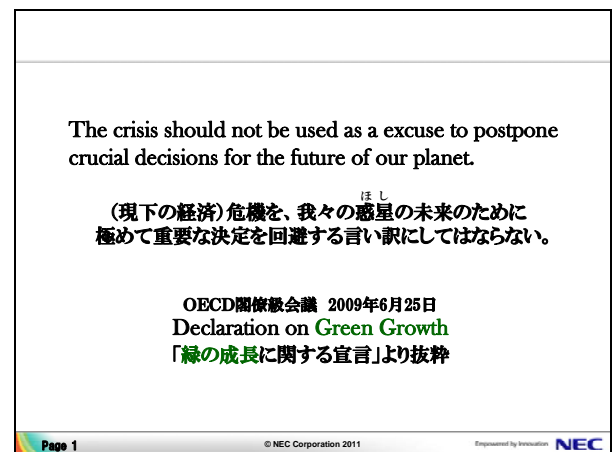
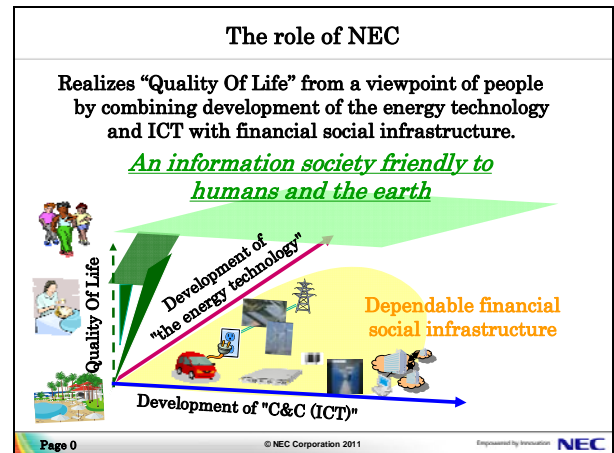


Fig.6 The concept of Next Generation C&C(3.0) & Declaration on Green Growth, presented by Dr. Boutarou Hirosaki.



Fig.7 Guest Presenter, Mr. Hiroshi Yamaguchi, Dr. Yuji Inoue, Dr. Ruichi Yokoyama.(from left to right)

(3rd Special Presentation)

High efficiency and low carbon power generation × smart electricity creates a smart grid. The power supply network of renewable energy, energy-saving system

support for the efficiency of power distribution, and higher reliability are issues that must be resolved in order to create a smart grid. Presented by Senior Managing Director Hiroshi Yamaguchi (Represented by Director Iio).

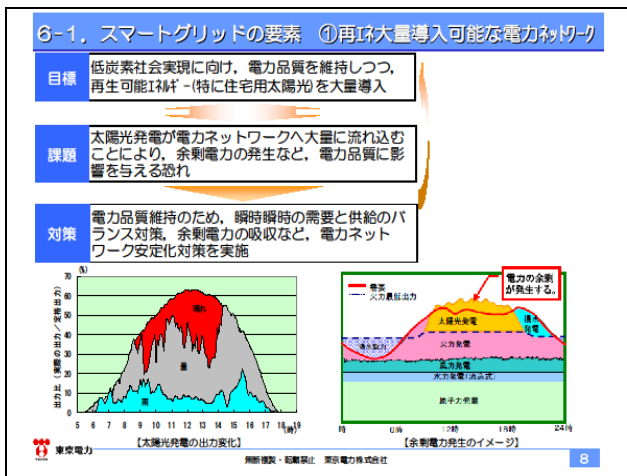


Fig.8 Grid Network in JAPAN (in Japanese), presented by Mr. Hiroshi Yamaguchi.

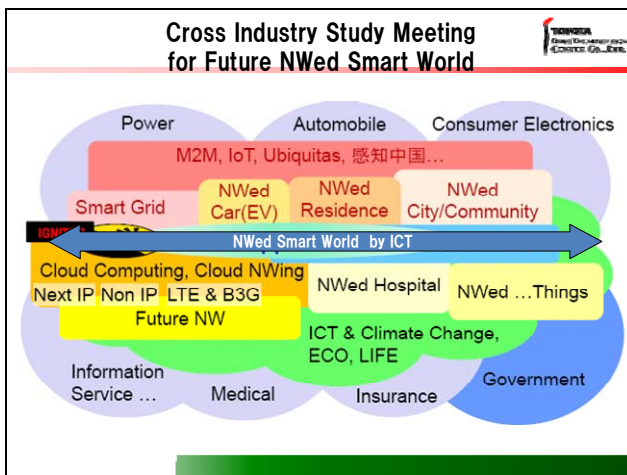
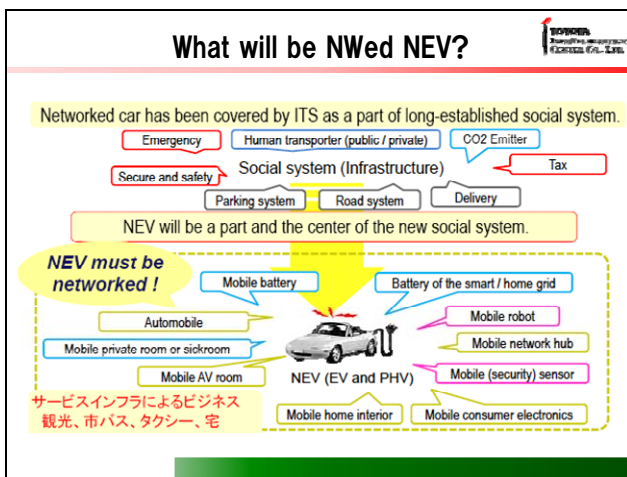


Fig.9 The concept of NWed NUV & Cross Industry Study Meeting for Future NWed Smart World, presented by Dr. Yuji Inoue.

(4th Special Presentation)

In accomplishing IP EV, there will be extensive competition for hardware design and it will be necessary to shift from hardware to software and system design to obtain discrimination in design capability. ICT as a tool solves the social challenges of the environment, poverty and health. Presented by Toyota ICT Center Chairman Dr. Yuji Inoue.

(5th Special Presentation)

Proposing an extended smart grid cluster instead of a next-generation smart grid, renewable energy instead of controlled energy, and an autonomous power system instead of a standard energy system. Presented by Professor Dr. Ryuichi Yokoyama, Waseda University.



Fig.10 Development of Japanese type Smart Grid (in Japanese), presented by Dr. Ryuichi Yokoyama.

3. Conclusion

The ICT-smart grid will require cooperation among different companies and industrial areas, and changing industrial structures are required at a scale never before experienced by mankind. In order to serve members of all different cultures and all different societies, a new concept of the world must be created. The second ICT Smart Grid Technical Symposium will be held on February 15, 2011. It will examine the viewpoints of industry and the university, and about the future prospects of ICT-SG will also be discussed.

[1] ICT-SG HP URL: <http://www.ieice.org/cs/ict-sg/>