Action for installation of UHDTV in Japan (political aspect)

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Toru Igarashi
Ministry of Internal Affairs and Communications
Japan
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Roadmap for the 4K/8K installation

- Establish the Roadmap for commercial viability and familiarizing of 4K/8K in Japan. (result from the Study Group on Upgrading of Broadcasting Service in May 2013)

- On the Satellite broadcasting service
  - “4K” pilot broadcasting will launch in 2014 (previous plan: in 2016)
  - “8K” pilot broadcasting will launch in 2016 (previous plan: in 2020)

<Target>
- “4K” and “8K” broadcasting will start in full swing in 2020.
- General public will be able to watch “4K” and “8K” broadcasting programs on TV in the marketplace.

- Acceleration of the 4K/8K broadcasting beginning period and driving the 4K/8K installation coupled with smart TV will be able to
  - Upgrade of Broadcasting Service,
  - Activate in the national equipment manufactures,
  - and Strengthen international industrial competitiveness.
Roadmap for the 4K/8K installation

- **Start of 4K broadcasting**
- **Start of 8K broadcasting**
- **Two years ahead of schedule**
- **Four years ahead of schedule**

- **Super Hi-vision (4K and 8K)**
- **Satellite Broadcasting (CATV / IPTV)**

- **Start of 4K broadcasting**
- **Start of 8K broadcasting**

- **4K**
- **8K**

- **2011**
- **2012**
- **2013**
- **2014**
- **2016**
- **2020**

- **The Shift to Digital Terrestrial Broadcasting**

- **Smart TV**

- **Brazil (Rio) World Cup**

- **Rio de Janeiro Olympics and Paralympics**

- **Tokyo Olympics and Paralympics**

- **Four years ahead of schedule**

- **Two years ahead of schedule**
Budget for the 4K/8K installation

MIC keeps the approx. 4.7 billion yen (45 million dollar) budget for the acceleration of the 4K/8K installation in recent 2 years.

FY2012 supplemental budget

**Budget: 3.1 billion yen (30 million dollar)**

Construct a test bed to verify the 4K/8K broadcasting technology through the satellite broadcasting

To verify
- the operation standard for 4K/8K broadcasting using advanced video coding (HEVC etc.)
- the signal multiplexing method corresponding to HTML5 browser etc.

Test bed is shown inside blue line area.

FY2013 supplemental budget

**Budget: 1.55 billion yen (15 million dollar)**

Develop and verify the necessary technology to accelerate 4K/8K installation.

To verify
- transmitting and receiving technology for 4K/8K
- Ultra high definition display technology
- Integrated broadcast-broadband technology applying 4K/8K
- Broadband transmission for 4K/8K via IP network
Promoting Formation for the 4K/8K installation in Japan

NexTV Forum
(Next Generation Television & Broadcasting Promotion Forum)
<established in May 2013>

1. Purpose

• Achieving the advanced broadcasting service (4K/8K, Smart TV etc.) ahead of schedule
• Spurring demand and encouraging the spread of advanced broadcasting service.

2. Activity

• Implementation of the advanced broadcasting service on trial
• Equipment of their service
• Development of the technical standard for their service
• Announcement to the public and sending information about the advanced broadcasting across the world
3. Member

- Broadcasting companies (terrestrial broadcasting, satellite broadcasting and CATV), Telecommunication companies, industrial manufacture companies, and Academic etc.

4. Organization

- General Meeting
- Board
- Honorary Chairman
- Secretariat
- Steering Committee
- Special Advisor

- Technical Committee: Verification technical matter, designing system, Standardization activity, etc.
- Content Committee: Making contents, sourcing contents, etc.
- Publication & announcement Committee: Publication activity, Press release, etc.
- Advanced Smart TV Committee: Studying the technical & business matter regarding the Smart TV, etc.
- Utilizing of 4K/8K & Smart TV Committee: Studying the utilization of 4K/8K & Smart TV (ex. Medical use, educational use, disaster prevention use)
## Example of 4K/8K installation activities in Japan

### 4K/8K trial transmission via Satellite network and Cable network etc. (After 2012)

#### 4K

<table>
<thead>
<tr>
<th>Organization</th>
<th>Date</th>
<th>Activity Description</th>
<th>Coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKY Perfect JSAT Corp.</td>
<td>Oct 2012</td>
<td>Trial transmission of 4K live program (via satellite network)</td>
<td>@H.264(MPEG-4 AVC) coding</td>
</tr>
<tr>
<td></td>
<td>Mar 2013</td>
<td>• Public viewing (Football game (J-league))</td>
<td></td>
</tr>
<tr>
<td>NexTV Forum</td>
<td>Nov 2013</td>
<td>Trial transmission of 4K live program (via satellite network)</td>
<td>@H.264(MPEG-4 AVC) coding</td>
</tr>
<tr>
<td></td>
<td>Dec 2013</td>
<td>• Public viewing (Music concert)</td>
<td></td>
</tr>
<tr>
<td>K-Opticom Corp.</td>
<td>Oct 2013</td>
<td>Trial transmission of 4K program (via optical fiber network)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Public viewing (Marathon event)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Real time encoding @H.265(HEVC) coding</td>
<td></td>
</tr>
</tbody>
</table>

#### 8K

<table>
<thead>
<tr>
<th>Organization</th>
<th>Date</th>
<th>Activity Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHK Science &amp; Technology Research Laboratories</td>
<td>Jul 2012</td>
<td>Trial transmission of 8K program (via IP network)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Public viewing (Olympic Games in London) (cooperate with BBC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>@H.264(MPEG-4 AVC) coding</td>
</tr>
<tr>
<td></td>
<td>Feb 2013</td>
<td>Trial transmission of 8K program (via Cable Network)</td>
</tr>
<tr>
<td>KDDI, KDDI Lab, Jupiter Telecommunication Corp.</td>
<td>Jan 2014</td>
<td>Trial long distance transmission of 8K program (via terrestrial broadcasting network)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• approx. 27km distance using 1ch in UHF band</td>
</tr>
<tr>
<td></td>
<td>Feb 2013</td>
<td>Trial transmission of 2K/4K/8K (via Cable Network)</td>
</tr>
</tbody>
</table>
Legal preparation of the technical condition for UHDTV

Up to now

- **May 2013**: started to study “the technical condition for UHDTV Broadcasting systems” in the information and communications Council.

- **31st Jan 2014**: made up the draft report of result of study for following item under the council.
  - “the technical condition for **UHDTV satellite broadcasting**” in the part of
    “the technical condition for UHDTV Broadcasting systems”

- **Feb 2014**: appeal for opinions on this draft report during a month.

Future plan

- **25th Mar 2014 (planed)**: will be reported (not draft) from the information and communications Council on “the technical condition for **UHDTV satellite broadcasting**”

- **After Apr 2014**: will revise the relevant provisions such as the ministerial ordinance; Ordinance Regulating Radio Equipment.

- **Jun 2014 (planed)**: These relevant provisions will be in force.
the requirement for UHDTV satellite broadcasting system

Fundamental Consideration

UHDTV satellite broadcasting system should be able to

• Provide High-quality images of UHDTV, multiple functions, variety and flexible services.

• Considering of the future technical trend, adopt the feasible technique and have scalability corresponding to future additional functions.

• Ensure interoperability with present broadcasting service and other digital broadcasting media as far as possible.

• Accept new service of the integrated broadcasting service working with communication networks.

etc.
Thank you for your attention

Toru Igarashi
t.igarashi@soumu.go.jp