

**Disseminating concepts of
information and communications accessibility to the world**

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Background.....	3
Part1: Standardization of Information and Communications Accessibility in Japan.....	4
1. Japan as an aging society.....	4
2. Trends in standardization activities.....	4
Start of accessibility-related standardization in Japan.....	4
Start of ISO work.....	5
Achievements in Japan.....	5
Information and communications accessibility standardization in Japan	8
Common standard development.....	9
Individual standard development.....	10
3. Impacts to industry.....	11
4. Necessity of international harmonization.....	12
Conceptual or practical.....	12
Qualitative or quantitative.....	12
Part 2: Lessons Learned from Activities in Japan and Hypotheses for Disseminating the Concept.....	14
Hypothesis 1:	14
Hypothesis 2:	14
Hypothesis 3:	14
Hypothesis 4:	15
Hypothesis 5:	15
Hypothesis 6:	15
Hypothesis 7:	15

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Hypothesis 8:	15
Hypothesis 9:	15
Hypothesis 10:	16
Part 3: Listening to Asia-Pacific Countries	17
Justification of Hypothesis 1 after consultation:	17
Justification of Hypothesis 2 after consultation:	18
Justification of Hypothesis 3 after consultation:	18
Justification of Hypothesis 4 after consultation:	19
Justification of Hypothesis 5 after consultation:	19
Justification of Hypothesis 6 and 7 after consultation:.....	20
Justification of Hypothesis 8 after consultation:	21
Justification of Hypothesis 9 after consultation:	21
Justification of Hypothesis 10 after consultation:.....	22
Recommendations:	23
Proposal of a new work item to ISO:.....	23
Attachment: New Work Item Proposal to ISO	25
Title of proposal:.....	25
Scope of proposed project:	25
Purpose and justification:.....	25
Target date of availability:	25
Relevant document to be considered:.....	26

Background

Our everyday lives are filled with a variety of information and communication equipment and services. As society becomes even more information-oriented, so we will become increasingly dependent on such equipment and services. Currently available equipment and services, however, do not always provide ease of use for all possible users. Typical groups that have poor accessibility are the elderly and people with disabilities. However, they are not the only ones who are experiencing difficulty in operating information and communications equipment such as PCs. Improved accessibility will have an impact on a greater range of users, and allow information and communications devices and services to penetrate deeper into our daily lives. To realize a highly information-oriented society, improvement of accessibility is an inevitable task.

Accessibility is also an important issue for people in developing countries. Whether they can access and create information through information and communications technologies will influence their future possibilities. The G8 nations' Digital Opportunity Task Force provided examples of how to improve information access by developing countries.² The Task Force provided various useful measures and recommendations.

Discussions continue in the United Nation system: The first "World Summit on the Information Society" (WSIS) organized by the International Telecommunication Union (ITU), was held in Geneva last December.³ The Summit identified a number of issues relating to information and communications accessibility.

We are now facing the related problem of how to disseminate accessibility standards for the elderly and people with disabilities to developing countries. In this paper, we will discuss the problem and make some recommendations.

² The Ministry of Foreign Affairs, "Digital Opportunity Task Force (DOT Force) Report on the State of Implementation of the Genoa Plan of Action (Outline),"

<http://www.mofa.go.jp/policy/economy/it/df0206.html> (2002)

³ The International Telecommunication Union, "World Summit on the Information Society," <http://www.itu.int/wsis/>

Part1: Standardization of Information and Communications Accessibility in Japan

1. Japan as an aging society

There is no doubt that Japan is a graying society. According to the 2001 edition of the White Paper on the Aged Society, Japanese aged 65 years or older accounted for 17% of the national population and the figure is expected to top 26% (approximately 33 million people) by 2015.⁴ In addition, statistics of the Ministry of Health, Labor and Welfare (MHLW) show that the number of adults and children with disabilities totals 3.34 million as of fiscal 2001.⁵

Discussions about accessibility for the elderly and people with disabilities are often held from the standpoint of social welfare policy. Yet, when people with temporary disabilities are included, the Japanese population targeted by these policies numbers several tens of million. They constitute a large and certain market. In addition, given the massive population scale, it is not realistic to treat these people as a merely requiring protection as traditional policies tend to do. Through improved accessibility to information and communications equipment and services, the elderly and people with disabilities will be able to contribute and participate more fully in society. Making better use of their abilities is essential to energize and develop the entire society.

2. Trends in standardization activities

Japan started standardization activities for the elderly and people with disabilities in the mid-1980s.

Start of accessibility-related standardization in Japan

The Ad-hoc Committee on Standardization for the Elderly and People with Disabilities in the Japanese Industrial Standards Committee (JISC) published a report in 1998.⁶ The

⁴ Cabinet Office, "Annual Report on the Aging Society: 2002"

<http://www8.cao.go.jp/kourei/english/annualreport/2002/02wp-e.html>

⁵ Ministry of Health, Labour and Welfare, "Review of Health and Welfare Measures for People with Disabilities," http://www1.mhlw.go.jp/english/wp_5/vol1/p2c4s2.html

⁶ Japanese Industrial Standards Committee (JISC) "Ad hoc Committee on Standardization for the Elderly and People with Disabilities (Summary),"

<http://www.meti.go.jp/english/aboutmeti/data/a234201e.html>

report emphasized the importance of standardization, established the direction of Japanese policymaking in this area, and has triggered various other standardization activities.

Start of ISO work

In 1998, in response to a proposal from Japan, the Committee on Consumer Policy (COPOLCO) of the International Organization for Standardization (ISO) adopted a resolution at its general meeting to set up a task force for the development of a policy statement on general principles and guidelines for the design of products and environments addressing the needs of older persons and persons with disabilities. This resolution is based on “universal design,” a concept of making all facilities, products and services accessible to anybody, whether the person is or is not older or disabled.

The ISO working group, chaired by Japan, produced general principles as ISO/IEC Guide 71 (Guidelines for standards developers to address the needs of older persons and persons with disabilities) in 2001⁷. The document serves as a comprehensive guide, applicable to all standardization activities.⁸

However, we must note that the Guide only showcases “the best practice” in standardization activities. It does not define any technical specification for accessibility of any product and/or service. Therefore, following the adoption of Guide 71, ISO sought to develop accessibility standards to be met by every equipment and service in respective areas such as information and communications. As described later in the report, a variety of activities are ongoing in Japan, partly because of its intention to take the lead in this area through making technical proposals to ISO.

Achievements in Japan

Table 1 shows a list of Japan Industrial Standard (JIS) standards already authorized in this area. (The list does not include information and communications related standards that are explained later in Table 2.) Of the 14 JIS standards, 11 describe technical specifications directly relate to usability and/or accessibility. Among them, S0011, S0012, S0022, S0114, S0137 were authorized in 2000, two years after the Ad-hoc Committee’s

⁷ International Organization for Standardization, “Annual Report 2001,” <http://www.iso.ch/iso/en/aboutiso/annualreports/2001/pdf/arpages11to12.pdf>

⁸ International Organization for Standardization, “Standards to address the needs of elderly and disabled,” <http://www.iso.ch/iso/en/commcentre/pressreleases/2001/Ref809.html>

report⁹.

While the S0021 standard determines general requirements for packaging and receptacles, the S0022 gives detailed specifications for opening such items. We call this structure a two-tier standardization scheme; upper-layer general requirements and lower-layer detailed specifications. (The methodology will be described in detail below.)

⁹ English translation of JIS standards can be searched at <http://www.webstore.jsa.or.jp/webstore/General/TitleFlowControl.jsp>

Table 1 List of JIS Standards for the Elderly and People with Disabilities
except Information and Communications Related Standards

Number	Title
G71	Guidelines for standards developers to address the needs of older persons and persons with disabilities
C9120	Guidelines for Usability - design of electric home appliances
S0011	Guidelines for all people including elderly and people with disabilities: marking tactile dots on consumer products
S0012	Guidelines for all people including elderly and people with disabilities: Usability of consumer product
S0013	Guidelines for all people including elderly and people with disabilities: Auditory signals on consumer products
S0021	Guidelines for all people including elderly and people with disabilities: Packaging and receptacles
S0022	Guidelines for all people including elderly and people with disabilities: Packaging and receptacles - Test methods for opening
S0023	Guidelines for designing of clothes in consideration of the elderly people
S0114	Guidelines for product information for consumers
S0137	Guidelines for instructions for use of products of consumer interest
Z8512	Ergonomics - Office work with visual display terminals (VDTs) - Guidance on task requirements
C0076	Fire hazard testing - Part 7 : Guidance on the minimization of toxic hazards due to fires involving electrotechnical products Section 1 : General
C0077	Fire hazard testing - Part 5 : Assessment of potential corrosion damage by fire effluent - Section 2 : Guidance on the selection and use of test methods
C0364 -2-21	Electrical installations of buildings Part 2 :Definitions Chapter 21 : Guide to general terms
C0508-6	Functional safety of electrical/electronic/programmable electronic safety - related systems – Part 6 : Guidelines on the application of parts 2 and 3

Information and communications accessibility standardization in Japan

Activities started in the late 1980s to prepare separate accessibility guidelines for information processing equipment and telecommunication facilities. For information processing equipment, the Ministry of International Trade and Industry (MITI) was at the center of activities. As a result, “Accessibility Guideline for Use of Computers by People with Disabilities” was announced by MITI in 1995. In 2000 this guideline was substituted by a revised MITI announcement titled “Accessibility Guidelines for Use of Computers by People with Disabilities and Elderly.”¹⁰

For telecommunications facilities, an accessibility guideline for the use of telecommunication facilities by people with disabilities was announced by the Ministry of Posts and Telecommunications (MPT) in 1998, and a guideline for the creation of the Internet web contents accessible by people with disabilities was jointly announced by MPT and the Ministry of Health and Welfare (MHW) in 1999.¹¹

Each guideline provides abstract requirements for equipment and services rather than concrete standard specifications.

Guidelines for information processing equipment and telecommunications facilities, which have been independently developed in each field, should be consistent with each other as far as possible. Recent technological advancements are making the distinction between information processing and telecommunications increasingly blurred, and products in compliance with close but different standards may confuse consumers. Japan therefore decided to standardize accessibility guidelines by adopting a two-tier structure. Namely, a standard developed as an upper-layer general requirement identifies features common to all information and communications equipment and services. A JIS standard has been prepared as a design guideline to be applied in common and to be positioned above the guidelines for individual devices. A series of lower-layer standards for individual categories of equipment and services, such as information processing equipment, communication

¹⁰ Ministry of International Trade and Industry Notification No.362

¹¹ Relating Information can be found in Ministry of Public Management, Home Affairs, Posts and Telecommunications, “Information and Communications Policy in Japan, 2002,” http://www.soumu.go.jp/joho_tsusin/eng/Resources/AR2002/ar2002.pdf
Note, in 2001, administrative reforms brought the merger of many Japanese Ministries, the Ministry of Posts and Telecommunications (MPT) became the Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT); the Ministry of Health and Welfare (MHW) became the Ministry of Health, Labour and Welfare (MHLW).

facilities, office machines, software and the Internet, are being developed. The lower-layer standards will comply with the upper-layer common standard.

Common standard development

In 2000, activities to create a guideline common to all information and communications fields began. In September 2000, an internal organization of Japan Standards Association called Information Technology Research and Standardization Center (INSTAC) autonomously established the Standardization Investigation Committee for Realizing Barrier-Free Access to Information.¹² Based on the Committee's conclusions, the Standardization Investigation Committee for Improvement of Accessibility Common to Areas of Information Technology and Software Products was organized in April of 2001 within INSTAC, and started its activities as a body to carry out investigations entrusted by the government. (The author of this report, Hajime Yamada is the chair of this Committee.)

The committee structure is shown in the Figure 1.

The Ministry of Public Management, Home Affairs, Posts and Telecommunications (MPHPT) and the Ministry of Economy, Trade and Industry (METI) both support and participate in the Committee's activities. In Japan, where government bureaucracies tend to compete against each other, it is remarkable that the two ministries formed a system together in cooperation and with understanding of the importance of providing Japanese Industrial Standards (JIS) to meet the needs of the elderly and people with disabilities. Other groups and organizations that had independently been preparing guidelines and promoting relevant activities on accessibility also came together in the Committee¹³. In addition to the ministries and organizations, the Committee consists of accessibility experts and representatives from enterprises and societies for people with disabilities.

¹² H. Yamada, "Anyone should be Accessible to the Information," <http://www.jsa.or.jp/domestic/instac/committe/barrier-free/bf-b.htm>

¹³ Communications and Information Network Association of Japan, <http://www.ciaj.or.jp/>
Japan Electronics and Information Technology Industries Association, <http://www.jeita.or.jp/>
Japan Information Technology Services Industry Association, <http://www.jisa.or.jp/en/index.html>
Japan Business Machine and Information System Industries Association, <http://www.jbmia.or.jp/english/index.htm>
Japan Ergonomics Society, <http://plaza8.mbn.or.jp/~jes/e-index.html>
Association for Electric Home Appliances, <http://www.aeha.or.jp/>

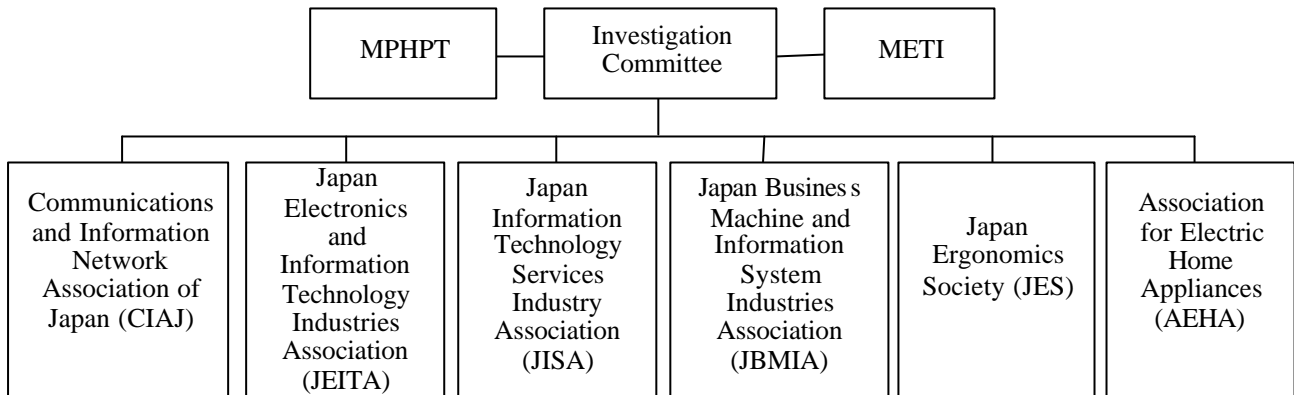


Figure 1 Structure of the Investigation Committee

The Committee achieved a draft common standard in the autumn of 2003 and it was approved by JISC in December, 2003. The standard will be published as JIS X8341-1 in May 2004.

Individual standard development

In 1999, MPT and MHW published a guideline for the creation of Internet Web contents accessible by people with disabilities. Based on this document, a basic concept for providing administrative information through electronic means was approved through inter-ministry meetings held during 2001. Following this, the Web sites of administrative organizations, i.e. national, regional and local government entities, are required to conform to the guideline.¹⁴

The JIS draft, which is slated to become the JIS X8341-3 standard, was prepared in accordance with the above Japanese guideline on Web content creation as well as the World Wide Web Consortium's (W3C) accessibility guidelines.¹⁵ The standard will be published in June 2004.

A guideline for computers has been developed by the Japan Electronics and Information Technology Industries Association (JEITA). The guideline developed by MITI in 1995

¹⁴ Government of Japan, "e-Japan Priority Program," see for example <http://www.kantei.go.jp/foreign/it/network/priority-all/6.html>

¹⁵ World Wide Web Consortium, "Web Accessibility Initiative (WAI) Guidelines," <http://www.w3.org/WAI/>

(described earlier) was used as the basis of the new guideline. The guideline was adopted as the JIS X8341-2 standard in December 2003 and will be published in May 2004.

Table 2 List of Information and Communications Related JIS Standards for the Elderly and People with Disabilities

Number	Title
X8341-1	Guidelines for older persons and persons with disabilities – information and communications equipment, software and services – Part 1: Common Guidelines
X8341-2	Guidelines for older persons and persons with disabilities – information and communications equipment, software and services – Part 2: Information Processing Equipments
X8341-3	Guidelines for older persons and persons with disabilities – information and communications equipment, software and services – Part 3: Web Contents

3. Impacts to industry

Standardization by JIS will enhance the spread of accessible equipment and services.

In 1995, the government announced guidelines for the criteria to be used in the general evaluation of contracts and tenders for the supply of computers and services to the government as an agreement among agencies and bureaus.

A statement in the announcement reads: “Items to be evaluated shall be established in conformity with the international and national standards.” Equipment and services supplied to the government are required to have been designed with consideration for accessibility.¹⁶

When the new series of JIS X8341 standards are published in 2004, government procurement processes will be required to check for conformity with this new national accessibility standard. It is anticipated that this may trigger an explosive spread of such

¹⁶ Cabinet Office, “Standard Guide for the Overall Greatest Value Evaluation Methodology Concerning Procurement of Computer Products and Services,” <http://www.kantei.go.jp/foreign/procurement/2000/at/at2-9.html>

accessible equipment and services in the private sector.

4. Necessity of international harmonization

Similar standardization activities are also progressing in Europe¹⁷ and the United States.¹⁸ Of course, the needs of the elderly and people with disabilities must be addressed globally, however, if standards differ too greatly from country to country and from region to region, it will not only confuse users but also create potential barriers to international trade. It is necessary to promote international activities to coordinate the standardization processes of various regions.

Different national approaches to accessibility standardization are highlighted when we compare the JIS X8341-1 standard and the United States' Article 508 technical specifications.

Conceptual or practical

The JIS standard demonstrates general accessibility requirements in information and communications equipment and services. It is conceptual and can be applied to products that do not exist at the time of its approval. On the other hand, the 508 technical specifications directly specify requirements for currently available products; they make practical recommendations.

It is necessary to decide which methodology we will adopt when making harmonized international standards.

Qualitative or quantitative

The JIS standard does not specify requirements in a quantitative manner. However, it gives general guidelines to industry that are then used like ISO system management standards, i.e. ISO9000 and ISO14000 series.

¹⁷ European Committee for Standardization, "CEN/ISSS Workshop in relation to Design-for-All and Assistive Technologies for ICT," <http://www.cenorm.be/iss/Workshop/dfa/default.htm>.

In addition information is provided in ETSI that organized a Workshop in 2003. See <http://www.etsi.org/cce/archives/programme.htm>.

¹⁸ US Department of justice, "Department of Justice Section 508 Home Page," <http://www.usdoj.gov/crt/508/>

Particularly, article 6.1 “Basic requirements for development and design” in the JIS standard is important because it asks corporations to establish internal management systems on accessibility. This article may have a great impact on industry's approach to accessibility issues.¹⁹

On the other hand, by providing a standard in a quantitative manner, we can judge whether a product complies with specifications in the standard.

¹⁹ Article 6.1 is read as follow. “Information accessibility developers should develop and design to ensure that information equipment and services meet the following basic requirements. Managers and administrators should be fully aware of development and design of accessible information equipment and services, and have concrete accessibility policy.”

Part 2: Lessons Learned from Activities in Japan and Hypotheses for Disseminating the Concept

We described standardization activities in the area of accessibility focusing on activities in Japan.

Various lessons from the Japanese experience were identified and we attempted to judge if they might be useful when considering how to disseminate the concept of information and communications accessibility to developing countries.

However, it is not certain that these lessons are actually applicable to developing countries; therefore they are presented first as hypotheses.

We verified their effectiveness and appropriateness of these hypotheses by consulting with experts in the Asia-Pacific and other regions. The verified conclusions and recommendations are given in Part 3 of this report.

Hypothesis 1:

The elderly can be regarded as people with medium-level disabilities. By including the elderly, the size of the accessibility market is significantly increased, becoming large enough to encourage private (profit-seeking) corporations to address its needs more aggressively. By providing appropriate accessibility standards to the public, the market will function more efficiently and effectively.

Hypothesis 2:

Assistive technologies must be developed for people with heavy disabilities whose needs cannot be fully covered by standard compliant products. When assistive technologies are expensive, social welfare concerns dictate that government support may be necessary. This mix of encouraging market mechanisms and social welfare policy will satisfy the needs of the maximum population.

Hypothesis 3:

The rapid aging of the Japanese population forced the national standardization organization to consider strategies for accessibility standardization. The same is happening in most other developed countries where populations are also aging. The recent recognition of the problems of ageing societies is the reason why standardization activities in this area

have emerged around the world over the past few years.

Hypothesis 4:

ISO's Guide 71 can be used as a general guide for standardization work for the elderly and people with disabilities. In this sense, it is true that the adoption of Guide 71 is a starting point. However, it is not enough to only adopt Guide 71. We need to start standardization activities to determine accessibility requirements in variety of product areas based on the procedures described Guide 71.

Hypothesis 5:

An international activity might be guided or led by developed countries that have experience with accessibility standardization activities. The participation of developing countries, however, is strongly encouraged in international standardization activities.

Hypothesis 6:

Standards for accessibility should cover a wide area of products and services, and because of their complexity, accessibility standardization processes are time and resource consuming. In order to make consistent standards it is recommended to follow a two-tier standardization scheme in which the upper-layer standard determines general requirements while lower-layer standards provide detailed specifications.

Hypothesis 7:

The two-tier standardization methodology provides the upper-layer general accessibility standard first. The common standard is applicable even to a product that does not exist at the time of standardization. Detailed technical specifications for individual categories of equipment and services are developed based on the common upper-layer standard.

Hypothesis 8:

Cooperation is required from various organizations to create the common standard. The successful establishment of a cooperative committee affects the success of the work.

Hypothesis 9:

Government procurement policies that require compliance with accessibility standards can

be an incentive for manufacturers to develop and market accessible equipment and services. It should be possible for developing nation governments to adopt such procurement policies.

Hypothesis 10:

Analysis of various national and/or regional accessibility standards should be undertaken, and discussion launched among countries about developing harmonized international standards that can also be utilized in developing countries.

Part 3: Listening to Asia-Pacific Countries

In 2003, we sent delegations to Australia, Thailand and Philippines to present the 10 hypothesis and to receive comments on them. In addition, we organized a first international symposium on information and communications accessibility in Tokyo on January 22, 2004, and invited speakers from Australia, Thailand, Philippines and Korea²⁰. These four countries and Japan have diverse cultures, levels of informatization, population size and density, and geography, and are considered a good mix of developed and developing economies.

Discussions with experts from Asia-Pacific countries are useful and meaningful to verify the effectiveness and appropriateness of the hypotheses developed based on experiences with accessibility standardization in Japan.

Justification of Hypothesis 1 after consultation:

Hypothesis: The elderly can be regarded as people with medium-level disabilities. By including the elderly, the size of the accessibility market is significantly increased, becoming large enough to encourage private (profit-seeking) corporations to address its needs more aggressively. By providing appropriate accessibility standards to the public, the market will function more efficiently and effectively.

This hypothesis was rejected on the basis that the ratio of the elderly in developing countries' populations is small, especially in least developing countries. An official of United Nation Development Programme (UNDP) stated that the main problems in developing countries are poverty and high infant mortality rates, not aging. For developing countries aging is a problem of "another world."

But at the same time we found that a large number of people with disabilities live in developing countries and local, national and international conflicts are increasing the number rapidly, for example in Cambodia, Afghanistan and Iraq.

It is therefore recommended that the phrase "people with widest possible range of abilities" is more appropriate when discussing the issue of accessibility at the global level since the

²⁰ See International Symposium on ICT Accessibility 2004 (ISIA2004) web site. <http://www.glocom.ac.jp/projects/accessibility>

phrase covers both the elderly and people with disabilities and does not highlight the difference between them.

Justification of Hypothesis 2 after consultation:

Hypothesis: Assistive technologies must be developed for people with heavy disabilities whose needs cannot be fully covered by standard compliant products. When assistive technologies are expensive, social welfare concerns dictate that government support may be necessary. This mix of encouraging market mechanisms and social welfare policy will satisfy the needs of the maximum population.

This hypothesis is well supported by developing countries.

As an element of an important national project, Thailand has a well established intensive development activity for assistive technologies. The project was initiated by an order of Princess Sirindhorn of Thailand in 1998. Other countries such as Philippines also emphasized the importance of assistive technologies.

Recommendation: It is very necessary to develop a set of national accessibility standards so that the widest possible ranges of people enjoy the usefulness of information and communications technologies (ICT.) It is also necessary to develop assistive technologies for people whose needs are not covered by standard technologies.

Justification of Hypothesis 3 after consultation:

Hypothesis: The rapid aging of the Japanese population forced the national standardization organization to consider strategies for accessibility standardization. The same is happening in most other developed countries where populations are also aging. The recent recognition of the problems of ageing societies is the reason why standardization activities in this area have emerged around the world over the past few years.

This hypothesis is true for developed countries. However, situations differ among developing countries.

We found that Thailand started a National ICT Master Plan in 2002, in which the issue of accessibility was included from the beginning.

The Information and Communications Ministry of Philippines fosters national informatization strategies in which the realization of accessibility is an item in the key issue list where the importance of provisioning of communications infrastructure is emphasized.

In developed countries communications infrastructure is already provided while in developing countries infrastructure provisioning and accessibility come in parallel. It is easier to provide accessible systems from the beginning than to add accessibility functions at a later point in time. Developing countries, therefore, have a possibility of leading developed countries in accessibility provisioning.

Recommendation: Developing countries should take accessibility into account when they develop national informatization strategies.

Justification of Hypothesis 4 after consultation:

Hypothesis: ISO's Guide 71 can be used as a general guide for standardization work for the elderly and people with disabilities. In this sense, it is true that the adoption of Guide 71 is a starting point. However, it is not enough to only adopt Guide 71. We need to start standardization activities to determine accessibility requirements in variety of product areas based on the procedures described Guide 71.

This hypothesis did not receive any objections, however, it is too "technical" from the viewpoints of developing countries.

Generally, developing countries only adopt international standards while developed countries create them. The hypothesis is a recommendation to standards developers and is therefore is of less direct interest to developing countries.

Justification of Hypothesis 5 after consultation:

Hypothesis: An international activity might be guided or led by developed countries that have experience with accessibility standardization activities. The participation of developing countries, however, is strongly encouraged in international standardization activities.

This hypothesis received a unanimous agreement from all countries we consulted. We propose a recommendation following the text of the hypothesis.

During the consultation, a unique comment was received from Australia. Australia has a very limited information and communications equipment manufacturing sector and most equipment is imported. Because it lacks manufacturing experience, Australia finds it difficult to participate in standards setting activities at the expert level. Nevertheless, Australia must participate in standardization activities to ensure the needs of end users are represented. This situation is true for the standardization of accessibility products and services.

Developing countries and even developed countries like Australia, with small domestic manufacturing sectors, can and shall participate in the standardization activities as users of standards.

This view shall be added to the recommendations.

Justification of Hypothesis 6 and 7 after consultation:

Hypothesis 6: Standards for accessibility should cover a wide area of products and services, and because of their complexity, accessibility standardization processes are time and resource consuming. In order to make consistent standards it is recommended to follow a two-tier standardization scheme in which the upper-layer standard determines general requirements while lower-layer standards provide detailed specifications.

Hypothesis 7: The two-tier standardization methodology provides the upper-layer general accessibility standard first. The common standard is applicable even to a product that does not exist at the time of standardization. Detailed technical specifications for individual categories of equipment and services are developed based on the common upper-layer standard.

These hypotheses received wide support.

Australian respondents supported the two-tier standardization scheme as it encourages the harmonization of a variety of product-specific standards.

Thailand has a willingness to use technical standards as a reference in legislation such as the country's Anti-Discrimination Law, and therefore expects the rapid development of international standards and understands the strategy of the two-tier scheme.

The Bureau of Philippines Standards started work preparing accessibility standards in the area of housing and construction. They want to expand their work to information and communications issues in the future and have an interest in strategies that speed up standardization processes in this area.

Countries generally support the two-tier standardization methodology. Information and communications technology is developing very rapidly and in such a changing environment it is very difficult for standardization processes to keep up with product developments. Consequently, a general guideline for all products including equipment and services is very helpful and welcomed.

Recommendation: Adopt a two-tier standardization process so that standardization is able to keep up with the speed of change in the information and communications industry.

Justification of Hypothesis 8 after consultation:

Hypothesis: Cooperation is required from various organizations to create the common standard. The successful establishment of a cooperative committee affects the success of the work.

This hypothesis did not receive any comment. The need of cooperation from various organizations is not an issue but a prerequisite to start standardization processes. Thus it is not necessary to write a recommendation based on the hypothesis.

Justification of Hypothesis 9 after consultation:

Hypothesis: Government procurement policies that require compliance with accessibility standards can be an incentive for manufacturers to develop and market accessible equipment and services. It should be possible for developing nation governments to adopt such procurement policies.

This is one of the most important hypotheses and received a unanimous agreement. We found that 1% of the Philippines government budget is spent promoting disability-related policies. Thailand has a National ICT Master Plan and the Strategic Plan of ICT Accessibility for People with Disabilities, in which a well established policy to provide ICT access is laid out. In Korea, the Korean Agency for Digital Opportunity Promotion was established in 2003. In addition, a policy called “Cyber-Korea” was initiated

in 1999, in which one goal was that everyone regardless of age, sex, location, occupation, and income should have an equal opportunity to access to computers and the Internet. In line with these policy goals, governments should of course prioritize procurement of accessible equipment and services in their contracting and buying practices.

The U.S. and European countries also consider government procurement is an effective tool to expand the size of the accessible information and communications market. When the U.S. 508 regulation was enacted, manufacturers immediately began to improve the quality and range of accessibility products. We interviewed the European Commission and found that the Commission is about to prepare a public procurement directive that mandates procurement of accessible products.

Government procurement amounts to 5% - 20% of Gross Domestic Product (GDP) in each country. The size of this market is clearly large enough to encourage businesses and manufacturers to move eagerly to meet accessibility requirements if they are a prerequisite to passing procurement procedures.

Recommendation: Government procurement should be used as a tool to expand the size of the market for accessible products and services.

Justification of Hypothesis 10 after consultation:

Hypothesis: Analysis of various national and/or regional accessibility standards should be undertaken, and discussion launched among countries about developing harmonized international standards that can also be utilized in developing countries.

The U.S. 508 technical specification received a weak support from the countries we interviewed, including the European Commission. Countries prefer international standardization and/or harmonization of regional practices to “importing” U.S. specifications.

The hypothesis was supported unanimously.

Recommendation: Begin international standardization activities as soon as possible in order to meet the needs of developed and developing countries.

It is also recommended that after studying and evaluating the pros and cons of various national standards, true international standards should be developed based on these evaluations.

Recommendations:

After consultation with Asia-Pacific countries we found some hypotheses were accepted while others were modified or rejected.

Based on the results of these consultations, we recommend the following.

To start international standardization:

1. An international standardization activity should be initiated as early as possible in the area of information and communications accessibility so that products meet the needs of people with widest possible range of abilities;
2. In international standardization, developing countries and countries with limited manufacturing activities should participate as users of standards in addition to developed countries who also participate in activities as the developers and manufacturers of products; and
3. Standardization should adopt the two-tier scheme, in which the upper-layer standard determines general requirements while lower-layer standards give detailed specifications. Standardization processes should be able keep up with the rapid changes in the information and communications industry.
4. One global standard should be developed after studying and evaluating pros and cons of various national information and communications accessibility standards.

To expand the size of accessible product and services market:

1. When governments develop national informatization strategies, the issue of accessibility should be taken into account;
2. Governments should use their public procurement policies to promote information and communications accessibility as an incentive to manufacturers to develop and market accessible products and services; and
3. It is, however, also necessary to develop assistive technologies for the people whose needs are not covered by standard technologies.

Proposal of a new work item to ISO:

Based on the confidence that an international standardization activity for information and communications accessibility is expected by both developed and developing countries, we,

Japan, decided to submit a new work item proposal to ISO.

The proposal will be presented in June 2004 to TC159 (Ergonomics standardization group.)

Attached is the current draft of this proposal.

Some sections of the draft are outcomes of the above recommendations, especially recommendations 1 and 3. The scope of the proposed project section begins "this standard is intend to provide general guidelines for planning, developing and designing information communication equipment and services to ensure their accessibility for people with the widest range of abilities including older persons and persons with permanent or temporary disabilities." The proposal will attach X8341-1 as a first working draft, the title of which is "Guidelines for older persons and persons with disabilities - Information communication equipment, software and services- Part 1: Common Guidelines." The scope of the proposal covers a wider range of people because it does not explicitly specify as target users older persons and people with disabilities. By adopting the above mentioned sentence, the proposal has a higher possibility of receiving support from ISO member countries.

The final sentence of the scope of proposed project section expresses that the standard will be an upper layer standard by saying that "Information communication equipment and services include information processing equipment, electrical communication facilities, office machines, software, the Internet, and other kinds of information communication equipment and services."

We anticipate ISO will accept this proposal and start to work on it soon.

Attachment: New Work Item Proposal to ISO

Title of proposal:

Ergonomics of human system interaction- Accessibility Guideline for information communication equipment and services - General Guidelines

Scope of proposed project:

This standard is intended to provide general guidelines for planning, developing and designing information communication equipment and services to ensure their accessibility for people with the widest possible range of abilities including older persons and persons with permanent or temporary disabilities (hereinafter referred to as the elderly and people with disabilities). Information communication equipment and services include information processing equipment, electrical communication facilities, office machines, software, the Internet, and other kinds of information communication equipment and services.

Purpose and justification:

There is growing awareness of the need to design products and services for use by the widest possible range of users including the elderly and people with disabilities. The elderly form an increasing proportion of the population and this trend will continue. The number of people with disabilities is also increasing. It is very important to provide information communication equipment and services that are able to be used by those people so that they can stay along with the development of information society.

With increasing amounts of accessibility-related legislation around the world (e.g. Section 508 of the US Federal Rehabilitation Act) there is an increasing industry demand for both hardware products and systems including software products to be accessible by people having the widest range of capabilities.

The content of the new standard will be reviewed in the context of the US Sec.508, European (CEN workshop agreement) and Japanese standards.

This standard would fit within the revised structure of ISO 9241 as part 20.

Target date of availability:

April. 2007

Relevant document to be considered:

Attached is an approximate English translation of a Japanese standard that can be used as a first working draft.