1st Round Table Conference on ICT International Competitiveness Summary of Minutes

1. Date and time: Thursday, October 19, 2006 16:30 - 18:20

2. Location: Special Conference Room No. 1, 8F Ministry of Internal Affairs and Communications

3.Attendees: Saito (Chairman), Murakami (Deputy Chairman), Arakawa (Member), Ito (Member), Uchida (Member), Ohtsubo (Member), Ogawa (Member), Onodera (Member),, Orita (Member), Kokuryo (Member), Gotoh (Member), Taki (Member), Doi (Member), Nagao (Member), Nakamura (Member), Hashimoto (Member), Hirose (Member), Yano Wada (Member), Suga (Minister), Tamura (Vice Minister), Taniguchi (Parliamentary Secretary), Aritomi (Vice-Minister for Policy Coordination), Shimizu (Vice-Minister for Policy Coordination), Matsumoto (Director-General for Technology Policy Coordination), Suzuki (Director-General of the Information and Communications Policy Bureau), Mori (Director-General of the Telecommunications Bureau), Terasaki (Director-General for Policy Planning)

4. Outline of proceedings

(1) Minister Suga gave an opening address at the beginning.

(2) Then followed the inauguration address of Chairman Saito.

(3) "Draft Meeting Guideline" (Document 1) was approved. It was agreed not to make public the Round Table Conference but to post the documents used and the outline of proceedings on the Web site of the Ministry of Internal Affairs and Communications.

(4) Based on the Meeting Guidelines, member Nishida and member Murakami were appointed Deputy Chairmen by Chairman Saito.

(5) "How to proceed with studies (draft)" (Document 2) was approved. The "Interim report" is expected to be prepared by the end of January and the "Final report" by the end of April. Specific discussions are expected to be made in each working group on "Next-Generation IP Networks," "Wireless," "Digital Broadcasting," "New Business and Basic Strategies." The Chiefs of each Working Group (WG) were appointed by Chairman Saito, and the members of each WG are to be appointed by the respective Chiefs.

(6) Comments were presented by the attended members. The comments of absent members were introduced by the Chairman. Major comments of members are given below. Based on these comments, it was decided to carry out specific studies in each WG.

○ The following three points are important for the relationship between the information communication industry and the international competitiveness: 1) Standardization of competitive technologies and their global dissemination, as well as the improvement of international competitiveness of software/hardware vendors through the standardization and dissemination; 2) Creation, development and global expansion of new businesses using broadband infrastructures developed ahead of other countries; and 3) Improvement of industrial competitiveness of Japanese companies in general through the provision of leading-edge ICT. On the other hand, we as a company will always stick to the following two points: 1) Continuous implementation of capital investment including investments in R&D and the establishment of a financial

basis that enables this; and 2) Active cooperation among companies regarding advanced technological strategies. We would ask the Government to address the following three points: 1) Environment improvement and tax/financial measures, such as a preferential tax system to promote advanced R&D and capital investments; 2) Enforcement of a country-level relationship toward the international standardization of Japanese technologies; and 3) Active adoption by public agencies and support for dissemination to overseas countries of advanced services and technologies developed in Japan. We hope to place Asia, which will rapidly develop in the future, as the target of our action towards the future growth of Japan.

- We must recognize that our low share in the world reflects the international competitiveness of Japanese ICT. In this regard, we cannot help being aware of the imbalance with the fact that the dissemination of broadband and mobiles within Japan ranks No.1 in the world. Although it may be a remote cause, cellular phones are substantially affected by European GSM and the unity within Europe. A great government-initiated strategy in the US is affecting the Internet. These two cases imply that Japan will be significantly affected in a decade or two unless the public and private sectors cooperate in taking strategic measures. What particularly matters when the network changes in the future to that of the next generation will be security, safety, convenience, and usability. Under the circumstances, the development of technologies and services is still required when taking into consideration the lower level of broadband and mobiles, and strategies that promote development are required on the part of the Government. Once these advanced technologies and services are achieved, a system will be required to attract the world's attention. Manufacturers are very weak in individual sales activities and thus a European-type sales effort that involves the joint effort of the public and private sectors may be required. In this regard, we need to learn various ways from Europe and the United States. Once international competitiveness is gained as a result, I believe that benefits will come back to Japanese citizens and consumers.

- Viewed from the relationship between the Government and industry, the emphasis has been placed on industrial policy in the 1980s. In the 1990s, the Government assumed a role based on the principle of competition, namely to accomplish the market mechanism, instead of supporting particular industries. Accordingly, the Government has also been mainly adopting a policy of competition in the area of ICT policy as well. Under such circumstances, we entered the 21st century, and what has been promoted since 2000 is the "Paradigm Policy." Government, academia, and industry share a paradigm one step ahead of the global market. The paradigm expands outside as the environment one step ahead is created. Meanwhile, the structure whereby both the industrial and academic circles have a premium of three to five years time is being constructed. The challenge is how we convert that into real power and that must be discussed here in a concrete form.

- While digital broadcasting has many advantages, perhaps greatest one is that image contents will be easier to use on a global scale. This is a good opportunity to create a situation to also send out contents to overseas countries and thus we are going to convey our particular desires, too. Former Minister Takenaka once said, "Since Japanese television stations face such tough competition at home, they will be able to achieve more if they have enthusiasm for selling abroad." We, too, would like to establish such an environment. Language barriers and cultural difference do exist, and it appears that the Asian region will be the best audience for Japanese dramas, for example. Actually, dramas sell well in Taiwan and Singapore, while not so well in China and Korea. This is attributable not to the details of the contents but to the circumstances of each country, such as the importing of foreign TV dramas banned under the law, or the tougher allocation of foreign currencies that prevents them from buying TV dramas. On the other hand, regarding copyright issues, we find a very complicated system of rights that needs to be made easier to understand. We should also consider creating a market aimed at international TV companies.

- In order to increase the international competitiveness of the Japanese ICT industry, we must focus on those points that will be key factors in a future society, and which we must attend at the national level by making the most of our strengths. The three keys in the ubiquitous society are: 1) Devices with which individuals can send and receive data to and from anywhere; 2) Networks that carry signals sent from individuals in various forms to other parties; and 3) "Personal terminal media" that realizes a ubiquitous environment without any individual terminal equipment carried as hardware by individuals. We would like to propose three national projects and a national strategy properly focused on these keys for such a ubiquitous society. The three national projects are: 1) Ubiquitous terminal national project; 2) National project for the network connection/integration technologies; and 3) Personal terminal media national project. This national strategy includes the development of an "Aggressive Terminal Strategy." The three national projects are conceived on the basis of looking for a place where terminals can exhibit their specialties, but the ultimate goal should definitely be to have international competitiveness in ubiquitous ICT. Thus, we should aim at acquiring international competitiveness also across the entire ubiquitous ICT through aggressive efforts starting from terminals. In order to enable the entire nation to share in this scenario of aggressive effort, the development of the scenario and the deliberation of basic policy for its realization will also require the joint efforts of the Government, academia, and industry.

- When studying strategies towards increased international competitiveness, it is necessary to identify markets and areas, such as the next-generation optical area and next-generation mobile area, where Japan may take international leadership, after having reviewed the trends and issues for each market and area. Next, concrete discussions are needed on how the Government, academia, and industry should share their roles in order to realize significant achievements. Discussions are also required concerning international standardization, intellectual property rights, human resource development, and R&D. In parallel with studies on

strategies for international development, it is essential to study the revitalization of the domestic market, where the basis of competitiveness is to be cultivated. It is important to create a market that leads technology development by actively adopting advanced technologies and to disseminate their utilization in the market, in medical care, in security and safety systems, and so forth, at the public's level. What matters is to foster the industry—including regulatory and tax reforms.

- As for the integrated promotion of R&D and the standardization of intellectual assets, it is necessary to promote purposeful and basic research at public research institutes and universities, while also looking at the acquisition of patents and standardization. It is also necessary to encourage cooperation between industry and academia after holding thorough discussions on strategically essential areas that will be important in the future, since acquisition of basic patents requires a huge amount of time and cost. For that purpose, it is necessary to improve the market environment through government procurement and regulatory reform—such as shared burdens of tax on R&D investments. We recognize that Japan is suffering from a significant shortage of human resources. When looking at the world, not only advanced nations but also countries such as Korea, India, China, and Brazil are striving to develop advanced ICT human resources as a national strategy. We must realize the importance of human resources in order to enhance the measures being taken by the Government and carry out a drastic reform of university education.

- In Japan, ICT, which has been promoted nationwide since the establishment of the IT Strategy Conference in 2000, has penetrated widely into economic society, and at the same time has become an important social infrastructure for the people. Even though Japan has many advanced technologies and services it is quite shameful that the global ICT markets are in reality dominated by Western companies. The ICT industry has entered a new stage of competition on a global scale, as next-generation services, such as NGN (Next-Generation Networks) and Web 2.0, are emerging. To

meet this opportunity, we would like to make various propositions by utilizing the knowledge and expertise that we have acquired through our businesses, such as handling ICT products at home and abroad, business deployment—such as cable television, television shopping, and contents distribution, as well as cellular phone business abroad.

- Japan has promoted export businesses in the ICT sector focused on communication equipment from 1970 to 1990, but now the business volume has decreased significantly, except for particular regions. One cause is that investment in basic infrastructures has almost been completed and the volume of improvement work of communication infrastructures by the Government's ODA has decreased in countries in Asia, Africa, and Central and South America. While the markets related to digital cellular phones and the Internet have rapidly expanded in the world since the mid-1990s, the business opportunities for Japanese manufacturers in both sectors have decreased as a result of promoted standardized specifications led by foreign manufacturers. Another factor is the increase in Korean manufacturers' share of the Asian region. To strengthen our international competitiveness in the future, it is essential for us to promptly address the global flow of new technologies and new services and to adopt and promote the new technologies and services developed in Japan as international standards.

- Environmental change is rapid in the ICT sector. This is not a subject of discussion in Japan alone, but the same thing is happening also in foreign countries, including the United States and European nations. Under such circumstances, it is urgently necessary for Japan to take advantage of being a pioneer in advanced infrastructures in order to increase its international competitiveness. Companies themselves should also secure their global competitiveness in order to survive in the rapidly changing ICT sector. At the same time, this situation provides us with an opportunity to work on new businesses, which leads to the provision of more convenient services to customers. It is most important to take the "viewpoint of customers" in proceeding with our

discussions.

- The industrial structure has changing from a labor-intensive to a knowledge-based society. The recovery of the industrial competitiveness of the United States and the rise of China and Korea has contributed to the declined international position of Japan. ICT, however, is an infrastructure for all industries, including not only the information communications industry but also the entire manufacturing area, distribution, and finance. It is the source of competitiveness among companies. Based on this recognition, it is essential that Japan should enhance its ICT technologies in sections where it is dominant and can be a leader in order to increase its international competitiveness. It is necessary to establish a system with the following major characteristics: 1) Research and development of basic technologies; 2) Improvement of vitality through tax reforms; 3) Development and effective utilization of human resources; 4) Securing of intellectual assets and promotion of international standardization; and 5) Promotion of innovation in business and technical development through cross-industrial cooperation.

- The speed of change necessary across the entire information communications industry is at the highest level in all aspects of technology, production systems, and corporate strategies. In the domestic information communications industry, we can recognize that we have insufficiently adapted to the accelerating globalized economy, in terms of our overall strategy—including areas other than technology, which is generally quite technically advanced except for raw materials and some product areas. Basically, adaptation to change must be addressed by individual companies under their respective corporate environments; however, it is also extremely important to create a major movement in Japan as a whole. For this purpose, it is necessary to grasp the current status empirically and share a vision of the future. In the Asian region, in particular, which is becoming the world's manufacturing plant, the role of Japan must be considered based on a wide range of issues, from raw materials to the information communications

infrastructure, and thus innovation and strategies for securing corresponding human resource development are essential. Since this involves issues that cannot be resolved through the market mechanism alone, a close cooperation between the Government, academia, and industry is required.

- It is also important to enhance the technology development ability for manufacturing high quality products and ICT is a vital means of achieving this. In order to manufacture products that will be globally accepted, they must be developed based on the needs of each region. With a view to maximizing output while cooperating with bases all around the world, and in considering their individual roles, a global network based on ICT is essential. The essence of our technical development is environment, safety, and comfort. To achieve them, we must enhance the various advanced technologies—including communication technologies—for which ICT is a vital factor. Japanese ITS has been attracting worldwide attention. If, in the future, the Government and industry jointly promote and bring about the international standardization of ITS as a pioneer, this will be a major contribution to the improvement of international competitiveness in the ICT industry. To make things at the lowest cost in the world is one source of competitiveness. Accordingly we are promoting efforts to improve corporate quality through a thorough exclusion of waste and uselessness—for which ICT is absolutely essential. In order to develop businesses at a global level, what matters is the development of key personnel, namely how to nurture human resources who support ICT.

- The point in developing programs and new technologies is just how much viewers and audiences need them. Programs need be reliable, beneficial, easy to enjoy, and, as a major objective, helpful in protecting citizens' lives and property. In light of this, our ultimate mission is how to develop programs that viewers and audiences want to watch. In addition, when we think of tools relating to new broadcasting, for example, high vision broadcasting, digital terrestrial broadcasting, flat-screen television, and one-segment broadcasting, the key is to think of what will be desired by

customers. When linking this matter to international competitiveness, based on our past experience, the most important basis for competitiveness is to undertake accurate research concerning the needs of the target country, develop what is needed, and then deepen the outcome obtained. In the general competitive system, people are indeed attracted by inexpensive products, but they will pay higher prices for what they really need. Basically, increased international competitiveness depends on how to respond to the needs of "desire to see" and "desire to use" contents or tools. It is important to know as much as we can about the circumstances of the site and of the country, and about the national character of the people.

- In the Japanese cellular phone market, 3G services are now penetrating ahead of other countries in the world. Sophisticated and diversified services have been realized, such as higher-function services and terminals, which are some of the most advanced in the world, connection to the Internet, cameras, and one-segmentation television. On the other hand, the global market is characterized by the GSM system which is different from that in Japan, and services and terminals are mainly based on voice, and low-end terminals provided by overseas vendors are mainly used. As a result, the price of Japanese terminals is higher due to their advanced functions, which causes a difference in pricing between Japanese and foreign terminals. This problem regarding cellular terminals is an extremely important point for enhancing the international competitiveness of ICT. Efforts are being made to increase the volume and lower the cost of terminals by sharing platforms through cooperation with domestic vendors, and promoting joint procurement through overseas operators. One of the aims of enhancing the international competitiveness of Japanese ICT is to disseminate the technical standards developed in Japan. Under the circumstances that almost no Japanese licenses are found when looking at 3G terminals, we must take initiatives in the international standardization of ICT from now on. We should also be working on strategies for intellectual property rights at a national level. In order to support the work, it is

necessary on the company side to continue to sustain R&D and capital investment.

- It is our mission to implement R&D for technologies five, ten, or fifteen years ahead, through our foresight. In addition, it is also one of our missions to engage in R&D to maintain a good relation between basic research in universities and R&D in companies. Accordingly, it is necessary to establish a close cooperative research system with universities and companies. In a similar way to countries such as the United States, such efforts will be required in order to develop new information communication-related products and markets with foresight. We must further consider how to build an environment that encourages cooperation with companies and universities. We must think of the larger market when generating innovation. Thus we must actively and systematically carry out technical and systematic developments by breaking down the means to achieve the end as to what sort of technologies and systems will be necessary in order to identify and realize our target, since we need to develop attractive products and systems with foresight. While Japan possess great strength individual technologies, products and parts, we are a step behind the United States and other countries in totally systemizing and making them in a form practically available in society. We cannot compete with the world unless we take the viewpoint whereby we imagine system integration and applications in society and think about ways to achieve them. To support this, it is necessary to further promote the standardization of technologies and human resource development.

- The technological power in the Japanese wireless sector is generally high, as we can see from Japan's contribution to the development of the third-generation cellular phone system based on ITU, and the early introduction of the system into domestic markets, as well as our advanced cellular phone terminals. As for the use of the advanced wireless network as an infrastructure, various applications have been realized through connections to the Internet and data communication traffic is now significantly increasing. As terminals with the functions of the so-called "purse cellular phone" have

penetrated the market, together with the diversifying settlement systems of consumers, the wireless sector has now become considerably influential in people's lifestyles and in social systems. When considering international competitiveness in the wireless sector, the potential is significant in the domestic market, which forms the basis for such competitiveness. Since, however, this domestic market is the second largest after the United States and thus it is now somewhat difficult for us to pay attention abroad, we must change this situation. Furthermore, those who graduated from specialized faculties or departments are playing no major roles in the cellular phone software industry due to the fact that the subcontracting structure is deep and the work is disliked because it is unrewarding. The industry structure needs be made flat. We hope that the Government will develop national strategies, just like Western countries and work actively on this matter without reserve.

- We are a typical company that has enjoyed great benefits through the penetration of broadband services. We would like to present you with our experience so that our growing process may give you some tips. The major reason why we have survived and grown is that we started on the assumption that an industrial revolution of the information system would surely occur upon the advent of the Internet. To state it in an up-to-date fashion, our start was based on the "Web 2.0" type of idea. We are working hard as we firmly believe that the services developed in Japan must be developed as global services.

- What Asian people often say about the advantage of Japan is that the quality of network operations is considerably higher in Japan and that they want to follow us in that regards. Since the time of telephone services, the quality of Japanese telephones has been very high. The next challenge is how we to make the most of such an advantage. Another strength of Japan is that we have top researchers in almost every sector, and Japan is taking an active role in almost every industrial sector. We believe that such a country is rarely found. However, we are not sure if such "strengths" will continue in the future. Information communications technologies will serve well

only when they are actually used. Therefore, if users give up saying anything from the start, no users will be acquired even if we develop new services. Since the Japanese are good at working out something, we can work things out within a specified framework, if it is given to us. We think that technical development cannot be achieved if neither party responds to the other's opinions, and thus it is important to be ready to address the issues raised at sites operated by different industries or users.

- Since ICT ranges widely from infrastructures to contents, it is necessary to properly analyze the characteristics and situations by sector to make appropriate strategies. If, for example, dividing things into four areas in terms of infrastructures, terminals, contents, and platforms, we should make strategies appropriate for the characteristics of each area, since there are various types including those that can work alone and those that can be competitive as a full set. The challenge for Japan is that it has weak competitiveness in the area where we cannot even sell terminals unless we secure the platform. It will be quite important what type of strategies can be conceived upon that point. Relatively mature markets with high added value that assure security and safety are the major playground in Japan, but markets in which the volume is expanding are dominant in the world. A point to be noted when manufacturing in mass for the general public is that sophisticated technologies are indeed good, but we are apt to over-specify them. It is also essential to have an unwavering strategy.

- We feel that Japan has a considerably high level of technical innovative ability, industrial power, and system configuration ability. For example, third generation cellular phones and the construction of sophisticated networks. However, it seems that we can still do better in terms of overseas development. Looking back to when I was living and working abroad, I remember that Japanese ICT products and strategies were rarely addressed by overseas media. I think that Japanese companies, under severe competition, are first attracted by the domestic market as the market itself is big and at a higher level if seen from their own viewpoint. When

looking at markets across the world and when considering that the market will expand considerably in the future, especially in Asia, Japanese companies need to place more emphasis on global markets. Accordingly, Japan has to be more actively involved in the development of international standards. And at the same time we feel that the protection of intellectual property rights is essential. Individual companies must take the situation of each country into consideration and offer ideas that are appropriate for it. It will then be necessary to improve their own brands while outputting from Japan to the world those models that show how the use of advanced ICT can serve society. For that purpose, the joint efforts of the Government, academia, and industry are required. It is necessary to output—in an easy-to-understand form—just how the use of ICT can be helpful in the areas of, for example, safety, security, medical care, the environment, and teleworking. We believe that Japanese products and services are reliable and preeminent in the world and such reality should be presented to the world. I am sorry to feel that Japan is under-represented in other countries where exhibitions, presentations, and international conference are frequently held. In particular, it is necessary to present to foreign decision makers the suggestion that "You can get this by using ICT!"

- What I feel most in the course of business development overseas is only that we cannot succeed abroad if we do not provide services that fit to the actual situation of the region. In particular, there exist institutional problems in the case of communications, and so we should also think of the culture since I feel that cellular phones are directly associated with culture. You may succeed if you enter into partnership with a good local partner, but, if not, it will take time for you to understand the culture of the foreign country and thus you will have a hard time in making a success. In addition, "standardization" is a big issue. In the world of communications in particular, how to take the initiative is vital, since manufacturers can hardly advance abroad even if they succeed in leading technical development unless it leads to standardization. The major role of communication operators in standardization is to present requests.

Communication operators require the specifications and make technical proposals as well, since communication operators must assume responsibility, in particular for those related to networks. From this viewpoint, operators serve as the role of coordinators and the standardization of Japanese technology will be sluggish unless manufacturers and vendors make more efforts. The role of communication operators in the development of global standards is to make successful and leading cases jointly with vendors—including participation of overseas companies, making the Japanese market a test bed for the world's most sophisticated technologies. Japan has to make an effort in penetrating overseas. For that purpose, it is necessary to review the roles of vendors and operators once again.

- Under the circumstances where players throughout the world put a fairly strong emphasis on governing the delivery and distribution of contents, we wish the nation as a whole would set up a backup system since it would be easier for us Japanese content delivery companies to fight globally if standardized technologies and platforms developed in Japan were available. In terms of content delivery, we see Asia when thinking of familiarity. However, we hear "Korean style" everywhere in Asian countries, and not only in the technical sector. People in every country know that the quality of Japanese contents is higher but they do not sell well because of prices, copyright problems, and so on. We must discuss how to overcome these challenges.

- In our company, overseas markets are placed as the engine for growth. Thus we feel reassured to see activities that strategically determine the enhancement of international competitiveness. Products in the digital domestic appliance area that will survive in the future are televisions that sit in people's living rooms, and cellular phones that are core products for personal use. If various contents are shared through these two products, new business opportunities and business models may be expected. The presence of Japanese brand TV sets is huge in the global market and thus I think that integrating broadcasting with communications may work

for raising cellular phones, which relatively lacks such a presence. The basis of this idea is that Japan should take the initiative in developing international standards for network technology. It is indeed under a very tough environment with faster speed but I believe that this is the time that all sections concerned must strive to take the initiative in standardization.

- When looking at the past two decades in Japan, ICT provided very powerful technologies and our industry has received considerable benefits from ICT. However, it seems to me that we are loosing much competitiveness due to the drainage of splendid technologies, know-how, IT, intellectual properties and technologies caused by the depressed Japanese economy during the past decade. In that regard, I believe that many more technologies can survive if the Government would provide more support for ICT. I know that it is very difficult to turn infrastructures into global standards, but we must now address the issue as to how we can utilize ICT. In order to strengthen the ICT industry in Japan, we hope that the Government will consider a preferential tax system for ICT.

- I think that in the world of information communications—including broadcasting—the main stream has been changing over a long period of time from "analog to digital," "audio to visual," and "hardware to software." But it seems that the value system that focuses on hardware is still deep-rooted in our country. As for the software mentioned here, "algorithms," in addition to computer and video software, such as movies and broadcast programs, possesses great weight. This belongs to the area of secret code algorithms and image compression algorithms. R&D in this area appears to becoming more and more important in the future for global strategies and intellectual property strategies. I think that this is especially attractive for Japan, which has few resources. Accordingly, it is necessary to put an emphasis on software development in a wider sense, not only on algorithms.

- I would like to say first that the Japanese cellular phone industry is not necessarily based on a subcontracting structure. However, a

subcontracting structure may be favorable if viewed from the side of software vendors. In this regard, we should consider the entire industry and the structural aspects of the horizontal division of work rather than only software development. Japanese manufacturers created a high-quality model of the department system. But they are now suffering from being caught by the spell of this paradigm, while the paradigm on which the department system was established is now changing. Thus, as well as properly addressing the matter, it is necessary ensure that standardization activities are carried out in parallel, both by the Government—who should basically carry them out—and by the private sector. Both should be carried out based on one strategy. Efforts towards standardization appear to have been changing from the time it was enough for people to live by only thinking how and in what manner to protect the domestic market when such market was big enough. Now you cannot be truly competitive unless you take your business overseas. If only we could change that point and if only we can consider ultimately exporting the mechanism itself after properly determining our general strategies, I am sure that we can win. The reason why I think so is that I cannot find any other country that has the technologies, the environment for quality production, and improved infrastructures—such as communication and broadcasting, as does Japan. We can construct a wide range of services and contents that could be based on the above.