

Japan's Efforts to Promote ISDB-T Globally

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In 2006, the ISDB-T terrestrial digital broadcasting system was adopted in Brazil. This was the first time ISDB-T (based on the Japanese system) was adopted by another country, so this year marks the tenth anniversary of our efforts to promote Japan's ISDB-T terrestrial digital broadcasting system around the world.

I am delighted that this anniversary is being marked by a special feature on the international deployment of ISDB-T. In the following pages, you will find reports from JICA experts who were dispatched to various other countries. First though I would like to present an overview of the international deployment of Japan's ISDB-T terrestrial digital broadcasting system from a Japanese perspective.

The adoption of this system by Brazil started with the proposal of the Japan's terrestrial digital broadcasting system in the form of a response to a request from the Brazilian government in 1999. The Japanese system performed well in verification trials and the like, and we lobbied for its adoption. This led to signing of an agreement, "Memorandum between the Government of Japan and the Federative of Republic of Brazil on the implementation of Brazilian system of Digital TV based on the ISDB-T standard and the cooperation for the development of the related electronic industry" (items of cooperation between Japan and Brazil in the event of Japan's system being adopted by the Brazilian government) in April 2006. The terms for implementing this agreement were agreed upon the following June, whereupon it was officially announced that Brazil would be adopting Japan's terrestrial digital broadcasting system.

Once this system had been adopted by Brazil, we received requests for lectures and information from other South American countries (Chile, Argentina, Venezuela, Ecuador, Columbia, Peru, etc.). A Japan-Brazil joint mission was then deployed to other countries that were considering the introduction of terrestrial digital TV, resulting in stronger ties with Brazil and greater interest in the Japanese system around South America.

Meanwhile, Asian countries have also been showing greater interest in Japan's ISDB-T terrestrial digital broadcasting system, and while we were making the transition to the phase of supporting the introduction of ISDB-T across South America, we also engaged in activities to promote the spread of this system to other countries in Asia and Africa where there was a possibility of it being selected.

These lobbying efforts were made with the full cooperation of not only the Ministry of Internal Affairs and Communications but also ARIB/DiBEG (the Association of Radio Industries and Businesses/Digital Broadcast Experts Group). ARIB/DiBEG is

an organization established in 1997 as a component of ARIB (the Association of Radio Industries and Businesses) with the aim of contributing to the development of digital broadcasting in various other countries through measures such as overseas evangelism, coordination with related Japanese organizations, and collecting information in order to promote the international spread of Japan's terrestrial digital broadcasting technology. Its members include broadcasters, communication providers, and transmitter/receiver equipment manufacturers.

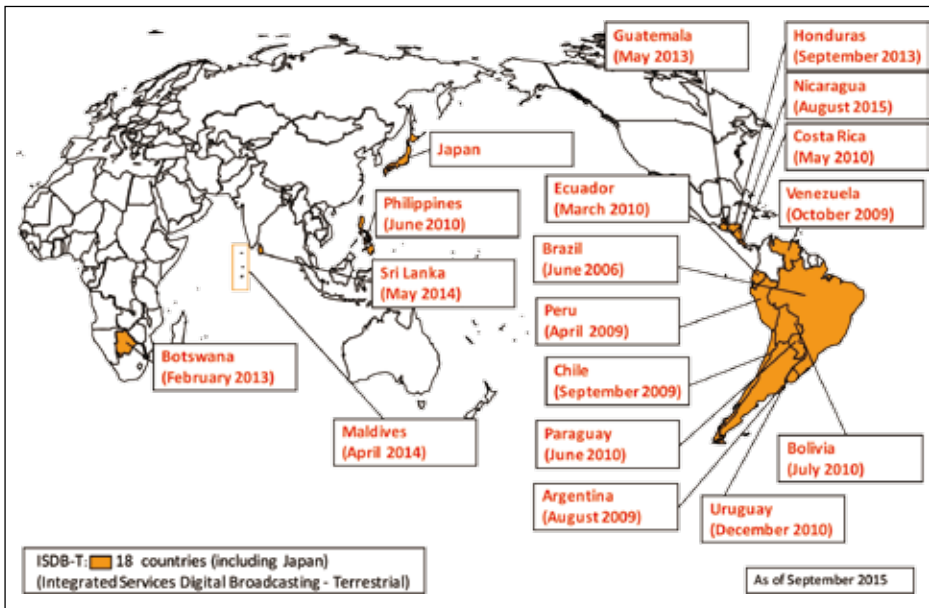
We implemented a highly targeted round of lobbying from a specialist viewpoint that included holding seminars and demonstrations in countries where the introduction of terrestrial digital broadcasting system is being considered and responding to the demands placed on computational resources and data provision.

As a result, there are now 18 countries where Japan's ISDB-T terrestrial digital broadcasting system is being adopted (see figure below).

Once a terrestrial digital broadcasting system has been adopted, there are still many jobs and issues that have to be addressed in order to achieve a successful transition, such as drawing up a master plan for the introduction of terrestrial digital broadcasting, building an organizational structure, procuring the necessary equipment, drawing up a channel plan, drawing up technical standards, and promotional awareness-raising efforts. Since these all require advanced know-how and accumulated experience, in order to promote the introduction of terrestrial digital broadcasting technology promptly, smoothly and reliably in each country, Japan has been continuously running a program whereby specialists are dispatched to other countries (both on short-term and long-term assignments), while trainees from other countries are admitted to Japan. Part of the reason why other countries are adopting the Japanese system is because we offer this kind of support, and our finely-tuned support is highly rated by these countries.

There are eleven specialists (long-term), who have so far been dispatched to places such as South America and Asia. The trainees admitted to Japan received training in subjects such as digital broadcasting technology and theory, the process of Japan's switch-over to terrestrial digital broadcasting, policies relating to terrestrial digital broadcasting, and methods for making use of terrestrial digital broadcasting. This training is based on a curriculum that is updated every year to keep up with policies as the digital switch-over proceeds, and has so far included lectures and practical experience from many engineers and policy-makers.

Figure: Countries that have resolved to adopt ISDB-T



agreed upon, and as of February (at the time of writing) they are currently undergoing approval at each participating country.

To accomplish a successful transition to terrestrial digital television, it may also be worth promoting the following sorts of cooperation besides the above cooperation in order to commence terrestrial digital broadcasting. One is cooperation with the analogue switch off. Today, most of the countries that adopted the Japanese system have started terrestrial digital broadcasting (or have started test broadcasting), and have advanced into the general support phase. After that, the next major target of each country is the common goal of achieving a problem-free ASO (ana-

Also, to promote the transfer of knowledge and experience in terrestrial digital broadcasting, for people involved with terrestrial digital broadcasting technology such as government officials, broadcasters (state-owned and private), and manufacturers of transmitter/receiver equipment, we are repeatedly offering these people and ordinary citizens the chance to attend seminars (e.g., to commemorate the start or anniversary of broadcasting, the arrival/departure of experts, or the arrival of dignitaries in order to raise awareness of the spread of terrestrial digital broadcasting technology).

In these seminars, ARIB/DiBEG dispatches a person with specialist knowledge as part of its international outreach efforts, or may actively cooperate with terrestrial digital equipment exhibitions, demonstrations or the like as part of its awareness-raising efforts.

To harmonize the terrestrial digital broadcasting technology and promote a shared experience in countries that have adopted the Japan's terrestrial digital broadcasting system, the ISDB-T International Forum was established in 2009 from members comprising government officials, broadcasters, and manufacturers (countries that are considering the adoption of ISDB-T may also take part as observers). Based on the broadcasting standards of the Japan's terrestrial digital broadcasting system, this forum is drawing up technology harmonization documents that define items where harmonization is required and where integration is needed between countries that have adopted the Japanese system.

So far, the forum has convened seven times. At the 7th meeting held in Brazil (Brasília) from 30th November to 1st December last year, there were discussions on new drafts of technical harmonization documents relating to middleware, and amendments to the technical harmonization documents relating to hardware and EWBS (Emergency Warning Broadcast System). Japanese participants include not only the Ministry of Internal Affairs and Communications, but also ARIB/DiBEG and JICA experts who led the discussions as core participants. As a result, the abovementioned technical harmonization documents were

log switch off). We have introduced and shared the experiences and methods used so far to achieve ASO in Japan. As a result, the ASO in Brazil started in February in the pilot city of Rio Verde. In the future, we will continue to promote the sharing of experiences and methods based on the ASO in Japan. We hope to promote the ASO in each country in this way.

Also, the EWBS is a key feature of the Japan's terrestrial digital broadcasting system, and we are very interested in countries like the Philippines and Central and South American countries that — like Japan — are significantly affected by earthquakes and hurricanes. There are many countries where this was cited as the reason for choosing the Japan's terrestrial digital broadcasting system. In January, a full-fledged EWBS went into operation in Peru. We hope to collaborate with this country to establish a set of best practices that can be used to help with the introduction and promotion of EWBS in other countries.

Last, but not least, the international deployment of Japan's terrestrial digital broadcasting system that started with Japan's proposal to Brazil subsequently led to Brazil becoming a powerful partner of Japan and to the expansion of this partnership to other South American countries that are now becoming leaders in the region alongside Brazil.

For example, in the wake of the abovementioned full-fledged launch of EWBS in Peru, a trend appeared whereby Peru's neighboring countries (Ecuador and Chile) that also had an interest in EWBS sought closer ties with Peru. This sort of trend is promoted by the international deployment of Japan's terrestrial digital broadcasting system, and is expected to result in countries becoming leaders in other regions as well.

Recently, the cooperative international relationships that have sprung from cooperation in terrestrial digital broadcasting technology have led to stronger relations regarding the use of not only terrestrial digital broadcasting technology, but of all ICT sectors centered on this core. The Ministry of Internal Affairs and Communications will continue to work towards strengthening the relationships of all parties. Thank you for your continued support.