Question 8/1

Guidelines on Communications Strategies for the Transition from Analogue to Digital Terrestrial Broadcasting

6th Study Period
2014-2017

ITU

Question 8/1: Examination of strategies and methods of migration from analogue to digital terrestrial broadcasting and implementation of new services

Guidelines

Preface

ITU Telecommunication Development Sector (ITU-D) study groups provide a neutral contribution-driven platform where experts from governments, industry and academia gather to produce practical tools, useful guidelines and resources to address development issues. Through the work of the ITU-D study groups, ITU-D members study and analyse specific task-oriented telecommunication/ICT questions with an aim to accelerate progress on national development priorities.

Study groups provide an opportunity for all ITU-D members to share experiences, present ideas, exchange views and achieve consensus on appropriate strategies to address telecommunication/ICT priorities. ITU-D study groups are responsible for developing reports, guidelines and recommendations based on inputs or contributions received from the membership. Information, which is gathered through surveys, contributions and case studies, is made available for easy access by the membership using content-management and web-publication tools. Their work is linked to the various ITU-D programmes and initia-tives to create synergies that benefit the membership in terms of resources and expertise. Collaboration with other groups and organizations conducting work on related topics is essential.

The topics for study by the ITU-D study groups are decided every four years at the World Telecommunication Development Conferences (WTDCs), which establish work programmes and guidelines for defining tele-communication/ICT development questions and priorities for the next four years.

The scope of work for **ITU-D Study Group 1** is to study "**Enabling environment for the development of telecommunications/ICTs**", and of **ITU-D Study Group 2** to study **"ICT applications, cybersecurity, emergency telecommunications and climate-change adaptation"**.

During the 2014-2017 study period **ITU-D Study Group 1** was led by the Chairman, Roxanne McElvane Webber (United States of America), and Vice-Chairmen representing the six regions: Regina Fleur Assoumou-Bessou (Côte d'Ivoire), Peter Ngwan Mbengie (Cameroon), Claymir Carozza Rodriguez (Venezuela), Victor Martinez (Paraguay), Wesam Al-Ramadeen (Jordan), Ahmed Abdel Aziz Gad (Egypt), Yasuhiko Kawasumi (Japan), Nguyen Quy Quyen (Viet Nam), Vadym Kaptur (Ukraine), Almaz Tilenbaev (Kyrgyz Republic), and Blanca Gonzalez (Spain).

Final report

This final report in response to **Question 8/1: "Examination of strategies and methods of migration from analogue to digital terrestrial broadcasting and implementation of new services"** and its Guidelines on communication strategies have been under the leadership of its Rapporteur: Roberto Hirayama (Brazil); and six Vice Rapporteurs: Mamadou Pathé Barry (Guinea), Fabrice Djoumessi Dontsa (Cameroon), Peter Martin Ikumilu (Kenya), Jinane Karam (Telecommunications Regulatory Authority (TRA), Lebanon), Jean-Marie Maignan (Haiti) and Arseny Plossky (Russian Federation). They have also been assisted by ITU-D focal points and the ITU-D Study Groups Secretariat.

This report has been prepared by many experts from different administrations and companies. The mention of specific companies or products does not imply any endorsement or recommendation by ITU.

Please consider the environment before printing this report.

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Executive Summary

i.   Introduction

The migration from analogue to digital broadcasting has already happened in some countries and is on-going in several others. In the digital transition process, important decisions have to be made and actions need to be thoroughly planned and implemented. The role of the regulatory authorities is crucial to balance the interests of users with demands of growth in all branches of the industry.

Additionally, because of the scarcity of frequencies for broadcasting services, a longer simulcast phase in the transition to digital television may not be possible. Thus, viewers have to inform themselves and decide on relatively short notice. The analogue switch-off therefore has to be accompanied by comprehensive communication strategies supported by all involved parties.

This document aims at analysing communication strategies to accelerate the process of public awareness about digital broadcasting and the whole process involved in the digital switchover. Strategies on issues related to communication channels used in a coordinated communication strategy and also the planning activities related to a successful Analogue Switch-Off (ASO) communication plan are addressed.

ii.   Background on communication strategies for the transition from analogue to digital broadcasting

Countries that already completed the transition to digital broadcasting or even those for which the process is ongoing implemented several communication strategies to inform the public and to stimulate consumer action. However, some common strategies and best practice can be identified from the experience of those countries and gathered in the following groups of actions highlighted below:

— Communication planning activities for coherently combining several different communication tools to achieve better results and consumer awareness levels;

— Implementation of informational campaigns using different communication channels, such as call centers, websites, social media, SMS services, etc.;

— Putting together a Media Communication Campaign for stimulating consumers to take action and also to motivate all involved parties in the transition effort;

— Implementation of specific communication strategies for reaching the low-income population, which may need different approaches to be included in the process.

In other words, to promote consumer awareness and action regarding the Analogue Switch-off (ASO) two main groups of communication campaigns need to be implemented: (i) a mandatory minimum consumer information campaign and (ii) a massive media campaign. The first one is aimed at informing the public through the analogue channels by insertions in the programming of specific material that both inform the user and motivate the consumer to migrate to digital reception, and also by providing a call center and a web site to inform users. The second one has the objective of engaging the public in the process by means of several communication channels orchestrated as a coherent Media Campaign based on a Communication Plan.

The following chapters will detail the communication planning activities (**Chapter 1**), each of the campaigns above (**Chapter 2** and **Chapter 3**) and finally the tools for communicating the transition to the low income population (**Chapter 4**). It also needs to be pointed out that each of the chapters present the experience of some countries regarding communicating the transition from analogue to digital broadcasting as examples of best practice on the implementation of these activities.

1 CHAPTER 1 – Communication planning to accelerate the process of public awareness about digital broadcasting

The communication strategies are extremely important for a successful Analogue Switch-Off (ASO). Bearing that in mind, the present chapter aims on collecting some useful experiences of establishing the communication planning for the ASO process, which include among other tasks structuring, in a coherent and coordinated way, all marketing and communication strategies, such as communication campaigns (mass communication ads and other relevant means), and other means to inform the public, such as call centers and websites.

1.1 Communication planning

Planning the communication strategies to be used is a key part of the effort of delivering the information needed to the general public and also an important step to achieve the maximum engagement of the population and the most public awareness.

Figure 1 shows an example of a communication plan outline which presents the various tools that can be used in the communication effort and how they can be combined to achieve the goal of better informing and engaging the population.

Figure 1: Communication plan outline
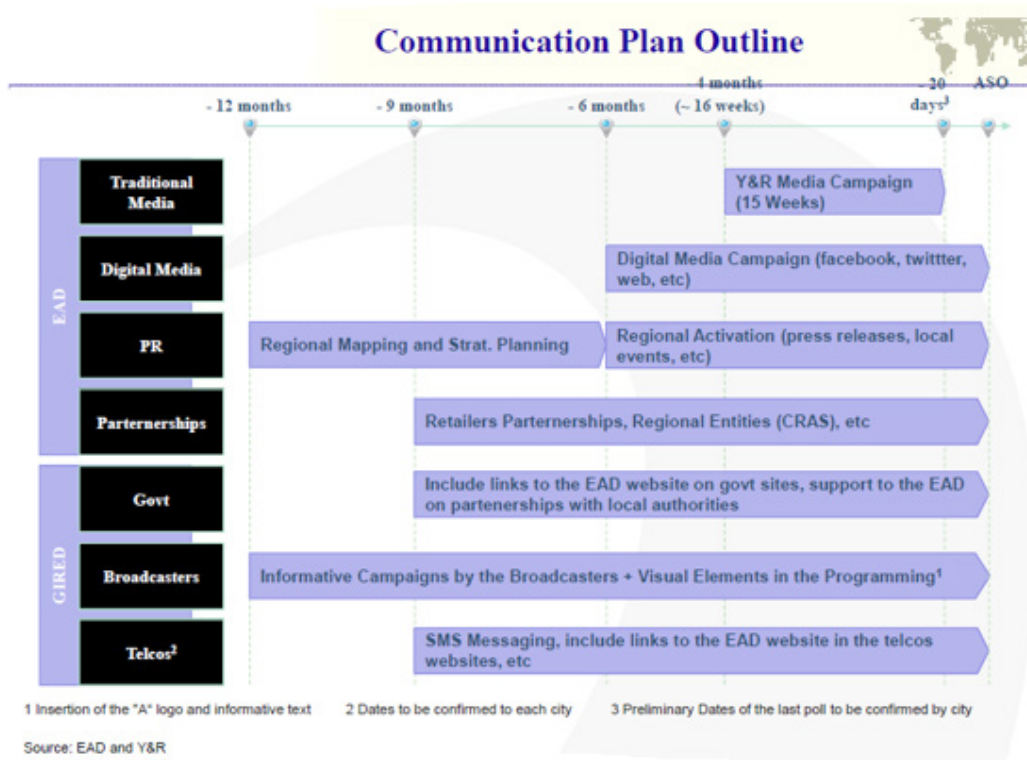
Source: ANATEL, Federative Republic of Brazil.

It can be noticed that several different initiatives are used concurrently to maximize the outreach and increase awareness on the population to the maximum extent possible. Digital Media, Traditional Media, Local partnerships and voluntary informative campaigns implemented by the broadcasters, among other means, are used to inform consumers and reach the overall goal of having nearly

everybody engaged in the process. It is also a goal to have those that will be impacted by the Analogue Switch-Off in a certain region act proactively to assure the reception of digital signals.

All these means of communication are combined to form a coherent Communication Campaign. However, the results can be improved if each of these communication tools is used in the right time. Some important decisions for the Campaign include the definition of which timeframe that each media is used. Consequently, another important part of the effort of planning the communication strategies is defining when each tool will be used and in whi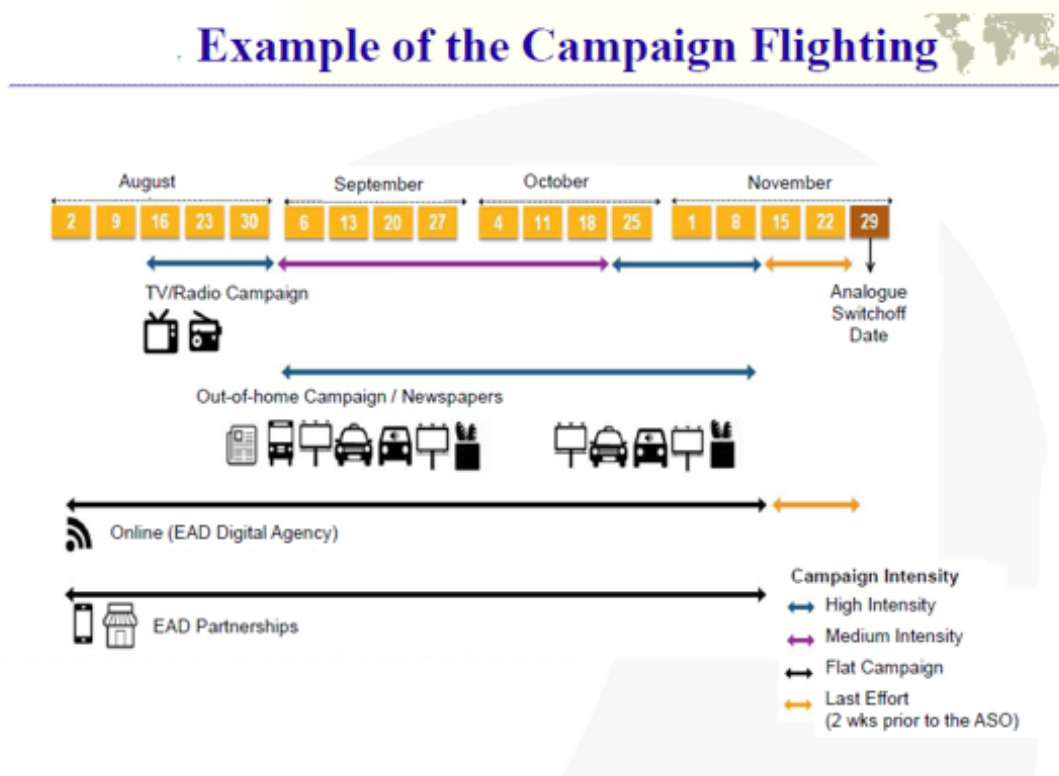ch order. This task is commonly referred as Campaign Flighting[1]. Below an example of the decisions involved in Campaign Flighting are also presented.

Figure 2: Campaign Flighting

Source: ANATEL, Federative Republic of Brazil.

It can be noted from **Figure 2** that in the ASO communication (i) traditional media such as radio and television, (ii) out-of-home media like billboards, transit advertising (buses, taxes, metro, etc.), brochure/fliers distribution, etc., (iii) online media (web pages, social media, you tube ads, etc.), and (iv) local partnerships with local authorities, retailers and civil society were all used to promote consumer awareness.

Along with the planning of the tools to be used and how and when to use them (Campaign Flighting), it is important to engage local stakeholders in each region being switched off. **Figure 3** shows an

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[1]   Campaign Flighting is an advertising term for a timing pattern in which commercials are scheduled to run during intervals that are separated by periods in which no advertising messages appear for the advertised item. Any period of time during which the messages are appearing is called a flight, and a period of message inactivity is usually called a "hiatus". The advantage of the flighting technique is that it allows an advertiser who does not have funds for running spots continuously to conserve money and maximize the impact of the commercials by airing them at key strategic times. Advertisers will often employ less costly media such as radio or newspaper during a television flighting hiatus. This method of media planning allows the messages and themes of the advertising campaign to continue to reach consumers while conserving advertising funds.

example of some actions that can be performed to engage the local community in the process of informing about the Analogue Switch-Off.

Figure 3: Local communication actions

Source: ANATEL, Federative Republic of Brazil.

Hungary

Hungary[2] is another good example of planning the communication effort. The following principles were used in communication campaign:

— Ensuring continuous and regular communication;

— Ensuring interactivity;

— In view of the magnitude of the task, involving external professional resources:

- An agency, selected through a public procurement procedure, supported the work of the authority by providing sub-contractors offering special expertise (website design, production of commercials, call center operation, performance of Public Relations – PR tasks, media buying).

— Positive campaign: the emphasis is on the highlighting of the positive consequences of the digital switchover;

— Using modern communication interfaces in a consumer-friendly manner.

The objectives to be achieved with the campaign were:

— Efficient access to the target groups and delivering the messages;

— Informing the population on the technical and professional details of the digital switchover, awareness raising;

— Presenting the palpable advantages of the switchover;

— Activation of the population in connection with the digital switchover;

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2   NMHH is the Regulator in Hungary responsible for the digital switchover.

—   Enhancing the professional reputation of the NMHH (Regulator).

A segmentation of the population was also defined to better target the communication messages to each specific groups. **Figure 4** shows the segmentation planned.

Figure 4: Levels of communication in Hungary
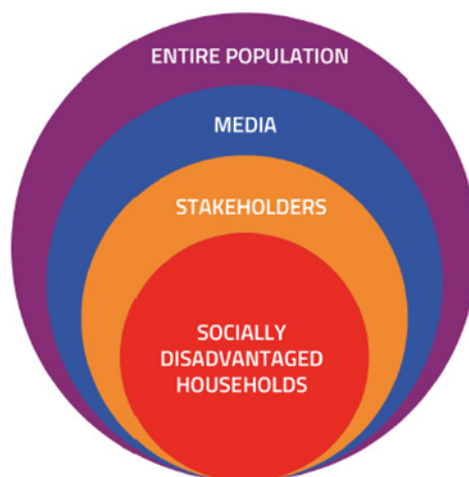
Source: NMHH, Hungary.

To each specific target group different messages were defined, so that the communication campaign could address specific needs. As an example of the analysis performed, the following messages were defined to each group:

Target Group 1: The entire population

Message: The digital switchover will be completed in 2013, resulting in a win-win situation. Advantages: more channels accessible without subscription fee, better image and audio quality, electronic pro-gramme guide, broadcast stop and replay options, parental lock option.

What do we want to achieve?

Households should have more in-depth knowledge on digital broadcasting. Households should consciously make use of the opportunities provided by the digital technology. Households should support their family members and friends less familiar with technical innovations.

Target Group 2: Stakeholders (those receiving analogue broadcast anywhere)

Message: Switchover to digital reception must be completed by the specified dates. Several options available. More detailed information: website, call center.

What do we want to achieve?

They should have accurate information that helps identify themselves, and know that they have to finance the switchover to digital reception on their own. They should also consider whether they have any secondary analogue TV (in the kitchen, holiday home), in addition to the primary set. They should be aware of their options and the solutions available at their place of abode.

Target Group 3: Households eligible for social subsidy

Message: The NMHH helps apply for the subsidy, if necessary. Conditions of the subsidy, character-istics.

What do we want to achieve?

They should be aware of the fact that they are eligible for subsidy. They should know how to apply for the subsidy. They should know the process and cooperate with the surveyors and installation technicians visiting them.

Target Group 4: Media

Message: The switchover was preceded by long technical preparations. The NMHH implements the project in high professional quality. The switchover takes place in accordance with the EU requirements; the process is fully transparent.

What do we want to achieve?

The media should be committed intermediaries between the population and the authority managing the process, both at national and regional/local level.

An overall objective of the communication effort was showing that it is of key importance for all target groups that they know the information forums provided by the NMHH, where they can get fast and professional response for their questions (website, call center, Facebook profile – these will be discussed later in more details).

Another important thing that was considered is additional cooperation with other segments of the Hungarian society, not only the media, for example:

– Journalists at national, regional and local level;

– Students of secondary and vocational schools and universities, whose technical skills are higher than those of the average users ("Shoot and share" video campaign);

– Civil organizations and associations (taught the visitors of pensioner clubs how to install the digital equipment);

– Broadcasters, content providers (display of ticker);

– Aerial fitting and repair specialists;

– Offline and online stores selling technical equipment (leaflets);

– Local governments (leaflets, announcements);

– Local mayors, opinion leaders.

Finally, the Hungarian government planned thoroughly the campaign scheduling and divided the Digital Switchover Communication Campaign into phases aligned with the two-phase switch-off approach used, considering that the information, education and activation periods are repeated for each phase, but focusing on the other areas of the country.

The following phases were defined:

– Public procurement process and preparations phase (a communication agency was hired and the preparations with the winning Agency commenced).

– Preparations:

  • Designing a clearly identifiable image, used consistently during the campaign;

  • Defining the range of interviewees, preparing them for the appearance in the media;

  • Specifying the communication tools, creating the interfaces and filling them with content.

- o Creating an independent website[3] (domain name, content creation, design);
- o Call center (IVR wording, education of operators);
- o Creating the Facebook profile (design, preparation of posts);
- o Producing the creatives(public space, vehicle and online advertising);
- o Recording the TV commercials and radio spots;
- o Preparing the online and offline press advertisements;
- o Production of publicity materials and leaflets (announcements, roll-up, folders);
- o Preparation of other documents and accessories;
- o Preparation for the announcement press conference.
- • Deciding on the "face of the campaign", preparing the creatives, media plan;
- • Setting up a publicity service comprising of NMHH experts to respond quickly to the questions received from the population or the journalists;
- • Creating the Public Relations (PR) strategy.
- – Publicity Period;
  - • Focus in this phase: Raising public interest, Presenting facts (switchover territories and dates, options, state subsidy), NMHH contact details: website, toll-free phone number to the call center);
- – Education Phase;
  - • Key information:
    - o Broad publicity on the steps to be made at the level of the citizens and institutions;
    - o Presentation of the technical possibilities (technologies, equipment);
    - o List of specialist stores;
    - o List of service providers;
    - o Technical assistance for the installation (descriptions, instructional videos);
    - o Presentation of the social elements of the project;
    - o Detailed presentation of the consequences and advantages of the switchover;
- – Activating period;
  - • The purpose of the activating period is to stimulate action, with special focus on those living in the territories belonging to the Phase 1 switch-off:
    - o The stakeholders must be aware of the fact that they have to act (Take action!);
    - o Detailed presentation of the things to do and the available options (This is what you need to do!);
    - o Key importance of submitting the application and making the stakeholders aware of the need to do so (Must apply!);
    - o Making digital broadcasting attractive by presenting the advantages in detail (It is worth trying!);
    - o Encouraging the stakeholders to support their family members or friends less experienced with technical novelties (Help!).

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3   At the time of the communication campaign the website was http://www.digitalisatallas.hu.

- Phase II: Repeat publicity, education and activating phases above.

In the case of countries that will perform the ASO in several phases, defined by regions of the country, the same systematic above can be used, being the Hungarian case a good example of planning the communication effort. In Hungary, as shown in the segmentation of the communication campaign (**Figure 4**), the communication actions were addressed to specific groups and regions.

Niger

Another good example comes from Niger, where the government established a customer support strategy that is presented in **Figure 5**.

Figure 5: Niger customer support strategy
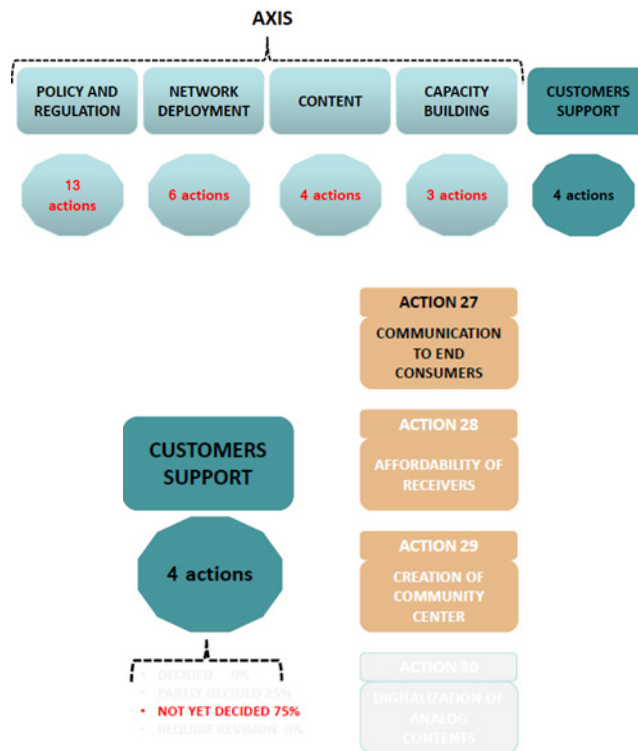
Source: Regulator, Niger.

Three problems are being tackled by the Customer Support Strategy of Niger: (i) communication to end consumers, (ii) affordability of receivers, and (iii) creation of community centers.

Niger needs to guarantee a successful and smooth transition, consumer support and a rapid service take-up (Problem i). The solution planned is to inform the public at large and the market about the changes in the areas of legislation, policies and regulations by means of the development and implementation of a communication plan. This plan would be comprised of three steps:

- Make an inventory of the communication scope;

- Determining the key communication moments and topics;

- Determine communication tools for each target group/audience.

Following that, Niger is planning to tackle the need to have affordable DTT[4] receivers (Problem ii) in the market by a regional and national strategies. At the Regional Level, development of minimum

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[4]   DTT – Digital Terrestrial Television.

technical specifications for DVB-T receivers for ECOWAS[5] region (reap the benefits of an economy of scale). At a national level, the following actions are planned:

− Organization of the market in order to have a maximum of 5 distribution chains;

− Government endorses these distributors to deal directly with receivers' manufacturers;

− Government sets the maximum unit price receptor (waiver of taxes, etc.);

− Distributors have monopole for a period not exceeding one year.

Finally, the creation of community centers is thought as a solution to access of rural population to DTT services (Problem iii). In other words, the development of community centers comprised of a DTT receiver (and computer stations) that sustainably allows rural populations to DTT service (and also offer educational services) are the goal to have the rural population included.

Thailand

Another example of communication planning is the strategy used in Thailand[6]. The communication strategy was defined in several steps shown in **Figure 6**. The communication plan had the following objectives:

− Digital Switch Over (DSO) communication to promote Digital TV (DTV);

− Create awareness and educate to people on DSO;

− Communicate on various channels: TV, Radio, SMS, Newspaper, On-Line Social Media (https://www.facebook.com/digitaltv.nbtc), DTV Web site (http://digital.nbtc.go.th), Events & Exhibitions, DTV Road show, etc.;

− Create media and national message and handbook for promoting DSO;

− Implementing Coverage Checker on web and Mobile/Tablet Applications;

− Build community, local administration to promoting DTV;

− Cooperate with University, Network Operators, DTV manufacture to support customer on DTV installation;

− Cooperate with DTV broadcasters, telecom operators to promote DTV;

− Encourage high rise building (apartment, condominium) to install DTV antenna;

− Project DTV4All, All4DTV, support persons with disabilities.

Figure 6: DTTB[7] communication strategy in Thailand
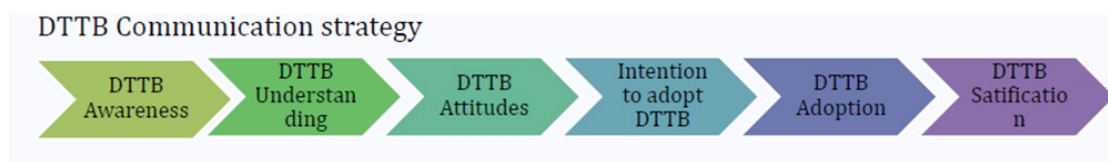
Source: NBTC, Thailand.

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[5]   ECOWAS region comprises countries of the Economic Community of West African States. More information available at http://www.ecowas.int/F
[6]   NBTC is the Regulator responsible for the transition process in Thailand.
[7]   DTTB – Digital Terrestrial Television Broadcasting.

2   CHAPTER 2 – Information campaigns for the general public

This chapter has the objective of presenting informational campaigns aimed at delivering specific information to the public through various means, for example, the analogue channels by insertions in the programming of specific material that both inform the user and motivate the consumer to migrate to digital reception, and also by providing call centres, web sites and other informational-systems.

2.1   Informational-explanatory campaigns

The first case of the implementation of informational campaigns for the general public addressed in this document is Brazil, where it was established that the stakeholders, including the entity constituted to manage the process[8], broadcasters and others, would provide a Call Center, a Web site and some on-screen informative material to be inserted in the analogue channels programming.

The call center and the web site are important tools to inform the population about the process and is a place where is possible to obtain information and solve doubts about the transition process, for example, ASO (Analogue Switch-Off) schedule, set top boxes availability, antennas to be used, mitigation of interference and other topics related. In the specific case of Brazil, the calls directed to the call center are tool free and the service is 24 hours, seven days a week.

Other countries also provided call centers to the population, being a common practice among countries dealing with the transition to digital broadcasting. For example, Thailand also provides a 7 days, 24 hours call centers to consumers. Serbia is another example, which provided a Call center was in operation from 3 April to 31 October 2015. It was established in cooperation with PE Post of Serbia. Training for the operators in the call center was provided by the Ministry and the network operator PE ETV. Citizens could get all necessary information about the digitalization process, including: Information about equipment needed for the digital television reception; information about the availability of the digital TV signal countrywide; technical support for the connection of equipment and initial setting for STBs, help related to the antenna adjustments; and information about the labeling and help schemes, etc.

The Number of operators in Serbian call center was up to 30. Working hours were from Monday to Saturday (8am-8pm). The call center implemented interactive voice response. The Maximum number of calls in one day was 4750 (1700 was toward operators). The calls were transferred to the network operator PE ETV engineers, if needed.

For the specific case of Brazil, it was also defined that a standard logo and some informative messages would be inserted in the analogue channels of each specific city being switched off. **Figure 7** shows an example of the logo and the information messages included in the programming.

The Logo can be seen on the image above, marked by the letter "A" highlighted forming the word "Analogue", and below the channel tuning information for the digital broadcasting simulcast channel. The informative messages are presented in the form of a crawler, slide or news ticker[9], including the ASO date, the digital channel that is replacing the analogue one and information about how to contact the call center and accessing the website for solving doubts. From 60 days to the ASO date, the number of days until the ASO (countdown) is also shown on screen just below the logo to inform the population about the timeframe until which the analogue channel will be on air.

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[8]   In the case of Brazil, and Entity called "EAD – Managing Entity of the Process of Redistribution and Digitalization of Television and Retransmission of Television Channels" was created to manage the process. For more information please refer to the ITU-D Question 8/1 Report from the study period 2014-2017.

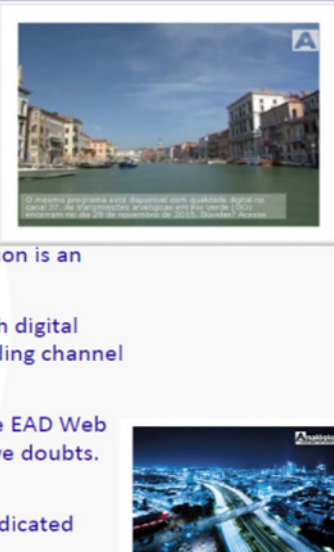[9]   A news ticker (sometimes called a "crawler" or "slide") is a primarily horizontal, text-based display either in the form of a graphic that typically resides in the lower third of the screen space on a television station or network (usually during news programming) or as a long, thin scoreboard-style display seen around the facades of some offices or public buildings dedicated to presenting headlines or minor pieces of news.

Figure 7: Analogue Switch-Off standard message and logo

Source: ANATEL, Federative Republic of Brazil.

The logo and the informative messages (news ticker) are not the only provisions that were implemented to inform the public in Brazil. Informative video ads and on screen charts are also being aired. The on screen charts are full screen text messages which block the whole image of the analogue channel to get viewers' attention. The information shown on screen is the same that appears regularly in the news tickers. **Figure 8** presents the number of appearances that are mandatory for each of the informative tools presented above.

Figure 8: Number of appearances of the informative messages about the ASO in Brazil

Days to the ASO	On screen chart	Informative Video	Logo	Informative Text	Countdown
360	-	-	3 / 30s (1 between 20h and 21h30)	3 / 30s (1 between 20h and 21h30)	-
300	-	-	6 / 30s (1 between 20h and 21h30)	6 / 30s (1 between 20h and 21h30)	-
240	-	-	9 / 30s (2 between 20h and 21h30)	9 / 30s (2 between 20h and 21h30)	-
180	1 / 15s (between 20h and 20h30)	-	12 / 30s (2 beetween 20h and 21h30)	12 / 30s (2 between 20h and 21h30)	-
120	2 / 15s (1 between 20h and 21h30)	-	15 / 30s (3 between 20h and 21h30)	15 / 30s (3 between 20h and 21h30)	-
90	3 / 15s (1 between 20h and 21h30)	-	15 / 30s (3 between 20h and 21h30)	15 / 30s (3 between 20h and 21h30)	-
75	4 / 30s (1 between 20h and 21h30)	3 / 30s	18 / 30s (10% bigger) (3 between 20h and 21h30)	18 / 30s (3 between 20h and 21h30)	-
60	4 / 30s (1 between 20h and 21h30)	3 / 30s	Fixed (20% bigger)	18 / 30s (3 between 20h and 21h30)	Fixed (20% bigger)
30	6 / 30s (1 between 20h and 21h30)	3 / 30s	Fixed (20% bigger)	21 / 30s (3 between 20h and 21h30)	Fixed (20% bigger)

Source: ANATEL, Federative Republic of Brazil.

In the case of the Russian experience, the following activities were implemented to inform the general public of the transition process. The implementation of digital terrestrial television in the Russian Federation was a governmental task, and the transition digital broadcasting was provided by the federal program "Development of tele-radio broadcasting in the Russian Federation for the period 2009-2015". This program included actions for ensuring successful and balanced implementation of digital television in the Russian Federation. These actions included, among other tasks, an informational-explanatory campaign and informal-analytical system.

2.1.1   Tasks of informational-explanatory campaigns

Main tasks of the informational-explanatory campaign within the framework of federal program are as follows:

–   Notification of transition on digital broadcasting, explaining of necessity of implementation of digital television, revelation of advantages of digital television;

–   Informing on procedures and terms of transition from analogue television to the digital one, providing information on structure of digital television multiplexes, emphasizing the free-of-charge basis of viewing digital television multiplexes;

–   Forming the loyal attitude to transition to digital television and switching-off the analogue one, adjustment of possible negative public sense of digitalization program;

–   Public motivation to acquiring digital television receivers;

–   Informing on options of receiving digital television signal and features of connection and using of receiving equipment, providing information about last stage of implementation of digital terrestrial broadcasting – switching-off the analogue one;

–   Notification of inhabitants of some regions which already implemented DVB-T about implementation of DVB-T2, pointing the necessity of change DVB-T equipment for DVB-T2 receivers.

2.1.1.1   Actions of informational-explanatory campaign

Informational-explanatory campaign began late 2013. It contained the following actions:

–   Creation the concept and advertisement materials for informal support regarding the transition to the digital television;

–   Providing the advertising campaign on television, radio and by the outdoor advertisement;

–   Creation and promotion of Internet-portal about digital television;

–   Organization of digital terrestrial television hotline;

–   Cooperation with mass-media, media-community and Internet-community;

–   Monitoring of publications in mass-media and Internet;

–   Holding the sociological research;

–   Informational-methodological maintenance of consultative support centers.

2.1.1.2   Realization of actions of informational-explanatory campaign

Within the framework of the program, an Internet-portal was created. During 2014 banners and informational material for the portal have been produced. Moreover in the middle of 2014 special videos about digital terrestrial television have been created and launched in the Internet. As of December 2014, 76 consultative support centers were working in the Russian Federation. Additionally, a hotline was operating. By that hotline inhabitants could obtain the information about digital terrestrial television.

See below the main results of the hotline work:

–   Average rate of incoming calls, which were handled in 20s – 92.67 per cent;

–   Rate of lost calls – 2.6 per cent;

–   Assessment of quality of service – 4.81 point of 5;

–   Customer satisfaction – 95.42 per cent.

In June and November 2014 sociological surveys among inhabitants of Russian Federation were held. The results of public awareness about digital television were as follows:

–   Share of inhabitants informed about digital television ~82 per cent;

–   Share of indifferent inhabitants ~3 per cent;

–   Share of inhabitants not received any kind of television signal ~1 per cent;

–   Share of inhabitants informed about realization of federal target program ~ 68 per cent;

–   Share of inhabitants informed about free-of-charge digital television programs ~31 per cent;

–   Share of inhabitants thinking that realization of federal target program is the social responsibility of government ~70 per cent;

–   Share of inhabitants having equipment for receiving digital terrestrial television ~40 per cent;

–   Share of inhabitants wanting to acquire equipment for receiving digital terrestrial television ~88 per cent.

By 2015, actions provided within the framework of informational-explanatory campaign allowed for the provision of high level public awareness about the implementation of digital terrestrial television in Russian Federation and serious interest in digital television.

2.2   Online information platforms

Interesting cases can be found, for example, in Russia, Hungary and Brazil that provided information regarding the transition by means of internet web portals. **Figure 9** shows a screen shot of the web site implemented to inform consumers in Brazil.

Figure 9: Website for informing the population in Brazil

Source: ANATEL, Federative Republic of Brazil.

In the case of Hungary, a website was launched by NMHH containing the necessary information for all target groups in a structured form (stakeholders, households eligible for subsidy, households already

receiving digital broadcasts, journalists) and also supported interactive communication. The following information was also available:

– Information on the digital switchover project taking place globally, thus in Europe as well, on the need thereof, legislative background, global implementation and the scheme in Hungary (including the switchover scheduling and the precise description of the scheme);

– Detailed description of the advantages provided by digital broadcasting (free channels, digital parental lock option, electronic programme guide);

– Description of the technologies necessary for digital reception in a platform-neutral manner;

– Listing the equipment necessary for digital reception, detailed installation guide;

– List of stores and web shops distributing equipment necessary for digital reception;

– List of service providers and product packages (with search option for service providers available at the place of abode);

– All information about the possibility to apply for social subsidy;

– Downloadable documents for the application;

– Press room (notices, interviews, advertising materials).

2.2.1 Informal-analytical system for exhibition and analysis of efficiency of the process of transition to digital television in Russian Federation

For providing information and analyzing the efficiency of the transition process in the Russian Federation, Radio Research & Development Institute (NIIR), of the Russian Federation, developed an informal-analytical system. Access to that system is provided through Internet.

Tasks of informal-analytical system

Main tasks of informal-analytical system in the framework of realization of the program are:

– Exhibition of graphical data on the process of realization of the program;

– Showing the combined data on the process of realization of the program;

– Access to the toolset for analysis of key indicators and indexes of the program realization efficiency;

– Providing news and regulatory data relative to the realization of the program and Digital TV as a whole.

Structure of informal-analytical system

Informal-analytical system contains 2 units:

– News Portal , including regulatory information on the realization of the program and on Digital TV;

– Geoanalytical portal containing visual exhibition of the information on the realization of program, including analytical tools.

System consists of 2 main subsystems, which have been considered when technical complex had been organized:

– Software part (website) – accessible for users by request;

– Database – accessible only for system administrators.

Technical facilities have been designed with respect to the possibility of increasing of the workload and to ensuring the fault tolerance and workload distribution for exploitation of the system.

Structure of technical facilities is shown on **Figure 10**.

Figure 10: Structure of technical facilities for informal-analytical system
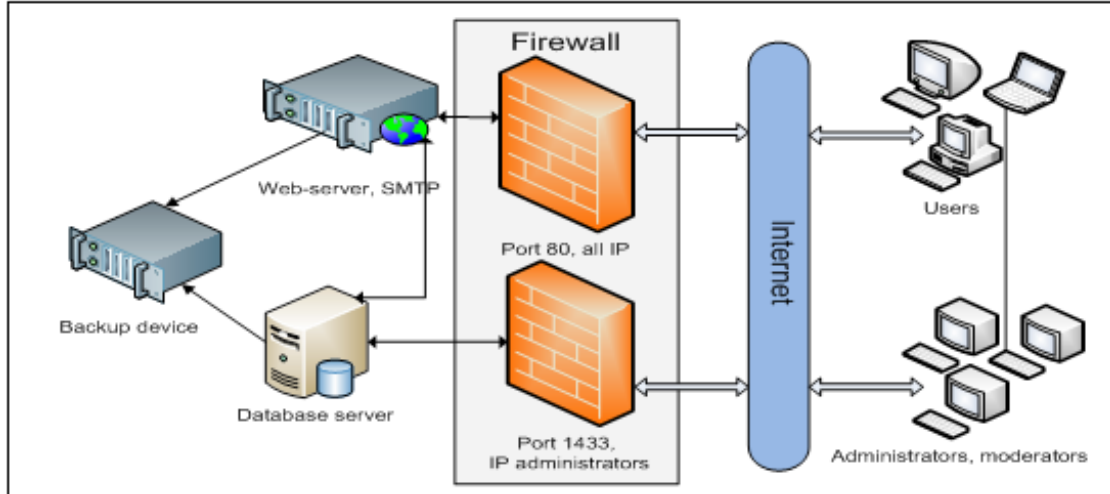
Source: Russian Federation

News and regulatory information Portal on the realization of the program and on Digital TV

The News and regulatory information Portal is updated regularly with respect with the monitoring of media and regulatory decisions. The Portal has some tools for improved searching of specific data (news or regulatory decisions). In particular, for the "News" section, there are tools for selecting news for specific regions of Russian Federation.

Organization of the Portal of news and regulatory information are shown on **Figure 11** and **Figure 12**.

Figure 11: Structure of news portal
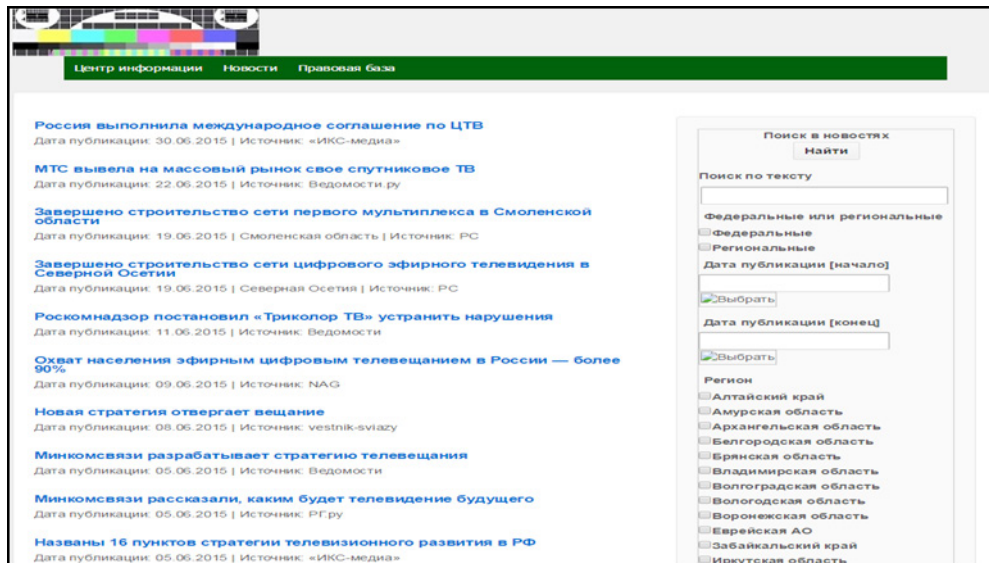
Source: Russian Federation.

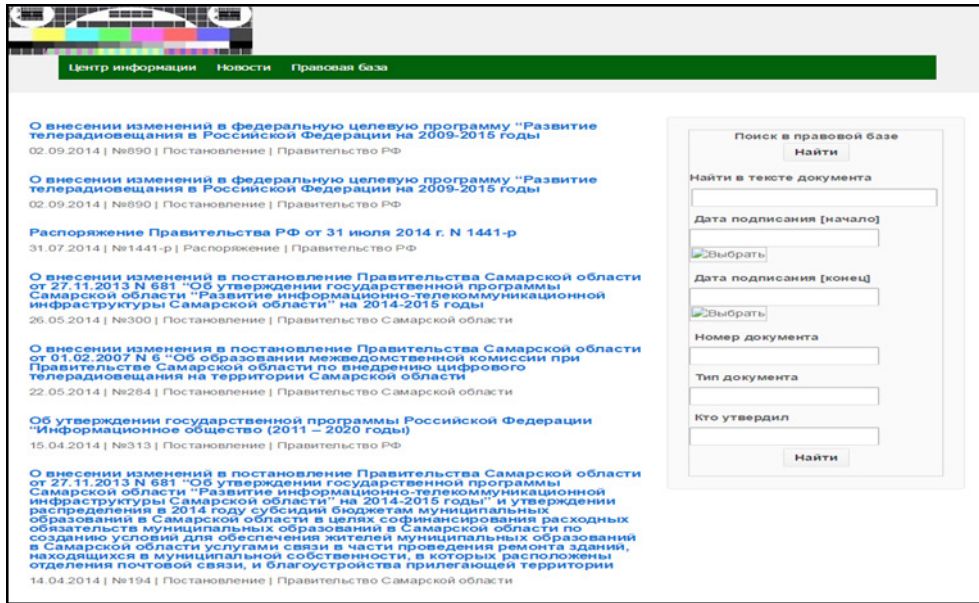Figure 12: Structure of regulatory information portal

Source: Russian Federation.

2.3 Online information platforms

The republic of Niger, located in Sub-Saharan Africa is a vast landlocked country that faces all kinds of structural challenges. To these challenges is added the digital transition for which the main issue is funding. Yet, the analysis of other sectors of the economy, such as telecommunications, shows that this sector is marked by rapid development of mobile telephony, which is the main communication platform with coverage of 30 per cent of the territory and 50 per cent of the population. Due to its very high penetration, mobile services are not only seen as a phone but also as a transaction device. It is also an identity landmark for hundreds of people as it is common in rural areas, to have a phone shared by several people.

The Niger situation described above is, with some figures, the same as in most countries of Sub-Saharan Africa. The scarcity of sources to finance the digital transition process pushes these countries to develop strategies, where communication is a key success factor. Under these conditions, the mobile, through SMS services, is an effective communication tool, which optimizes the chances of being heard and understood.

The use of SMS has been an option for Niger during the process of SIM registration. Because of its simplicity and affordability, SMS messages were used to alert citizens on issues related to SIM registration and the procedure for registration. This use has been critical. This channel can be also used as part of the outreach and communication plans for the digital transition. Messages will be sent to the public to inform them of the progress of the process, the outlets of set top boxes, the procedure for verifying set top boxes compliance, etc.

3   CHAPTER 3 – Media communication campaigns

The following chapter aims at presenting some experiences on implementing media campaigns for reaching consumers in a mass scale. A massive media campaign is a very effective way of reaching the population and promoting consumer awareness. Several countries used this strategy to inform the population.

Germany

The case of Germany is also interesting. Some successful experiences implemented by Germany can be pointed out:

− An official web-site(s) (Regional and over-all);

− Flyers. In Berlin, over a 1 million letters were sent to households;

− Announcements on TV and radio;

− Communication on citizen assemblies in towns and villages regarding the transition.

In the case of Germany, these initiatives were implemented by Governmental Initiative Group and Regional project offices.

The communication plan was implemented based on the following principles:

− Information to everyone: manufacturers, importers, wholesalers, retailers, TV network providers, including cable TV recipients;

− Communication done in a sequential order: stakeholders and experts first, recipients last (6-12 months after stakeholders and experts);

− The communication cannot be done too early and not too late. It is recommended to be performed 9-18 months in advance, otherwise the recipients' interest are already lost, but at least about 4-6 months in advance, so that it is not too late to allow consumer actions.

Other interesting information from the German case includes the fact that no refunding of customers and operators were implemented. In other words, no subsidies in favor of the platform in general and only facilities of a minimum level for day-to-day life in low income households possibly supported (based on Social Law).

And also that Germany implemented simulcasting at first but abandoned the policy later. For the first phase of the transition, when the country did not have too much previous experience and had a short period of communication, the simulcast was set to 9 months (2002/2003) in Berlin, and of 6 months in Northrhine-Westphalia region (2004).

In the second phase of the transition, the simulcast was decreased to no more than 6 months in Berlin (2003) and no simulcast at all elsewhere. For the third phase, Berlin and other regions did not have simulcast at all. The conclusion reached was to try to avoid (long) simulcast periods. The main reason being the perception of the population towards the transition process and also the conclusion reached that the longer the simulcast period is, the higher the demand for frequencies and other resources ("costs") will be.

Hungary

For the case of Antenna Hungaria (AH), a broadcaster in Hungary, the main means of communication implemented were:

− Besides building and managing the network, AH fulfilled its duties in informing the public by means of communication using their website, their Customer Center and publications such as leaflets;

–   Development of the Free-to-air DVB-T platform brand, MinDig TV, that was created and introduced for people to easily identify and understand the message of digital TV;

–   Technical specifications were set for approving DVB-T compatible receiver equipment. The equipment had a MinDig TV sticker;

–   Creation of the Official MinDig TV Store and Service Network.

Netherlands

For example, the Netherlands implemented a pre-switch over (national) strategy based on a massive information campaign, with advertising in national and local papers, messages in TV-text systems and banners on the programming (at the last month to the ASO shown every hour). The population was also informed by means of several website containing information and flyers.

The Netherlands case is interesting because they did not implement a simulcast period (less than 74.000 addresses only terrestrial TV access from 7.000.000 households) and did not subsidized set top boxes. The communication campaign in this case needed to be effective and at the end the ASO happened without major issues. After the switch off, approximately 300 complains were received, mainly regarding the reception being worse than analogue, indoor Antennas, rooftop distribution and no 100 per cent coverage.

The conclusions of the Netherlands case were that cable operators reacted proactively in the process (the digital switchover had impacts in the cable users), expected interference was much less than foreseen, bad in-house cable connections were easily replaced and available budget was hardly used.

Serbia

For Serbia, the following activities were implemented to provide end user information and assistance. A Communication campaign was implemented with the main goal of informing the citizens about transition from analogue to digital TV broadcasting, what the benefits of the transition are and how to prepare for the digital broadcasting. The campaign started in August 2014 and it was led by the Ministry, and partners in the campaign were REM, public broadcasting services (RTS, RTV), national, regional and local broadcasters.

Electronic media also supported the switchover process by informing the citizens about key issues. The promotion also encompassed printed media, Internet portals, social networks, outdoor advertising and contact with citizens. Web pages dedicated to the digitalization process were launched (digitalizacija.info and digitalizacija.rs).

1.1   Traditional media campaigns

TV and radio commercials are very effective tools to deliver information and reaching the consumers in mass scale, bearing that in mind almost every country uses to some extent the traditional media to address their population. One example of how these media were used is Hungary.

Hungary

Hungary used TV and radio commercials similarly to the other components of the communication campaign, the TV commercials also focused on the advantages of digital broadcasting. According to the media plan, the spots of 60 and 90 seconds were broadcast by the two largest commercial channels in Hungary, three channels of the public service television and several other channels in rotation.

In summary, the messages that needed to be delivered were:

–   7, instead of 3, channels for no subscription fee;

–   Better image and audio quality;

- Broadcast stop and replay options;

- Possibility to listen to the programs in the original language;

- Use of video library.

Another important task of the communication campaigns is encouraging stakeholders to act. In the Hungarian perspective, the following tools can be used with that purpose:

- Displaying a ticker on the analogue stations with a warning (If you see this ticker, you have analogue reception. This method of reception will be terminated. You need to make arrangement for the digital reception. Phone number of the call center);

- Increasing the number of media appearances in the settlements belonging to Phase 1;

- Giant poster replacements;

- Sending press releases to the press list collected at the regional/local press conferences;

- Organizing interviews in the regional/local press, with special regard to radio;

- Attending significant regional/local events, using the following tools: information stand; technicians with vans equipped with special measuring devices; and, leaflets.

1.2   Social and digital media campaigns

Digital Media campaigning, including Social Media, can very useful to reach and inform consumers and to promote awareness. Several countries are using websites to inform the population about key topics regarding the transition, for example, the Analogue Switch-Off schedule, how to migrate to DTT reception, information regarding mitigating interference, and other topics.

Brazil

The media campaign can use out-of-home material, such as ads on billboards, public transportation (buses, taxis, etc.), and leafleting events. Some of this material, for the case of Brazil, can be shown in **Figure 13**. The leafleting events are very popular in Brazil and are important occasions for getting the population's attention in a fun and enjoyable way.

Figure 13: Out-of-home campaign material in Brazil

a)   Public transportation

b) Top sights and billboards

c) Leafleting events material

d)   Leafleting event with the transition mascot

Leafleting Events[1] – EAD Mascot

1 Picnik na Torre: leafteting event that happened in Brasilia´s Digital TV Tower located in the capital of Brazil.

Source: ANATEL, Federative Republic of Brazil.

Hungary

Other countries also implemented web and mobile applications to inform consumers regarding coverage. This is the case of Hungary, where Antenna Hungaria (a Hungarian broadcaster) implemented some tools for informing the consumers about reception information. A coverage database (nationwide address database and DVB-T network coverage database) on AH's website was implemented for checking coverage. AH's website also assists in selecting the antenna for DVB-T reception and an Antenna Tájoló application (Antenna Orientation) was also provided to help installing the antenna.

Hungary is a good example as well of usage of out-of-home material in the communication campaign, some examples of the material used and how it creates and identifiable image, used consistently during the campaign, can be verified in **Figure 14**.

Figure 14: Out-of-home campaign material in Hungary

a)

b)

Source: NMHh, Hungary

At regional and local level, Hungary used the out-of-home tools very often for:

−   Display of an announcement in the buildings of the local governments;

−   Depositing leaflets at the local governments and post offices;

−   Articles, interviews, paid advertisements in the local online and offline press;

−   Cooperation with the local/regional media in keeping the topic on the agenda ;

−   Press conference in all county seats;

−   Setting up information stands at local significant events (road shows);

−   Billboard campaign;

−   Direct mails, several times, to the socially disadvantaged households.

To encourage the population to act the out-of-home material can provide interesting ways of getting the attention of the population. **Figure 14 (b)** above presents an example of how can this be done. The same message that was being provided is overlapped with a warning of the ASO date, which gets the direct attention of the people around the billboard.

Russian Federation

Another example is Russia where they implemented a website with a lot of interesting information and that also informs about coverage of the available multiplexes in each region. It is the Geoanalytical portal of the informal-analytical system already shown in **Chapter 2**.

The Geoanalytical portal allows performing a visual control of the fulfillment of the Federal Programme and also acquiring the combined data on Digital TV implementation. Combined data can be presented for the whole territory and for the territory of specific regions and parts of the country. With the help of a map tool, users can download visual information about Digital terrestrial TV (DTTV) stations (with linkage to their geolocation coordinates) from with their respective coverage areas. Visually the structure of portal is shown on **Figure 15**, and it contains the following sections:

1)   Digital terrestrial television;

    1.1 The first multiplex transmitters;

    1.2 The second multiplex transmitters;

    1.3 Coverage areas of digital terrestrial television;

        1.3.1   The first multiplex;

        1.3.2   The second multiplex;

2)   Satellite direct TV;

    2.1 By operators;

    2.2 By satellites;

3)   Multiplex formation centers;

4)   Statistics of implementation of digital terrestrial television.

Figure 16 shows the section "The first multiplex transmitters" for exhibition of the fulfillment of the Federal Programme as an example of a specific region using of a special tool for the calculation of combined data on coverage areas of DTTV stations with respect with stage of construction.

Figure 17 shows the example of section "Satellite direct TV by operators" for exhibition of data on coverage of satellite direct TV and for the calculation of population coverage by satellite TV services.

Figure 18 shows an example of section "Coverage areas of digital terrestrial television. The first multiplex" for exhibition of the map of the Central European part of the Russian Federation covered by DTTV stations in different stages of construction.

Besides the functions shown on the abovementioned figures, the system has a tool for executing the combined calculation for selected stations (see the example on **Figure 16**) or regions (Section "Statistics of implementation of digital terrestrial television") and also printing of the presented data.

Figure 15: Structure of the geoanalytical portal of the informal-analytical system
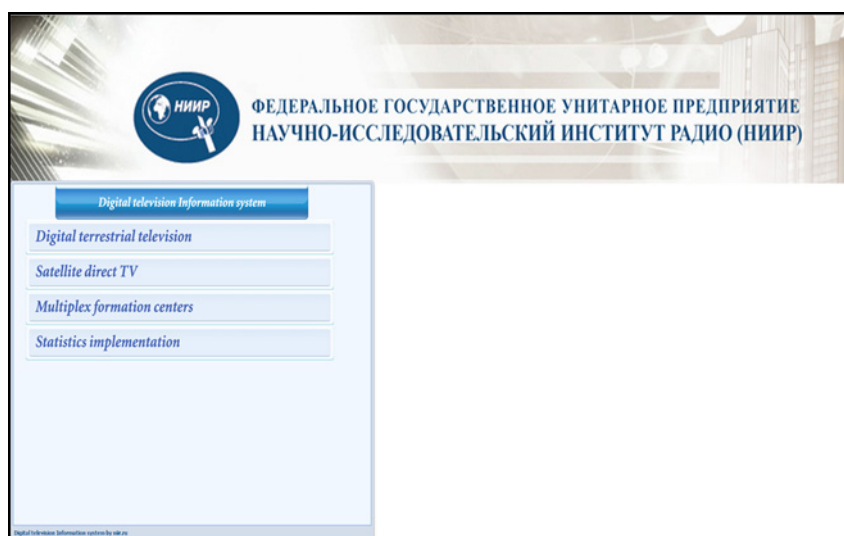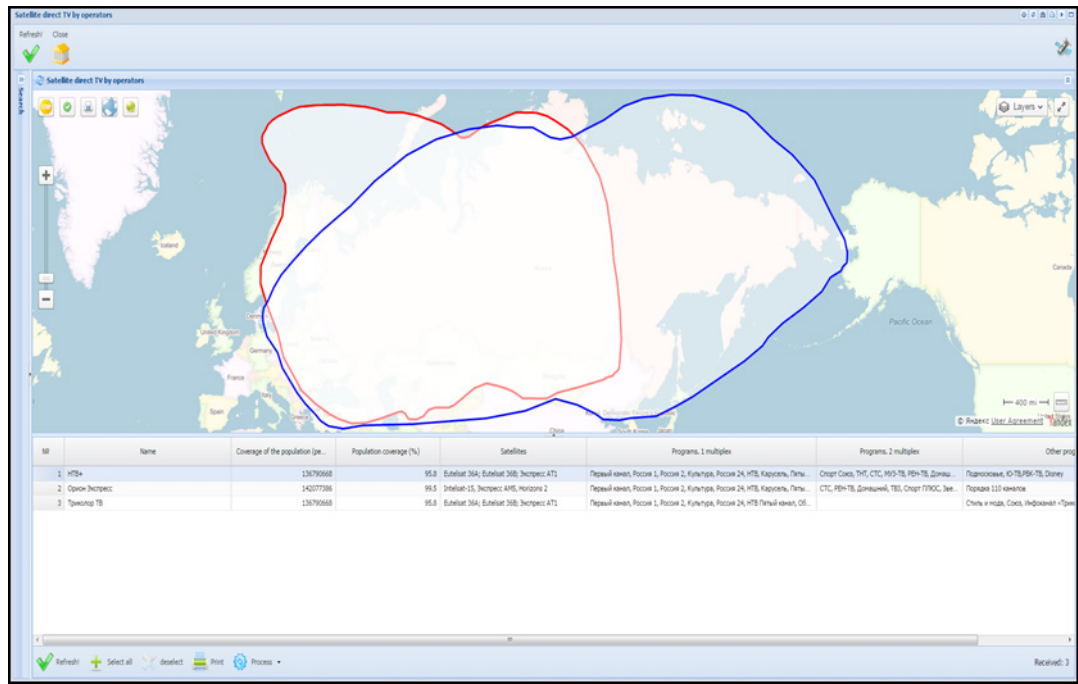

Source: Russian Federation.

Figure 16: The geoanalytical portal an example a Russian region
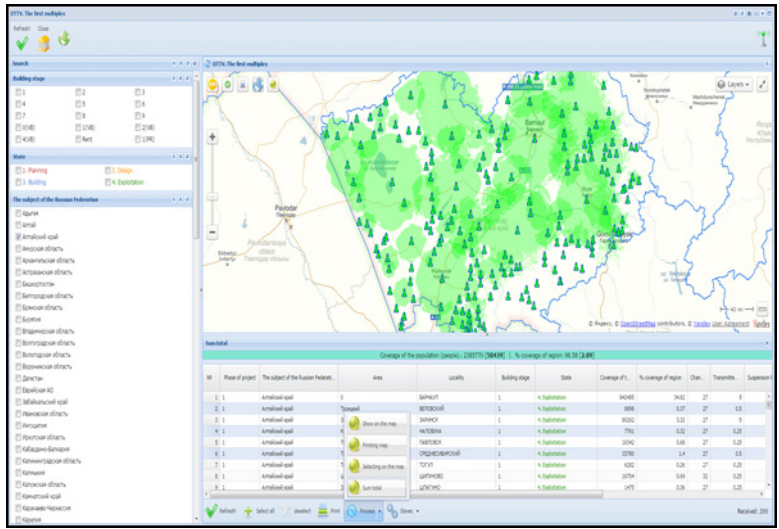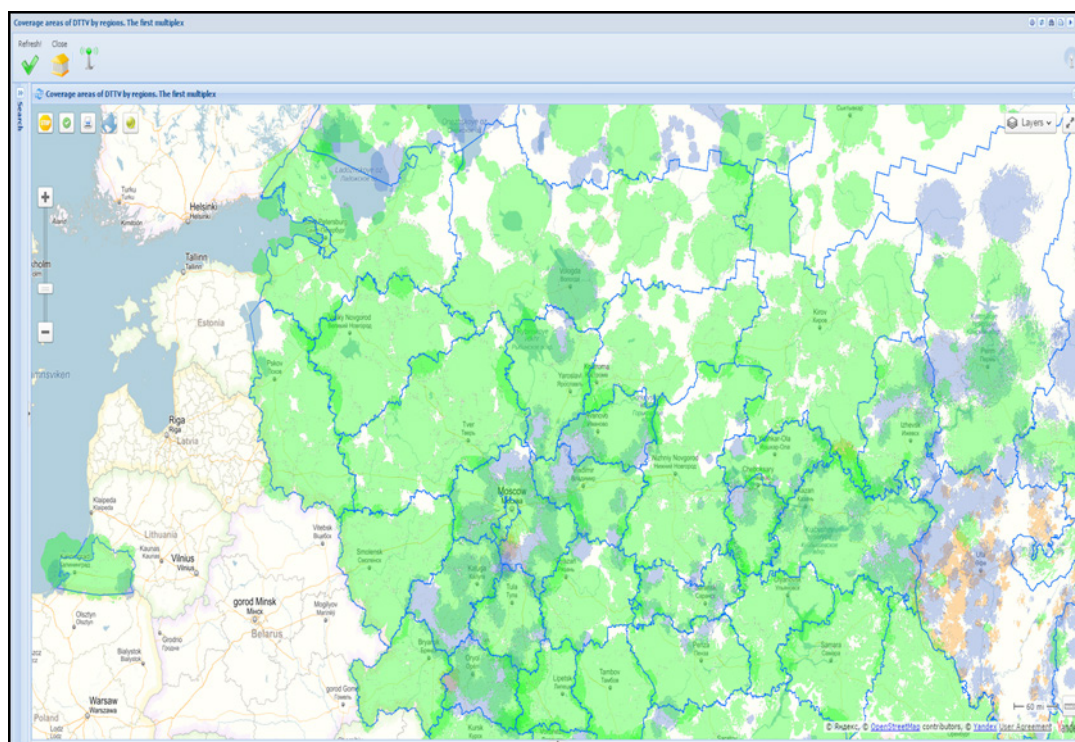

Source: Russian Federation.

Figure 17: Satellite direct TV by operators

Source: Russian Federation.

Figure 18: Coverage areas of digital terrestrial television. The first multiplex on the example of coverage of the Central European part of Russian Federation by the first multiplex of DTTV

Source: Russian Federation, Out-of-home media campaigns

Thailand

A very interesting case is Thailand. They created a web and mobile application to inform consumers regarding the DTT coverage, location and distance of transmitters, frequency channel information and to report problem areas. **Figure 19** shows some screen shots of the application.

Thailand used digital means, such as web chats and forms, email, social media and mobile applications, to solve consumer complaints and doubts as well. The figure below brings an example of the various call center channels, including those online, and also a screen shot of the mobile application and its capabilities.

Figure 19: Web and mobile applications for informing consumers about DTT coverage

Source: NBTC, Thailand

Figure 20: Call center online and offline channels and mobile apps for consumer outreach

Source: NBTC, Thailand

Moreover, Thailand used other online tools to reach consumers and it is important to notice their use of social media as a tool to inform and engage consumers in the process. **Figure 21** shows some examples of tools that can be used in the consumer outreach efforts, which were used by Thailand.

Figure 21: Social media as a tool to inform consumers

Source: NBTC, Thailand

An important detail needs to be mentioned regarding the use of social media. Thailand promoted social media communication with the support of super stars, singers and famous people in Thailand by means of the Project DTV4all, all4DTV, which produced content for social networks. The figure below brings some ad material and video that were used in this Project.

Thailand

Another interesting case of out-of-home campaigning comes from Thailand. First of all, it was created a mascot to motivate and engage the population, not only in events but also online and at the TV and radio programming. **Figure 22** brings an example of the mascot.

Figure 22: DTV mascot from Thailand

Source: NBTC, Thailand

Roadshows and DTV events were done to promote and educate consumers and stakeholders regarding the transition process. Along with that the "DTV Troop" was created to engage the population. **Figure 23** shows some of these initiatives.

Figure 23: Out-of-home campaigning in Thailand

Source: NBTC, Thailand

To inform the population, brochures and a DTV Installation Handbook were created and handled to the population. These are also examples of campaigning material that can be used in out-of-home events.

Figure 24: Out-of-home material used in Thailand

Source: NBTC, Thailand

4   CHAPTER 4 – Communication strategies targeted to low income population

Specific actions may be necessary for communicating with low income population. The planned actions to include low income population in Brazil are presented below.

For Brazil, the beneficiaries of "Bolsa Família" Federal Program – BFP (minimum income program) will be provided with a STB and an antenna kit. The program has around 14 million families that will receive reception equipment (BFP beneficiaries). The main principle is that BFP beneficiaries would not be able to buy the equipment and to accelerate the transition supplying equipment to these families is necessary.

The BFP beneficiaries need to be aware of: (i) Availability of kits; (ii) The need to schedule a date in the call center to retrieve the kit; (iii) How to install the equipment (self-installation). Therefore, the communication campaign needs to inform the BFP beneficiaries about not only the transition process but also regarding special provisions for them.

The main channels to promote awareness for this part of the population in Brazil include social services centers, Out-of-home channels (billboards, sound cars, etc.) television/radio, and also the Reception Equipment Distribution Centers (RDC), which are the locations from which people retrieve the reception equipment. The RDCs can be part of the communication strategy, for example, to train users on how to install the equipment and also to inform about the process.

Figure 25 shows an RDC in Brazil and people receiving training.

Figure 25: RDC infrastructure and the communication strategy

a)   RDC infrastructure in a small city of Brazil

b)   People receiving equipment and being provided with information

Step by Step of the Process

c)   Receiver Equipment Installation Training

Technical Training

d)   Installation Leaflet handled with the Receiver Equipment Kit

Source: ANATEL, Federative Republic of Brazil.

Other examples of Help Programs for socially vulnerable citizens include Serbia and Thailand. The Government of Serbia adopted an Act defining details of the help scheme for this part of the population. The help included vouchers for subsidized purchase of STBs. Citizens entitled to obtain vouchers were beneficiaries of the social aid, beneficiaries of the care assistance, retired people living alone, having income less of the minimal retiring income in the Republic of Serbia. The application period for citizens for the help scheme was from November 2014 to April 2015.

The Ministry also issued a public call in order to identify retailers/stores for the fulfillment of the help scheme. Vouchers were delivered to home addresses of the beneficiaries, together with the list of stores where they could be used (over 1000 stores). Vouchers could be exchanged only for a STB labeled with the "digital TV" mark. The Voucher value was 3000 RSD (around 24.5 EUR) and it could have been exchanged for a STB, without additional payment. About 164.000 citizens used their vouchers.

In the case of Thailand, a DVB-T2 Receiver (including Set-top-box and integrated Digital TV) has to comply with NBTC's DVB-T2 Receiver Specification Edition 2012 and 2013 (Amendment). Draft of ASEAN Common Specification and specifications from ASEAN countries has been used as a baseline during developing the above specification. **Figure 26** shows the countries involved in the standardization initiative.

Figure 26: Receiver Standardization Initiative of ADB countries

Source: NBTC, Thailand

The ASEAN Digital Broadcasting (ADB) initiative to develop common specifications for DVB-T2 receivers included a Self-Conformance scheme that mandated the submission of test reports to conform and to be eligible for conformance, and also the mandatory Digital Receivers sticker and Digital TV Mascot & Logo.

A similar Labeling scheme was created in Serbia by the Ministry as a registered warranty trademark for "digital TV". Receivers appropriate for the reception of broadcasted signal in Serbia may be labeled with the "digital TV" mark. Conditions under which the Ministry shall allow the use of the "digital TV" mark, together with digital terrestrial television receiver characteristics, were set in the General act on warranty trademark. The Ministry published and updated the list of receivers which can be labeled with "digital TV" mark.

DVB-T2 Receiver coupon program in Thailand

NBTC, the Regulator in Thailand, set a coupon program as a subsidy measure and distributed these cash coupons to every household in Thailand. National Council for Peace and Order (NCPO) Committee approved to utilize some parts of the revenue from the spectrum auctions for the DTT Receiver Subsidy Program. The reserve price portion (15,190 million Bath) from the broadcasting frequency auction was allocated for the program. Digital TV coupons worth THB 690 ($20) for digital TV receivers delivered since October 10, 2014. The coupon can be used for Digital Set-Top-Box and iDTV Set with built-in tuners. **Figure 27** shows an example of the coupon handled to the population by means of a correspondence.

Figure 27: Thailand coupon letter

Source: NBTC, Thailand

How coupon program works

Coupons are distributed to eligible households via postal services. The eligible household is registered by a Household registration (House ID) and a registered householder. The received coupon can be exchanged for a basic Set-Top-Box or as a discount card for a premium Set-Top-Box or iDTV. The authorized suppliers/vendors are mandated to request a program sticker for each Set Top-Box or iDTV, and required to stick it on the used coupon. **Figure 28** summarizes the process used in coupon program.

Figure 28: Thailand coupon program

Source: NBTC, Thailand

Hungarian State subsidy for the socially disadvantaged households

Hungary is another example of a country that implemented a subsidy program. The case of Hungary is interesting because, as in Brazil, no coupons were used. The Decree of the President of NMHH on the State subsidy that may be granted to ensure the digital reception of public service media broadcasting and the rules pertaining to the related data supply and data management was published – after approval by the European Union and consultations with the Minister in charge of the general government – on 6 December 2012, based on Article 53 (1) b) and (2) of Act LXXIV of 2007.

The database of the socially disadvantaged households was compiled in cooperation with the Hungarian State Treasury, the Central Administration of the National Pension Insurance, the local governments and the subscription service providers.

The almost 500 thousand socially disadvantaged households, included in the database, were visited by surveyors, who identified the manner these households received TV broadcasting. Those who received analogue broadcasting only, could apply for the subsidy. During the application process the eligible households could select the method of digital broadcasting in a competition-and platform-neutral manner (they had the option to ask for the installation of a digital converter box with an aerial, if necessary, or to conclude a preferential contract with a digital provider; in the latter case the authority credited the installation costs in the contract). The installation was performed by the experts employed by the authority on dates agreed later. Ultimately, during the digital switchover scheme, altogether 148,369 households received subsidized equipment.

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Workshop presentation- Session 1- Ahmed Boraud- Niger

Workshop presentation- Session 1- Arseny Plossky- Russian Federation

Workshop presentation- Session 1- Elmar Zilles- Germany

Workshop presentation- Session 1- Vladana Radisavljevic- Serbia

Workshop presentation- Session 1- Orasri Srirasa- National Broadcasting and Telecommunications Commission (NBTC) of Thailand

Abbreviations and acronyms

Various abbreviations and acronyms are used through the document, they are provided here.

Abbreviation/acronym	Description
ADB	ASEAN Digital Broadcasting
AH	Antenna Hungaria – a broadcaster in Hungary
ANATEL	Brazilian National Telecommunications Agency (Agência Nacional de Telecomunicações)
ASEAN	Association of Southeast Asian Nations
ASO	Analog Switch-Off
BFP	"Bolsa Família" Federal Program – A social welfare program of the Brazilian government
DSO	Digital Switch-Over
DTT	Digital Terrestrial Television
DTTB	Digital Terrestrial Television Broadcasting
DTV	Digital Television
DVB-T	Digital Video Broadcast – Terrestrial
DVB-T2	Digital Video Broadcast – Terrestrial 2nd Generation
EAD	Brazilian Managing Entity of the Process of Redistribution and Digitalization of Television and Retransmission of Television Channels (Entidade Administradora do Processo de Redistribuição e Digitalização dos Canais de TV e RTV)
ECOWAS	Economic Community of West African States
iDTV	Integrated Digital Television
MinDig TV	This service was launched in Hungary in December 2008, and currently has a national coverage of almost 99 percent of the population. The service offers a great opportunity for everyone who would like to watch HD channels in their homes.
NBTC	Thailand's National Broadcasting and Telecommunications Commission
NIIR	Russian Federation Radio Research & Development Institute
NMHH	National Media and Infocommunications Authority (Nemzeti Média- és Hírközlési Hatóság) – Regulator in Hungary responsible for the digital switchover
RDC	Reception Equipment Distribution Center
REM	Regulatory Authority of Electronic Media (Serbia)
RTS	Radio Television of Serbia (Radio Televizija Srbije)
RTV	TV Relay Service
SIM	Subscriber Identification Module
Simulcast	Simultaneous broadcasting of both analog and digital TV signals

Abbreviation/acronym	Description
SMS	Short Message Service
STB	Set Top Box

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Arab States | Asia and the Pacific | | CIS countries

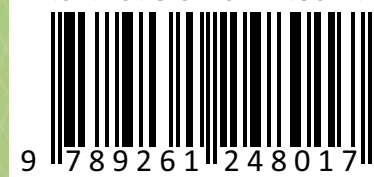| **Egypt**	**Thailand**	**Indonesia**	**Russian Federation**
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