

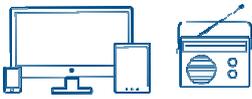


CONSEIL SUPÉRIEUR DE L'AUDIOVISUEL

Modernising the digital terrestrial television (DTT) platform

Work programme

February 2018



Since its arrival in mainland France in March 2005, digital terrestrial television (DTT) has received several structural makeovers, namely in terms of the number of channels and picture quality. 5 April 2016 was a major milestone in this respect. Since then, practically all DTT channels have been broadcast in High Definition (HD).

To prepare for the forthcoming developments of DTT, the Conseil started preparatory work in 2017, together with all stakeholders in the sector. On 27 July 2017, it also launched a wide public consultation, which collected 27 contributions. The Conseil has published a synthesis of them.



It is clear from these contributions that the Paris Olympic Games in 2024 could be a target time frame in which a modernised DTT platform would be proposed to viewers.

This document presents a work programme developed to achieve this objective.

A work schedule is based on the following principles that need to be further honed with stakeholders in the audiovisual industry:

- a transition to the modernised DTT platform within a short time line (where appropriate, in one night, as for the operations on 5 April 2016), which would occur by the first quarter of 2024 at the latest;
- a rapid definition, if possible by the end of 2018, of all the components of this updated DTT platform so that they may be rapidly integrated in TVs and other DTT reception equipment. This would leave several years between the marketing of new generation equipment and the migration scheduled for early 2024, allowing natural renewal of a large share of installed receivers. It will certainly be necessary to set up support, when the time comes, to ensure that all households affected have compatible equipment, like the support implemented by the transition to HD on 5 April 2016.

This work schedule has now been defined through to the end of 2018. Later stages need to be rediscussed and specified, in partnership with all the stakeholders, in an update in early 2019.

This document successively details the three major plans that now need to be steered through:

- firstly, a technical agenda to define the picture and sound formats, technological standards with interactive services, broadcasting and coding norms and the methods for introducing this new technology on DTT;
- secondly, a regulatory agenda, aimed at responding to requests for flexible use of the DTT platform by television broadcasters;
- finally, a project designed to support the implementation of the modernised platform which will integrate technical and regulatory developments resulting from the first two projects.

Agenda 1 - Defining new technical standards and their introduction method on DTT

Several technical standards need to be defined:

- future picture and sound standards, providing “enhanced HD” or even “ultra-high definition (UHD)” services (1.1);
- interactive service standards, based, in particular, on the “HbbTV” standard (1.2);
- broadcasting and coding standards, increasing the capacity of DTT networks (1.3).

The operational conditions and introduction timetable of these different standards on the DTT platform require a certain amount of work (1.4).

All this work now needs to be started, with the aim of concluding, if possible, before the end of 2018. It will lead to a report, in the form of a technical specification of this modernised DTT. The technical commission of digital experts (CTEN), reporting to the Conseil, will coordinate this work.

To perform this work, technical experiments may be conducted on the current DTT platform. The Conseil will favourably consider any requests in this direction.

1.1. Defining picture and sound standards

Work will be started in the first quarter of 2018 to define the picture and sound standards¹ that will be used by the enhanced high definition and ultra-high definition services:

- “4K” offers resolution that is four times greater than the HD;
- “HDR” (*High Dynamic Range*) offers deeper contrasts;
- “WCG” (*Wide Color Gamut*) provides an enriched range of colour;
- “HFR” (*High Frame Rate*) reproduces movements with enhanced sharpness;
- “NGA” (*Next Generation Audio*) gives better sound, namely through the management of the volume of dialogue and the introduction of spatial sound (*see figure 1*).

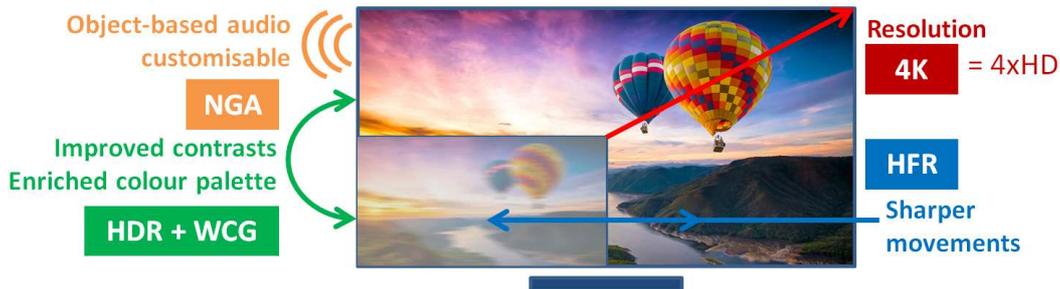
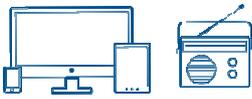


Figure 1: the different picture and sound improvement technology

¹ Each of these improvements offers varying benefits, depending on the content broadcast. For example, HFR provides an improvement in the broadcasting of sports events (better follow-up of the action).



1.2. Promoting the development of interactive services

Since 2010, most TVs sold in France and Europe have been fitted with the interactive Hybrid Broadcast Broadband Television (HbbTV) system. This enables channels to offer viewers enriched services to support their linear programmes, by combining DTT reception with flows received via telecommunications networks. This feature allows viewers to access new content (VOD, catch-up TV, control of the live broadcast, etc.).

Nine DTT channels currently offer an HbbTV service. To promote the development of interactive services, to the benefit of viewers who cannot access such services by other means, technical work will start in the first half of 2018 to guarantee a harmonised version of the French HbbTV standard plan and ensure interoperability of HbbTV offers on all equipment. Work will also be carried out on the possible establishment of a controlled access system (“CAS”).

This work is, in principle, independent from the work relating to the improvement of picture and sound.

1.3. Defining the broadcasting parameters and their impact on the development conditions of DTT

Enhanced high definition or ultra-high definition services consume more broadband than DTT services currently aired (which are in high definition or, in some cases, standard definition). It is necessary to change broadcasting standards (move from DVB-T to DVB-T2) and coding standards (move from MPEG-4 to HEVC) to increase the capacity of the DTT platform (see figure 2) and thus launch these services with improved picture and sound quality.

These standards need to be configured. For this purpose, the work will start in the first quarter of 2018 to define, in particular, the technical profile(s) of the DVB-T2 standard that will be used in France by national and local multiplexes.

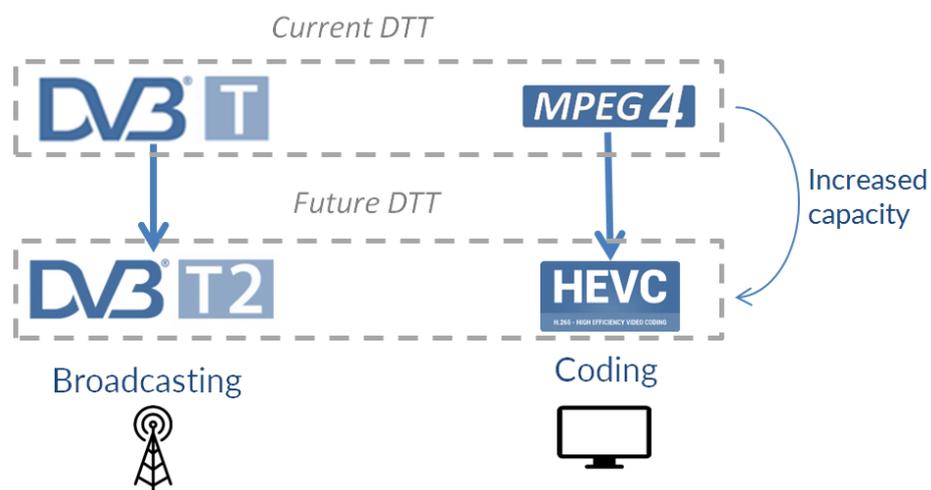


Figure 2: move to UHD.

1.4. Defining the transition operational conditions and timetable towards modernised DTT

Most contributors to the public consultation prefer a transition in one single step and for all multiplexes, following a scenario similar to the one set up for the transition to high definition on 5 April 2016.

The operational conditions of this transition will be itemised in consultation with stakeholders.

Agenda 2 - Allowing more efficient management of the use of the DTT platform by television broadcasters, to the benefit of viewers

2.1. Changing the rules relating to frequency management

Broadcasters would like to be able to modulate the use of radiofrequencies according to the programmes broadcast, in order to adjust the picture format. For example, the same channel could propose sports broadcasting in 4K and HFR resolution then a documentary in HD and HDR (*see the service represented in red in figure 3*).

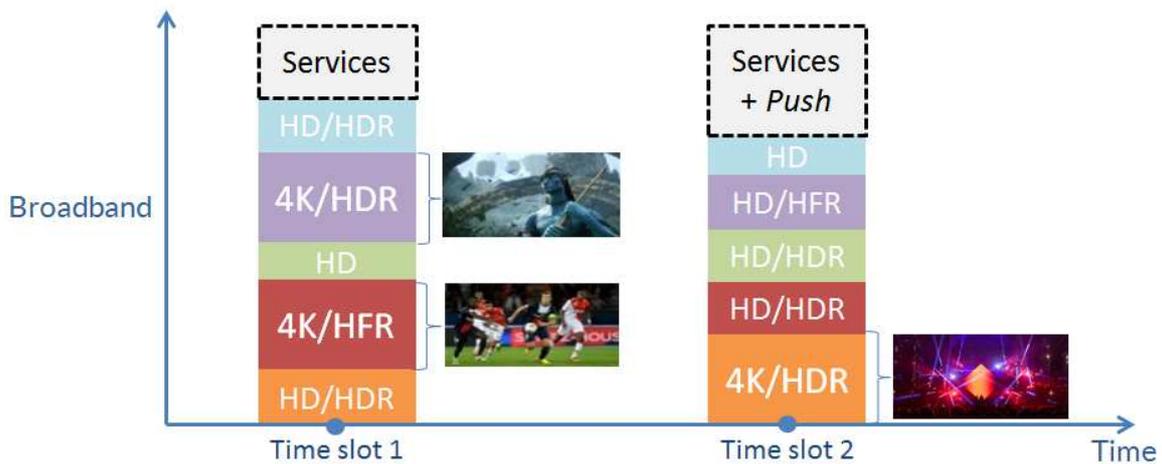
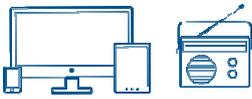


Figure 3: the dynamic management of the resource, innovation to support programmes.

The Conseil, in consultation with the Government and broadcasters, will start work, as of the first quarter of 2018, to determine if it is possible and desirable to offer this flexibility to broadcasters. Where appropriate, regulatory, and even legislative, changes may be proposed as part of the draft broadcasting bill.

2.2. Adapting rules relating to televised advertising and the role of data in broadcasting

Broadcasters are unsure as to the legislative or regulatory changes needed to allow them to gather data for use by DTT viewers, like distributors on other platforms, and to rethink the whole televised advertising model.



These changes would also allow broadcasters, where appropriate, to offer content adapted to viewers' expectations and would increase the appeal of the DTT platform for advertisers.

The subject falls first and foremost under the responsibility of the Government and other independent administrative authorities, such as the French data protection authority (CNIL). As far as advertising is concerned, the General Directorate of media and cultural industries (DGMIC) opened a public consultation on 21 August 2017, to gather comments from the relevant stakeholders regarding the simplification of applicable rules.

Agenda 3 - Federating initiatives to prepare the transition to the modernised DTT platform

3.1. Promoting a joint approach between DTT broadcasters

All broadcasters having given their opinion as part of the public consultation consider the launch of a common platform, allowing them to publish and market interactive services while ensuring a seamless experience for viewers.

Within this framework, some enriched services, namely video on demand, could be monetised and require possible access control. The evaluation of these new services, the nature of the structure that could manage this platform and all technical conditions remain to be defined.

The Conseil invites all interested stakeholders to propose a detailed project for a common platform, explaining the impact for viewers. It will organise a first update on this project in the second quarter of 2018.

3.2. Defining the labelling of equipment

A logo, labelling or even certification could be considered to indicate to users which products are compatible with the modernised DTT platform and guide them in their purchases.

International logos proposed are not enough to guarantee compatibility of equipment with standards and technical profiles implemented for DTT in France.

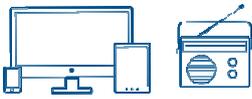
This agenda may only be conducted after the definition of all technical norms (*see agenda 1*).

3.3. Allowing initialisation of the offer in mainland France well before 2024

From the initial work conducted by the Conseil with broadcasting operators, it appears that a new multiplex could be deployed in part of mainland France covering 60% of the population.

This so-called "precursor" multiplex could:

- firstly, act as an experimental platform for DTT stakeholders, in particular television services and technical broadcasters;



- secondly, promote the platform to the public through an offer consisting of enhanced HD or even UHD programmes.

In consultation with broadcasting operators and the National frequency agency (ANFR), the Conseil is continuing work on identifying the resource needed for this precursor multiplex, while making sure there is no impact on coverage of the six national multiplexes already in use.

At the same time as defining the technical parameters of the modernised DTT platform (see agenda 1) and identifying the frequency resource needed for this multiplex, in 2018, the CSA and broadcasters will conduct a review of the opportunity and launch conditions of a precursor multiplex (relevant coverage, launch date, content broadcast, etc.).

Conclusion: work timetable

The diagram below summarises, in a broad outline, the timetable for this work programme. It will be honed in 2018, as and when the work progresses. In addition, the operational conditions of the preparation for transition to the modernised platform and the possible support of viewers remain to be defined, in cooperation with the relevant stakeholders and administrations.

