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Evolution scenarios for future television in Italy

ITU-T Workshop
on the future of television for
Europe
19/11/2021

- Today's television in Italy
- Evolution of broadcast TV (the DTT transition)
- Broadband TV (OTT services) at present
- Broadcast vs broadband
- Possible convergence of broadcast and broadband TV, as regards receivers functionality and user experience
- Looking forward to adoption, regulation and deployment of DVB-I in Italy

	Technology	Standard	Type of services	Audience/ subscribers (million HH)
Broadcast	DTT	DVB-T	FTA & Pay	23.7 (26,0 total) *
	TV SAT	DVB-S/S2 DVB-S2	FTA (Tivù) Pay (Sky)	4,4 5,0 (in 2018) **
	Cable TV	DVB-C	No services	0
Broadband	OTT TV		services from at least 10 major players (Italian and international)	11,0 *** (audience of services targeted to TV screen)

- source, SWG and FUB Report, March 2021

** current figure not available (the parent company ComCast does not disaggregate data per country)

*** source: Milano Finanza, 2021

First generation (2008/2012-2022)

- **DVB-T**
- **20 multiplexes** with national coverage
- M regional multiplexes
- **MPEG-2 for SD services**
- **MPEG-4 AVC for HD services**



Second generation (from 2023)

- **DVB-T2**
- **12 multiplexes** with national coverage
- N < M regional multiplexes
- **MPEG-4** at first
- **HEVC** later

Compelling reason: to comply with the requirement of freeing the 700Mhz band, in favour of mobile services (LTE and 5G)

Strategic reason (virtue out of necessity): enhance quantity and quality of current offer, to match expected user experience with high quality of tv screens

Constraints: allow Broadcasters and Users to afford the transition

Means to achieve transition: on the users' side

2008-2022

First generation



from 2023

Second generation

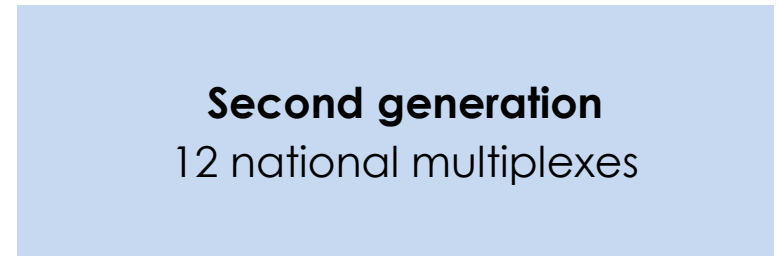
Preparation and mitigation measures (since 2017)

- **Foster introduction of enabled receivers by suitable laws** (e.g. Law 11/2015, mandating DVB-T2 and “all ITU-T approved encoding technologies” in all receivers sold in Italy from 1st January 2017)
- **Count on natural changeover of TV sets** (estimated: 5M sets/year)
- **Subsidize receivers:** enabled STB purchase and TV replacement
- **Monitor the installed basis of receivers** and act consequently

Means to achieve transition: on the operators' side (1 o 2)

2008/2012-2022

from 2023



in 2021-2022

- **Re-assignment of national T2 networks** to former operators applying for them, with conventional criterion “1 former T1 Mux = 0.5 T2 Mux”
- Remaining national T2 networks assigned with a Competitive contest allowing operators to round up their number of T2 networks
- Regional multiplexes assigned to carry-only operators. Local tv bouquets to be onboarded on a contest basis
- **Frequency refarming**

Means to achieve transition: on the operators' side (2 of 2)

2008/2012-2022

from 2023



in 2021-2022

- **Phase out MPEG-2** and adopt MPEG-4 also for SD services
- **Release frequencies in 700MHz band** (by 30 June 2022)
- **Dismiss DVB-T and phase in DVB-T2**
- **Phase in HEVC Main 10 encoding**

Action	Planned date	Revised date / planning
Completion of release of 700-Mhz band	21-30 Jun 2022	
Phase out of Mpeg-2 encoding	1 Sep 2021 for all services	<ul style="list-style-type: none"> • for niche SD TV services started mid October 2021 • for mass audience SD TV services phase out planning will be announced by the end of 2021
DVB-T2 deployment	Jul-Dec 2022	Starting from Jan 2023
Phase in of HEVC	after deployment of DVB-T2 (in coexistence with MPEG-4)	

Broadband Television in Italy:

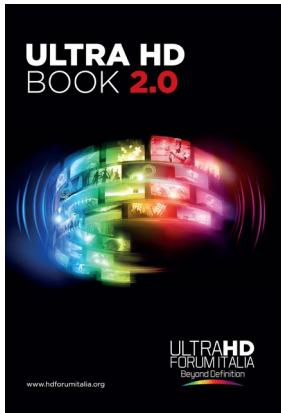
- Increasing offer as UBB grows
- Mass delivery is still problematic

OTT Services associated to Broadcast services (via HbbTV)		from DTT broadcasters	
		from SAT broadcasters	
Standalone OTT Services	On demand services	from global players	AppleTV, Netflix, Amazon PV, Now TV, Disney+, ...
		from broadcasters	RaiPlay, Mediaset Infinity, ...
		from telcos	TimVision, ...
	Linear services	Replicas of broadcast services	RaiPlay, Mediaset Infinity, SkyGo, ...
		Pay TV Services	Dazn, Amazon, ...
		F.A.S.T. Services	PlutoTV, Xumo, ...

- Dual or triple play TV (DTT | SAT + OTT or DTT + SAT + OTT) is becoming very common, BUT:
 - **Navigation across broadcast and broadband services on the same device is more and more challenging** for an overwhelming majority of users
 - **Every TV/box must contain (or download) an “app/widget” for each OTT service.** This is a challenge for manufacturers
- It would be highly desirable
 - for **receivers to cope in a unified manner with all linear services** that can be received
 - for **users to navigate and access Broadband and Broadcast services with a unified service interface**
- The answer exists: **DVB-I**

ETSI TS 103 770 V1.1.1 (2020-11). “Digital Video Broadcasting (DVB); Service Discovery and Programme Metadata for DVB-I”

- Enables **discovery and delivery of TV services over Internet** to devices with broadband access
- Encompasses a suite of existing standards for delivery of IP services: DVB-DASH, DVB-TA, Native IP, Multicast, ...
- Offers **functionality equivalent to broadcasting**: linear TV, free and pay services, HbbTV applications. As a consequence it enables:
 - **Unified presentation of DVB-S/T/C and OTT services** at the user interface
 - **Unified EPG and Channel Lists** for all services
- Defines Metamodels for service description
- Defines a global **Central Service Registry (CSR)**
- Postulates **Local Service Registries (LSR)**, at regional or country level
- Requires devices enabled with necessary functionality
- **The users will experience service access independently from the delivery platform** (DTT, SAT or OTT) and use most performing version of a same service



UHD Book 2.0 - Compatible HD and UHD receivers for the Italian market: baseline requirements

- Published in December 2020
- Errata-corrige in April 2021
- First version to ever mention DVB-I which supersedes a previous linear IP services proxy spec

“Linear IP service support, as specified in the following, is MANDATORY (see the Foreword). Discovery of linear IP services SHALL follow the DVB-I Specification [15]”

[15] ETSI TS 103 770 V1.1.1 (2020-11). “Digital Video Broadcasting (DVB); Service Discovery and Programme Metadata for DVB-I”

The *Foreword* section of UHD Book 2.0, sets out in detail some verifiable conditions that will have to be met for future adoption of DVB-I to take place in Italy, thus confirming the mandatory nature of the specification, while allowing great flexibility for some period to come.

The **MANDATORY** status of DVB-I referred to in UHD Book 2.0 is dependent upon completion of all the following conditions:

- 1. The DVB-I specifications will have been ratified by ETSI as an I.S.** (International Standard).
- 2. DVB-I PoC/trials (E2E) will have been executed and completed by the major Italian broadcasters**
- 3. The completion of the above mentioned PoC/trials will have created the commercial conditions for a DVB-I “bollino” suitable for the compatibility certification of the receivers.**
- 4. The DVB-I “bollino” profile will have been published 18 months before the launch (“sunrise” period).**

These are technical conditions. Meanwhile, for real uptake of DVB-I, market aspects will have to be addressed in cooperation with Trade Associations (CRTV, ANITEC) and with Supply Chain (Consumers, Resellers). Complex regulatory questions may arise and attract the attention of market operators, consumer associations, legislators and regulators.

Toward adoption of DVB-I in Italy: two parallel paths

- **Assert and achieve broad consensus on technical viability** (trials and PoC) of the solutions provided in DVB-I present and future specifications
- **Identify and address all regulatory questions** that might hinder harmonic development of an integrated broadcast-broadband ecosystem of linear tv services under the umbrella of DVB-I in the interest of users and all market operators

- **Trials and PoCs are organised by initiatives from groups of players**
- HDFI per se does not organize nor runs any PoC
- HDFI observes with interest any trial/PoC involving one or more of its members
- HDFI is glad to report about a PoC if permitted by the owners
- HDFI can host demos at its organised events

Prior to adoption of DVB-I in Italy: regulations are barely needed

- **Non discriminatory access** should be guaranteed to Central Service Registry and to Local Service Registries
- It should be clear **who manages what**. For instance who will be in charge of maintaining the Local Service Registry?
- It should be avoided that any operator well established in the market or in the public domain loses audience just because of, say, solutions like “brand-labeled” keys on the remote possibly biasing the users towards specific content providers
- There is a need to **balance Regulations for Broadcasters and OTTcasters** (e.g. protection of minors, content restrictions, etc.) if they have to compete fairly on the OTT playground
- Baselines :
 - European Directives and Regulations: EU's *Audiovisual Media Services Directive (AVMSD)*
 - Italian Legislation and Regulation: the forthcoming *Nuovo Tusmar (Testo Unico Media audiovisivi e Radiotelevisione)* implementing the EU AVSMD

HD Forum Italia has created an OTT Observatory, to ease exchange of information relating to the progress of linear OTT services in general, and possible uptake of DVB-I

- Monitor ITU-T, ETSI, DVB and other Forums activities and outcomes on the matter of OTT linear services
- Monitor regulations across Europe and regulations in Italy
- Monitor trials throughout Europe and Italy
- Host demos and showcases in HDFI-organized events
- Survey of receivers supporting Service Directory
- Gather data of audience satisfaction about OTT delivery vs Broadcast

- **DTT television is there to stay in the foreseeable future**, while several broadcasters will increase their presence in the OTT market.
- It is up to **every broadcaster to seek its own balance of broadcast and broadband channels**, in terms of quantity and technical quality of the offer and target audience
- **Linear OTT Services** will increase more and more, along with progress of ultra broadband in Italy. They will become **the new ground for competition**
- **DVB-I may become the unifying technical framework** for fair competition among content providers, regardless their delivery platform
- The HD Forum Italia Association has adopted DVB-I as a mandatory feature for all tv receivers in Italy, on preset conditions to hold as some stage in the future
- Playing and trialing with DVB-I is the first step forward. **Regulation is crucial for harmonic competition in each national market**

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Thanks for your kind attention

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