



Regulatory Policy, Practices & Challenges in Hungary

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New Delhi, 11. October 2019.

"Ignoranti, quem portum petat, nullus suus ventus est."
(„The wind is never favorable to those who don't know where they are going.”)



Lucius Annaeus Seneca

Role of the Strategies at our Authority



NMHH

National Media and Infocommunications Authority

**National Media and
Infocommunications
Authority**
Spectrum Strategy 2016-2020

SUMMARY

Prepared by: NMHH
August 2015 - May 2016



1. Meeting the increasing demands in mobile broadband

For mobile services and to ensure the continuing advancement of mobile broadband, spectrum must be provided and assigned as needed.

2. Meeting the demands of terrestrial audiovisual broadcasting and digitalisation

Spectrum required for terrestrial audiovisual broadcasting, the continuing advancement of broadcasting, the digitalisation of radio broadcasting must be ensured in line with demands expected at national, regional and local levels alike.

3. Meeting the demands of narrow and broadband PPDR applications

Demands for spectrum necessary for the operation and development of PPDR applications must be met and narrow band spectra must be kept available for future applications for at least another 10 years, while preparing for surges in

demand for broadband and taking into account the possible frequencies both currently available and newly released (sale of the 700 MHz band, future regulations of the 410-430 and 450-470 MHz bands).

4. Preserving the value of non-civilian radiocommunications and meeting relevant demands:

Demands for spectrum for the development of non-civilian radiocommunications must be met.

5. Shared or collective spectrum use

A possible expansion of shared or collective radio spectrum use must be evaluated.

6. Supporting the early adaptation of innovative and advanced technologies

It is important to support the early adaptation of innovative and advanced technologies.

7. Ensuring an efficient and quality spectrum management

The legislative framework and conditions pertaining to spectrum management must be drafted and maintained to a high standard. Harmonisation tasks relating to spectrum management must be performed to a high standard.

8. Establishing a flexible and open institutional structure, attending to communication tasks at a high standard

9. Meeting demand for spectrum

Ample spectrum must be made available to meet the continuously changing social and economic demands for frequencies.

10. Ensuring the smooth and interference-free use of spectrum and carrying out measurements related to spectrum management

11. The legislative framework for spectrum management must be drafted and maintained to a high standard, with a focus on continuous advancement in regulations and efficiently representing national interests



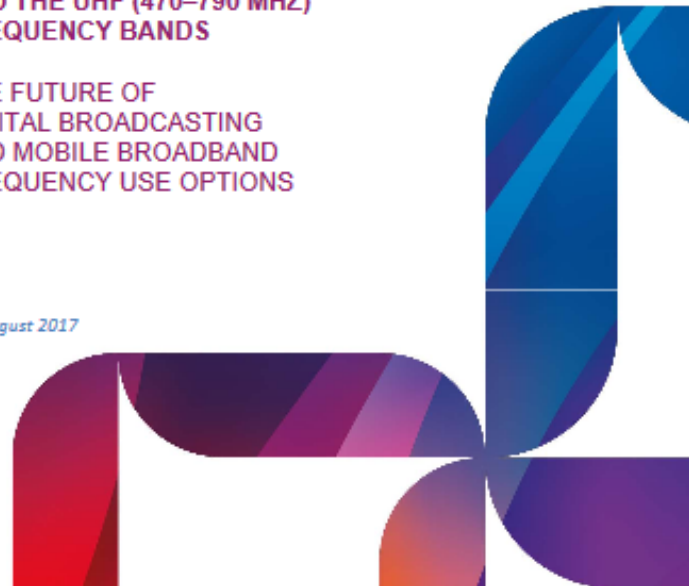
Nemzeti Média- és Hírközlési Hatóság

NATIONAL ROADMAP

FOR THE UTILISATION OF
THE VHF III. (174–230 MHz)
AND THE UHF (470–790 MHz)
FREQUENCY BANDS

THE FUTURE OF
DIGITAL BROADCASTING
AND MOBILE BROADBAND
FREQUENCY USE OPTIONS

20 August 2017



In order to **minimise the domino effect** and with due consideration to the obligation to cooperate, the Hungarian plans for the introduction of MFCN, which also comply with the minimum technical harmonisation conditions and state that broadcasting will stop on 5 September 2020 in the 700 MHz frequency band, will be specified in NMHH Decree 7/2015 (XI.13.) on the national frequency allocation and the rules of using frequency bands. This amendment does not reflect the provisions that serve as the conceptual basis of the award procedure facilitating the utilisation for MFCN purposes.



MULTILATERAL FRAMEWORK AGREEMENT

SOUTH EUROPEAN DIGITAL DIVIDEND IMPLEMENTATION FORUM - SEDDIF



Public Hearing



PUBLIC HEARING

ON PLANS REGARDING THE FREQUENCY BANDS AVAILABLE FOR THE PROVISION OF WIRELESS BROADBAND SERVICES AND THE FUTURE USE OF THE VHF III BAND

10 November 2017

5G

- 700 MHz
- 3400-3800 MHz
- 26 GHz

Harmonisation
- award

- 1500 MHz
- 2300-2400 MHz

Harmonisation
+ awarded

- 2100 MHz
- 2600 MHz

Governmental documents

Tele-communications policy

February 2017

- 1.28 make available spectrum for 5G
- 1.79 Key words: sustainable competition, the introduction of state-of-the-art technologies, efficient management of radio spectrum as a significant scarce resource, spectrum efficiency
- Sufficient and appropriate spectrum needs to be provided to meet the ever-changing spectrum needs, supporting innovative initiatives, but taking into account the potential competition risks of certain forms of efficiency enhancement.
- Tools: Implement spectrum strategy, release 700 MHz frequency band
- http://www.kormany.hu/download/4/c6/f0000/170213_Magyarorsz%C3%A1g_Elektronikus%20H%C3%ADrk%C3%B6zl%C3%A9s_politik%C3%A1ja.pdf#!DocumentBrowse

DJP 2.0

July 2017

- Make available higher frequency for 5G
- Important to start the discussion , the release of the necessary bands is a time-consuming process.
- The national spectrum award must also take into account decisions made by the ITU and the EU.
- In the spirit of the national optimum, a new system of secondary frequency trade linked to 5G, as well as new possibilities for network sharing, should be developed.

Preparing of regulation

Electronic communication Act (Act C of 2003 on Electronic Communications)

- NMHH Decree 4/2011 (X. 6.) on the rules of auction or tender for obtaining spectrum licences
- NMHH Decree 7/2013 (IX.19.) on the secondary trading of radio frequencies
- NMHH decree 7/2015 (XI.13.) on the national frequency allocation and on the utilization rules of frequency bands
- NMHH Decree 1/2011 (III. 31.) on frequency reservation and usage fees

Procedure (DTTV)

Nationwide **operating rights** for existing networks **expire on September 5, 2020.**

The authority is already launching the tender procedure to **avoid any disruption**

- building networks for the service provider, and
- viewers should have enough time to prepare.

Some of the frequencies used in the current networks are the 700 MHz (694-790 MHz) frequency band.

This band must be free by the Hungarian Communications Authority on the basis of EU directives until 30 June 2020.

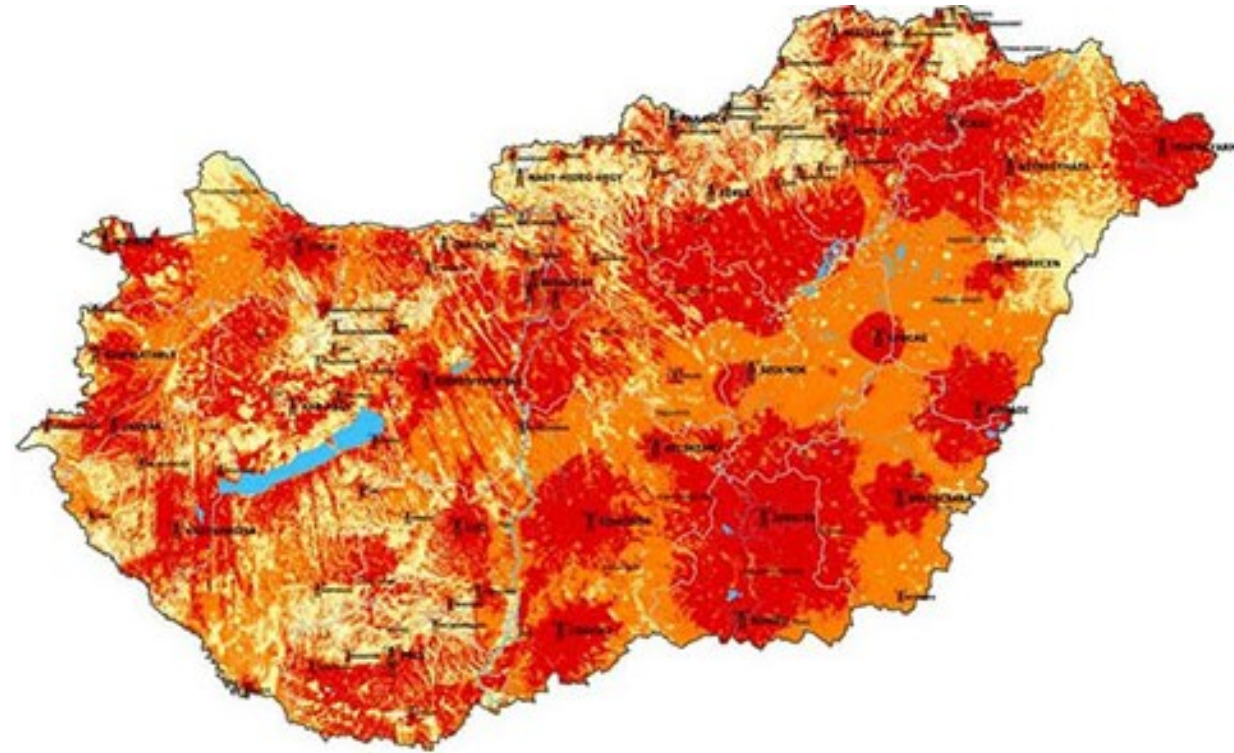


The winner of the application can build and operate five nationwide networks from 6 September 2020 for 12 years.

The requirements for access to public service the new television and radio content are:

- without subscription fees
- continuously
- in unchanged quality.

For free access to nationwide commercial television, an agreement between the winning tenderer and media service providers will be required.



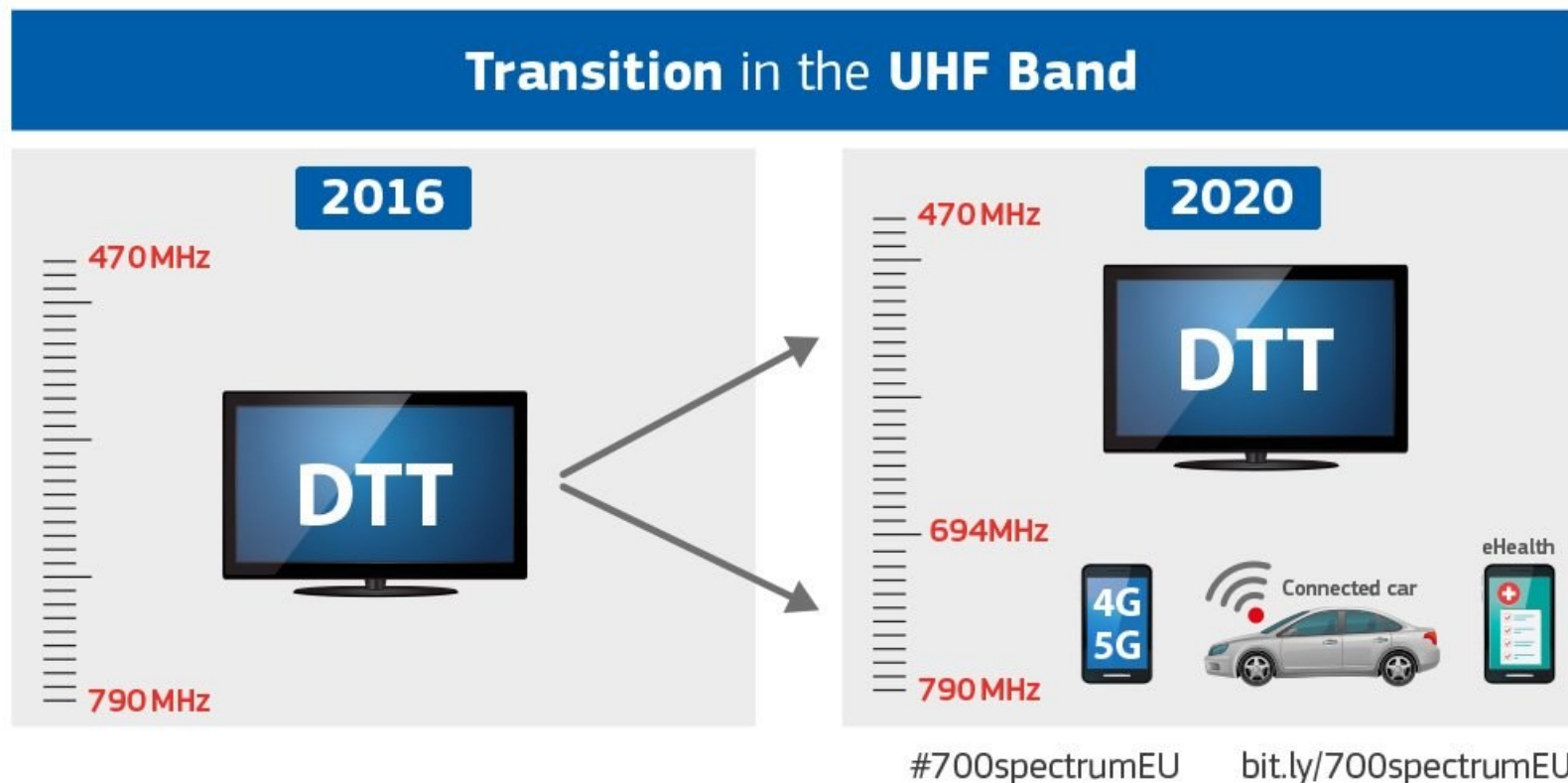
1. There will have to be a solution that does not involve any financial burden, interference with the population, which only watches for free channels that is, the existing DVB-T MPEG-4 AVC set-top box or television set need not be replaced.
2. The content of the packages available with the subscription will be determined by the winner on the basis of own business decision, for which he / she must provide - free of charge or for a fee - DVB-T2 HEVC set-top box.

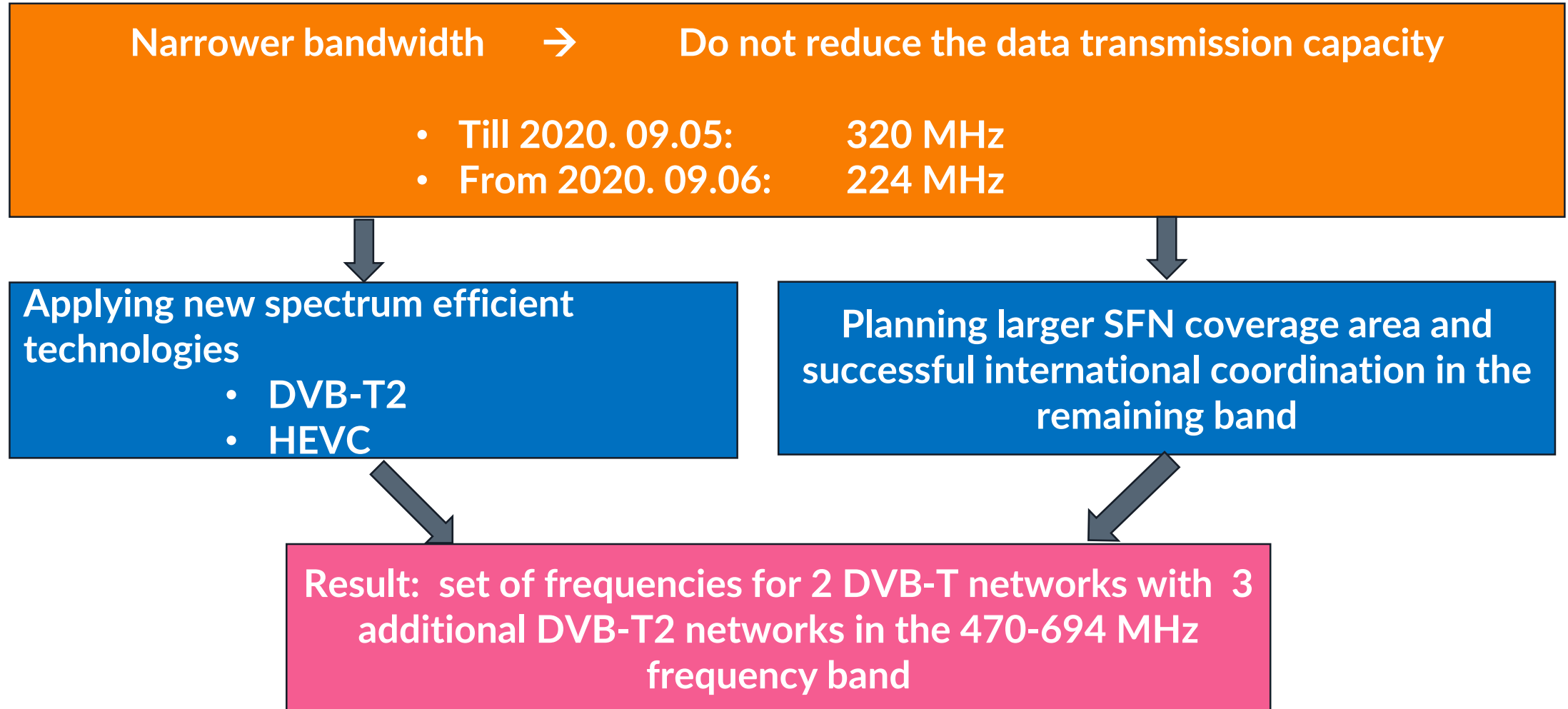


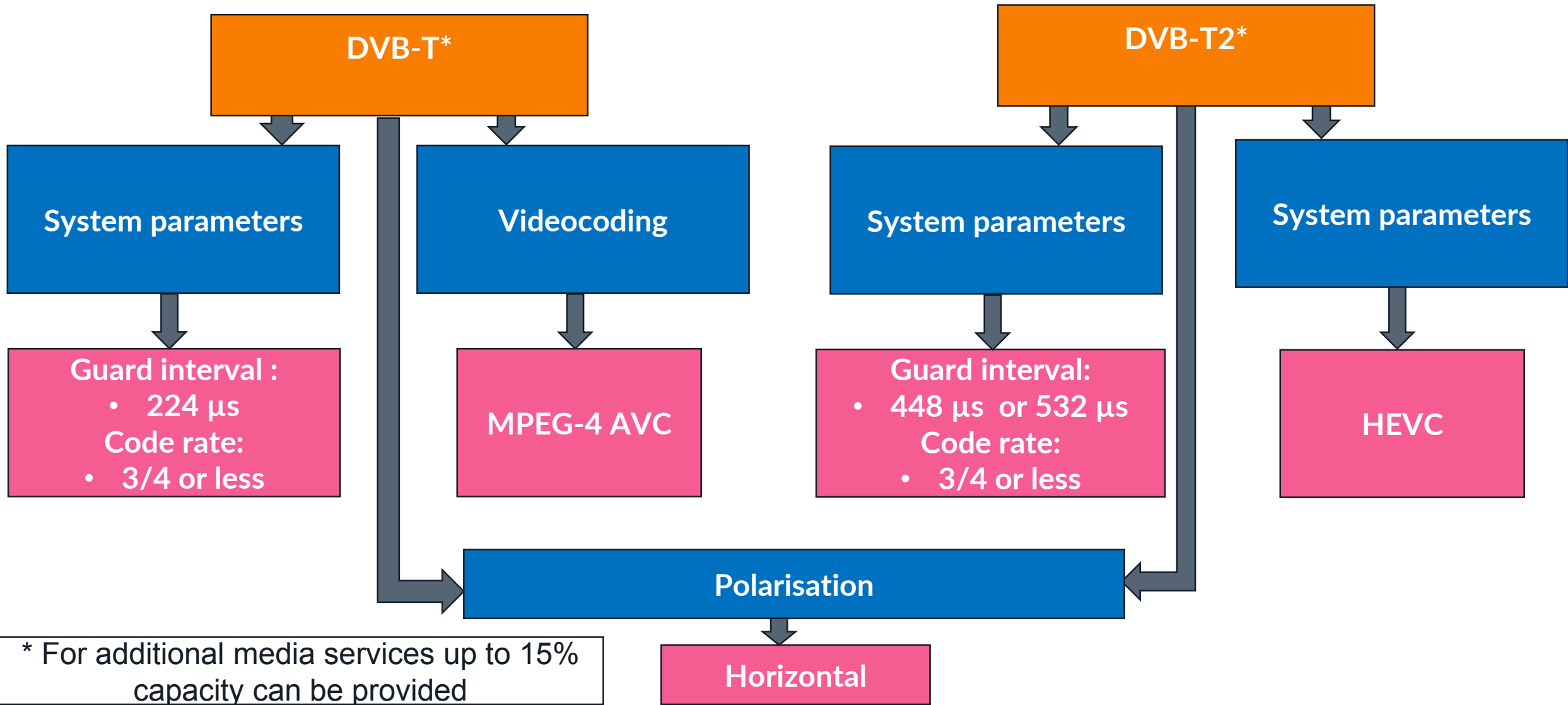
Two of the new networks will be **DVB-T, MPEG-4 AVC**, and three are **DVB-T2, HEVC** compliant new technologies.

The last one may also allow access to more than one **pay-per-view TV channel** or **better reception** of existing ones.

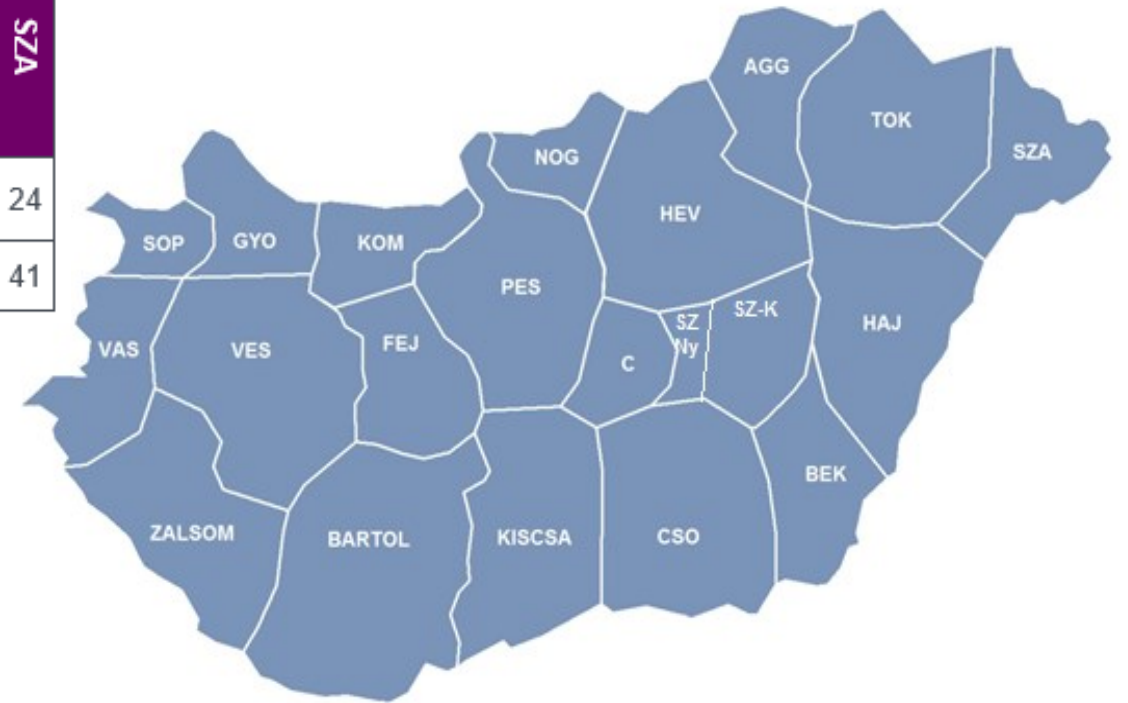
The 700 MHz band will be usable for 5G in this year's mobile frequency sales.





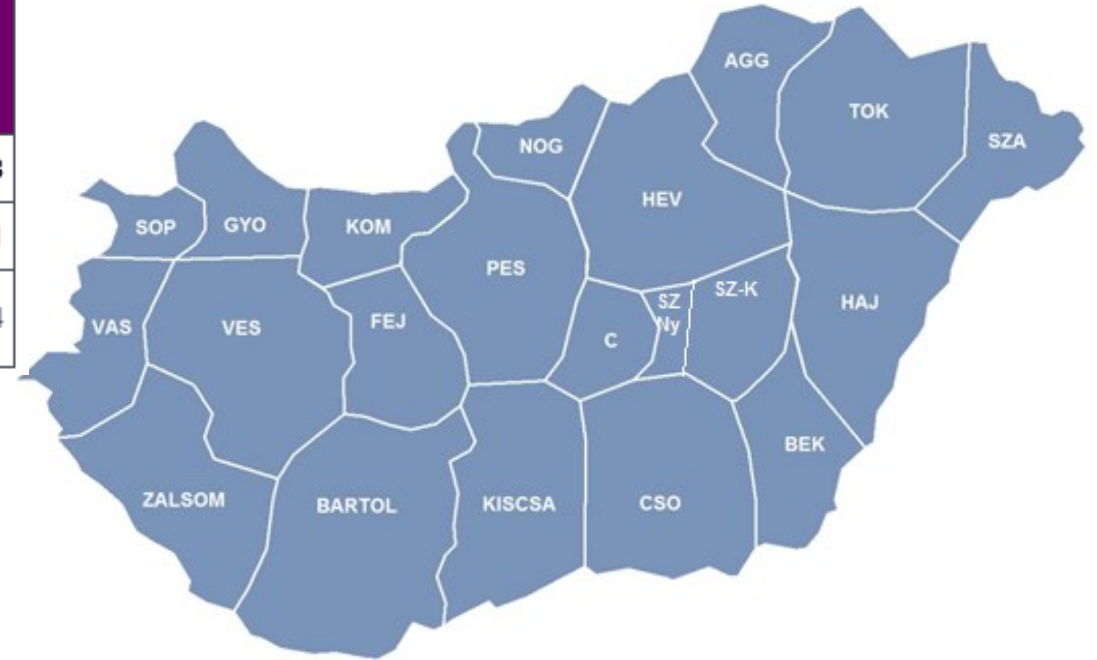


Hálózat	SOP	GYO	VES	VAS	FEJ	KOM	BARTOL	ZALSOM	KISCSA	CSO	BEK	HAJ	SZ		C	HEV	NOG	PES	AGG	TOK	SZA
													SZ-K	SZ-Ny							
„A”	40	35	35	41	43	26	37	41	25	26	37	40	30/ 40	30/ 39	39	39	24	24	45	26	24
„B”	33	46	46	33	30	41	47	24	28	31	41	32	36/ 32	36	36	36	36	41	35	35	41



- For red colours TV channels only frequency allotments are available.
- For black colours channels the stations with the specified technical parameters may be put into operation after 5 September 2020.

Hálózat	SOP	GYO	VES	VAS	FEJ	KOM	BARTOL	ZALSOM	KISCSA	CSO	BEK	HAJ	SZ		C	HEV	NOG	PES	AGG	TOK	SZA
													SZ-K	SZ-Ny							
"C"	32	25	32	32	40	38	32	32	42	42	38	38	38	44	44	44	38	38	28	43	38
"D"	42	42	29	29	29	29	45	29	45	23	23	46	46	46/23	23	46	46	29	31	31	31
"E"	22	22	22	22	34	22	27	31	27	22	22	29	34/29/22	34/22	34	34	34	34	48	29	34



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- *Publication of the Daft Documentation* *2019. 03. 06.*
- *Public consultation* *2019. 03. 20.*
- *Publication of Final Documentation* *2019. 04. 10.*
- *Submission of the applications* *2019. 04. 30.*
- *Decision for the closing of the applications* *2019. 06. 13.*
- *Conclusion of the contract with the winner* *2019. 08. 23.*
- *Start a service on the unchanged technology network* *2020. 09. 06.*
- *Start a new service on the new technology network* *2020. 09. 06.*
- *Full deployment of the new technology network* *2021. 03. 06.*

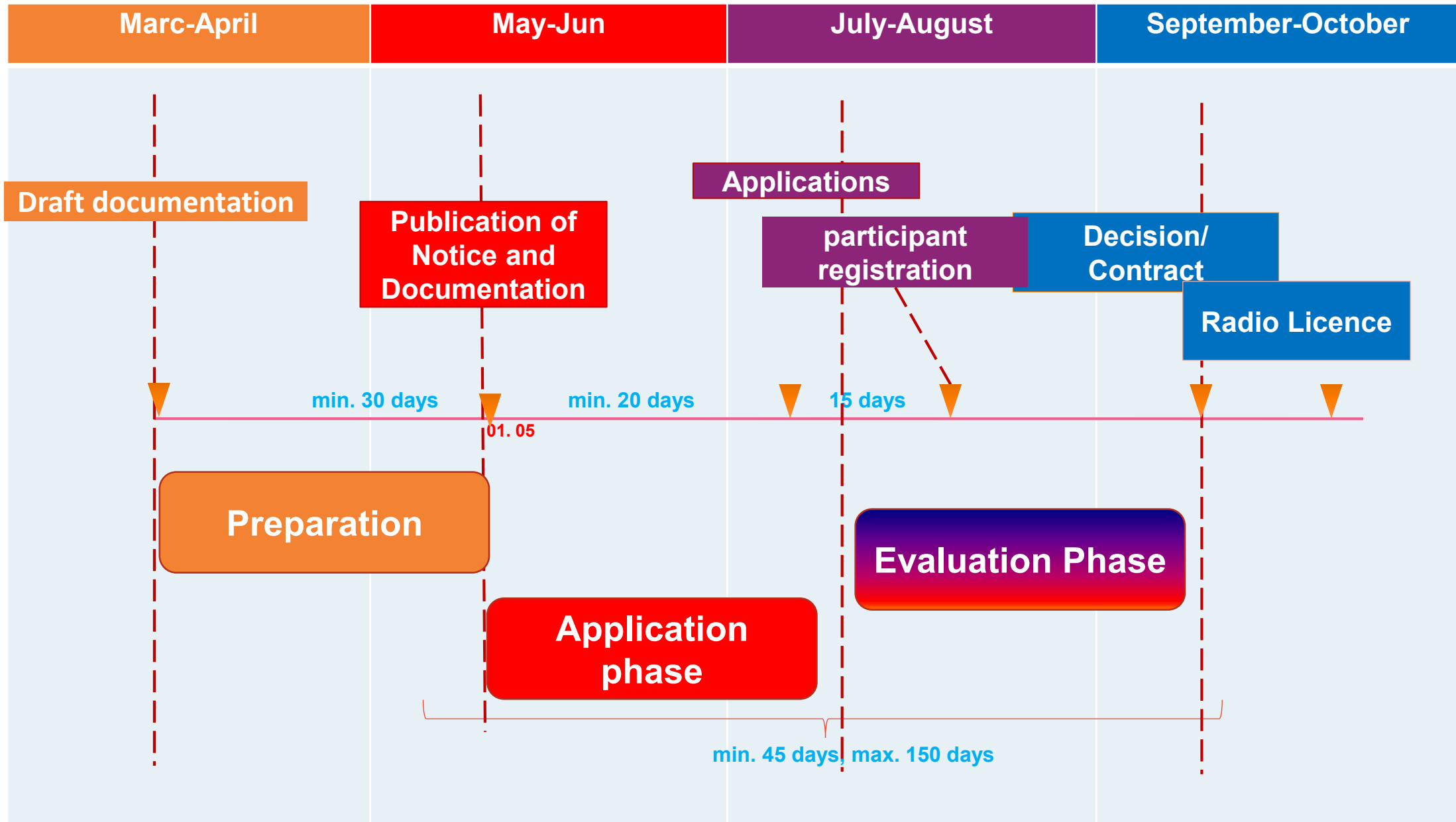
Procedure (MFCN)



DOCUMENTATION OF THE
AUCTION PROCEDURE
ANNOUNCED FOR FREQUENCY
USE ENTITLEMENTS RELATED TO
WIRELESS BROADBAND
SERVICES SPECIALLY
SUPPORTING THE
INTRODUCTION OF 5G

Published: 23 July 2019

http://english.nmhh.hu/document/205881/5g_documentation_07232019.pdf



...in response to Seneca, we have a good plan.





NMHH National Media and Infocommunications
Authority • Hungary