

# 5g Implementation in Europe and CIS

**Strategies and Policies Enabling New  
Growth Opportunities  
*Effective Use of DD***

**3-5<sup>th</sup> of July 2018**

- Currently there are three mobile network operators in the market
  - *four operators till December 2017.*
- The mobile market is well developed with good coverage with 3G/4G which is offered from all mobile market players
- Mobile broadband provided based on HSPA/HSPA+ was introduced late in Albania on 2010, while 4G/LTE was presented on September 2015.

**Effective use of DD**  
***Situation in Albania***



■ Vodafone
 ■ Telekom Albania
 ■ Eagle/Albtelecom
 ■ Plus

Currently spectrum distributed between three operators

**Frequency bands already licensed**

<b>Band Operatori</b>	<b>900 MHz</b>	<b>1800MHz</b>	<b>2100 MHz</b>	<b>2600MHz</b>
<b>Albtelecom</b>	<b>8 MHz</b>	<b>21 MHz</b>	<b>15 MHz</b>	<b>20 MHz</b>
<b>Telekom Albania</b>	<b>12 MHz</b>	<b>25 MHz</b>	<b>20 MHz</b>	<b>20 MHz</b>
<b>Vodafone Albania</b>	<b>13 MHz</b>	<b>28 MHz</b>	<b>25 MHz</b>	<b>30 MHz</b>

**The spectrum distributed between 3 operators 2018**

# *Digital Dividends*

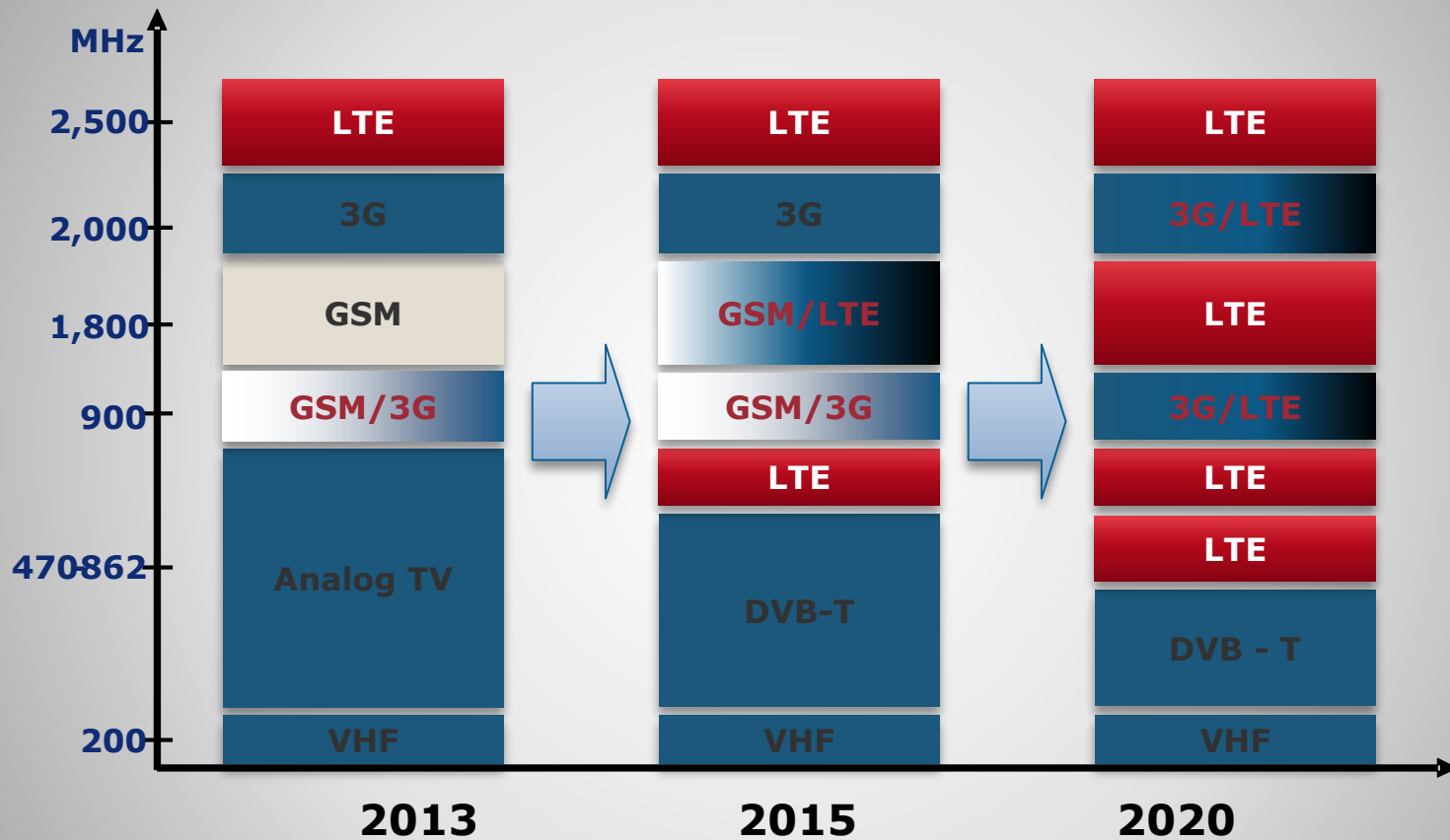
- The exploitation of the digital dividend for further development of broadband services as a result of the Digital Switchover (DSO) is still ongoing:
  - *three regions of the country (Berat, Korce and Fier) finalised.*
  - *About 70% of Albania's population has access of digital transmissions.*
  - *The analog switch off is ongoing in the regions of Tirana and Durrës, which are the most populous regions in Albania.*
  - *The deadline for analog switch off in these regions is 31 July 2018*
- Frequency spectrum made available for other applications:
  - such as mobile broadband when switching from analogue to digital TV broadcasting;

- Law no 34/2017 approved to release Digital Dividend one (800 MHz);
- The New National Allocation Table, based on WRC-2015 and ECA Table, approved by GoA on March 2017:
  - Decided the deadline to free 800 MHz – 30 June 2017;
- 800 MHz released from broadcasters during 2017;
- February- April 2018 - the public consultation for licensing of 800 MHz done from AKEP;
- June 2018 the order of Minister to start the licensing process sent to AKEP;
- AKEP is expected to open the tender for 800 MHz **in July 2018**

## **DD1 - 800 MHz release and licensing**

## *5G – requirements*

- The spectrum requirement for 5G networks is seen today in two directions:
  - the frequencies under 1GHz
  - the frequencies above 6GHz.
- The spectrum bandwidth estimated per operator could be:
  - ~500MHz below 20GHz,
  - ~1GHz between 20-40GHz and
  - ~2 GHz above 40GHz.
- The harmonization of spectrum policies for 5G is a challenge.
- There is lack of global spectrum harmonization on LTE deployment.
- The same situation in our region referring to data published in: [spectrummonitoring.org](http://spectrummonitoring.org);



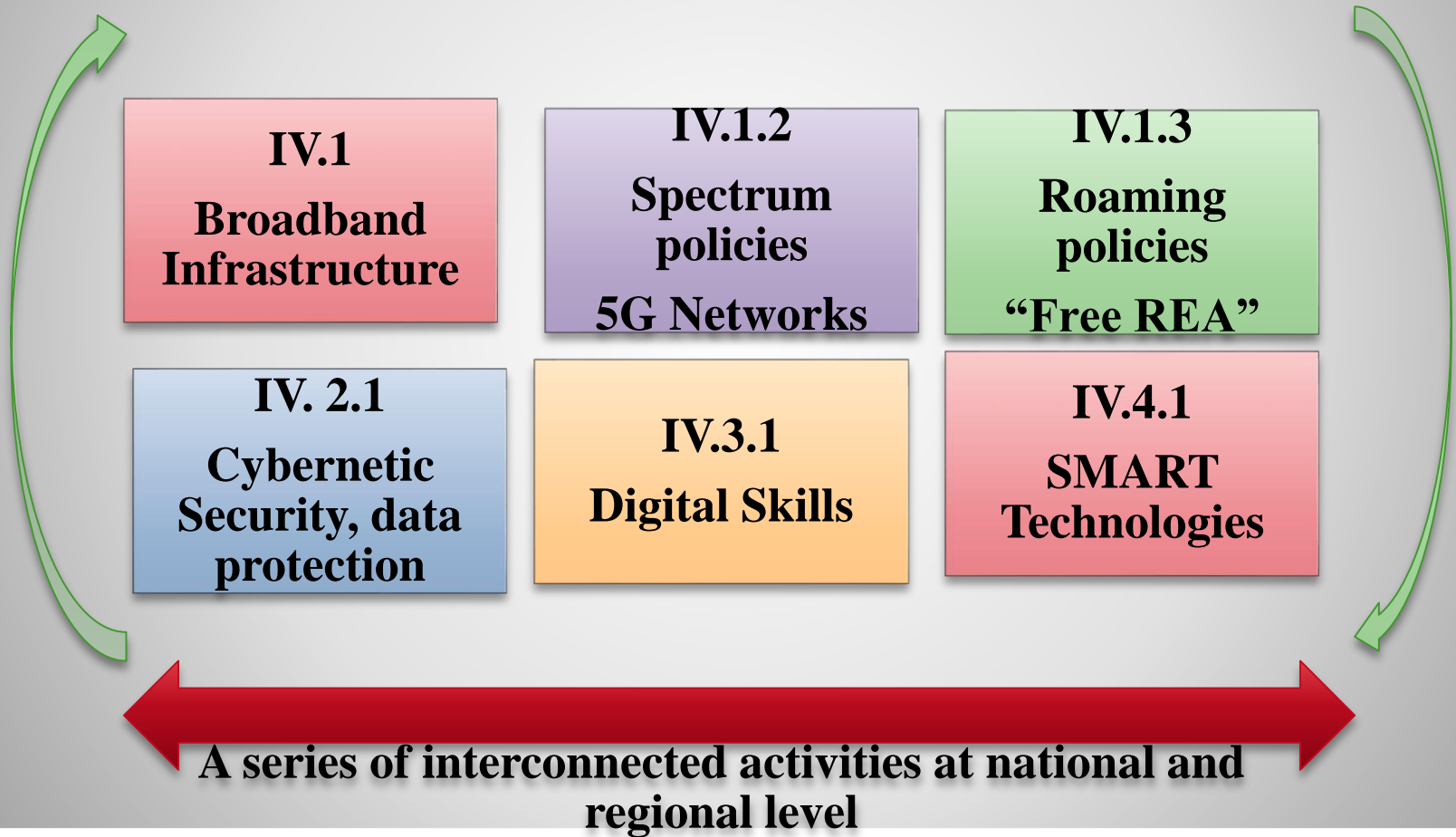
Future spectrum use



- *Harmonize spectrum policy to ensure timely and efficient availability and boost deployment of standardized 5G networks;*
- *As regional commitment under MAP-REA of WB6 and under regional and global commitments;*

**Digital Integration Pillar**

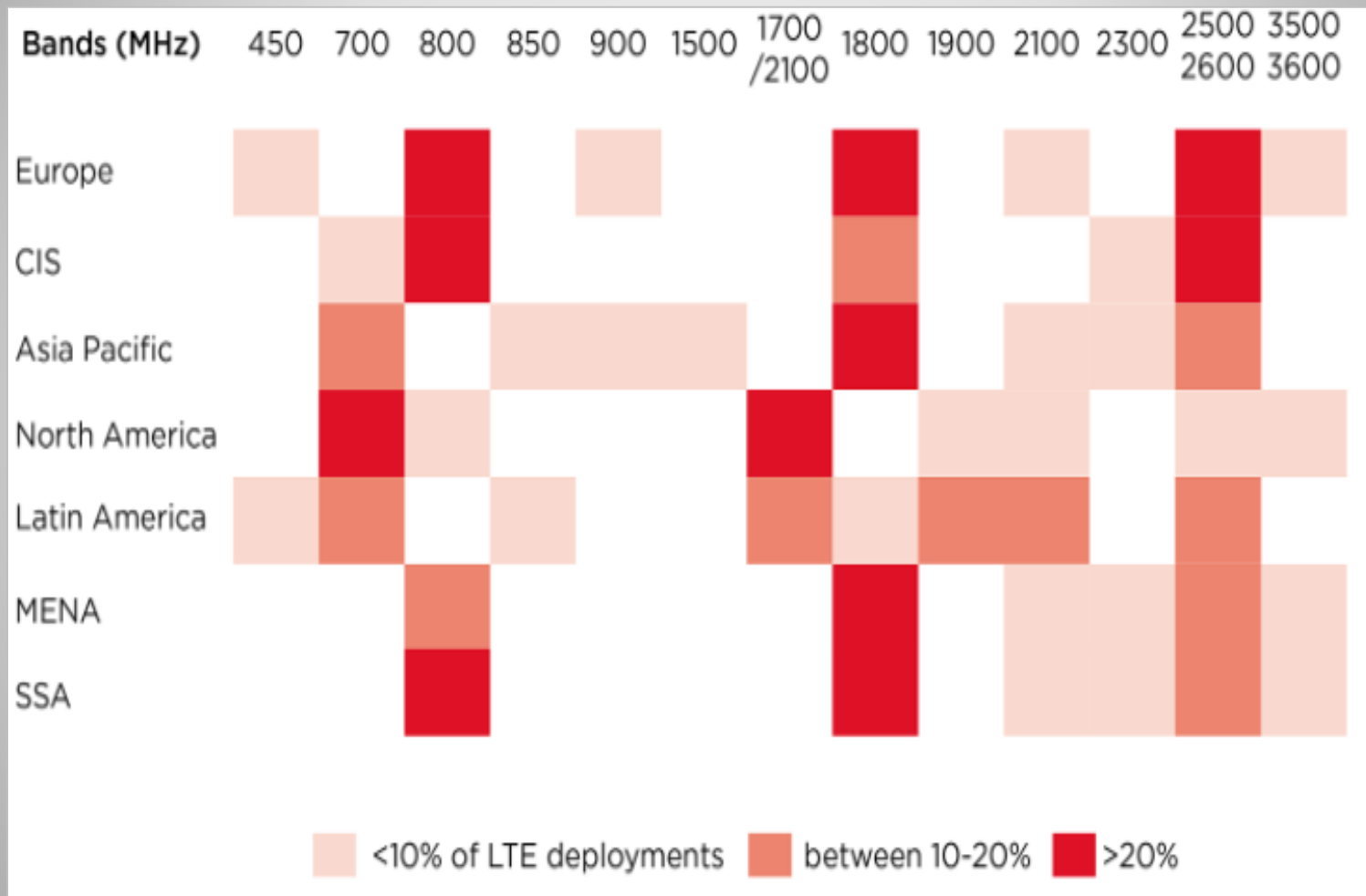
# Regional Economic Area – Digital Pillar



- Legal and regulatory framework for broadband networks;
- Requests for connectivity with high speed communication for:
  - IoT, big Data, Cloud computing etc.
- *Perspectives for 5G and NGN access;*
- Free movement – Roaming tariffs

**Digital Connectivity**

## Spectrum policy harmonisation is critical for future development!



Share of LTE deployments by frequency band, by region (January 2015);  
 Source: GSMA Intelligence Report

- **The Digital Dividend 2**, 700 MHz frequency band currently occupied from broadcasters;
- Steps needed to release 700 MHz
- The ITU support for a study on release of digital dividend 2 is required;

**Digital dividend 2**

**Thank you!**