

Regulation to deploy 5G in Portugal

ITU Forum

Towards a 5G Enabled Gigabit Society

Athens, 11-12 October 2018

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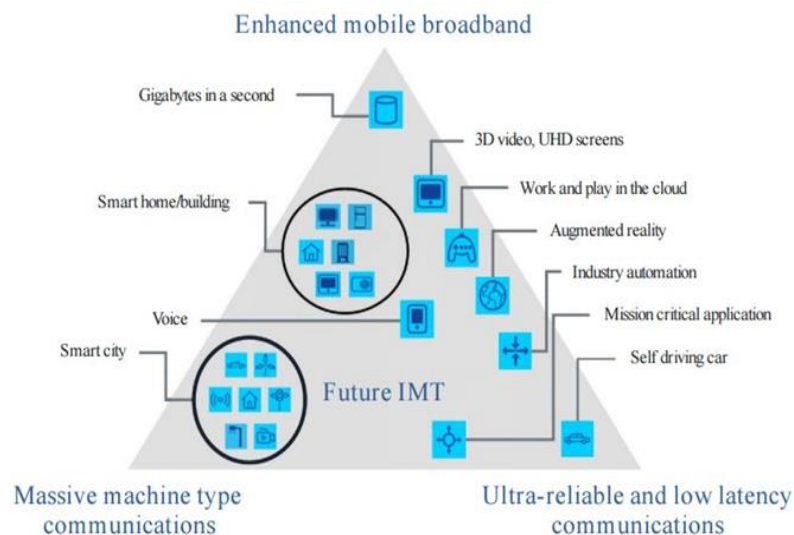
Objectives

- 5G Action Plan: gigabit connectivity for all main socio-economic drivers
- Member States to review their **National Broadband Plans** and update them with a time horizon beyond 2020, in line with the strategic objectives for 2025:
 - Intermediate objective for 2020: 5G connectivity as a fully-fledged commercial service **in at least one major city in each Member State**
 - All urban areas and all major terrestrial transport paths to have **uninterrupted 5G coverage by 2025**
- *“Connectivity for a Competitive Digital Single Market: Towards a European Gigabit Society” – 5G is one of the major technologies capable of providing effective capability for the digital single market*
- European Electronic Communications Code (**EECC**)
 - identification of frequencies suitable for 5G

Addressing the capacity crunch” :

- Efficient technologies
- Network densification
- Architecture evolution
- And.... more spectrum

5G key requirements



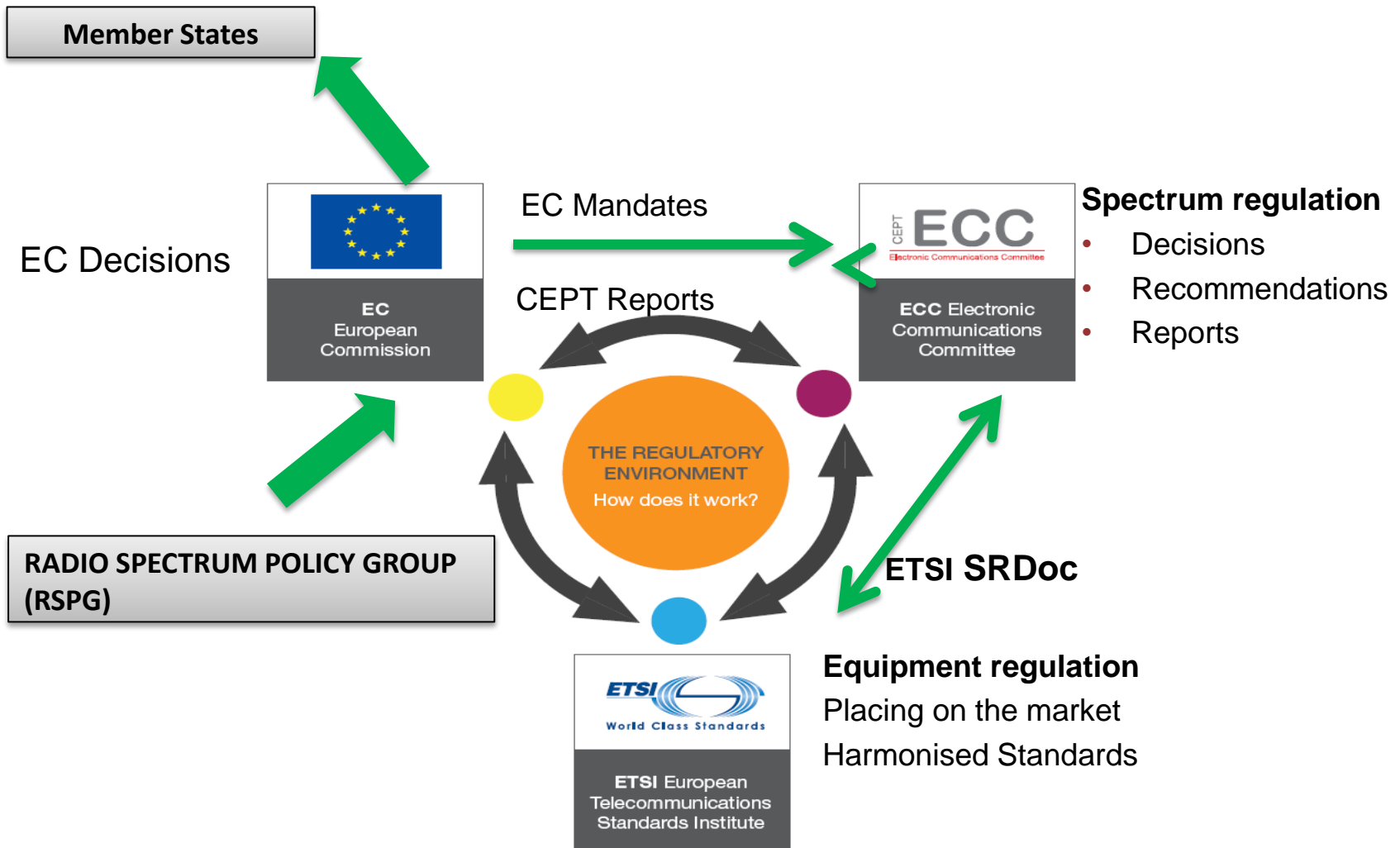
Source: ITU-R Rec. M.2083

National 5G Action Plan

To continue the preparation of the introduction of the 5th mobile generation in Portugal, in conjunction with other entities, including the Government, with a view to:

- by 2020, 5G should be commercially available in at least one city in Portugal
- collaborate in updating the National Broadband Plan - strategy setting, policy objectives, and monitoring activities
- incorporate the various elements of regulation

The institutional framework



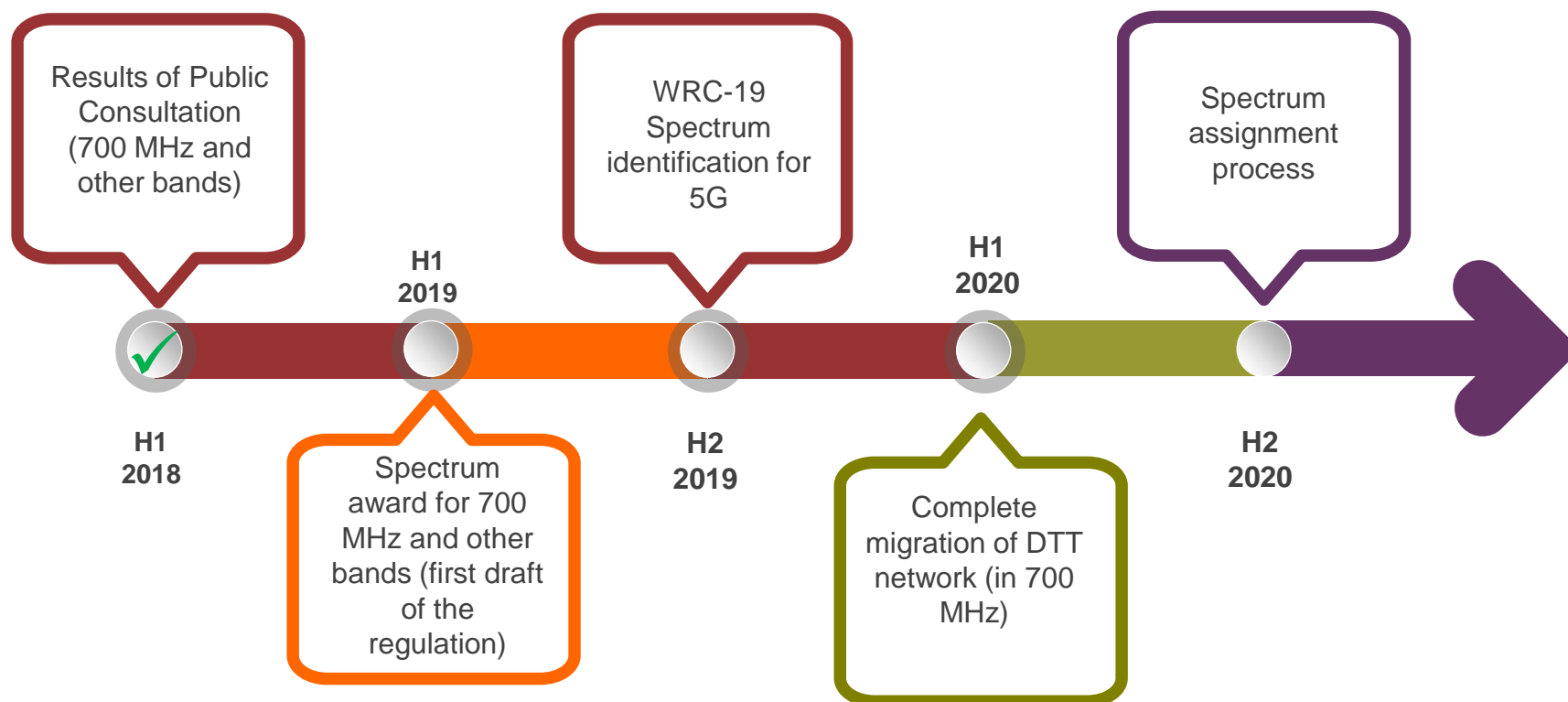
Infrastructure is a critical success factor

- regulate access and sharing of facilities, ducts, poles *et al*
- continued fibre development is essential to 5G deployment and QoS
- creation of incentives for effective competition at this level

Key element concerns spectrum identification

- 700 MHz as the band capable of enabling nationwide coverage
- Feasibility of frequency bands **3,4-3,8 GHz** and **26 GHz** (*pioneer bands* for 5G in the EU)
- Identification of more harmonized spectrum above 6 GHz for 5G (IMT2020) in WRC-19

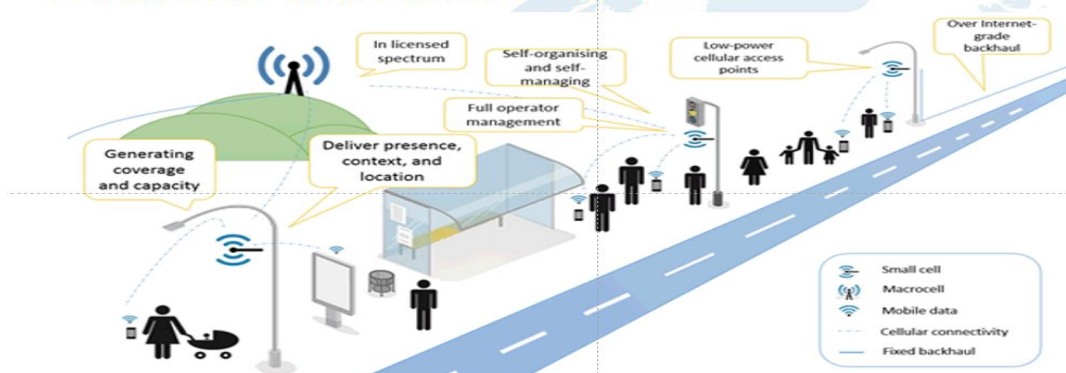
Spectrum planning



Other relevant issues to be addressed in Portugal (I)

- Financing 5G deployment
 - facilitate the creation of an industry led risk-capital fund to foster innovation in 5G networks
 - other european/national support funds for R&D in 5G, including new use cases / verticals (e.g transport sector)
 - promote cooperation between traditional telecomms and future vertical markets
- Facilitate “small cells” deployment


Complementing Existing Macrocellular Networks with Small Cells



Source: IDC, 2016

Other relevant issues to be addressed in Portugal (II)

- Ongoing technical trials (e.g. Aveiro, Lisboa)
- Increase the use the technological free zones (Strategy ‘Start-Up Portugal’)
 - flexible rules for trials of new products and services in the 5G ecosystem
 - provide a controlled environment for tests of dynamic spectrum allocation (e.g, shared vs dedicated spectrum)
 - creation of “testbeds” (e.g. “Zonas Livres Tecnológicas)
- Promote demand for 5G services and products via measures to increase digital literacy (INCODE.2030, established in 2017)



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Thank you

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