

# Regulatory options to promote investment in 5G and IoT

Wednesday, August 28, 2019

# Outline

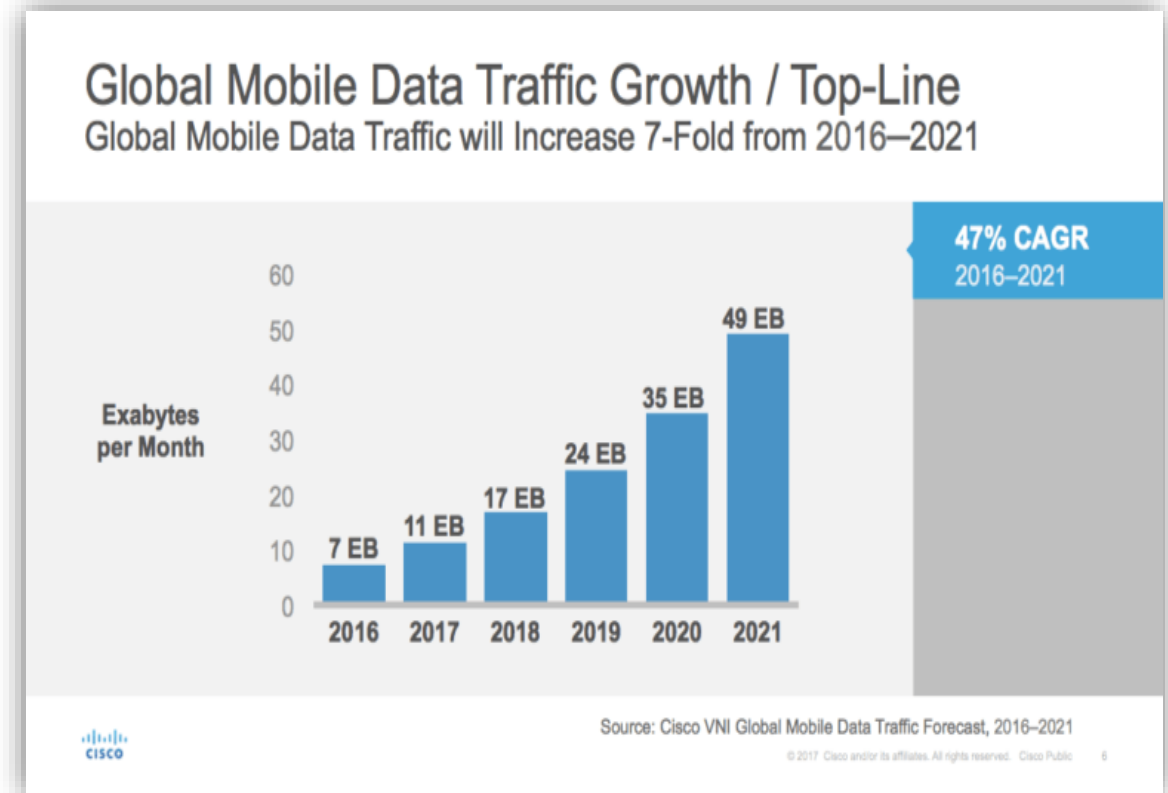
- Rise of 5G and IoT in the Region
- 5G and IoT in the UAE
- Investment Challenges in the Region/UAE
- Regulatory and Policy Considerations

# Rise of 5G and IoT in the Region

# Rise of 5G and IoT in the Region

## Why 5G and IoT?

- Fast-rising traffic demand and exponential traffic growth
- Enabling digital transformation in the Region.
- Serve and facilitate the expected use cases.
- Integration with existing networks.
- Scale connectivity and data floods
- To utilize connected devices in lowering operating costs, and increasing productivity, efficiency, and revenue,
- Allow for developing new products and innovative services.



Source: Cisco Visual Networking Index Global Mobile Data Traffic Forecast Update, 2016-2021

# Rise of 5G and IoT in the Region

## Role of 5G and IoT

- An overall framework for an intelligent, flexible and reliable ICT platform
- Integrating future services, content and data across smart cities
- Delivering innovative services everywhere



# 5G and IoT in the UAE

# 5G and IoT in the UAE

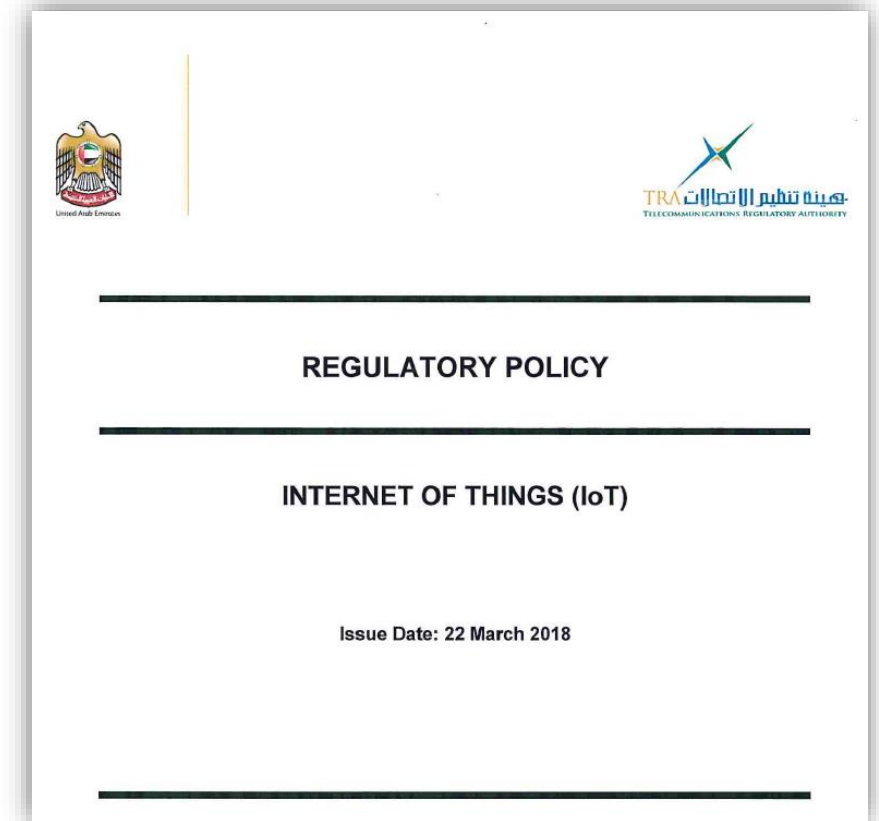
## Alignment with UAE Vision and Strategies

- Based on UAE Vision 2021 on making the UAE among the best countries in the world and the UAE Future Foresight Strategy.
- Strategic ICT related initiatives launched within the UAE, that will benefit from the roll out of 5G:
  - National Plan to Support Mobile Government Initiative
  - National Innovation Strategy
  - National Cyber Security Strategy of the UAE
  - UAE Strategy for Artificial Intelligence
  - UAE Strategy for the Fourth Industrial Revolution

# 5G and IoT in the UAE

## IoT in the UAE

- UAE IoT Policy. (March 2018):
  - Envisioning the UAE as a leading country in development of IoT services.
- In Alignment with UAE ICT sector objectives:
  - Secure IoT Services
  - Meeting the demands of IoT services
  - Managing the resources needed efficiently
  - Clarity to IoT market development

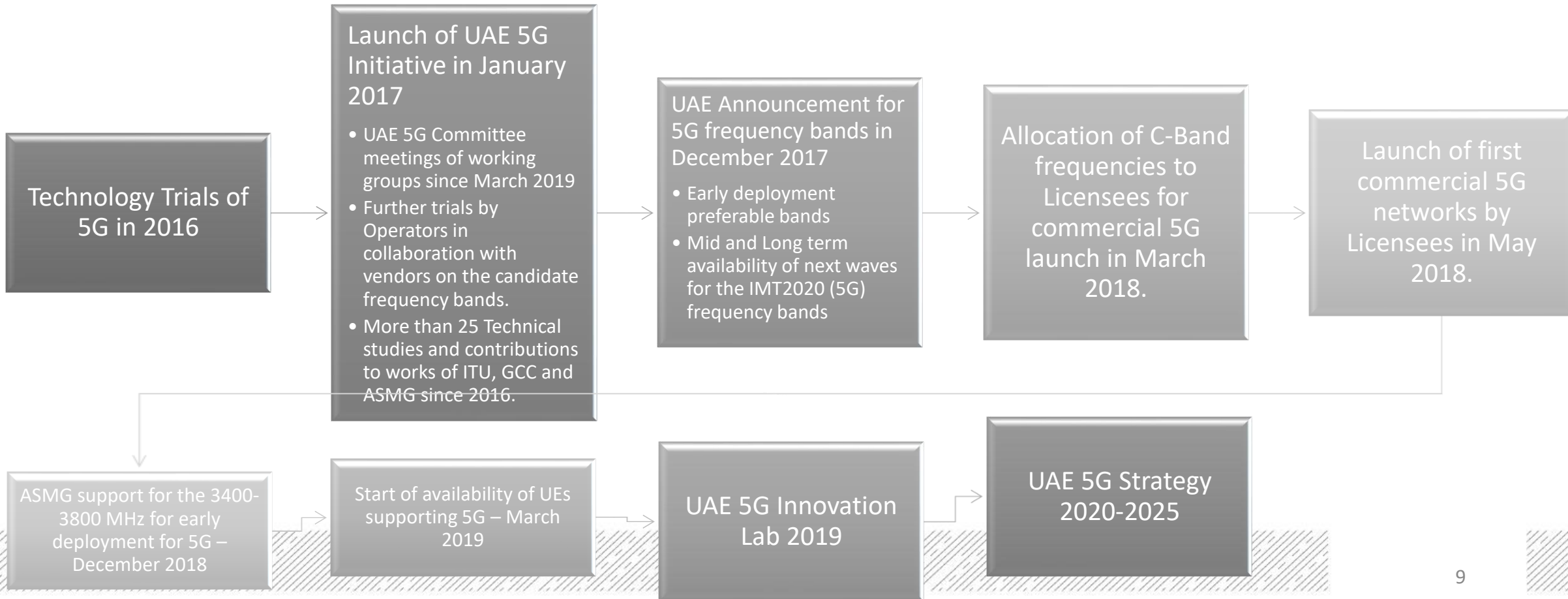


Source: <https://www.tra.gov.ae/en/about-tra/telecommunication-sector/regulations-and-ruling/details.aspx#documents>



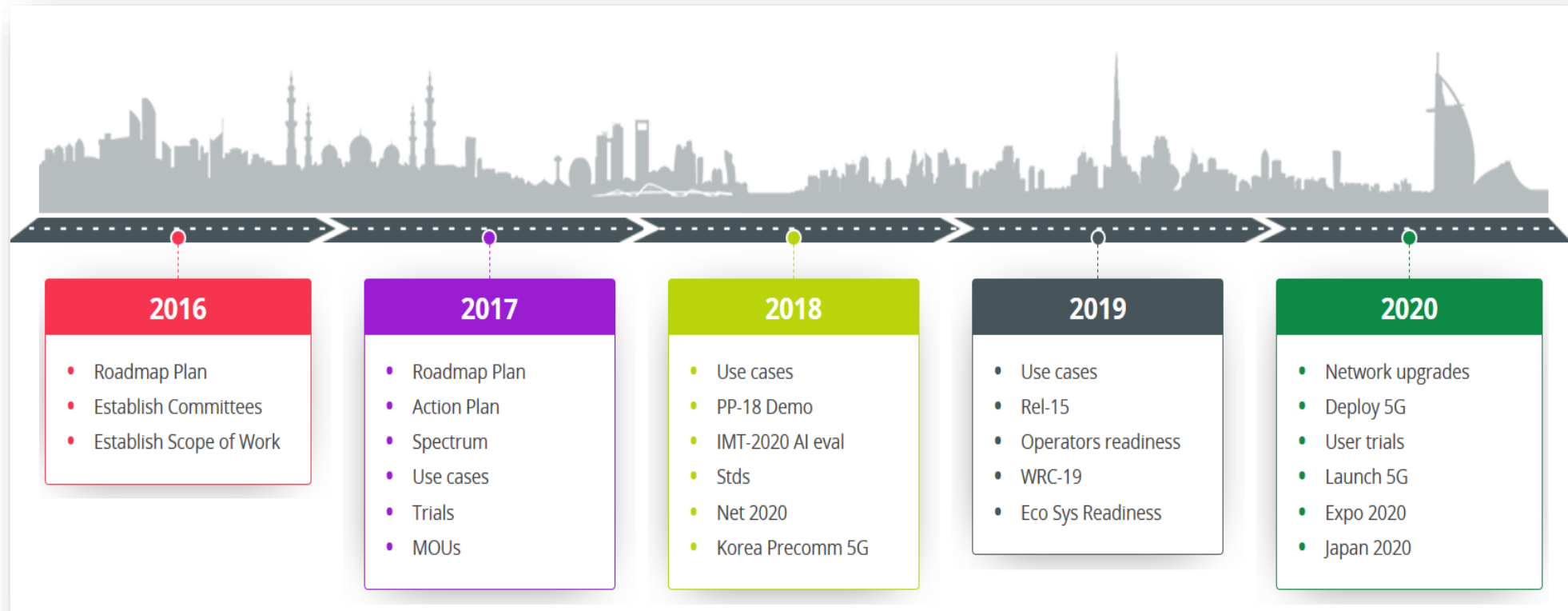
# 5G and IoT in the UAE

## 5G in UAE 2016-2020



# 5G and IoT in the UAE

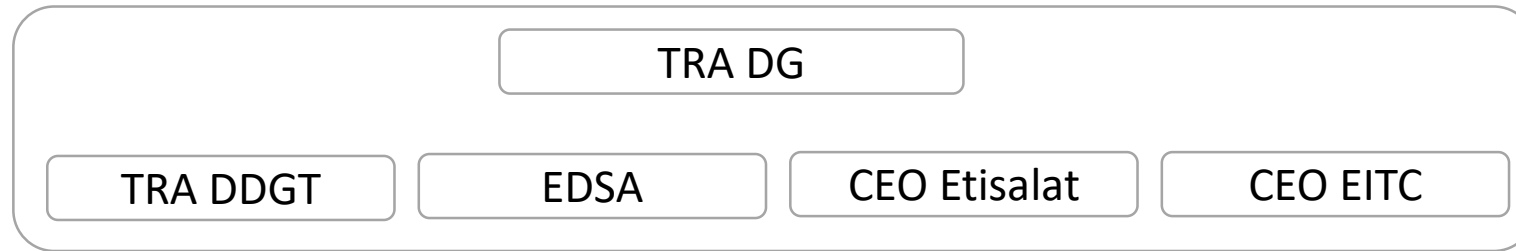
## 5G in UAE 2016-2020 – The Roadmap



Source: <https://www.tra.gov.ae/en/uae-5g.aspx>

# 5G and IoT in the UAE

## 5G in UAE 2016-2020 – The UAE 5G Committee



### SPECTRUM

Spectrum Committee mainly focuses on radio spectrum, WRC-19 agenda item 1.13 , working parties 5D and TG5/1, compatibility studies and identifying the best options for spectrum release for 5G. Mr. Sultan AlBalooshi, Senior Engineer Spectrum Policy, Spectrum Department at the TRA is the Chairman of this Committee.



### VERTICALS

Verticals Committee mainly focuses on issues like use cases, Internet of Things (IoT), Incubation Hubs, Vehicle to anything technologies(V2X) and on Academia studies and researches. Dr. Ayman ElNashar, VP and Head of Infrastructure Planning ICT & Cloud at Du is the Chairman of this Committee on Verticals.



### NETWORKS

Networks Committee mainly focuses on issues like Next Generations Mobile Networks (NGMN), Network Readiness, Trials, Cloud Computing, and data issues. Mr. Mohamed Jadah, Director Wireless Networks and Services at the TRA is the Chairman of this Committee.

Source: <https://www.tra.gov.ae/en/uae-5g.aspx>

# 5G and IoT in the UAE

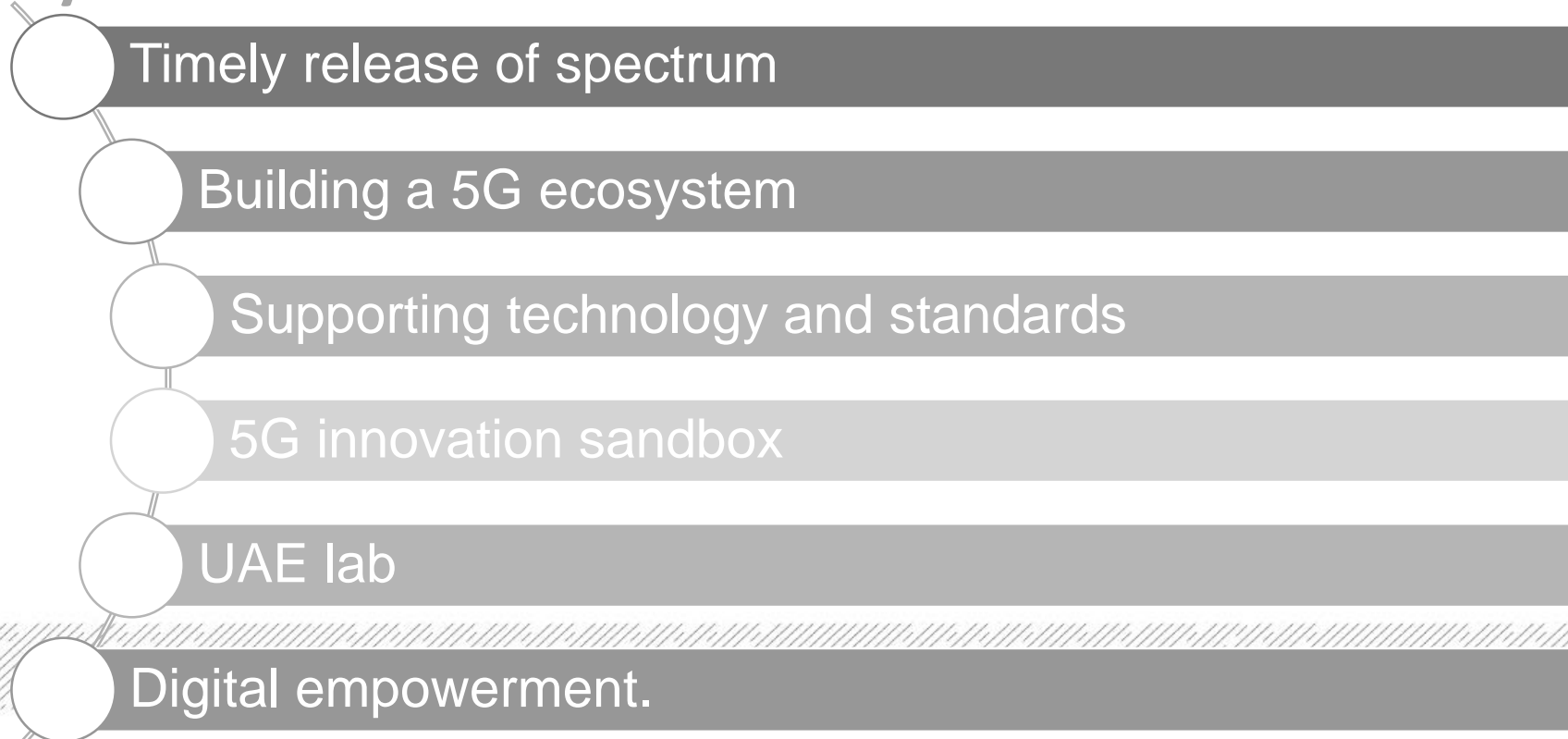
## UAE 5G Strategy 2020-2025 – Impact on Economy

Realising both economic and social benefits from the continued evolution of 5G contributing significantly to its happiness index and expansion of innovation.

Quantifying the impact of 5G on the UAE economy over a five-year period from 2020 – 2025.

## 5G and IoT in the UAE

Main Pillars of 5G Strategy to support the roll out of 5G in the UAE over the next five years from 2020 - 2025

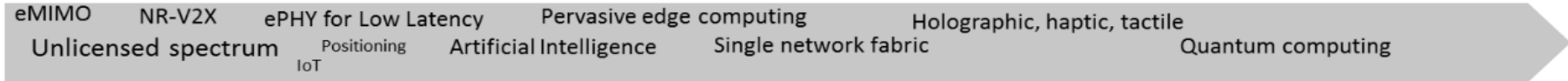


# 5G and IoT in the UAE

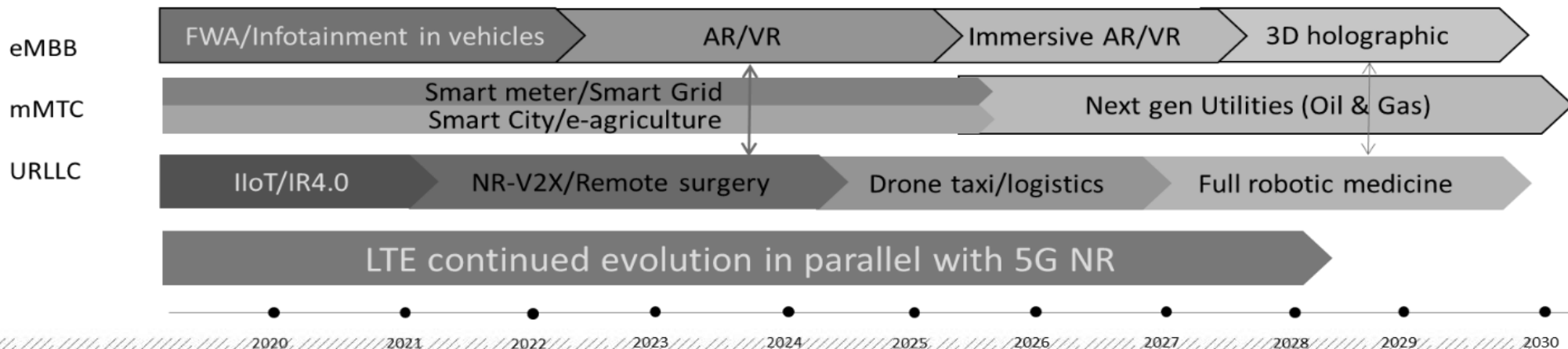
## UAE 5G Strategy and Used Cases

- Used Cases

Features/  
Capability incl  
network



Use cases emerging



# Investment Challenges in the Region/UAE

# Investment Challenges of 5G and IoT in the Region / UAE

## Technical

- Small cell deployment
- Fiber backhauling
- Spectrum availability
- Security and Privacy
- Devices Support

Source: ITU\_5G\_REPORT-2018



# Investment Challenges of 5G and IoT in the Region / UAE

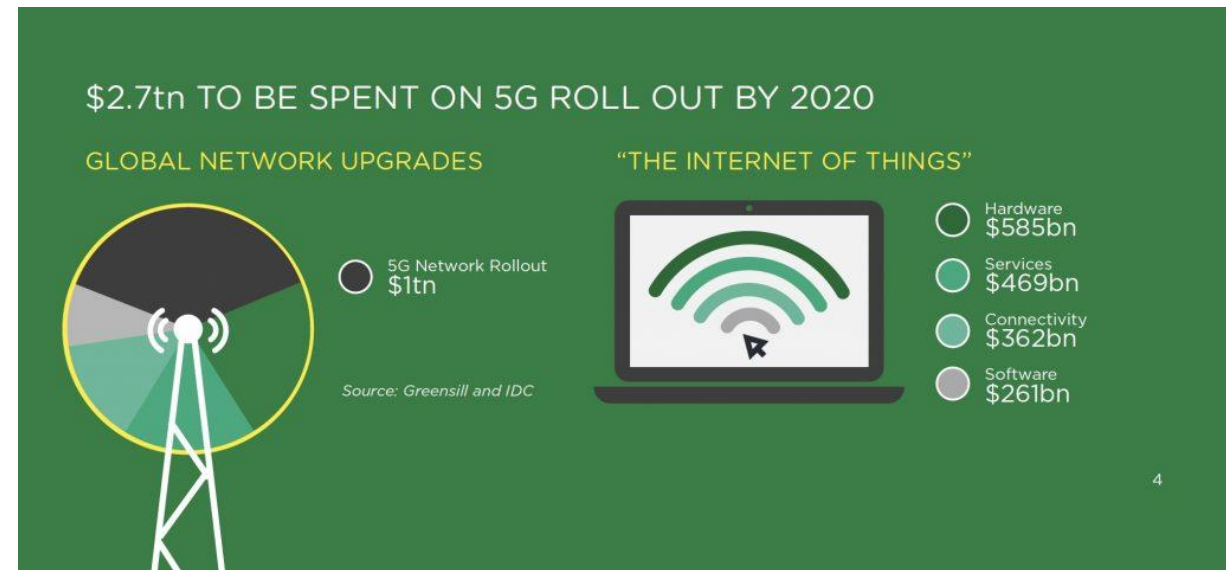
## Regulatory and Health issues

- Licensing of possible ICT Players in collaboration with Licensees
- Balancing the requirements of different ICT users
- Services pricing to end-users
- Engagement of verticals/sectors.
- Concerns over RF-EMF exposure from 5G including IoT and wearables

# Investment Challenges of 5G and IoT in the Region / UAE

## Monetization

- High deployment investments and infrastructure costs compared to longer ROIs periods (10-12 Years)
- Clarity of the verticals requirements and pricing them
- Partnering challenges between competitors.



Source: MWC-Barcelona: Financing the 5G Revolution

# Regulatory and Policy Considerations

# Regulatory and Policy Considerations

## Resources and Regulatory Frameworks

- Different Spectrum Requirements
- Harmonization and contiguity
- Reasonable allocation/assignment terms
- Pricing aspects
- Devices type approval and testing environment
- Specific networks/ICT players requirements
- Early access to experimental 5G applications to shape public services

# Investment Challenges of 5G and IoT in the Region / UAE

## Capacity Building

- Promoting Innovation in 5G and IoT aspects.
- Lead collaboration with public and private sector.
- Providing a knowledge platform on 5G and IoT to support innovation and empower stakeholders such as academic establishments, private sector, start-ups and international organizations.

# Regulatory and Policy Considerations

## Virtualization of Networks

- To cater for overlapping network demands
- Provide Operators:
  - Certainty
  - Room of Innovation
  - Flexibility in providing services for operators as well

# Regulatory and Policy Considerations

## Small Cells

- Minimize administrative burden
- Site access and denser deployment of base stations
- Infrastructure sharing (i.e. Fiber)
- Set up standard criteria and standard EMF rules

# Regulatory and Policy Considerations

## Monetization of used cases and IoTs

- Anticipate infrastructure requirements and influence monetization models for upcoming 5G innovations
- Collaboration between Licensees and major used cases stakeholders
- Reduce fees related to sites and access to public sites for Smart cities
- Support the mandate and participate in the growth potential of 5G services in the Region by Telecom/ICT funds.



THANK YOU