

Future Spectrum Requirements in the Arab States

WRC-15 Lunchtime seminar

Geneva, 4 November 2015

A mobile operator's perspective
Ahmad Julfar, Chief Executive Officer
Etisalat Group

A mobile operator's perspective
Dr Nasser Marafih, Chief Executive Officer
Ooredoo Group

Recommended new mobile bands
Roberto Ercole, Senior Director
GSMA

Q&A, buffet lunch and networking





A mobile operator's perspective

Ahmad Julfar, CEO
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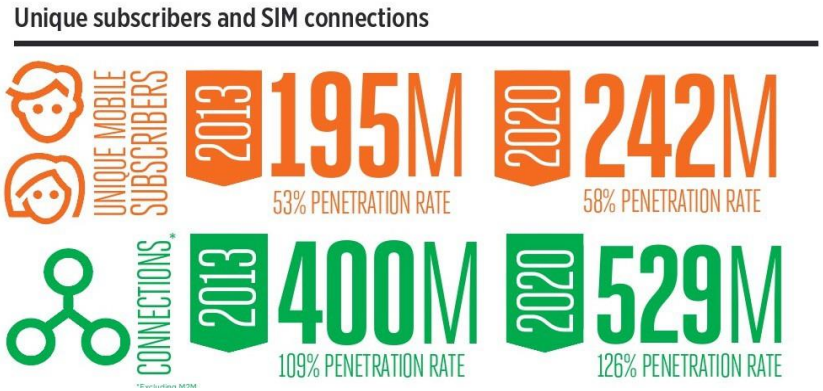
Unleashing the future for the Digital Generation

Geneva

November, 2015

The Arab States in Context





Half of the population yet to become subscribers

Half of the population are under 25 years of age

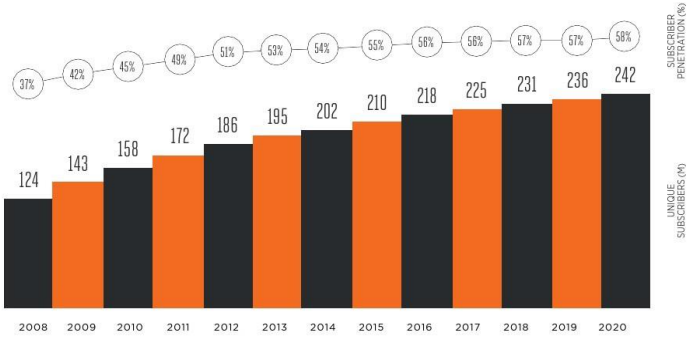
The Arab States in Context

	UNIQUE SUBSCRIBERS (M)	CONNECTIONS (M)	POPULATION (M)	GDP PER CAPITA (US$)
ALGERIA	19.0	39.5	39.6	$5,361
BAHRAIN	1.0	2.6	1.3	$24,613
EGYPT	44.1	99.6	82.7	$3,314
IRAQ	20.5	33.3	34.3	$6,670
JORDAN	5.2	9.9	7.4	$5,214
KUWAIT	2.6	6.5	3.4	$54,506
LEBANON	2.5	3.9	4.9	$9,928
LIBYA	3.8	10.2	6.2	$12,167
MOROCCO	16.9	42.4	33.3	$3,109
OMAN	2.7	5.6	3.8	$22,181
PALESTINE	2.0	3.3	4.4	$1,898
QATAR	1.6	3.8	2.2	$93,352
SAUDI ARABIA	21.6	51.3	29.1	$25,852
SOUTH SUDAN	1.9	3.0	11.5	$1,221
SUDAN	15.6	27.6	38.4	$1,753
SYRIA	9.2	12.5	21.9	$1,219
TUNISIA	5.9	13.9	11.1	$4,329
UAE	7.8	15.7	9.4	$42,153
YEMEN	11.1	15.9	24.7	$1,473

Source: GSMA Intelligence, World Bank, UN

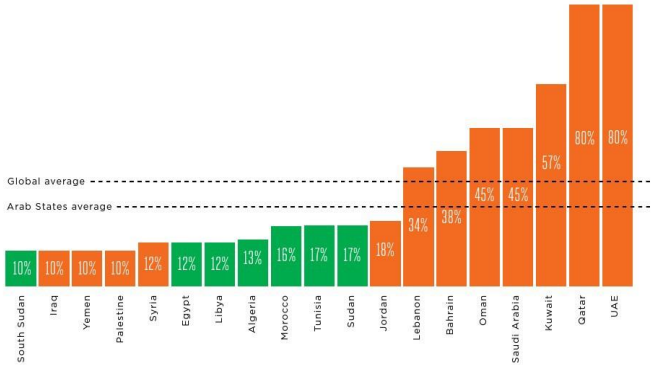
Source: GSMA Intelligence

Unique subscriber growth – Arab States



ption by country

(percentage of total connections, 2013)



The Dawn of the Digital Migrant - Our Generation!





early data networks

personal computing



smart modem - 56Kbs



3G < 1Mbs





LTE



?

1950's 1987 1994 2007 2011 2020? 2030?

The Time is Now - WRC15's Legacy

WRC15 **should** be recognised for:

- **Embracing** the Digital Generation (known as Digital Natives)
- **Empowering** nations to achieve their Broadband ambitions in the most effective and efficient way to maximise socio-economic benefit derived from their frequency resources
- **Breaking down** barriers to progress whilst recognising the rights and needs of all users
- **Creating** the opportunity and flexibility for National Authorities to determine **Which** (470MHz- 6GHz) are assigned to which industries **When** frequencies are to assigned

The Time is Now - WRC15's Legacy

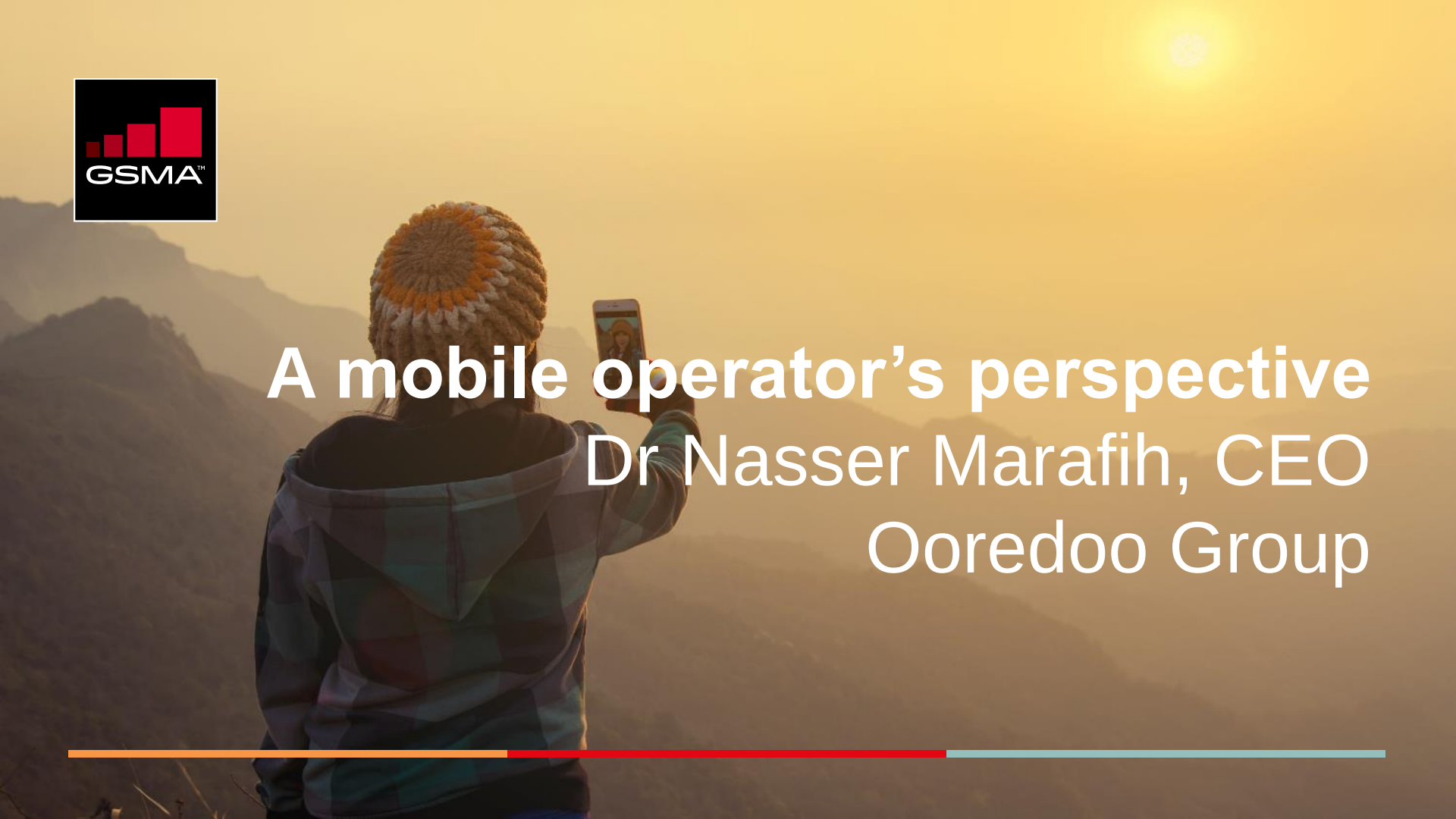
WRC15 **should Not** be recognised for:

- Putting the decision off until 2023 and delaying commercial services to 2030
- Maintaining the traditional silos of Mobile, Satellite, Broadcasting
- Denying National Authorities the flexibility to choose the most appropriate use of frequencies and most appropriate timing of the assignment of frequencies

Dawn of the Digital Generation - lets us not disappoint them.....

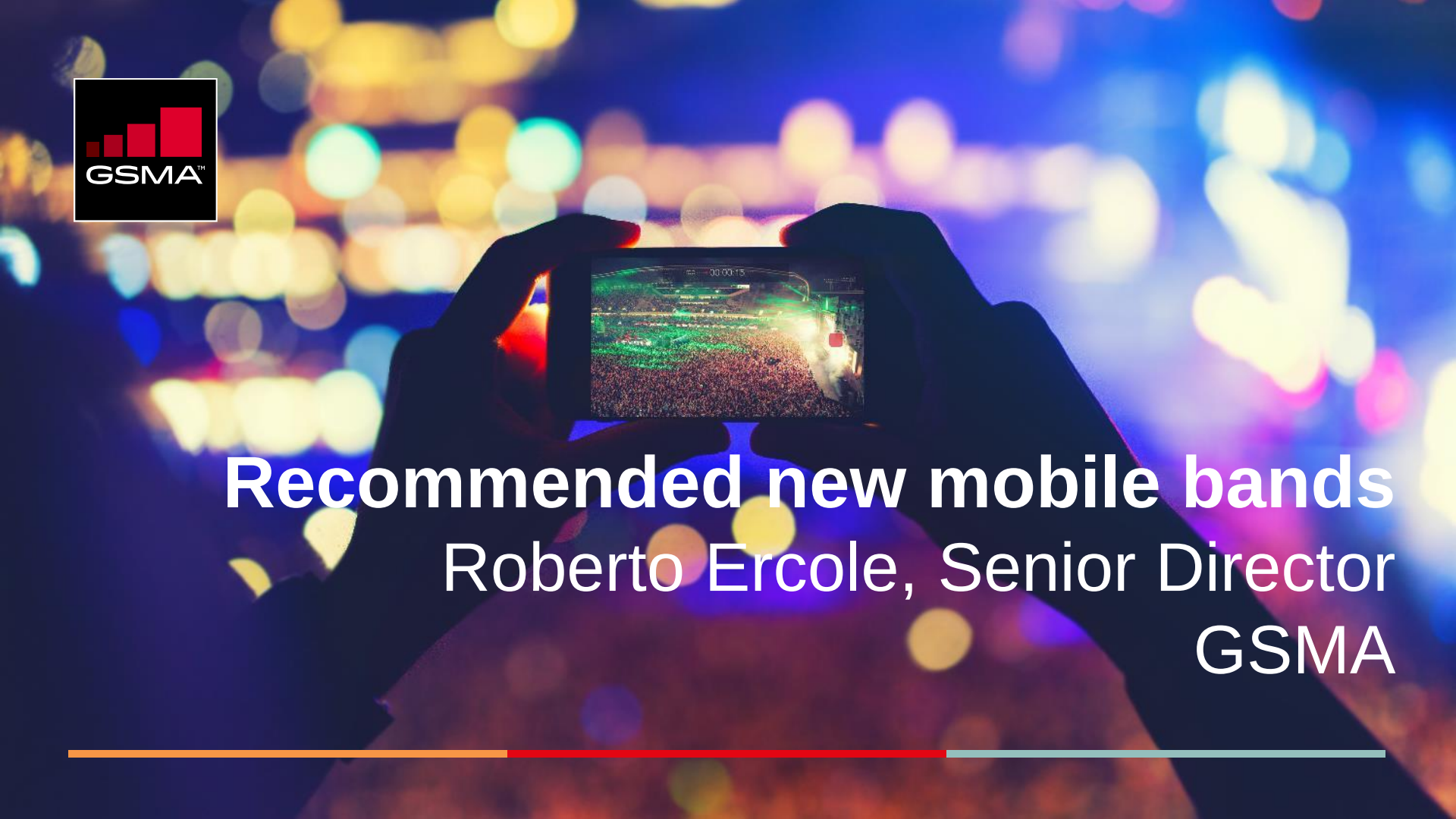


.....make sure that WRC15's Legacy is positive !



A mobile operator’s perspective

Dr Nasser Marafih, CEO
Ooredoo Group



Recommended new mobile bands

Roberto Ercole, Senior Director
GSMA

GSMA recommended new mobile bands

Sub-700 MHz UHF

(470-694/8 MHz)



The key to the future of widespread mobile broadband coverage

L-band

(1350-1400 MHz & 1427-1518 MHz)



A good mixture of coverage and capacity

2.7-2.9 GHz



A good capacity band that would allow use of existing 2.6GHz cell sites

C-band

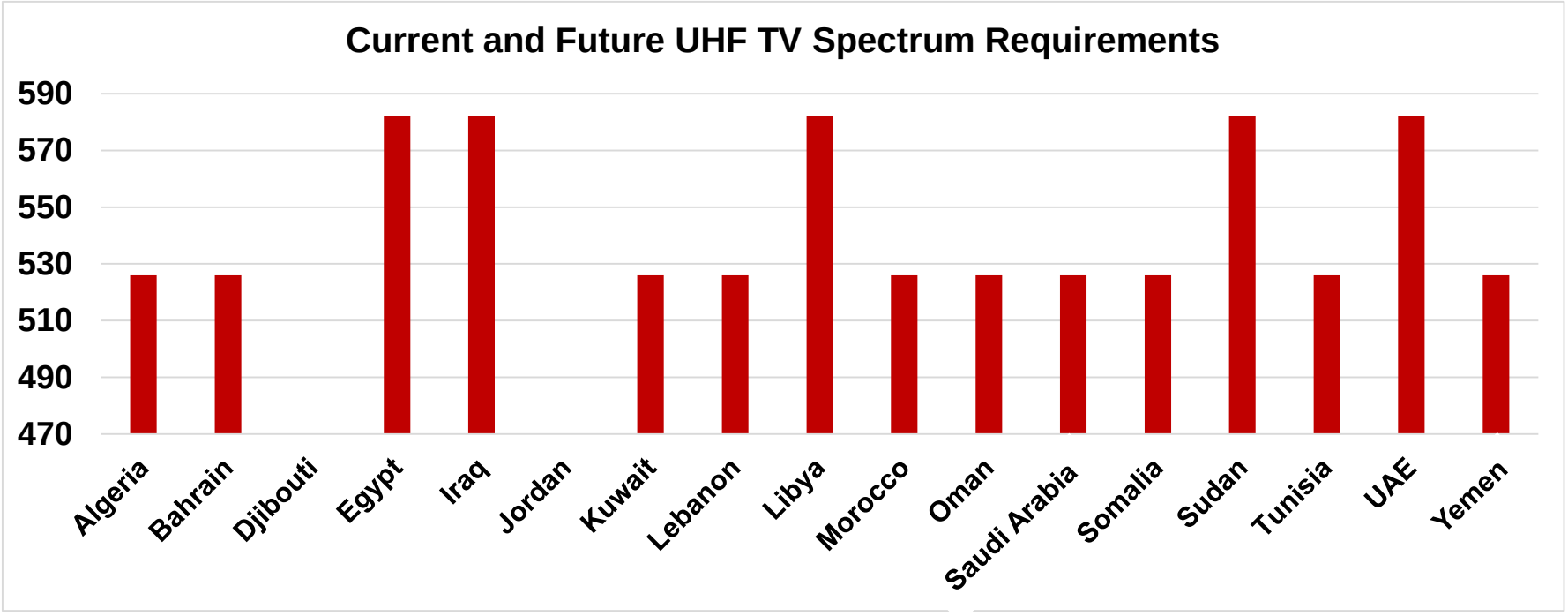
(3.4-3.8 GHz & 3.8-4.2 GHz)



Large bandwidth could provide capacity to support high-speed mobile broadband

Sub-700MHz (470-694/8 MHz)

NOT A CHOICE BETWEEN THE TWO: MOBILE AND BROADCAST CAN SHARE UHF



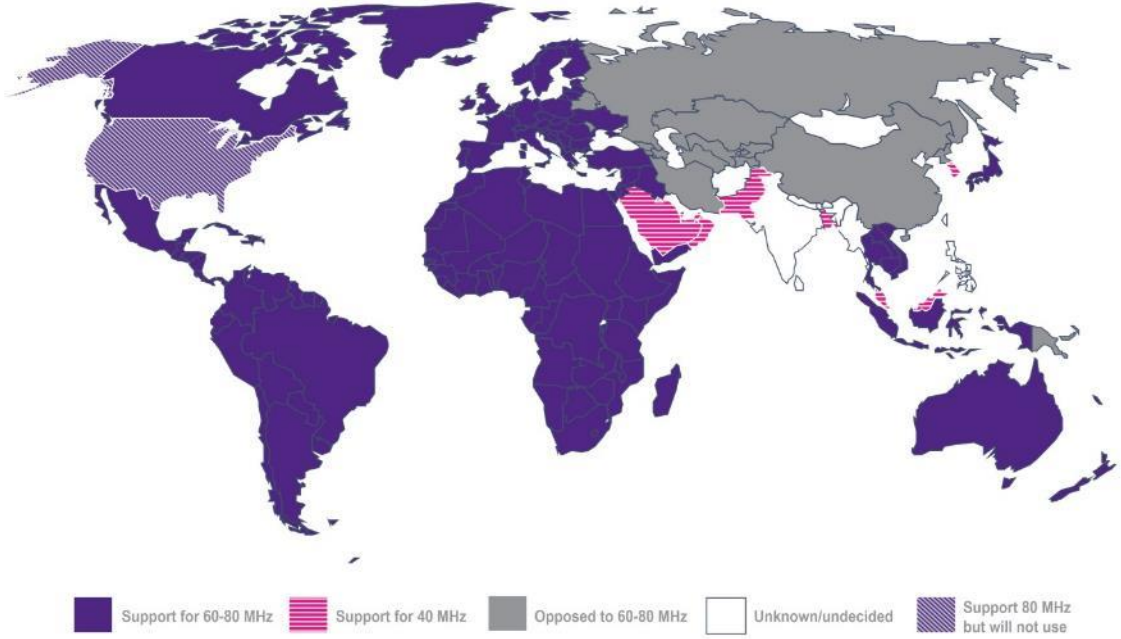
PARTITIONING THE BAND AT 600 MHz WOULD ALLOW 50 TV CHANNELS AND ADDITIONAL SPECTRUM FOR MOBILE

Source: Plum Consulting

L-Band (1427-1518 MHz)

WIDESPREAD SUPPORT FROM COUNTRIES AROUND THE WORLD

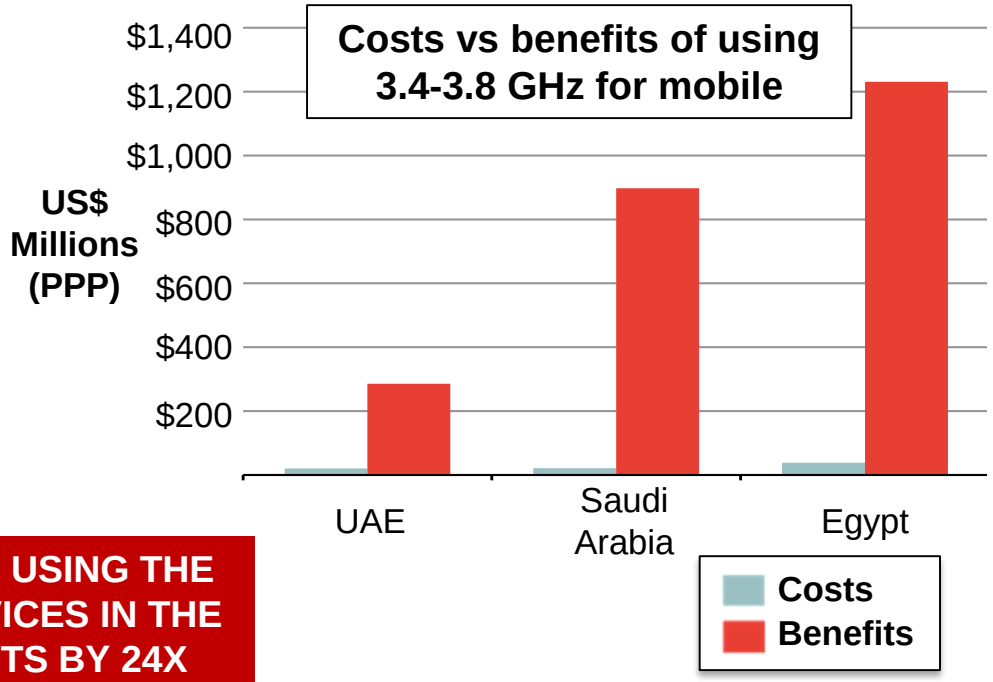
- Good combination of coverage and capacity
- 1452-1492 MHz largely unused
- Co-existence with existing fixed links is manageable
- Compatibility with MSS above 1518 MHz can be achieved at the national level



Source: Plum Consulting

C-band (3.4-3.8 GHz): FSS & IMT can share

- C-band is shared between FSS and IMT in several countries (e.g. UK)
- Interference avoided with planning
- IMT can use part of the band in urban centres leaving FSS to use the full band in suburban/rural areas
- IMT in the C-band is increasingly possible as satellite moves to Ka/Ku
- Europe supports IMT in 3.4-3.8 GHz

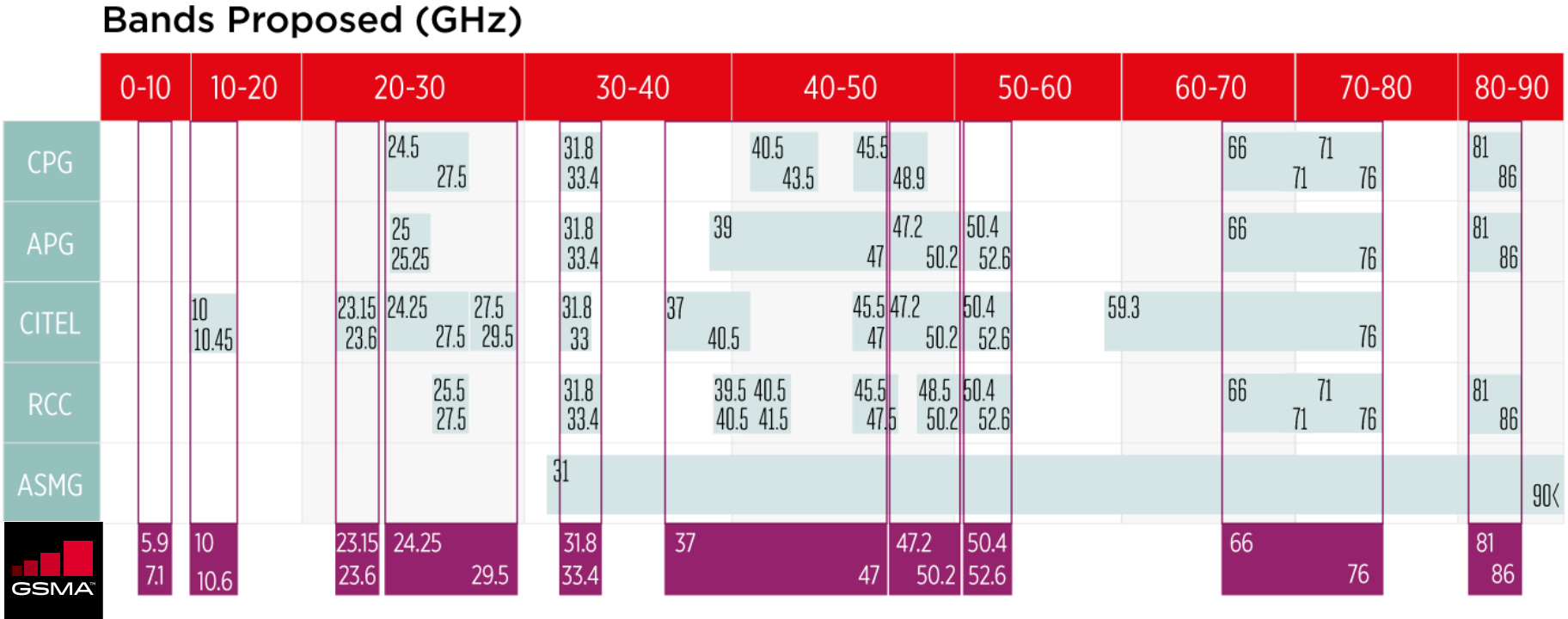


THE ECONOMIC BENEFITS OF USING THE 3.4-3.8 GHz FOR MOBILE SERVICES IN THE ARAB STATES EXCEED COSTS BY 24X

Enable the future of IMT: AI 10

IMT 2020 WILL RELY ON MUCH WIDER MOBILE BANDS

- WRC-19 Agenda Item needed for IMT identification > 6 GHz



Secure the future of mobile

THE FUTURE OF MOBILE BROADBAND IS AT RISK WITHOUT MORE SPECTRUM

- **Mobile traffic is growing faster than anyone's expectations**
  - 2015-2020: 10x traffic growth currently expected
- **Agenda Item 1.1 risks not meeting its goal**
- **More spectrum is vital to improve services and increase socioeconomic benefits**
  - Mobile injected $115bn into Arab States economy in 2014 (4% GDP) - $164bn in 2020 (4.5%)
- **Flexibility is essential to allow countries to react to their evolving situations**
  - New bands won't be licensed to operators until governments see clear demand
  - Existing services can continue and be protected through regulatory conditions

Any questions?

