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<http://standards.nortel.com/spectrum4IMT/>



Vision for a global mobile society



is **inspired by the ITU vision** for a global mobile society, where **every person has mobile access** and is connected wirelessly.

Global spectrum availability is the key to realizing this vision.

Spectrum for the global mobile society: **what usage could be more valuable and more important ?**



Mobile communications will:

- **facilitate** economic growth and development and enable new jobs and new business creation;
- **stimulate** economic development, social inclusion, universal services, global interactions, government policies like police stations in network, hospitals in network, schools in network
- **bring** socio-economic benefits, for example in areas of entrepreneurial activity, healthcare, education and financial transactions

“ Mobile phones have become indispensable in the rich world. But they are even more useful in the developing world, where the availability of other forms of communication—roads, postal systems or fixed-line phones—is often limited. Phones let fishermen and farmers check prices in different markets before selling produce, make it easier for people to find work, allow quick and easy transfers of funds and boost entrepreneurship. Phones can be shared by a village. Pre-paid calling plans reduce the need for a bank account or credit check. A recent study by London Business School found that, in a typical developing country, a rise of ten mobile phones per 100 people boosts GDP growth by 0.6 percentage points. Mobile phones are, in short, a classic example of technology that helps people help themselves.”

Source: The Economist, Jul 7th 2005, “Calling an end to poverty “

Mobile communications facilitate economic growth

Table 1.1: Estimated net economic benefits to the UK economy

Sector	2006		2002	
	Value (£ billion)	Percentage (%)	Value (£ billion)	Percentage (%)
Total	42.4	100	28.2	100
<i>of which:</i>				
Public mobile	21.8	51	14.4	51
Broadcasting	12.3	29	5.9	21
Satellite links	2.8	7	2.9	10
Fixed links	3.9	9	3.8	14
Wireless broadband	0.3	1	-	-
Private mobile radio	1.2	3	1.1	4
Other	0.1	0	0.1	0

Note: 2002 results expressed in 2006 prices

"Other" is defined to include: amateur, citizens' band, non-commercial aviation, maritime and other equipment and services

Source: EE

Source: "Economic impact of the use of radio spectrum in the UK", report by Europe Economics

Mobile communications facilitate economic growth

Table 12.1: Direct GDP and employment effects

Sectors	Turnover 2006 prices (£M)	Employment
Broadcasting	7,520.1	21,654
Public Mobile	1,452.1	1,886
Cellular	37,528.2	79,575
Satellite Links	0.3	479
Wireless broadband	0.7	33
Total Direct contribution	to GDP 46,501.4	to employment 103,627

Source: "Economic impact of the use of radio spectrum in the UK", report by Europe Economics

Mobile market evolution and growth

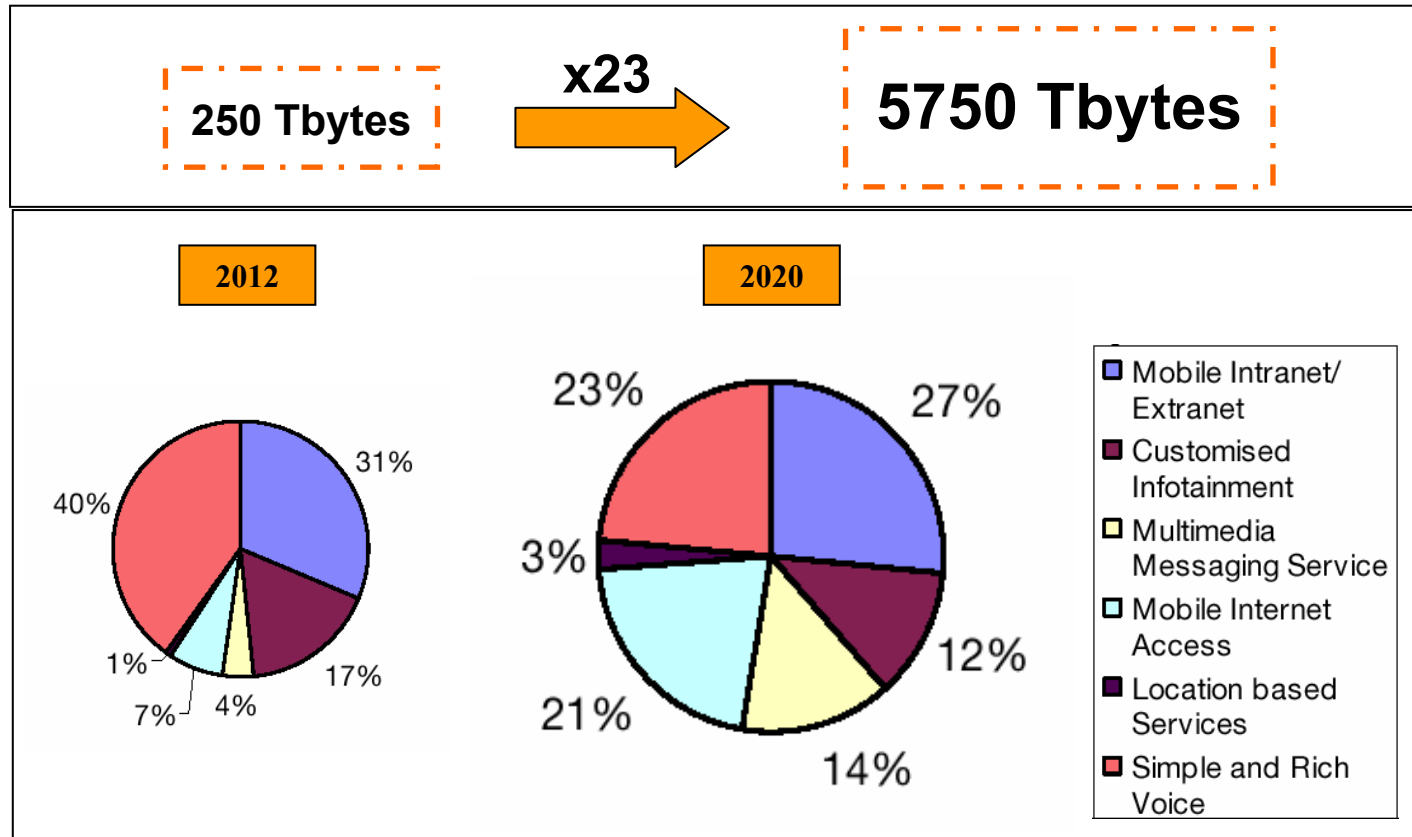
Report ITU-R M.2072 - World mobile telecommunication market forecast:

- WP 8F developed market analysis and forecast of evolution of mobile market for 2010, 2015, and 2020 for the mobile market.
- Parameters were essential inputs for spectrum estimate for the demand for future development of IMT-2000 and systems beyond IMT 2000 in preparation for WRC-07.
- Using extensive case studies from ITU Members, M.2072 highlights applications/services envisaged for the future development of IMT-2000 and systems beyond IMT-2000.
- Forecasts of usage (e.g., bit/s, duration) were developed for various service environments and service categories for 2010, 2015, and 2020.

Mobile market evolution and growth

For a representative European country: Total daily traffic of 5750 Tbyte

→ Total traffic /subscriber/day of 495 Mbyte

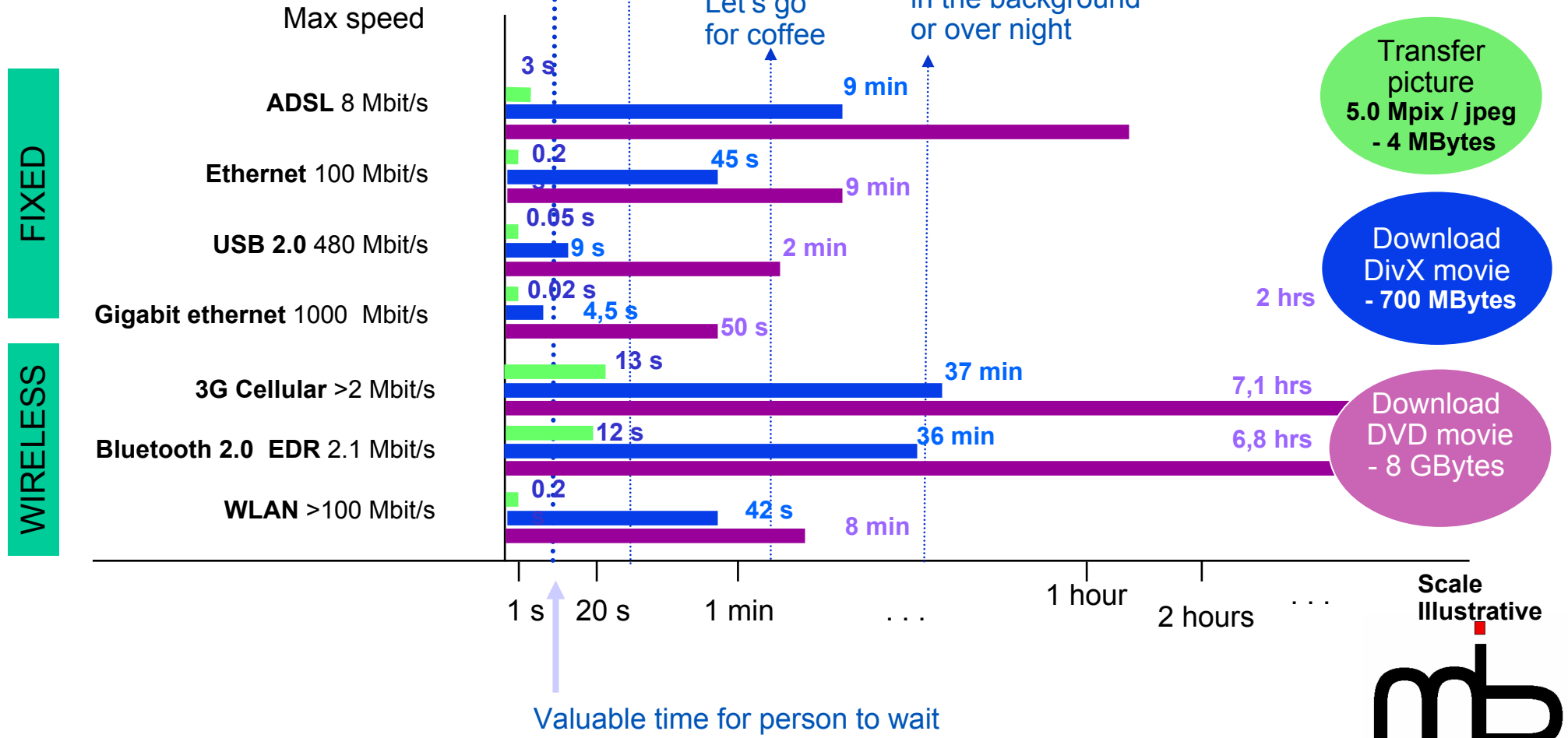


Source:

- UMTS Forum Report #37 (2005) "Magic Mobile Future 2010-2020"
- Source: Report ITU-R M.2072 - World mobile telecommunication market forecast, (chapter 6.2.6, results from UMTS Forum)

100++ Mbps wireless connectivity is needed for good user experience

80% efficiency from peak data rate assumed



Source: Nokia

Existing bands will not be enough for IMT services after the year 2015

According to the **ITU-R Report M.2078 (IMT.ESTIMATE)**, by the year 2020, a total of

- 1280MHz is needed (areas of low market demand) and
- 1720 MHz (high market demand)

→ Additional spectrum by regions:

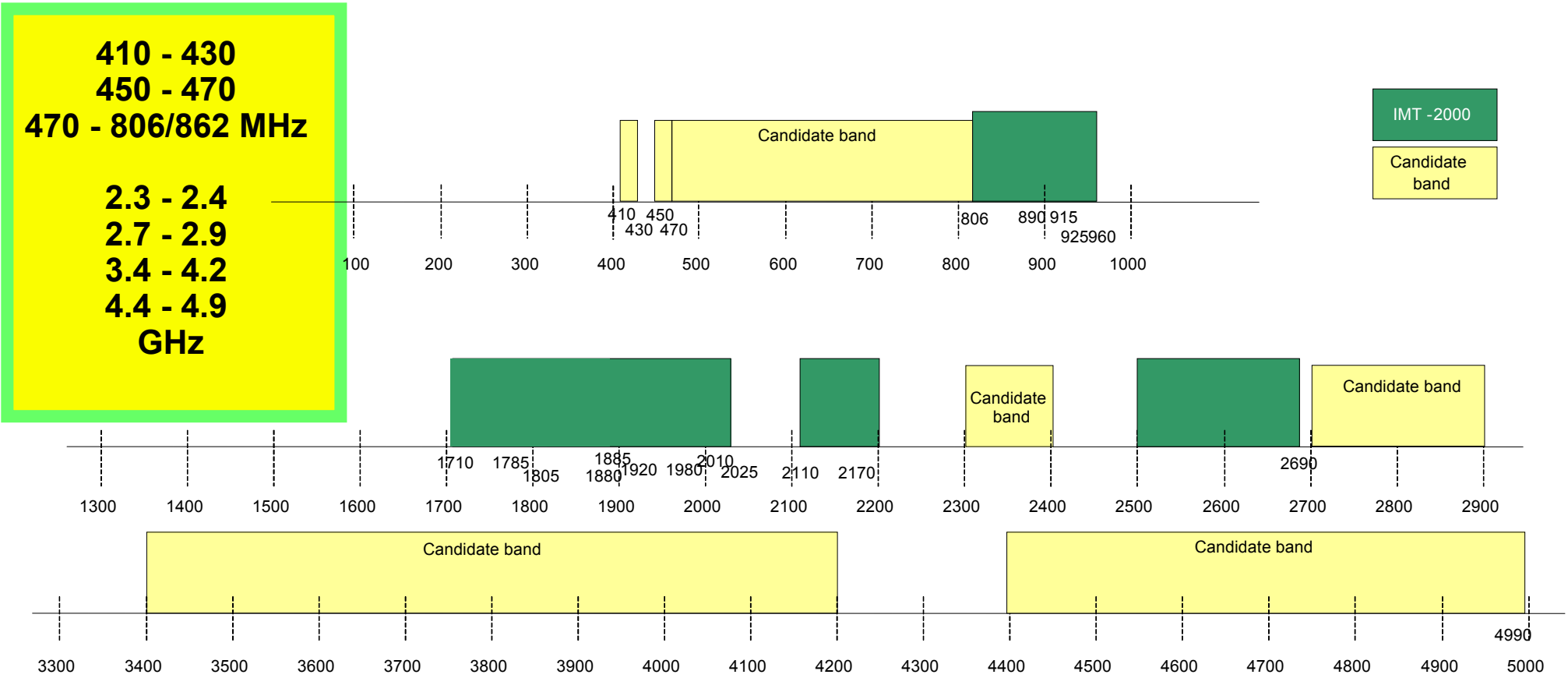
For Europe, additional need will be **695 MHz** in areas of low market and **1135 MHz** in areas of high market (existing IMT-2000 spectrum = 585MHz)

For Americas (Citel), additional need will be **721 MHz** in areas of low market and **1161 MHz** in areas of high market (existing IMT-2000 spectrum = 559 MHz as of PCCIII/Rec 70 (XXI-02))

For Region 3, additional need will be **531 MHz** in areas of low market and **971 MHz** in areas of high market. (existing IMT-2000 spectrum = 749MHz as per IMT.Estimate)

Note: High and low market as in Report M.2078

Candidate bands related to WRC-07 agenda item 1.4



410 - 430
450 - 470
470 - 806/862 MHz

2.3 - 2.4
2.7 - 2.9
3.4 - 4.2
4.4 - 4.9
GHz

More spectrum for IMT - Why at WRC-07?

1. Planning for future spectrum needs for IMT must be done today to be able to respond to the future demand of global mobile society
2. The WRC-07 agenda was set at WRC-03 in anticipation of the rapid market growth of mobile communications, which is the reality today
3. It is beneficial to know spectrum bands well in advance to start the development of radio interface standards and detailed band planning
4. Must also consider the additional time for spectrum to be made available
 - Regional and individual Administration processes after WRC decisions
 - The time to move/retire existing spectrum users, design new equipment and deploy and build the systems
5. If not now for future - then when? Will suitable spectrum be available as time progresses?

Summary for Administrations

- Mobile communications will facilitate economic growth, enable new jobs and new business creation
- mib is inspired by the ITU vision for a global mobile society, where every person has mobile access and is connected wirelessly. Are you ?
- One step to make ITU vision of a global mobile society to happen is to identify new spectrum for IMT at WRC-07, as global spectrum availability is the key to realize this vision
- New IMT spectrum is needed by year 2020, so at WRC-07, a visionary decision is needed in favour of future global mobile society.
- Spectrum for the global mobile society: what usage could be more valuable and more important ?

Key Messages

1. Mobile communications facilitate economic growth
2. The market for mobile services continues to evolve and grow
 - Studies show that the amount of total traffic per user per day will rise almost 50 times from today by 2020 in some markets
3. High bit-rate services experienced in cable and fixed (DSL) networks will be expected from mobile networks as users demand the same services and same quality
4. Existing spectrum bands will not be sufficient to carry the predicted traffic for IMT services after the year 2015
5. More spectrum will be needed for IMT services in a response to increased traffic (1 GHz by year 2020)
6. Bands for IMT should be globally common, wide enough (for 100 MHz carriers) and low enough (preferably below 5 GHz)
7. WRC-07 decision would enable IMT deployment in year 2015-2020 timeframe
8. WRC-07 is the right time to identify spectrum for IMT



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