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Reseaux Mobiles: Quick Quiz 5 (LTE1)

1. [1] Which is growing the fastest (as % per annum) worldwide ?
 - a. Fixed Internet subscriptions
 - b. Mobile broadband subscriptions
 - c. Fixed telephone lines
2. [3] What are the 3 main FDD LTE bands (X, Y, Z MHz) in Europe ?
 - a. 800 MHz
 - b. 1800 MHz
 - c. 2600 MHz
3. [2] How does the middle of these bands differ (from a commercial and regulatory point of view) from the other two?

In most cases 1800MHz was allocated for GSM use, so it needs to be « refarmed » to LTE

4. [2] What is happening to the operator revenue per bit delivered ?
 - a. Increasing
 - b. decreasing
 - c. roughly constant

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5. [4] Name the 4 main requirements put on the LTE data services compared with UMTS
 - a. Higher data bandwidth throughput per user: average
 - b. Higher “peak” data bandwidth capability for some users sometimes
 - c. Lower data cost (per access, bit, bps)
 - d. Lower latency (ping time)

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6. [3] Name 3 other requirements put on LTE
 - a. More services at lower cost, better user experience
 - b. Flexibility of use of frequency bands
 - c. Simplified architecture, open interfaces
 - d. Reasonable terminal power consumption
 - e. Increased user data rate, including cell-edge
 - f. Seamless mobility, including with GSM and UMTS

7. [2] Explain how OFDM reduces intersymbol interference
 - g. Reduced symbol frequency/increased symbol length
 - h. guard interval greater than channel response time

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7. [3] List the 6 carrier bandwidths of LTE

- a. 1.4 MHz
- b. 3 MHz
- c. 5 MHz
- d. 10 MHz
- e. 15 MHz
- f. 20 MHz

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