

# DT view on 1800 MHz spectrum for Mobile Broadband

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Peter Stevens, Walter Grethe

Life's for Sharing

# LTE deployment suitability of mainstream European FDD bands

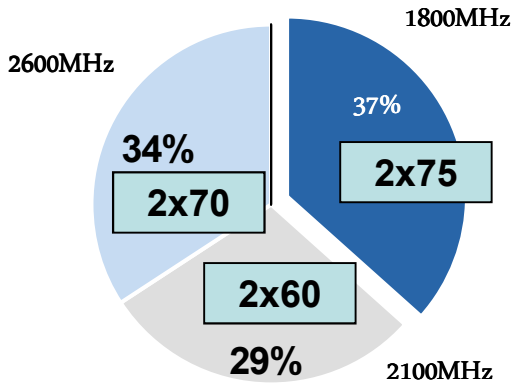
| Spectrum band | Band size | Propagation | Utilisation | Antenna system impact | Suitability: Rural coverage | Suitability: Urban capacity | Suitability: Indoor/ hotspot |
|---|---|---|---|---|---|---|---|
| 800 MHz | ↘ | ↑ | ↓ | ↗ | ✓ | ✓ | |
| 900 MHz | ↘ | ↑ | ↑ | → | ✓ | | |
| 1800 MHz | ↑ | → | → | → | ✓ | ✓ | ✓ |
| 2.1 GHz | ↗ | ↘ | ↑ | ↓ | | ✓ | ✓ |
| 2.6 GHz | ↗ | ↓ | ↓ | ↑ | | ✓ | ✓ |

1800 MHz band is well suited for mobile broadband application when considering a range of criteria

# 1800MHz has the potential to become main band for LTE deployment in EU

## 1800MHz as a broadband capacity band

- 1800 MHz – an essential portion of the **broadband capacity spectrum in Europe**




- **Biggest chunk of FDD spectrum above 1GHz is allocated in 1800MHz**
  - 1.800 MHz used today for 2G (Voice and EDGE) only
  - 2.100 MHz used for UMTS and HSPA
  - 2.600 MHz allocated or to be auctioned for LTE
- **Deployment of 1800MHz on existing 3G network sites** leads to **significant better in-house coverage** than on 2.600MHz
  - ➢ Most attractive spectrum to bring capacity in urban areas, without new site deployment, i.e. minimized OPEX, minimized environmental impact
- **Lift the potential of 1800MHz with mobile broadband usage**
  - Even HSPA+ could be beneficial as a parallel evolution to open up spectrum usage

# Deutsche Telekom's expectations for 1800 MHz usage

## Summary of DT positioning

- Deutsche Telekom has substantial spectrum allocations in the 1800 MHz band in different countries and will seek to exploit those in future mobile broadband deployments
  - e.g. 2x15 MHz acquired by DT in the German spectrum auctions in 2010
- Deutsche Telekom will use the 1800 MHz band for LTE rather than HSPA
- Deutsche Telekom is using 1800 MHz band for the first deployed LTE carrier in Germany in a lot of urban areas
- Deutsche Telekom encourages:
  - other operators to support the use of this band for mobile broadband application so that their 1800 MHz spectrum assets can be fully exploited
  - terminal suppliers to support the 1800 MHz band in their mobile broadband products to ensure the availability of high performance services in the future LTE/HSPA networks that are expected to use the 1800 MHz band