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UK SPF Cluster 1 Workshop: Future of Indoor Connectivity

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Contents

How to access spectrum?

MOCN and MORAN have been around for a long time. How do they differ?

MOCN

- Multiple MNOs use shared frequency band in RAN
- Which frequency band to use as the shared resource?
- Can be one of MNO bands or shared spectrum. 3800-4200 MHz SAL band has been considered in trials
- Revised Ofcom SAL rules now allow broadcasting public network PLMN in indoors 3800-4200 MHz SAL sites

MORAN

- Each MNO operates on its own frequency band in RAN
- Not much different from how site sharing takes place today
- In shared infrastructure the band combinations in eNB/gNB may become complicated to support

Who does shared indoor infrastructure benefit?

- Consumers in indoor public spaces expect to have seamless connectivity – this is often not the case
- The venue benefits from good connectivity, this is becoming a hygiene factor for prospective tenants
- MNOs benefit from fewer not-spots indoors

- Shared infrastructure reduces clutter, complexity and cost
- The size of the venue matters: in large facilities DAS is feasible, in smaller settings simpler deployment is necessary (wireless mid-haul etc)

Other considerations

- Neutral host may need to address both private network (site owner) and public network in the same installation
- Both LTE and 5G specifications support non-public networks
- Issues may arise in device support (MCC/MNC for private networks)
- Depending on the primary PLMN broadcast in the cell (private network/public network), emergency calls may encounter difficulties
- How about sites that are "indoors" but not really….parking garages in ambient outdoors temperature with walls and ceilings etc (indoor APs do not meet requirements)

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Thank you