The Institution of Engineering and Technology

5G Further Faster

A *5G spectrum initiative at 3.6-3.8 GHz* in support of the Government's proposed "market expansion" model

www.theiet.org/5Gff

Supporting Partners

5G RuralFirst
Dense Air
WHP Telecoms Ltd
Nominet
Wireless Infrastructure Group
Google
Federated Wireless
Rivada Networks
FMS Solutions
TalkTalk

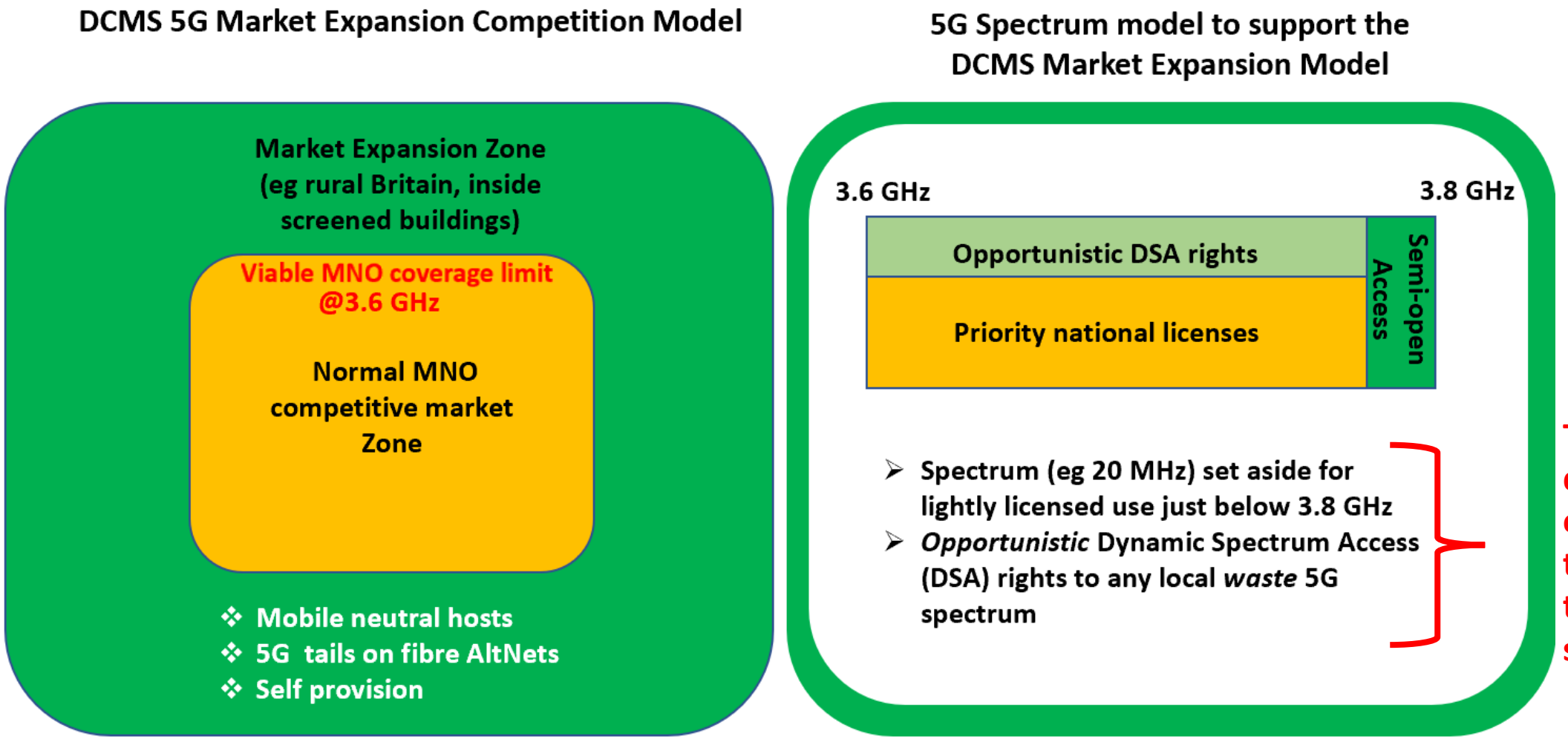
PURPOSE

- **The 5G Further, Faster is an innovation common interest group brought together by the IET Communications Policy Panel to support the government's proposal for the 5G Market Expansion Model and the release of spectrum in the 3.6 GHz band * to enable the UK to be in the lead in supporting all the anticipated 5G use cases nationwide with greater coverage (further) and higher data speeds (faster)**

- ***The IET's intention is to allow** entities **collectively to deliver a more comprehensive evidence-base to Ofcom, government and legislators than any single entity could do on its own.***

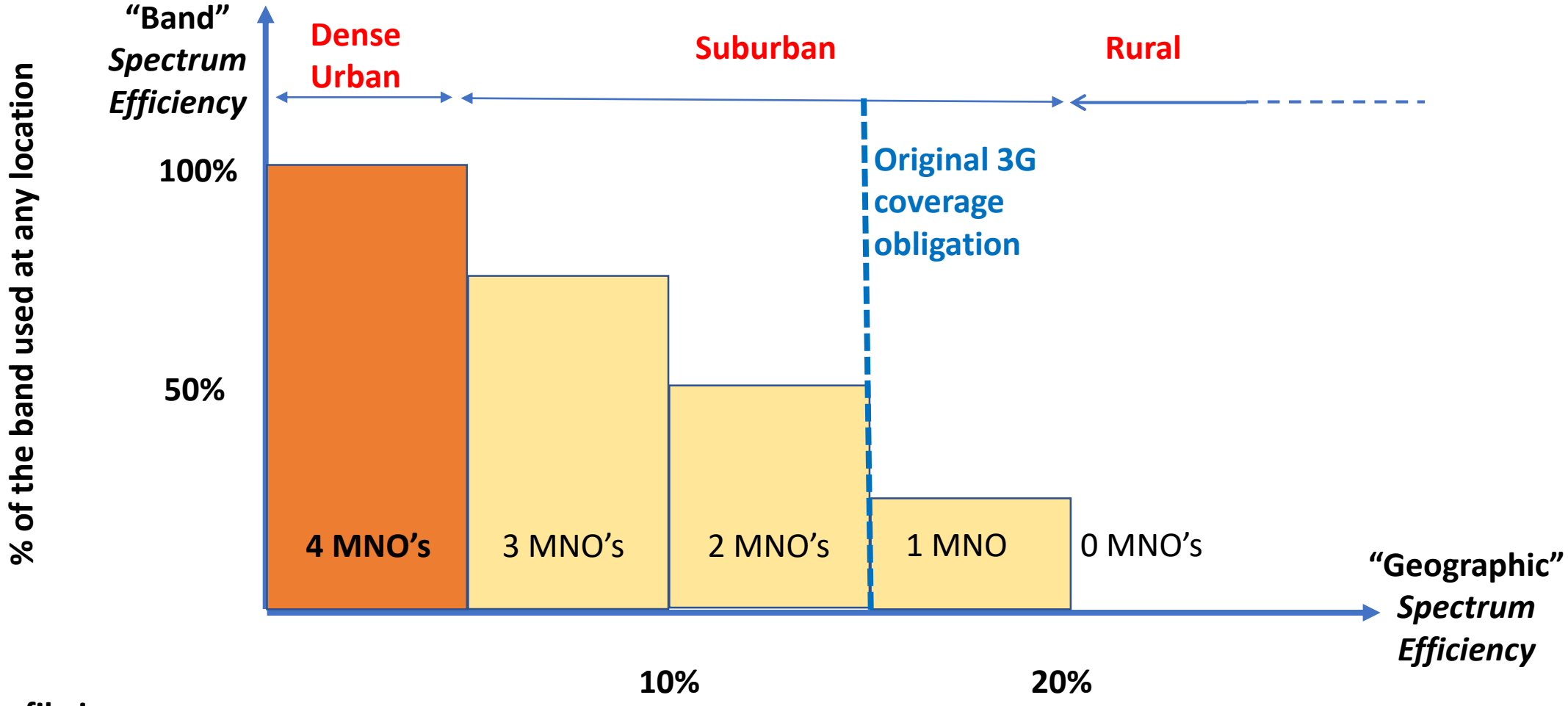
* The Government's Future Telecommunications Infrastructure Review (FTIR) paragraphs 221-223

Currently the UK is trying to roll out 5G *in a 4G regulatory framework* - the Government's Future Telecommunications Infrastructure Report (FTIR) has proposed *a 5G Market Expansion Model*:



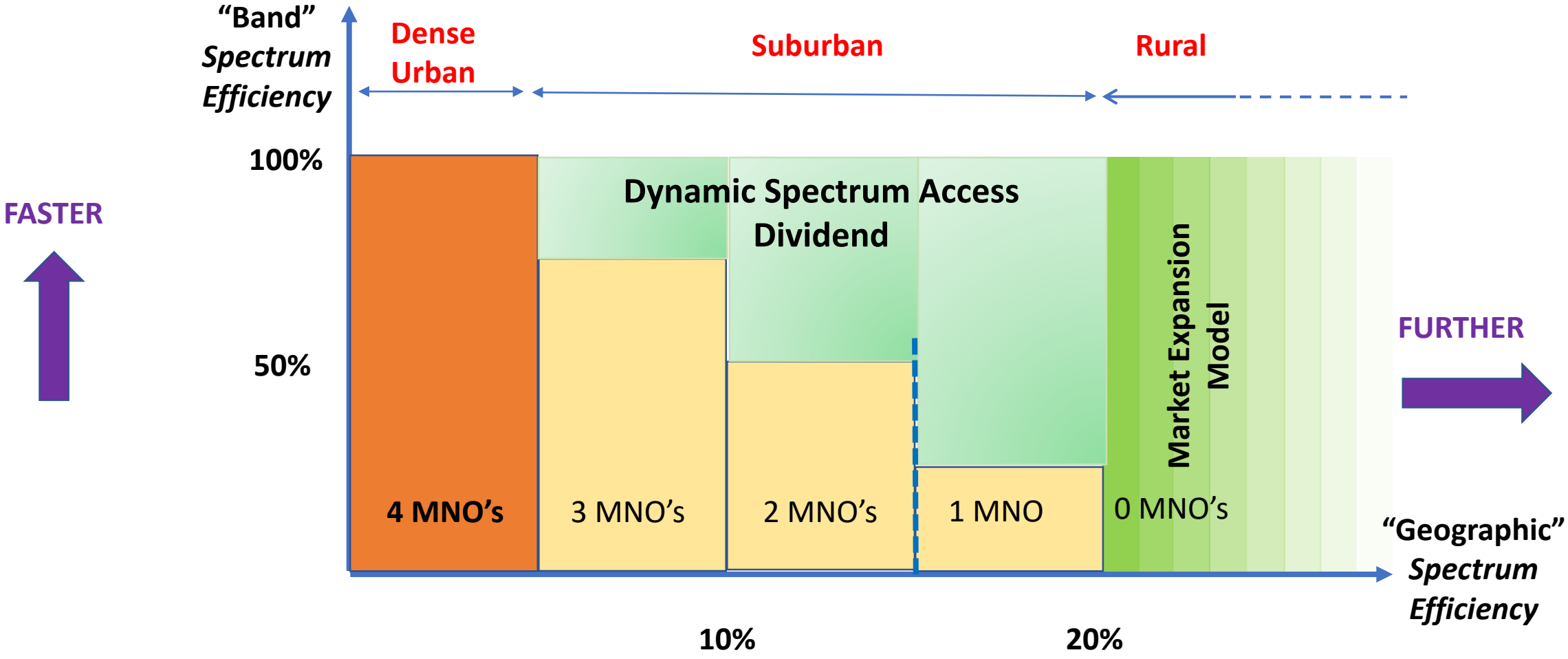
Note: 20 MHz is a working assumption.
No value is mentioned in the FTIR report

It is very likely that a large 5G rural and indoor 5G *coverage deficit will emerge* in a band as high as 3.6 GHz from a commercial deployment that will be largely capacity driven (ie no national coverage obligation)



NOTE: Profile is purely illustrative

The FTIR Market Expansion Model addresses this deficit…



…almost two 5G infrastructures … for the price of one

WHITE PAPERS IN SUPPORT OF THE 5G FURTHER FASTER (5G FF) INITIATIVE

- IET Initiative Overview - 5G Further Faster
- Rural first - a new spectrum model to drive modernisation of the rural economy
- Google UK - co-ordinated shared spectrum and small cells
- Nominet - 5G spectrum sharing
- Rivada Networks - technologies relevant to the UK 5G network
- Wireless Infrastructure Group - it's time to try something different
- WHP Telecoms - an infrastructure service provider's perspective
- Dense Air - next generation private mobile networks for industry 4.0
- FMS Solutions – FMS experience with the DECT guard-band licence

What about the interest of the MNO?

- **The MNOs will play a crucial role in building most of the national 5G infrastructure**
- **They may be concerned over the idea of the 20 MHz set-aside at 3.6 GHz as there would be less spectrum at the next auction, making it harder for them to secure efficient 5G wide radio channels.**
- **Views are more mixed on opportunistic dynamic spectrum access to unused spectrum as MNOs benefit from being able to cut their cost of boosting 5G capacity and speeds *in lower density areas*.**
- **It is the role of Ofcom to arbitrate between competing demands, taking into account the strategic direction set by the Government.**

The Government's FTIR market expansion model at 3.6 GHz spectrum ticks a number of boxes:

Attribute to be enhanced	Result of 5G FF
Coverage	**YES**
Infrastructure Performance	**YES**
Spectrum Efficiency	**YES**
Competition (outside of urban areas)	**YES**
Innovation	**YES**
UK leadership in 5G	**YES**

We think that this proposal is simple to implement and the time is now