

REGULATION OF THE DARK FIBRE IN THE LIGHT OF THE INTRODUCTION OF 5G SERVICES AND EXPECTED SIGNIFICANT INCREASE OF THE DATA TRAFFIC

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Domagoj Jurjević, M2E consulting

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WHAT WILL 5G BRING?

- Improved broadband – higher speeds
- Ultra-reliable low latency communications
- IoT
- Autonomous vehicles
- Telemedicine
- Remote surgery
- ...consequently **expected huge increase in data traffic**
- **...more base stations and related facilities needed**

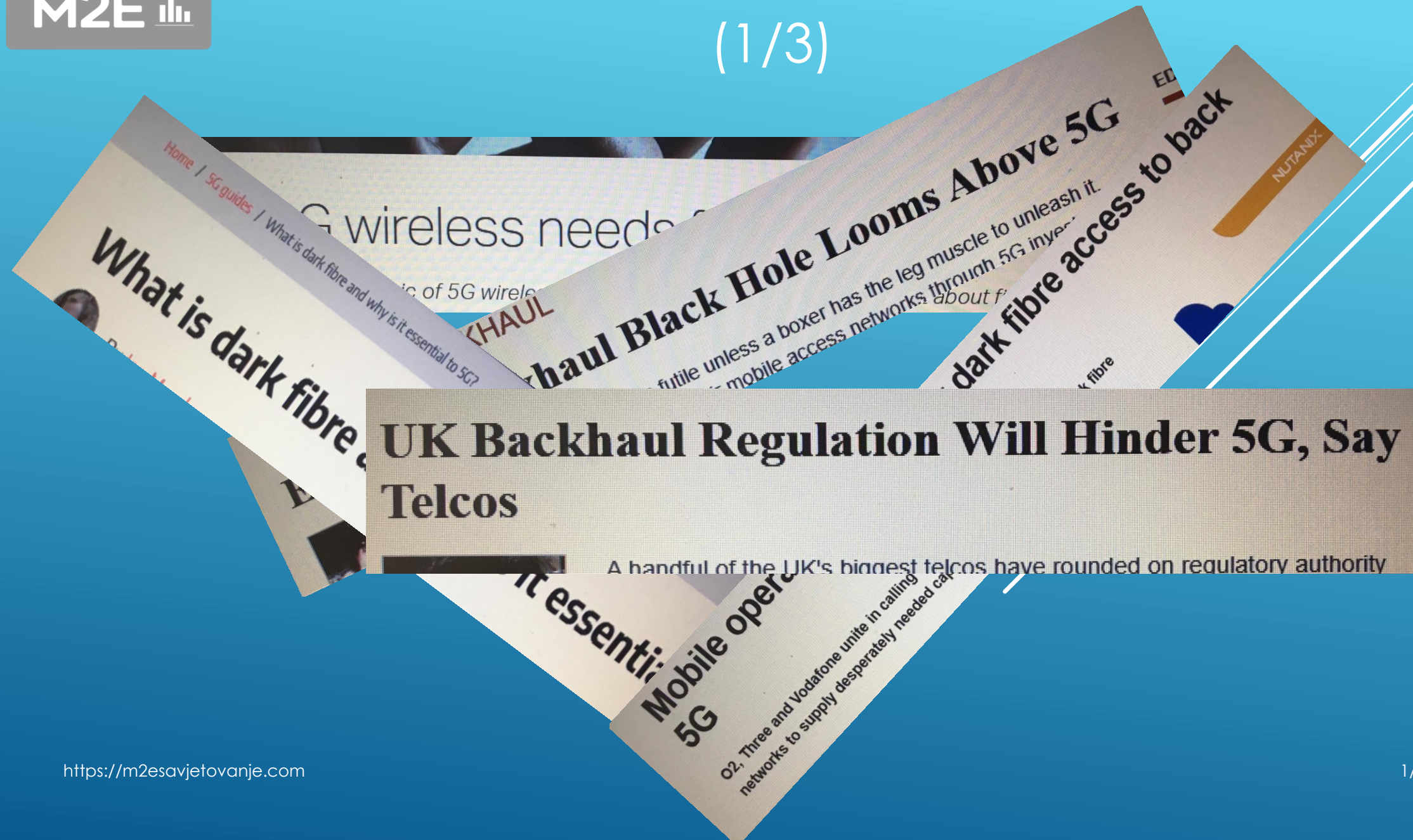
- Let's go underground!



WHAT IS DARK FIBRE?

- *“Dark fibre is a wholesale passive access product (unlit optical fibre) and can be used by the operators to connect its (equipments in) core networks to the access points. As with ducts, dark fibre products could exist at the core, concentration or access network levels.”* BEREC report, BoR (10) 08

RELATION BETWEEN 5G AND DARK FIBRE (1/3)



UK Backhaul Regulation Will Hinder 5G, Say Telcos

A handful of the UK's biggest telcos have rounded on regulatory authority

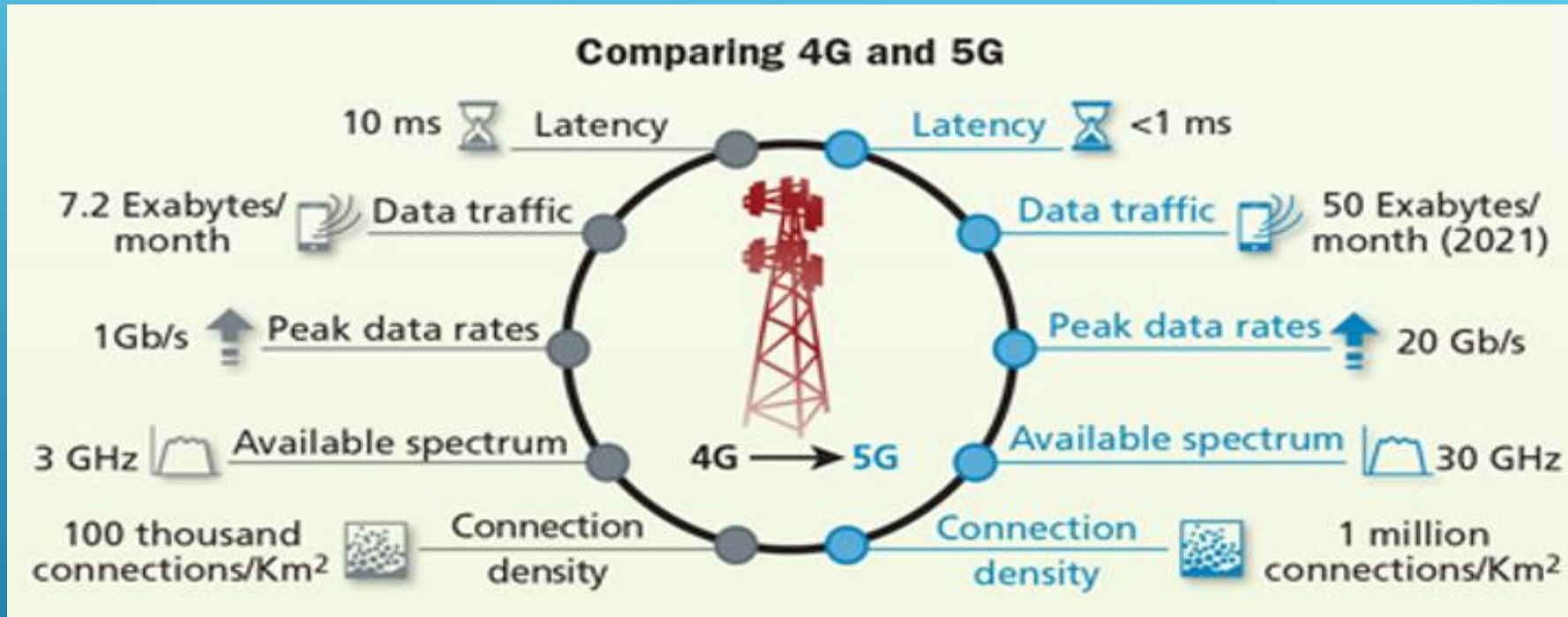
RELATION BETWEEN 5G AND DARK FIBRE (2/3)

- NRAs just assign the frequencies...
- For else, they rely on market forces...
- How operators will deal with the transport of new significant loads of data in their core networks?
- How they will deal with additional number of base stations?
- Is dark fibre capable of being regulated?
- If yes, why and when?

Why?

RELATION BETWEEN 5G AND DARK FIBRE

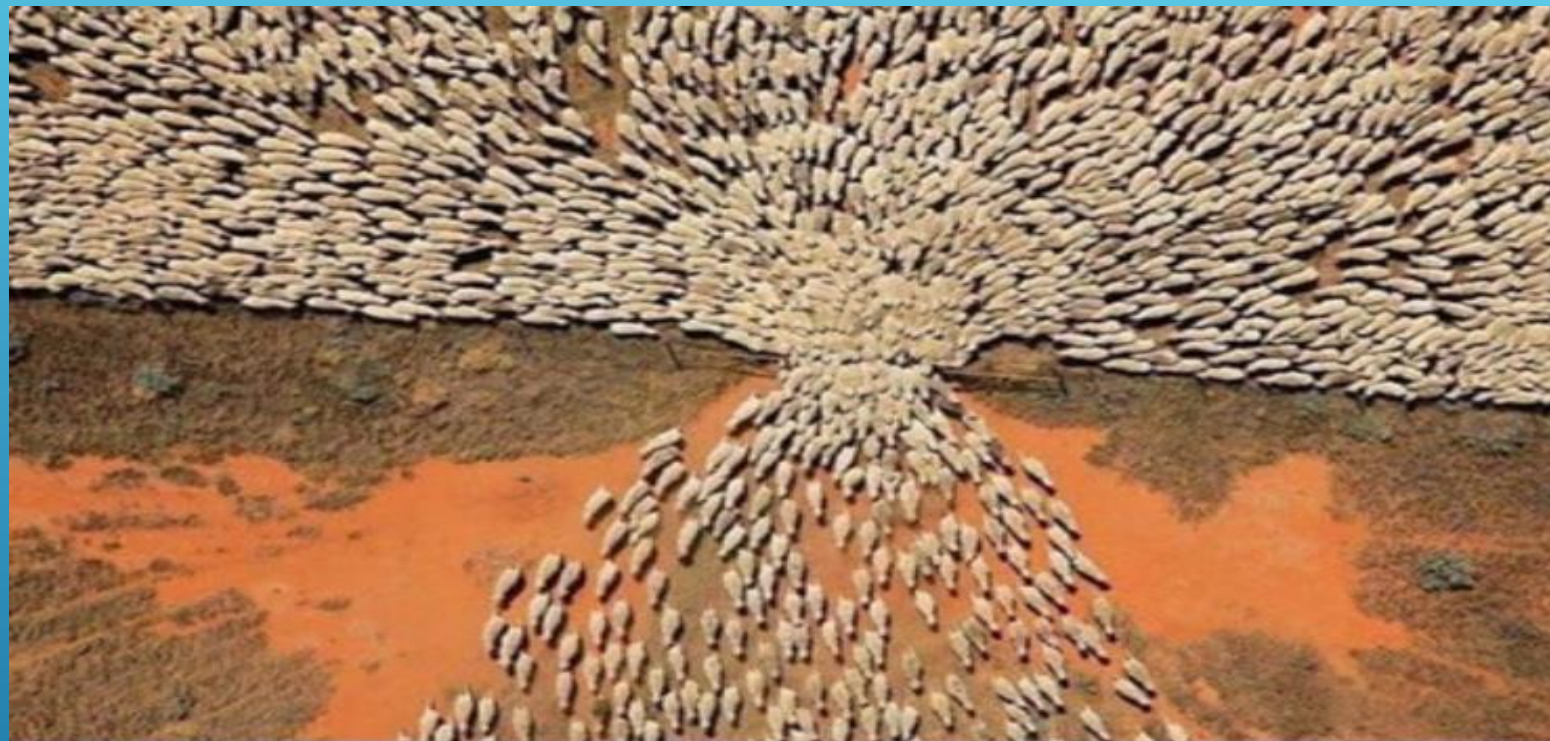
(3/3)



Source: <https://www.cablinginstall.com>

When?

POSSIBLE REGULATORY APPROACH WITH DARK FIBRE (1/3)



A herd of sheep is leaving the stall. There is no fence,
only the gate ...

"The Trap of thinking"

POSSIBLE REGULATORY APPROACH WITH DARK FIBRE (2/3)

- Markets are defined by EC Recommendation, but the services depend on local circumstances
- Market analysis of the relevant market which will include mobile backhauling could be done
- Collection of the current and accurate set of the data that will enable NRA to make right conclusions – collection exercise
- Making conclusion whether leased lines and dark fibre are substitute services in local market – defining the market

POSSIBLE REGULATORY APPROACH WITH DARK FIBRE (3/3)

- Analysing how the market performs in terms of number of competitors, their market shares, etc.
- If there is a significant amount of unused dark fibres (terminating segments) owned by one operator that is not under the competitive pressure of other ones, maybe ex-ante regulation is right tool that could foster 5G development – SMP designation
- Definition of regulatory obligations (remedies) that will remedy the problem on the market

PROS AND CONS OF POSSIBLE REGULATION (1/2)

PROS

- Facilitating of the development of the core networks that will be ready for 5G and huge increase of the data traffic
- Saving the time and money (private and public) needed for building new access infrastructure to the base stations by using already built one
- Promotion of the competition
- Easier introduction of new technologies
- Possibility of introducing co-investment models in exchange for suspension of the regulation (EECC encourages this)

PROS AND CONS OF POSSIBLE REGULATION (2/2)

CONS

- Dependency on high quality input data for the market analysis – possible wrong results of the analysis
- Questionable benefit of regulation if the base stations from SMP player and competitor are not geographically near each other
- Lack of EU best practices on which NRAs could rely on
- Coexistence of the dark fibre regulation together with duct and pole access/site sharing regulation

REGULATION IN EU (1/2)

- 20 NRAs regulate access to dark fibre. 19 NRAs regulate dark fibre under Market 3a, one NRA under Market 4.

Source: *“Draft BEREC Report on Access to physical infrastructure in the context of market analyses”*

- Dark fibre in most of the cases is regulated as an “ancillary” remedy (e.g. dark fibre is mandated only if access to physical infrastructure cannot be granted due to technical reasons or it is not available)

REGULATION IN EU (2/2)

- In two cases access to dark fibre was analysed in terms of the substitutability in connectivity market with leased lines and other connectivity services (Market 4)
- In Austria, terminating segments of dark fibre were included into the market definition together with wholesale terminating segments of Ethernet services with guaranteed bandwidths
- In UK, obligation was imposed BT to supply dark fibre access (DFA). (At the end this decision was repealed after a successful appeal of the market definition.)

CONCLUSIONS AND RECOMMENDATIONS

- Wireless is not possible without digging!
- It is not just about the need to regulate just for the sake of regulating
- Need to consider the regulation of dark fibre as it should be helping the introduction of new technologies
- If the market analysis is to be done:
 - Excellent data collection tool should be developed
 - Substitutability exercise is the key one
 - Remedies should be clear and enforceable

