4-to-3 mobile mergers: a deep-dive into the UK market

Compass Lexecon has released a new white paper assessing the likely impact of the proposed Vodafone/Three merger. It follows an earlier meta-study of 25 empirical studies on mobile mergers, which found that there is no basis for a presumption that 4-to-3 mobile mergers will result in higher prices or lower quality. By considering the specific characteristics of the UK mobile market (including the need for investment in Advanced 5G technology) as well as merger-specific factors, the new white paper demonstrates that the proposed Vodafone/Three merger will drive increased competition in the market and materially improve the quality of mobile services in the UK. This will benefit consumers, businesses and the UK economy as a whole.

Key points

- Advanced 5G – which unlocks the full potential of 5G technology – can deliver substantial benefits to the UK and support key government policy objectives. However, it requires a step-change in investment compared to previous mobile technologies.

- The current UK market structure of two mobile network operators (MNOs) with scale plus two smaller operators is failing to deliver this investment. Compared to 56 of its peers, the UK currently ranks 49th on 5G download speeds and 39th on 5G availability.[1] Without a change in market structure the UK will fall even further behind international leaders in 5G rollout.

- The proposed Vodafone/Three merger will instead create a third MNO with scale that will have the ability and incentive to invest in 5G standalone and Advanced 5G. The merged entity plans to invest over £6 billion during the first five years post-merger, and more than £11 billion across the first ten. This will also increase competitive pressure on BT/EE and VMO2 to invest in their networks, driving improvements in price, quality and choice.

- From Day 1, at least 7 million customers will see improved network speeds and benefit from reduced congestion and less buffering. The merged network will have a far greater density of cell sites and extend high-capacity spectrum coverage to an additional 10 million customers. Together this will deliver a radically improved customer experience. By 2032, more than 86% of the population will receive average speeds of around 800Mbps, with the remaining 14% of the population benefitting from average speeds of around 200Mbps – far greater than either operator could achieve on a standalone basis. 96% of customers will experience latencies that are five times faster than what Three and Vodafone offer today. And across the network, customers will receive a smooth and consistent experience thanks to negligible congestion.

- The international evidence on four-to-three mobile mergers is mixed and shows that each merger must be assessed on its own merits. The merger- and market-specific factors in this case clearly demonstrate that it will be positive for UK consumers and the economy.

Advanced 5G can deliver substantial benefits to the country, but the UK's investment is already well behind others and the current market structure will not deliver the step-change needed for rollout success

Advanced 5G technology can deliver significant enhancements in network capacity, data transfer speeds, reliability, and latency (the time between sending and receiving data). These quality improvements are crucial for supporting new use cases across multiple sectors such as healthcare, agriculture and transport. As the UK Government recognises, Advanced 5G is pivotal in driving the UK's digital economy, with the potential to benefit consumers, businesses, and the national economy substantially.[2] It will also support broader government policy objectives such as unlocking investment and growth, positioning the UK as a global innovation hub, promoting regional development and reducing carbon emissions.

[1] 5G download speeds and 5G availability data obtained from OpenSignal.
[2] A report for the Department for Digital, Culture, Media and Sport estimates that 5G has the potential to increase annual UK Gross Value Added (GVA) by £9.3bn-£37bn by 2035. Cambridge econometrics & Analysys Mason for DCMS, Realising the Benefits of 5G, available at: https://www.gov.uk/government/publications/realising-the-benefits-of-5g.

However, the UK currently lags behind international comparators in both 5G investment and 5G rollout. As of June 2023, the UK ranked 39th out of 56 countries in terms of active 5G connections and 49th on 5G download speeds.[3] Without a step-change in investment, the UK risks slipping even further behind.

Advanced 5G requires annual capital expenditure that is significantly higher than the levels observed over the past decades. Many of these costs are fixed – they do not vary with the number of customers. Therefore, compared to previous generations of mobile technology, MNOs need to have greater scale. They need to be able to spread the fixed costs of network deployment over a larger number of customers to make the investment sustainable. MNOs with smaller customer bases will have insufficient scale and will only be able to deploy Advanced 5G on a very limited basis.

Vodafone and Three are sub-scale, with low returns and cash flows. This means neither operator has the ability or incentive to roll out nationwide Advanced 5G networks. As a consequence, the two larger MNOs (BT/EE and VMO2) face only limited competitive pressure to invest at pace themselves. The UK's current mobile market structure is therefore failing to deliver the investment needed to roll out Advanced 5G. Without a change, rollout will remain slow and geographically limited, and the UK will fall even further behind international comparators.

The proposed Vodafone/Three merger will create a third network with scale and the ability and incentive to invest, increasing quality and price competition in the market

Customers of the merged entity will benefit from the combined network almost immediately after completion, with at least 7 million customers experiencing improved network speeds, reduced network congestion, and less buffering.[4] Additional changes to the combined network in the near term are also expected to eliminate 25% of 'not spots' (uncovered areas).[5]

In addition to these important short-term benefits, the proposed merger will transform the two sub-scale MNOs into a competitive third network player with sufficient scale and financial ability to sustainably invest in Advanced 5G further and faster than either could achieve on a standalone basis. This is because:

- By merging, they will be able to combine spectrum and assets in a single network, providing scale, increased capacity, higher quality, and merger synergies which are not achievable by either standalone operator. Together this will lower the incremental cost of upgrading the combined network, and the merged entity will be able to accommodate higher usage of its network at a lower cost;

- The combined customer base of the merged entity also means it can recover the largely fixed costs of upgrading its (single) network over a greater number of customers than either operator could do on a standalone basis, thereby reducing the upgrade cost per customer; and

- Post-merger, Three and Vodafone will invest billions in the UK to create a leading 5G network in Europe. Investment in a superior network will generate significant revenue benefits without increasing prices, by improving the merged entity's ability to attract and retain mobile customers as well as unlocking new revenue opportunities underpinned by Advanced 5G.

The scale and cost synergies from the merger in combination with the revenue benefits mean the merged entity will accelerate the deployment of Advanced 5G more effectively than either operator could achieve individually. The merged entity plans to invest over £6 billion during the first five years post-merger, and more than £11 billion across the first ten.

[3] 5G download speeds and 5G availability data obtained from OpenSignal.
[4] This occurs because of the implementation of spectrum sharing, which allows certain Vodafone spectrum to be deployed on Three sites (and vice versa).
[5] By implementing a multi-operator core network (MOCN), which will provide Three customers with access to Vodafone's sites and vice versa.

As a result of this investment, customers will benefit from a step-change in experience and reliability with:

- **Faster speeds** – The merged network will extend high-capacity spectrum coverage to around 10 million people in areas that would not otherwise receive that coverage from either Three or Vodafone. By 2032, as a consequence of this extended coverage and other network improvements, more than 86% of the population will benefit from average speeds of around 800Mbps – around twice as fast as either of the Parties could expect to deliver on a standalone basis. The remaining 14% of the population – in mid- and low-traffic areas of the country – will benefit from average speeds of around 200Mbps (around five times as fast as either operator could achieve standalone), in full support of the Government's Wireless Infrastructure Strategy ambitions.[6] Everyday consumer activities, such as participating in HD video calls, streaming HD live video or loading an image-rich webpage (such as the BBC website or on-line shopping sites), will be significantly improved, even in the most remote areas covered by the merged entity's network.

- **Greater coverage** – The merged firm's network will provide more than 95% population coverage with a 5G standalone network by 2030, and over 99% population coverage by 2034. This will eliminate the UK's urban/rural connectivity divide by delivering high-quality coverage to even the most remote parts of the country.

- **More reliable and consistent service** – The merged firm will have a larger network with much greater density of cell sites – 55% greater density in the UK's six largest cities and 46% greater density in rural areas compared to the standalone networks of Vodafone and Three.[7] As a result, customers throughout the country will benefit from a much more consistent experience and higher network quality.

- **Lower latency** – for 96% of customers, the time between sending and receiving data will be around five times faster than today's standalone networks.

- **Reduced congestion** – Absent the merger, both Three and Vodafone expect congestion to be a persistent problem going forward due to the rapidly growing demand for data. By contrast, thanks to its significantly larger capacity, the merged entity's network is forecast to have negligible congestion into the 2030s.

The merged entity will also have a strong incentive to fill its higher-capacity network, and so will compete aggressively to retain and attract customers. This in turn will increase competitive pressure on BT/EE and VMO2 to invest in their networks, and compete on quality and price to attract and retain customers. Customers will benefit from lower prices when adjusted for quality.

Conclusion

As both Ofcom[8] and the Government[9] note, market- and merger-specific factors play a crucial role in determining the effects of any merger, meaning that each merger must be assessed on a case-by-case basis.

By comprehensively considering the evidence on the current and future market conditions in the UK, the financial positions of Vodafone and Three, and the high investment demands of Advanced 5G rollout, the white paper shows that the proposed merger is likely to benefit consumers and competition in the UK, while also unlocking the transformative potential of Advanced 5G.

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[6] UK Wireless Infrastructure Strategy Report.

[7] London, Liverpool, Birmingham, Glasgow, Manchester and Bristol.

[8] "*The question of whether a particular merger is likely to result in a substantial lessening of competition will turn on the effectiveness of competition that can be expected in the market after the merger, rather than just the number of competitors. Our stance on a potential merger would therefore be informed by the specific circumstances of that particular merger, taking into account how markets are evolving and functioning.*" Ofcom, Ofcom's future approach to mobile markets and spectrum, conclusions paper, paragraph 5.33.

[9] "*The impact of consolidation on the market will be highly contextual and specific and must be assessed on a case-by-case basis*". UK Wireless Infrastructure Strategy; Future Telecoms Infrastructure Review.