



Virgin Media O2 response to Ofcom's consultation on the future of 2100 MHz unpaired spectrum [NON-CONFIDENTIAL VERSION]

Executive summary

It is timely for Ofcom to look at the future of 2100 MHz unpaired spectrum as longer-term certainty is needed to unlock its use. Existing licensees and other parties interested in this spectrum must know on what terms, licence conditions, and against which timeline they can access this spectrum.

Whilst current non-use of this spectrum by mobile licensees might not appear satisfactory, we do not agree that revoking existing licences followed by Ofcom-led reallocation is the best way to ensure future optimal use of spectrum in this band. We consider that Ofcom unreasonably dismisses the ability of trading (complemented where needed by other spectrum management tools) to achieve its policy objective of securing optimal spectrum use.

Ofcom's assessment and subsequent revocation proposal are flawed for three main reasons.

- 1) It is based on an incorrect assessment of differing potential future uses and the values that can be derived from them. There is some prospect for mobile use (eg, ESN Gateway in combination with other uses) and railway communications is the one non-mobile use that is more promising than other non-mobile uses.
- 2) Ofcom is wrong to conclude that revoking existing licenses will better secure optimal spectrum use compared to relying on a market mechanism. This conclusion overstates potential complexities in relation to trading, understates the role of economic incentives in promoting trading and does not have regard to limitations inherent in a regulatory intervention, not least that spectrum would lie unused for a further five years following notice being served to existing licensees.
- 3) Markets are (generally) better at determining best use of spectrum, and hence, unless there is a future use that delivers much greater public value compared to current use (as is the case in the 40 GHz band) and swift reallocation to new uses is required, Ofcom should not revoke existing licences.

Instead of revoking existing licenses, Ofcom must rely on trading to secure optimal spectrum use. Recent developments in railway communications and existing collaboration between mobile network operators and Network Rail mean there is an opportunity for spectrum to be transferred toward railway communications use. This should provide the commercial impetus for a potential spectrum transfer to be agreed.

If Ofcom remains concerned that trading will not secure optimal spectrum use, then there is an alternative approach which provides an opportunity for the market to secure optimal use whilst preventing an outcome in which spectrum remains unused because trading does not occur.

This alternative approach would consist of Ofcom using its spectrum management powers to shorten the notice period for these licences (eg, to 24 months), but with Ofcom undertaking to both:

- not give that notice until 30 months from the Statement arising from this Consultation; and
- to return these licences back to five years notice should spectrum be traded (or in the ESN Gateway, be accumulated with spectrum following a trade).

This would allow Ofcom to rely on trading to secure optimal spectrum use but, if no use emerges because of complexities to trading or otherwise, Ofcom could revert to its proposed approach without being worse off in relation to the timing of being able to reallocate spectrum to new users. This should make Ofcom confident that if trading does not allow for spectrum to be allocated to new and valuable uses (eg, railway communications) that it can then reassign spectrum to such uses.

Main response

Ofcom's proposal

We welcome Ofcom looking at the future of 2100 MHz unpaired spectrum as longer-term certainty is needed to unlock efficient use of this spectrum. Existing licensees and parties interested in using this spectrum must know on which terms, under which licence conditions, and against which timeline they can access it.

Ofcom defines its policy objective for this band as securing optimal spectrum use, which it interprets as spectrum being used to maximise the benefits that people, businesses and other organisations derive from its use. We agree with this policy objective as scarcity of spectrum means that Ofcom should want spectrum to be used efficiently and allowing it to deliver most economic value. The key issues are then what would class as the optimal use and what is the best approach for Ofcom secure such use.

A major limitation of revoking spectrum licences is that it creates a period of at least five years during which this spectrum is unlikely to be used. It is only in circumstances where there is a clear public benefit from securing an established future use that it becomes beneficial to revoke a licence, ie, there is a well evidenced new use to put this spectrum to. We currently see this in the 40 GHz band where Ofcom has rightly determined that the optimal future use should be mobile and that the public benefits of revoking existing 40 GHz licences outweigh any potential impact on existing licensees.¹

The circumstances for unpaired 2100 MHz spectrum are very different to those present for 40 GHz. Ofcom cannot itself identify a clear new use for unpaired 2100 MHz spectrum. It is seeking to regain control of this spectrum so that it can reallocate this through a hypothetical future allocation process. There is a substantial deadweight loss caused by this regulatory intervention.

We consider that a market mechanism (ie, trading possibly complemented by other spectrum management tools) is both more appropriate and will secure optimal use more effectively than simply revoking existing licences. Revoking existing licences involves a major regulatory intervention and whilst there can be circumstances in which such intervention is justified, these are not present in relation to the unpaired 2100 MHz band.

Ofcom reaches the provisional view that regulatory intervention is more likely than a market mechanism to secure optimal use. Its view is built on the premise that:

- there is no conceivable future mobile use but possible non-mobile uses exist;

¹ Any impact on existing licensees will be minimal given low utilisation and alternative spectrum options for delivery of fixed links.

- potential complexities to achieving optimal use through trading mean that Ofcom cannot rely on a market mechanism to achieve its policy objective, and;
- a regulatory intervention is *necessary* and *proportionate* to secure optimal use.

We disagree with Ofcom’s provisional view and consider it is based on three major flaws:

1. the appropriate conclusion to draw regarding prospective uses is that differing future uses are uncertain but, this uncertainty applies equally when Ofcom holds the spectrum – so of itself revoking the licence does not improve the certainty of any future use emerging;
2. Ofcom overstates complexities in relation to trading, understates the role of economic incentives in promoting trading and does not account for limitations inherent in a regulatory intervention, and;
3. Ofcom misses the fundamental point that the market is generally better in determining optimal use, and thus that it tends to be appropriate for Ofcom to rely on market mechanism for spectrum management and that it must revert only to regulatory intervention in the limited circumstances in which this is required and proportionate.

We have structured our response around discussing these flaws. We then propose an alternative approach which we would expect Ofcom to fully consider before reaching a decision. Our alternative is no less efficient than Ofcom’s proposal and presents an opportunity for the market to find the optimal use.

1) *Future use of unpaired 2100 MHz spectrum*

Ofcom’s provisional view on optimal spectrum use is that i) current non-use of unpaired 2100 MHz spectrum for high power mobile services and potential future use of 1900-1910 MHz spectrum for ESN Gateway are unlikely to be optimal given possible non-mobile uses, and ii) non-mobile, national infrastructure uses (eg, railway communications or utilities) are likely optimal. Whilst this view is broadly correct, we highlight two factors not considered as part of Ofcom’s assessment and then explain how Ofcom can most appropriately decide on its approach considering these factors.

Ofcom should neither dismiss nor exclude the possibility that mobile may be part of optimal use

Ofcom observes that existing mobile licensees have not used their spectrum and that “... *it is not conceivable that it [this spectrum] will be used in the future for public mobile services*”.² The assertion “*not conceivable*” is a very strong statement and it appears to be based on responses from existing licensees to Ofcom’s 2100 MHz annual licence fee Consultation. These licensees sought to explain that the proposed fees for unpaired 2100 MHz spectrum were disproportionate given the uncertain mobile use of this spectrum.³

² Paragraph 3.31 of Ofcom’s Consultation on the future of unpaired 2100 MHz spectrum.

³ Licensees argued that future mobile use involved large uncertainty because of the presence of barriers to deployment and use including lack of an equipment ecosystem, compatibility with adjacent users, and the limited bandwidth available.

Ofcom, in this earlier Consultation, found that mobile use would be the highest value use and that unpaired 2100 MHz spectrum could be of equal value to the unpaired 2.3 GHz spectrum that Telefónica UK (TUK) acquired in the 2013 auction. It did so even though TUK in deploying its 2.3 GHz spectrum does not encounter the barriers identified in relation to unpaired 2100 MHz spectrum. This was the backdrop to which existing licensees responded at the time.

It is interesting that Ofcom has moved from mobile use is the highest value use to now arguing that future mobile use is not conceivable. In order to support its position, Ofcom would need to evidence new barriers to mobile use that have subsequently emerged that now prevent future mobile use. The reality is that barriers to mobile use were and remain present but without making future mobile use inconceivable as Ofcom asserts.

As a matter of principle, Ofcom cannot only rely on stakeholder responses to an earlier Consultation as primary evidence to conclude that future mobile use is not conceivable. Whilst certain barriers to mobile use remain, there may be opportunities for future mobile use (in addition to ESN Gateway), especially if one single licensee would have access to the 15 MHz suitable for high power use. Ofcom does not appear to have explored such opportunities.⁴

Ofcom has not established that ESN Gateway cannot be part of optimal spectrum use. Whilst 1900-1910 MHz reserved for ESN Gateway would impose major constraints on use of other spectrum in this band, it may be possible to organise the band such that it supports high power use of 1900-1915 MHz and ESN Gateway use of 1915-1920 MHz spectrum.⁵

Even though Ofcom may deem prospects for mobile use very low, its approach should not unduly restrict determination of future optimal use. Revoking existing licences would effectively exclude mobile use and prevent ESN Gateway use at a different position in the band. A substantial legal, temporal and/or administrative hurdle would be created to future mobile use which would entail a large inefficiency if potential mobile use were to develop more favourably than Ofcom currently presumes.

Railway communications is the only future non-mobile use with quantifiable prospects

Against the constraints of high power use of 1900-1915 MHz and low power use of 1915-1920 MHz spectrum, Ofcom reviewed the prospects of several non-mobile uses of unpaired 2100 MHz spectrum, including: governmental use of drones, DECT extension, utilities and railway communications.

⁴ [X

⁵ Ofcom notes that it understands ESN Gateway equipment has been developed to operate in a 5 MHz channel and that 1915-1920 MHz could be an option for ESN Gateway.]

Prospects for the first two uses are – as Ofcom finds – extremely limited as there are no plans in the UK to introduce drones in the 1900-1920 MHz band, and there will not be sufficient contiguous spectrum to meet the requirements of DECT extension unless the entire 1800-1920 MHz band is assigned to DECT.⁶

Whilst utilities have important future connectivity needs, Ofcom does not establish that they require or want unpaired 2100 MHz spectrum. It only notes that unpaired 2100 MHz spectrum is one of multiple options it will consider in an upcoming review of how spectrum can meet future connectivity needs of utilities. Based on evidence presented it seems at this point unlikely that utilities will be part of optimal spectrum use. But as for potential mobile use, it is important that Ofcom adopts an approach that does not restrict determination of optimal use. That would allow for spectrum to be used by utilities if such use were to deliver most value.

Railway communications is the non-mobile use that Ofcom seems to regard as most promising, and we agree. The development of FRMCS, and the requirements for spectrum to support GSM-R and FRMCS, means that more spectrum is likely needed for railway communications (combined with more efficient use of the railway allocation at 900 MHz) and unpaired 2100 MHz spectrum is the prime candidate for additional spectrum. Mobile network operators (MNOs) and Network Rail have been working together to develop joint operator technical specifications for railway. More broadly, these parties have established working relations and there are plausible mutual interests to better use each other's assets and expertise. Timelines and the amount of spectrum required are uncertain but there are good prospects for railway communications use of unpaired 2100 MHz spectrum within the existing licensing structure.

Conclusion on assessment of future uses

The factors we discussed above give rise to two major implications for how Ofcom must decide on its approach for this band. The first implication is that use prospects are uncertain both when existing licensees or Ofcom hold the spectrum in this band. It means that Ofcom must ensure its approach does not exclude prospective uses and is flexible enough for optimal use to be determined over time as a function of developments and evidence. The second implication is that prospects of railway communications are better compared to other potential uses, and thus Ofcom will want to ensure that its approach supports frictionless and fast transfer of spectrum toward this use if the market would agree such use is optimal.

2) Best approach to secure optimal spectrum use

The key matter for Ofcom to decide on in this Consultation concerns the approach it adopts to secure optimal spectrum use. The two approaches that Ofcom considered are regulatory

⁶ We do not regard this a realistic prospect as this band will not be harmonised at European level.

intervention and market mechanism (though combinations of these approaches are possible as we show in our proposal).

While Ofcom will want to use a market mechanism where possible and effective, there can be limits to using such mechanism and it will want to intervene appropriately and proportionately to ensure optimal use.⁷ This requires Ofcom to compare the ability of market mechanism and regulatory intervention in securing optimal use and to use this comparison to decide on its approach. Such a comparison involves identifying limitations of approaches and accounting for any impact on their abilities to secure optimal use.

In the Consultation Ofcom has done this selectively, rather than systematically. It uses potential complexities in relation to trading (though it overstates these in our view) to dismiss market mechanism as a suitable approach, but it accounted neither for the role of incentives in a market mechanism nor for limitations inherent in a regulatory intervention. These shortcomings mean that Ofcom has insufficient basis to dismiss market mechanism as approach for securing optimal use.

Before expanding on these shortcomings, we recall the three *potential complexities in relation to trading* that Ofcom used to dismiss market mechanism as suitable approach:

- potential constraints relating to interference across different users in the same band;
- existing licensees possibly having an incentive to hold on and not sell their spectrum if a new user needs to acquire adjacent blocks of spectrum from multiple licensees, and;
- existing licensees having other reasons to be reluctant to trade even when there are higher value uses of the band, eg, EE because of its plans to use its spectrum for ESN Gateway; H3G because of potential interference with its adjacent 2100 MHz paired spectrum.

(1) Ofcom overstates potential complexities in relation to trading

The argument that Ofcom runs is that a market mechanism is unlikely to secure optimal use of unpaired 2100 MHz spectrum because of potential complexities in relation to trading. We now explain that Ofcom overstates each of the complexities it identified and thus their joint impact on the ability of a market mechanism to secure optimal spectrum use.

The *first* complexity applies similarly when Ofcom opts for regulatory intervention where it concerns uses in adjacent bands (below 1900 MHz and above 1920 MHz). Licensees in the unpaired 2100 MHz band are required to protect adjacent services by virtue of the terms in their licences. Hence, any suggestion as that adopting a market mechanism does not allow to manage interference across differing users is overstated. H3G has suggested that it's unpaired 2100 MHz holding has a value to it as a guard band for its paired 2100 MHz services. This would be true if Ofcom were to

⁷ Including in circumstances when major changes are being contemplated or refarming of frequencies is required.

allow a new use that would be in conflict with use of paired 2100 MHz spectrum in the adjacent band. It appears to us that Ofcom can undertake to provide protection to paired 2100 MHz spectrum in any future licensing of unpaired 2100 MHz spectrum. This would remove this uncertainty from both any regulatory intervention or use of a market mechanism. Moreover, it would be consistent with it generally being appropriate for Ofcom to require new licensees to adapt to existing licensees where it concerns the need to prevent interference between existing and new uses. Applied to the 2100 MHz band, this means that new users of unpaired spectrum may have to adapt to existing use of adjacent paired spectrum as opposed to the other way around.

The *second* and *third* complexities concern reasons why existing licensees may not want to trade. In assessing these complexities Ofcom did not have regard to the role that incentives play in promoting existing licensees to trade spectrum when other parties derive greater value from use.

- If EE wants to keep hold of its spectrum for ESN Gateway, this can be the optimal outcome if it derives greater value from such use compared to what other parties derive from their prospective uses. But when other parties derive greater value from their prospective uses, EE's incentives to monetise its spectrum can be expected to overcome any initial inclination to hold on to its spectrum.⁸
- Conditional on appropriate management of interference with adjacent paired 2100 MHz spectrum (see above), H3G should be willing to trade this spectrum if other parties derive greater value from this spectrum than any prospective use that it itself has. As for EE, it would act against its own self interest if holds on to its spectrum when it can extract greater value from trading spectrum to a party with a better prospective use.

Opportunities to trade exist when other parties derive greater value from prospective use compared to the value that existing licensees get from use. In such circumstances there will be incentives and scope for existing licensees and parties interested in using the spectrum to agree on terms for trading spectrum.

There can be market conditions that are so complex that they may prevent trades to be made that are necessary for optimal spectrum use. In such circumstances, a regulatory intervention that mitigates this risk of beneficial trades not occurring by improving conditions for trades to be made can be appropriate. Ofcom got this right in the 3.6 GHz auction where it identified defragmentation as an undesirable outcome and a plausible limitation in trades occurring between licensees to prevent this outcome from occurring. It designed its auction to provide the best conditions for bidders to agree on trades that improve contiguity of their spectrum positions, thus reducing the uncertainty they face in the bidding process.

Unlike the historical situation in the 3.4-3.8 GHz band, circumstances in the unpaired 2100 MHz band are not consistent with existing licensees having longer term incentives to hold on to spectrum

⁸ Subject to other parties being willing to negotiate terms of trade that suit both EE and other parties.

because of this potentially benefitting its position in the band relative to potential counterparties (by strengthening its own or weakening the position of competitors). Absent such potential strategic benefit, existing licensees will understand that, when they do not have their own prospective use, they can extract most value by selling spectrum to parties that have use prospects as opposed to holding on to spectrum.

We disagree that parties interested in spectrum do not have access to regulatory levers or would be restricted by having to negotiate with multiple existing licensees. Parties can decide with whom and how to negotiate and complexity is low as there are only two existing licensees that hold spectrum suitable for high power use. These suggestions are weaker still if existing licensees and interested parties have existing relations and there are prospects for future collaboration.

Ofcom has no evidence to support its implicit presumption that existing licensees would not be willing to negotiate a spectrum trade. As things stand, [3<

]. In our experience, other MNOs are similarly willing to engage in spectrum trades. The transfers of spectrum agreed between MNOs over the years provide testimony of this. When they do not anticipate using spectrum themselves, MNOs will acknowledge that they can extract more value from selling their spectrum to parties with a prospective use than from holding on it. We thus see no reason why a market mechanism cannot support a spectrum transfer if this is needed for optimal use.

We consider that MNO willingness to engage with parties interested to acquire spectrum extends to circumstances where a transfer toward railway communications use is required. The nature of the relation between existing mobile licensees and Network Rail means there are suitable conditions to agree on a spectrum trade that enables such use.

(2) Ofcom understates the role of economic incentives in promoting spectrum trades under a market mechanism and does not account for limitations inherent in a regulatory intervention

Ofcom did not account for the role of economic incentives in determining optimal spectrum use, whether in relation to market mechanism and regulatory intervention. This a serious mistake as incentives are central to a market mechanism in many circumstances being better able to secure optimal spectrum use compared to regulatory intervention. In a similar vein, Ofcom did not have regard to other limitations inherent in a regulatory intervention. Jointly, this means that Ofcom has insufficient grounds to conclude that a market mechanism is less likely than regulatory intervention to secure optimal spectrum use.

Trading relies on agents acting on economic incentives to pursue better outcomes for themselves. Applied to spectrum, existing licensees will seek to get most value out of their licences by either selling or using the spectrum they hold while other parties may want to purchase spectrum as a

function of the value they anticipate to derive from holding spectrum and what they have to pay for it. This means there are opportunities for spectrum to be traded towards best value use.

It is the unique strength of a market mechanism that the actions of individual agents that collectively make up the market are driven by economic incentives. No regulator can replicate how the market decides on optimal spectrum use because incentives are not present or work differently. This means that it generally cannot be assumed that regulatory intervention will perform to the same level as the market in securing optimal spectrum use.

Trading is more flexible in allowing uses to develop over time with spectrum traded to those parties that anticipate deriving greater value from prospective use. Revoking existing licences requires the regulator to do what markets are so good at which is identifying value and providing incentives for parties to trade when another party than current licensee derives greater value from use.

Ofcom puts emphasis on trading not securing optimal spectrum use *in a timely manner*. It is not only the outcome that matters but also how fast and frictionless spectrum becomes available to new uses. If this is an important consideration, and it would be where faster access to spectrum is valuable, it is right that Ofcom has regard to the ability of approaches to provide fast and frictionless access to spectrum for new uses. We believe that a market mechanism will perform better on this criterion as (when trading occurs) it will make spectrum available to new users faster whilst avoiding the rigidity that regulatory intervention commonly involves.

Ofcom must only decide on a regulatory intervention where necessary and appropriate

Ofcom recognised the unique strength of market mechanisms in securing efficient spectrum use in its 2021 spectrum strategy.

As a general rule, optimal use of spectrum is more likely to be achieved if detailed decisions on how spectrum is used are left to those directly engaged in its use rather than dictated centrally by the regulator. Market mechanisms ensure in principle that, where a new type of use is more valuable, and would provide greater benefits to people and businesses, there should occur changes to licences held by radio spectrum users that lead to efficient use of the spectrum. In other words, the incentives inherent in market mechanisms should bring about efficiency.⁹

This speaks about the critical role of incentives driving the actions of parties with a direct interest in using the spectrum and how this contributes to efficient spectrum use. It also hints at a regulator likely being limited in its ability to secure similarly efficient spectrum use because it cannot replicate the incentives inherent in market mechanisms.

When Ofcom revokes existing licences it will sit on this spectrum up to when it reallocates spectrum to new uses. This makes regulatory intervention highly dependent on Ofcom being able to identify

⁹ Ofcom (2021), *Our spectrum management strategy for the 2020s*.

and decide on the uses that deliver most value. When this ability is impaired (as Ofcom seems to agree is plausible in many circumstances) that means regulatory intervention may not deliver as optimally on spectrum use as Ofcom implicitly presumes.

Whilst we agree that Ofcom must be open-minded in deciding on its approach in relation to any individual band, it should have close regard to what it sets out in its most recent spectrum strategy.

... our approach has been guided by a clear principle of relying on the use of market mechanisms where possible and effective, whilst undertaking regulatory action where necessary.¹⁰

Ofcom relies on the use of market mechanisms where possible, with spectrum trading one of the market mechanisms that Ofcom has implemented.¹¹

We take regulatory action, , where necessary and proportionate.¹²

We interpret these statements as that Ofcom must decide on regulatory intervention solely when it can firmly conclude that a market mechanism will unlikely achieve optimal spectrum use whereas regulatory intervention will. Whilst Ofcom refers to the general principle of relying on market mechanisms for spectrum management where possible in its Consultation, it too easily dismisses market mechanism on the ground of it being less likely to secure optimal use of unpaired 2100 MHz spectrum.

It also seems appropriate for Ofcom to acknowledge that once spectrum is allocated to them licensees have reasonable expectations that they can retain and use spectrum unless they decide to surrender it. Such expectations support efficient long-term use of and investment in spectrum. This does not mean that there cannot be circumstances in which revoking existing licences is required but it does mean that a regulator must be cautious to not disturb these expectations.

At a high level, regulatory intervention can only be appropriate when utilisation by existing licensees is limited, existing licensees have other ways to meet their needs and alternative use by other parties is highly valuable. In such circumstances revocation can ensure that the spectrum is used to deliver most value. Such circumstances are present in the 40 GHz band: spectrum is under-utilised, other spectrum is available to provide fixed links, and there is great value in spectrum being used to deliver public, high quality 5G connectivity (which cannot be achieved in other ways).

Circumstances are different in the unpaired 2100 MHz spectrum band. Whilst this spectrum is not currently used, prospects of differing potential future uses are subdued and subject to great uncertainty. It is not clear that the value of alternative use exceeds that of uses available to existing

¹⁰ Ofcom (2021), *Our spectrum management strategy for the 2020s*.

¹¹ Ofcom (2021), *Our spectrum management strategy for the 2020s*.

¹² Ofcom (2021), *Our spectrum management strategy for the 2020s*.

licensees. Under such conditions and with revocation not required to unlock new uses that could not otherwise be supported, regulatory intervention is neither necessary nor appropriate.

The ability of trading to enable a spectrum transfer is another relevant factor to consider in reviewing the potential case for a regulatory intervention. Ofcom will want to make use of trading where this can deliver a spectrum transfer needed to support optimal use. This reflects that it is generally opportune to rely on incentives to ensure that spectrum is transferred toward better use. But a risk arises if existing licensees have strong, longer-term incentives to hold on to spectrum for considerations relating to an adverse impact on competition. Such risk is present in the 40 GHz band but not in relation to unpaired 2100 MHz spectrum.

Conclusion on best approach to secure optimal spectrum use

We consider that regulatory intervention is neither appropriate nor proportionate, and that Ofcom must revisit (along the lines we set out above) whether a market mechanism is not better suited to secure optimal use of spectrum in the unpaired 2100 MHz band.

An alternative way forward: we propose Ofcom adopts an approach that unlocks trading opportunities yet mitigates the risk that trading does not occur

Ofcom's provisional view to revoke existing licences seems driven by the concern that complexities in relation to trading prevent optimal spectrum use. We can understand Ofcom's concern that, if it leaves it to the market to find an optimal use and then the market does not deliver, it is exposed to a further five-year delay from the date it gives up on the market, due to the requirement to give five-year notices. Whilst we are confident trading will support spectrum transfers that enable optimal use, we have considered how Ofcom can meet its policy objective whilst addressing its concern.

We believe that the market's incentives can be strengthened by placing a finite limit on how much longer the market gets to deliver. In exchange, existing licensees would agree to reduce the applicable notice period for revocation should the market be unsuccessful. A sort of risk sharing approach that makes everyone aware that the market gets a final opportunity to demonstrate it can deliver on trading toward optimal spectrum use.

This approach would involve:

- Existing licensees agreeing to have their unpaired 2100 MHz spectrum licence varied allowing Ofcom to revoke licenses against a 30-month notice period;
- In its Statement, Ofcom makes a binding commitment not to serve that notice until 30 months from the date of the Statement; and

- Should trading take place, for railway communications or any other future use, then Ofcom would undertake to change notice period back to five years for new licensees.¹³

This proposal would create an efficient option for securing optimal use whilst preventing the risk that trading may not occur (which is what Ofcom is concerned about). Either a trade is agreed in the initial period and new users gain faster and easier access to spectrum compared to when Ofcom revokes existing licences, or no transfer is agreed but Ofcom can revoke existing licences against the shorter notice period when the initial period ends and spectrum would still be available to new users faster than under Ofcom's own proposal. This means that our proposal, both for Ofcom and potential users, offers a better outcome when a trade is agreed and an at least as good outcome when no trade occurs.

Restricting duration of the initial period will prompt market players to explore trading opportunities as they will anticipate that benefits originating from faster transfer of spectrum when arranged through trade will be foregone when no trade is agreed. After all, they can anticipate that Ofcom will revoke licences when no trade is agreed. Also, the greater certainty on longer-term spectrum access that would originate from Ofcom deciding on this approach will provide momentum for existing licensees and parties interested in use to begin discussions on potential spectrum trades.

Finally, we considered how the proposal would perform in supporting a potential trade to railway communications, as seemingly the most promising future use. Existing mobile licensees work with Network Rail on a range of matters and both sides can derive benefits from joint work and/or commercial agreements. The combination of ongoing joint work and prospects for collaboration (beyond a spectrum trade) between existing licenses and Network Rail mean there are favourable conditions for a spectrum transfer to be negotiated.¹⁴ Both sides will understand that not agreeing a trade means it will take several more years for railway communications use to gain access to this spectrum which is plausibly an outcome that either side wants to prevent.

¹³ We consider it instructive that during the assignment phase of the 700/3600 MHz auction, a regulatory process was used to improve incentives to trade and for this to support defragmentation of spectrum in the 3.4-3.8 GHz band.

¹⁴ For instance, coordination can improve use of 900 MHz spectrum by both MNOs and Network Rail.

Conclusions

Ofcom identified the correct policy objective but it has thought too singularly about how to best achieve it. This resulted in Ofcom arriving at the provisional view that it should revoke existing licences, as a market mechanism would not be likely to secure optimal spectrum use because of potential complexities in relation to trading. We explained above that we consider this conclusion to be mistaken on several major grounds. In addition to the adverse impact that revoking existing licences would have on future use of unpaired 2100 MHz spectrum, it would set a bad precedent in terms of Ofcom carrying out its responsibilities as spectrum manager.

We request that Ofcom conducts a more thorough comparison of how market mechanism and regulatory will perform in securing optimal use for unpaired 2100MHz spectrum, and then uses the lessons from this comparison to decide which approach is more appropriate to meet its policy objective. We are confident that Ofcom will find that its initial concerns around complexities in relation to trading are overstated and that market mechanism is more likely to secure optimal spectrum use and more consistent with its standard approach to spectrum management.

To alleviate the concern that seems to have driven Ofcom favouring to not use a market mechanism, we propose that Ofcom adopts an approach that gives trading a chance to improve allocation and use of spectrum for an initial period but with Ofcom able to revoke licences against a shorter notice period in case no trade is agreed in this period. This approach would perform better in securing optimal use compared to regulatory intervention whilst preventing a potential outcome in which Ofcom relies on trading yet no trades occur.