



GLOBAL TITLES AND MOBILE NETWORK SECURITY

OFCOM PROPOSALS TO ADDRESS MISUSE OF GLOBAL TITLES – SURE (GUERNSEY) LIMITED RESPONSE

Executive Summary

1. Sure (Guernsey) Limited (“Sure”) (“we”) are pleased to review and respond to Ofcom’s consultation regarding its proposals to address misuse of Global Titles (“GTs”). We welcome this opportunity to comment on and help shape Ofcom’s proposed approach and provide information about our experiences as a GT Lessor in the Crown Dependencies.
2. Our consultation response is split into two parts. The main body of the response outlines our questions and concerns regarding Ofcom’s proposed course of action, providing evidence where possible. In the second part, which can be found in Annex I on page 31, we respond directly to Ofcom’s questions, cross-referencing to the main body of our response where appropriate, and outlining our conclusions.
3. [REDACTED].
4. We agree with Ofcom’s assessment that malicious signalling can cause significant harm and that GT Leasing, if left uncontrolled and unchecked, can make it easier for third parties to exploit inherent vulnerabilities in the SS7 protocol stack and cause harm. We have been cognisant of these risks and threats for some time and have taken significant and effective action to detect and prevent the misuse of our GTs. We therefore acknowledge Ofcom wishes to take action to prevent the misuse and abuse of +44 GTs and its stated intention to do so in an appropriate and proportionate manner.
5. Notwithstanding our support for Ofcom’s policy objectives, we have some significant concerns about Ofcom’s proposed course of action. In summary, we **do not** agree that Ofcom’s proposal to wholly prohibit GT Leasing to third parties is necessary, nor the most appropriate or proportionate course of action at this time. This is for the following reasons:
 - 5.1. **Proposed “alternative arrangements”** – we do not agree that all of Ofcom’s proposed alternative arrangements are viable in practice. Some of Ofcom’s proposed methods, such as using Short Message Peer-to-Peer (“SMPP”) for least cost routing or number authentication, are unworkable. Other methods, such as using application programming interfaces (“APIs”) for authentication, least cost

routing, and A2P services, are workable but represent crude alternatives that are ultimately less efficient and effective than SS7 access; they are imperfect substitutes that are more expensive and complex to develop, deploy, and maintain for both providers and customers. Ofcom does not consider the more important question of whether these proposed alternatives are actually practical and effective substitutes. We contend that existing GT Lessees are unlikely to find Ofcom's proposed alternatives substitutable and thus Ofcom's proposal to prohibit GT Leasing will likely have a significant negative impact on GT Lessors (and thus are disproportionate).

5.2. **Existing and new controls** – we believe that Ofcom has prematurely and unfairly concluded that controls imposed by GT Lessors cannot be effective when we have evidence from our own practice that shows the exact opposite; it is possible to implement an effective control framework. We don't agree that simply issuing guidance to existing General Conditions is the only other option available to Ofcom and consider that the barriers cited by Ofcom are straightforwardly resolved. Whilst we acknowledge that a ban on GT Leasing would significantly reduce harm, albeit disproportionately in our view, there are other, more proportionate methods that can significantly reduce the risks and harms Ofcom has cited in its consultation. We consider that our GT Leasing control framework, which has been fully implemented since [redacted], is an example of an effective control framework because [redacted]. We therefore contend that an outright ban on GT Leasing to third parties is unnecessary in light of other, more proportionate alternatives.

5.3. **Economic impact on Crown Dependencies** – [redacted] GT Lessors identified by Ofcom are located in Crown Dependencies. These are all small, sub-scale telecommunications operators operating in small, sub-scale economies. As a consequence, and taking into account our concerns about Ofcom's proposed alternatives, the negative impact of the proposed GT Leasing prohibition is likely to be amplified for both operators and consumers. Unlike GT Lessors in the UK, who can offset revenue losses from GT Leasing activity by making marginal adjustments to its other consumer or enterprise products and services (which are provided to tens of millions of customers in the UK), operators in the Crown Dependencies are less able to do so as there are fewer consumers and enterprise customers. The result of an outright ban on GT Leasing would likely be a waterbed effect for customers; noticeably higher prices that would need to be applied across a smaller range of consumers compared with the range available to UK operators. The loss of this income, which is significant for Crown Dependency operators, coincides with a significant increase in our compliance costs due to the need to remove high-risk

vendors (“HRVs”) and implement telecom security requirements. Whilst we acknowledge that compliance is a reality of being a telecommunications operator, it reinforces the fact that Crown Dependency operators have limited options for recovering these costs, which could cause delays to the delivery of beneficial 5G services as Crown Dependency operators scale back swap-out and upgrade activities given it is making lower than expected returns from their mobile estates. Such a consideration has not been factored into Ofcom’s cost-benefit analysis, which we consider inappropriate given we estimate that the majority of +44 GT Lessors are from the Crown Dependencies, meaning the results of the analysis are skewed and do not reflect the reality.

6. We believe that a more pragmatic and proportionate approach is available to Ofcom. Similar to the approach proposed by Ofcom for number range holders (and their customers) in its consultation, we propose that Ofcom take a rules-based approach and issues new General Conditions and guidance that require GT Lessors to register with Ofcom (including their number ranges and customers), make GT Lessors responsible for the activity on their GTs, and dictate the controls and outcomes that GT Lessors must achieve. Specifically, we believe that Ofcom could codify the requirements of the GSMA FS.52 GT Leasing Code of Conduct¹, including additional requirements where these are likely to further minimise the risks of GT Leasing. We recommend some further requirements in this response. We consider this approach to be more appropriate and proportionate because (a) it causes minimal disruption and additional cost to both GT Lessors and Lessees for legitimate use-cases (unlike Ofcom’s proposed alternative arrangements), (b) allows existing small-scale telecommunications operators that are offering legitimate use-cases to remain in the market, and (c) it addresses the risks of misuse and abuse of +44 GTs (as evidenced by Sure’s control framework).

7. Should Ofcom agree with us and implement new, rule-based General Conditions to control GT Leasing, we believe we can be compliant with those rules [3<] (potentially significantly before this date where Ofcom codifies the GSMA GT Leasing Code of Conduct). However, should Ofcom proceed with its proposal to prohibit GT Leasing, which we would urge it not to do, we consider the proposed implementation window of nine months from the Final Decision to be far too short. We have carefully assessed Ofcom’s proposed alternatives and, notwithstanding our consideration that they are not substitutable, consider that it would take Sure at least [3<] months to develop viable

¹ [GSMA Global Title Leasing Code of Conduct - Security](#)

solutions. In this scenario, we submit that OFCOM extends its implementation deadline to [redacted].

Assessment of feasibility of Ofcom's proposed alternative arrangements

8. In its consultation, Ofcom concludes that the negative impact of its proposed GT Leasing ban is likely to be limited because:
 - 8.1. Existing revenues from GT Leasing can be discounted to remove illegitimate use-cases that lead to harm.
 - 8.2. There is a general trend away from GT Leasing; and
 - 8.3. The GSMA's Code of Conduct cites alternative arrangements which can be utilised by GT Lessors and Lessees instead of GT Leasing². Ofcom claims that its own analysis supports the GSMA's position and that viable alternatives exist for all use-cases.
9. Firstly, we would like to emphasise that 100% of the use-cases supported by Sure's GT Leasing activity are legitimate and thus should not be discounted by Ofcom in its analysis. Whilst we agree that revenue derived from illegitimate activity should be discounted from Ofcom's assessment, there should not be an assumption that, because one rogue GT Lessor is generating substantial revenue from illegitimate activity, all GT Lessors' revenue can be similarly discounted. Observed instances of misuse, sometimes caused by misconfigurations, legacy products, or misunderstandings (see paragraph 49 below), cannot be equated to illegitimate use-cases. Therefore, just because limited instances of misuse have been observed on other GT Lessors' networks over time, does not mean that Ofcom can apply a generalised discount to the revenues earned by GT Lessors. Where Ofcom has applied a generalised discount, we urge it to remove this and only make specific discounts to revenues that reflect tangible and specific evidence of illegitimate use-cases and business strategies.
10. Secondly, we do not agree with Ofcom's conclusion that alternative arrangements can simply be developed and offered by Lessors to meet the demands of Lessees; regrettably, this conclusion appears overly simplistic and based on a somewhat unsophisticated analysis of GT Leasing, viable alternatives, and GT Lessee demand. We foresee significant cost, complexity, and demand-side challenges in developing Ofcom's proposed alternative solutions. Some of Ofcom's proposed alternatives are unworkable or present supply-side challenges and therefore must be removed from consideration (see below). Other methods are workable but are ultimately less efficient and effective

² Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 46, paragraphs 4.63 – 4.66.

than SS7 access and are thus imperfect substitutes that are more expensive and complex to develop, deploy, and maintain for both GT Lessors and Lessees. In our experience and assessment, these demand-side challenges mean that existing GT Lessees are unlikely to migrate to these alternatives and therefore they are not suitable alternatives. Ofcom only appears to have considered some of the supply-side challenges associated with developing alternatives, which we submit is insufficient to support its conclusion. We consider each of these concerns below.

GSMA's statement regarding alternatives

11. Ofcom appears to have overstated the certainty with which the GSMA's Code of Conduct and the information derived from its Lessor Information Request has identified *viable* alternative arrangements to GT Leasing. Ofcom's consultation states that:

*"from GSMA's Code (see Section 3), and our own analysis (see Table 4.1 below) that alternative arrangements could be offered and/or developed by lessors to support lessees in continuing to provide most of the remaining use cases, instead of relying on GTs"*³

12. The Code of Conduct states that certain "solutions *could* have been deployed without the use of GT leasing" and that "the GSMA strongly advises that other options/architectures should be *considered* as an alternative to GT leasing"⁴ [emphasis added]. These statements, which are provided in the context of a brief list of very loosely defined use-cases⁵, and which appear to be written for telecommunications operators that have not yet deployed any solution as opposed to existing GT Lessors already servicing GT Lessees, are far from an unambiguous assurance that viable alternatives to all existing and ongoing GT Leasing use-cases exist. Furthermore, the GSMA does not provide any specific information about these alternatives nor any explanation for why such alternatives will be considered acceptable by GT Lessees, in terms of both functionality and cost, and can be straightforwardly adopted by those Lessees. We therefore contend that Ofcom should not rely heavily on the GSMA's statements in the Code of Conduct as confirmation that alternatives exist that are viable for both GT Lessors and Lessees.

³ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 46, paragraphs 4.63 – 4.66.

⁴ Global Title Leasing Code of Conduct – Version 1.0 – 29 March 2023 – pages 8 and 9, Section 3.

⁵ For example, the Code of Conduct states that "SMS aggregator" use-cases could be facilitated without the use of GT Leasing, however it does not specify whether all or which aspects of that use-case can be supported with alternative arrangements.

13. Similarly, Ofcom has stated that “its own analysis” of responses provided to its Lessor Information Request has confirmed that alternative arrangements could be developed and offered to GT Lessors’ customers. Once again, this analysis – which is underpinned by an incredibly broad question that requested ‘generic alternatives that can be used by Third Parties instead of GT Leasing’⁶ only answers half of the question; any consideration of alternative arrangements must consider both the extent to which alternative options can be developed and deployed and the extent to which Lessees are willing to adopt these alternatives because they offer the same functionality and/or outcome and at a similar cost to GT Leasing (i.e. they are substitutable). Just because GT Lessors provide a technically viable alternative to GT Leasing does not, in any way, indicate that GT Lessees are willing to adopt that alternative (and thus GT Lessors could continue to generate revenue from those alternatives). This latter consideration is markedly absent from Ofcom’s consultation.
14. It is furthermore important to note that, in responding to Ofcom’s Lessor Information Request, Sure made clear that some of the alternative arrangements cited in its response were ‘speculative’ and that it had done limited investigation to understand whether these alternatives are truly viable. We assume that other respondents to the Lessor Information Request could have indicated the same. Should this be the case, we again contend that Ofcom cannot simply rely on such speculation. It ought to have further assessed the demand- and supply-side substitutability of these alternatives.
15. As outlined below, we believe there are a variety of demand-side challenges that suggest GT Lessees will be unwilling to adopt Ofcom’s proposed alternatives. First, we briefly consider some of the supply-side challenges of providing Ofcom’s proposed alternatives, before addressing whether we believe our GT Lessee customers would adopt these alternatives.

Supply-side challenges

16. GT Lessors will face challenges in developing commercially viable alternatives to GT Leasing for certain use-cases, including the fact that some alternatives previously considered viable by Sure have turned out to be unusable. These challenges are amplified by the fact that many alternatives that may be technically viable require significant upfront investment and that there is currently uncertain demand for these

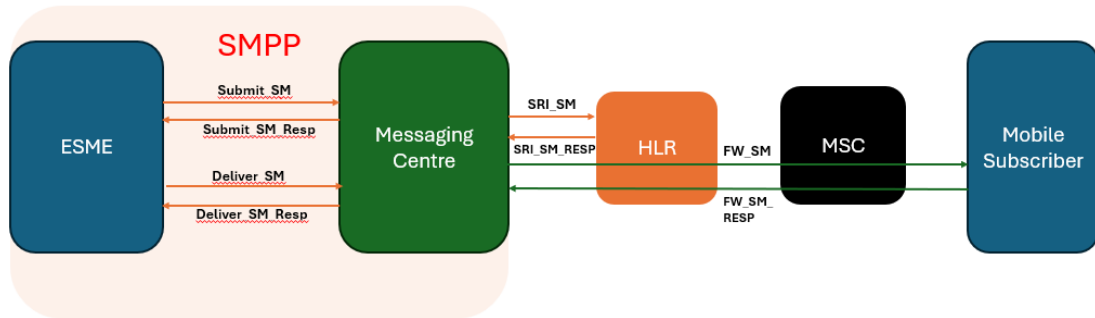
⁶ Global Titles and Mobile Network Security: Notice Requiring the Provision of Information Under Section 135 of the Communications Act 2003, dated 16th January 2024, Question 3.

alternatives. Indeed, initial feedback from Sure's GT Lessees is that they would be unwilling to adopt these alternatives (see demand-side challenges).

17. Firstly, some of the alternative arrangements proposed by Ofcom are not workable. The first example of this is the use of SMPP for least cost routing. We note that in our response to the Lessor Information Request, we hypothesised that SMPP could be used for least cost routing services, albeit we highlighted that Sure had limited knowledge or understanding of this⁷. It appears as though Ofcom has included such feedback in its consultation document but without acknowledging that we had emphasised further analysis of this potential solution was needed. We have now done this further analysis, which has made clear that such a protocol is unable to provide least cost routing services and will unlikely be a suitable alternative for more sophisticated A2P/wholesale SMS providers. The SMPP protocol has significant limitations that are not present over SS7 which prevent the user of the protocol, sometimes known as the external short message entity ("ESME"), to interrogate the content of an SRI_SM and thus identify the cheapest route to send the SMS against its routing table. Using the SMPP protocol, the ESME can simply submit an SMS "submit request" to the SMPP server via the SMPP gateway (or another kind of application), with the underlying SMSC then performing both the SRI_SM and FW_SM functionality without further interaction with the ESME. There is no operation code or protocol data unit ("PDU") within the SMPP protocol that enables the "submit" SMS process to be broken down so as to obtain the subscriber(s) IMSI(s) and identify the cheapest route from the ESME's routing table. This has been set out diagrammatically in Figure 1 below; as can be seen, the SRI_SM response is never passed back to the ESME which would prevent the end-user or GT Lessee from undertaking least cost routing analysis. Once the "submit" request has been submitted, the SMS is sent, with the SMPP Messaging Centre (an SMSC or SMS Gateway) undertaking this task independently of the ESME. The obvious consequence is that SMPP cannot viably be used for least cost routing and should thus be removed from consideration.

⁷ Sure's response to Question 3 of Global Titles and Mobile Network Security: Notice Requiring the Provision of Information Under Section 135 of the Communications Act 2003, dated 27th February 2024.

Figure 1⁸



18. In addition to its unsuitability for least cost routing, we also understand that there are inherent limitations with the SMPP protocol which mean that it may be unsuitable for many A2P SMS providers, and particularly those A2P SMS providers that have deliberately chosen to provide services using SS7 access. As Ofcom is aware, A2P use-cases include facilitating two- or multi-factor authentication, sending booking confirmations, banking notifications, and security applications that alert end-users using SMS. In all of these cases, delivery of the SMS is critical and A2P providers need accurate confirmation that the SMS has been received by the end-user. Unfortunately, SMPP is unable to provide that level of timeliness and accuracy in its delivery reports required by some of our A2P providers. Firstly, receipt of the delivery reports is considerably slower over SMPP than it is over SS7, making it more difficult for the A2P provider to arrange for prompt redelivery should the first attempt fail. Secondly, the information contained in SMPP delivery reports is not as rich as the delivery reports obtained over SS7 and, in some cases, SMPP delivery reports can contain inaccurate information. For example, when sending an SMS to a mobile subscriber whose phone is switched off, an SMPP delivery report will provide the A2P provider with confirmation that the SMS has been delivered because the SMPP Messaging Centre has completed the SRI_SM and FW_SM activities. It will not alert the A2P provider that the SMS has not been received by the recipient because the mobile subscriber’s phone is switched off. Conversely, SS7 grants A2P providers much greater levels of end-to-end visibility of their SMS traffic, and the information obtained using an SS7 connection can enable the A2P provider to track where any message failure or blocking has occurred. In the above example, the delivery report received from SS7 would have alerted the A2P provider that subscriber’s phone is

⁸ We note that there is a small typo in this diagram. The interaction between the ESME and SMPP Messaging Centre should state “Submit_SMS” and “Submit_SMS_Response”, “Deliver_SMS” and “Deliver_SMS_Response”.

off by providing a “subscriber absent (27)” alert, and the A2P provider can then arrange for the SMS to be sent to the recipient once the mobile phone has been switched back on. Such an action is not possible over SMPP, and Sure has observed six customers move away from SMPP to SS7 in order to obtain these more granular and accurate delivery reports⁹.

19. We do not agree that Ofcom’s proposed alternative for penetration testing is credible. Ofcom has stated that, in its view, it ‘considers that the impact [of a ban on GT Leasing] will be limited as it expects the majority of penetration testing could be provided using alternative means’. Ofcom cites “remote access to the target operator’s test network”¹⁰.
20. There are several flaws to Ofcom’s reasoning on this point. The first is that Ofcom assumes that all telecommunications operators, or organisations utilising SS7 access, have a “test network” or test environment. This is not representative of reality, especially in subscale locations such as the Channel Islands and Isle of Man. A significant number of telecommunications operators and signalling firewall providers around the world will not have test environments or equivalent environments in which SS7 attacks can be simulated. Even where a telecommunications operator does have a test environment, this does not denote that the environment is fully integrated (that is, the operator may have standalone test environments for their signalling firewall or their IP backbone). Test environments are expensive and resource intensive to develop and maintain; money and resource that small telecommunication operators, [§<], are unable to invest due to their size and scale. When investigating the option of having a bespoke test environment for core network software upgrades with its new mobile network vendor, [§<]. Furthermore, where a telecommunications operator changes a vendor within its domain, [§<], within its IP backbone, the test environment will need to be changed to reflect this, which again comes at additional cost. Many telecommunications operators are unlikely to find it a worthwhile investment to develop and maintain a test environment for the sole purpose of undertaking SS7 attack simulation once a year or once every few years. Ofcom’s assumption that ‘test environments can be used’ is therefore an unsafe and unrealistic one, and Ofcom should not rely on this when deciding whether alternative arrangements exist.

⁹ A2P providers often want more granular and accurate delivery reports in the event that they receive a complaint from a customer that an SMS was not received. A SS7 delivery report will enable them to identify and explain to the customer why an SMS was not received, whereas SMPP delivery reports are unable to do this.

¹⁰ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 48, paragraphs 4.69 (bullet on penetration testing).

21. Secondly, Ofcom's proposed alternative assumes that GT Lessees and target operators (end-users) are satisfied to replace penetration testing of its live network with testing of an equivalent network construction in a simulated environment¹¹. Unfortunately, in our experience, these two activities are not equivalent, and GT Lessees and target operators are unlikely to be willing to move from live penetration testing to penetration testing in a lab environment. This is for the following reasons:

21.1. Maintaining a test/lab environment so that it is fully reflective of the target operator's live network, including replicating most recent software iterations and latest network configuration is a significant undertaking, both in terms of expense and resource. Where subscriber data needs to be included within the test environment, this can also pose practical challenges and data protection risks. This approach is also prone to duplication errors (errors in replicating the target operators live network and then errors in addressing identified vulnerabilities in the live network), and it may not be a realistic expectation for many telecommunications operators to develop and maintain these environments given resource constraints;

21.2. Penetration testing in a test environment necessarily provides less assurance to the target operator than testing its live environment. This is why telecommunications operators, such as Sure, will undertake tests in both the lab environment and live system. For example, [§<]. Similarly, test environments provide less assurance because there are necessarily more limited than a live network. For example, penetration testing a live network may have multiple entry points (such as multiple IPX providers or, local or large operator signalling connections, or multiple links to the same IPX) and through penetration testing it may be found that one link out of 10 is not secure but the other nine are (e.g. IPX link nine has been miss configured to not route via the signalling FW). It is unlikely that a test environment would seek to replicate all 10 IPX links in a lab environment for cost and complexity purposes, and therefore such a vulnerability would not be discovered from penetration testing in a lab environment;

21.3. Sure has experienced circumstances where a test environment is unable to replicate real-world issues. [§<]. Consequently, Sure, and other target operators will

¹¹ We note that this is a demand-side challenge but have included in the supply-side challenges section for ease of reading.

be aware that limitations to test environments may mean that penetration testing is not fully representative of penetration testing of a live network.

21.4. Ofcom's consultation proposal is somewhat unclear as to whether the attack would be simulated within the lab environment or be initiated and undertaken externally. For the former, this would be an enormous amount of work for the target operators as they would not only need to replicate their entire mobile domain (including subscriber data) but would need to replicate security measures enforced on their mobile network edge, such as signalling firewalls and STPs, and then would also need replicate threat actors on multiple networks. For the latter, such an approach could entail security risks as the test environment would need to be connected to from an external source (i.e. from a third party STP to the test environment's STP).

21.5. Ofcom's proposal to utilise "remote access to the target operator's test network" would generate a substantial amount of additional preparatory work for both the target operator and penetration tester, particularly when compared against the counterfactual – SS7 penetration testing. Rather than the penetration tester utilising SS7 connectivity with a partner and leveraging this connectivity to carry out agreed and authorised penetration testing, any time penetration testing was required both parties would need to establish a form of connectivity (typically VPN) between the target operator's network and the penetration tester, build the relevant SS7 links, and overcome any interoperability challenges, before conducting a penetration test. We consider that this additional effort and expense is likely to deter target operators from seeking out penetration testing. This would ostensibly be a sub-optimal outcome.

22. Finally, the most significant supply-side challenge for many of these alternatives, particularly the use of APIs for various use-cases, is the upfront cost of development for GT Lessors in light of uncertain demand and a declining market.

23. In response to Ofcom's consultation, we have engaged with our existing API service provider and some alternative providers to understand the additional costs of providing an API for Sure's SS7 use-cases. It is important to note that Sure already has a facility to provide A2P and least cost routing services using an API [REDACTED]. The initial set-up cost of this solution was [REDACTED], with a further [REDACTED] per annum in support costs. [REDACTED].

24. Sure has been quoted a further [REDACTED] of set up cost to develop the API functionality needed to underpin its A2P, least cost routing, and authentication services. [REDACTED]. Sure estimates a further [REDACTED] in annual support costs. [REDACTED].

25. Such investments are perceived as even more significant once compared against the use-cases which an API can support (and revenue generated from them) and the apparent decline of the SS7 market. In its consultation, Ofcom associates an API as a suitable alternative for authentication services, least cost routing, and A2P services¹². [redacted]. In our estimation, and on the assumption that all of Sure's relevant GT Lessees adopt its API (which we do not believe is likely – see below) it would take [redacted] just to recover the cost of investment in these API alternatives. It is plain, even from this simplified explanation, that the costs of developing and migrating customers to these alternatives are **not** “manageable” despite already offering this arrangement for specific use-cases. Rather, we contend that such a proposal would entail disproportionate costs.
26. Throughout its consultation, Ofcom has explained that the market for GT Leasing is in decline, stating that ‘the adverse impact of our proposal should reduce over time as operators ability to generate revenue through these services will fall in line with 2G and 3G networks being withdrawn across the world’¹³. Such a reality further compounds GT Lessors doubts about the viability of investment in alternative arrangements to GT Leasing; it shortens the payback period over which GT Lessors can expect to recover their investments and make profit, and it reduces the likelihood that GT Lessees and end-users will be willing to migrate to these alternatives given the limited lifespan that these alternatives will have (see below). Once again, this represents a substantial barrier to adoption of Ofcom's alternative arrangements for both GT Lessors and GT Lessees.

Demand-side challenges

27. Ofcom has, in its consultation, assumed that because these alternative arrangements exist, GT Lessees will willingly and quickly migrate their services to these alternatives¹⁴. It has not explored whether there are likely to be performance differences between GT Leasing and the relevant alternative, nor whether there are likely to be migration challenges for GT Lessees. Our engagement with our GT Lessees indicate that both of these factors exist and are likely to present substantial barriers, presenting Sure with demand-uncertainties that further undermine its case of investment.

¹² We note that Ofcom also explains that APIs could be used for “Communications Platform as a Service (CPaaS)” but [redacted].

¹³ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 48, paragraphs 4.69.

¹⁴ Ibid

28. We have engaged with some of our [redacted] GT Lessees to understand whether they would be willing to migrate from SS7 GT access to an API. The response was overwhelmingly negative. Our GT Lessees cited the following challenges when stating their desire not to adopt an API:

28.1. Most GT Lessees that we engaged provide services by amalgamating numerous GTs from around the world into their SS7 stack. This enables them to provide a variety of services from a single stack, utilising the same methods and technologies for all GT Lessor partners. [redacted], it is not economical for them to adjust their approach for just one SS7 partner and thus these GT Lessees are more likely to [redacted].

28.2. GT Lessees cited the cost and complexity of having to integrate multiple APIs from different partners as the biggest barrier to adoption. A recurring theme in responses was that "APIs have significant limitations and are not scale-able or cost effective". APIs ordinarily have very different configuration set ups between providers, driven primarily by the lack of standardisation for APIs. This increases the cost and complexity of adoption for GT Lessees as they have to manage and integrate different API's into their own business model. Equally, the same API configuration from different providers can still lead to differences in the information presented back from the query, which again leads to greater levels of complexity and cost for the GT Lessee to manage.

28.3. Partners explained to Sure that throughput thresholds and response delays were, in their experience, inherent in the use of APIs, and therefore a problem for their use-cases. Whilst our partners agreed that Sure could make adjustments to APIs to improve throughput, they argued that throughput over an API will always be lower than utilising their own SS7 stack and thus suboptimal. For authentication service providers, they explained that speed of response was critical to their services and that the signalling delays in APIs, primarily due to the additional translation and "hops" inherent in having multiple platforms and protocols, were prohibitive when considering whether to adopt an API. One operator stated that "many API's also have a series of steps that a single query will go through (including issuing of tokens) in order to get the response required, this leads to a greater latency in the delivery of time critical information".

29. [redacted].

30. In all cases when Sure asked its GT Lessee partners whether it would accept a forced migration from SS7 onto an API from 1st January 2026 onwards[3<]. This was despite Sure explaining its ability to develop an API that could, in theory, meet their needs. For example, [3<]. These responses from Sure's GT Lessees have cast doubt on whether there would be sufficient demand for an alternative arrangement in the event that Sure developed them in line with Ofcom's proposals.

Positive response to GT modification

31. Notwithstanding our GT Lessees' negative reaction to the prospect of being migrated to an API or SMPP alternative, some of those partners reacted more positively to Ofcom's proposed alternative to GT Leasing for outbound roaming, GT Modification, with some partners suggesting that the solution could be applied successfully to all other use-cases cited in Ofcom's consultation.

32. We understand GT Modification refers to a solution in which a telecommunications provider, which is facilitating an outbound roaming service solution, does not disclose the underlying GT(s) to their customer, and instead provides the customer with a "notional" or non-UK GT that can be used to communicate with the provider's network and therefore with other mobile networks and subscribers around the world.

33. Specifically, we understand this to be a solution whereby a customer is provided with a notional or non-UK "GT", such as 123456789 or +500 60XXX – 69XXX. This "GT" is then used by the customer to apply to their network nodes, such as their HLR¹⁵, GGSN¹⁶, and OCS ¹⁷, so that communication between the customer's network and the telecommunications provider networks can be established. As a stylised example, Sure could provide an outbound roaming service provider with one or multiple of its Falkland Island mobile numbers and directly associate those numbers with a +44 GT within its domain. Once this arrangement is in place, any signalling units received or generated by the customer's network elements would be routed via Sure's core network. Sure's signalling firewall would then provide a translation service, whereby incoming signalling units generated by outbound roaming customers would be routed back to Sure's core network utilising a Sure +44 GT, and then Sure's signalling firewall would translate that into a signalling unit which bears the +500 Falkland Islands GT and pass this on to the customer's relevant network element, such as their HLR. Any response signalling units

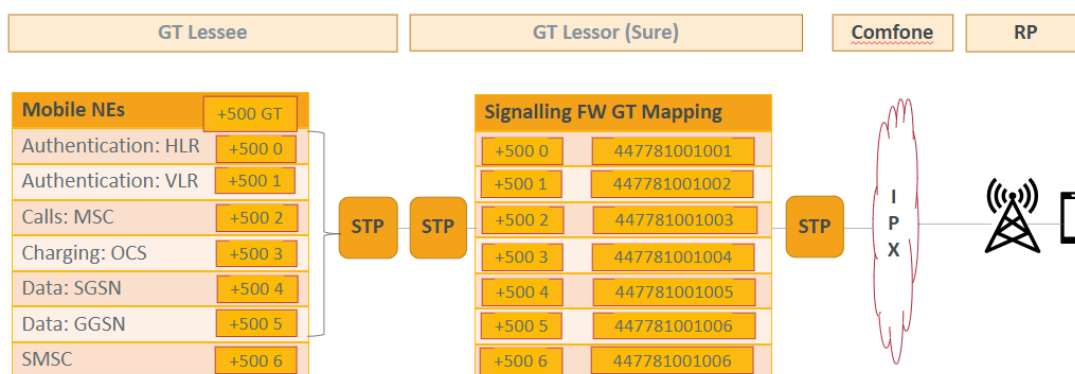
¹⁵ Home Location Register

¹⁶ Gateway General Packet Radio Service Support Node

¹⁷ CAMEL online charging system

generated by the customer's network elements would follow the reverse process; signalling units generated with a +500 Falkland Islands GT would be routed via Sure's network, be translated into a signalling unit which bears a +44 GT, and forward on to its desired destination, with the recipient mobile network perceiving this to have originated from the same +44 GT to which it already contacted. This has been set out diagrammatically in Figure 2 below.

Figure 2



34. In assessing Ofcom's proposal and engagement with our GT Lessee partners, we have assumed that a well-configured firewall would be necessary to prevent outbound roaming service providers from sending illegitimate signalling units to third parties in accordance with Ofcom's supplemental guidance (as yet unpublished). The solution also necessarily requires providers to implement a 'route via Lessor' topology, which will enable us to control the level of access possible from this solution. Both Sure and its GT Leasing partners would be supportive of such arrangements being enforced, subject to further technical feasibility testing.

35. In our stakeholder engagement, we obtained the views of our outbound roaming service providers and also the views of other providers that facilitate A2P, least cost routing, and authentication services. Sure engaged the latter group because it wanted to understand whether, given the negative feedback received about APIs, SMPP and penetration testing alternatives, GT Modification could act as a suitable alternative arrangement for other use-cases. Both groups' responses were broadly positive, with the latter group stating that a GT Modification alternative would be preferable to either an API or SMPP alternative. This was for the following reasons:

35.1. A GT Modification solution would mean that neither Sure nor the GT Lessees would need to deploy, integrate, test, and maintain a new API stack, nor would either party

need to develop various API workflows for each use-case. This substantially reduces the cost and complexity of providing solutions using Sure's network, particularly A2P, least cost routing, and authentication use-cases.

35.2. GT Modification would mean that other systems and workflows that are not directly connected to the GT Lessees' solutions, but which provide important additional services such as billing feeds and fraud detection reports, would not need to be modified. Again, this reduces the cost and complexity of migrating from an SS7 stack to an API or SMPP-based solution.

35.3. GT Modification, as opposed to an API or SMPP, enables existing connectivity, systems, and architecture to be maintained by both Sure and the GT Lessee. Rather than developing new systems and approaches (as above), GT Lessees providing A2P, least cost routing, and authentication services can quickly and simply allocate a new notional or non-UK GT to their SMSC¹⁸.

36. [redacted]. This sits in stark contrast to the feedback received about possible API and SMPP alternatives.

37. At the time of writing this response, we understand that Ofcom has proposed this solution specifically for outbound roaming services. It has not suggested that GT Modification could be used for other use-cases. However, given the challenges of migrating to an API or SMPP solution cited above, and the positive response regarding GT Modification, we urge Ofcom to consider broadening the scope of the GT Modification alternative arrangement so that it could also be used for all of the use-cases cited in its consultation document.

38. It should be noted, however, that Sure's outbound roaming service providers and network extension customers have explained that it could take a substantial amount of time to migrate to modified GTs, and therefore GT Lessors will need additional time beyond 1st January 2026 to be able to complete this migration (see below in paragraph 70 and 71),

Conclusion

39. As can be seen from the above analysis, GT Lessors face some significant supply-side and demand-side challenges should they be required to facilitate for API and SMPP

¹⁸ [redacted].

alternative arrangements. This is similarly the case for alternatives to SS7-based penetration testing. Rather than enabling GT Lessors, such as Sure, to retain our revenue from these use-cases, Ofcom's proposed alternative arrangements are likely to drive away GT Lessees and end-users towards SS7-based solutions in other jurisdictions. We therefore do not agree with Ofcom's preliminary conclusion that the availability of these alternative arrangements means that the negative impact on GT Lessors will be limited. Ofcom must more carefully consider the substitutability between its proposed alternative arrangements and GT Leasing if it wishes to demonstrate that negative impacts are limited.

40. Notwithstanding the challenges cited above, we believe that Ofcom could better limit the negative impact of its proposals on GT Lessors and GT Lessees by broadening the scope of GT Modification so that it can be used to facilitate all of the use-cases cited in Table 4.1 of Ofcom's consultation. In our view, GT Modification represents a much more substitutable and proportionate alternative arrangement than an API or SMPP platform, and could, if implemented with the correct controls and boundaries, be utilised safely and effectively to undertake penetration testing on target operators' networks. We consider that it would be straightforward for Ofcom to adopt such an alternative as it could simply expand the scope of GT Modification in its Final Statement, whilst keeping its proposed General Conditions the same.

Existing and New Controls on GT Leasing

41. Ofcom has provisionally concluded that introducing new guidance that would dictate the way in which GTs can be leased will not be effective at addressing the risks and harms identified by Ofcom¹⁹. Its justification for coming to this conclusion is that:

41.1. Most GT Lessors already have controls in place to monitor, detect, and prevent misuse of GTs, but these controls are ultimately insufficient because malicious traffic is still observed from these GT Lessors; and

41.2. That it would be difficult for Ofcom to monitor for misuse and take enforcement action GT Lessors that breach Ofcom's rules and/or guidance.

42. Whilst we understand Ofcom's justification for reaching such a conclusion, we believe that Ofcom has prematurely and unfairly concluded that controls imposed by GT Lessors cannot be effective. Firstly, we do not believe the only option available to Ofcom is to issue guidance that further contextualises General Conditions B1.6 and B1.8; Ofcom could and should have considered the effectiveness new General Conditions that dictate how GTs may be leased. Furthermore, we contend that evidence from Sure's control framework, as submitted to Ofcom in response to the Lessor Information Request, demonstrates that GT Lessor controls can be effective at preventing harm and misuse. Finally, we note that Ofcom has chosen to adopt a rules-based approach to prevent misuse of GTs on range holders' networks, suggesting that Ofcom can, in fact, monitor for misuse and take enforcement action where misuse occurs. We explore each of these points in turn.

New General Conditions vs new guidance

43. Ofcom appears to have taken a particularly binary position regarding ways in which it can address the risks and harms identified in its consultation document. It seems to have concluded that it could either:

43.1. Issue new guidance that would further contextualise contextualises General Conditions B1.6 and B1.8 so that they better regulate the use of GTs; or

43.2. Prohibit GT Leasing to third parties altogether.

¹⁹ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 39, paragraphs 4.21.

44. However, we do not agree that these are the only two options available to Ofcom. Ofcom should have considered whether implementing new General Conditions that dictate the way in which GTs can be leased to third parties could be effective. Such General Conditions, which would likely be replicated by regulators in the Crown Dependencies, could set out the minimum steps GT Lessors must take before leasing activity can begin. For example, these putative General Conditions could require all GT Lessors to:
- 44.1. Register with Ofcom as a GT Lessor, and provide Ofcom with information regarding the leasing arrangements, the identity of the GT Lessee, the GT Lessee's use-case, and end-users of the GT Lessee. Ofcom could require GT Lessors to update this information periodically;
 - 44.2. Ensure that all GT Leasing activity is undertaken in a route-via-Lessor only manner, and that all GT Leasing activity is passed via a signalling firewall that enforces the GSMA's FS.11 and FS.52 requirements;
 - 44.3. Undertake enhanced due diligence on all new GT Lessees and undertake periodic due diligence of existing GT Lessees. Such due diligence would, for example, require the GT Lessor to identify the ultimate beneficial owner of the GT Lessee, the identity of the company directors, the use-case information;
 - 44.4. Undertake risk assessments of their customer base and GT Leasing activity as a whole to ensure that the business is comfortable with the level of risk being taken;
 - 44.5. Share information about potential misuse or abuse with the National Cyber Security Centre ("NCSC") and other GT Lessors to ensure that bad actors cannot move between GT Lessors in the UK.
 - 44.6. Proactively notify Ofcom where it observes misuse over its GTs (similar to the obligation placed on financial services entities to notify the Financial Intelligence Unit where it observes suspicious behaviour).
45. In our view, an appropriate step for Ofcom to consider could be to codify the GSMA's FS.52 – the GSMA GT Leasing Code of Conduct ("the Code")²⁰ – into the General Conditions. Whilst we recognise that adoption of the Code requirements has, to date, been muted and there have been very few declaration of compliance via the GSMA, this has ultimately been because the Code is not currently enforceable and has not been

²⁰ [GSMA Global Title Leasing Code of Conduct - Security](#)

widely publicised by the GSMA. In our view, having these requirements codified within the General Conditions, and the licences of GT Lessors in the Crown Dependencies, would significantly increase take up by those leasing +44 GTs and therefore could address many of the risks and harms identified in Ofcom’s consultation.

46. As explained in paragraphs 16 to 40, Ofcom’s proposed alternative arrangements are likely to cause significant disruption and result in UK GT Lessors losing business, as opposed to retaining revenue streams through proposed alternative methods. Whilst GT Modification could present a preferable solution to many other alternatives, it remains an untested solution that is likely to take a significant period of time to implement. We therefore urge Ofcom to consider whether introducing new General Conditions, as opposed to an outright ban of GT Leasing or supplementary guidance, may be a more proportionate and effective approach.

Existing control frameworks are ineffective

47. In its consultation, Ofcom has stated that administrative and technical controls to detect and prevent misuse of GTs are “prevalent”, but that it has “seen evidence suggesting +44 GTs continue to be a significant source of malicious signalling”. It further notes that the GT Lessor with the most comprehensive controls was still associated with malicious signalling²¹. We do not agree that this position is a fair reflection of feedback received in its Lessor Information Request nor does it account for the possibility that malicious signalling identified by Enea may simply be suspicious or erroneous (that is, inappropriate signalling that lacks malicious intent).
48. Firstly, whilst it is correct for Ofcom to conclude that controls are prevalent amongst UK GT Lessors, responses to Ofcom’s Lessor Information Request indicate that the quality, comprehensiveness, and effectiveness of these control frameworks differ substantially²². For example, Ofcom states that five GT Lessors carry out some form of due diligence and/or risk assessment when onboarding customers, however it noted that some onboarding processes are “limited”, and that one GT Lessor only undertakes credit-checks, general enquiries about use-cases and “random checks of GT Lessees”²³. Similarly, for technical controls, Ofcom states that not all GT Lessors had real-time

²¹ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 38, paragraphs 4.18.

²² Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – pages 88 and 89, paragraphs A9.9 and A9.11.

²³ Ibid

technical controls for monitoring GT Lessee behaviour and that only two GT Lessors retain signalling data for retrospective analysis. One GT Lessor does not appear to have any technical controls in place. Furthermore, we note that Ofcom has not considered whether real-time technical controls are appropriately configured to prevent misuse. For example, are GT Lessors' real-time technical controls configured to meet the requirements of the FS.11 and FS.52? If not, this suggests that the prevalence of controls alone is not a good indicator for whether these control frameworks have been implemented effectively to prevent misuse.

49. We therefore do not believe that the evidence received by Ofcom from its Lessor Information Request can substantiate the claim that controls are prevalent and yet ineffective. In practice, controls exist but the quality of those control frameworks vary substantially by GT Lessor, with a significant proportion of the seven GT Lessors conducting limited, and ultimately insufficient, enquiries about the customer. This necessarily begs the question – were all GT Lessors' control frameworks to be of similar or equivalent quality and scope, would the risks and harms identified by Ofcom in its consultation be better addressed than the controls currently in place? If the answer to this question is yes, then this suggests a more appropriate and proportionate alternative approach to prohibiting GT Leasing may be available to Ofcom. That is, could the risks and harms identified by Ofcom In our view, it would be unreasonable for Ofcom not to consider this, particularly given the demand-side and supply-side challenges of Ofcom's proposed alternative arrangements, as outlined above.

50. Secondly, we consider it important to emphasise that not all suspicious or anomalous network signalling is necessarily malicious. Whilst a recipient network may observe certain signalling units and/or traffic patterns being received and deduce (fairly) that such traffic is malicious and must be blocked, that does not necessarily mean that that traffic was sent maliciously or with the intent to cause harm. In our experience as a GT Lessor, we have identified a number instances blocked by our signalling firewall and observed by our monitoring tool where a GT Lessee appears to be generating signalling for malicious purposes, but which has been caused by a misconfiguration, a faulty legacy product that is no longer used, or has been received by Sure as a consequence of a legitimate product or service. [3<]. As a consequence, Enea may have observed "malicious" signalling from a GT Lessor with the most comprehensive controls (this was not Sure) but this does not mean that the signalling is definitely malicious (i.e. sent with malicious intent to cause harm). It could be the case that it has been generated for a legitimate or innocent purpose or is the result of a misconfiguration. To confirm whether

this network signalling was *malicious*, Enea ought to have engaged with the GT Lessor sending the traffic to understand the source and its purpose.

51. In our experience, having robust controls can and will prevent misuse of GTs. Sure has, in recent years, proactively taken significant steps in support of these objectives. Between 2022 and 2023, Sure implemented a series of administrative and technical controls to prevent the misuse of its GTs and hold GT Lessees to account for their behaviour. We consider these steps to be comprehensive and effective at preventing the misuse of Sure's GTs because [redacted]²⁴. We provided Ofcom with a comprehensive overview of these controls in response to the Lessor Information Request, but in summary we have:

51.1. Implemented a [redacted] signalling firewall that monitors, prevents, and reports on all instances of suspicious or malicious signalling generated by GT Lessees. This includes signalling units that are not inherently suspicious or malicious, but which fall outside of the GT Lessees use-case and are therefore prohibited. The signalling firewall has been configured in line with the GSMA's FS.11 ;

51.2. Implemented supplementary monitoring tools that enable Sure to quickly identify instances of misuse and take action (including attempts to circumvent Sure's security controls) and undertake retrospective analysis of GT Lessee behaviour and generate reports that can be shared with senior managers and GT Lessees;

51.3. Since initially implementing and configuring its signalling firewall, Sure's mobile engineering department has built on its initial restrictions and protections to prevent other types of suspicious behaviour not covered by the GSMA guidelines or the Code;

51.4. Requires all prospective and existing GT Lessees to undertake enhanced due diligence before being onboarded or retained, and periodic reviews. As part of this process, Sure requires the GT Lessee to provide:

51.4.1. The identity of all beneficial owners and company directors, including the provision of proof of identity and proof of address;

51.4.2. Details of the company that is leasing the GT, including evidence of incorporation (certificates), VAT numbers, number of years trading

²⁴ [redacted].

and number of employees, contact details (which are verified by Sure), and countries in which the company or affiliated entities are located and incorporated;

51.4.3. Ownership structures;

51.4.4. Detailed use-case information, including stating the level of access required, the services that will be provided, the locations in which services will be provided and network equipment located, the signalling units that the GT Lessee intends to utilise, the volume and ratios of certain signalling units being utilised;

51.5. Completes sanctions, politically exposed persons, and adverse media checks on all GT Lessees. [REDACTED];

51.6. Finally, Sure undertakes a risk assessment utilising the information provided during onboarding. Where a customer is considered high risk, the customer will ordinarily be rejected. In some cases, Sure will reject applications from low or medium risk customers where we are concerned about the veracity of the information provided [REDACTED].

52. [REDACTED].

53. Similarly, and in line with the Code, Sure has substantially increased its engagement with stakeholders about suspicious applications. [REDACTED].

54. We humbly submit that, were all GT Lessors to implement administrative and technical controls similar to Sure's, this would be sufficient to address the risks and harms associated with GT Leasing. We disagree with Ofcom's conclusion existing GT Lessor controls cannot be effective at preventing misuse; indeed we consider that our, now fully implemented and evolving, controls framework is evidence that GT Lessor controls can be effective provided they are implemented appropriately and actively utilised.

55. Finally, we note that Ofcom cites "sub-leasing" as a mechanism through which bad actors can get access to UK GTs and cause significant harm. We agree that it is not possible to directly identify and prevent GT Leasing, [REDACTED]²⁵. [REDACTED]. However, that does not mean that GT Lessors cannot take steps to indirectly prevent sub-leasing that may be harmful.

²⁵ [REDACTED]

56. For example, as part of the use-case information requested from prospective and existing customers, Sure asks for detailed information about the services provided using the GTs being leased, the locations in which those services will be provided, the locations in which equipment is hosted, details about the end-users being serviced, and the traffic types that Sure should expect to observe from the GT Lessee (including volumes and ratios). Using this use-case information, Sure can build an accurate picture of the type of services being provided by the customer and the typical traffic patterns/usage associated with those service types. As outlined above, Sure configures its signalling firewall to prevent any network signalling that is not relevant to that customer's use-case. Should Sure observe behaviour that is incongruous with that outlined in the use-case information (assuming it is not blocked by Sure's signalling firewall, which it most likely will be), Sure will query this with the GT Lessee and request a full explanation for why the traffic patterns differ from those agreed. Should the GT Lessee be unable to provide a credible explanation, Sure will either provide the customer with a written warning or, where the unusual traffic is more egregious, will suspend or terminate the agreement with the Lessee. [3].

Monitoring and enforcement difficulties for Ofcom

57. Ofcom has stated that it would face "significant practical and timing challenges" were it to have to enforce GT Leasing rules or supplementary guidance²⁶. The challenges are such that it would not be possible to effectively enforce rules or guidance regarding GT Leasing. We do not believe that this reason is credible. In summary, we do not agree with Ofcom's conclusion that there are insurmountable challenges to implementing rules and guidelines for GT Leasing. These challenges are ostensibly not insurmountable given rules and guidelines are being used to address very similar harm stemming from UK range holders. We believe that new General Conditions and/or guidance could credibly enable Ofcom to identify that misuse has occurred (both from GT Lessors and range holders) and Ofcom could easily introduce rules and guidance to establish a framework through which could deduce whether a GT Lessor has taken reasonable steps to prevent that misuse.

58. Firstly, Ofcom *is* introducing new rules and guidance to address the risks and harms associated with misuse of GTs by range holders and their customers²⁷. When outlining its proposals for addressing misuses of GTs by number range holders, Ofcom concludes that

²⁶ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 39, para 4.20.

²⁷ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 41 paragraphs 4.38.

supplementary guidance and new rules *would* be sufficient to address the harm stemming from this source – an activity which, according to Ofcom’s research, generates almost as much malicious signalling as GT Leasing²⁸. This difference in approach is unexplained and, in our view, inexplicable. Ofcom has not made any attempt to demonstrate or explain why it is capable of identifying and take enforcement action in a timely manner against range holders for malicious signalling²⁹, but is unable to do so for GT Lessors. What mechanism enables Ofcom to more quickly and robustly establish that misuse of GTs has occurred by a number range holder but not a GT Lessor? Similarly, why does Ofcom consider it impossible to identify whether a GT Lessor has taken reasonably practical steps to prevent misuse of its GTs, but considers it possible for number range holders via its supplementary guidance? In our view, such discrimination does not stand up to scrutiny.

59. Secondly, we believe that Ofcom could reasonably and proportionately introduces measures that would give it greater visibility of GT usage and potential instances of misuse and abuse, for both GT Lessors and number range holders (see also paragraph 44). We propose that Ofcom introduce a ‘hierarchical right to use’ system, through which GT Lessors are required to register with Ofcom and provide information regarding the leasing arrangements, the identity of the GT Lessee, the GT Lessee’s use-case, and end-users of the GT Lessee. Where instances of suspicious or malicious traffic are observed by a GT Lessor, a General Condition obligation could require them to proactively notify Ofcom, providing details of the activity, the GT Lessee involved, and the steps taken to prevent or remediate any harm. Such an approach would be very similar to the obligation placed on financial services entities to notify the Financial Intelligence Unit where it observes suspicious behaviour or the duty to notify Ofcom where a telecommunications operator experiences a breach of its security duty.

60. Similarly, Ofcom could conceivably introduce new General Condition requirements and/or guidance that outlines the reasonable steps GT Lessors are expected to take to prevent GT misuse and abuse (see also paragraphs 43 and 44).

Economic impact on the Crown Dependencies

²⁸ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 23 paragraphs 3.18 – “*approximately 30% of the +44 GTs were formed from mobile numbers allocated to four other UK operators*”.

²⁹ Taking into account the fact that malicious signalling generated by range holders, or their customers, is likely to be also directed at networks and subscribers around the world.

61. [redacted] GT Lessors identified by Ofcom are located and licensed in the Channel Islands and Isle of Man. However, Ofcom does not appear to have considered whether a ban on GT Leasing could have a significant and disproportionate negative effect on GT Lessors in the Crown Dependencies and their associated economies. In our view, this should be a consideration for Ofcom when deciding whether the costs of imposing an outright ban on GT Leasing are outweighed by the benefits.
62. Whilst we are unable to comment on the returns made by other GT Lessors, nor the beneficial impact that these arrangements have for the Jersey and Isle of Man economies, we are able to comment on the beneficial impact GT Leasing has for the Guernsey economy. Revenue derived from GT Leasing activity is a vital source of income for Sure, with annualised revenue currently totalling between [redacted]. Correspondingly, leasing GTs has minimal associated costs because the primary input (the +44 mobile numbers) are allocated to operators free of charge and are often allocated in quantities beyond what is required to provide mobile services in each island. [redacted].
63. As evidenced in this response, [redacted].
64. Crown Dependencies, and particularly Guernsey, are small, sub-scale economies. Whilst the revenues referred to above may be insignificant in a UK context, they are substantial for telecommunications providers in these jurisdictions, and it will likely be very difficult for these providers to recover lost revenue through other means. Guernsey has a population just under 65,000 and has approximately 60,000 businesses, and Sure faces intense competition from other providers of fixed and mobile consumer telecommunications services. This compares with a population of approximately 67.6 million people in the UK and 5.6 million registered businesses. The corollary is clear; the customer bases of telecommunications providers in the Crown Dependencies, and particularly in Guernsey, are significantly smaller than their counterparts in the UK. This small scale presents GT Lessors – in this case, Sure – with a significant challenge when seeking to recover lost revenue from the prohibition of GT Leasing (taking into account the lack of viability of Ofcom’s proposed alternatives). Sure is not able to recover lost revenue by simply increasing prices to existing customers nor can it appropriately expand its customer base to bolster other revenue streams. Given the annualised revenue expected to be generated from GT Leasing in the upcoming five years, substantial price increases to new and existing customers would be required, driving significant customer dissatisfaction, and likely resulting in second-round effects, such as customers leaving Sure (further lost revenue) and reputational damage for Sure.

65. Furthermore, even if Sure wanted to recover this lost revenue stream from its other customers – which, for the avoidance of doubt, it does not – it faces local regulatory barriers that would prevent it from sufficiently increasing prices to recover the lost GT Leasing revenue. For example, Sure is unable to increase prices to existing customers above and beyond the nominated rate of inflation without allowing all affected customers to leave their contracts³⁰. Therefore, a supra-inflationary price increase to mobile consumers could result in Sure losing even more revenue (above and beyond the lost GT Leasing revenue) as dissatisfied customers seek to leave Sure due to unexpected price rises. Similarly, Sure is unable to recover lost revenue streams by adjusting some of its wholesale access product prices because these items are strictly charge controlled.

66. Sure is currently investing £48M in a new HRV-compliant mobile network, proactively removing [redacted] from its mobile estate, on the advice of the NCSC and OFCOM in the UK, to ensure the security of its customers and of the islands in which we operate and the security of the UK. Sure is not yet under any legal obligation to make such a substantial investment, but has chosen to do so. In fact, Sure has made investment in removing HRV from its entire network a priority and has strived to achieve complete removal of HRVs from its network ahead of its UK counterparts (we understand that many operators in the UK intend to keep at least some HRV equipment in their networks). The speed at which this investment is made will likely be put at risk by Ofcom’s proposed ban on GT Leasing as it would result in Sure’s forecast revenues being significantly lower than expected. [redacted]. Whilst we acknowledge that compliance is a reality of being a telecommunications operator, [redacted] it reinforces the fact that Crown Dependency operators have limited options for recovering the costs associated with prohibiting GT Leasing to third parties, and face exponentially increasing costs associated with compliance. Furthermore, this could cause delays to the delivery of beneficial 5G services as Crown Dependency operators scale back swap-out and upgrade activities given it is making lower than expected returns from their mobile estates and is thus less able to invest as confidently as before.

Implementation window

67. Ofcom has proposed that GT Lessors be given approximately nine months from the date of its Final Statement to implement its proposed alternatives and stop GT Leasing. The date on which the GT Leasing prohibition begins is 1st January 2026³¹.

³⁰ See, for example, Licence Condition 15.12 of Sure’s mobile licence in Guernsey - [sure-licence-mobile-1-october-2024-non-confidential-version.pdf](#)

³¹ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 53, paragraphs 4.91.

68. Having carefully assessed Ofcom's proposed alternatives, and engaged with our GT Lessees regarding these alternatives, we do not consider this to be sufficient time. In our view, GT Lessors would require at least [redacted] to implement Ofcom's proposed alternatives, notwithstanding Sure's position outlined in paragraphs 16 to 30 that these alternatives are not viable or appropriate. An [redacted] implementation window would also be required should Ofcom permit GT Lessors to adopt GT Modification as an alternative arrangement to GT Leasing³².
69. Firstly, and as outlined above in paragraphs 26 to 30, there appears to be a general reluctance on the part of Sure's GT Lessees to adopt any of Ofcom's proposed alternative arrangements, with the possible exception of GT Modification (subject to feasibility testing). For example, two of Sure's biggest customers [redacted]. As a consequence, where Ofcom chooses to implement its proposed prohibition on GT Leasing, Sure is going to need to engage extensively and positively with these customers to develop and implement solutions that meet the demands of these customers. In many cases, these customers will require non-standard, bespoke solutions which are likely to take significantly longer than nine months to develop and implement³³, particularly because Sure has [redacted] GT Leasing customers at present, and will this need to engage with each of these GT Lessees in parallel to develop an appropriate solution.
70. Additionally, we understand that Ofcom expects such alternative solutions and associated processes will also need to be compliant with its supplementary guidance on preventing malicious signalling³⁴. Ofcom has stated that this supplementary guidance will not be available to respondents for review until it publishes its Final Statement on this topic, which is likely to occur in the first quarter of 2025³⁵. This ostensibly places an additional burden on respondents as they will be unable to truly develop solutions until this supplementary guidance has been published and finalised (we assume that Ofcom will provide respondents with an opportunity to review and comment on the proposed supplementary guidance). The corollary is that, in practice, GT Lessors and Lessees will have *less* than nine months to develop a solution that is compliant with both the General Condition and the supplementary

³² GT Modification is likely to take time to implement, particularly in parallel with other solutions. GT Lessors would need to ensure that its STP and/or SFW are capable of accepting notational GTs and converting them to actual. GT Lessees will need to amend billing systems, HLR, GGSN (outbound), MSC, VLR, SGSN (inbound) elements to facilitate for this solution. This must be done in combination with the GT Lessor, and then test the solution.

³³ [redacted].

³⁴ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 41, paragraphs 4.38.

³⁵ Global Titles and Mobile Network Security – Proposals to address misuse of Global Titles – page 53, paragraphs 4.94

guidance. We consider that it will be impossible for Sure, or other GT Lessors, to develop appropriate solutions within that time.

71. As explained in paragraph 64, Sure is a small telecommunications company working in a small, sub-scale environment. [REDACTED] other GT Lessors – those GT Lessors based in the Crown Dependencies – operate within similar economic environments. Sub-scale jurisdictions are challenging environments in which to innovate and develop new solutions. Sure and the other Crown Dependency GT Lessors are necessarily small in scale. Sure, for example, has approximately [REDACTED] employees across seven jurisdictions. Consequently, [REDACTED]. These challenges, which are somewhat unique to Crown Dependency GT Lessors and Lessees, further denote that Ofcom’s proposed nine-month implementation window is very likely to be insufficient.
72. Furthermore, we understand that most GT Lessors based in Crown Dependencies are currently in the process of removing high-risk vendors – [REDACTED] – from their networks. This is a significant and resource-intensive undertaking, and will be utilising much of the same engineering and product staff as will be needed for the development of alternatives to GT Leasing. Sure’s timescales for completely removing [REDACTED] from its network are for the core mobile network to be swapped out [REDACTED].
73. As a consequence of the above, we submit that a larger implementation window is needed for GT Lessors and their Lessees to be able to develop truly viable alternatives under Ofcom’s proposals. In our view, GT Lessors will need [REDACTED] to be able to develop such solutions, if at all possible (which we strongly assert is not).
74. Conversely, should Ofcom agree to introduce new rules and guidance instead of prohibiting GT Leasing (e.g. such as codifying the GSMA GT Leasing Code of Conduct), we believe that we, and other GT Lessors, can be compliant with such rules within [REDACTED] of the Final Statement, subject to those rules and guidance being broadly aligned with the GSMA’s Code. We consider this approach to be the most appropriate and proportionate, and one which can bring about broadly the same benefits as supposedly brought about by Ofcom’s proposed prohibition of GT Leasing to third parties.

Sure (Guernsey) Limited

[REDACTED]

ANNEX 1: Responses to Ofcom's Questions

Consultation question 1: Do you agree with our proposal to ban GT leasing to third parties? If not, please explain your reasons including how you would prevent malicious signalling by lessees.

Sure does not agree with Ofcom's proposal to ban GT Leasing to third parties at this stage. In our view, and as set out in the response above, this proposed course of action is unnecessary, disproportionate, and inappropriate at present. As set out in paragraphs 16 to 30, Ofcom's proposed alternative arrangements are not viable in practice. Some of Ofcom's proposed alternatives are unworkable and others are not substitutable because they are more expensive, complex, and ultimately perform worse than SS7 access. We therefore contend that Ofcom's proposal to ban GT Leasing is disproportionate; existing GT Lessees are unlikely to find Ofcom's proposed alternatives substitutable and many of Sure's customers have already signalled that they would move away from Sure should such a prohibition come into effect. It follows that Ofcom's proposal to prohibit GT Leasing *will* likely have a significant negative impact on GT Lessors, increasing the costs/negative consequences of Ofcom's proposed GT Leasing ban. This significant negative impact cannot be overlooked.

Additionally, we do not agree with Ofcom's rationale for concluding that a GT Leasing ban is the most appropriate course of action. As set out in paragraphs 41 to 60, Ofcom's binary approach to a course of action, namely either to issue guidance that further contextualises General Conditions B1.6 and B1.8 or ban GT Leasing altogether, is inappropriate and incomplete. Ofcom could and should have considered the effectiveness of new General Conditions that dictate how GTs may be leased, including the need to register with Ofcom as a GT Lessor, implementing sufficiently robust administrative and technical controls to prevent misuse and abuse, and creating a reporting obligation that requires GT Lessors to proactively notify Ofcom and/or local Crown Dependency regulators when misuse is observed (similar to the way in which financial services entities must report suspicious activity to local Financial Intelligence Units). In these paragraphs, we have also explained that evidence from Sure's recently implemented control framework, as submitted to Ofcom in response to the Lessor Information Request, demonstrates that GT Lessor controls can be effective at preventing harm and misuse. A rules-based approach to preventing misuse of +44 GTs, consistent with that being implemented for range holders' networks (suggesting that Ofcom can, in fact, monitor for misuse and take timely enforcement action where misuse occurs) would, in our view, be the most appropriate and proportionate approach.

In light of the significant negative impact that Ofcom's proposals will have on GT Lessors and GT Lessees, and the fact that other, less onerous, and invasive, methods through which +44 GTs can be better controlled exist are ostensibly available, we submit that Ofcom should take a more appropriate and proportionate approach to address the risks and harms identified in its consultation.

We would support the implementation of new GT Leasing General Conditions and supplemental guidance, and associated Licence Conditions in the Crown Dependencies, which set out specific rules for how GT Lessors should lease GTs to third parties. The specifics of our proposed General Conditions are set out in paragraphs 43 to 46 of this response, and include codifying some or all of the GSMA's GT Leasing Code of Conduct. For the avoidance of doubt, we do not consider a ban on GT Leasing to be an appropriate and proportionate approach in light of the deficiencies of Ofcom's alternative arrangements identified in this response. Whilst there is the possibility that Ofcom's proposed GT Modification alternative could present a more workable and palatable alternative (as opposed to APIs, SMPP protocols, and penetration testing within a lab environment), further engagement, development, and testing is required to establish whether this is a truly viable alternative to GT Leasing. Such testing is likely to take many months, particularly where GT Modification is applied across multiple use-cases.

Consultation question 2: Do you agree with our proposal to only include exemptions to our ban on GT leasing relating to intra-group and supplier use? If you consider that any other exemptions are necessary, please explain how these exemptions could be limited to prevent malicious signalling by lessees.

Sure does not have any specific comments regarding this question.

Consultation question 3: Do you agree with our proposal to ban the creation of GTs from sub-allocated numbers by third parties?

Sure does not have any specific comments regarding this question.

Consultation question 4: Do you agree with our proposals to strengthen our rules to prohibit the misuse of GTs by operators that hold UK mobile numbers and to provide supplementary guidance on the types of steps range holders are expected to take when providing a service to a customer (using a GT as an input) that has the potential to generate malicious signalling?

Consultation question 5: Do you agree with our proposal to strengthen our rules to prohibit the creation of GTs from numbers not allocated for use?
<p>Yes, we agree with and support this proposal.</p>
Consultation question 6: Do you agree with the proposed implementation period?
<p>We do not consider Ofcom’s proposed implementation period of nine months to be sufficient for its proposals. Notwithstanding Sure’s position that Ofcom’s proposed alternatives are unviable and unworkable, we submit that a larger implementation window is needed for GT Lessors and their Lessees to be able to develop truly viable alternatives under Ofcom’s proposals. In our view, GT Lessors will need [X] to be able to develop such solutions, if at all possible (which we strongly assert is not). Further information on this position can be found in paragraphs 67 – 74.</p> <p>However, should Ofcom agree to introduce new rules and guidance instead of prohibiting GT Leasing, we believe that we, and other GT Lessors, can be compliant with such rules [X] of the Final Statement, subject to those rules and guidance being broadly aligned with the GSMA’s Code. We consider this approach to be the most appropriate and proportionate, and one which can bring about broadly the same benefits as supposedly brought about by Ofcom’s proposed prohibition of GT Leasing to third parties.</p>
Consultation question 7: Do you agree with our provisional impact assessment?
<p>Please see Sure’s response to Question 1.</p>