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 -via email only-

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Consultation Response

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| Consultation title | Consultation: Global Titles and Mobile Network Security |
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| Representing (delete as appropriate) | Organisation |
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Confidentiality

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|---|--|
| Our details: Ofcom will keep our contact number and email address confidential. | Our name, phone number and contact details |
| Our response: Please indicate how much of our response we want to keep confidential. | All business-related figures |
| For confidential responses, can Ofcom publish a reference to the contents of our response? | Yes |

Introduction

Velos IoT Jersey Limited (**Velos IoT**) would like to thank Ofcom for the opportunity to respond to the proposals to address misuse of Global Titles (**GTs**) as part of the Global Titles and Mobile Network Security Consultation.

Velos IoT is a leading internet of things (**IoT**), and machine-to-machine (**M2M**) connectivity provider headquartered in Jersey, Channel Islands, deploying millions of SIMs to businesses with IoT/M2M use



cases. We are considering ourselves as a mobile virtual network operator (**MVNO**), currently transitioning from a light MVNO to a thick MVNO, by implementing our own HLR and steering capability.

We collaborate closely with mobile network operators (**MNO**) and currently lease GTs from them. In the absence of owning our own GTs, we need GT leasing to provide our core connectivity business. A lot of the IoT and M2M connectivity we provide utilises 2G and -prior to its decommissioning- 3G networks.

We only offer IoT and M2M connectivity, and the focus is on business to business (**B2B**) relationships. Velos IoT serves a wide range of businesses, and some of the sample use cases for which our customers use our offering are human organ tracking, vehicle tracking, EV charging, construction machinery or agricultural logistics. In some instances, we are supporting the provision of critical infrastructure, e.g. in relation to offshore wind turbines, energy meter operation or school bus route tracking.

As a Crown Dependency based business, we fall under the +44 GTs definition of the consultation and all subsequent references to GTs in our response shall be construed as meaning +44 GTs.

Our Response

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.

Confidential? – N

No. The GSMA as the leading body representing the MNO community has published the GSMA Global Title Leasing Code of Conduct in March 2023 (**GSMA CoC**)¹ with the objective to increase transparency and reducing risk.

The telecommunications industry as a whole, either by GSMA membership or by voluntary adoption, has fostered adherence to the GSMA CoC. It addresses in detail how to reduce the risk of abuse, reputational damage and associated partners, but provides very clear guidance on how to manage GT leasing relationships. Because it was developed by the help of GSMA members (typically GT Lessors), it was drafted with a great understanding of technical limitations to implement alternatives available short-term to bridge the gap until 2G/3G connectivity is finally phased out by 2033.

Ofcom proposes gold-plating this approach by introducing a blanket ban for +44 GTs will result in a fragmentation of the market and will necessitate globally operating MVNOs to exchange their +44 GT estate for other jurisdictions². In contrast, it would be desirable for Ofcom to enforce the GSMA CoC across +44 GTs and ensure that full compliance is achieved.

The GSMA CoC states that where possible, other technological options and architectures as alternatives should be considered. But by its very existence, the GSMA CoC is working on the presumption that in some cases, this will not be a straight-forward to quick process. For example, in the case of Velos IoT, it would take a long lead time to implement a technological solution for existing GT leasing relationships. The conceptualisation, programming, implementation and transfer to such an alternative solution on a large estate like Velos IoT's would require a huge investment, significant investment on the stakeholder side and a lot of prevention of failure measures to be taken. Not having sufficient time to implement an alternative would jeopardise the functioning of critical infrastructure in the UK.

With IoT/M2M connectivity being a high-volume/low-margin business, this level of investment to implement for a solution that is going to be phased out by 2033, is simply not commercially viable for

¹ [FS.52 Global Title Leasing Code of Conduct v1.0 \(Current\) \(gsma.com\)](#)

any MVNO and will lead to the unviability of Velos IoT's business model. Additionally, any technological solution would need to be fit for global adoption, as otherwise it will be impossible to implement globally as it is required for MVNOs like Velos IoT.

More importantly, Velos IoT is in the process of transitioning to a thick MVNO model and to maintain the current GT leasing engagements in place, it would actually have to increase its use of GTs to point to Velos IoT's own mobile core.

Velos IoT have considered the risks associated with GT leasing and are working very closely with the GT Lessor to comply with all aspects of it, from periodic due diligence reviews to use case declarations and monitoring, as well as threat intelligence sharing. This has significantly increased the scrutiny of GT use cases, resulted in the termination of certain +44 GTs and raised the awareness of all stakeholders. Velos IoT has a comprehensive GT Leasing Policy in place, which is strictly enforced.

In summary, our stance is:

- Velos IoT is servicing the industry by providing communication to IoT/M2M devices. When doing so, devices connect to our MNO mobile core via tight security regulations which match use case and operation codes that have been declared.
- The industry has many ways of blocking, for example SIM cards can be controlled over OTA so that they cannot attempt to connect at all.
- Rules and procedures enforcing such mechanisms as mandatory for any GT Lessor or Lessee, would be a much more efficient alternative to a GT ban.
- Turning the GSMA CoC into binding regulation for +44 GTs would ensure full adoption across all telecommunications stakeholders.

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.

Confidential? – N

Yes, if Ofcom went ahead and introduced a ban on GT leasing, there should be certain exemptions, including for B2B IoT/M2M connectivity providers.

One core objective of Ofcom's proposed ban is to protect UK consumers. Velos IoT is a B2B IoT/M2M only connectivity provider. This means by its very nature that the majority of our customers have use cases where SS7 signalling would not directly impact UK consumers in a potentially fraudulent or other criminal way, e.g. to name a few: agriculture, transport and logistics, utilities, energy and environment, warehousing, asset tracking, IoT manufacturers. In most of these cases, the SS7 signalling is used to establish contact to the IoT/M2M estate. We would be amenable to the requirement to adhere to a list of approved use cases covering the largest part of our SIM estate to ensure that the direct impact on UK consumers is kept at a minimum and unlikely to support fraudulent and criminal behaviour. The indirect impact of banning GT leasing for M2M and IoT businesses like us would, however, negatively affect many aspects of daily lives for UK consumers from smart homes to construction and agriculture, and therefore the roofs over their head and the food in a grocery store.

The issue that has a much greater impact on our stakeholders is inadvertent signalling storms created by a mis-managed IoT/M2M SIM estate, for instance when a customer is no longer actively managing their SIMs but haven't removed them from their devices. We are actively working with our suppliers to address this issue. We are looking at implementing watchdogs to detect signalling storms early and to shut them down before they have any material adverse impact. This again is a very costly and time-consuming undertaking but is a preventative measure we deem necessary to improve

the seamless functioning of the devices we connect to and to lessen the impact on network providers affected by these signalling storms.

We would welcome an exemption for MVNOs in the B2B IoT/M2M sector in order to allow the use of 2G/3G connectivity until it is phased out instead of forcing MVNOs to reroute this traffic to the already strained 4G/5G networks, which would also mean significant additional costs for all IoT/M2M stakeholders and detrimental to UK consumers relying on bandwidth availability in these networks.

Alternatively, once we have achieved thick MVNO status, we would be open to adhere to the same regulatory framework as an MNO, utilising our own GTs.

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

Confidential? – N

Yes. GTs shall only be created by the GT Lessor. We agree that the GT Lessor needs to have full control over their respective GT estate and needs to be able to effectively manage it.

In terms of multi-tiered relationships utilizing GTs created by the GT Lessor, however, we would expect a differentiated approach.

Velos IoT's customers are leasing GT issued by the GT Lessor (an MNO) from us, but they are fully disclosed to our GT Lessor and the GT Lessor has all requisite due diligence information, use case disclosures as well as direct access to the GT Lessee. The primary GT leasing relationship, however, is between Velos IoT and the GT Lessor and the GT Lessees are only customers of Velos IoT, not of the GT Lessor.

Therefore, any pass-through GT leasing should be permissible, provided that the measures set out above have been taken and there is full transparency in the relationship.

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?

Confidential? – N

Generally, yes, provided the rules are not just addressing an outright ban, but are more nuanced and therefore also applicable to scenarios as set out in our response to Q3. Velos IoT would expect such rules to be based on a risk-based approach and commensurate with the risks involved. We would also be grateful for the opportunity to comment on any such rules and supplementary guidance prior to their implementation.

Question 5: Do you agree with our proposal to strengthen our rules to prohibit the creation of GTs from numbers not allocated for use?

Confidential? - N

We are amenable to the proposed numbering conditions.

Question 6: Do you agree with the proposed implementation period?

Confidential? – N

Velos IoT deems the proposed implementation period as unachievable.

Therefore, we propose a two-tiered approach:

6.1 Grandfathering

Velos IoT would welcome the opportunity to grandfather its existing GT leasing estate until an alternative technological solution is available for the following reasons:

- Velos is a mature and capable IoT solutions provider, and we understand and approve of the need for legislation governing secure and proper use of telecom equipment.
- Velos and its primary MNO provider have necessary and adequate SS7 firewalls with stateful inspection capability, which are used to govern
 - that messages can only be sent between whitelisted GTs;
 - that messages cannot be sent outside agreed call flows.
- Velos IoT is of the opinion that the fraudulent use cases experienced in the industry would be mitigated effectively by enforcing such types of procedures on any GT Lessor and Lessee (not by banning GTs themselves).

6.2 Implementation of Global Alternative

During the grandfathering period, we would expect Ofcom to work with other regulators and industry organisations like GSMA to agree on a common requirements standard for the development of an alternative technological solution to achieve the same functionality as GTs currently do.

In summary, Velos IoT would like to highlight that:

- Leasing GT is an industry wide practice and change of the same will require significant efforts in engineering and rollout.
- Velos IoT recommends that such engineering springs from agreed industry standards, which can form the basis of mandatory rules and procedures imposed on the industry.

Question 7: Do you agree with our provisional impact assessment?

Confidential – No

No. [REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]

We [REDACTED] don't deem ourselves as a "niche" service provider, [REDACTED]
[REDACTED]

The adverse impact assessment in the consultation doesn't address the needs of the IoT/M2M service providers. [REDACTED]
[REDACTED]

As per our response to Q2, M2M and IoT connectivity in the UK is now embedded in many aspects of the economic value creation chain, such as SIMs fitted in construction equipment to lock it down when not in use, as well as river level and pollution monitoring, container tracking, smart mobility for car, scooter, bike and motorbike rental companies, smart home devices (not just electric meters, but also remote access to consumers' fridges, heating systems, light systems, ovens, hot tubs, and fuel tanks, CCTV, buildings alarms and lift controls) and most importantly healthcare to patients at risk at



home there is a plethora of use cases that very firmly moves M2M and IoT connectivity out of the “niche” sector into a corner stone of a connected world.

We are one of the largest M2M and IoT connectivity providers globally and due to our unique history as a carve out from an MNO using +44 GTs, we are heavily dependent on GT leasing [REDACTED]

Question 8: Do you agree with our proposed changes to the General Conditions of Entitlement, National Telephone Numbering Plan and Numbering Condition Binding Non-Providers?

Confidential – No

Fundamentally, we don't agree with the majority of the proposed changes, for the reasons outlined in our responses to Q1-Q7 above.

We are supportive, however, of a limited number of changes to the General Conditions of Entitlement, the National Telephone Numbering Plan and the Numbering Conditions Binding Non-Providers to the extent that:

- only holders of allocated numbers shall be allowed to create GTs;
- the General Conditions are amended to include a limb in B3.8.2 in relation to persons supplying authorized services to the person authorizing the use of GTs, provided such service provision under such an arrangement is taking place in accordance with the applicable rules and guidance; and
- Ofcom provides additional guidance as to the steps required to provide services under the proposed exemption from a GT leasing ban, especially in relation to signalling issues.