Decree of the Minister of Economic Affairs [*Minister van Economische Zaken*] of 3 March 2014, no. ETM/TM/14024019, containing amendments to the Numbering Plan for international mobile subscription identities (IMSIs) relating to the use of IMSIs by private networks

The Minister of Economic Affairs,

Having regard to Section 4.1 of the Dutch Telecommunications Act [*Telecommunicatiewet*];

Decrees:

ARTICLE I

The Numbering Plan for international mobile subscription identities (IMSIs)[1] is amended as follows:

A

Article 1 is amended as follows:

1. Subarticle a shall read:

a. Consumer and Market Authority [*Autoriteit Consument en Markt*]: the Consumer and Market Authority referred to in Section 2(1) of the Act Establishing the Consumer and Market Authority [*Instellingswet Autoriteit Consument en Markt*];

2. In subarticle b, the phrase "IMSI subscriber number" shall be replaced with the phrase: IMSI user number.

3. In subarticle d(4), the word "or" shall be deleted. The semi-colon ending subarticle 5 shall be replaced by ", or" and a new subarticle shall be added to Article 1(d) after subarticle 5, reading:

6. identifies a particular private electronic communication network whose mobile network code is not sent by radio signal but is only used for a user's selection of that network from another electronic communication network for the use of wireless electronic communication services.

4. a. Subarticle e is repealed and subarticles f and g are renumbered to e and f.
b. Subarticle e (new) shall read:

e. IMSI user number: the part of an IMSI following the mobile country code and the mobile network code that identifies a particular usage relationship;

5. The full stop at the end of subarticle f shall be replaced by a semi-colon, and a subarticle added, reading:

g. private electronic communication network: electronic communication network that is not used for providing public electronic communication services.

B

Article 2 shall read:

Article 2

[1] Government Gazette [*Stcrt.*] 1999, 15; most recently amended by decree of 22 January 2009 (Government Gazette 1588).

1. A number as referred to in this Decree refers to a mobile country code followed by a mobile network code, regardless of whether this is followed by an IMSI user number.
2. Numbers that are available for assignment are listed exclusively in the number blocks indicated in the appendix to this Decree.
3. The combinations of a mobile country code and a mobile network code that belong to the same number block of four digits in the series 204 0 up to and including 204 8 shall be the same length.
4. The total combined length of the mobile country code, mobile network code and IMSI may not exceed 15 digits.
5. IMSI user numbers can be selected by the assignees of a network mobile code unless the Consumer and Market Authority imposes restrictions on such selection pursuant to Section 4.2(4) of the Telecommunications Act.

C

The appendix referred to in Article 2(2) shall read:

Appendix referred to in Article 2(2) of the Numbering Plan for International Mobile Subscription Identities (IMSIs)

Relationship between IMSIs, their purpose and their length

Available for assignment	**Not available for assignment**		
Number block*	**Number block**	**Purpose**	**Length of the combination of mobile country code and mobile network code**
204 0.. up to and including 204 2..		Identification of usage relationships for a network as defined in Article 1(d)(1)-(5)	5
204 3.. up to and including 204 5..		Identification of usage relationships for a network as defined in Article 1(d)(1)-(5)	5 or 6
204 6..		Identification of usage relationships for a network as defined in Article 1(d)(1)-(5)	5
204 7.. up to and including 204 8..		Identification of usage relationships for a network as defined in Article 1(d)(1)-(5)	5 or 6
204 90..		Identification of usage relationships for a network as defined in Article 1(d)(6) The combination of mobile country code and mobile network code can be assigned to one or more applicants.	5
204 91..		Identification of usage relationships for a network as	5

		defined in Article 1(d)(6) The combination of mobile country code and mobile network code can be assigned to one or more applicants as long as each applicant is an institution that uses the network for electronic communication relating to the performance of the obligations imposed on that institution by law as defined in Article 1(d)(6).
	204 92.. up to and including 204 99..	

*The five-digit combinations of mobile country code and mobile network code 204 95 up to and including 204 97 do not constitute part of the numbering plan and shall not be assigned, but shall be reserved for intra-network use to identify a particular private electronic communication network for the purposes of wireless communication.

ARTICLE II

This Decree shall enter into force on the day after the publication date of the Government Gazette [*Staatscourant*] in which it is published.

ARTICLE III

This Decree shall be cited as "Decree on the use of IMSIs by private networks".

This Decree and the explanatory notes shall be available for inspection for a period of six weeks from the publication date of the Government Gazette in which it is published at the Information Centre of the Ministry of Economic Affairs at Bezuidenhoutseweg 73 in (2594 AV) The Hague, the Netherlands.

The Minister of Economic Affairs,

H.G.J. Kamp

Parties who have a direct interest in this Decree may appeal this Decree by filing grounds for said appeal, within six weeks after the publication date of the Government Gazette in which it is published, with the Rotterdam District Court, Administrative Law Section, PO Box 509050, NL-3007 BL Rotterdam.

I. EXPLANATORY NOTES

1. Introduction

The Numbering Plan for international mobile subscription identities (IMSIs) (referred to hereinafter as "the Numbering Plan") is the national implementation of Recommendation E.212 of the International Telecommunication Union (referred to hereinafter as "ITU"). This recommendation describes the structure and use of international mobile subscription identities (referred to hereinafter as "IMSIs"). IMSIs are used worldwide to identify mobile network equipment and subscribers. A unique IMSI enables mobile equipment or subscribers to be identified as visitors when they roam outside the coverage of their own network provider and to use another provider's network.

According to Recommendation E.212, an IMSI consists of three components: a mobile country code (MCC), which is issued by the ITU and which identifies the country where the network is located; a mobile network code (MNC), which identifies the specific network; and a mobile subscription identity number (MSIN), which identifies the equipment or subscriber. National governments are responsible for regulating and allocating MNCs and MSINs.

The specific possibilities for using MNCs are laid down in the current Numbering Plan. MNCs can be assigned by the Consumer and Market Authority [*Autoriteit Consument en Markt*] (referred to hereinafter as "ACM"). MSINs following an MNC are administered by the assignee of the relevant MNC. MNCs are available for a number of situations. An MNC can:

1. identify a particular public electronic communication network (referred to hereinafter as "PECN") for mobile services, to ensure interoperability with PECNs that are used to provide mobile services, or for wireless services;
2. identify a network for GSM-R, and
3. identify a network for mobile electronic communication for internal operational applications of the Ministry of Defence.

This Decree expands the possibilities for using MNCs, and thus also those for using IMSIs. This Decree was prompted by two developments in the public electronic communications services ("PECS") market, which created a need for broader possibilities for using MNCs. The first development was the increased use of local wireless networks with low capacity for internal business applications. The second development more generally involved the increased use of mobile networks for business applications, with the emphasis on computerised applications, also referred to as Machine-to-Machine (M2M) applications. Incentives for innovation and market forces relating to both developments can be developed by expanding the possibilities for using MNCs. Expanding this use means that MNCs will also be assigned to non-public electronic communication networks for the purposes of wireless communication.

2. Private local wireless networks

2.1 Market development

The use of local wireless electronic communication networks has grown in recent years. This growth is partly due to the licence-free use of the DECT guard band (frequency range 1877.5 MHz–1879.9 MHz) that was made possible by the Regulation on the Use of Frequency Spectrum without a Licence 2008 [*Regeling gebruik van frequentieruimte zonder vergunning 2008*].[2] This portion of the spectrum is particularly appealing to low-capacity GSM applications (picocells). The relevant licence-free spectrum was later expanded in anticipation of the opportunities offered by the licence-free use of the DECT guard band.[3] The aforementioned applications supplement existing GSM networks and offer the opportunity to construct local (indoor or outdoor) wireless networks that can be used and administered in a non-public environment. This development was prompted

[2] Government Gazette, 29 February 2008, no. 43.

[3] Amendment to the National Frequency Plan 2005 [*Nationaal Frequentieplan 2005*] in connection with the Strategic Memorandum on Mobile Communication [*Strategische Nota mobiele communicatie*], Government Gazette, 26 August 2011, no. 15033.

by, among other things, the desire to limit costs and achieve better coverage for internal business communication. These networks can be used for in-house communication that does not require interconnection with public networks; it can be used as a non-public, isolated network. These networks can also be connected to other networks, however, entailing the possibility of using them to communicate with, to, or via one or more land or wireless public networks. In this case, the network is used as a non-public, connected network in which the communication can consist of in-house communication (via a virtual private network using an external network), or communication with users of public networks.

Local networks – e.g., those based on low-capacity GSM applications – are structured using standards that are applied on public mobile networks, such as the 3GPP standards. This offers the advantage of being able to access such networks using equipment that is widely available on the market (such as mobile phones). Phones meeting these standards use SIM cards containing a combination of an MCC and an MNC to identify the relevant network.

2.2 Intra-network use of IMSIs on private local wireless networks

The use of standard 3GPP equipment has made it necessary, when operating a non-public local wireless network, to use IMSIs in both the modus of an isolated network and on networks connected to public networks. A development that can be seen on the market is public providers (and administrators) of local networks facilitating the use of these networks as a service to the users of these networks. In that case, the MNC assigned to that provider can be used, requiring the intervention of that provider. There is increasing market demand, however, for end-users (companies) being able to administer a local network themselves for their business applications without an intermediate provider. Since under existing regulations MNCs can only be assigned to public networks, MNCs cannot be assigned for this type of administration to the administrator of such a network, which would be non-public. This would keep the use of 3GPP equipment for non-public local networks dependent on the MNCs assigned to public network providers.

The changing electronic communications market, on which the array of services offered is constantly developing, requires a numbering policy that plays a facilitative role in making numbers available to avoid unduly hindering providers and users of electronic communication services. For this reason, the footnote in the appendix to the Numbering Plan provides that the five-digit combinations of MCC and MNC from 204 95 up to and including 204 97 (three two-digit MNCs) may be used for intra-network use for identifying a particular local private electronic communication network for wireless communication. A "private electronic communication network" is understood to refer to a non-public electronic communication network that, in accordance with the new definition of Article 1(g), is not used, in whole or in part, for providing commercial or non-commercial public electronic communication services to third parties. Falling within the scope of this definition are low-capacity wireless electronic communication networks as defined in the Regulation on the Use of Frequency Spectrum without a Licence 2008, to the extent such networks are used by private user groups. Currently, these are the only local networks that also require MNCs. The choice to keep more than one MNC available for this purpose relates to technical usage issues; these are discussed in more detail in section 2.3.

The three MNCs in question do not constitute part of the Numbering Plan, but must be kept free for the use referred to above. No registration or regulatory fees are charged for their use. These numbers are not subject to the statutory requirements that apply to numbers that are part of the Numbering Plan, such as the assignment criteria directing that an IMSI must be assigned before a network may be used. In principle, this additional opportunity for use will enable local private network administrators to use an MNC without the intervention of a PECN/PECS provider as the third party to whom that MNC is granted, as referred to above in this section.

The numbers are intended for intra-network use (within a single network). In this respect, users of a local network with the same user profile cannot use these MNCs to temporarily use another wireless network (roaming as an exceptional form of interconnection). The relevant technical industry standard requires public networks to use a unique MNC, partly to enable the identification of the home network of roaming equipment/users (people) located within the coverage area of multiple public networks. In the case of a private local network that does not offer roaming, the

MNC cannot correspond to the MNC of a public network. In contrast to a situation in which roaming is possible, however, the MNCs and MSINs need not be unique, making the intra-network use of these numbers possible. This includes a situation in which a network is interconnected with other networks through a land connection. Private local networks that are interconnected exclusively through land connections therefore fall outside the scope of this Decree and can use these MNCs. The specific technical usage issues associated with the intra-network use of non-unique MNCs are discussed in more detail in section 2.3.

The efficient use of these numbers is promoted by the fact that multiple networks can use the same MNCs simultaneously; this will not create an extra risk of exhausting the stock of MNCs. In addition, these numbers need not be assigned by the ACM and thus will not entail any administrative burden.

Broadening the possibilities for using MNCs in this Decree necessitates changing the scope of an IMSI (Article 1(b) of the Numbering Plan). This Decree replaces the term "IMSI subscription number" with "IMSI user number". The term "IMSI user number" is defined in the new Article 1(e) of the Numbering Plan. An IMSI user number is the part of the IMSI that follows the mobile country code and the mobile network code that identifies a particular usage relationship. The identification of a usage relationship includes the identification of equipment or the user of that equipment. This makes it clear that IMSIs can identify equipment on, and subscribers to, public networks as well as equipment and users on non-public networks. For simplicity's sake, the abbreviation "MSIN" will continue to apply. Note that the term "equipment number" has become redundant because the definition of "IMSI user number" encompasses the identification of equipment. The definition of the term "equipment number" in Article 1(e) and the use of that term in Article 2 is therefore repealed.

2.3 Technical issues

It is conceivable that undesirable consequences may result from the intra-network use of MNCs by local networks. A mobile device on a private local network could end up in the same range as another private local network that uses the same MCN as the mobile device. The mobile device will try to contact this network, but access will be denied based on the combination of the MNC and the other relevant information on the SIM card. Given the current technical standards – and depending on the type of denial issued by the relevant network – such denial could result in the device ceasing to attempt to access networks that transmit that MNC, including its own home network, until the device has been turned off and restarted. Situations like this one could negatively impact the user friendliness and utilisation rate of local networks. This risk will increase if local networks are based near one another, but it can also play a role in other situations, depending on the mobility of a particular local network's users. Because mobile equipment that uses a non-unique MNC can only be used within the range of its own network, there is usually no reason to assume that users of this equipment will stray far from their own network's range of coverage into the range of another network that uses the same MCN, but the possibility cannot be excluded.

There are two ways of avoiding this possible technical complication. First, a provision could be made to ensure that networks that use the same MNC are based far enough away from one another. This can be accomplished by reserving multiple MNCs for this purpose – specifically, the two-digit MNCs numbered from 204 95 up to and including 204 97. Parties interested in this issue have indicated that a limited number of MNCs should be sufficient. Administrators of private local networks can choose one of the three available MNCs, making sure that the one they choose is not also being used by another network close by.

Second, networks can be technically configured such that mobile equipment that is denied access to a particular network continue to search for other networks with the same MNC. As a practical matter, the use of these two methods will significantly reduce the risk of the aforementioned undesirable technical complications, assuming that there are sufficient incentives to encourage all those concerned to jointly undertake the relevant measures. It would therefore be inadvisable to attach conditions to the intra-network use of MNCs by private local networks. This situation can be re-assessed in future if technical complications do actually arise from the use of these MNCs in such a way that they undermine the envisaged market forces and utilisation rate of non-public local

networks. In that scenario, the legislature will be able to attach conditions to the MNCs that will also apply to their existing use.

3. Large-scale commercial use and M2M communication

3.1 Market development and switchover thresholds

In recent years, it has become evident that there are obstacles on the mobile electronic communication market that are preventing commercial users of large-scale applications, particularly M2M applications, from switching to other telecom providers. This is the result of the use of technology that identifies subscribers to a mobile network and authorises their access to that network: the SIM card or, if it is built into equipment, the "embedded SIM". IMSI numbers are physically linked to the relevant hardware, as a result of which it is relatively expensive for users of large-scale M2M applications to temporarily or permanently switch over to another mobile network, particularly because the SIM cards in equipment that generally can only be administered at a distance because of the nature of the application would have to be physically replaced.

Multiple studies of the emerging M2M market[4] identify this problem as an obstacle to a positive roaming services market. Logica (2010) and the OECD (2012) estimate that switching SIM cards would cost an M2M user more than EUR 1 million for 10,000 telephones and 10,000 M2M SIM cards. Looking at the Dutch economy as a whole, if 5% of the M2M users wanted to switch providers in one year, the costs would total between EUR 50 million and EUR 70 million per year. The cost issues aside, the nature of many M2M applications entail a growing commercial and public interest in the quality, reliability and continuity of M2M communication, making the ability to switch networks quickly increasingly important to both companies and the public sector. One example in the public sector is wireless communication with smart energy meters.

The obstacles can be overcome by making the use of SIM cards more independent from the use of the public wireless network used for handling traffic. Until recently, the technical possibilities for this at network level did not enjoy broad support from mobile operators. The development of a sector-wide standard enabling the distance programming of SIM cards could go some way towards changing this situation because it would enable end-users whose contracts are ending to change providers without changing SIM cards. Because the interests of M2M users involve more than simply avoiding the costs of changing SIM cards, it would be opportune to make the use of IMSIs more independent of the administration of public wireless networks so that end-users can administer the necessary MNCs, and thus their SIM cards, themselves. This solution could be achieved by amending the Numbering Plan. The current criteria for assigning an MNC do not permit end-users to administer these codes themselves, as a prerequisite to their administration of their own SIM cards. This is because the current international standard requires the use of a particular public network to be the direct result of the nature and usage objective of the MNC. Partly given the limited number of MNCs this entails, this standard is not suitable for assigning MNCs to individual users. To meet commercial users' increasing need for the more flexible use of MNCs without infringing on the existing objective of such use or exhausting the supply of these codes, this Decree facilitates a model that serves as an interface between commercial users, including large-scale users of M2M communication, and public network providers. It will also enable MNCs to be assigned, under certain conditions, to users (or groups of users) of wireless electronic communication services. These users (or groups of users) can jointly undertake the technical administration of the MNC, possibly through an institution established for that purpose, thereby avoiding the need to exchange SIM cards in the event of switching to another mobile network service provider. A comparison of the various new possibilities for using MNCs has shown that only this model can be facilitated under an MNC assignment policy without creating a risk of exhausting the supply of MNCs while still ensuring the equal treatment of all market participants.

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[4] E.g., Numbers for machines: The implications of M2M applications for the numbering plan [*Nummers voor machines: De implicaties van M2M toepassingen voor het nummerplan*], Stratix Consulting (2009); Study of the flexible use of MNCs, Remaining switching obstacles for large-scale M2M users [*Onderzoek flexibel gebruik MNCs, Het verlagen van overstapdrempels voor grootschalige M2M gebruikers*], Logica (2010), OECD (2012), "Machine-to-Machine Communications: Connecting Billions of Devices", OECD Digital Economy Papers, No. 192, OECD Publishing.

3.2 Altering the purpose of MNCs to lower switchover thresholds

Achieving this policy goal will require a new usage possibility for MNCs to be added to existing usage possibilities. In accordance with Article 1(d)(6) of the Numbering Plan, this usage possibility encompasses the identification of a particular private electronic communication network that does not send the mobile network code via radio signals and the use of the mobile network code exclusively for the user's selection of that electronic communication network for the purpose of using wireless electronic communication services. It also enables an MNC to be assigned to multiple applicants. This type of MNC is referred to below as a "shared MNC". Pursuant to Article I(C) of this Decree, MNCs in the numbers 204 90 and 204 91 will be assigned the purpose of shared MNCs.

A network used for this new purpose essentially consists of technology that enables its users to select one or more of the wireless networks they will select to handle their traffic, all while using their own SIM cards. This network does not offer the public electronic communication services according to the definition of a private network contained in Article 1(g) of the Numbering Plan. The user referred to here is an MSIN assignee that administers that network as a legal entity, in whole or in part, or has concluded an agreement with the administrator of that network for the shared use of the relevant MNC. These users are referred to below as 'members' in anticipation of a situation in which multiple legal entities may be involved in administering the shared MNC. Public electronic communication service providers are not eligible for this administration because these networks cannot be used to provide public electronic communication services.

The aforementioned structure precludes sending this MNC, and handling the related traffic, over the member's own wireless network. This network can only facilitate the wireless transfer of signals through another network. In practice, this network can only function either through roaming agreements between members of this network and one or more existing public mobile networks, or roaming with private networks. The latter situation is discussed in more detail in the following section. In practice, therefore, the aforementioned technical provision is actually a roaming facility that users of the network in question will need to be able to use a full electronic communication service. This will require certain network elements, including a Home Location Register (HLR). The identification of the network consists of including the IMSIs and the relevant MNC in the HLR. The referenced roaming facility must entail that, when using an MNC shared with multiple companies, an individual company must be able to roam on particular public or non-public wireless networks using the series of IMSIs used by that company. The technology for this is already being used on the market.

The new purpose will enable the market or the public sector to structure a joint technical provision that will offer services comparable to those of a Mobile Virtual Network Operator (MVNO), subject to the proviso that these are not publicly provided electronic communication services, but services that are supplied in a private commercial environment. Those services may not involve the commercial operation of electronic communication services. It is possible, however, for an entity to be established by a cooperation between one or more members that are not public electronic communication network providers themselves. The members could then use this entity to ensure that they, as well as any individual companies they represent, can make joint use of the necessary roaming facility.

3.3 Assignees' duty to cooperate

As stated, the Decree enables the same number starting with 204 90 or 204 91 to be assigned to multiple applicants. The ACM can utilise this option at MNC level, enabling a shared MNC to be allocated to two or more parties either simultaneously or over the course of time. Pursuant to Section 4.2b of the Telecommunications Act (referred to hereinafter as "the Act"), when assigning a number to two or more assignees requires assignee cooperation, the relevant assignees must, within a period of six weeks of being assigned the number, conclude an agreement on the conditions for the joint use of that number in order to be able to jointly use that MNC. This obligation is relevant to the joint use of the part of the network which each of the relevant assignees must be able to access. The existing party or parties to whom an MNC has been assigned must impose reasonable conditions on the possible admission of parties who will later be assigned the same MNC. In this regard, for example, the initial structuring of the network and, if multiple assignees are involved, an agreement on the joint use of the MNC by multiple assignees, cannot

entail any elements that would hinder the later admission of third parties. In addition, new parties cannot impose any unreasonable conditions on the existing assignee(s). In this context, and pursuant to Section 12.2(6) of the Act, the ACM is authorised to supervise the conclusion of agreements between the relevant parties, and may, upon the request of one or more of those parties, prescribe rules for concluding these agreements. Note that the aforementioned cooperation can take various legal forms. For example, as members, assignees can establish a joint legal entity to own or administer the network. That entity may also comprise a single assignee (member) who provides network access to another assignee (non-member). In both of these scenarios, an assignee can represent multiple individual companies whose equipment or users (persons) use the network.

3.4 Implementation and administration issues

If there are multiple parties who are all assignees of the same shared MNC, the network structure that will be needed for these parties to use the network (the aforementioned roaming facility) may be hierarchical. The central part of the infrastructure, including the elements of an HLR, will necessarily function as an interface with public networks ("proxy HLR") and, logically, must be jointly administered by the members, with the technical implementation possibly being outsourced to a third party. This infrastructure can also involve, to a lesser or greater extent, decentralised network elements that can be administered by one of the members themselves. This affords the various members a certain degree of independence from one another in using the network infrastructure to administer their own network traffic. The members will be interdependent with regard to administering the central part of the infrastructure, which will be connected to, and thus influenced by, the decentralised elements.

This interdependence will be complicated if the nature and requirements of the individual communication applications facilitated by this infrastructure fundamentally differ from one another. These differences might relate to the functionality, continuity and security of the communication applications. The special functionalities of certain decentralised elements used by other members could result in the members having to bear unwanted additional costs in connection with the central part of the infrastructure. The willingness to make long-term investments will also depend on the members' business models.

The usage model of the shared MNC requires institutions with different communication needs to take joint decisions regarding the structure and development of the infrastructure and its joint administration. In this respect, the government and other institutions that are obliged to provide products or services on a non-commercial basis, either by law or as a result of being largely government funded, assume a special position to the extent they wish to use the shared MNC to meet the communication needs arising from fulfilling these obligations. First, it would be inadvisable to permanently subject institutions whose communication needs result from serving the public interest to the uncertainties that are not only inherent in commercial developments, but that can have a negative impact on the structure of the central part of the infrastructure and the costs associated with it. Second, these institutions are generally obliged to institute tender procedures which, in the context of a shared network, which would put them in an unequal bargaining position with commercial market participants should it become necessary to procure products and services from third parties. This is why, for the purposes of an institution's use of a shared MNC and infrastructure for electronic communication to fulfil a duty imposed on it by law, a distinction is made between market participants in general and governmental and other institutions. A separate shared MNC has been made available to each of these two sectors. Because the electronic communication in question must relate to the fulfilment of a legal obligation, only institutions whose electronic communication does not serve a commercial interest are considered as belonging to the latter segment. To the extent their activities involve the fulfilment of legal obligations, this segment encompasses special-sector companies as defined in Section 1.1 of the Public Procurement Act 2012 [*Aanbestedingswet 2012*], including regulatory organisations and organisations in certain utilities sectors, as well as private law organisations that fulfil administrative law obligations. A specific example is an organisation which is legally required to facilitate communication with energy meters.

A separate MNC for each of these two segments enables the necessary infrastructures to be developed completely independently of one another. This benefits a large-scale communication application, such as the communication with smart energy meters, which will soon be implemented as part of a statutory framework. Enabling energy grid managers to operate more independently will enable them to build the network this application requires and begin using it much sooner than would have been the case had they been required to cooperate with commercial sectors.

3.5 Possibilities for private local network use of shared MNCs

The application of a shared MNC is not limited to situations in which only public wireless networks can be used. By way of illustration, this section addresses the possible role a shared MNC can play in a situation in which the equipment/users of a private local network must also be able to use public wireless networks.

A shared MNC can be used to identify usage relationships for users of a private local wireless network (by including them on the SIM cards) while simultaneously identifying this network with an intra-network MNC intended for a private local wireless network in accordance with section 2. A distinction can be made between two scenarios in this respect. If the aforementioned equipment/users are outside the range of the private network or if the local network is temporarily down, a shared MNC can be used to identify such equipment/users on a public network in the context of a roaming agreement between the administrator of the local network and the administrator of the public wireless network. If such equipment/users are within the range of this private local network, the equipment/users can use the IMSIs under the same shared MNC to obtain access to the private local network itself. The latter usage scenario can be seen as a situation in which, technically speaking, the users are roaming on a private local network other than the home network that is identified with the MNC. This is consistent with the purpose of the shared MNC; this purpose encompasses a user's selection of a non-public electronic communication network other than the network identified with the MNC. This is not precluded by the fact that the limited purpose of the shared MNC prohibits its being sent by radio signal, since IMSIs under a shared MNC can be used by the equipment/users of a network that is identified by the shared MNC for the purposes of being identified on other networks. Combining this with an MNC intended for identifying private local electronic communication networks intended for wireless communication transmitted by the local network makes it possible for the local network to handle traffic for such equipment/users. The user of a shared MNC can use it to avail itself of the services of both a particular private local network (that is identified with another MNC) and other electronic communication networks.

Furthermore, a shared MNC cannot be used exclusively within a private local network, i.e., if the user cannot switch between networks and the need for a roaming facility is therefore obviated. In this situation, a shared MNC offers no added value for small local networks over intra-network MNCs intended to identify private electronic communication networks.

4. Assignment policy and scope of the Numbering Plan

The MNCs that are reserved for the identification of private local wireless networks without roaming can be used without being assigned. The ACM can assign the MNCs in numbers 204 90 and 204 91 to multiple parties, not necessarily on the same date. In principle, this system entails a degree of risk that the MSINs under this MNC will be inefficiently allocated to end-users or equipment, since the party to whom the MNC is first allocated may have little incentive for allocating these numbers efficiently because the expectation is that – relative to the market demand represented by this party – a relatively large number of MSINs will be available. The efficient use of MSINs is particularly important for shared MNCs because this use of MSINs deviates from ITU Recommendation E.212 (see section 5).

There is also a risk that the IMSIs used will not be in consecutive number blocks, which could result in complications. What must be emphasised in this respect is the importance of the ACM's ability, pursuant to Section 4.2(4) of the Act and in relation to efficient number administration, to assign the MNC to different parties subject to suitable conditions. These conditions could prescribe that a specific assignee can only use one or more specific series of MSINs under the MNC. The number of these series thus prescribed can be linked to the market demand represented by that assignee.

The amendment to Article 2 of the Numbering Plan and the adjustment to the table in the appendix to the Numbering Plan enable the ACM to exercise this authority. The table consistently states that the purpose of the combination of the MNC and MSIN is to identify network usage relationships; these regard equipment and users for which the relevant network is the home network. These amendments mean that the scope of the numbers as defined in the Numbering Plan is no longer limited to the combination of mobile country code and mobile network code, but now also includes the IMSI user number. This will not affect the ordinary use of MNCs that can only be assigned to a single applicant. In principle, these MNCs identify only a single network and, together with the MSIN, the equipment or users for which that network is the home network. In this situation, efficient number administration would not be promoted by imposing restrictions on the MNC user's use of MSINs.

Article 2 was also amended to eliminate a few redundancies. The first of these was the former second subarticle, which prescribed that the combination of mobile country code and mobile network code had to be five or six digits even though the length of this number per number block was already prescribed in the appendix to the Numbering Plan. Second, it regarded the former third subarticle, which prescribed that the numbers that this Decree referred to as available for assignment were limited to those in the number blocks indicated in the appendix to this Decree.

5. ITU

The possibility to use MNCs to identify private (non-public) networks is currently inconsistent with ITU Recommendation E.212. This recommendation directs that MNCs can only be assigned to, and used by, public network providers to provide public electronic communication services. This is being recommended at the moment in an ITU context. A precedent has also been set by the GSM-R network, to which various countries are already assigning MNCs at national level. This is evidence of the interest in the possibility of assigning MNCs to non-public networks, even outside the context of M2M applications. This process is not a speedy one, however, and the results remain uncertain because there is no incentive whatsoever for providers of public mobile networks and services to support this change. Given the relatively rapid pace at which the market is developing in the Netherlands, partly as a result of the applicable frequency policy, it is important that changes to the national policy should be made independent of the results of that process. Relevant in this respect is the fact that if available MNCs become scarce in the Netherlands, the country will be dependent on the ITU to supplement these numbers and, as such, it will have to be able to demonstrate, among other things, that MNCs are efficiently allocated. This national deviation is not expected to have any consequences because it does not create a specific risk that the national stock of MNCs will be exhausted.

With respect to expanding the ACM's authority to grant IMSI user numbers, it is noted that ITU Recommendation E.212 confers responsibility for administering these numbers on MNC assignees. According to section 4 of the explanatory notes, the Decree sufficiently ensures that this principle will continue to be enforced with regard to ordinary MNCs that can only be assigned to a single assignee.

6. Public consultation

6.1 General

The expanded public preparatory procedure provided for in Chapter 3.4 of the General Administrative Law Act [*Algemene wet bestuursrecht*] was applied to this Decree pursuant to Section 4.1(2) of the Telecommunications Act. In this context, a consultation regarding the entire Decree was held in mid-2013; a previous consultation had been held in mid-2012 with regard to part of the Decree. A total of 10 opinions were received from seven market participants, which included both PECN/PECS providers as well as large-scale end-users of these services. The consultation showed that there was sufficient support to justify the expectation that the new usage possibilities will be utilised in the short or middle term. This applies to both parts of this Decree: the possible use of IMSIs for intra-network purposes and the use of shared MNCs. For both parts, objections based on technological, competition, and international standardisation considerations were filed by several parties. The various opinions are discussed in more detail below.

6.2 Intra-network use of IMSIs on non-public local wireless networks

Two PECN/PECS providers contended that the expanded MNC application possibilities would mean that providers of local GSM solutions could offer services by virtue of having their own networks. According to this faction, this would create an uneven playing field because administrators of private local networks would not be subject to the same obligations imposed on PECN/PECS providers, e.g. legal obligations relating to such matters as interceptability (i.e., vulnerability to wiretapping), data retention, and end-user interests.

In response, it is noted that the Strategic Policy Document on Mobile Communications [*Strategische nota mobiele communicatie*] has already found that end-users must generally be able to access non-public local networks, regardless of the degree to which they are subject to such legal obligations. This approach is no different from the use of private networks consisting of land connections. These legal obligations do not apply to the private use of these networks because there is currently no reason to prescribe such applicability. In summary, the numbering policy is consistent with the relevant, more general telecom and frequency policies that are anchored in a statutory framework for private local networks, none of which currently prompt the extension of specific legal obligations applicable to public networks and services to private telecom networks. This policy has not created an uneven playing field resulting in a disruption of the market. It is emphasised that users of the present local wireless networks are prohibited from offering commercial or other services to third parties using these networks, because they are private networks. This differs from the conditions under which PECN providers make local networks available; these are not private networks and they are thus subject to the aforementioned legal obligations. Contrary to the PECN/PECS provider's assertions, therefore, it is unnecessary to subject the issue of these MNCs to a prohibition on using them to offer for-profit services.
One PECN/PECS provider takes the position that the legislature has been inconsistent in conforming to ITU Recommendation E.212 because even though a previous policy change regarding MNCs was postponed specifically for the purpose of conforming with the Recommendation, this Decree does not do so. Another PECN/PECS also objected on this ground; this provider disagreed with the licence-free use of spectrum for private networks, which had already been implemented, and thus also disagreed with the intra-network use of IMSIs based on that policy. A third PECN/PECS provider also objected in a general sense to abandoning ITU standardisation and questioned whether it would not be advisable to postpone the changes in anticipation of developments at ITU level. This party was concerned that these changes would set a precedent for more deviations from other relevant ITU standards. Were that to happen, this provider expects that Dutch network providers could end up lagging behind their international counterparts. Parties that also operate internationally would not be able to invest as efficiently because investments would generally be made at centralised level and would focus on uniform standards. The explanatory notes already contain sufficient grounds justifying this part of the Decree. The spectrum policy referred to here falls outside the scope of this Decree, and it is partly due to this spectrum policy that the Dutch market is currently developing at a more rapid pace than markets in other countries. In other words, there is a specific national interest that justifies deviating from the current international standards relating to restricting the allocation of MNCs to public networks, despite the disadvantages such deviation may entail, such as that relating to an internationally centralised investment policy.

The version of this Decree that was subject to the public consultation procedure referred to reserving three-digit MNCs for non-public wireless networks instead of two-digit MNCs. This was intended to make the use of MNCs for this application as efficient as possible within the leeway ITU Recommendation E.212 offers regarding the length of MNCs. In this respect, one PECN/PECS provider contended that the use of both two- and three-digit MNCs within a single Mobile Country Code (MCC) was inconsistent with all of the relevant international standards and was considered inadvisable by 3GPP due to technical complications. A proposed alternative was for the Netherlands to request a second MCC from the ITU so that three-digit MNCs could also be used.

This contention referred to possible technical complications relating to the incompatibility of equipment and procedures in roaming and invoicing systems. In principle, the combined use of two- and three-digit MNCs under the same MCC should not be problematic if the use of three-digit MNCs is limited to local (non-roaming) networks. The risk of technical complications arising from

such combined use is further mitigated by keeping the use of series of IMSIs with three-digit MNCs completely separate from ISMIs with two-digit MNCs that are already being used. Both conditions would be met, which is expected to limit any complications for private wireless local networks that use three-digit MNCs. As explained above, market participants in this segment can take preventive measures to manage these complications for local network users. In principle, there should be no technical complications for public networks. In practice, however, the possibility cannot be excluded that these networks may find that the operation of certain (obsolete) equipment that does not meet the relevant standards is affected. Specifically, this may occur in a situation in which the public wireless network users' mobile equipment that is set up to use these networks' two-digit MNCs may be unable to contact the home network if the equipment enters the range of a private local wireless network. This specific risk is extremely limited, however; existing situations abroad involving the use of three-digit MNCs give no indication that this effect can actually be expected. It is precisely the alternative proposed by the PECN/PECS provider that would result in the inefficient use of MNCs, which is why the ITU will probably not amend its policy on this point any time soon. The ITU is expected to postpone issuing a new MCC until the exhaustion of the current MCC is imminent, and things have not yet reached that point. Taking all of these points into consideration, two-digit MNCs were chosen rather than three-digit MNCs in order to entirely eliminate the risk of technical complications for public networks. This approach is preferable to the alternative proposed by the provider because it is simpler and because opting for two-digit MNCs does not present a significant risk of exhausting the stock of MNCs.

One PECN/PECS provider contended that the allocation of MNCs for the intra-network use of IMSIs in private local wireless networks would result in the inefficient use of MNCs. In this respect, it is noted that the number of MNCs for this application is quite limited in comparison with the number of MNCs available for other applications; the number of MNCs available for existing purposes has not significantly diminished. Contrary to this PECN/PECS provider's contention, the limited number of MNCs for this application constitutes the very definition of efficient use of MNCs because multiple parties will be able to use the same MNC.

One PECN/PECS provider had no specific remarks regarding the draft decree other than noting that the technical details would be important in order to avoid the aforementioned failure problems. This party wondered whether, in practice, the possibilities that market participants would have for preventing these failure problems would be sufficient to the purpose. In this respect, it is emphasised that, in that scenario, conditions could still be attached to the use of intra-network MNCs and that, as stated in the section of these explanatory notes dealing with general issues, those conditions would also apply to the existing use of those MNCs.

6.3 Shared MNCs

As a large-scale user of wireless electronic communication services, an association of energy grid managers contended that making available the shared MNCs referred to in this Decree would support the elimination of the remaining switching obstacles. This party advocated further expanding the possibilities for using MNCs to enable market parties to use their own MNCs. This was prompted, first, by the assertion that this party's services meet a public need. Reference was made to the GSM-R network and the in-house network at the Ministry of Defence. MNCs have been made available to these non-public networks, largely due to the fact that they serve the public interest. This party also asserted, second, that having users subject to legal obligations use a shared MNCs instead of their own MNC would mean that these users, as well as other stakeholders, could run the risk of incurring unnecessary expenses and risks due to the complex administrative structure and because the parties in this segment have different data communication needs and are on unequal footing for making investments. This party contended that having its own MNC would simplify its administrative structure and financing model, as well as the infrastructure for using an MNC, because energy grid managers have a public interest in data communication as a result of the planned large-scale roll-out of smart meters.

As the relevant party asserted, the present Decree creates new usage possibilities based on which the switching problems this user has encountered can be reduced for future connections. This is a generic approach to the switching problems encountered throughout the market in relation to M2M applications. The solution proposed by this party would assign an MNC to a particular user of

electronic communication services without its own network based on criteria indicating that a public interest would be served other than that relating to direct physical safety or a compelling national interest, whereby that MNC could be administered at the lowest possible cost and risk. Although this position is understandable, the generic approach included in this Decree – making a shared MNC available to governmental and other institutions that use the network for electronic communication in the context part of fulfilling a legal obligation – is preferable. This approach will offer this party, which is part of this segment, sufficient possibilities for using an MNC to significantly reduce the aforementioned switching obstacles. The option proposed by this party would put other institutions in this segment at an unfair disadvantage. Moreover, this option would entail a greater risk of setting a precedent leading to more demand for MNCs for individual companies, whereas the remaining stock of MNCs is limited. Given that neither ITU Recommendation E.212 nor the relevant technical standards allow any leeway for such expansion, this could lead to an actual shortage of MNCs in the Netherlands.

An exploratory study[5] led to the conclusion that cooperation between the parties that serve a public interest is possible, provided that the administering central entity is structured in such a way that these parties are afforded certainty about being able to exercise the desired degree of autonomy and would control their own use of the network and roaming contracts with providers, and provided that longer-term security is ensured. As previously noted, the ACM is authorised to supervise the conclusion of contracts between the relevant parties in order to provide sufficient assurance that a dispute would not result in newly admitted parties being able to impose unreasonable conditions on existing assignees. This would also safeguard users' longer-term interests.

In response to the consultation procedure, an association of large-scale users of wireless electronic communication services stated its intention to act on behalf of its members, which include companies within and outside the private sector, as the administrator of the central infrastructure that will become necessary when the shared MNC for this sector is put into use. To this end, this party intended to expand its current electronic communication services to its members and thus filed an appeal to the government to facilitate this process. In this respect, the party emphasises that the present Decree leaves it up to market parties to initiate the joint use of a shared MNC.

Series of IMSIs can be assigned to multiple parties under this MNC without creating a formal relationship between the government and the entity that administers the network identified by a shared MNC. It would be undesirable to have the government's involvement in these parties' mutual interests exceed the existing powers granted by Sections 4.2b and 12.2(6) of the Telecommunications Act. The aforementioned issues relating to legal obligations and the deviation from international standards, including for shared MNCs, also apply to the proposals asserted by the PECN/PECS providers. The response contained in section 6.2 also applies to these proposals.

One technical aspect cited by two PECN/PECS providers relates to the pollution of public networks by M2M equipment that remains physically active despite being contractually out of service. This equipment continues to emit signals, such as location updates, until it is physically deactivated. This signal pollution is estimated to account for some 6% of all location updates on the GSM network. This constitutes an unnecessary burden for these networks. The fact that this issue has become the subject of international standardisation is considered an extra argument in favour of avoiding the national anticipation of standardisation relating to ITU Recommendation E.212 and the relevant 3GPP standards. They also advocate for rules to protect public networks against this type of pollution. One party asserts the opinion that this Decree should include such rules because the Decree will impact the manner in which M2M applications can be used.

Contrary to this opinion, there seems to be no significant connection between this Decree and signal pollution by M2M equipment because this Decree allows members of the entity that administers the infrastructure for a shared MNC to participate normally on the roaming market in a capacity that is comparable to that of an MVNO. The parties will therefore not have a special position in respect of market agreements regarding measures for combating these problems. To

[5] Shared use of MNCs for M2M applications, Stratix Consulting (2013).

the extent there is such a connection, this Decree is not expected to have any negative impact on these problems. The Decree is aimed at removing switching obstacles and thus offering better opportunities to continue using the same SIM cards, even after terminating a contract with certain PECN/PECS providers. All in all, the problem of signal pollution by M2M equipment is not a good reason for deviating from international standards on the points relevant to this Decree. With regard to possible regulations on this issue, it is noted that it is not considered advisable for this Decree to include the requirements that could be linked to IMSI usage rights, should any such requirements be desired.

Several PECN/PECS providers sought confirmation that the expansion of the scope of IMSI user numbers laid down in this Decree would not affect the assignees of MNCs linked to a single network, for example, because the Decree would not impose a requirement to apply separately to the ACM for the relevant MSIN number blocks or a requirement to pay regulatory fees other than those for an ordinary MNC. As explained in section 4, this Decree will not directly affect the issue of ordinary MNCs. This means that it is not necessary to limit the ACM's authority to shared MNCs, which was a preference expressed by one provider; this would also have made the Decree complex. The Decree will also not directly affect the related regulatory fees. Any future changes in regulatory fees fall outside the scope of this Decree.

One PECN/PECS provider contended that PECN providers should also have access to the administration of the shared MNC in number 204 90. This would make these parties eligible to be assigned numbers from MSIN blocks under the MNC and enable them to port a private network under their administration by including these numbers in an HLR of their own. The difference between a system in which only users of electronic communication services can access the shared MNC and the proposed system is that, in the latter case, the relevant MSIN blocks would remain in the central entity's (and, in the case of roaming, possibly the end-user's) HLR or proxy HLR when switching over to another wireless network. In the view of the PECN/PECS provider, this type of access would further reduce the current switching problems because it would enable end-users to purchase integrated telecom services that include the administration of IMSIs, the production and administration of SIM cards and invoicing, and enable them to continue to use IMSI numbers that include these services when switching over to another network provider.

Although the aforementioned advantages of a system that would offer both end-users and PECN/PECS providers equal access to a shared MNC are recognised, there is no expectation that these could be realised in practice. The system of shared MNCs facilitated by this Decree is premised on initiatives undertaken by market participants, with the government regulating the related duty of cooperation imposed on these market participants. This duty of cooperation, however, may never extend so far that it will lead to a de facto requirement for market participants to be able to port IMSIs market-wide. This would make the system too incompatible with the legal obligation to provide telephone numbers that can be ported market-wide. The goal of the system facilitated by this Decree is for commercial users, particularly in the M2M sector, to be able to mutually cooperate to switch to other wireless networks, adequately and for a reasonable price, both now and in the future. Participation in such a cooperation assures these users sufficient possibilities in this respect. Another factor that plays a role is that the natural tension between providers of electronic communication services and the users of those services will likely create obstacles to the required cooperation.

PECN/PECS providers can offer services with comparable possibilities. To that end, these parties can set up a joint public network with a proxy HLR that continues to use these providers' existing networks. Based on the Numbering Plan, this network can be identified using an MNC intended for the identification of a particular public electronic communication network for wireless services. One PECN/PECS provider referred to a technical issue. The background of this issue is that technical standards require that a provider of a public network must be able to use IMSIs to uniquely identify a specific user of that network that is a member of a shared MNC. The PECN/PECS provider would prefer to be able to identify a member based on the IMSI number block levels assigned to a member as an assignee. Any other method would reduce the efficiency with which PECN providers could perform interconnection agreements because such identification would require a modified and more complex procedure. This party also considers it important that IMSIs

be assigned to an assignee in consecutive series of a certain length because it would keep the technical implementation, recognition and administration of those IMSIs for the relevant public mobile communications network more manageable for that network's provider. In this respect, the party prefers to have IMSI numbers corresponding to a single assignee issued in a consecutive series of 99,999 numbers. In order to implement both aspects, this party proposes that different assignees that use the same shared MNC should each use a "sub-MNC" that is no more than five digits long, with the last two digits being the identifier for the relevant assignee. This party believes that these points can be adequately addressed at the level at which IMSIs are issued under a shared MNC and the related requirements.

The ACM's authority to assign IMSIs is relevant to these technical issues. Section 4.2(4) of the Act empowers the ACM to take measures to ensure efficient number administration in order to address these issues to the extent they are concerned with the issue of IMSIs to members of a shared MNC. Certain requirements can also be attached to such assignment. The ACM can institute a public consultation procedure regarding this assignment policy and its requirements before it is promulgated. In this respect, the purpose of a shared MNC means that, in order to be assigned IMSIs, members of a shared MNC must show that they can use those numbers to implement interconnection agreements with providers of public electronic communication network providers.

7. Implementation test

7.1 General

In accordance with Article 6(5) of the Decree on the exchange of information between the ACM and the ministries [*Regeling gegevensuitwisseling ACM en ministers*], the ACM performed an implementation test. In this implementation test, the ACM not only explained its view of the implementation and enforcement of this Decree, but also provided an elaboration of how the ACM will implement the Decree in practice. The ACM considers the amendment to the Numbering Plan as feasible for the obligations imposed on it by this Decree. The ACM made notes with regard to several parts of this Decree. These are discussed in more detail below.

One general remark the ACM made regarded the term 'equipment number'. The ACM advised that the use of this term in the Numbering Plan should be discontinued because it could cause confusion with other terms, such as the term 'IMSI user number'. This suggestion was adopted, particularly given that this term is no longer used in the most recent version of ITU Recommendation E.212.

7.2 Intra-network use of IMSIs on non-public local wireless networks

The ACM referred to two issues regarding the proposed intra-network use of MNCs to identify certain private electronic communication networks for wireless communication. Both issues regard the impact on market participants and have no consequences for the implementation and enforcement of this part of the Decree.

The first issue relates to the fact that should technical complications arise in the future with regard to the use of MNCs, the legislature will be able to impose conditions on such use. Any conditions to be imposed will also apply to the existing use of MNCs 95 up to and including 97. The explanatory notes explicitly state this to make this policy transparent for the relevant market participants. The ACM considers the *a posteriori* imposition of conditions to be inadvisable because it creates legal uncertainty for market participants that will have begun using MNCs 95 up to and including 97. Nevertheless, it would be inopportune at the present time to state categorically that such conditions would have a negative effect on these market participants, since these companies would generally benefit from such a measure if the market were to prove unable to resolve these technical complications itself. The same will be true for those parties that have already begun using the MNCs.

The second issue cited by the ACM is that the use of three-digit MNCs could result in technical complications such as the simultaneous use of two- and three-digit MNCs under the same MCC, as stated in the version of the Decree that was presented to the ACM. In light of such potential complications, the ACM advises reconsidering this option. Section 6.2 discusses such possible side-

effects of the decree; the ultimate decision to use two-digit MNCs is consistent with the ACM's standpoint.

7.3 Shared MNCs

The ACM cited an implementation issue relating to adding the MSIN to the scope of the Numbering Plan. This issue regards the situation created by this expansion, wherein MNCs 00(x) up to and including 89(x) will identify both public electronic communication networks and – in combination with the MSIN – that network's equipment or users. According to the ACM this could result in parties other than open mobile network providers inadvertently becoming eligible for these MNCs. The ACM therefore proposed that the purpose of MNCs 00(x) up to and including 89(x) in the appendix should not be changed. The preference, however, given the new scope of the Numbering Plan, is to apply this system uniformly to all series of IMSIs in order to provide legal certainty that there will be no differences in functionality between shared MNCs and other MNCs other than those relating to the specific purpose of the shared MNCs. However, the ACM's position did highlight the need for a clarification of the purpose of series 204 00 up to and including 204 89, which are included in the appendix. This clarification is provided in section 4 of the explanatory notes. MNCs 00(x) up to and including 89(x) identify only a single network and, together with the MSIN, those who use that network as a home network. This means that the amendment to the Numbering Plan will not confer eligibility to use these MNCs on any other parties.

The ACM shared its view of a specific situation relating to the obligation to begin using shared MNCs. In this situation, IMSIs with a shared MNC are part of a multi-IMSI SIM card. M2M users will use the MNC of a public MVNO/MNO – instead of the shared MNC – for their actual electronic communication traffic. The use of a multi-IMSI SIM card will enable M2M users to switch to another network provider. The ACM intends to consider this situation as one in which the shared MNC is *used*, provided that the members of the shared MNC have at least set up an HLR that can be used to switch over to the shared MNC. The Act affords sufficient leeway for this treatment.

The ACM noted that the members of the shared MNC must also use the telephone numbers of the telephone and ISDN services listed in the Numbering Plan. The 0970 series is a suitable series of numbers for M2M applications. Pursuant to Section 4.1(1) of the Act, read in conjunction with the Regulation restricting the assignment of numbers [*Regeling beperking toekenning nummers*], numbers from this series can only be assigned to an electronic communication network provider for the purposes of providing electronic communication services on its electronic communication network or to a provider of an electronic communication service in order to provide that electronic communication service. This means that members of shared MNCs are not eligible to use these numbers and will have to use the 0970 numbers assigned to an M(V)NO/MNO. The ACM considers this inadvisable in connection with the consequences it will have for settling registration and regulatory fees among assignees based on the quantity of numbers assigned. This does not take the porting of numbers into account, even though the expectation is that more numbers will be ported more often based on this Decree. Taking porting into account raises costs. The ACM also stated that it has received indications that there will be a need for 0970 numbers (numbers for electronic communication services for computerised applications and other electronic communication services) among expected future members of a shared MNC. The ACM therefore recommends making these numbers available for assignment to members of shared MNCs.

The assignment policy for 0970 numbers is based on ensuring an efficient assignment process for these numbers that is analogous to that for landlines and 06 numbers (numbers for mobile services and access to data services) and falls outside the context of this Decree. Assigning these numbers to members of shared MNCs would not present a significant risk, but it could set a precedent that could affect other series of numbers. The need for such assignment is also unclear because, first, these members will primarily use M2M services, in which context the numbers will have no specific meaning for the user as they do in the case of subscriber numbers for mobile telephones, and, second, the right to number porting would seem sufficient to safeguard these members' interests. It is thus not an opportune moment for implementing such an arrangement. It is noted that this Decree is not specifically related to the problems the ACM cites regarding charging registration and regulatory fees; those problems are caused by number porting in general.

The ACM notes that, in addition to the MNCs themselves, members of shared MNCs also need international signalling point codes (ISPCs) pursuant to the Numbering Plan for International Signalling Point Codes and transitional signalling point codes (TSPCs) pursuant to the Numbering Plan for Transitional Network Signalling Point Codes. These are needed to be able to link signals internationally for cross-border electronic communication services between the network point for which the number is requested and at least one other foreign network point. The ACM notes that the assignment criteria for ISPCs and TSPCs is not sufficiently clear and could present problems in the context of the possible assignment to members of shared MNCs. To this end, the ACM advises investigating these issues and in any event amending the Numbering Plan for Transitional Network Signalling Point Codes. Because this issue is closely related to this Decree, it is reasonable to follow the ACM's advice and to amend the assignment criteria for ISPCs and TSPCs where necessary in the context of the aim of the present Decree.

II. ARTICLES

Article I

Part A

Subpart 1
In connection with subpart 4, and given the expanded possibilities for using MNCs as provided for in this Decree, this amendment is necessary to change the scope of the definition of an IMSI in the context of this Decree. This is explained in section 2.2 of the general portion of the explanatory notes.

Subpart 3
In connection with the amendment to the appendix referred to in Article 2(2) of the Numbering Plan, this amendment is necessary to assigning shared MNCs in the context of the system described in section 3.2 of the general portion of the explanatory notes.

Subpart 4
In connection with Part B, and given the expanded possibilities for using MNCs as provided for in this Decree, the change of the term 'IMSI subscriber number' is necessary to change the scope of the definition of an IMSI in the context of this Decree. The present Article 1(e) may be repealed because the term 'equipment number' adds no special meaning to an 'IMSI user number'. An IMSI user number that identifies usage relationships also identifies equipment. This is explained in section 2.2 of the general portion of the explanatory notes. This is also consistent with the terminology used in the most recent version of ITU Recommendation E.212, which only refers to 'subscriptions' when addressing the use of IMSIs.

Subpart 5
The system of the Telecommunications Act lacks a definition for a network that is not used in any way for providing public electronic communication services. In the context of this Decree, this definition is required for the applications introduced in this Decree.

Part B
This part amends various parts of Article 2 of the Numbering Plan. This is explained in section 4 of the general portion of the explanatory notes. In connection with Part 1, subpart 4, any use of the term 'equipment number' in this Article is repealed.

Part C
In connection with the new Article 1(6)(d) of the Numbering Plan, this amendment is necessary to assigning shared MNCs in the context of the system described in section 3.2 of the general portion of the explanatory notes.

Article II

This Decree imposes no obligations, but enables a specific use of mobile network codes. The Decree may therefore enter into affect as soon as it is published.

Article III

Direction as to how to cite this Decree would be desirable in order to facilitate the recognisability of the amendments it effects.

The Minister of Economic Affairs,