

Norwegian Post and Telecommunications Authority
Postboks 93
4791 Lillesand
Norway

19th October, 2014

SUBJECT: Consultation on allocation and use of numbers for land mobile services

Dear NPT team,

Inspired by the letter Compatel has received from your esteemed authority, asking for comments on allocation and usage of numbering for land mobile services, Compatel decided to write a separate note as comment on changing and expanding currently existing numbering regulation and opening the Norwegian telecommunication market for the new players who would like to provide its services with mobile numbering assigned. Considering the fact that mobile numbering range is a very limited resource, Compatel appreciate NPT willingness to offer it to the new market entries for the new services, giving them an equal treatment.

In PT's preliminary assessments it's stated that service provider, in order to be considered as full-fledged mobile service provider and to obtain allocation of mobile numbering range, needs to offer services:

- Inbound and outbound voice services
- Ordinary SMS functionality and
- Data services

Compatel is suggesting changes in the preliminary requirements for the allocation of mobile numbering in the near future, i.e. to allow the provision of only one or two types of services instead of voice, SMS and data package service, or to exclude data service from the requirements. Given the fact that one of the main tasks of the Regulatory Authorities is to promote competition for the benefit of end users, Compatel hopes that NPT has interest in promoting the provision of new services on the market.

Also in preliminary assessments, it's stated that provider cannot offer service via mobile numbers, on devices that do not have access to land mobile network, for example laptops, tablets with only Wi-Fi access. Since Compatel represents a mixture of fixed and mobile network, operating on NGN principles, emulating GSM network behavior, Compatel users does not have classical SIM cards but will perform authentication and registration on Compatel network (via TDM and IP) for the services via GSM principles and protocols. Mobility is provided via dynamic IPs and possibility to access the core network of Compatel at any time over open APIs (all based on GSMA principles and recommendations); This is why radio access network is not needed, due to dynamic IPs and 24/7 access possibilities for Compatel clients :

1. Corporate system - proprietary hardware and software for corporate users of technology installed on standard high-end servers, supporting voice and SMS;

2. Private users – laptop, computer or any computed device (terminal) with preinstalled system supporting SMS and voice service;
3. Users – fixed handsets supporting GSM standards;
4. Wireless devices – security gained through our AUC (Authentication User Centre)

Compatel with assigned mobile telephone numbers will provide services to own users and in order to assure complete interoperability aim is to set up a SMS and voice interconnection with Mobile Network Operators. This interconnection will allow Compatel subscribers to have a unified, 2 way SMS and voice communication with MNOs subscribers using Compatel own mobile phone numbers.

Compatel aim is to enter the Norwegian telecommunication, enterprise and wholesale market and to present itself as a strong operator and partner. With Regulatory approved mobile parameters, Compatel Ltd will be able to provide seamless mobile services on the market, taking care of quality of service, reliability and market demands.

Services to be provided

Compatel clients in Norway will have opportunity to choose several of services which are (but not limited):

Connectivity – high quality local and international connectivity via SS7, SIGTRAN and IP; Compatel's extensive national and international networks provide high quality connectivity services. Ensuring the capacity and connectivity to maintain virtual roaming and messaging between operators and local and international partners provides continuity of service. Different types of solutions and speed ranges are available to fulfill all customer needs:

- *Local connectivity* - Whether user require straightforward IP connectivity or high-performance, Telco-grade connection quality, Compatel will seamlessly integrate technology and perform all the necessary setup and rollout procedures.
- *International connectivity* - Compatel operates a geo-redundant international signaling network with reliable partners worldwide giving their users a transparent gateway to worldwide destinations. End-to-end quality is guaranteed by years of experience in international telecommunications and expert engineers, making Compatel's platform number one choice for international interconnectivity.

Messaging - SMS solutions for the quickest and most reliable access to mobile users. Mobile messaging is the most widespread form of telecommunications today and finds extensive use in a range of business and community applications. Whether user is an individual client, a small enterprise or a multinational corporation with demanding requirements, Compatel ensures quality messaging services are just a click away.

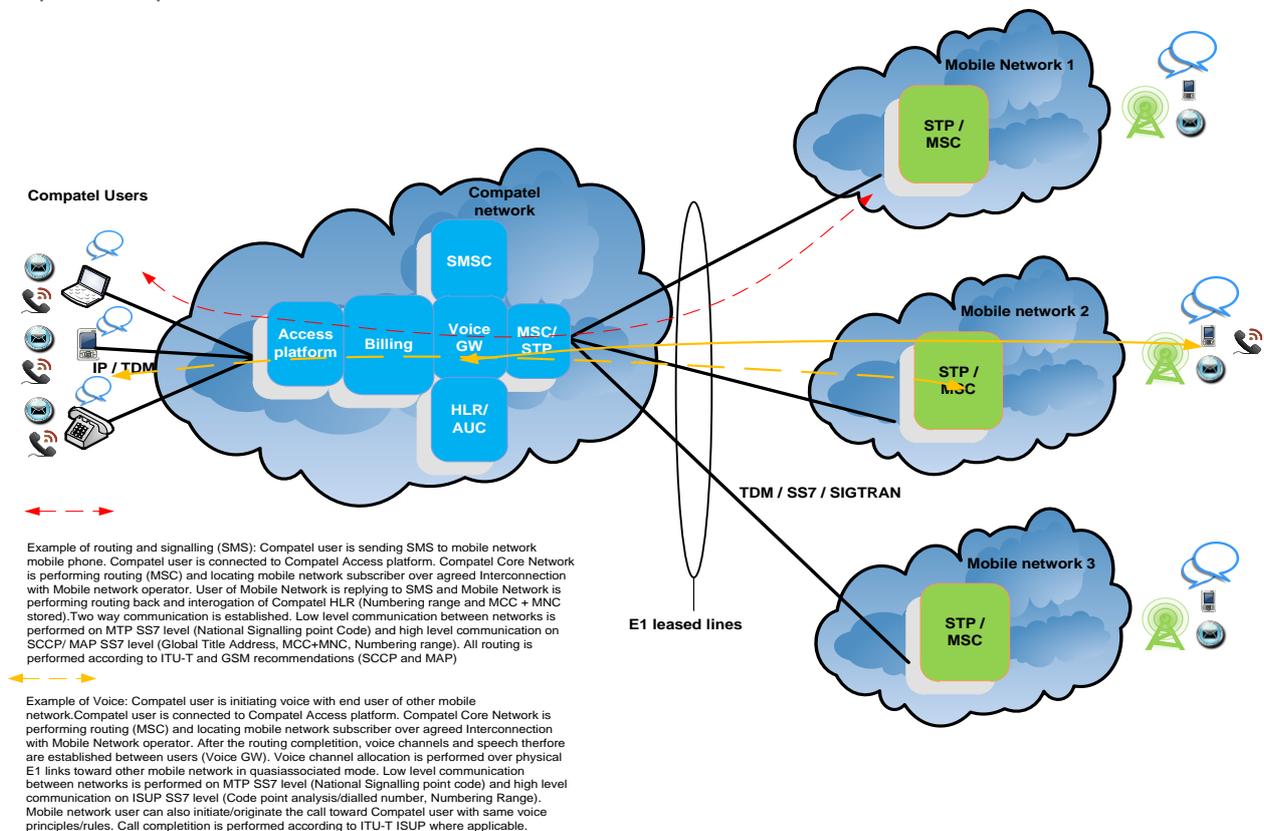
Compatel's core service is 2way SMS service, enabling Compatel's clients to have bi-directional communication with mobile subscribers using SMS (sending and receiving SMS messages to/from mobile subscribers). This service is often bundled with Voice service. Connectivity to mobile operators for SMS service needs to be further established.

Voice - global voice communication supported by both, legacy TDM and VoIP technology. Voice remains an indispensable telecommunications channel for both individual and corporate users, giving a human touch to all kinds of contact. Rapid development of technology brings new possibilities for voice telecommunications. CompaTel guarantees connection to any number (fixed, mobile or VoIP) with superior quality over legacy and the latest voice technology.

CompaTel's real-time communication service, offered to local clients, is interconnected IP-based Voice service, often provided in bundle with SMS messaging services. In order to have „1 number-multiple services“system, unique E.164 number is adjoined to *subscriber service profile* of every user. Further connectivity to other mobile and fixed telephony users will be ensured through negotiated Voice interconnections. CompaTel users will be able to use both outbound (termination on other networks) and inbound (termination on CompaTel's network) Voice Call service.

Additional services - According to clients' needs and in cooperation with mobile operators, other, supplementary services can be provided, including various USSD-based services for corporate phone clients. As part of the core network infrastructure, USSD Gateway, in-house developed by CompaTel's development team, is used to enable seamless connectivity to mobile subscribers of interconnected mobile operators.

In order to point out **why CompaTel would need MNC and mobile numbering** allocation in order to fully operate our service, CompaTel mobile core network architecture with routing examples are presented in scheme below:



Access: Compatel's users access their services using any type of IP connection they have available (Wireless/Wired) on any IP-enabled device using their personal E.164 and E.212 identification. Various service-integration options are available to clients including Open APIs. Since service access is IP address-independent, location-independent access is provided to end-users. Standard user-authentication will be performed based on client's user name/password and allocated E.164 number identifier.

Interconnection: Interconnection of 2waySMS and Voice service with mobile and fixed operators within the country is implemented using available interconnection procedures. In order to achieve full inter-operability with interconnected operators and ensure any-to-any connectivity, E.164 numbering resources are required for both inbound and outbound voice call termination and 2way messaging communication which will be provided to users of Compatel services.

Allocation of mobile numbering range in other countries

In order for NPT to take in consideration proposing changes of numbering regulation, Compatel would like to mention that it has managed to become a licensed operator, allocated with mobile numbering ranges and network codes (MNC, NSPC, RN) in nearly 20 countries around the world, including: Spain, Italy, Portugal, Denmark, Sweden, Romania, Poland, Turkey, Republic of South Africa, Colombia, Australia and several more. In mentioned countries, where all pre-requisites, from the regulatory point of view, have been fulfilled, Compatel has started (or is actively working on) providing mentioned services.

It's important to mention that in these countries authorized providers that hold the necessary core network elements, may be granted, upon request, both national numbering resources in the National Numbering Plan E.164 and the Mobile Network Code E.212 – MNC, as well as technical resources (numbers of the Signaling point system No.7) destined to the identification of the signaling points, at the national or international level).

The European Conference of Postal and Telecommunications Administrations (CEPT) has published document that examines and sets out a number of recommendations in relation to the assignment of MNCs, where is stated that MNCs should be allocated to a wider range of parties than just MNOs including MVNOs, MVNEs, SMS service providers, VoIP service providers, M2M service providers, alternative roaming providers, etc. to increase competition and innovation. In this context, the provider that have been allocated numbering resources in the National Numbering Plan within specific country, have the right to negotiate interconnection for the purpose of providing telephony services (SMS and call termination), while the rest of the fixed and mobile operators have the obligation to negotiate with provider, upon the latter's request, an interconnection agreement for the provision of telephony services.

Compatel would like to emphasize regulatory frameworks in some European countries who accepted Compatel business model as operator providing mobile service of 2-way communication without usage of radio spectrum:

- **Turkey** - COMPATEL TELEKOMÜNİKASYON has obtained license for MVNO (Sanal Mobil Şebeke Hizmeti (SMŞH)), providing only SMS service. Also, Compatel have obtained mobile MSISDN (+90 510211XXXX) and MNC by BTK with which can provide full SMS service. What is important to point out hereby is that Compatel have obtained MNC needed to operate 2way SMS service beside exciting Mobile operators in Turkey and has signed SMS interconnection agreements by SS7 (with Avea, Vodafone and Turkcell). Mobile Virtual Network by the regulation in Turkey is without the frequency band allocated on behalf of its authorized network operators to provide mobile telecommunication services include the provision of telecommunications services and value-added mobile telephony subscribers; Currently Compatel is in preparation for implementing voice service over the allocated numbering, adding this component to its service portfolio;
- **Romania** - COMPATEL COMMUNICATIONS RO S.R.L has obtained license for Public electronic communications network, providing SMS service also have obtained location independent numbering range (+40 371 xxxxxx) and Mobile network code by ANCOM with which can provide full SMS service. What is important to point out hereby is that Compatel is first operator that have obtained MNC needed to operate 2way SMS service beside exciting Mobile operators in Romania and signed SMS interconnection agreements by SS7 principles and by local commercial terms, as local operator with all mobile network operators; Currently Compatel is implementing voice service in Romania over the allocated numbering, adding this component to its service portfolio;
- **Sweden** - MNC and mobile numbering has been allocated to Compatel Ltd UK registered there as a full MVNO, meaning that there is no need for spectrum usage by Compatel side from existing MNOs and that has suitable mobile network elements for providing mobile services;
- **Poland** - MNC and mobile numbering has been allocated to Compatel Ltd registered in Poland as a full MVNO defined as Mobile public telephone network which does not have its own radio infrastructure and for publicly available telephone service provided in public mobile telephone network which does not have its own radio infrastructure (network type MVNO); This means that Compatel Ltd has suitable network elements for full mobility and for providing mobile-like services such as SMS and voice;

Also, mobile telephone services regulatory bodies within the countries of: **Denmark, Finland, Czech Republic, Greece, United Kingdom, Croatia, Lithuania, Australia, Colombia, South Africa and Slovenia**, have assigned to Compatel mobile technicalities/parameters (mobile network code and mobile MSISDN) for the provision of its services and full interoperability with mobile networks within mentioned countries.

Conclusion

Telecommunications regulatory frameworks worldwide makes the attempt to pace themselves to the rapid change and dynamics of information and communication technologies, new services, different market structures that respond to public policy adopted by each country. Regulatory framework should make opportunity for development of new businesses in the SMS, voice and data markets. Compatel is hoping that NPT is planning to adapt numbering regulation so that companies with different business models can have opportunity to provide its services with mobile numbering ranges.

Compatel is registered in many European countries as Full MVNO, and as per definition, has right to provide only 2-way messaging service and voice, without obligation to use radio spectrum. Full MVNOs are likely to play an increasingly important role in providing mobile services across several markets. A services portfolio may consist of SMS and MMS services, as well as richer communications services such as Push-to-talk Over Cellular (PoC) / push-to-X, Instant Messaging, Email, Mobile Blogging, Location Based Services, Mobile TV, Streaming video, Presence and more. With full ownership of the customer, assignation of mobile numbering with the ability to terminate messages and/or calls, and close control over the service, a Full MVNO offers the greatest flexibility in going-to-market and then sustaining long term growth. That is the reason why Compatel is hoping that NPT will include service diversity into existing numbering regulation.

In this letter, Compatel wanted to point out why it would be necessary and appropriate to recommend the analysis and change of numbering regulation, in order to ensure that providers are able to allocate mobile numbering which are not in any way affected and compromised by the fact that they don't need to use radium spectrum or that they don't provide whole package of services together. The removal of those obstacles – i.e. current conditions for mobile numbering allocation – and balancing the negotiation power between providers and MNOs would ensure substantial competition in the market with great advantages for consumers as well as the possibility for new providers to bring innovative services in the market.

With hopes that NPT consider content of this note,

Sincerely,

Compatel team