

## Compendium of the Expressions of Interest (EOI) for Red Compartida

### **Disclaimer**

The purpose of the information published herein by the Ministry of Communications and Transportation of Mexico (*Secretaría de Comunicaciones y Transportes*) (SCT) is to promote a transparent process for the Ministry's competitive bidding and/or public tender of the Shared Network (Red Compartida) project, in order to define the terms, modalities and requirements of such competitive bidding and/or public tender for the award of the telecommunications shared network referred to in article sixteenth transitory of the Executive Order that amends and supplements several provisions of articles 6, 7, 27, 28, 73, 78, 94 and 105 of the Political Constitution of the United Mexican States, in telecommunications matters, published in the Federal Official Gazette on June 11, 2013.

It is important to mention that the information is published without further detail insofar as from the request for expressions of interest (EOI) it was dictated that all the information contained in the EOI would be analyzed by the Ministry and the IFT (*Federal Telecommunications Institute*), treated as confidential information and it would not be disclosed to the public. The information received from the EOI does not imply any commitment or binds the Mexican Government, including the SCT and its entities and agencies, to take into consideration, adhere to or adopt, in whole or in part, the content of such EOI.

The published information is the result of preliminary analysis performed by the SCT, and thus anyone who wishes to participate in the referred competitive bidding and/or public tender, if the case may be, whether as an interested party, bidder, contender or with any other capacity, interest or intent, must not take such information, whether in whole or in part, as specifications, definitions, terms or conditions or defined characteristics applicable to the competitive bidding and/or public tender, or to the Shared Network project, insofar as it is simply preliminary and reference information which is published without declaring any commitment for the SCT or with any obligational content whatsoever.

The Mexican Government, including the SCT and its entities and agencies, as well as whoever acts as convener in the competitive bidding and/or public tender of the Shared Network project, if any, does not undertake any responsibility whatsoever with regards to the accuracy of the information or of the documentation published herein, or any responsibility of any kind regarding its interpretation, understanding, analysis or discussion or with regards to the decision making that any person, under any capacity, may perform based on such information or documentation.

The published information and the values it contains do not represent or should be deemed as an offer, promise or commitment whatsoever of the Mexican Government, including the SCT and its entities or agencies, or whoever acts as convener of the competitive bidding and/or public tender of the Shared Network project, if the case may be, and therefore any obligation that is sought to be imposed, derived or demanded from the information published herein shall be rejected. No obligation, commitment, direct or indirect damage or indemnification resulting from the information referred to herein shall be acknowledged.

The published information does not represent or mean that the Mexican Government, including the SCT and its entities or agencies, wishes that the Shared Network project be performed or deployed in a certain way or pursuant to a certain analysis, or with certain features. Moreover, the published information does not imply any commitment by the Mexican Government, including the SCT and its entities or agencies, to carry out any proceeding whatsoever under a certain modality, whether through public tender, competitive bidding or otherwise.

The people who wish to participate in the future competitive bidding and/or public tender of the Shared Network project, if the case may be, or who have any interest therein, must perform their own analysis and calculations and shall be fully responsible for the results and information obtained therefrom and, mainly, for the actions and decision making adopted based on such results and information.

This publication does not constitute the commencement of any proceeding or stage of the competitive bidding and/or public tender of the Shared Network project, nor an invitation or request for expressions of interest or of solicited or unsolicited proposals.

## **1. Introduction to the analysis**

On March 11, 2015, the Ministry of Communications and Transportation (SCT) published a request for Expressions of Interest (EOI) on any aspect of the development of the Shared Network, and to confirm the interest of the possible participants in the public bidding for the design, financing, deployment, operation and marketing of the Network.

Upon expiration of the deadline for the delivery of the EOI, on May 22, 2015, the SCT concluded the first stage of this important process, which shall be followed by the publication of the preliminary bidding rules and, subsequently, by the publication of the final bidding rules.

The SCT received 39 EOI from companies and institutions in different parts of the world. In the following sections we will analyze the type of companies that answered the invitation, the roles that they might play in the development and administration of the Shared Network, as well as the topics and suggestions obtained through the EOI. The SCT shall use the EOI as input to communicate and refine the information contained in the preliminary and final bidding rules.

In the following weeks and months, the SCT shall provide further information on the opportunities for the sector players to be involved in the Shared Network project, acknowledging the value of a solid and continuous dialogue with the industry throughout the bidding process.

## 2. Review of the EOI

The 39 EOI show a high interest from several participants of the sector in the implementation of the Shared Network vision. Thanks to the innovative approach and the scale of the project, the EOI came from an ample range of geographical areas, type of companies and areas of interest and were a very valuable feedback.

### 2.1. Geographical areas of the applicants

54% of the EOI come from Mexican applicants and the remaining 46% from other countries. This is proof of the international knowledge and interest regarding the opportunities that the Shared Network represent.

In terms of the regional territory of the international applicants, Latin America generated most of the EOI: 54%, whilst 23% came from North America, 13% from Europe, Middle East and Africa, and 5% from the Asia-Pacific Region; the last 5% came from business conglomerates of the central offices in different countries.

Although a significant number of EOI came from Mexico, it is important to emphasize that the Federal Telecommunications and Broadcasting Act (*Ley Federal de Telecomunicaciones y Radiodifusión*) expressly allows up to 100% direct foreign investment in the Shared Network. All of the applicants will have the opportunity to participate in the bidding process, notwithstanding their national origin.

### 2.2. List of applicants

The profile of the applicants reflects the ample range of industries conforming the global telecommunications sector. As an example, among the applicants we may find suppliers of telecommunications services, manufacturers of network equipment, service providers and infrastructure companies. The following chart shows the complete list of applicants:

Applicants	Number
<b>Associations / academy</b> <ul style="list-style-type: none"> <li>- <b>Asociación Iberoamericana de Centros de Investigación y Empresas de Telecomunicaciones, A.C. (AHCJET)</b></li> <li>- <b>Asociación Mexicana de Internet, A.C.</b></li> <li>- <b>PCIA – The Wireless Infrastructure Association</b></li> <li>- <b>Red de Expertos en Telecomunicaciones del Instituto Politécnico Nacional</b></li> </ul>	<b>4</b>
<b>Business Conglomerates</b> <ul style="list-style-type: none"> <li>- <b>Comunicaciones Veta Grande, S.A.P.I. de C.V.</b></li> <li>- <b>Grupo JDE Electrónica, S.A. de C.V.</b></li> </ul>	<b>2</b>

<p><b>Consultants / consulting agencies</b></p> <ul style="list-style-type: none"> <li>- Accenture, S.C.</li> <li>- Bello, Gallardo, Bonequi y García, S.C.</li> <li>- Consejo Consultivo del Instituto Federal de Telecomunicaciones</li> <li>- Consultoría Chávez y Asociados, S.C.</li> <li>- Detecon International GmbH</li> <li>- Héctor Borro Madrid</li> </ul>	<b>6</b>
<p><b>Manufacturers of network equipment</b></p> <ul style="list-style-type: none"> <li>- ADVA Optical Networking SE</li> <li>- Cisco Systems Inc.</li> <li>- Ericsson Telecom, S.A. de C.V.</li> <li>- Huawei Technologies de México, S.A. de C.V.</li> <li>- Motorola Solutions Inc.</li> <li>- Qualcomm International Inc.</li> <li>- Nokia de México</li> </ul>	<b>7</b>
<p><b>Telecommunications service operators</b></p> <ul style="list-style-type: none"> <li>- Alestra, S. de R.L. de C.V.</li> <li>- Axtel, S.A.B. de C.V.</li> <li>- China Telecom Global Limited</li> <li>- Elara Comunicaciones, S.A. de C.V.</li> <li>- Grupo de Telecomunicaciones Mexicanas, S.A. de C.V.</li> <li>- Grupo MVS, through MVS Multivisión, S.A. de C.V.</li> <li>- Pegaso PCS, S.A. de C.V.</li> <li>- SES</li> <li>- Total Play Telecomunicaciones, S.A. de C.V.</li> </ul>	<b>9</b>

<b>Passive infrastructure suppliers</b> <ul style="list-style-type: none"> <li>- <b>Grupo I&amp;IMT, S.A. de C.V.</b></li> <li>- <b>Ipsobox, S.A. de C.V.</b></li> <li>- <b>Network Management Services (NMS)</b></li> <li>- <b>Summit Wireless Infrastructure de México, S. de R.L. de C.V.</b></li> </ul>	<b>4</b>
<b>Network services suppliers</b> <ul style="list-style-type: none"> <li>- <b>Ascom Network Testing</b></li> <li>- <b>Indra Business Consulting ALG México, S.A. de C.V.</b></li> <li>- <b>IP Matrix, S.A. de C.V.</b></li> <li>- <b>Productos Soluciones y Servicio, S.A. de C.V.</b></li> <li>- <b>Rivada Networks LLC</b></li> </ul>	<b>5</b>
<b>Total</b>	<b>37</b>

### 2.3. Content of the EOI

Multiple EOI touched upon technical aspects regarding the Shared Network project, with feedback focused on competition and on the government's coverage priorities. Overall, the topics of interest include technical network operations, considerations of public policy, options in economic and pricing matters, competition and the bidding process.

The value chain of the Shared Network will require the intervention of investors, consultants, operators, constructors and manufacturers of network equipment, network service providers, suppliers of business support systems (BSS) and operation support systems (OSS), as well as other participants for the funding, deployment and operational experience.

Various applicants mentioned their wish to get involved in the value chain: 58% showed interest in a single aspect, and 42% in participating in multiple aspects within the project.

From the participants interested in a single aspect, 42% showed a preference in the consulting field, 26% in the construction of the network, 16% as service providers, 11% in the manufacture of equipment for networks and 5% in investing in the project.

Nearly a fourth of the 42% of the applicants seeking a combination of different roles in the project consists of business conglomerates composed by telecommunications service providers that wish to participate in nearly every part of the value chain.

Additionally, business conglomerates of network implementation and service providers expressed their intention of focusing jointly in the operation and construction of the Shared Network, while some of the manufacturers of network equipment expressed their intent to provide network services such as BSS, OSS and network operations center (NOC), as well as to manufacture network equipment.

The diversity of the comments and of their authors provides the SCT with different options that, as the bidding process develops, will allow the SCT to continue listening to the sector players and to understand the different interests and roles of the participants.



### **3. Analysis of key topics**

The SCT performed an analysis of the key topics resulting from the EOI, in order for its review to facilitate the construction and refining of the preliminary and final bidding rules of the project.

Below you will find an integral analysis of the feedback resulting from the EOI, distributed in different thematic segments.

#### **3.1. Technical operations**

Overall, applicants expressed their desire that the government provides sufficient flexibility to the administrative unit in charge of the Shared Network, in order to plan and execute a network deployment coherent with the market and technical conditions.

Some applicants sustained that this flexibility should extend towards a limitation of the government's participation in the specific design of the network and in the selection of the technology.

At the same time, the applicants share the opinion that the government should obtain coverage and service level commitments of the Shared Network. They also expressed minimum expectations as to the desired architecture of the network, its planning capacity and minimum coverage.

##### **3.1.1. Deployment of the network**

Most of the applicants expressed a strong desire that all the decisions regarding the national deployment be taken by the operator of the Shared Network.

Likewise, they stated that the project must grant flexibility to implement an independent deployment plan, based on its own schedule, aiming to achieve the necessary coverage.

As part of this approach, they recommended the government to define the population, geographic coverage and quality of the service.

However, some participants emphasized on the need for a deployment plan as a priority to cover the areas where there is currently little or no coverage, in order to attend to the social objectives of the Shared Network. They mentioned that a minimum of locations to be covered must be serviced each year as part of the installation schedule. They included minimum coverage recommendations.

##### **3.1.2. Architecture of the network**

Several opinions regarding the architecture of the network foreseen for the Shared Network were submitted, including the use of a network that supports 2G, 3G and 4G radio access technologies and the option to use a satellite backhaul system with the purpose of having a hybrid infrastructure option for the network.

Some of the minimum expectations of the applicants regarding the Shared Network are its capacity to handle 4G roaming, to integrate without issues into other 4G networks, the capacity to provide IP multimedia services (IMS) and/or voice on LTE (VoLTE) and the level of safety of the network.

Some of the applicants expressed the need of locations with a proper support battery, generators and security in the hardened sites, as well as redundant backhaul connectivity.

Another recommendation was to allow access to the Shared Network to national roaming services of local operators, especially during the first years of implementation, to complement the initial white spots.

Some of the areas where the applicants constantly mention the need for further information from the SCT were:

- Architecture of the network, including the current state and availability of any fiber optic network that may be used by the Shared Network.
- The options to share infrastructure and the existing infrastructure available for the operation of the Shared Network.
- Access to the LTE network, including network planning, coverage, deployment plan, performance field tests, spectrum use plan, etc.
- Access options to areas that have no LTE coverage.
- Process to obtain frequencies for connections with distant locations.
- Plans of the SCT to supply frequencies in order to implement wireless backhaul options, as an option to integrate fixed assets to the new LTE network.

### **3.1.3. Demand and capacity management**

The applicants proposed the SCT to consider allowing operators to define capacity management plans, based on the observed current demand, before starting operations, in order to then define service commitments and the proper key performance indicators (KPI).

Some applicants suggested the need to use modern capacity management techniques, based on specific client experiences on KPI, instead of obsolete methods that use engineering estimates on the network's data loading capacity.

Another group of applicants mentioned the possibility of unloading the mobile data traffic from the Shared Network into the cable network operators or other fixed network operators, through the installation of Wi-Fi access points or femtocells, thus reducing the CAPEX requirements.

In addition to the above-mentioned key topics, the applicants expressed the need for clarification on the coverage requirements per region and per service level.

## **3.2. Context of Public Policy**

The applicants who submitted EOI fully agreed on the need for clarity with regards to the relationship between the government and the administration of the Shared Network.

Some stated that transparent and well managed regulations, with a systemized follow-up approach, are more effective to attract new participants.

The applicants also reacted positively to the possibility of a non-discriminatory environment to attract new participants in the retail market and the option to share and to lease the spectrum.

Most seek clarity on the government's role in the public-private association (PPA), including details on its plans to contribute with public assets, such as the spectrum and other resources.

### **3.2.1. Role of the government**

Most of the applicants are seeking further clarity on the role of the public sector in the PPA contract. They were especially interested in having clear information on the assets of the State that are being offered (including the spectrum, access to the sites, rights of way, posts, pipes, fiber optic, etc.) and the cost of using such assets.



Some expect that all assets owned by the government and all assets associated with the development of the Shared Network are part of the government's contribution to the PPA and therefore, that they're offered free of charge for the Shared Network.

### **3.2.2. Use of the spectrum**

Many applicants were of the opinion that private participants in the PPA ideally should not have to pay for the use of the spectrum, and that precisely that should be the government's contribution to the PPA. They also referred to the convenience of revising the fees provided in the Federal Government Fees and Charges Act (*Ley Federal de Derechos*).

To ensure that the spectrum is not being wasted and the existing operators have sufficient capacity to render their services, the applicants advised permitting the lease of the unused spectrum.

Some mentioned that the rates for the use of the spectrum must be based on the progress of its use, both in capacity (using MHz) and coverage (total serviced population) as well as on progress measurement indicators.

### **3.2.3. Degree of regulation**

Most of the applicants were in favor of a simple regulative approach with high flexibility, but with constant monitoring to ensure compliance.

They considered that restricting the network only to wholesalers and the obligations of the PPA were important limitations, and that more limitations would render the business model less attractive for new participants.

Some EOI mentioned the need for a clear methodology regarding the market definition required to distinguish wholesalers and retailers, as well as a clear definition of "end user" by the SCT and the IFT.

They referred to the need for defining with precision the penalties that would apply to an operator in an event of breach of the obligations established for the Shared Network, indicating that the performance measuring process and methodology should be clear and transparent from the beginning of the bidding process.

Due to the want of international experience in regulation matters for a single wholesale company in the PPA modality, some applicants recommended the SCT to consider the option of a waiting period, for example of five years, to evaluate the performance of the Shared Network before finalizing the integration of the regulatory framework.

### **3.2.4. Role of the Core Network**

Some of the applicants expressed their interest on the role of the Core Network in the deployment of the Shared Network.

They indicated the need to clarify if the entities that participate in the competitive bidding of the Shared Network could be eligible to use the Core Network.

Some of the participants believe that the Shared Network, as any other operator, should be capable of leasing the capacity for its backhaul and its network to transport data to the existing fiber optic network suppliers, as well as the Core Network, Telmex, CFE (*Federal Electricity Commission*), etc.

The applicants believe that the Shared Network should not be forced to use the services of the Core Network, since that could create a conflict in accounting. Some applicants opined that both projects should be kept separate in their estate and operation.

## **3.3. Economy and prices**

The applicants expressed their wish that the Shared Network enjoys full commercial flexibility to offer complementary and value added services to wholesale clients, such as the capacity to access cable TV, data mining or analysis, numerical portability, SIM card management, Machine to Machine connection capacity and Internet services (IOT), among other things.

A significant number of applicants mentioned that the Shared Network should not be needlessly submitted to endless regulations and price controls, and expressed their desire to simplify the pricing mechanisms. Opinions were made in the sense that price obligations should only consider transparency and not discrimination.

A key issue that was mentioned was the need for the Shared Network to focus on supplying coverage to small and medium companies that to this day have been neglected.

### **3.3.1. Price control**

With regards to price regulation, the opinions expressed by most of the applicants fluctuated between the non-existence of price controls up to having a moderate price regulation.

There was a general consensus on the need for flexibility in price regulation. However, there were notable exceptions to this general tendency by a few applicants who recommended some type of rate regulation, in order to guarantee the financial recovery of all the costs incurred in the provision of services.

Some of the applicants even suggested higher asymmetric interconnection rates for the Shared Network than for preponderant companies, in the medium term, until all interconnection rates are eliminated.

There were several opinions regarding pricing for wholesalers. One of the recommended structures was simply to set a value based on the accumulated price per megabyte (MB), using international reference prices. Another structure that was suggested includes price fixing per available performance.

### **3.3.2. Marketability**

Although the majority expressed their interest in the Shared Network, some commented their concern for its marketability. These concerns include: a coverage target that could be too ambitious, the high level of investment required, the uncertainty of the demand and the creation of a new network from scratch. All of these issues were brought up as the main reasons for concern on the marketability of the Shared Network.

Some applicants recommended the establishment of reasonable coverage requirements to guarantee profitability.

Other suggested measures to guarantee marketability for the Shared Network were:

#### *a) Guaranteed Market Share / support in unprofitable areas*

This would mean for the Government to grant aids or subsidies in the remote and unprofitable areas, in order to incentivize the company who manages the Shared Network to comply with the service obligations to these areas.

The supporters of this measure mentioned that the government should guarantee to the Shared Network the existence of a retail client, whether public or private, in these remote and unprofitable areas.

#### *b) Offering of ancillary services (other sources of income)*

This idea received the highest support among the applicants who were concerned for marketability. This measure implies that the Shared Network is fully set up to offer any possible service, without unnecessary regulatory limitations (for example, price regulations *ex ante*), with the condition that these services are rendered in the market as a non-discriminative service to wholesalers, that is, available to any client.

Some of the above-mentioned services include:

- Value added wholesale services to retail clients based in platforms such as MVNE (mobile virtual network enabler), MVNA (mobile virtual network aggregator), contact centers, etc.
- Wholesale LTE multicast services.
- Complementary telecommunications services, such as the capacity to offer Cable TV, data mining or analysis, numerical portability, SIM card management, Machine to Machine service capacity and IOT, etc.
- Resale of 2G/3G capacity of mobile network operators (MNO) with infrastructure to mobile virtual network operators (MVNO) clients of the Shared Network, which should have to be supported with a regulation that allows MVNO to offer 2G/3G services in an existing MNO network and 4G services using the Shared Network. In that case, the Shared Network could allow the purchase of 2G/3G minutes based on the volume of the existing mobile network operators and to resell them to the MVNO.
- Lease of unused spectrum and infrastructure, which would imply the creation of a market oriented platform, whereby the wireless capacity could be dynamically auctioned to commercial users, marketing broadband.

Some of the applicants were against the obligation of offering infrastructure services to other competitors and mentioned that such requirements should be evaluated on a case-by-case basis, in order to reduce the risk of providing a more favorable competitive environment for some competitors that would use the Shared Network's infrastructure.

### **3.3.3. Competition**

The topic of competition (and therefore, of coverage) invoked great attention in most of the applicants, who asked for further clarity in such regard. They also asked the SCT to clarify the current or imminent regulation to face the MNO who have been declared as preponderant or their subsidiaries who operate as MVNO. Others criticized the establishment of a sole wholesale network, instead of a more traditional approach of relying on network competition.

Although most of the applicants expressed that the Shared Network would promote competition by encouraging the entrance of new virtual mobile operators, some of the applicants showed concern on the efficient use of the spectrum and indicated the government's obligation not to create distortions in the market derived from an inefficient use of a public resource such as the spectrum. They specifically emphasized in guaranteeing competition based on the following concepts: access, competitive neutrality and guidelines that prevent unfair competition.

### **3.3.4. Bidding process**

Finally, the applicants also commented on the bidding process itself. Most of the applicants requested additional information on the process and on the consideration as to the evaluation of the bids.

#### *a) Bidding information*

The applicants expressed the need for further clarity in the bidding process. They suggested that the information should contain coverage, service levels, years of deployment, the necessary permits to exploit public assets and the eligibility requirements for business conglomerates, aside from other clarifications mentioned in this section. We received a proposal to reduce the number of requirements for business conglomerates, in order to reduce the entry barriers to public bidding.

#### *b) Bidding selection method and term of contract*

Most of the applicants prefer that the bidding selection method be defined according to the general superiority of a bidder *vis-à-vis* the others, taking into account multiple well defined factors, as opposed to an election based on purely financial elements, coverage or based on deployment calculations. Some of the applicants expressed their desire for a long term PPA.

#### **4. Review of EOI and Next Steps**

The SCT is pleased for having obtained a diverse and substantive universe of EOI, which sets the first step for a transparent, competitive and world class bidding process.

The 39 responses that came from an ample variety of applicants were focused on technical aspects, on the policy and statutory framework of the project, as well as on its social and financial goals.

The EOI were carefully analyzed. The SCT has the intention of tackling the key issues raised by the applicants and of considering the incorporation of some of those items.

The SCT is currently planning to make informative documents available to the public during the months of July and August. The publication of the bidding rules is programmed for October 2015. We foresee that the deployment will start in 2016, in order to comply with the mandate to have the Shared Network operating as of the end of 2018.

The SCT thanks all the participants for the delivery of their expressions of interest.