

MAJOR INFRASTRUCTURE PROJECTS IN MEXICO

A Resource Guide for U.S. Industry



Sponsored by the U.S. Trade and Development Agency



Prepared under contract by:



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About This Guide

The U.S. Trade and Development Agency (USTDA) helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies. USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries.

This guide has been developed to provide U.S. companies and exporters with an overview of Mexico's infrastructure sectors, the sector development plans in place through 2018, and to provide profiles of a sample of specific, upcoming projects of potential interest.

Currency amounts converted from Mexican Pesos (MXN) to United States dollars (USD) have been done so using a rate of 13.12 pesos to one dollar. Due to fluctuations in currency values, different levels of engineering and cost estimation completion for different projects, and differing timing of cost information publication, the monetary values within this report should only be considered approximate. Unless explicitly indicated otherwise, all currency values are in United States Dollars (USD).

All exhibits and images are sourced from Mexican government publications, unless otherwise indicated.

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3.2 Telecommunications

Sector Background

Mexico presents a unique, and rapidly changing, environment in the telecommunications sector. As of 2012, there were only 20.2 million fixed lines recorded for a population of 121 million, but over 100.7 million mobile cellular users. There is a domestic satellite system with more than 120 earth stations, an extensive microwave radio relay network and substantial networks of fiber optic and traditional communications cables. Mexico's fiber network is over 306,000 kilometers, of which 38,802 kilometers are federally owned and operated. There are more than 1,400 radio stations which are mostly privately owned. In 2012, the country ranked 9th globally with 16.2 million Internet hosts and ranked 12th with an estimated 31 million Internet users.

Performance

Mexico's performance is low relative to other developed countries in the telecommunications sector. By World Economic Forum measures, it ranks 63rd out of 144 countries in accessibility of telecommunications services to the public, with a relatively low level of investment of USD \$35 per capita, and relatively high prices for consumers. In the area of broadband data connectivity, access is only at 25 percent of the population, well below the OECD average, while the price per unit is the highest in the OECD. The country has a robust fiber optic network, but the coverage is not uniform and the quality of service and connectivity varies greatly. Strategic challenges identified by the government are:

1. Significant public and private underinvestment as measured per capita.
2. Low levels of relative penetration of broadband and mobile services.
3. High levels of participation of operators in the most profitable markets and the absence of incentives for participation in developing the less profitable markets, such as rural and poor populations.
4. Poor quality and coverage, and high costs.

Sectoral Reforms

The Mexican government is undertaking concrete and aggressive actions to reform the sector. In 2013, framework legislation reforming the constitution was passed by Congress to enable structural changes in the sector, including establishment of a stronger and independent regulatory body. Secondary implementing laws were passed in late 2014, but unusually detailed primary legislation enabled the restructured regulator, the Federal Telecommunications Institute (IFT), to move forward on a number of major initiatives before the secondary legislation passed. Early in 2014, the IFT made a finding of monopolistic practices by the dominant private providers of telecommunications services in areas including mobile and fixed telephony, broadband, television and other means of communication and media. The findings and ongoing process of remediation have the potential to significantly open these markets to both domestic and foreign investment and competitive participation. This process is intended to lead to expansion of services to citizens, lower cost of services and better quality of services. IFT has also opened the process to concession two new national television channels and two new geostationary orbital positions for communications satellites. As part of the reform package, CFE is required to transfer its fiber optic network infrastructure (previously operated as CFE Telecom) in an operating

concession to SCT's Telecomm, which will be responsible for the development of this fiber "trunk network" and expanded provision of services to the public across this backbone.

Major Actors

There are two key public actors in this sector. The Secretariat of Communications (SCT) through the Sub-Secretariat for Telecommunications, is responsible for development of the nation's telecommunications policy and development and operation of public infrastructure. Telecomunicaciones de México (Telecomm) is the operating entity of SCT. Telecomm is responsible for the operations of public communications infrastructure and the provision of telecommunications, telegraphy and basic financial services to the population. Telecomm is the developer and operator of the national public telecommunications satellite program, MEXSAT, and is taking the concession to operate the national fiber optic trunk network, previously held by the national electricity company. Telecomm has a specific mandate to provide telecommunications services to disadvantaged and underserved regions and populations. The IFT is Mexico's independent agency responsible for the supervision, regulation and promotion of the use and development of the electromagnetic spectrum, telecommunications infrastructure and the provision of broadcasting and telecommunications services. There are several large private providers of telecommunications services in Mexico, who due to their dominance, deserve to be mentioned. America Móvil provides fixed and mobile telephony, with over 70 percent of mobile subscribers, and also dominates provision of fixed line services. Televisa SAB, with USD \$5.3 billion in revenues in 2012, controls nearly 70 percent of the broadcast television market, as well as having diverse holdings in radio, print and content provision. TV Azteca, with nearly a billion dollars in annual revenue, is another multimedia conglomerate that controls most of the remaining 30 percent of the television market. Private company SATMEX S.A. de C.V., which operates a constellation of three telecommunications satellites transmitting on the C and Ku bands, was acquired by French firm Eutelsat Communications in 2014.

Goals and Investments

The Mexican government's objectives for the period through 2018 include increasing percentage of households with an internet connection from 26 percent to 50 percent, to increase the number of broadband internet users from 39 percent of the population to 65 percent, and to increase the number of small and medium businesses with broadband access by 20 percent from 2014.

The **National Infrastructure Program** sets a goal of USD \$51 billion in total investment to develop the telecommunications sector through 2018, across five programs or projects.

1. **Private Investment Resulting from the Constitutional Reforms of the Telecommunications Sector** is expected to generate nearly **USD \$38 billion** in investment. Major concessions, including two new national television stations, a fiber network PPP and two geostationary satellite positions will be key activities expected to leverage large amounts of private sector participation.
2. The **Development of the 700 MHz Shared Network** will bring last mile connectivity to millions of users, including rural areas and underserved populations, with a particular focus on wireless connectivity. The total investment in this program is estimated at **USD \$9.9 billion**. Ample participation of private sector is expected in this program.

3. The **Mexico Connected Program** will offer public broadband internet access through infrastructure to be established at thousands of government facilities across the country including schools, hospitals and government offices. The total expected investment in this program is **USD \$1.4 billion**.
4. The **Development of the Trunk Fiber Optic Network** will build upon the transfer of the CFE fiber network to Telecom, and through a PPP structure enable significant expansion of this core telecommunications backbone. The expected investment is **USD \$743 million**.
5. The **Full Implementation of the MEXSAT Telecommunications Satellite System** will see the launch of the last of the three satellites in the constellation, development of the different types of vehicle mounted and portable ground terminals for end users, and full commissioning of the system. An expected **USD \$626 million** is expected to be invested to bring MEXSAT to full implementation.

Two other program opportunities are emergent that will be of interest to U.S. suppliers. The **project to provide cellular and satellite backhaul service to rural communities** will address the 2 percent of the population not covered by the fiber optic backbone and shared network projects. This will involve 100 communities in 2015, expanding ultimately to cover up to 5,000. The initial infrastructure medium will be satellite (provided through MEXSAT). This project, spearheaded by Telecom, is expected to evolve over time as the terrestrial network is built out, and could include fiber, traditional copper, microwave or other wireless technologies to provide this rural connectivity. Opportunities exist for U.S. providers of hardware, software, content and services at the wholesale, retail and customer level. Another Telecom project that leverages the investments spreading telecommunications infrastructure access is **provision of banking services to rural and underserved communities**. These are opportunities created for private firms to provide products and services, in partnership with Telecom, to reach these populations. Besides the supporting telecommunications infrastructure, Telecom also provides the actual retail presence in these underserved communities, typically through space rented in the municipal centers. Telecom is building 100 new branches in 2014 and intends ultimately to add over 1,500 locations. This will create opportunities for U.S. suppliers in the provision of network hardware and software, but also for service and content providers in areas such as provision of banking and transactional services, debit cards, and microcredit products.

IFT is in the preliminary phases of feasibility and scoping for two smaller initiatives, a wireless spectrum usage field monitoring and analysis platform to support regulatory enforcement, and a new system to support the real-time analysis of provision and quality of telecommunications services. More information on these opportunities is expected to be forthcoming from IFT by the fourth quarter of 2014.

Projects

Concessions for Two New National Television Broadcast Stations

	Project Type:	Telecommunications
	State(s):	National
	Projected Investment:	More than USD \$126 million
	Timeline:	2014 - 2015
	Project Sponsor(s):	Federal Telecommunications Institute (IFT)

Project Background and Scope

In mid-2013, the Mexican government approved the groundbreaking constitutional reform in the telecommunications sector. This package of primary legislation specified that within 180 days of its creation the new IFT would publish the terms and conditions and the request for proposals for new frequency concessions for broadcast television. These frequency allocation are grouped into two concession packages to offer national coverage. Current concessionaires in the 12 MHz or higher radio spectrum are prohibited from bidding for these two new concessions. The strategic objective of these concessions is to increase competition in the broadcast television market, to improve the quality of products and services offered, and reduce the costs to customers.

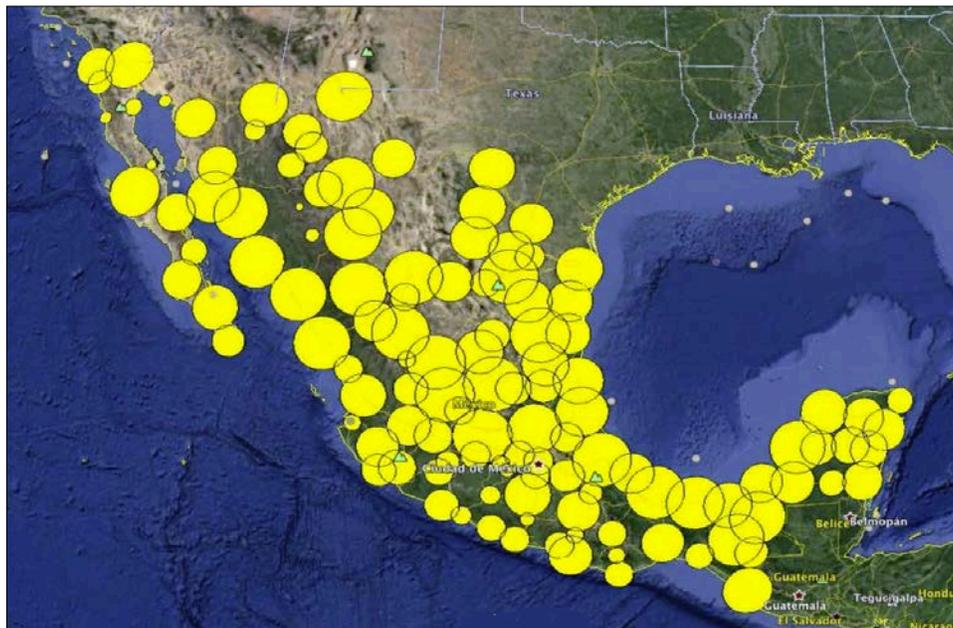


Figure 43: New Television Broadcast Networks Coverage Map

On September 23, 2013, the charter of the IFT was published, enabling the new agency to begin to execute its responsibilities. IFT published the procurement program for digital broadcast television frequencies on December 20, 2013. The procurement framework for the channel concessions was published on March 7, 2014. This release provided the station frequencies and geographic coverage available for the concessions. A tool is provided on the IFT website to enable bidders to propose their selection out of the 246 channels. Two channels

of 6 MHz are offered in each of 123 coverage zones. The bidders may choose from these as the basis of offers, considering that to meet the requirement of a national network they must cover at least 30 percent of the population in every state. The two concessions will be granted for terms of 20 years. United States entities are restricted to 25 percent participation in a bid for a concession, based on market access reciprocity agreements between our two nations. This restriction will not apply to provision of goods and services to the selected concessionaires in the course of operations.

Project Status and Implementation Timeline

Interested bidders were required to submit an application to the IFT by June 17, 2014, requesting an opinion in accordance with the federal law on economic competition. Decisions, favorable or not, were to be released by the IFT's Unit of Economic Competition by the 9th of September, 2014. Those proposers receiving favorable opinions will form the short list of bidders eligible for the concessions.

Full proposals will include details on the technical, legal, administrative and financial capacity of the bidders, and provide comprehensive business plans. Concession awards criteria will include price (40 percent weighting and the proposed scale of coverage of the population (60 percent weighting). Proposals were due the 17th of September. The list of proposers meeting the minimum requirements criteria for the proposals is to be released by the 18th of December. Bidders who fail this technical evaluation may lose their security deposit. On January 22, 2015 the formal openings of the technical and financial offers will occur, followed by concession awards by March 25, 2015.

Project Cost, Financing and Procurement

The IFT has set the minimum reference value for each concession at just over MXN 830 million, or approximately USD \$63 million. Deposits in the amount of MXN 415 million, or approximately USD \$32 million, must accompany each bid. Security deposits will be returned to losing bidders. Proposers may bid for one national network, both national networks, or present a single package presenting both options. The Mexican government did not provide a discrete amount of estimated investment expected to be generated by this specific project in the PNI. Collectively the transactions enabled by the telecommunications reform program are estimated to realize more than USD \$38 billion worth of investment.

U.S. Export Opportunities

U.S. firms will have opportunities in several areas. As investors they may provide debt or equity financing to concessionaires in expectation of a return. They may participate as operators in concession consortiums. They may provide goods and services to the new concessionaires, in particular a wide range of capital items such as electronics, hardware and software, that are likely to be required as initial and ongoing investments to start up the new television channels. New concessionaires are expected to engage in substantial startup investments in facilities and equipment. Finally, U.S. providers of media content will have an opportunity to sell their products and services to the two new television chains. The new networks should create demand for brand new shows and commercials, as well as resale of legacy programming, also services such as dubbing or subtitling. U.S. advertisers for all types of goods and services will have access to two new television networks with national reach to promote their products, presumably on improved commercial terms than those they currently encounter in Mexico, due to increased competition.

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Public Fiber Optic Backbone Network Expansion

	Project Type:	Telecommunications
	State(s):	Nationwide
	Projected Investment:	USD \$745 million
	Timeline:	2014 - 2018
	Project Sponsor(s):	SCT Subsecretariat of Communications and Telecomunicaciones de México (Telecomm)

Project Background and Scope

Mexico's total optical fiber telecommunications network is over 306,000 kilometers in length. Of this amount, 38,802 kilometers are federally owned, and the balance is privately held. The publicly held fiber network was originally established by the national utility company CFE in order to provide internal communications capabilities to support the monitoring and operation of the national power grid. After those needs were met, the fiber had substantial excess capacity. SCT awarded a telecommunications operating concession to CFE to commercially exploit the network in 2006, and it began leasing bandwidth and providing services to businesses, telecommunications carriers, and government agencies. As of 2012, the subsidiary responsible for operating this network, CFE Telecom, reported 96 discrete clients and revenues of over USD \$67 million. This backbone network includes 112 hotels, or major access nodes, located in large and medium size cities. 52.2 percent of the population is within 40 kilometers of these major nodes.



Figure 44: Mexico's Public Backbone Fiber Optic Telecommunications Network

Although the overall national fiber network is significant, as with the rest of the telecommunications market in Mexico, the provision of services and access has focused on the most profitable customers. Prices have been high and investment low on a per-capita basis. Only 50 percent of the population lives in areas with access to

more than one provider's fiber optic network, another 15 percent have fiber access through only one provider, and 35 percent have no access to fiber.

As a part of the 2013 constitutional reform of the telecommunications sector, the concession to operate this public backbone is to be transferred from CFE to SCT's Telecomm. This concession includes the right to install, operate and use the network and transfers all the resources and equipment needed to commercialize the asset. CFE will retain under its administration the core physical assets including the fiber optics, right of way, towers, posts buildings and facilities, in an infrastructure manager role. Telecomm, as the operating concessionaire, joined with a private partner, will hold the authority to promote access and to plan, design and execute the construction and growth of this public backbone network. It is expected that the new partnership will develop the network substantially by building out 35,000 kilometers of new fiber optic line. Accompanying the fiber build-out, the project will include construction of 972 "mini-hotels" which are nodes providing connectivity to the major hotels on the backbone. These will be in medium-size cities and bring another 35.5 percent of the population within 40 kilometers of a fiber node, enabling retail service providers to offer direct access or connectivity by microwave link.

The concession transfer and development of the network is an important component supporting other major telecommunications programs, including the *700 MHz Shared Network* and *Mexico Connected*. The backbone network will serve as core national infrastructure supporting data transmission for the enhanced offerings of access, infrastructure and services at the local "last mile" level that these other two national programs will provide. Strategically the national policy intent of this development will be to fill geographic and capacity gaps, strengthening the overall provision of high-capacity telecommunications links across the country, rather than creating overcapacity or redundancy in areas that are well served.

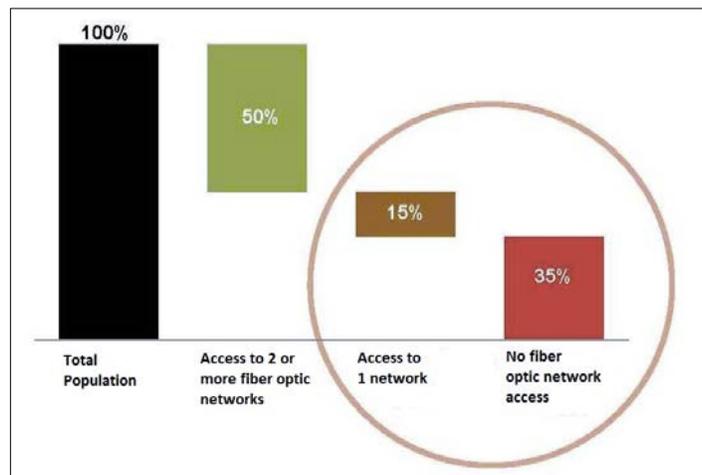


Figure 45: Current Access to Fiber Optic Networks as a Percent of Population

Project Status and Implementation Timeline

The Federal Telecommunications Institute (IFT) is preparing a structure to enable an open competition for a private partner to join with Telecomm in the development and operations of this network. The procurement opportunity is expected to be finalized and opened for bid in 2014. Finalization of the terms and structure is will be determined by the implementation of the secondary legislation component of the telecommunications reform activity, which was completed in mid-2014.

Project Cost, Financing and Procurement

The investment in the development of the network under the new public-private structure with Telecomm is expected to be over USD \$745 million. A significant portion of this value is expected to be provided by the private partner in the form of initial and ongoing capital investment. The potential returns from serving in the

operator role are expected to generate significant customer revenues. The procurement will be competitive and the commitments to capital investment by the bidders are expected to be an important factor in the award decision.

Component	Units	Unit Costs	Value	Total
New Fiber	34,725 kilometers	\$18,000/kilometer	\$ 625.1 million	USD \$745 million
Medium Hotels	290 hotels	\$250,000 each	\$ 72.5 million	
Mini-Hotels	682 hotels	\$ 70,000 each	\$ 47.7 million	

Table 31: Fiber Backbone Network Cost Components

U.S. Export Opportunities

This project will create several export opportunities for U.S. firms. U.S. companies should have an opportunity to participate as operating and investment partners with Telecomm. The degree of participation opportunity will be determined by the final structure of the procurement. It is likely that some level of local partnering (usually prudent in Mexico) will be required. U.S. providers of hardware including items such as routers, fiber optic cabling and components, and network management devices, as well as a range of software offerings, are potential beneficiaries of the anticipated physical expansion. Providers of retail carrier services will be able to utilize the expanding network to grow their offerings. Providers of multimedia content and network and application services should benefit from the project. The expanded backbone should offer a more level playing field for access, more competitive pricing, higher levels of quality of service, and increased connectivity to a larger customer base, allowing providers reach more viewers and users with their products and services.

Project Contacts

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700 MHz Shared Network Development

	Project Type:	Telecommunications
	State(s):	Nationwide
	Projected Investment:	USD \$10 billion
	Timeline:	2014 - 2018
	Project Sponsor(s):	Telecomm (SCT) and IFT

Project Background and Scope

Mexico's telecommunications market is currently dominated by two major providers of telecommunications services. Despite strong profitability the market suffers from a significant infrastructure gap with insufficient wireless antenna coverage, limited infrastructure resulting in poor quality voice and data service, and limited coverage by third- and fourth-generation services. By 2012 Mexico was ranked near the bottom of all countries in Latin America, as measured by unique subscribers and access per 100 inhabitants.

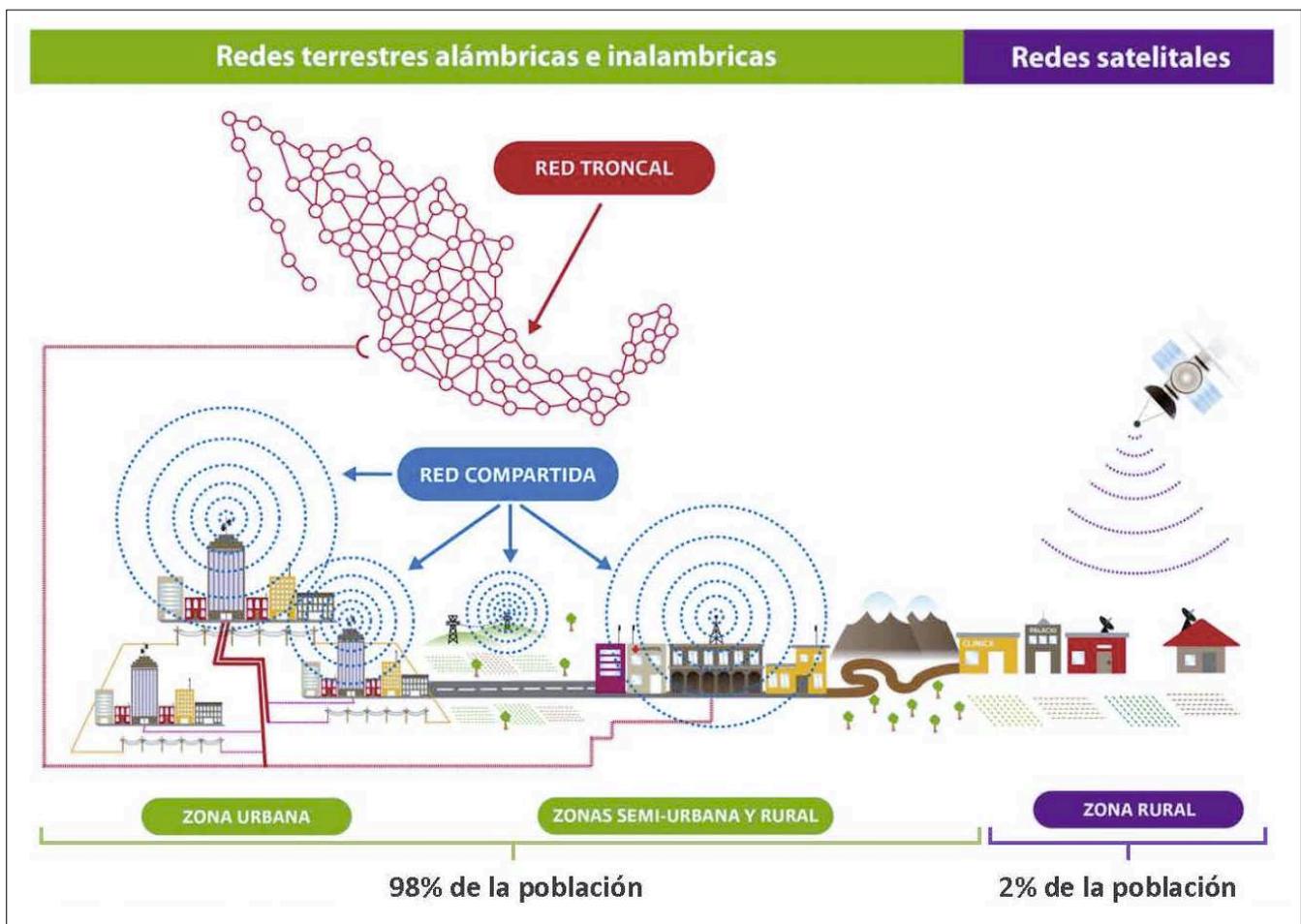


Figure 46: Overview of the Structure of the 700 MHz Shared Network

In the face of this situation, demand for advanced telecommunications service access continues to grow. The market demand is shifting rapidly from voice to mobile data. Smartphone capabilities and capacity continue to grow as prices per handset drop, making a key hardware platform economically accessible to much more of the population. New 4G/LTE services, besides providing improved latency and bandwidth, have the capability to reduce mobile data costs substantially, providing economic access for more of the population to the service component.

The shared network is a nationwide project that will provide a neutral wireless infrastructure access platform, managed by a wholesale provider of broadband telecommunications services. It is a key component of the telecommunications reform effort that will leverage the additional nationwide connectivity to be created by the project to expand the public fiber backbone network. The project will utilize a 90 MHz portion of the 700 MHz band. The infrastructure of this new network is planned to consist of 8,165 towers, antennas, and radio base stations, tied into the national public fiber optic backbone through physical and microwave links. It will support both voice and data traffic. This new system is expected to enable provision of competitive services by multiple private retailers across currently underserved markets, improving access to, and quality of, services, and reducing costs relative to current prices. This project is expected to enable extension of quality, affordable wireless data service to up to 98 percent of the population by 2024.

Project Status and Implementation Timeline

The procurement structure is under preparation at the time of this writing and is expected to be released before the end of 2014. The initiation of the project has been delayed because 18 television channels in the northern part of the country currently are using parts of the future shared network spectrum for analog broadcasts. The government is working to expedite the transition of these service areas to digital television broadcasting, freeing up the necessary bandwidth. An accelerated digital television transition program has been introduced in these areas (including Tamaulipas, Nuevo León, and Coahuila) to facilitate this transfer.

Project Cost, Financing and Procurement

This project is planned to be structured as a public-private partnership between a private firm, or a consortium, working in association with SCT's Telecomm. The total investment opportunity associated with this initiative is estimated at approximately USD \$10 billion. The preliminary estimate by SCT/IFT is that a private partner may bring as much as USD \$3.5 billion to the table as their participation.

U.S. Export Opportunities

This project will create several export opportunities for U.S. firms. U.S. companies should have an opportunity to participate as operating and investment partners with Telecomm. The degree of participation opportunity will be determined by the final structure of the procurement. It is likely that some level of local partnering (usually prudent in Mexico) will be required. U.S. providers of hardware including items such as routers, cabling and components, wireless and microwave nodes, and network management devices, as well as a range of software offerings, are potential beneficiaries of the anticipated physical expansion. Providers of retail carrier services will be able to utilize the expanding network to grow their offerings. Providers of multimedia content and network and application services should benefit from the project. The expanded local access should offer a more level playing field for access, more competitive pricing, higher levels of quality of service, and increased connectivity to a larger customer base, allowing providers reach more viewers and users with their products and services.

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MEXSAT System Completion

	Project Type:	Telecommunications
	State(s):	Nationwide
	Projected Investment:	USD \$627 million (to be spent of an original USD \$1.7 billion)
	Timeline:	2014 - 2015
	Project Sponsor(s):	SCT Telecomunicaciones de México (Telecomm)

Project Background and Scope

The Sistema Satelital Mexicano (MEXSAT) program was begun in 2009. It since has purchased three satellites originally designated as MEXSAT 1, 2 and 3, then renamed respectively as *Centenario*, *Morelos III* and *Bicentenario*. The system includes two ground stations (primary in Iztapalapa and a backup in Hermosillo), network operations systems and 67 reference user terminals. Orbital Sciences Corporation, under contract to Boeing, was responsible for providing the fixed satellite services ground segment including command and control systems, software, training and documentation.

- **Bicentenario (MEXSAT 3)** was launched in 2012. This satellite is a GEOSTar-2 manufactured by Orbital Sciences Corporation. The launch service was provided by Arianespace from the Kourou Spaceport in French Guiana. It is in operation providing fixed (geosynchronous) satellite services from the position 114.9° West longitude on the C and Ku bands.
- **Centenario (MEXSAT 1)** is contracted to be launched in 2014 from Baikonur Cosmodrome in Kazakhstan on a Proton M rocket. This satellite is a BSS-702HP platform manufactured by Boeing Corporation that provide service from a geosynchronous orbit at 113° West longitude. 5-panel solar array wings will provide 14 kilowatts of power and it will carry a 22-meter L-band reflector for mobile terminal links, complemented by a 2-meter Ku-band antenna.
- **Morelos III (MEXSAT 2)** is contracted to be launched in 2015 from Cape Canaveral, Florida, on an Atlas V vehicle provided by Lockheed Martin Corporation. The satellite model is the same configuration and

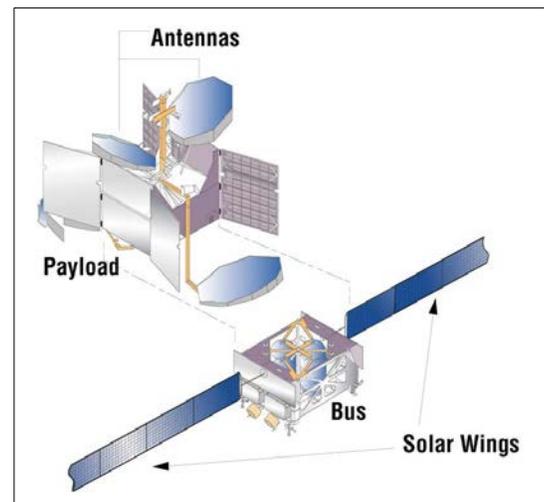


Figure 47: Boeing BSS-720HP Satellite (MEXSAT)

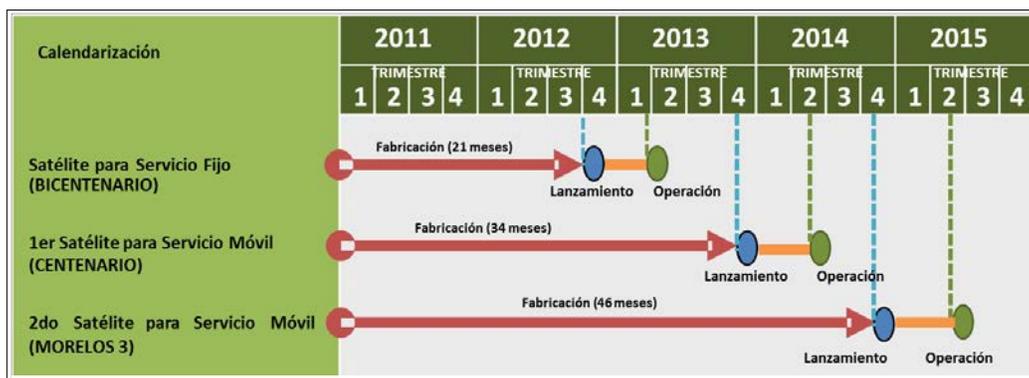


Figure 48: MEXSAT System Development Timeline

provides the same functionality as Centenario. It will operate from 116.8 West longitude.

The MEXSAT government program should not be confused with private company Satelites Mexicanos (SATMEX), recently purchased by French firm EUTELSAT, which manages a constellation of three satellites operating in the C and Ku bands.

The MEXSAT system is managed by Telecomunicaciones de México (Telecomm) and it will provide voice and data satellite communications products and services to support national security, civil and humanitarian efforts, and rural connectivity. Besides the launches and commissioning of the final two satellites, the remaining major program component is development of the standard user terminal designs for marine, aviation, ground vehicle and portable (handheld) applications.



Figure 49: MEXSAT System Mexico Coverage Area

The MEXSAT program has benefitted from over USD \$900 million in loan guarantees to U.S. suppliers through the U.S. Export-Import Bank.

Project Status and Implementation Timeline

The procurement for the non-recurring engineering of user terminal prototypes is expected to be released by mid-2014. Users are expected to proceed with purchasing their terminals upon approval of the products by Telecomm, through discrete procurement opportunities.

Project Cost, Financing and Procurement

The MEXSAT system federal budget, by year, is as follows:

2010	2011	2012	2013	2014	2015
\$214.6	\$338.7	\$339.3	\$437.2	\$244.0	\$146.6
Total: USD \$1.7 Billion					

Table 32: MEXSAT System Development Budget by Year

The PNI estimates the remaining investment opportunities associated with the program are \$627 million, including launch services and user terminal development. Launch services for the remaining two satellites have been contracted and are planned for 2014 and 2015. The Mexican government is in the process of selecting a short list of companies from whom it will solicit proposals for user terminal development, with RFP's scheduled to have been released to that group in September of 2014.

U.S. Export Opportunities

U.S. suppliers will have the opportunity to be paid to perform the non-recurring engineering tasks to develop the standardized user terminal models for approval by Telecomm. Following approval they will have access to provide their developed, approved, and standard user terminal products to be sold to meet market demand by public and private users. Telecomm estimates that 25,000 units will be procured in 2015, and ultimately over 100,000 devices will be sold.

Another opportunity exists associated with this program in the area of provision of the launch and first year of operations insurance coverage for the remaining two satellites.

Project Contacts

Project Sponsor(s)	U.S. Trade and Development Agency	U.S. Commercial Service Mexico
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Concessions for Two Geostationary Satellite Positions

	Project Type:	Telecommunications
	State(s):	Nationwide
	Projected Investment:	To be determined
	Timeline:	2014
	Project Sponsor(s):	IFT

Project Background and Scope

Mexico has received the authority from the International Telecommunications Union (ITU) to operate two geostationary telecommunications satellites and associated communications frequencies. These positions will serve to provide fixed satellite services covering all of Mexico's territory. Exploitation of these resources will support many of the national development objectives, include expansion of telecommunications infrastructure, improvement of competition in provision of telecommunications services, and providing broader access to telecommunications offerings. These satellite positions will be dedicated for commercial use.

Position	Designation	Frequency	Downlink	Uplink	MHz
113.0° West	MEXSAT 113 KU EXT	Ku Extended	11 450 – 11 700	13 750 – 14 000	500 (250 x 2)
113.0° West	MEXSAT 113 L-CEXT-X	C Extended	3 400 – 3 700	6 425 – 6 725	600 (300 x 2)
116.8° West	MEXSAT 116.8 KU EXT	Ku Extended	11 450 – 11 700	13 750 – 14 000	500 (250 x 2)
116.8° West	MEXSAT 116.8 L-CEXT-X	C Extended	3 400 – 3 700	6 425 – 6 725	600 (300 x 2)

Table 33: New Geostationary Telecommunications Satellite Position Parameters

Successful and timely exploitation of the authorities provided by ITU for satellite positions is important. These are valuable and desired resources. In the case of failure to operate by the authorities, position awards are subject to revocation by ITU and being granted to other interested countries.

Project Status and Implementation Timeline

IFT intends to complete this procurement by the end of 2014. Preparation of the concession package is underway.

Project Cost, Financing and Procurement

It is expected that the positions will be auctioned as twenty-year concessions to private operators. Up to 100 percent foreign involvement will be permitted. The value of the concessions has not been defined publicly, as it will be determined by offers made by competing entities to manage the concessions. As successful exploitation will involve construction of satellites, ground facilities, user terminals and associated infrastructure, entail procurement of launch services, and subsequent provision of satellite telecommunications services for profit over two decades, the total investment associated with this activity is expected to be several billion dollars.

U.S. Export Opportunities

U.S. export opportunities will include participation as providers of debt and/or equity for bidders, participation in consortiums to manage the concession, participation in an operating role, provision of satellites and

associated infrastructure, provision of launch services, and provision of insurance. The new bandwidth should indirectly support providers of content as it will help broaden the general reach of telecommunications services to various users across Mexico.

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