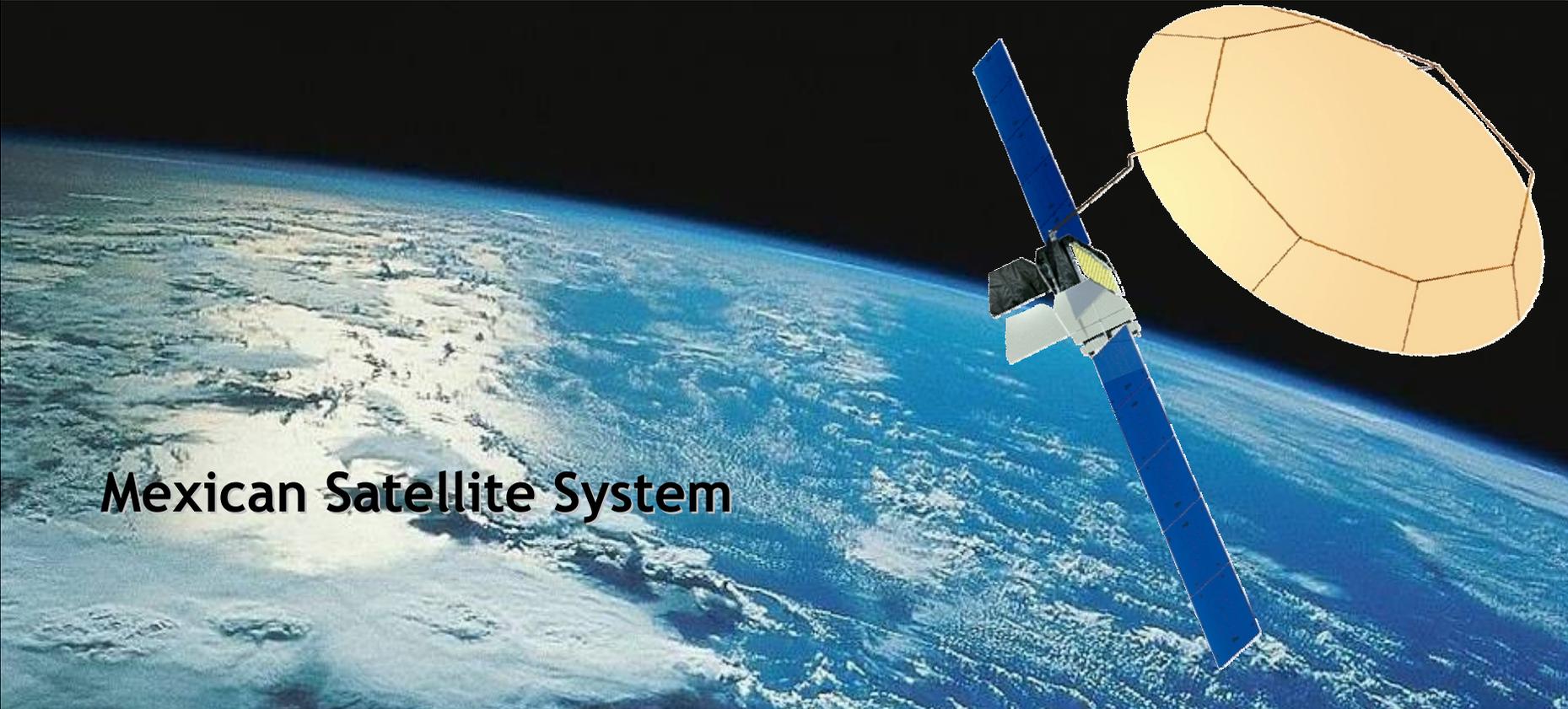




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Mexican Satellite System

Secretaría de Comunicaciones y Transportes

Sistema Satelital Mexicano

2 June 2011



Vivir Mejor



The Mexican Government requires

1. National Security mobile and fixed SATCOM Services,
2. Emergency and contingency Disaster Support
3. Communications for social coverage and to reduce the digital divide; and
4. Preservation of orbital slots and L-band spectrum.

NATIONAL SECURITY COMMUNICATIONS REQUIREMENTS



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Coverage

Mobility

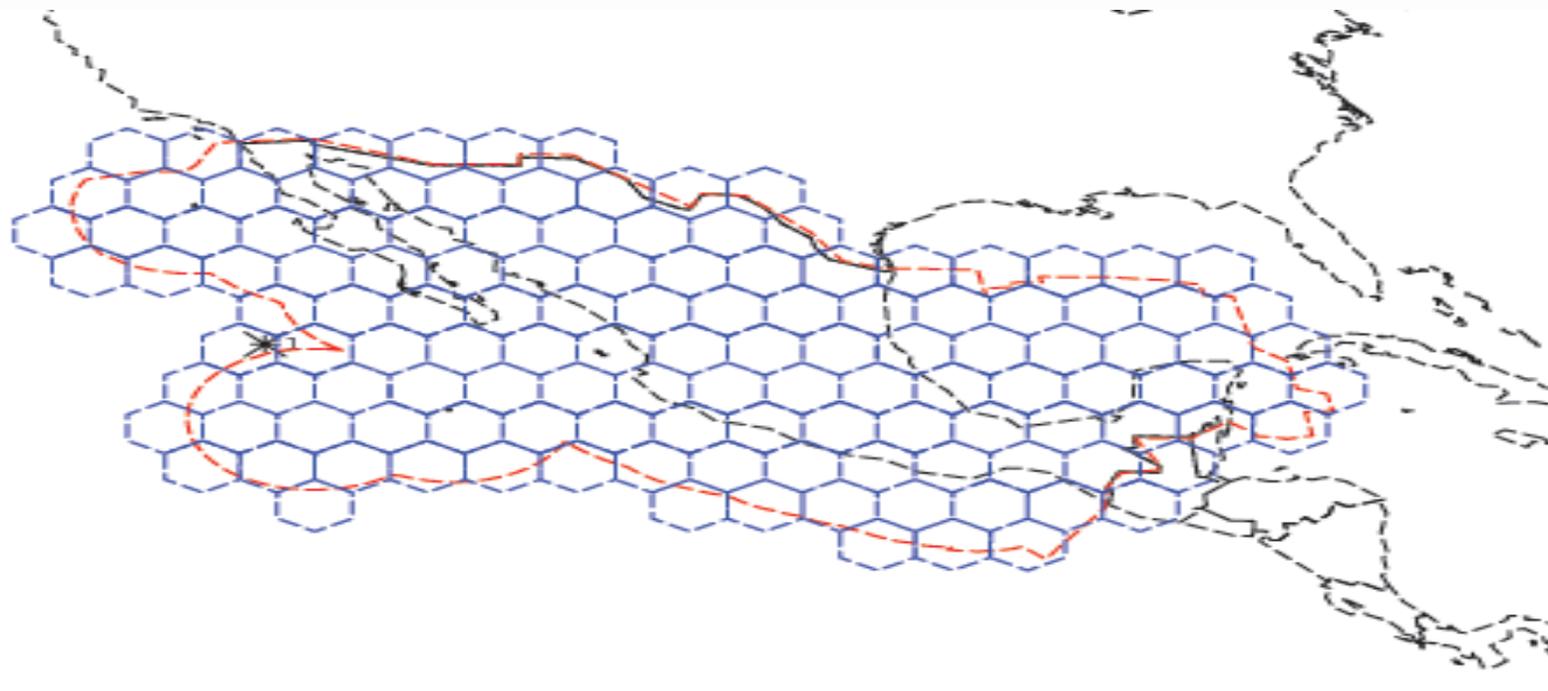
Control and Autonomy

Secure Operation and Autonomy

Interconnectivity

Long Term Investment

Communications support during disasters



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THE BOEING CONTRACT INCLUDES



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3 Geostationary satellites

2 MSS spacecraft

1 FSS Spacecraft

Payload

L Band for mobile services (voice, data & video)

Ku and C Ext bands as feeder link

Ku Ext for fixed services

2 TT & C Facilities (Mexico City and Hermosillo)

Design of the user terminals

Specialized training

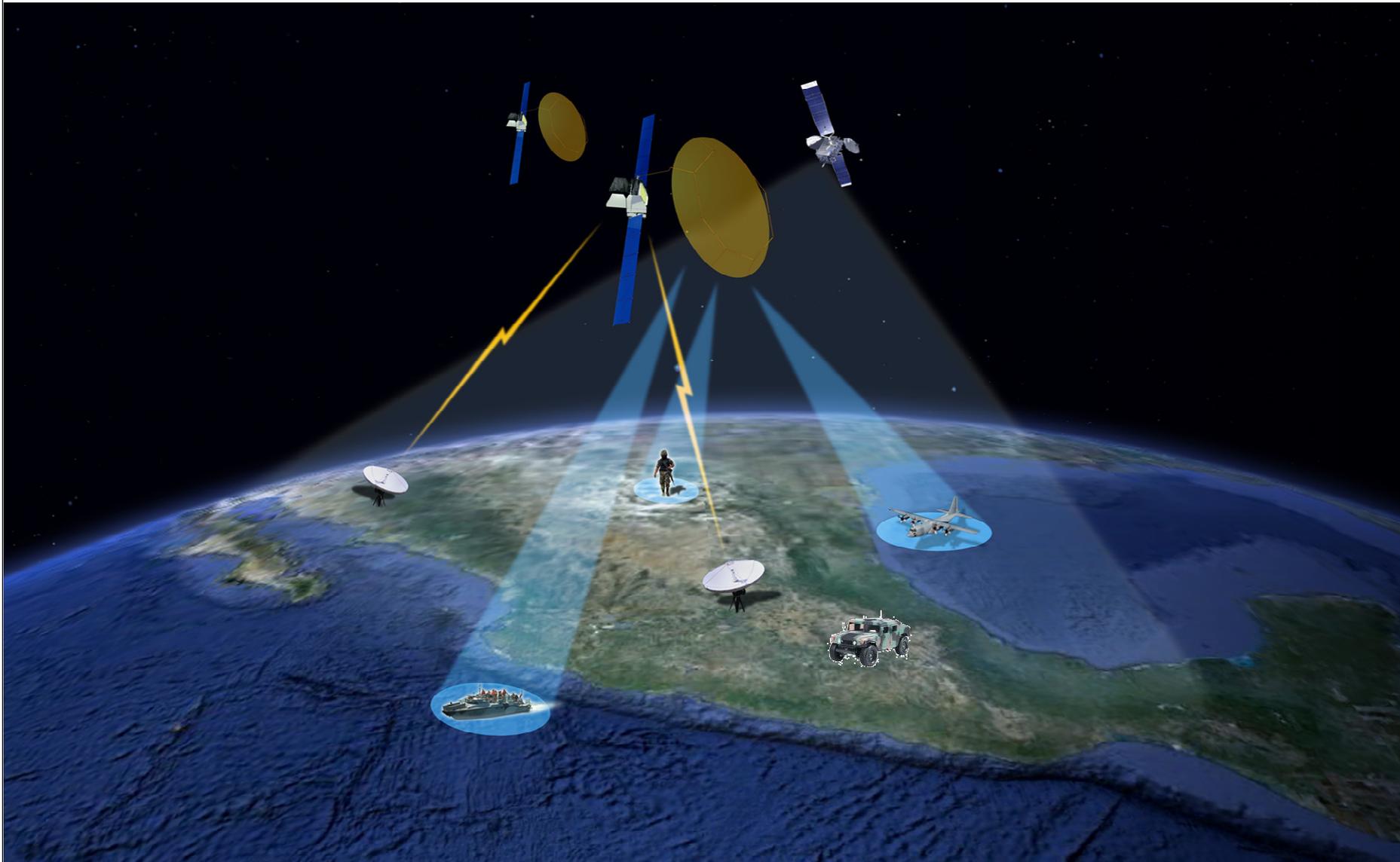


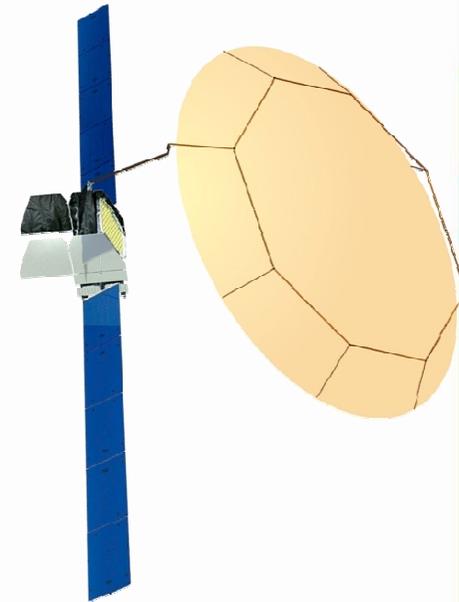
SCHEMATIC OF THE NEW SATELLITE



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Technological Adaptability

Ubiquitous Services over the coverage area

Broadband Services

Autonomous Operation

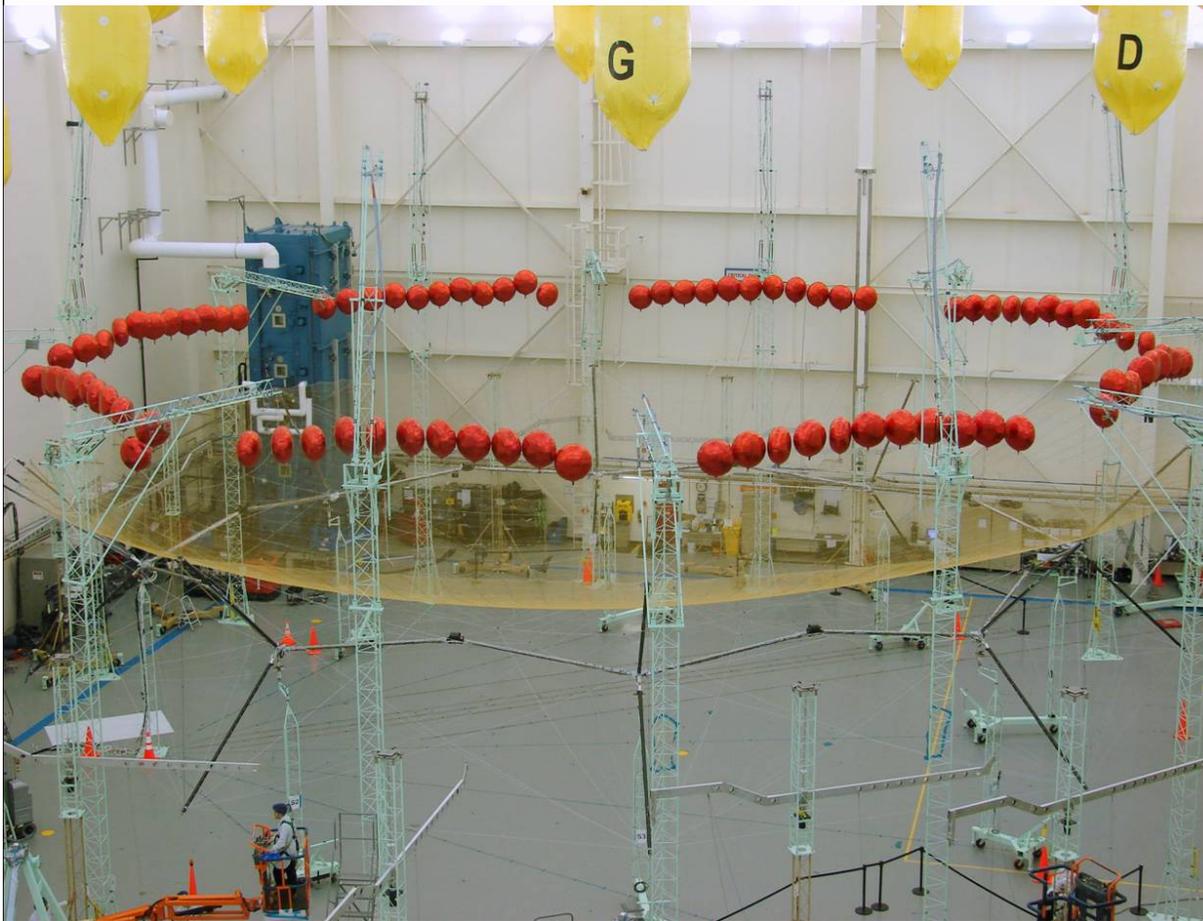
Technological Legacy (20 plus years of services)

22-METER DEFLECTOR



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- Better re-use of frequencies
- Inconspicuous terminals
- Larger data transportation capabilities

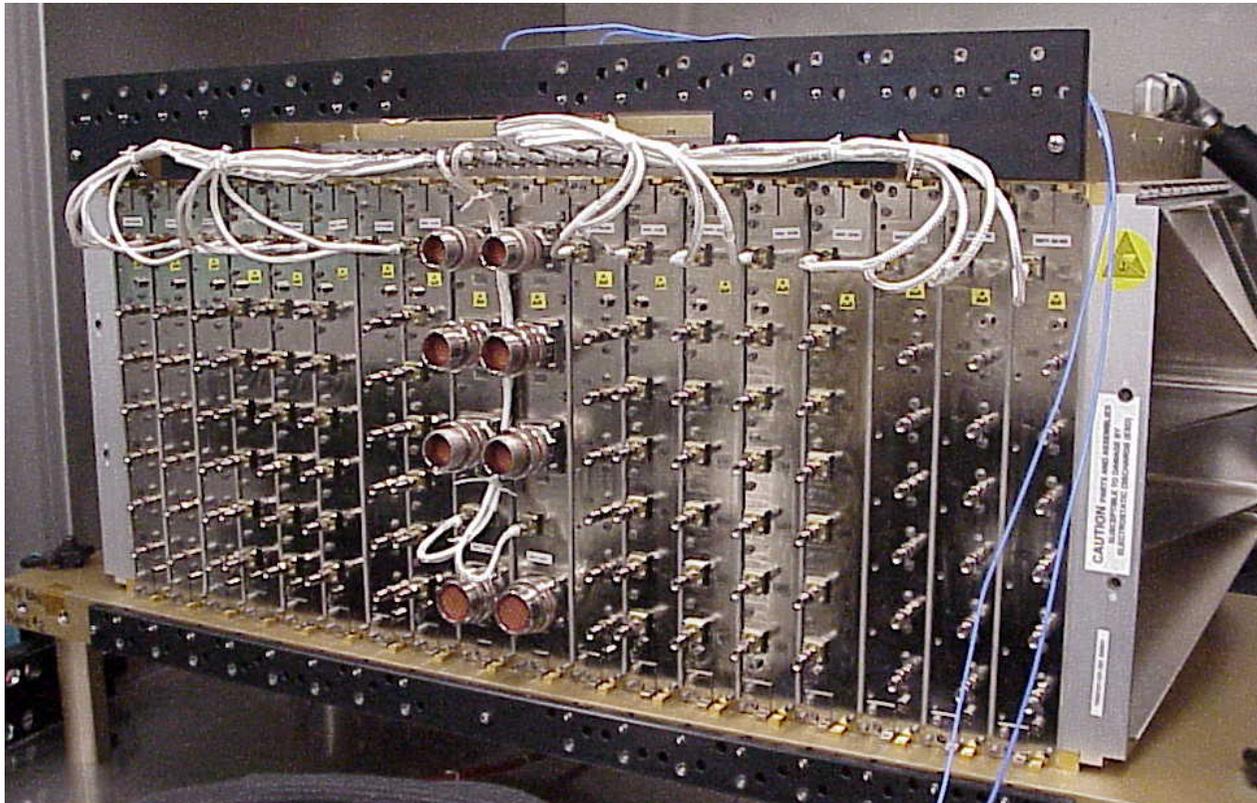


DIGITAL CHANNELIZER



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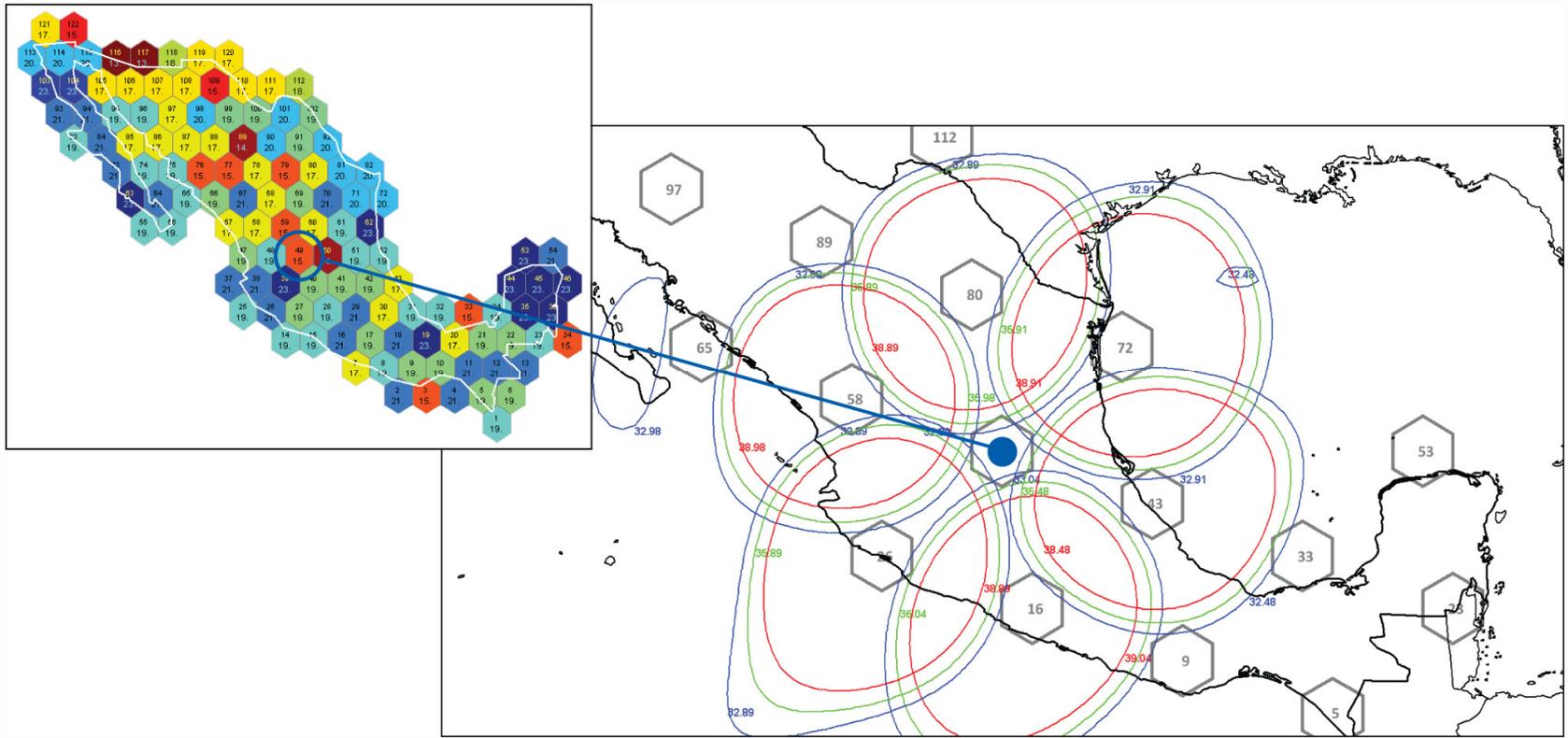


- Better reuse of frequencies
- Re-band of frequency capacities
- Capacity to use Ground Base Beam Forming
- Reduce the mass of the spacecraft



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NOISE SELF-CANCELATION



The system allows the operator to cancel any possible interference from other operators and to cancel every non authorized user and enables the capability to concentrate radiation power, making it optimal for flexible operations, and maximizes power allocation.

BEFORE AND AFTER – A COMPARISON BETWEEN SOLIDARIDAD AND MEXSAT



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Capabilities	Solidaridad	MexSat
Users	7,200 (L); 300 (Ku)	145,000 (L); 100,000 (Ku)
Terminals	Bulky	Inconspicuous
Terminals weight	5 to 10 Kg	70 to 800 grs.
Video	No	Yes
Speed	4800 bps	500,000 bps
Beams	1	200 +
Reuse of frequencies	No	Yes
Reconfiguration	No	By Software
Internet	No	Yes
E mail	No	Yes
Text	No	Yes
Communication Standard	Proprietary	Open GSM – CDMA - LTE





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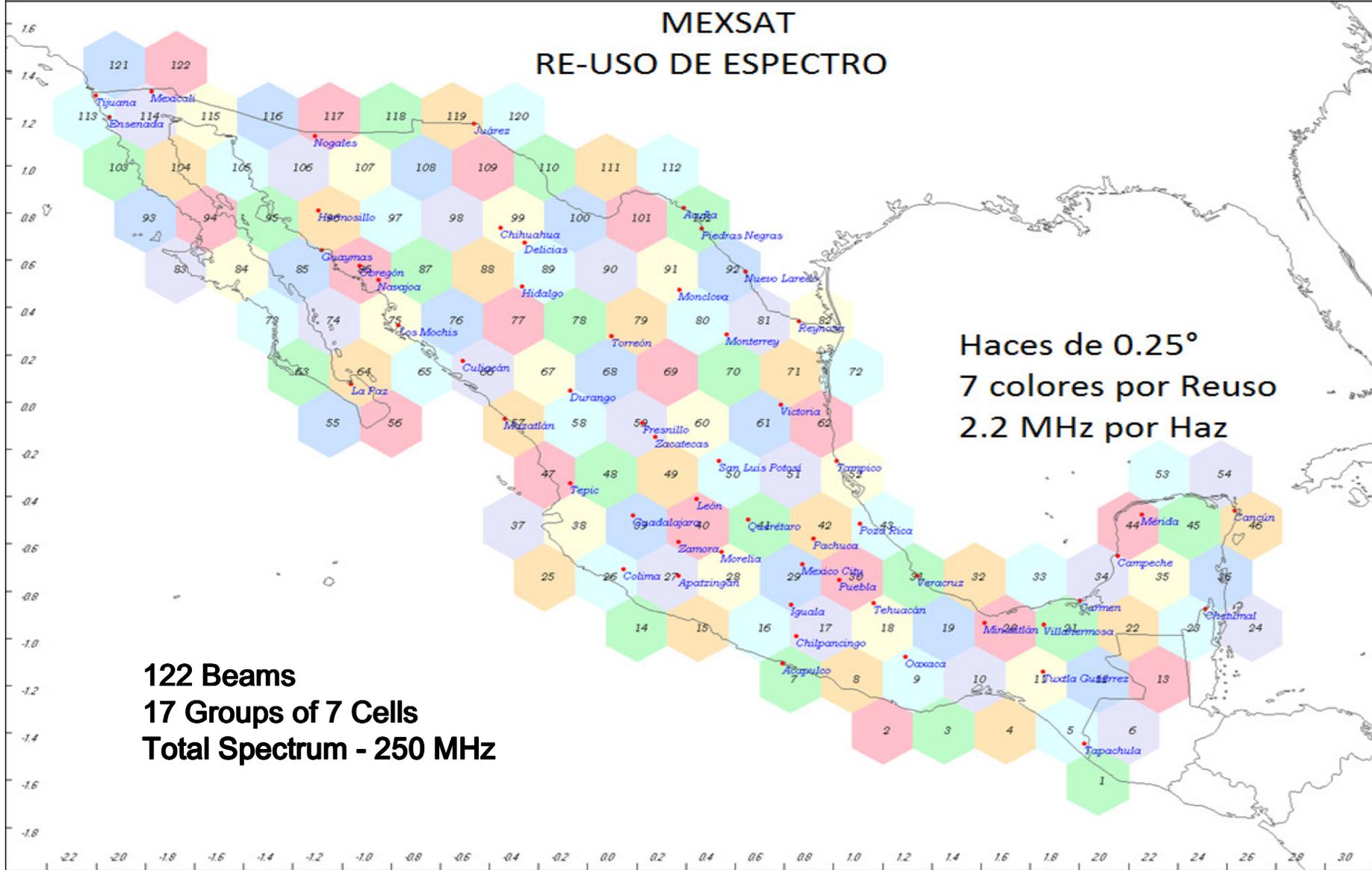
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MEXSAT COMMUNICATIONS NETWORK (ESPECIMEN)

MEXSAT RE-USO DE ESPECTRO



122 Beams
17 Groups of 7 Cells
Total Spectrum - 250 MHz

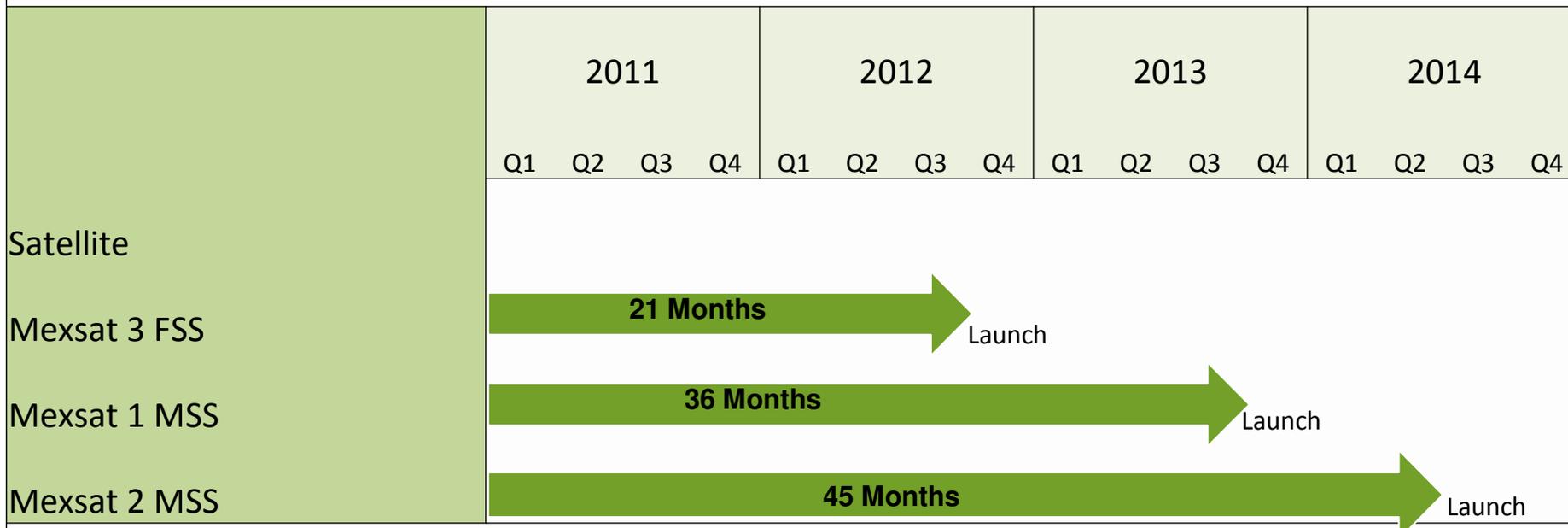
PROGRAM SCHEDULE



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On December the 17th 2010 SCT and Boeing Satellite Systems International signed a contract for the 3 spacecraft and ground segment for a total amount of \$1,031.8 Million Dollars (\$1.0318 B)



SCT has to procure separately 3 launch services and insurance for the satellites.



Fact Sheet



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Item	MEXSAT 1 & 2	MEXSAT 3
Manufacturer	BOEING	ORBITAL
Plataform	BOEING 702 "Geomobile"	STAR 2
Orbital Slots	113° y 116 °W	114.9 W
Orbit Type	Geostationary Inclined 6°	Geostationary Geosynchronous
Life span	15 Years	15 Years
Service Frecuencias (Satellite- User)	"L" BAND	"Ku" Ext BAND
Service Frecuencias (Satellite- HUB)	"Ku" BAND Allotment	"C" Band Ext
Coverage area	Mexico, Economic Exclusive Zone, Central America, North of South America	Mexico and Economic Exclusive Zone
Wet Mass	5.8 Tons	2.8 Tons
Power in Watts	15,000	3,600
Assembly and Manufacturing Time	36 y 45 Months	21 Months
Manufacturing Facility	EL SEGUNDO, CALIFORNIA	DULLES, VIRGINIA
Propulsion	Bi Propellant	Bi Propellant
Costumer services	Voice, Data, Internet and Video	Voice, Data, Internet and Video
Service Type	Mobile Satellite Service	Fixed Satellite Service
Terminals Type	Aeronautical Maritime Terrestrial Mobile Terrestrial Portable (Lap Top) SMART PHONES	Parabolic Antenna VSAT (VERY SMALL APERTURE TERMINAL) Flat Array Antenna





Fixed Satellite Service	Mobile Satellite Service
Proton	Proton
Ariane 5 dedicated	Ariane 5 Shared
Sea Launch	Sea Launch / Land Launch
Atlas V	Falcon 9
	Mitsubishi H II A



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Thank You



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