Development of the Space Sector in Mexico

Francisco Javier Mendieta-Jiménez

Mexico in Numbers

Population: 120 Millions
Land Area: 2.0 Million km²

Exclusive sea economic zone: 3.3 Million km²

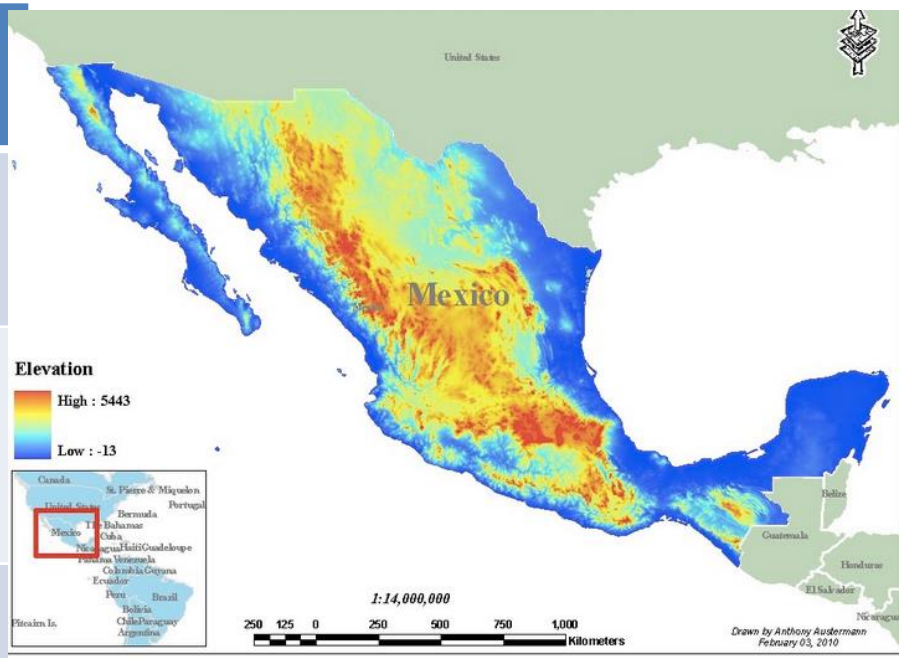
Coastline: 11,000 km

Mexico-US border: 3,200 km

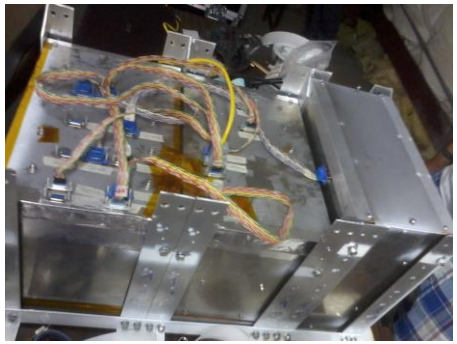
GDP $1.3 Trillion USD

Economy no. 14th

Happiness index no. 14

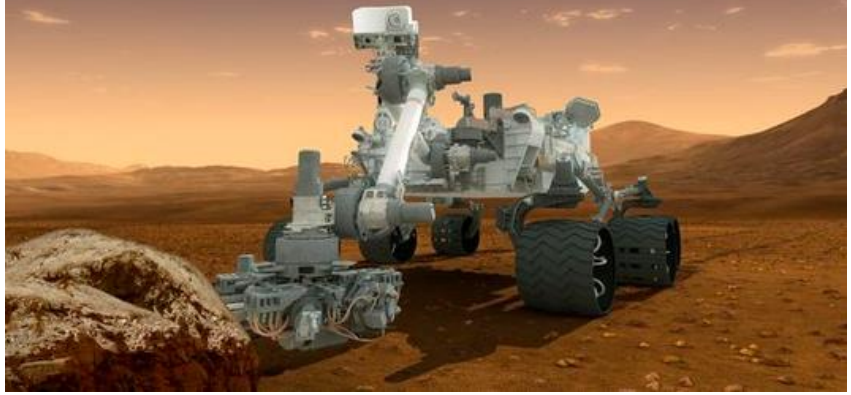


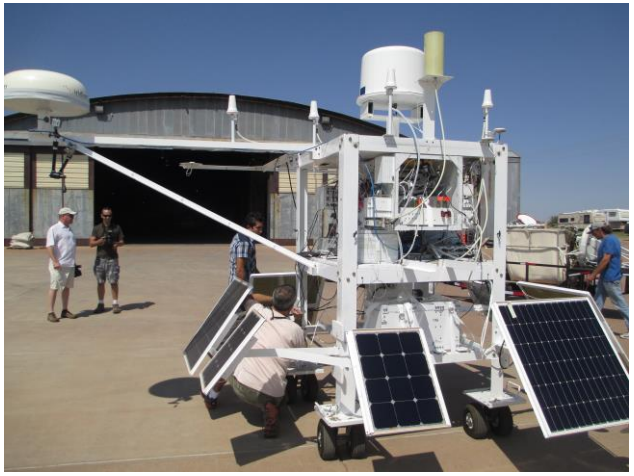
Mexican Space Sciences



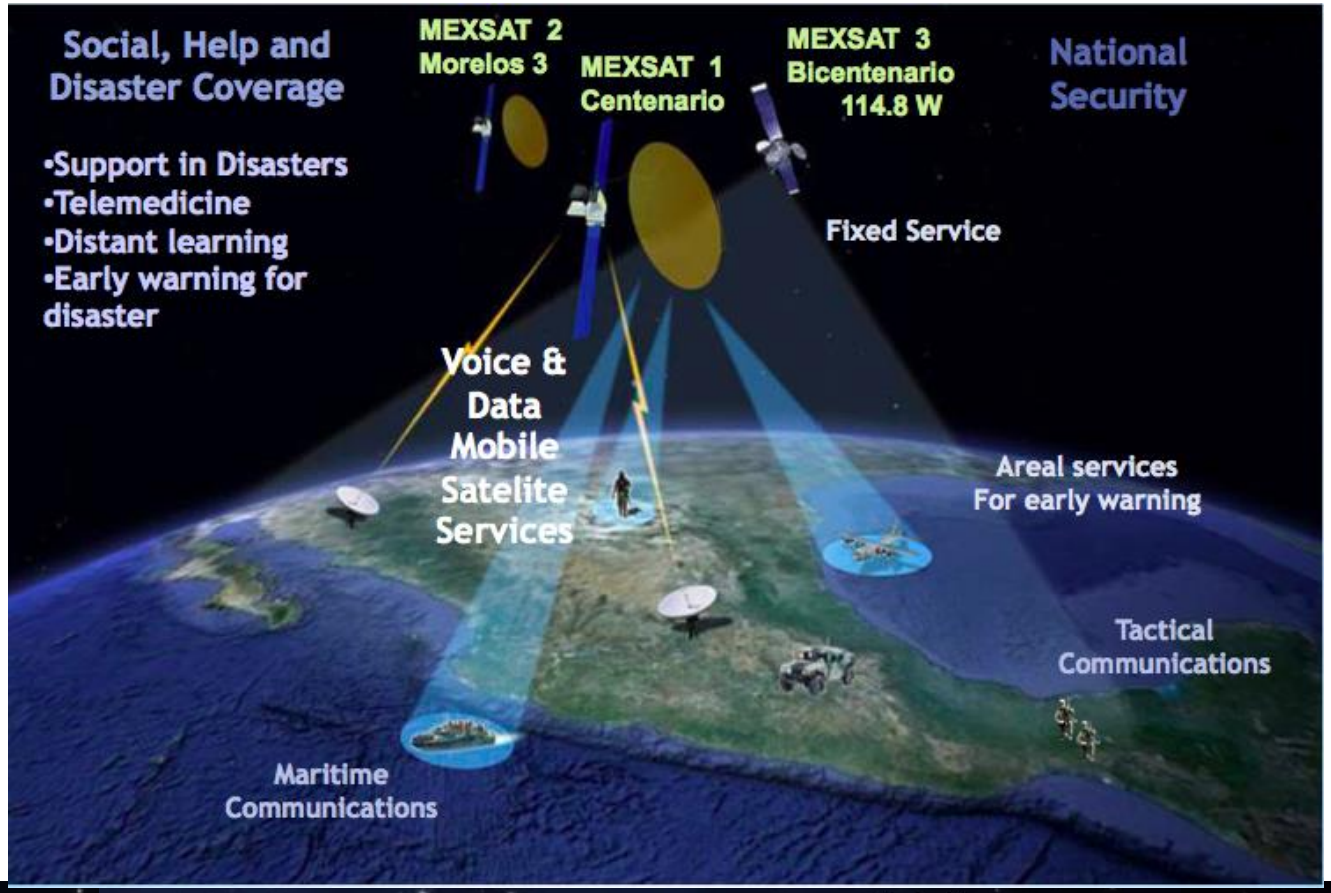
- Astronomy, Astrophysics, Geophysics
- Space Communications
- Earth Observation
  - Ocean Sciences
  - Earth Sciences
  - Atmospheric Sciences
- Natural Disaster Management

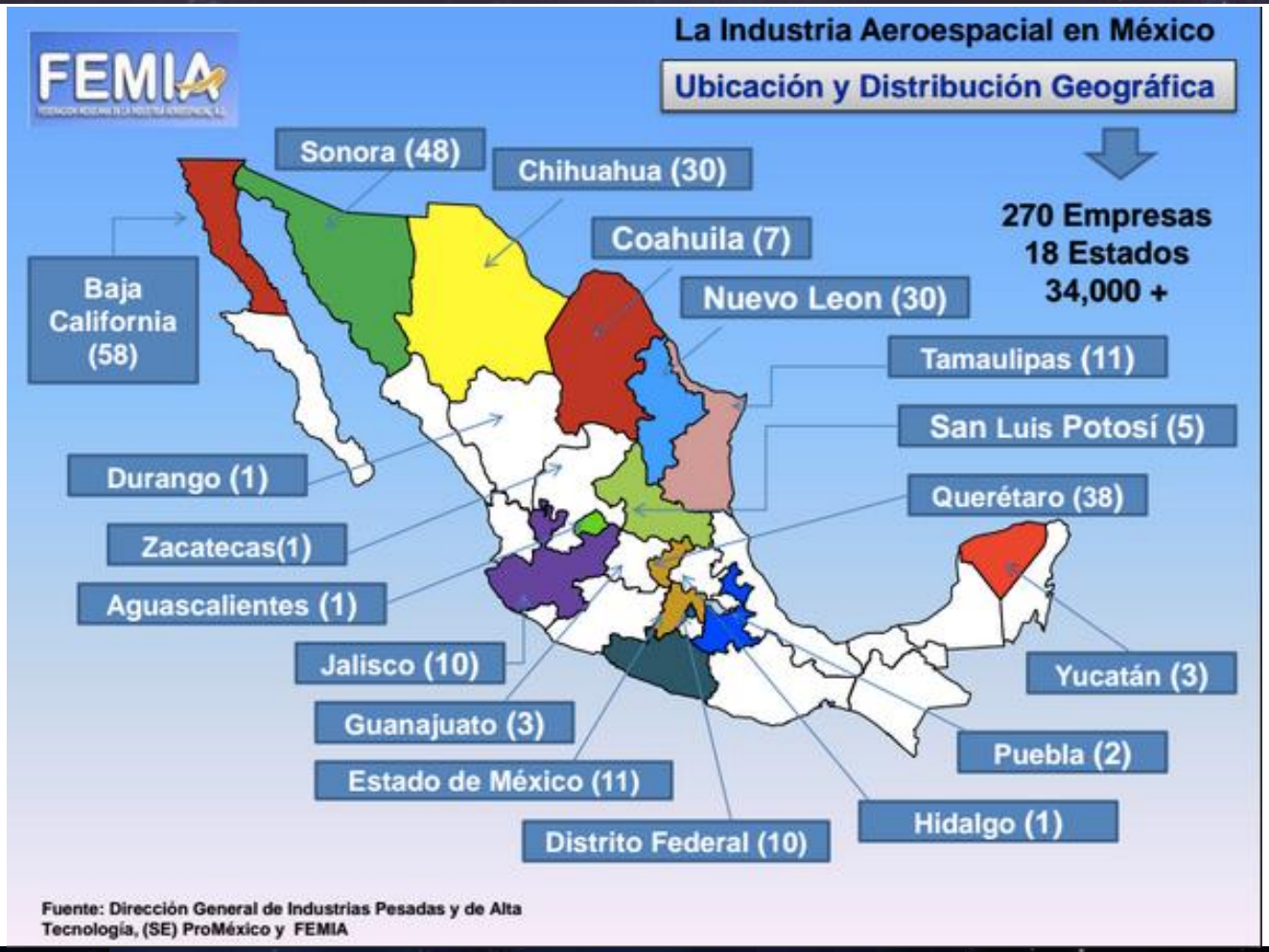
Mexican Space Technology



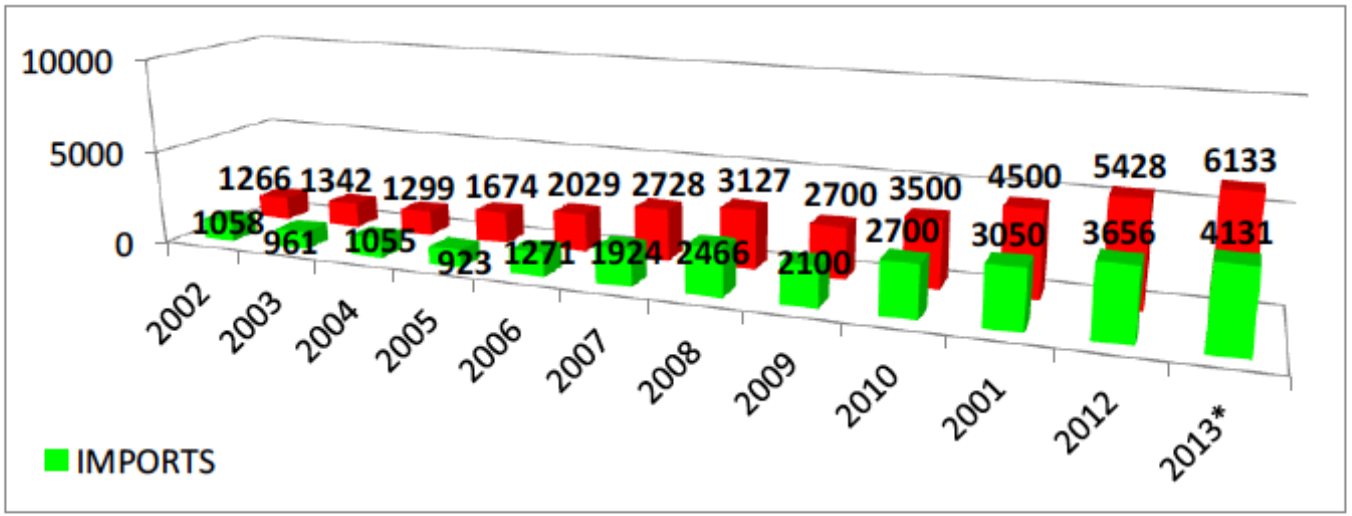


MexSat Satellite System



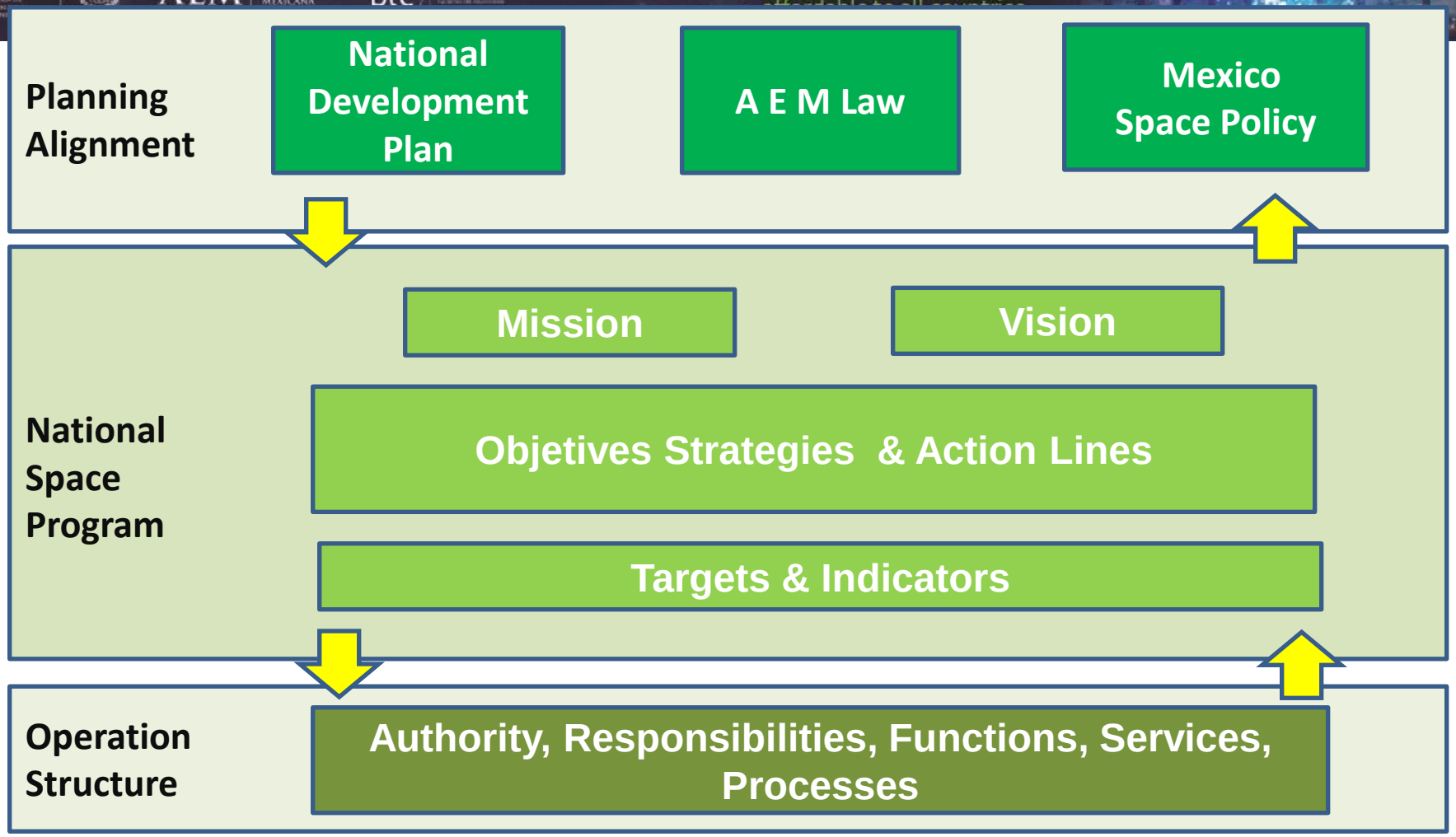

FEMIA
La Industria Aeroespacial en México
Ubicación y Distribución Geográfica
270 Empresas
18 Estados
34,000 +
Sonora (48)
Chihuahua (30)
Coahuila (7)
Nuevo Leon (30)
Tamaulipas (11)
San Luis Potosí (5)
Querétaro (38)
Baja California (58)
Durango (1)
Zacatecas(1)
Aguascalientes (1)
Jalisco (10)
Guanajuato (3)
Estado de México (11)
Distrito Federal (10)
Hidalgo (1)
Puebla (2)
Yucatán (3)
Fuente: Dirección General de Industrias Pesadas y de Alta Tecnología, (SE) ProMéxico y FEMIA

Mexican Aerospace Sector



Source: DGIPAT with data from DGCE,
Figures in millions USD.
* Includes estimated services rendered

FEMIA


Planning Alignment
National Development Plan
A E M Law
Mexico Space Policy
National Space Program
Mission
Vision
Objetives Strategies & Action Lines
Targets & Indicators
Operation Structure
Authority, Responsibilities, Functions, Services, Processes

Mexican National Development Plan

- Space based early warning system for prevention, mitigation and rapid response to **natural disasters**
  (action item no.4.5.1.11 of PND)

- **Broad band** infrastructure with new communication satellite technologies for mexican capacity building.
  (action item no. 4.5.12 of PND)

- Space system based in satellite global navigation for **modernization of transportation**
  (action item no. 4.5.1.13 of PND)

National Space policy

1. The State as authority and responsible	7. Productive sector development
2. Towards autonomy in certain areas	8. Human capital
3. Security	9. Coordination, regulation and certification
4. Protection of Population	10. International cooperation
5. Environment sustainability	11. Space activities public awareness
6. Scientific research, technology and innovation development	12. Funding
	13. Organization and management

MEXICAN SPACE PROGRAM

1 SPACE INFRASTRUCTURE

2 SPACE SECTOR DEVELOPMENT

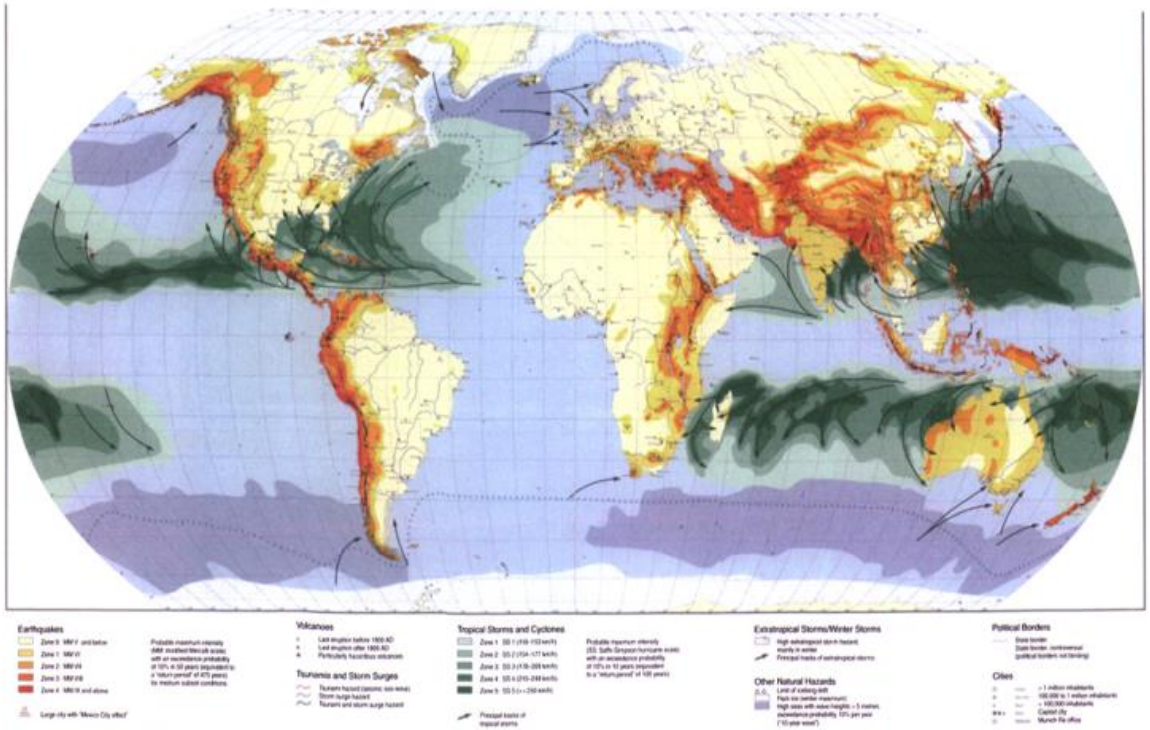
3 CAPACITY BUILDING

4 INTERNATIONAL POSITIONING


Identification of Common Challenges and Opportunities
Join Development of Space Based Solutions with Social Benefit
International Cooperation
Complementarity in Space Information Systems
Great Humankind Space Missions

Global Challenges

- Environment
- Global change
- Digital Divide
- Security
- Cibersecurity
- Disasters
- Space Debris
- Space Weather



Mexico´s space vision (2030)

- Turn Mexico into a significant international space player
  - Significant space infrastructure with indigenous participation
  - Significant space industry, focused on niches
  - Adequate human capital
  - Contribution to space exploration and research
  - Space awareness of population

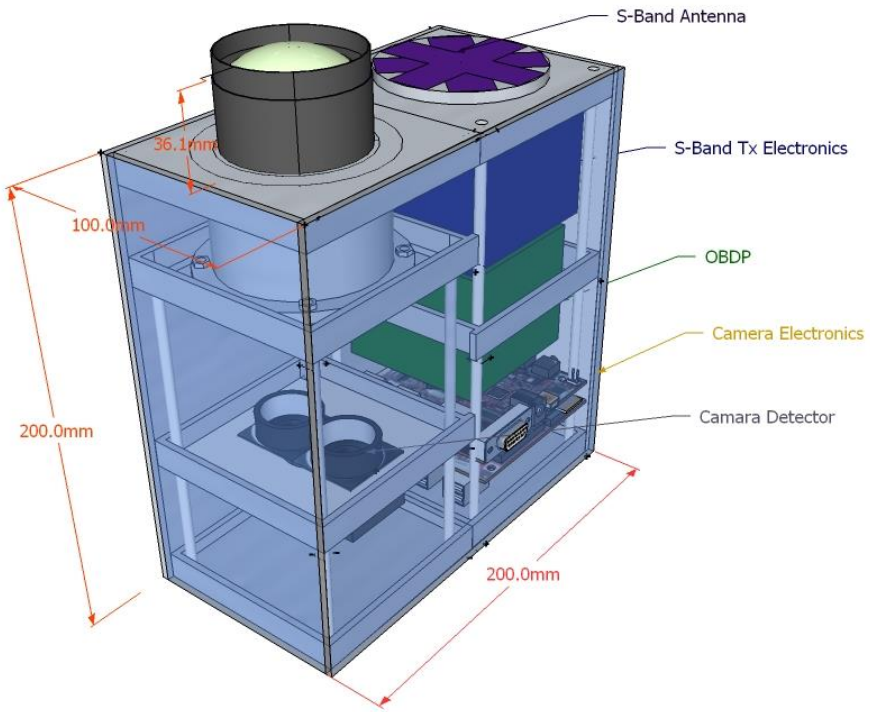
Opportunities

- Growing need for space applications
- Growing aerospace industry
- Population bonus
- Scientific base
- Geopolitical location
- Free trade agreements

Current National Planned Developments

- Infrastructure development for the reception of geomatic data.
- Development of the National Center for Geomatic, Space and Astrophysics Data Storage and Processing
- Development of the National Center of Space Vehicles Integration
- Development of the National Center for Space Technology Trial
- Development of the National Center of Technology Transfer and Space Vinculation

- Cubesats
- Microsatellites



Strategic Lines

- Sensors
  - –Hiperspectral
  - –SAR
  - –Water Vapor Monitoring through geostationary satellites.

Long-Term Goal

- Goal: Replace the Bicentenario in 15 years
  - Cansats, stratospheric balloons
  - Cubesats
  - Microsatellites
  - Compact GEO orbit satellites
- Development of National Capacities
  - Support for space start-ups and entrepeneurs
  - Space Industry

SCT
SECRETARÍA DE COMUNICACIONES Y TRANSPORTES

AEM
AGENCIA ESPACIAL MEXICANA

GRACIAS
(THANK YOU)

www.aem.gob.mx