

Mexico's Manufacturing Supply Chain Summit

Conference • B2B • Plant Visit

San Diego, CA

Marriott Marquis San Diego Marina
March 19-20, 2015



MEXICONOW



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Supply Chain Summit**
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www.mexicosupplychainsummit.com

Overview of Mexico's Aerospace Industry

Benito Gritzewsky

Chairman of the Board
FEMIA



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Mexican Federation of Aerospace Industry (FEMIA)



www.femia.com.mx

- **Mexican Association of Aerospace Companies**
- **Private, non-profit organization.**
- **Established in 2007.**
- **More than 70 member companies.**
- **Member presence in 11 states of Mexico.**
- **Capital origin: Approx. 35% from Mexico, 65% Foreign.**
- **FEMIA is the Private counterpart of the Mexican Federal Government.**

AREAS OF INTERVENTION (Commissions)

- **Competitiveness**
- **Human talent development**
- **Promotion**
- **Institutional relations & Legal framework**



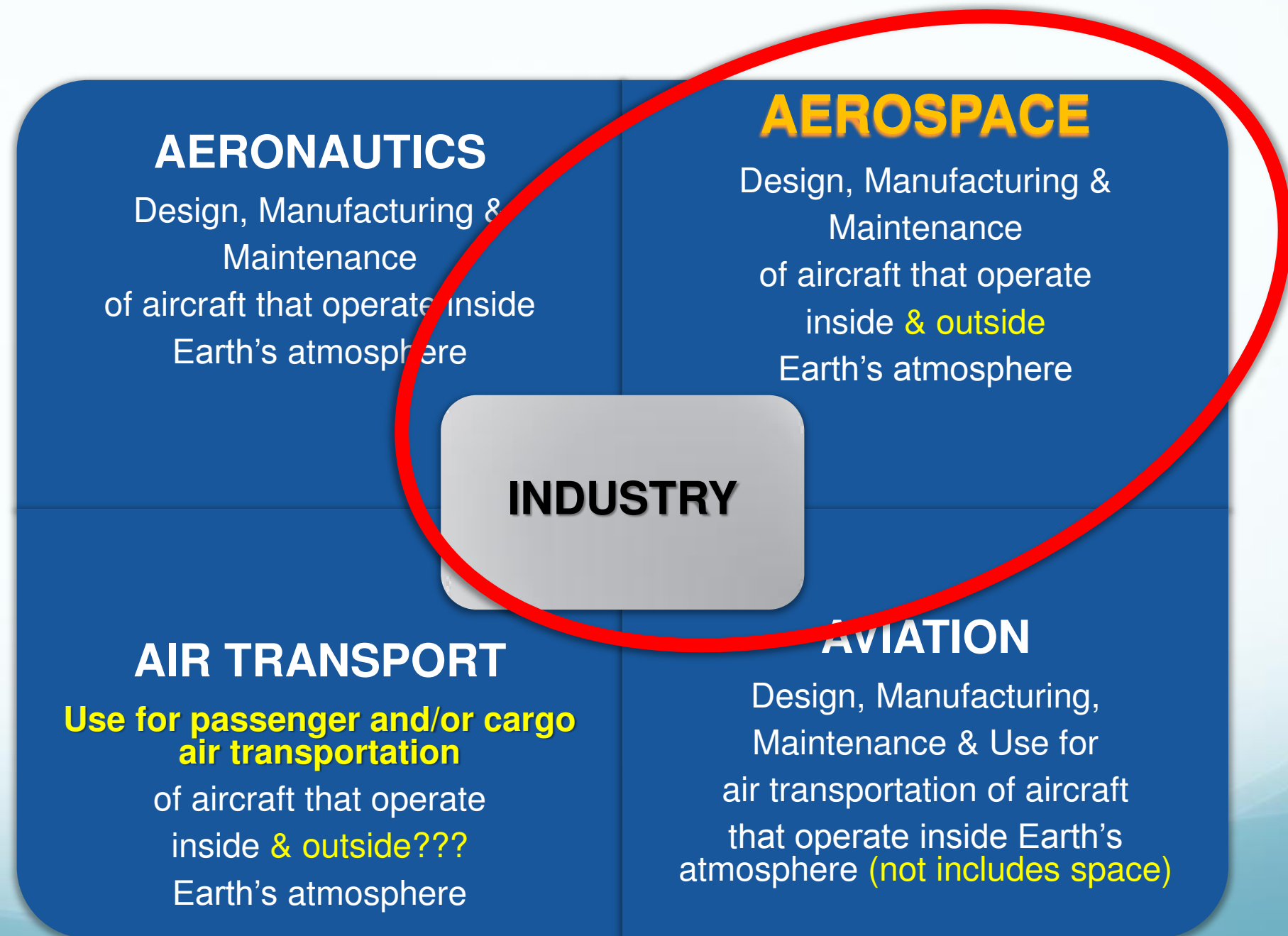
OUR MEMBERS

A large circular collage in the center of the banner features various aerospace images: a helicopter, a jet engine, a globe with flight paths, and a commercial airplane.

Members and Partners:

- Top Row:** ADD Intelligence in Aviation, AERnova Mexico, AeroConsulting Mexico, AERONÁUTICA Y DISEÑO, ASES, AIRBUS HELICOPTERS, Alaxia, ALTASER aerospace, aisa, aa.
- Second Row:** axon cable & interconnect, BOMBARDIER, FEMIA FEDERACION MEXICANA DE LA INDUSTRIA AEROSPAIAL, A.C., CARPENTER, Castle Metals.
- Third Row:** CAV AEROSPACE, CIMA, COAST ALUMINUM, VIAKON AEROSPACE.
- Fourth Row:** DAHER-SOCATA, DHS INTERNATIONAL, DU PONT, EATON Powering Business Worldwide, ELIMCO PRETTI AEROSPACE, ESPECIALISTAS EN TURBOPARTES.
- Fifth Row:** Fokker, FRISA, GE, GKN AEROSPACE, GLOBAL Partner Solutions.
- Sixth Row:** GOLDON PRODUCT DEVELOPMENT FIRST, BOEING, AIRBUS GROUP, Grupo SSC, HELLER.
- Seventh Row:** HEMAQ, Honeywell, HYRSA AEROSPACE, INCERTEC.
- Eighth Row:** GRUPO INFRA 95, ITP Group-Aero, KAESER COMPRESORES, MAGNAFLUX.
- Ninth Row:** SAFRAN Messier-Bugatti-Dowty, HELICOPTERS, PRAXAIR, QET TECH AEROSPACE, RAMSA, TECNOCENTER RYPSA.
- Tenth Row:** SAFRAN Mexico, SARGENT AEROSPACE & DEFENSE, SENER The way to see the future, Senior Aerospace Mexico, SIASA AIR, MAKINO, SKYINTERIORS, Soisa Aerospace.
- Bottom Row:** TATA TECHNOLOGIES, tecnum, TECT, TERMOINNOVA, Deechcraft, Hawker, JETTER, TCHITCO, UTC Aerospace Systems, VOLARE Engineering, Zoppas Industries.

DEFINITIONS



Aerospace Industry in Mexico





Mexico's Aerospace Industry Profile

New Industry in Mexico with
an outstanding growth
2004 – 2013 (+18% avg
annual)

300 Industrial Facilities

- 79% MFG
- 11% MRO
- 10% D&I

Jobs: +43,000 in 18 of the
32 states in Mexico

Exports: \$5,463 (2013)

- Moved from 10th to 6th place as exporting country to the USA Aerospace Industry in less than 10 years.

Expectation for 2015:

- 52,000 jobs
- 320+ industrial facilities
- Exports exceeding 7,500 million USD
- 30% mexican value added

Competitive manufacturing
platform in less than 10
years

- Mexico's global ranking in the Industry is 14th

Global Country Ranking – Aerospace Industry

Revenue 2009

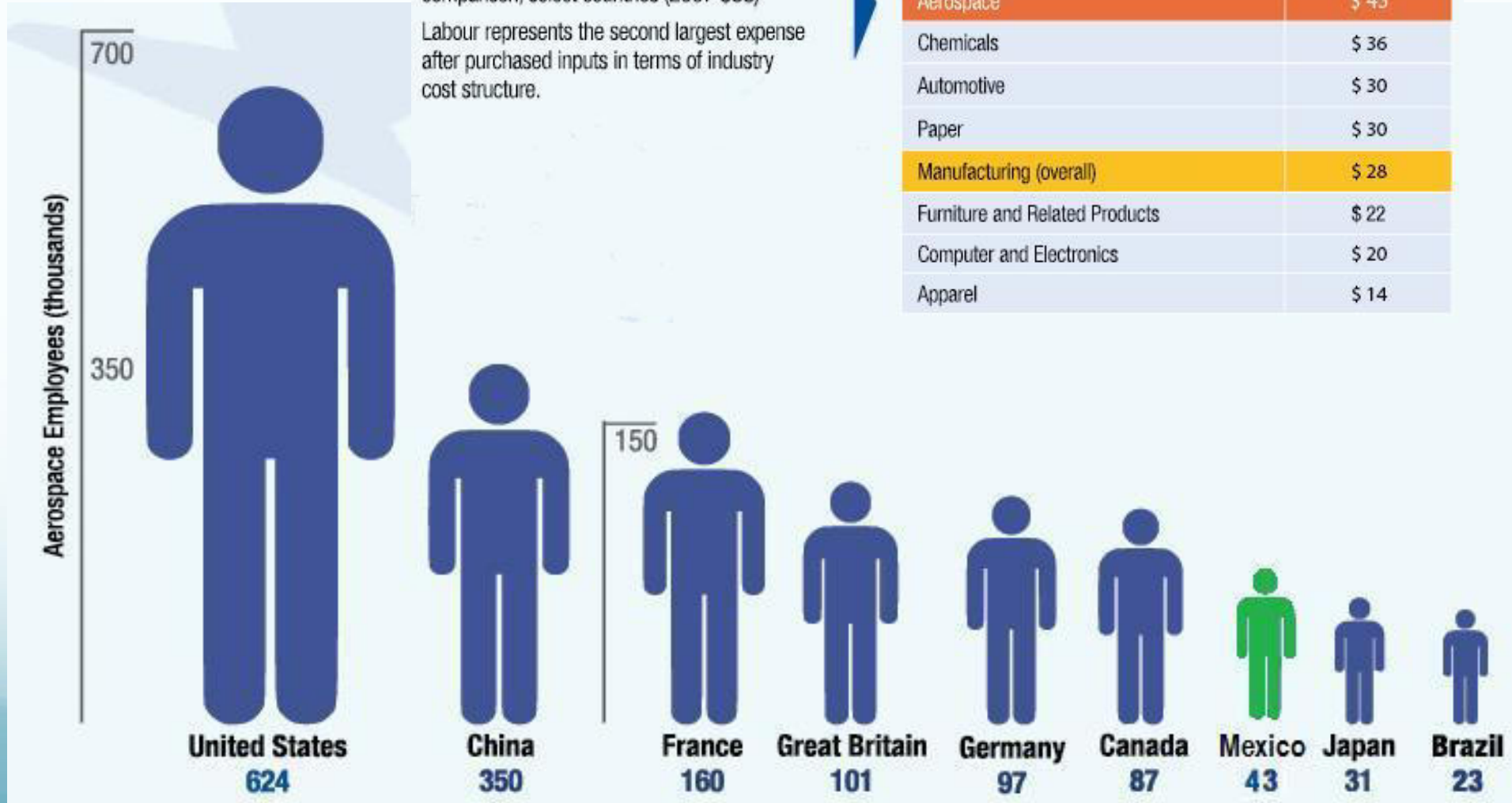
(Billion USD)



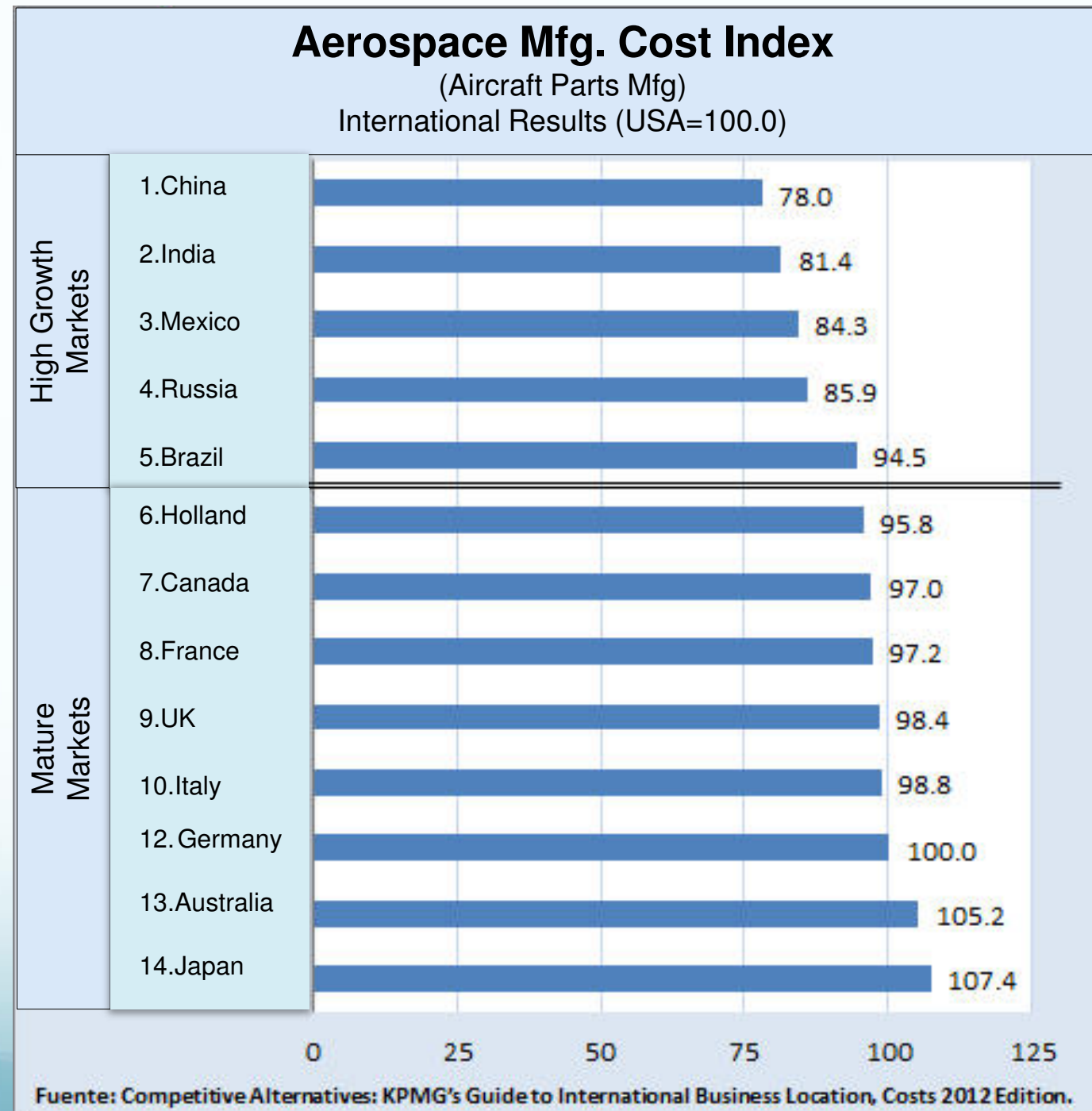
No.	Country	Revenue (Billion USD)
1	USA	\$204.00
2	France	\$50.40
3	United Kingdom	\$32.70
4	Germany	\$32.10
5	Canada	\$22.30
6	Japan	\$14.10
7	China	\$12.00
8	Russia	\$10.00
9	Italy	\$9.90
10	Brazil	\$7.60
11	Spain	\$6.10
12	Singapore	\$4.30
13	India	\$4.00
14	Holland	\$3.40
15	Mexico	\$3.00
	Others	\$34.20

Employees – Global Aerospace Industry

➤ **Approx. 2 million jobs**



Cost Competitiveness



Foreign Direct Investment in Mexico's Aerospace Industry

Estimated FDI
in Mexico's
Aerospace
Industry is
around
\$33,000
Million USD

FDI Origin:
75% from
North
America.
25% from
Europe

One of the
most
important
receptors of
FDI in the
Global
Aerospace
Industry in the
last 5 years

6th most
important
supplier to the
USA
Aerospace
Industry

Mexico has
entered BASA
& Wassenaar
Agreements



Foreign Direct Investment in Mexico's Aerospace Industry

Mexico - NEW Global Manufacturing hub for the Aerospace Industry

Estimated FDI in Mexico's Aerospace Industry: \$33,000 Million USD

FDI Origin: 75% from North America, 25% from Europe

One of the most important receptors of FDI in the Aerospace Industry in the last 5 years

6th most important supplier to the Aerospace Industry

Mexico has entered the US/SAFTCA Missions Agreements



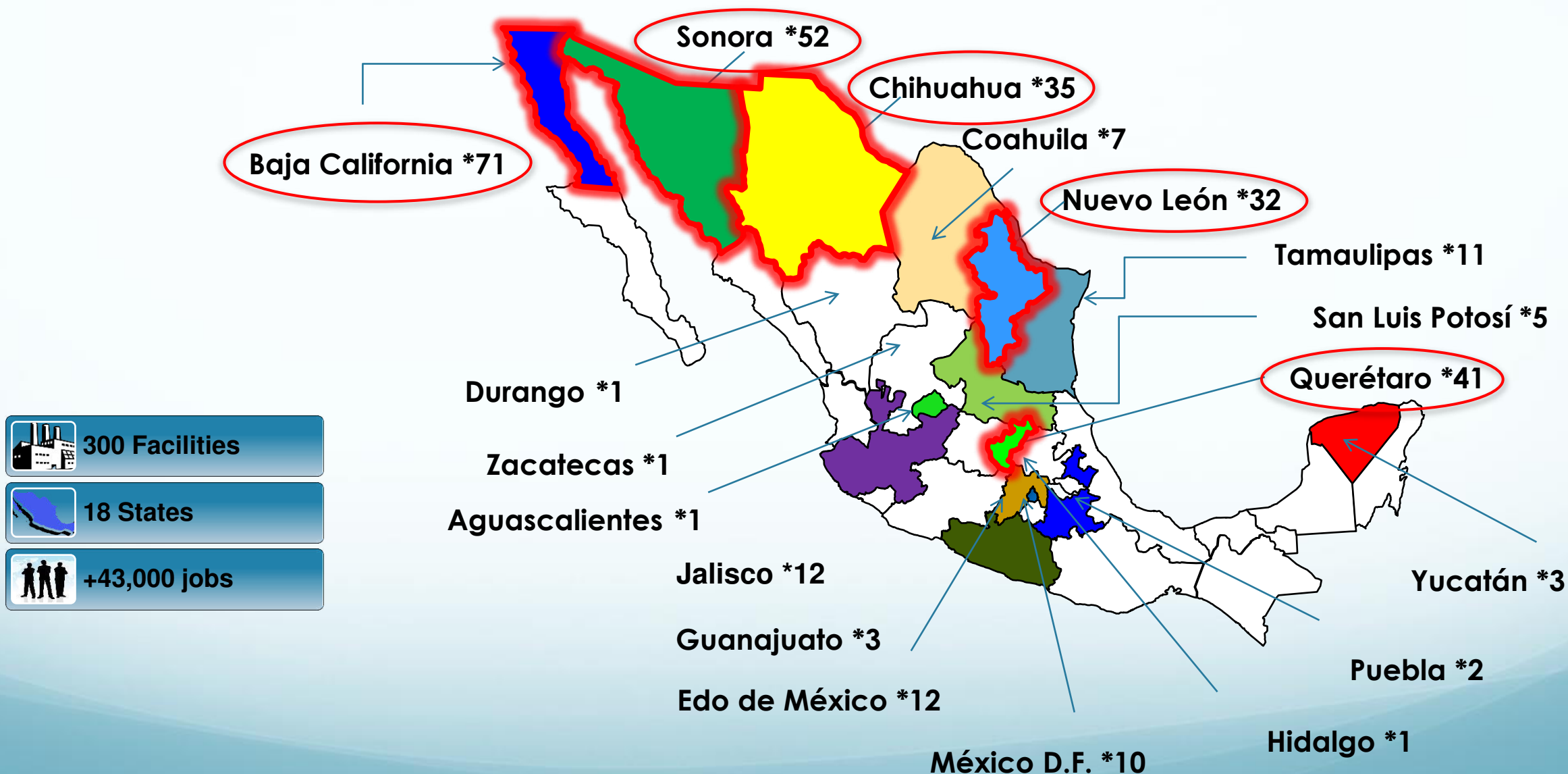
Major companies in Mexico

- Aernnova (Spain)
- Airbus Group (Europe)
- Bombardier Aerospace (Canada)
- Daher Aerospace (France)
- Eaton Aerospace (UK)
- Fokker (Holland)
- General Electric (USA)
- GKN (UK)
- Gulfstream Aerospace (USA)
- Honeywell Aerospace (USA)
- ITP Group (Spain)
- MD Helicopters (USA)
- Meggitt (UK)
- Safran Group (France)
- Sargent Aerospace (USA)
- Textron – Cessna, Bell Helicopter, Beechcraft (USA)
- United Technologies Aerospace Systems (USA)
- Zodiac Aerospace (France)

Products & Services in Mexico

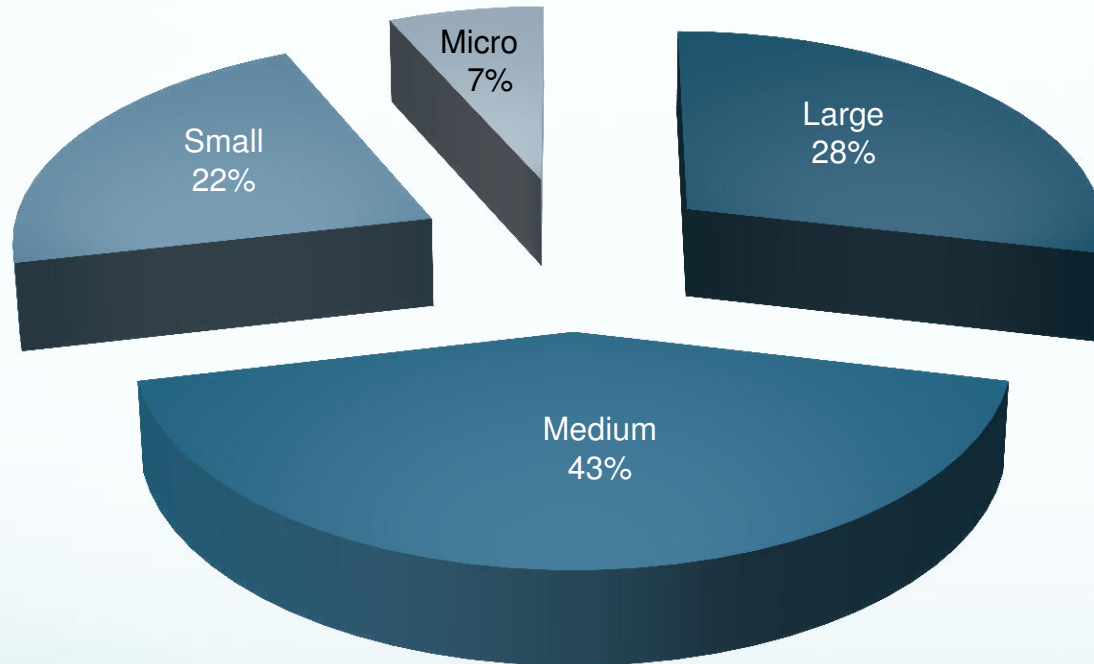
- Propulsion system components
- Aerostructures & sheet metal
- Landing system components
- Braking Systems
- Precision machined parts
- Plastic injection molding parts
- Heat and surface treatment
- Electrical & Electronics
- Composite material parts
- Design & engineering services
- MRO services
- Aircraft interiors

Geographic Location



Size of Operations

Facilities by number of employees

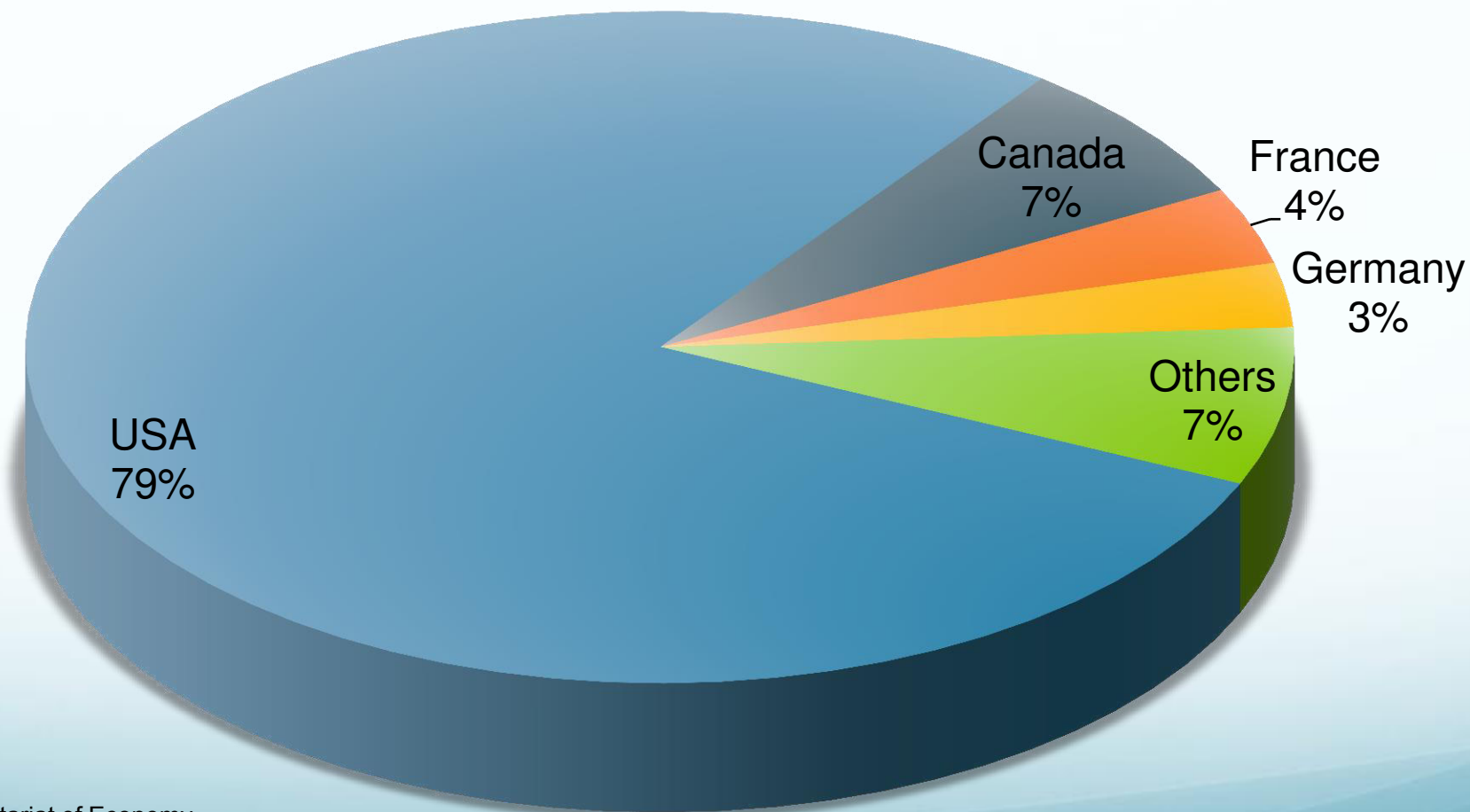


Source: S.E

Size	No. de Employees
Micro	1 - 10
Small	11 - 50
Medium	51 - 250
Large	More than 250

Mexico's Exports Destinations

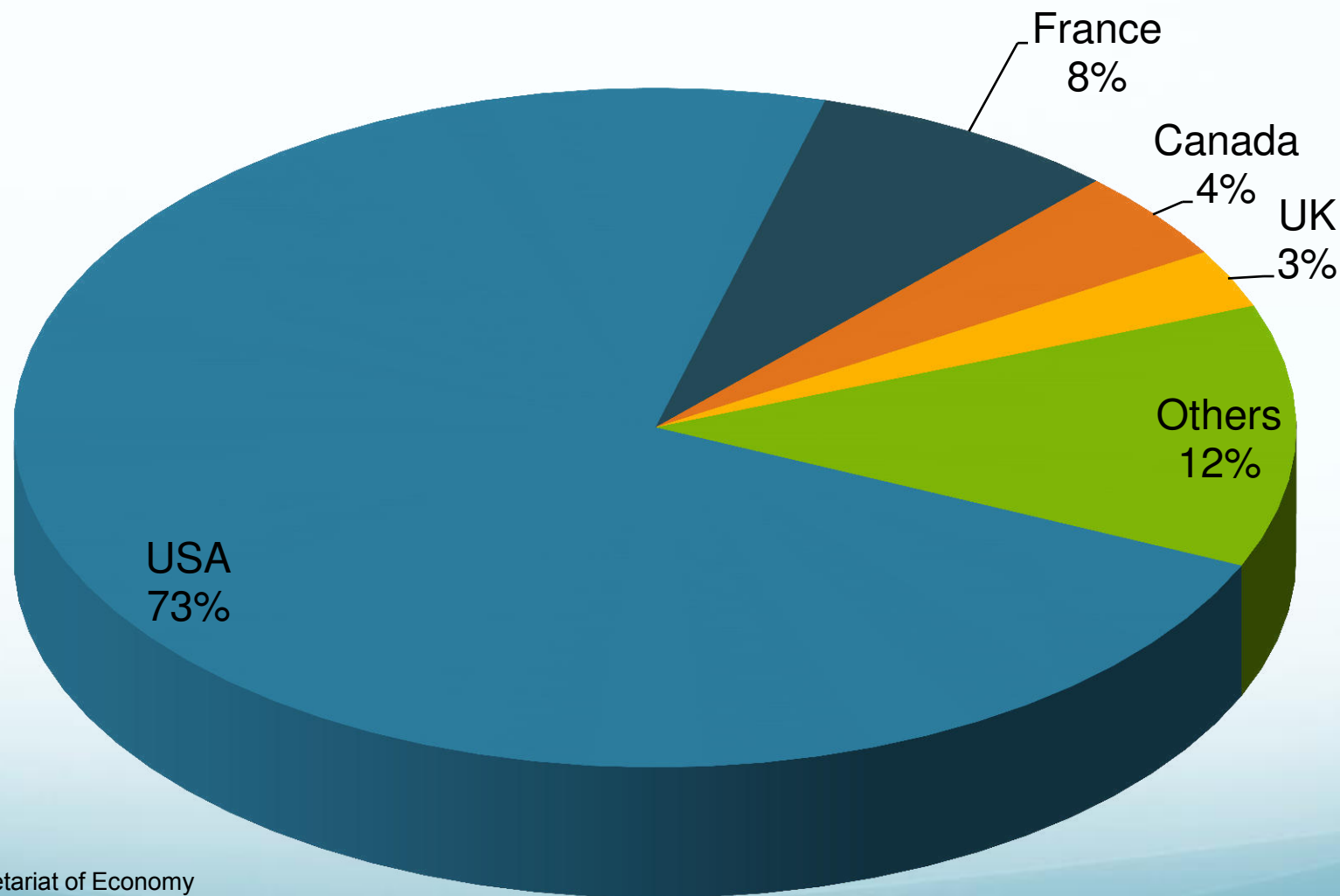
% of Exports from Mexico



Source: Mexico's Secretariat of Economy

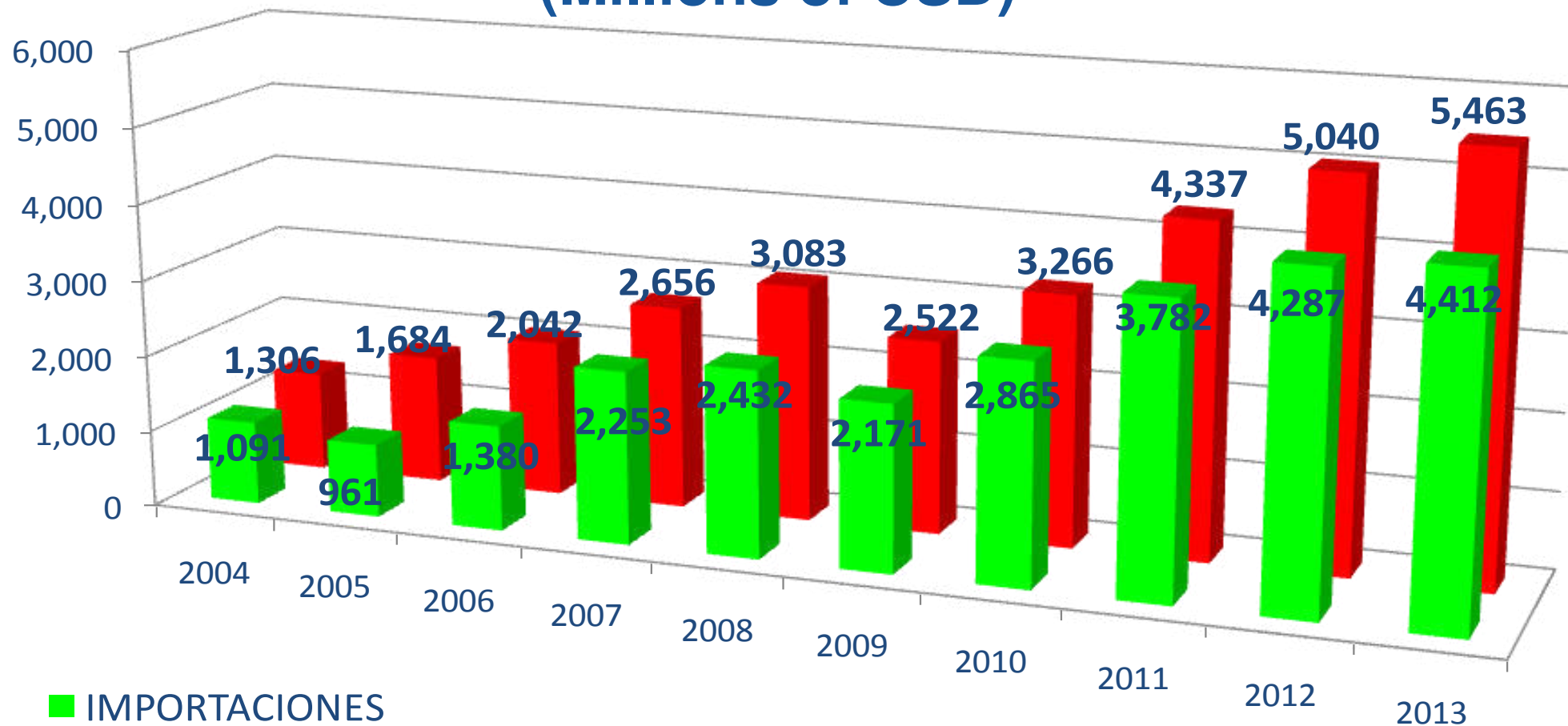
Mexico's Imports Origin

% of Imports to Mexico



Source: Mexico's Secretariat of Economy

Exports vs. Imports (Millions of USD)



■ IMPORTACIONES

■ EXPORTACIONES

Source: Mexico's Secretariat of Economy

Trade Balance of Mexico's Aerospace Industry (Millions of USD)

Year	Imports	Exports	Balance
2004	1,091	1,306	215
2005	961	1,684	723
2006	1,380	2,042	662
2007	2,253	2,656	403
2008	2,432	3,083	651
2009	2,171	2,522	351
2010	2,865	3,266	401
2011	3,782	4,337	555
2012	4,287	5,040	753
2013	4,412	5,463	1,051
2014	5,416	6,366	950

Source: Mexico's - Secretaría de Economía, DGIPAT.

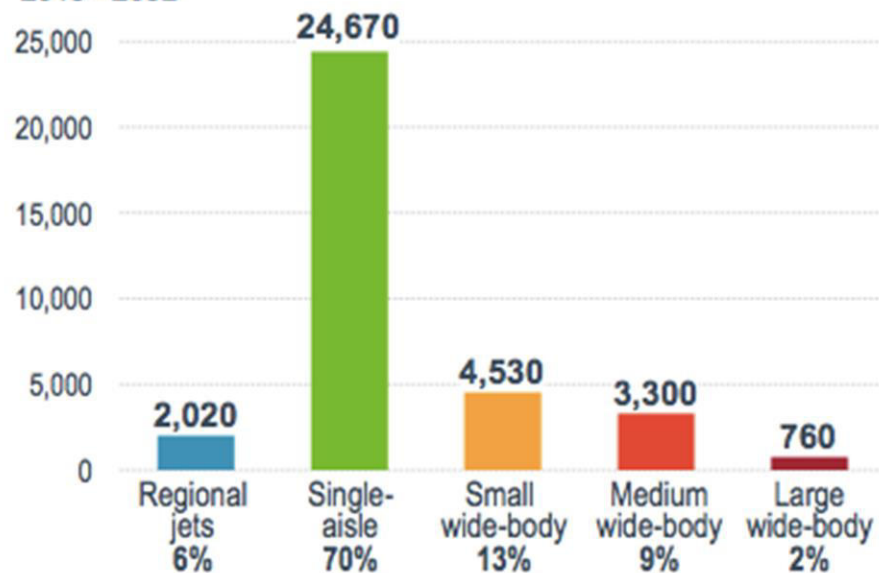
**Avg Annual:
17.16%**



Airlines will need more than 35,000 new airplanes valued at \$4.8 trillion

Airplane deliveries: 35,280

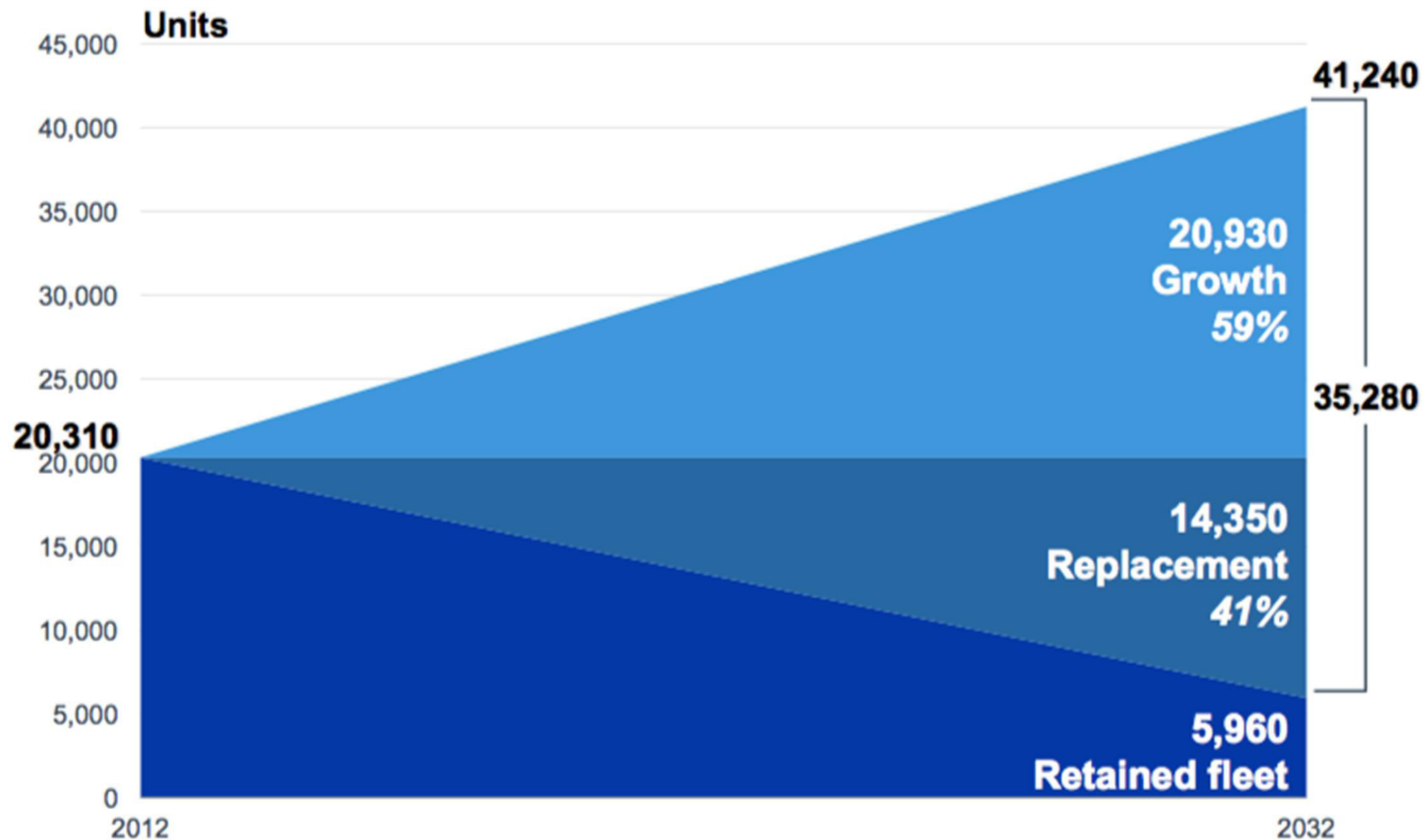
2013 - 2032



Market value: \$4.8T

2013 - 2032





Supply Chain Structure

SUPPLY CHAIN
OF COMPANIES



OEM



TIER 1



TIER 2



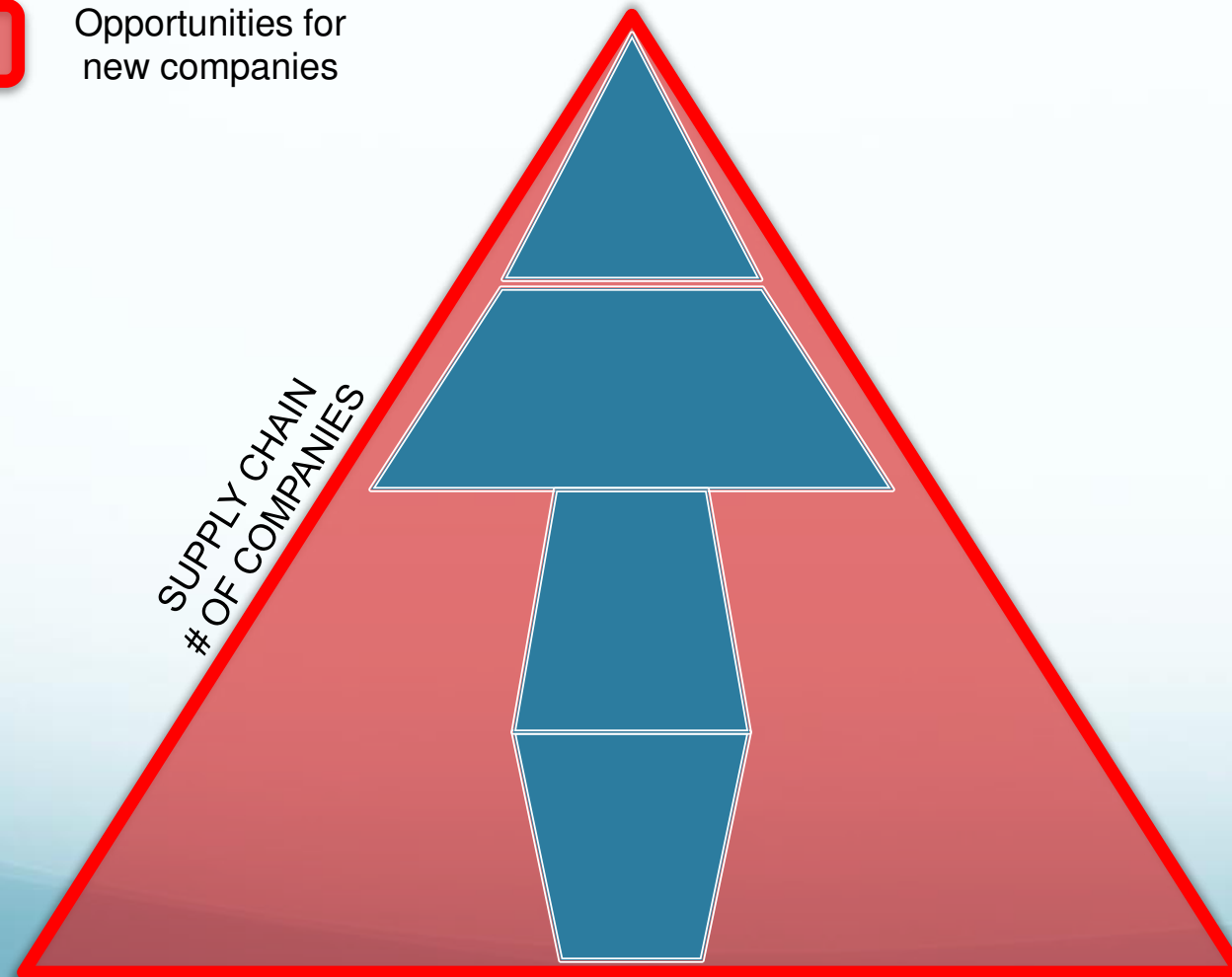
TIER 3

Current Mexico's Supply Chain Structure

The Oversized Head Pyramid



Opportunities for
new companies



OEM



TIER 1



TIER 2



TIER 3

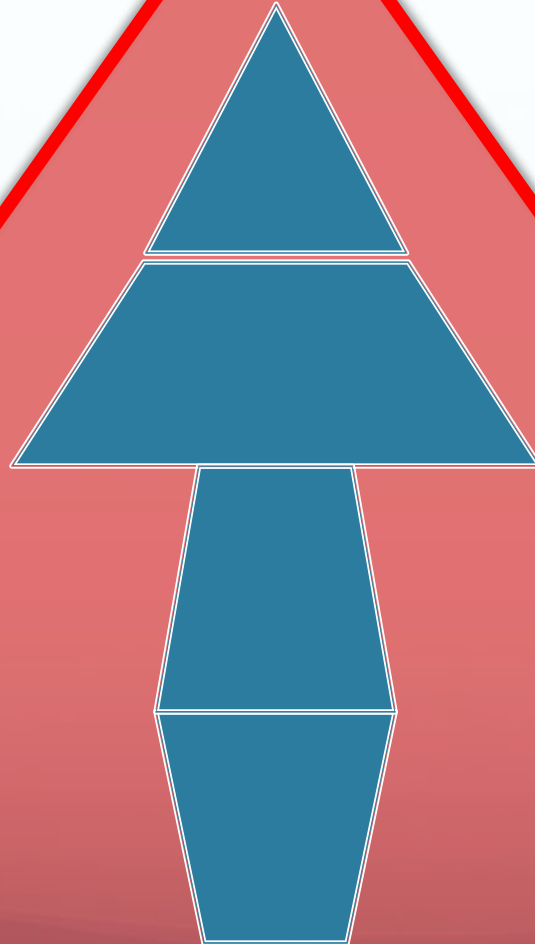
Current Mexico's Supply Chain Structure

The Oversized Head Pyramid



Opportunities for
new companies

SUPPLY CHAIN
OF COMPANIES



OEM



TIER 1



TIER 2



TIER 3

Mexico's Aerospace Supply Chain Needs

✓ Needs in terms of **PRODUCT** capabilities:

- Heat treatment (hipping, brazing, tempering, etc.)
- Small and medium size aluminum part precision machining
- NDT (MPI, FPI, X-RAY, Eddy Current).
- Plating and surface treatments (Chrome, HVOF, Cad plating or substitution products, Shot peening)
- Casting (Inconel and aluminum-magnesium sand casting)
- Precision machining for small to large size part steel (Titanium for small and medium), large size aluminum parts, Bushing and Special painting (non cosmetic paints)
- Sheet metal treatments, Small and medium size assembly

Future of the Aerospace Industry in Mexico

GOALS 2020:

1. Mexico ranked 10th among the Aerospace countries in the world.
2. Exports of 12,000 million USD.
3. 110,000 jobs.
4. 50% Mexican value added in Manufacturing.



FEMIA



Thank you!!!

www.femia.com.mx

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Chairman of the Board*

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