Sector Opportunities in Mexico: Aviation
Manned + Unmanned Aircraft

1. Market Landscape + Trends
2. Market Players
3. Market Entry
**Market landscape + trends**

**Mexico in relative terms**

- **10th largest country globally**
  - 125 million people
  - 40% the population of USA

- **11th largest economy**
  - Between France + Korea in total market size (PPP)

- **Shares with the USA:**
  - Economic region (USMCA) + supply chains
  - Conjoined airspace
  - Connected highways, power grid, pipelines, telecom
  - Intense border cooperation for trade + travel
  - Intense cooperation on regional security
  - Plus interconnected political + family histories
  - Mexico has 50 consultates in the United States
  - Language: US is the 2nd-largest Spanish-speaking population in the world after Mexico; meanwhile, aviation united by English

Sources:
- en.wikipedia.org/wiki/List_of_countries_and_dependencies_by_population
- en.wikipedia.org/wiki/List_of_countries_by_GDP_(PPP)
- Image source: slideplayer.com/slide/14143902/
Aircraft generating demand for Virginia services + products in Mexico

- Civil
  - Privately operated planes + helicopters
    - Commercial flights (plane + helicopter)
    - Commercial cargo
    - Drones
  - Government-operated aircraft
    - Planes
    - Helicopters
    - Drones
  - Recreational, Private non-commercial, Commercial

- Military + Law Enforcement
  - Planes
  - Helicopters
  - Drones

MRO shops
Civil aviation

- **9,122 registered aircraft**
- **77 airports**
- **1,471 aerodromes**
- **536 heliports**

- Mexico, **2nd globally in general aviation**, after US
  - 300 entities with registered GA planes
  - Experienced significant growth since 2008

- **Aerolíneas Ejecutivas** largest GA operator: 32 aircraft
  - Reports 15% increase in clients because of pandemic; similar to report by Transportes Aereos Pegaso
  - 2,700 USD average cost per flight-hour for its smallest planes has reduced by half due to demand

- **Best-selling private jets**: Kinnear Learjet, Citation (Cessnas), Hawker, Beechjet, Grumman and Gulfstream

- **Toluca Airport**, located in Mexico State beyond the Santa Fe business district from Mexico City, is the busiest GA hub
Helicopters

960 registered civil helicopters active over Mexican airspace

States most active in helicopter traffic

1) Mexico City
   Metro area, population 23 million+; 2nd-most private helicopters in the world after Sao Paulo

2) Mexico State

3) Campeche

4) Tabasco

5) Tamaulipas

6) Veracruz

7) Nuevo León

8) Jalisco

The Gulf of Mexico is an important offshore oil region

States home to major cities of Monterrey and Guadalajara, respectively, and important jumping off points for remote industrial activities like mining

DGAC 2017 (now known as Agencia Federal de Aviación Civil) Helicopters Safety Team-México, SCT. Feb 2016

Commercial airlines

- 3% of Mexico's GDP
  - In relative importance to the national economy, similar to the industry in the US (also about 3%)

- 352 scheduled service planes
  - average age 9 yrs
  - 15 concessioned operators

- Average growth in passengers carried before pandemic was 9-10% per year (since 2013)
  - In 2018, 97.3 million passengers
  - National average of annual trips per person 0.4 vs 2.5 in US

- High connectivity
  - Mexico City and Cancun most connected airports in LATAM
  - Half of passengers are international
    - 7 of top 10 international routes to US cities (2018)
1) Mexico's busiest airport, Benito Juarez Mexico City International Airport (AICM), has operated at or above capacity for at least a decade.

2) AICM congestion throttles air traffic for the entire country
   - Keeps airfare high compared to the US
   - Limited slots for international connections
   - Consistently delays flights in other cities

3) No room to add a 3rd runway at AICM

4) After the politically motivated termination of a previous effort in Texcoco, Mexico State, the "new AICM" is being built at the soon-to-be-former Santa Lucia Air Force Base, also in Mexico State
   - Carriers still reeling from the Texcoco disruption, disputing slot + int’l connection configurations

5) National airspace redesign
   - Nearby airports Queretaro, Toluca, and the “old” AICM may all have interesting opportunities to play different roles than in the past
   - Other airports like Tijuana and Tamaulipas at the US border also open to opportunities, especially with freight
   - Improved capacity for Mexico City as a hub for international connections by foreign carriers
Cargo

Top airports for freight in 2019:
1) Mexico City
2) Guadalajara
3) Queretaro
4) Monterrey

Fastest growing MX cargo lines
- MCS Aerocarga: 51.1%
- Mas Air: 4.0%
- Aeronaves TSM: -7.7%

In 2019
- Domestic cargo traffic rose 4%
- International followed global tendencies dropping 6%

Mexican government list of AVSEC approved freight carriers

Cargo in 2018
- 740k tonnes international (82%)
  - 1 in 8 tonnes of international cargo = to or from Los Angeles
- 170k tonnes (18%) domestic
  - 1 in 8 tonnes of domestic cargo = between Mexico City + GDL

US, European, + Asian cargo carriers evenly dominate half the market.

Queretaro, 2-3 hours west of Mexico City, and Nuevo Laredo, at the Texas border, are both looking to increase their cargo activity during national airspace rebalancing that has been in the works.
Drones

- Mexico has 5% of the world drone market
- **Chinese company DJI** supplies 85% of civilian drones in Mexico
- In 2019, 2,140 drones newly registered
- For 2020 nearly 6,000 more were expected
- **USMCA expected to be global region with most drone demand** (stemming from renewable energy installations)

Confirmed use of drones in Mexico

- Agriculture
- Fishing + livestock
- Surveillance + public / private security
- Infrastructure + construction, especially energy
- Oil + gas / mining
- Entertainment
- Aerial photography + mapping
- Humanitarian aid
- Fumigation
- Application of disinfecting liquids in public spaces
- Traffic control
- Tourism

Mexican drones: USTI (above) + Hydra Technologies (below)
Maintenance, repair + overhaul

- 308 currently active aeronautical workshops in Mexico, list maintained here (518 total)
  - Details of each workshop’s approved capabilities can be reviewed here

**Notable MRO centers**
- Delta-Aeromexico aka TechOps MX
- Airbus Helicopters
- Aeromar
- Avemex
- Ale Service Center

**Mexicana MRO**
For a while the largest shop in Mexico, the last holdout of the defunct international passenger carrier Mexicana has sought since 2017 to stabilize its MRO operations for an eventual sale. Roberto Kriete, a major shareholder in Avianca, made an offer to buy it in January 2020.

www.elfinanciero.com.mx/opinion/dario-celis/tiene-ya-la-sct-oferta-de-compra-del-mro-de-mexicana
Important players

- Government
- Operators
- Highly visible suppliers
- Associations + networking
Government regulators

- Secretariat of Foreign Relations
  - In 2011 with Mexican congress effected Mexico’s entry into the Wassenaar Arrangement
  - In 2017 with Mexican congress, authorized increase in foreign ownership of air services companies from 25% to 49%

- Agencia Federal de Aviación Civil (AFAC)
  - In 2020 replaced the DGAC as the main civil aviation regulator
  - Pertains to the Secretariat of Communications and Transport

- Guidance set / enforced by AFAC
  - Ley de Aviación Civil (last updated 2018)
  - US-Mexico 2015 open skies agreement

- Drones must be registered with AFAC
  - Flight Rules for Drones in Mexico: CO AV-23/10 R4 entered into force as NOM 107, Jan 2020
  - Restricts the operation of UAVs with foreign registration and operation of MX UAVs by foreigners in Mexico
Government operators

- Civilian federal gov operators
  - Tend to be autonomous organizations
  - Focused on environment + resources
- Civilian agencies with planes / fleets:
  - Agriculture and information bureaus
  - Geological service
  - Environmental protection
  - Federally operated electrical grid
- Military + law enforcement
  - Please see separate report addressing these clients
  - Strong focus on surveillance, interdiction, borders
- The Mexican Space Agency
  - Satellite program for various civilian and military applications
  - Mexican satellite production cooperates closely with AEM
- State police + civilian agencies also have planes
Scheduled operators

Cargo concessions

- Aerounion
- Estafeta
- Mas Air

<table>
<thead>
<tr>
<th>Domestic cargo carriage</th>
<th>2020 tonnes</th>
<th>% Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeronaves TSM</td>
<td>14,659.4</td>
<td>6.4%</td>
</tr>
<tr>
<td>Grupo Aeroméxico</td>
<td>31,991.4</td>
<td>14.0%</td>
</tr>
<tr>
<td>MCS Aerocarga de México</td>
<td>7,887.9</td>
<td>3.4%</td>
</tr>
<tr>
<td>Estafeta</td>
<td>6,817.7</td>
<td>3.0%</td>
</tr>
<tr>
<td>Volaris</td>
<td>5,019.0</td>
<td>2.2%</td>
</tr>
<tr>
<td>Interjet</td>
<td>6,459.0</td>
<td>2.8%</td>
</tr>
<tr>
<td>Mas Air</td>
<td>17,802.0</td>
<td>7.8%</td>
</tr>
<tr>
<td>Aerounión</td>
<td>18,443.2</td>
<td>8.0%</td>
</tr>
<tr>
<td>Viva Aerobus</td>
<td>367.3</td>
<td>0.2%</td>
</tr>
<tr>
<td>Otras</td>
<td>153.2</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total Mexicanas</td>
<td>109,599.9</td>
<td>47.8%</td>
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</tbody>
</table>

Passenger carrier concessions

- Volaris
- Aeromexico + AM Connect
- Interjet
- VivaAerobus
- Aeromar
- Magnicharters
- Calafia
- TAR Aerolineas
- Valid concessions, no longer operating
  - Aviacsa
  - Mexicana, Mexicana Link, Mexicana Click

www.sct.gob.mx/transporte-y-medicina-preventiva/aeronautica-civil/2-marco-normativo/211-concesiones-y-permisos-de-transporte-aereo/
### Top nonscheduled operators

<table>
<thead>
<tr>
<th>Aerolíneas Ejecutivas</th>
<th>Avemex</th>
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<tbody>
<tr>
<td>Aerolíneas Marcos</td>
<td>Corporación Aeroángeles (Grupo Empresarial Ángeles)</td>
</tr>
<tr>
<td>Transporte Ejecutivo Aéreo</td>
<td>Grupo Lomex (Aeroservicios Especializados,</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.asesa.com.mx">www.asesa.com.mx</a></td>
</tr>
<tr>
<td>Aerovics (Grupo Bal)</td>
<td>Heliámérica, Transpaís Aéreo, AeroVant)</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.aerovant.com">www.aerovant.com</a></td>
</tr>
<tr>
<td>Servicios Aereos Regiomontanos (FEMSA)</td>
<td>Grupo Pegaso (Aeromundo Ejecutivo, Transportes Aéreos Pegaso)</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.transportes-pegaso.com">www.transportes-pegaso.com</a></td>
</tr>
<tr>
<td></td>
<td>Aeroservicios Tecnicos Regiomontanos</td>
</tr>
</tbody>
</table>
Drone producers + services

Company websites linked to logos
Select drone vendors

Examples of their customers
Associations + networking

- **FEMIA** ties together the whole aerospace industry but it's most interested in manufacturing (aircraft, satellites)
  
  www.femia.com.mx

- **National Air Transportation Chamber**: carriers and operators
  
  www.canaero.org.mx

- Biannual show for military aviation, defense, and aerospace manufacturing organized by the Mexican Air Force.
  
  April 21-24, 2021 in at the Queretaro International Airport. Includes an airshow on the Saturday that is open to the general public (Tuesday-Friday is business only).

- The United States is the guest country for this edition.
  
  www.f-airmexico.com.mx

- The main private/general aviation event and much smaller than FAMEX, taking place at the Toluca airport every March
  
  www.aeroexpo.mx
Drone events

- Tend to center around R&D + enthusiast communities
- To reach these communities, an easy route is to engage online
- For example, searching “drones Mexico” on Facebook yields:
  - Two different “Drones Mexico” groups, one with 34k members and another with 10k members
  - July 28, 2020 the agricultural training organization Intagri held a workshop on the Use of Drones in Agriculture with 748 people registering intention to participate
  - FPV Racing Mexico chapter posts information about events

- Expo Seguridad includes more drones every year
- [www.exposeguridadmexico.com](http://www.exposeguridadmexico.com)
- April 13-15, 2021
- Famex also features drones
Mexico market entry

Validate the market
• Confirm that demand exists for what you offer

Measure + project the market
• How much return on investment should you expect from Mexico market entry?

Every exporter will find its own way to blend direct support from home with local support in Mexico.
Mexico market SWOT

**Strengths**
- Closeness to the United States (MRO, Drones)
- USMCA, other Mexico agreements with your partner countries (e.g. Europe, CP-TPP countries, Israel)
- Bilateral agreement on air transport between Mexico and the United States (Aug 2016)
- Wassenaar Arrangement allows easier US-MX cooperation on the production of strategic defense and security equipment locally
- High population of engineers

**Weaknesses**
- Covid and other financial setbacks including a slow-down in Mexican Air Force spending
- Current saturation at CDMX International Airport, interruption and prolongation of NAICM project
- The legal regulations established for the use of drones can hinder the growth of the market
- Sales efforts can be costlier and slower to bear fruit than in the US
- Demand normally has to reach “must have” (as opposed to “nice to have”) for sales to be successful

**Opportunities**
- Low clarity on technological access / development from within Mexico means integrators must look internationally
- Burgeoning industry of drones as service providers
- Aircraft replacement and purchasing program of the SEDENA and SEMAR
- Avionics and components for aircraft and drone apps, software
- Pandemic increasing the use of drones and private aircraft
- Construction of a new national flagship airport

**Threats**
- Government restrictions on foreign-registered/operated drones and aircraft
- IATA estimates that it will take Latin American airlines up to three years to recover the flight and passenger levels they had before the COVID-19 crisis.
- Chinese competition on drones; Israel, France, Russia, UK, Spain competition in aircraft
- Insufficient follow-up kills deals and renders prior efforts wasted: communication and presence with partners and customers must be robust

**Note on foreign competitors:**
Whereas European and Asian companies have bona fide sales offices in Mexico—the practical imperative for them to do so is much more obvious—US companies commonly try to run Mexico sales development from home or through weak local alliances. We also see many hoping to turn the US Embassy’s market access services into BD proxies, which for Mexico is against US policy. We have conferred with the State Department, Department of Commerce, and DOD on this matter repeatedly. We all agree the competition from locally established foreign companies is normally too stiff for US co's to sell to Mexico customers without at least a well-vested local partner relationship.
From minimum to max investment

**Products**

- E-commerce w/ local logistics, local(ized) customer service, marketing
- Distributor with US-based MX manager
- Distributor with local country manager
- Wholesaler to distributors / distributors, country mgr
- Establish direct operations

**Services**

- Localized remote service (e.g. SaaS), marketing
- Licensed local providers with US supervision + involved sales manager
- Licensed local service providers, local sales + service managers
- Master licensees with networks of service providers / with local country manager
- Establish direct operations
Contributions in a partnership

Your partners take care of customers

1. Financing customer payment terms
2. Local fiscal processes
3. Logistics across border + within Mexico
4. Market intelligence
5. Existing relationships
6. Sales initiation + closure
7. Adding value to deliverable
8. Customer feedback
9. Pricing elasticity judgment
10. Making good on product + service guarantees

You take care of the product/service

1. Marketing
2. Know-how on your value proposition
3. Best practices on delivery + integration
4. Direction + incentive
5. Support on sales + business case alignment
6. Ownership of, responsibility for permissions + IP
7. Logistics to border
8. Financing anything that remains yours absent a sale
Final thoughts

- It takes a concerted sales + marketing plan to successfully enter in Mexico
  - Well-informed: really digest + try to get to know Mexico, or hire someone in charge of knowing it
  - Funded by company resources, NOT an advance on anticipated Mexico sales
  - Flexible
  - With metrics
  - Follow + continually update the plan
- Mexico sales, like all international sales, are an investment
  - Have expectations for ROI: source, timing + amount
  - Look for how to eliminate, decrease or mitigate against risk + volatility
- Good relationships are fundamentally necessary
  - What do you offer that locals don’t?
  - What do locals offer that you don’t?
  - Create “win-win-wins” for partners + customers
  - Communicate well + often
- VEDP’s next Mexico Trade Mission is based in Queretaro
  - April 19-23, 2021, the week of Mexico’s FAMEX trade show, also in Queretaro
  - Register for the mission here
Thank you
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