VIRTUAL

Mexico's Manufacturing Supply Chain Summit

Webinars • Virtual B2B Meetings

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Aerospace Industry in Mexico
Challenges & Opportunities

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Mexico's Aerospace Industry Outlook 2020-2025

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What is your outlook for Mexico's aerospace industry in the 2020-2025 period?

World´s Aerial Traffic Trend

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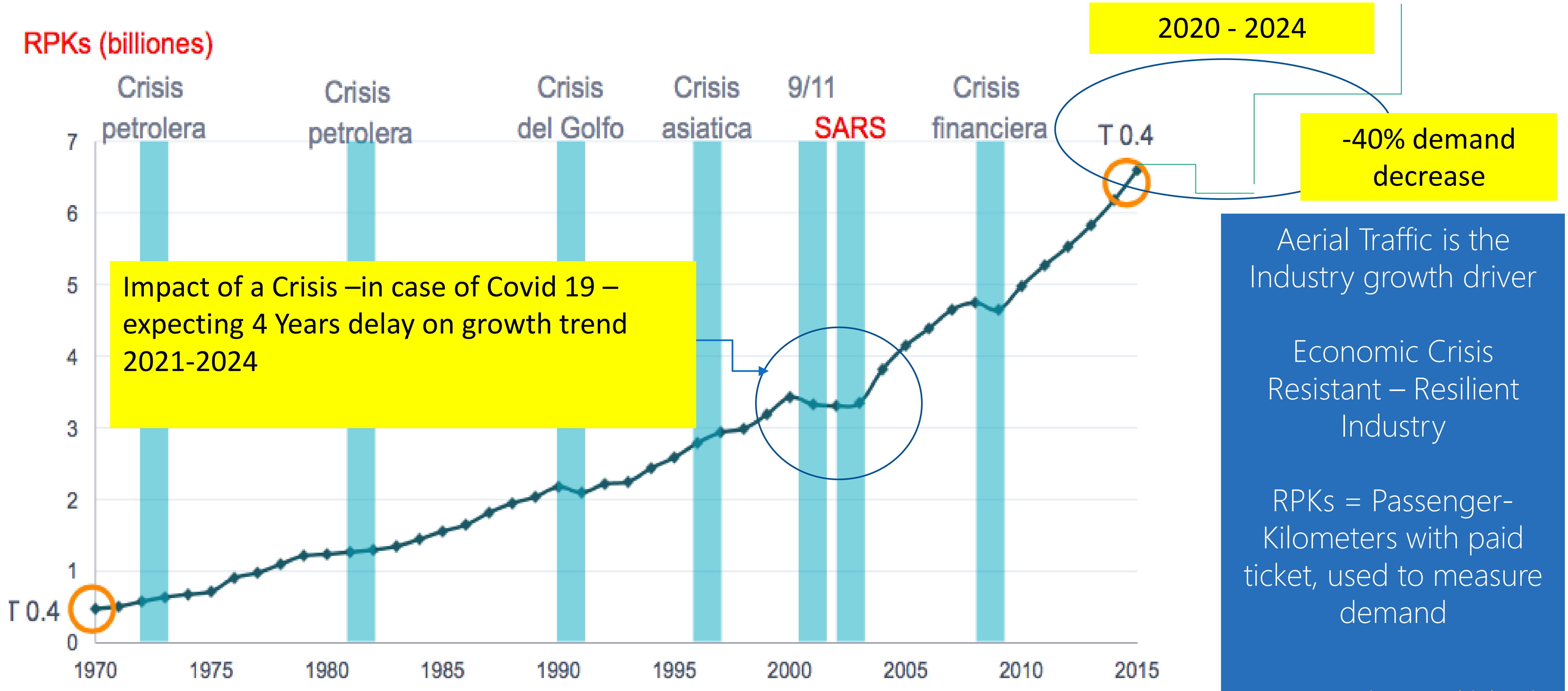

Aerial Traffic is the Industry growth driver

Economic Crisis Resistant – Resilient Industry

RPKs = Passenger-Kilometers with paid ticket, used to measure demand

Source: OACI, Airbus 2016 Global Market Forecast

World Fleet Forecast for 2036 – now 2040

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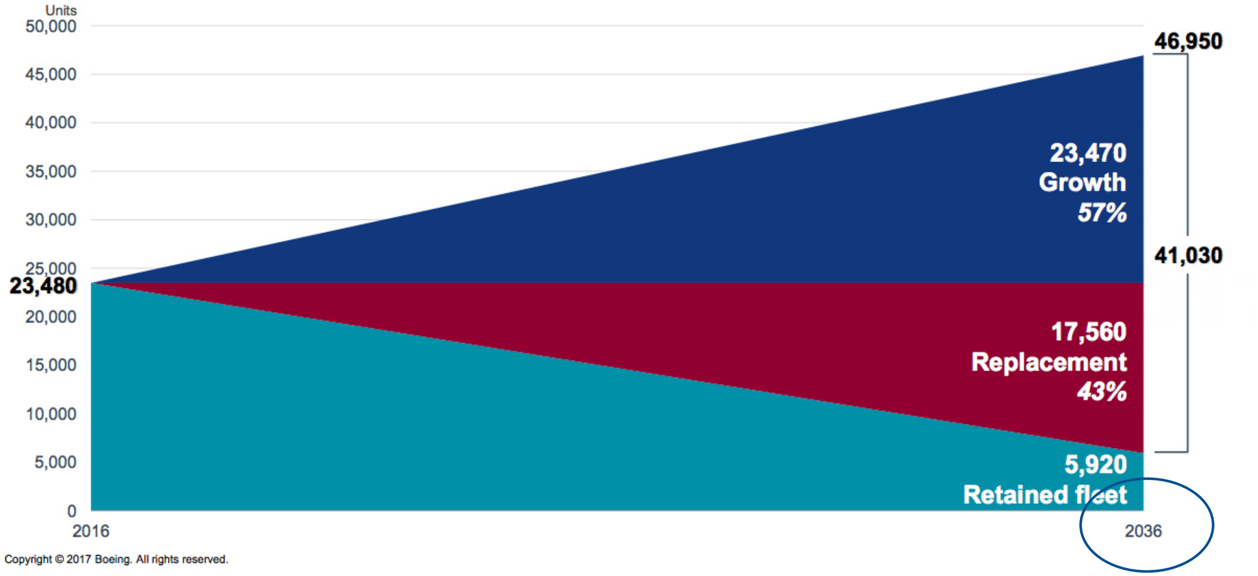
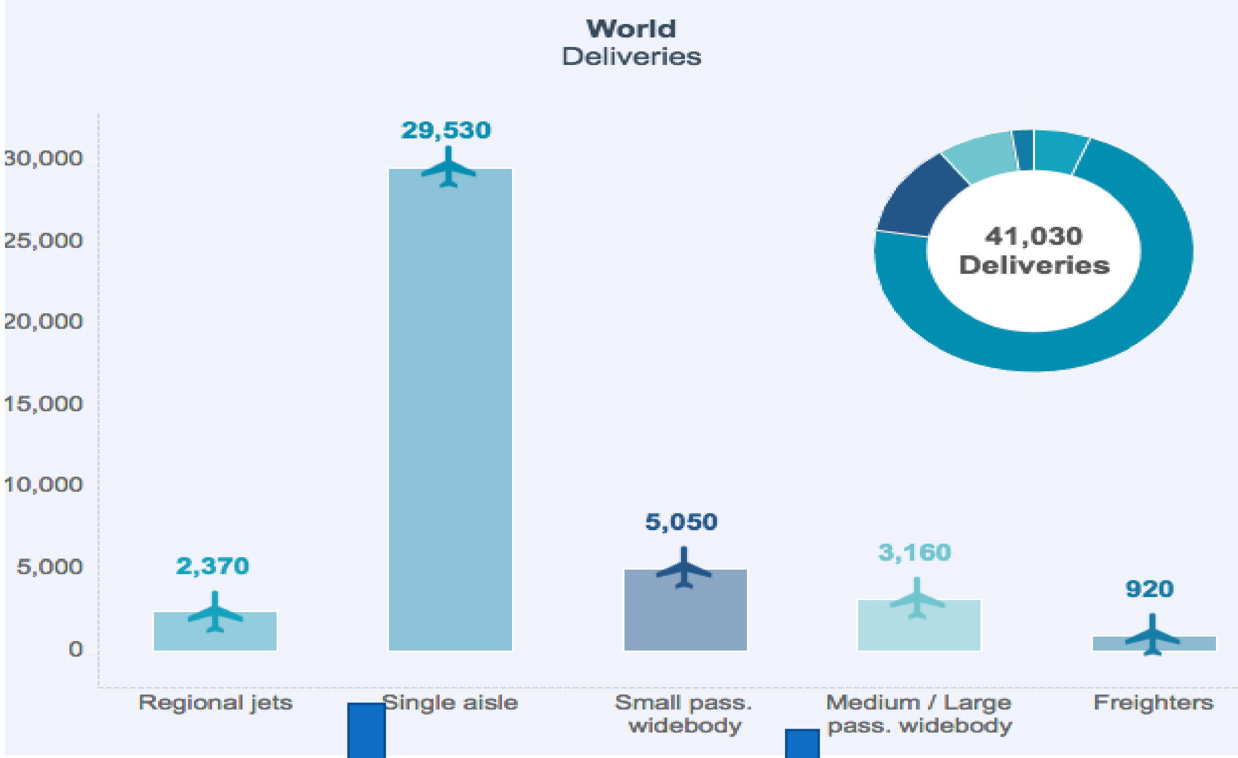
Next 4 Years – focus in recovery , COVID19 vaccine availability key element to recover customer confidence





Timing moves from 2036 to 2040 – 4 Years delay impact

Recovery 2021 - 2023 driven by regional flights

Recovery 2022 – 2024 –International

Source: OEMs forecast 2017

Opportunities for the Next 5 – 10 Years

- Regionalization of North American Market – Supply Chain
- New North American Free Trade Agreement USMCA
- Supply Chain continuity break due COVID-19 – Mainly from China
- US-China trade and geopolitical confrontation, Re-localization of Operations dedicated to serve North American Market
- Big opportunity to increase participation on North American Aerospace Supply chain – currently only 3% of Mexico Content
- Mexico as Cost competitive country in North America
- Mexico to take advantage of Wassenar, BASA and similar trade agreements.

México Aerospace Industry Future

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1. México is among the 10 most important countries in the Global Aerospace Industry.

2. Exports on + $12 Billion USD.

3. 110,000 Direct Jobs, 3X Indirect Jobs.

4. 22% Commercial Surplus

5. Significant Increase of Mexico content in the Aerospace supply chain

BUT we need to do our HOMEWORK!!!
Transforming our Supply Chain Network to be able to compete Globally

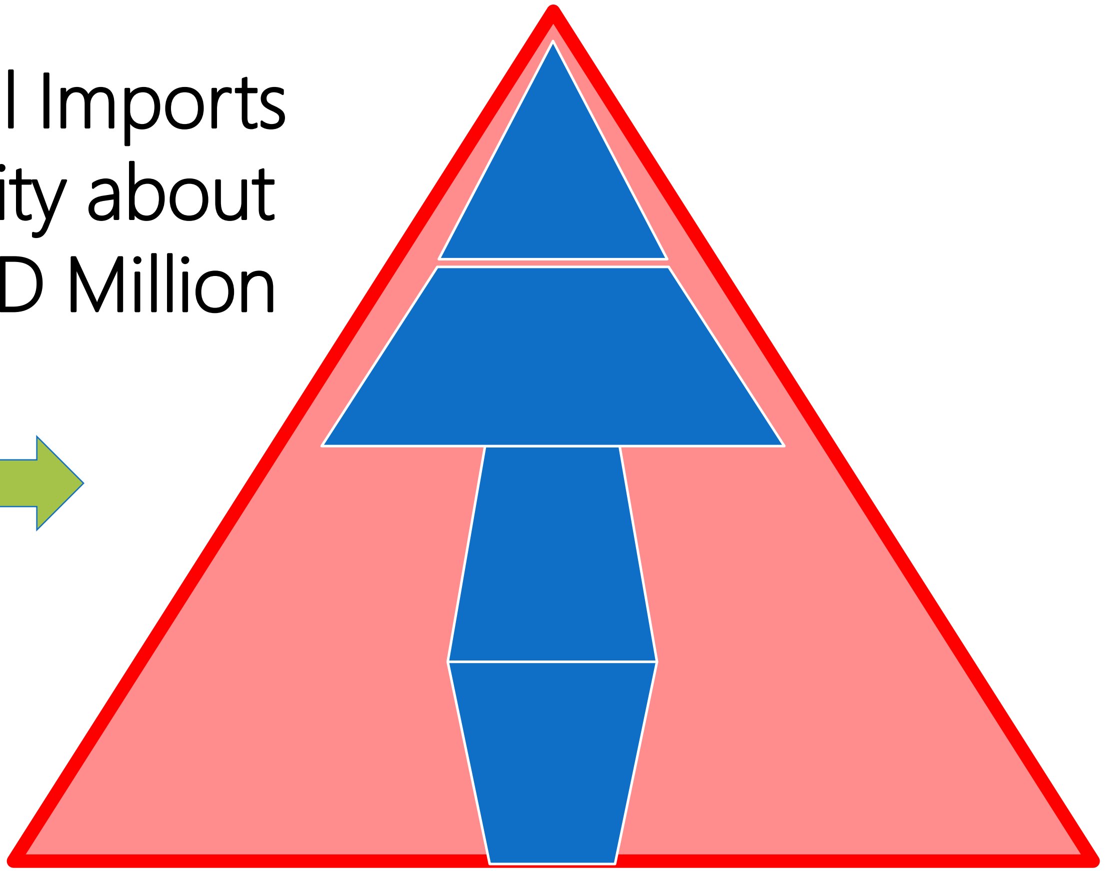
Which are the main supply chain challenges in your industry?

- High dependency on foreign materials suppliers
- Local sources still In early maturity stages
- Lack of key raw materials – Castings & Forgings , Pripreg-Composites
- Approval process for new sources
- Industry Certifications from foreign entities

Mexico Supply Chain Profile

- Heavy Concentration in OEM´s & Tier 1´s
- Big Gap in Tier 2,3,4's

$7700 total Imports
Opportunity about
$5,500 USD Million



OEM

TIER 1

TIER 2

TIER 3

Mexico’s Aerospace Industry Outlook 2020-2025

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What industrial products/services offered by Tier 2 and 3 suppliers are needed the most? What are the best venues to develop Tier 2 and 3 suppliers (FDI, domestic firms, joint ventures)?

What strategies is your company following to develop more Tier 2 and Tier 3 suppliers?

Supply Chain Development

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- Phase 1 Capabilities & Diagnosis 2018-2019
- Phase 2 Assessment & GAP Analysis 2019-2020
- Phase 3 Case by Case Transformation 2020-2021

Phase 1 Capabilities & Diagnosis

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Buyers 210/70/45 → Purchasing Bag $634 MUSD/Yr → Suppliers +360 /+160 Visits → +390 B2Bs Detected 34:90 → 7 Supplier Days / 32 Planes → $43 MUSD Assigned / 16 Suppliers

+$634 MUSD/Year

- ✓ Castings $280 MUSD (Aluminum & Magnesium)
- ✓ Machining $62+ MUSD
- ✓ Metal Stamping $38+ MUSD
- ✓ Forgings $40 MUSD (Titanium & Nickel)
- ✓ Special Processes $20 MUSD
- ✓ Thermoforming & Seat components $20 MUSD
- ✓ Coatings $16 MUSD
- ✓ Plastic Injection $14 MUSD
- ✓ Assemblies $13 MUSD
- ✓ HT Carbo-Nitro $10 MUSD
- ✓ Composites $2 MUSD
- ✓ Raw Materials $5 MUSD

- ✓ Heat Treatments
- ✓ Hydroforming
- ✓ END
- ✓ Cables & wires
- ✓ Rotors & Engine Parts
- ✓ Interiors Components

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VERIFIED Supplier

Success Story

- ✓ Plastic Injection supply for UK
- ✓ +320 in data base
- ✓ 20 Suppliers assessed by FEMIA
- ✓ 5 Suppliers Visited /Month

$43 MUSD
Assigned PO's
16 Suppliers

Phase II Assessment & GAP Analysis

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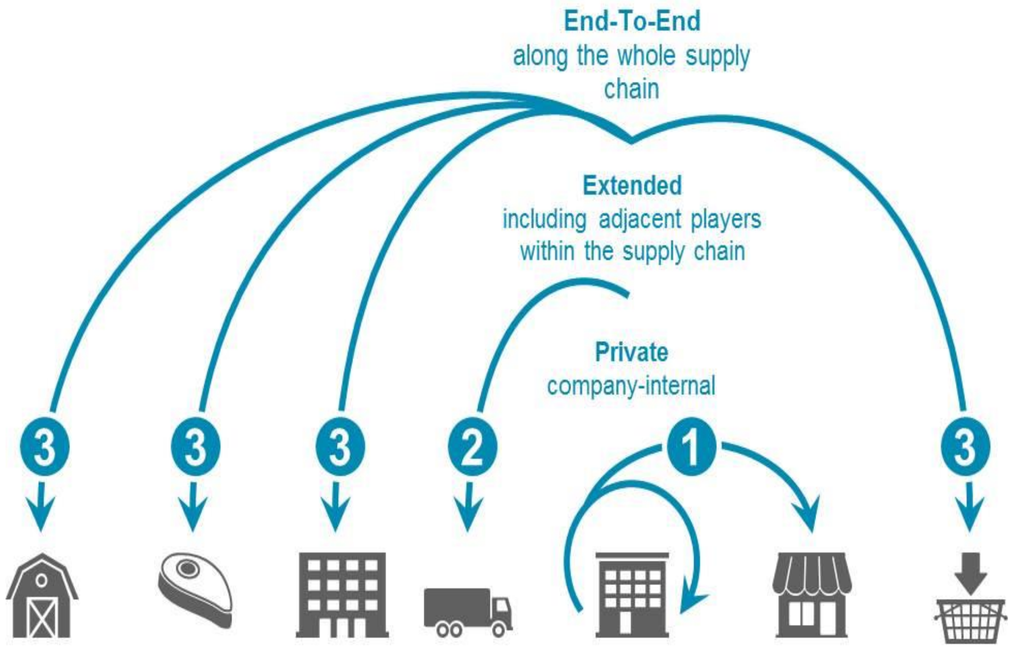

FEMIA ASSESMENT

Based on main OEM's assessment and World Class SC development Programs

Tools –Comprehensive Assessment

- 8 Commercial& Management Areas
- 12 Operational Excellence Areas

Partners

UNAQ Universidad Aeronáutica en Querétaro

Tecnológico de Monterrey

AENOR

KLUGWAHL

Phase III Transformation Plan

Case by Case Specific Plan to reach minimum required operational systems in place to become successful

Comprehensive Assessment

- Business Intelligence & Customer Satisfaction
- Safety, environment, cleanliness, & order -5S's
- Visual Management Deployment
- Planning, Scheduling and Inventory Management
- Product flow, space use & Material Transportation
- Sensing , Analytics and IOT penetration
- People teamwork, skill level, & motivation
- Equipment & tooling state & maintenance
- Ability to Manage Complexity & Variability
- Supply Chain Integration
- Financial Analysis, costing and Pricing
- Quality System Deployment

What are the structural strategies that can be implemented in Mexico in order to increase the industry competitiveness?

Structural Elements to improve Mexico's competitiveness

Mexico

- Credits/Financing: 7.5% to 20% (USD)
- US infrastructure Logistics dependency
- Raw Material foreign dependency on several critical key commodities: Zinc based or Ti Forgings, Castings, prepreg composites.
- Foreign Certs dependency (NADCAP, FAA, EASA)
- No Airworthiness insurance available – coverage – 5 to 10 times more expensive than global rate.
- Technology dependent
- Lack of Supply Chain competitiveness and maturity
- Lack of strategic Industry policy & support

Global conditions

- Financing/credits -1% to 1.3% (USD)
- Developed & reliable Logistic chains
- Local or regional raw material availability
- Local Certs recognized globally
- Airworthiness insurance at global rates
- Supply chain availability

Thanks

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