

Bombardier Aerospace in Querétaro

Mexico Manufacturing Center (MMC)



Presentation to financial analysts

January 20, 2010

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Mexico Manufacturing Center Agenda

- **General Introduction**
- **Structures**
- **Electrical**
- **Quality**
- **Continuous Improvements**
- **Learjet 85**

Why Queretaro?

- The Mexican Government is very engaged in an aerospace industry
- Queretaro has a good educational system (schools & universities)
- Proximity to Mexico City (200 km, 26M population)
- Low turnover of local workforce
- Queretaro has a well developed infrastructure for manufacturing industries
- Strong presence of manufacturing multi-nationals
- Good transportation Infrastructure



Mexico Manufacturing Center- Two Locations in Queretaro



Airport site

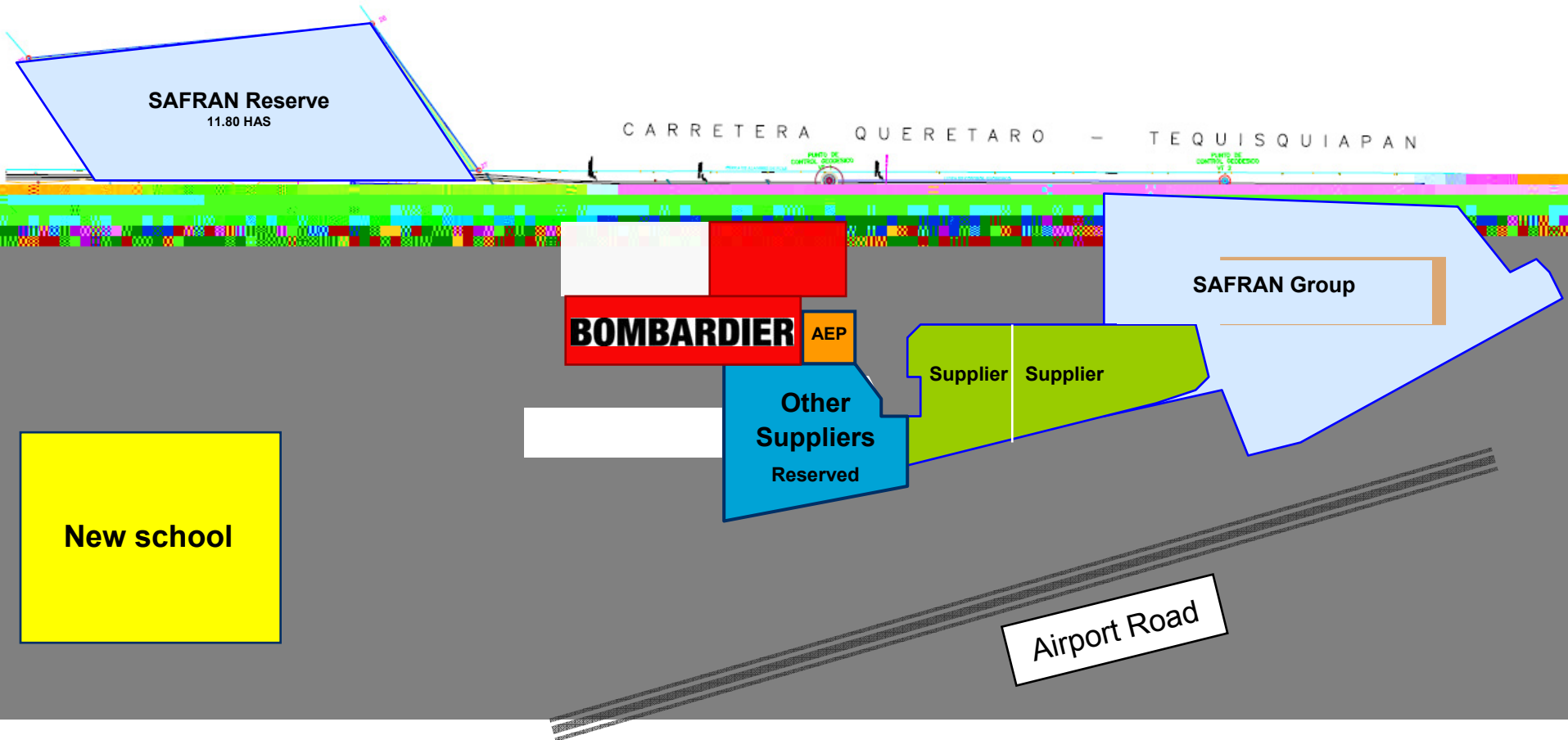
**El Marques
Industrial Park**



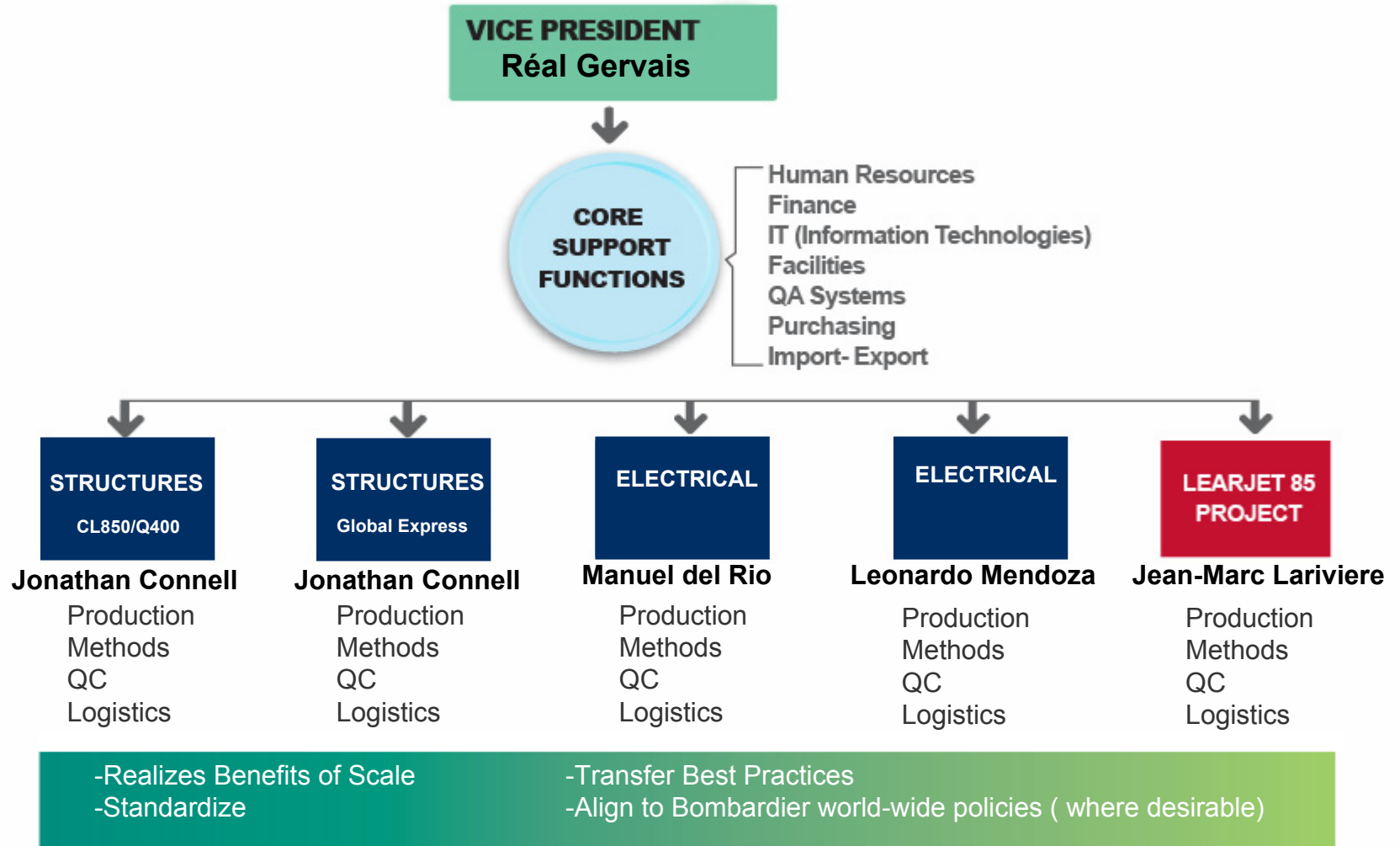
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Mexico Manufacturing Center (MMC) Airport Location

- New airport (opened in Dec 2004)
- Longest runway in Mexico. Can land the new Airbus 380 (3,500 meters)
- Bombardier Site covers 4,000,000 sq-ft
- MMC site is adjacent to the existing Querétaro International Airport
- Querétaro is located 200 km north of Mexico City

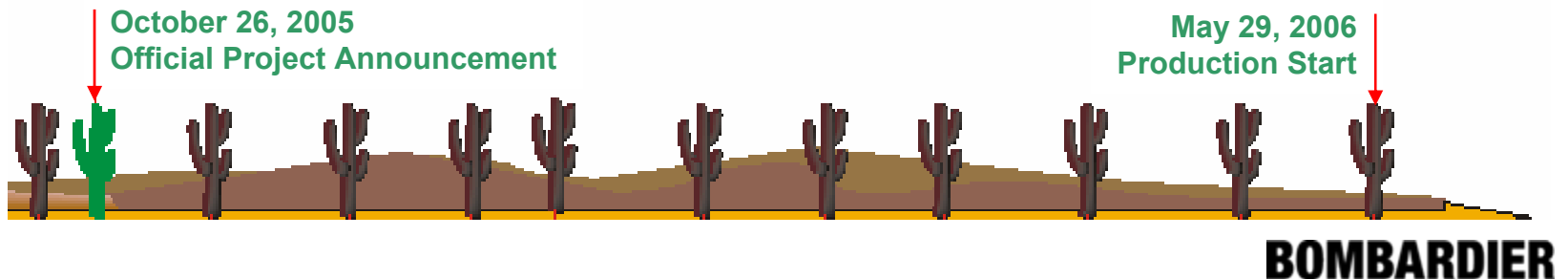


Mexico Manufacturing Center Organization



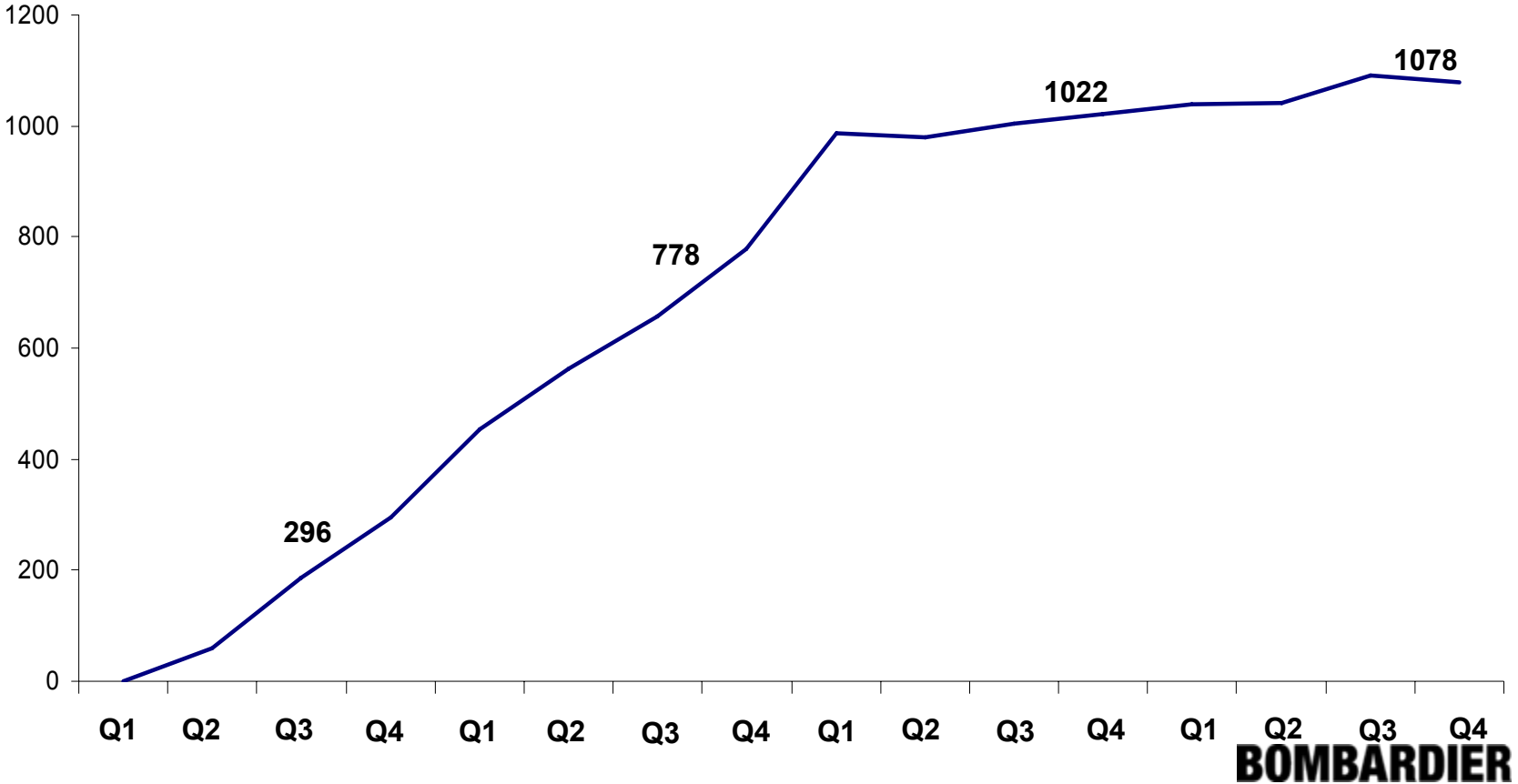
Mexico Manufacturing Center – Key Milestones

- *October 2005*: Project go-ahead
- *May 2006*: Start of Structural (CL850 - Q400) and Electrical activities in El Marques
- *June 2007*: Started construction at airport site
- *October 2007*: Production (Global Express structure) started in October at the airport site
- *May 2008*: 2nd building (for electrical) completed



Mexico Manufacturing Center - Transfer Plan (without Learjet 85)

| 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | |
|------------------------|-------|------|------|------|-----|-----|-----|------|-------|--------|----|------|----|----|----|
| Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 |
| Structure & Electrical | | | | | | | | | | | | | | | |
| | CL850 | Q400 | Q400 | GEX | GEX | GEX | GEX | GEX | CL605 | CL/CRJ | | | | | |



Mexico Manufacturing Center -

Committed to the community



Coyme Rural School Restoration

August 2007

- Rural School restoration located in El Marqués
- Bathrooms, classrooms, painting, computer installations.
- Volunteer Committee: 50 employees



Wameroo Zoo Visit

June 2008

- Visit to the Zoo with Maria Goretii's House (Home for mentally ill children).
- Volunteer Committee: 50 employees



Children's Day –Toy Collection

April 2008

- Toys collected from employees
- Visits conducted to deliver toys to five homes in Querétaro.
- Volunteer Committee: 50 employees
- More than 400 toys were collected

Environmental Bag Initiative

November 2008

- Environmental Bag Campaign for all employees and their families.
- Two environmental bags were delivered to each employee
- More than 2,000 bags were delivered

Mexico Manufacturing Center -

Committed to the community



Home Restoration

March 2009

- Cleaning and painting of kitchen and dining room
- 71 women benefited
- Volunteer Committee: 25 employees and families



Academic Scholarships for Kids

August 2009

- 40 academic scholarships were awarded
- Amount of support: \$5,000 Mexican



Summer Camp for Kids

July 2009

- Summer Camp for employees' children
- Plus 11 boys from Hogares Providencia House
- More than 180 kids participated



Grabatos Ludothèque Restoration

August 2009

- External and internal restoration
- 96 children and elderly people benefited
- Volunteer Committee: 70 employees and families

Mexico Manufacturing Center - Committed to the community



Sierra Gorda Long-term Commitment

- **December 2008**
- Long-term commitment of \$1,000,000 MX annually to support three principal projects: Hydrological basin restorations, forest plantation and development of productive projects for Sierra Gorda Community.
- Main sponsor for Photo Exhibition of Sierra Gorda to promote ecosystems and communities.

Food Collection

- **December 2008/ Dec 2009:**
- Dry Food (rice, beans...) delivered to social institutions in Mexico.
- 2,000 kgs collected

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Structural Components Current Production



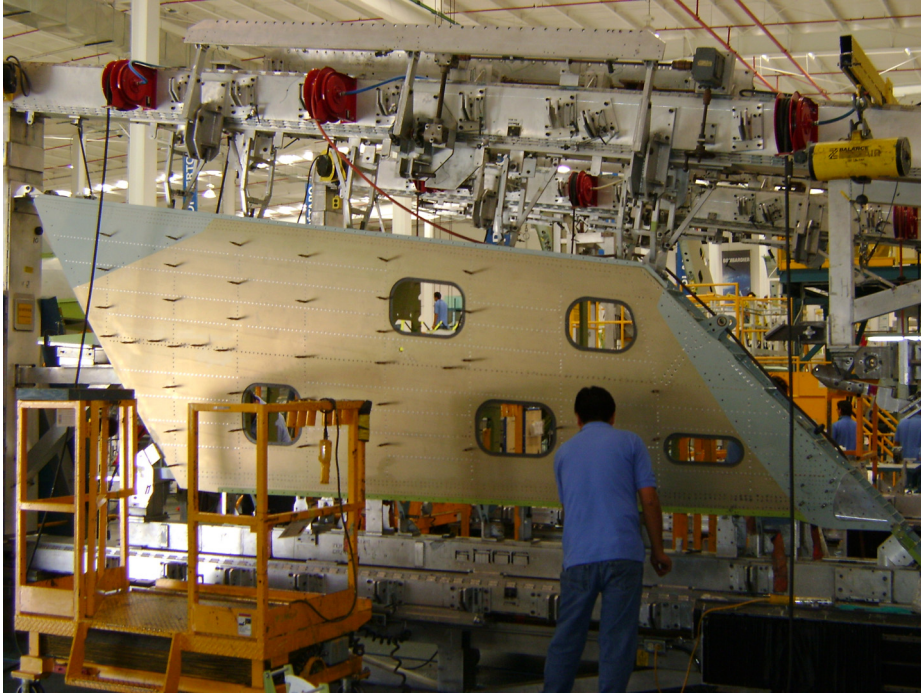
| Program | Product |
|-----------------------|---|
| Challenger 605 | Rudder |
| | V-Stab |
| Challenger 850 | Mid Fuse |
| | Rudder |
| | V-Stab |
| CRJ-700 | Rudder |
| CRJ-900 | Rudder |
| CRJ-1000 | Rudder |
| Global Express | Global Express Components/ AFT Fuselage |
| Q400 | Rudder |
| | Elevators |
| | H-Stab |

Structural Components



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Structural Components



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Electrical Components Produced in Mexico

-Main Harnesses

(CRJ 700-900-1000, Q400, Challenger 300, CL605, CL850, Global Express)

- Electrical sub-assemblies



Since we started operations we have delivered over **74,000** components consisting of harnesses and sub-assemblies

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Electrical Components – Programs supported



CHALLENGER 300

CHALLENGER 605

CHALLENGER 850



GLOBAL 5000

GLOBAL EXPRESS XRS



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Electric harnesses/sub-assemblies



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Quality Management System (QMS) & AS9100 Certified



Mexico Manufacturing Center – Quality

- A TCCA (Transport Canada) audit was conducted in December 2008 at Queretaro site with no major findings
- A DGAC (Mexican Authorities) audit was conducted in February 2009 at Queretaro with no major findings. Production permit in place.
- AS9100 certification for Airport site and renewal for the El Marques site was granted in August 2009 .

Mexico Manufacturing Center – Quality Testimonials

“I can’t believe what you have achieved in 30 months.”

Bertrand George, Vice-president Senior
Industrialization Chief Operation Airbus

“We were all impressed with the growth of the Bombardier Mexico operation. The facility is quite impressive and something to be proud of.”

Bob Krowiak, Director
Global Mfg Strategy Goodrich Corp.

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International Certifications in Health & Safety - OSHAS 18001 / ISO 14001, Bombardier Safety Award



We obtained the OHSAS-ISO certifications in January 2009



Frequency



Mexico site won internal award twice

Severity



1st year to win the internal award



Continuous Improvement Culture (examples)

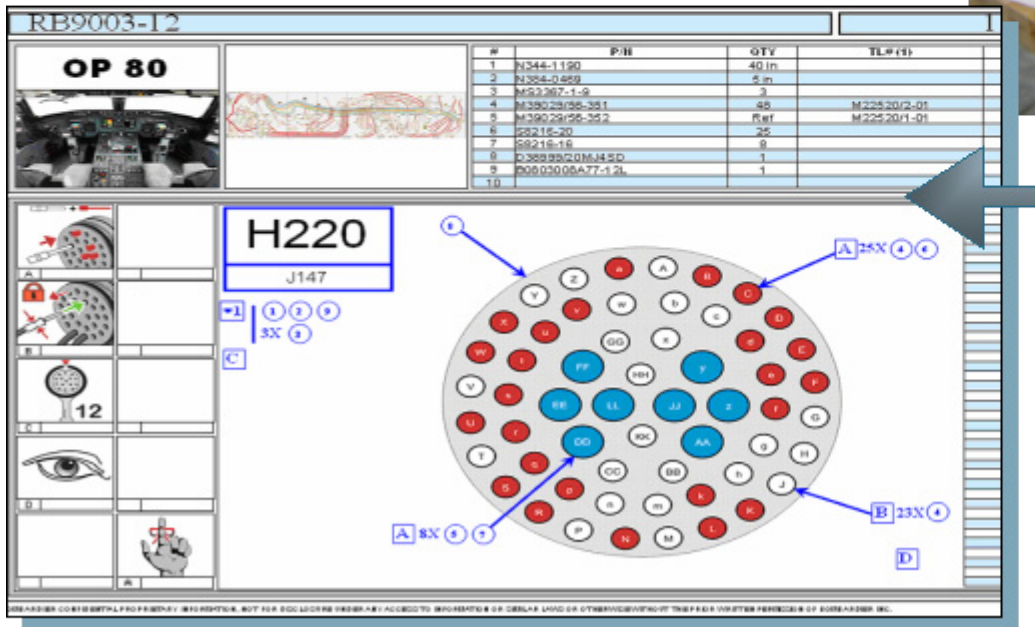


2008-2009:

- **24** Kaizen events completed
- **181** Improvement projects completed

Examples of Improvements Visual Working Instructions

- All work instructions have been completely redesigned
- More universal and easy to understand by any employee:
- Use of pictograms instead of words reduces the risk of errors



2009:
2,074 improvement
ideas implemented

Mexico Manufacturing Center

- Bombardier was the first manufacturer to establish itself in the Queretaro aerospace cluster.
- Bombardier Mexico adheres to the same high-quality standards as all Bombardier sites worldwide.
- International certifications obtained in less than three years of operations: Health & Safety (OSHAS, ISO 14001), Quality (AS9100) & Bombardier Safety Award.
- Fully committed to Bombardier Aerospace's Corporate Responsibility Program focusing on community, environment and education in the state of Queretaro.
- To date, 1,144 employees (including Learjet 85).

Mexico Manufacturing Center Agenda

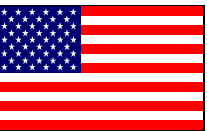
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Teams Positioned Across Three Sites



▪ Montreal responsibilities:

- Structural detail design
- Co-location with Queretaro team



▪ Wichita responsibilities:

- Systems installation
- Aircraft integration, certification, stds
- Final line and customer support
- Over 200 employees



▪ Queretaro responsibilities:

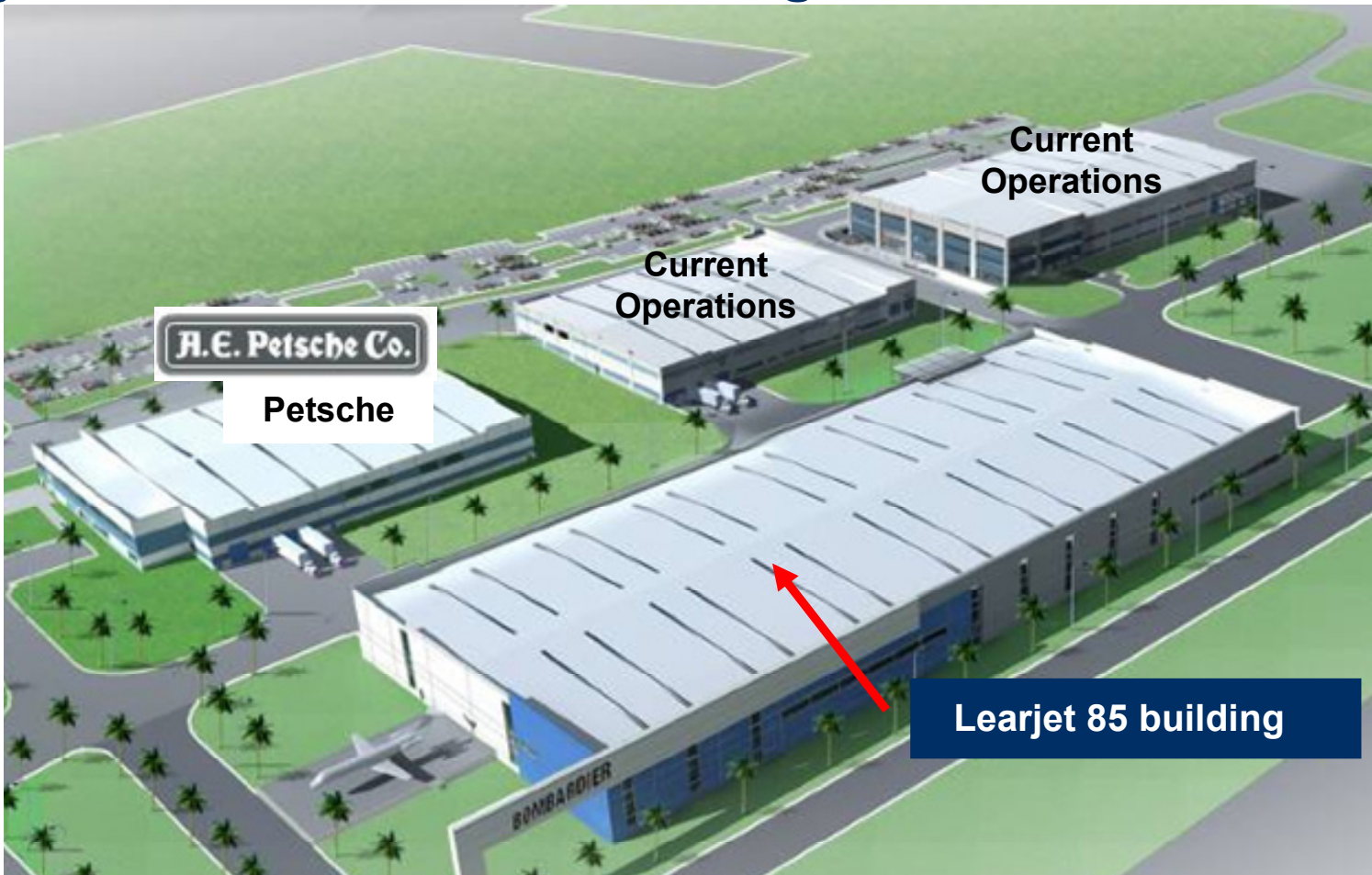
- Composite structures mftg.
- Electrical harnesses mftg.
- Sub-assembly systems installation
- Over 50 employees



Tremendous amount of cooperation between the 3 sites

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Learjet 85 –Mexico Manufacturing Center



Grand Total for Learjet 85 in MMC building 200,000 sq ft

Lean Principles for operations are being applied

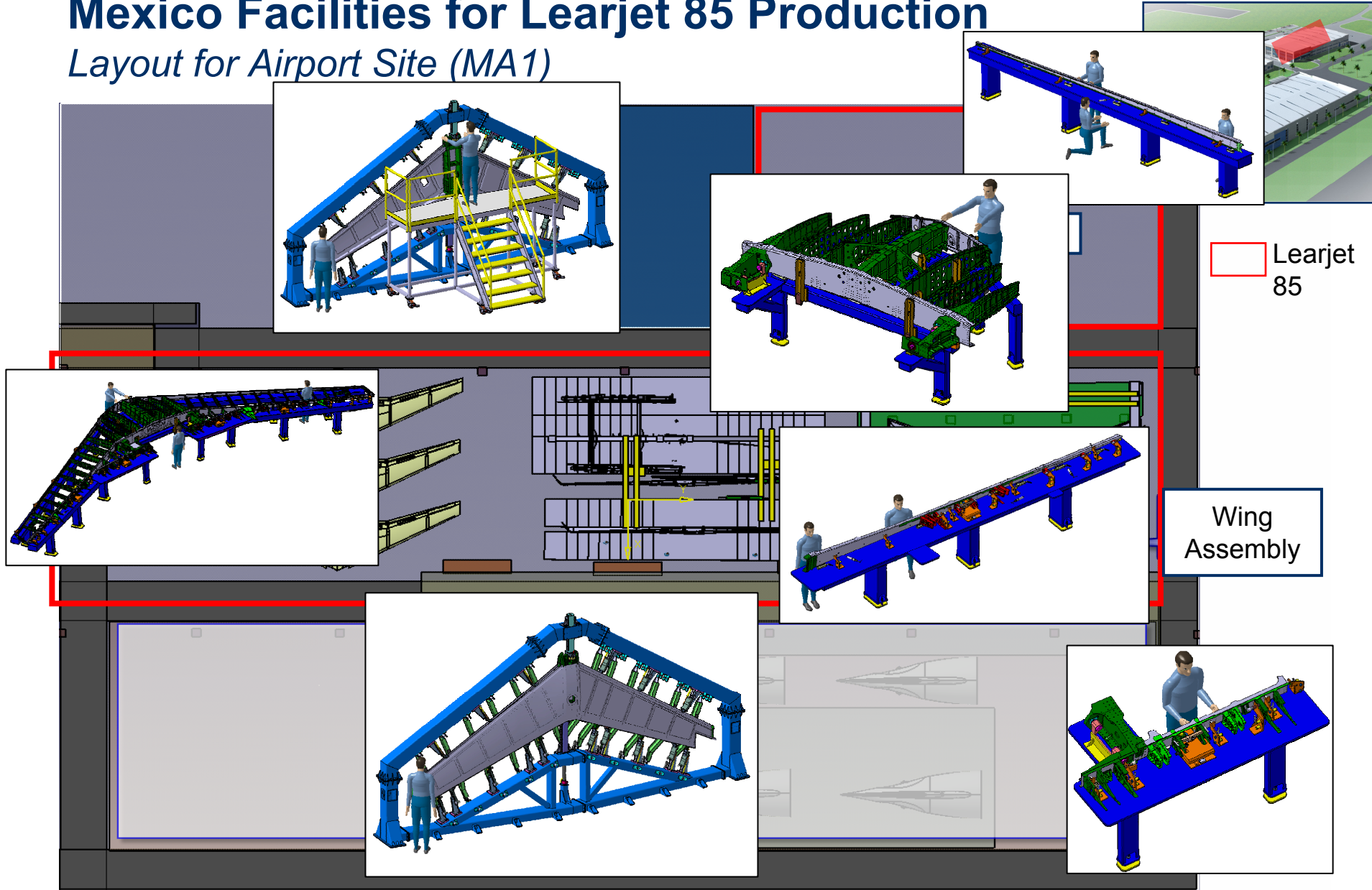
New Building for Learjet 85 Structures Manufacturing



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Mexico Facilities for Learjet 85 Production

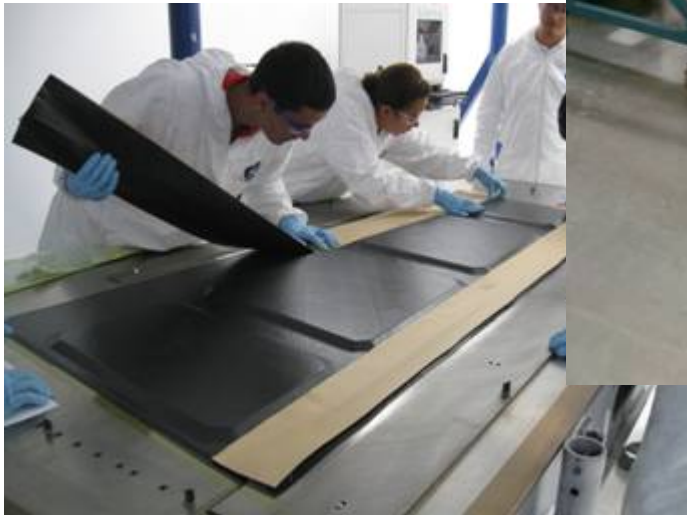
Layout for Airport Site (MA1)



Composite Technology Readiness Roadmap Progress

| Phase 1 | Phase 2 | Phase 3 | Phase 4 |
|------------------------------|-----------------|---------------------|---------------------------|
| Material Selection and Basic | Design Drivers | Design Optimization | Validation of Mfg Process |
| Complete | Complete | On going | |

El Marques supporting technology readiness and validating our processes



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Learjet 85 – Mexico Training



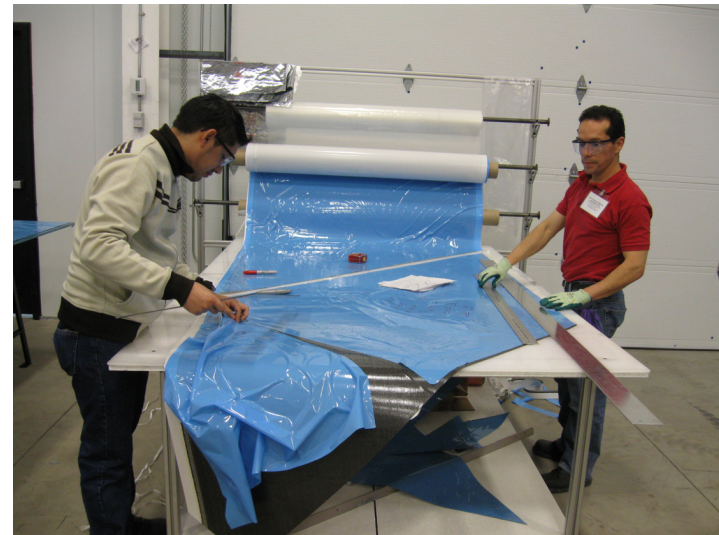
| Title | Module | Duration (hrs) |
|--|--------|----------------|
| The trade and the training process | 1 | 15 |
| Health and safety | 2 | 15 |
| Mathematics and metrology | 3 | 30 |
| Process and raw materials | 4 | 45 |
| Plans interpretation and drawing sketches | 5 | 40 |
| Specific workshop projects | 6 | 15 |
| Work organization | 7 | 36 |
| Contact molding | 8 | 80 |
| Closed mold process | 9 | 94 |
| Assembly of aerospace composite material parts | 10 | 55 |
| Composite repairs | 11 | 55 |
| Subtotal | | 480 |
| On the job training | 12 | 480 |
| Total | | 960 |

UNAQ: “Universidad Nacional Aeronáutica de Querétaro” composite capability in Q4 2009



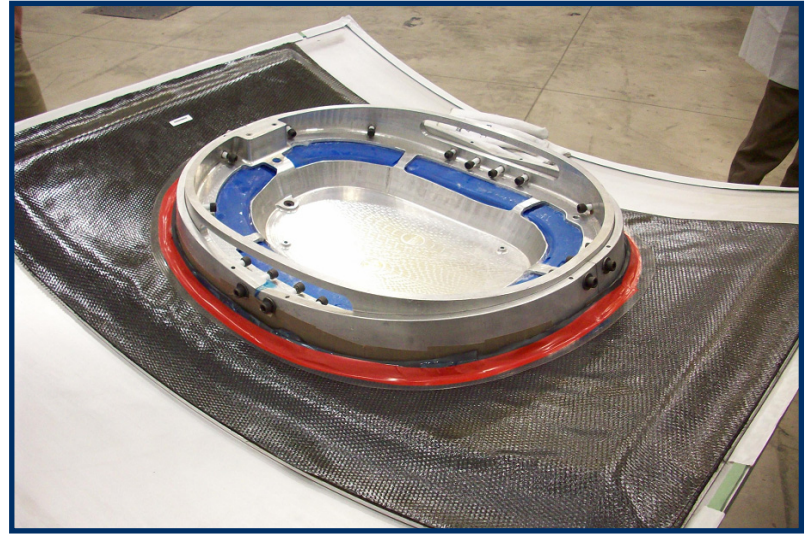
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Fabrication of First Concept Fuselage Section



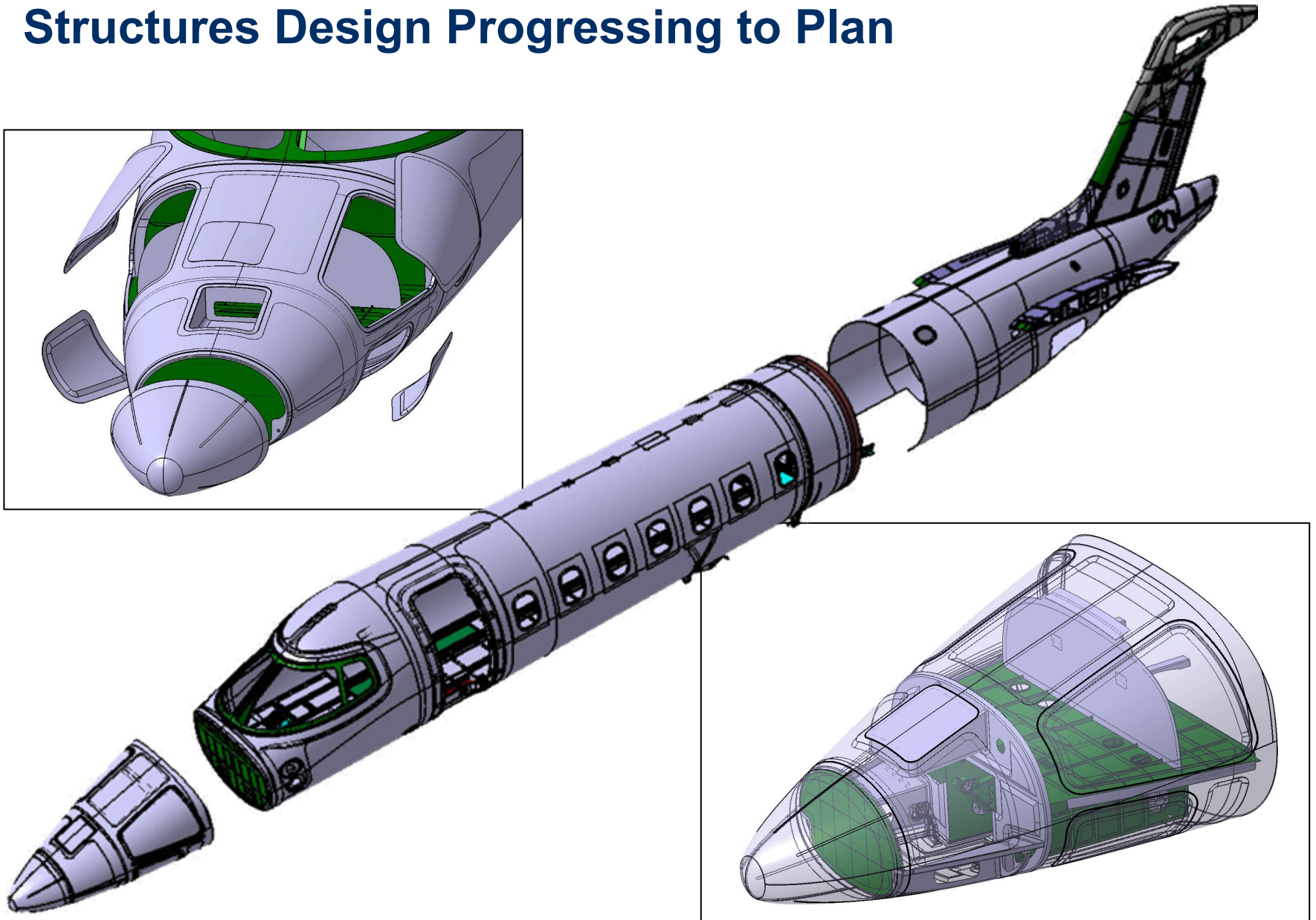
Mexico team working in Montreal

“Proof of Concept” Fuselage and Panel Lay Up



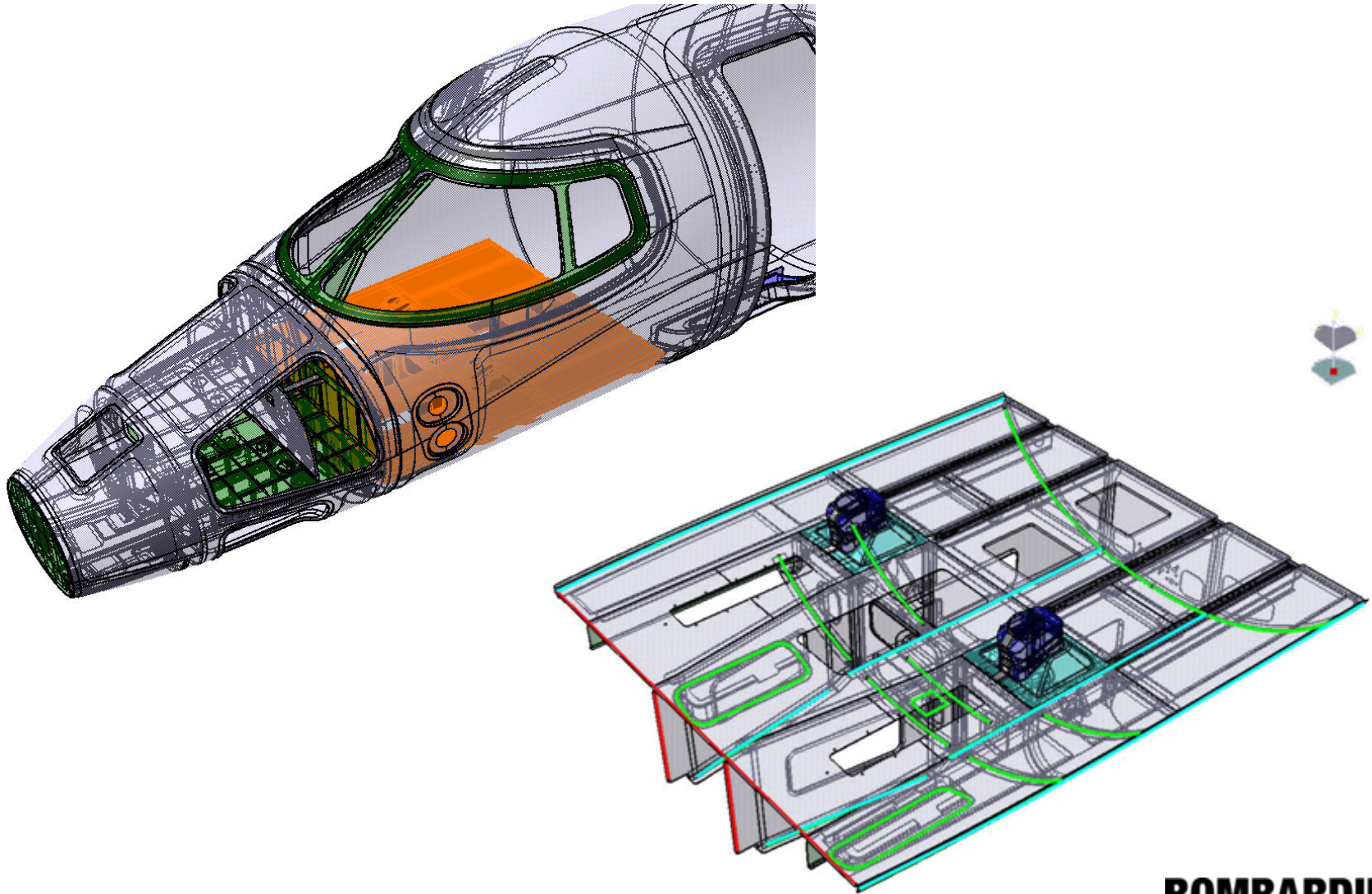
Validated our manufacturing process using existing fuselage molds

Structures Design Progressing to Plan



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Structure Design Progressing to Plan



Learjet 85 Mexico

Learjet 85 Mexico supporting the program requirements with:

- Factory layout based on lean manufacturing principles
- 53 production employees ready to support manufacturing
 - All employees receive over six months of training
 - 120 total employees (remainder in Montreal)
- Latest technology composite equipment to effectively provide the highest quality product to our customers

Mexico is prepared to start manufacturing of the composite structure for the Learjet 85 by Q2/2010