



INVEST AND EXPORT

# AEROSPACE INDUSTRY

OCTOBER 2021



# WHY MOROCCO ?

## World class aeronautics platform...

- Morocco emerged as a prime aeronautics platform with annual growth rates of 20% over the last years
- The country is ranked among the world's most dynamic aerospace ecosystems
- Diversified and highly integrated supply chain

## ...appealing to major international players...

- Top OEMs are using parts produced in Morocco and many key industry players have built successful long-term partnerships in the country



## ...attracted by a geostrategic location and a unique set of competitive advantages...

- A unique combination of competitive advantages
- Well-trained Human Resources and dedicated training institutes ensure access to a top qualified and competitive labor cost
- Closest African country to the US, Canada and Europe ensuring on time delivery, and easy access to the main aerospace industry markets

## ...long term vision to enhance the competitiveness of the Moroccan aerospace

- Target to grow more complex capabilities
- New opportunities: Space industry, Composites, Interiors...
- Vision to support the decarbonization of the industry



# HIGH VALUE-ADDED PARTS PRODUCED USING THE LOCAL SUPPLY CHAIN

## PARTS MADE IN MOROCCO HIGHLY INTEGRATED CAPABILITIES

 Fuselage Airbus A321	 upper fuselage panel Dassault Falcon	 Side Panel Airbus Family	 Em door Bombardier CRJ	 Pavillon Airbus A350	 Porthole fuselage panel Falcon 900-2000
---	--	--	--	--	---

 Winglets Bombardier CRJ	 Flaps Bombardier CRJ
--	--

 Tail Cone Airbus A330	 Underbody Boxes ATR
--	---

 Slats Bombardier	 Depth ruler Falcon 900-2000	 Frame Airbus Family
---	---	---

 frames belly support doors Airbus A380	 Boxes Airbus A350	 Hatch A320
---	---	--

 thrust reverser Bombardier & Gulfstream	 Inlet Bombardier CRJ	 Tubes & Pipes Airbus Family
---	--	---

 Thrust reverser fan Bombardier & Gulfstream	 thrust reverser Airbus A320	 Blades Engines
---	---	--

 Wirings & Harnesses Boeing family	 Wirings & Harnesses Airbus Family	 Wires Airbus Family	 Connectors Airbus Family & Bombardier	 Actuators - Calculators Airbus Family & Bombardier
---	--	---	---	--

 Cockpits Control Panel Airbus A320	 Circuit Breaker MRJ90	 Electromechanical Circuit Breakers Airbus Family Boeing 737Max	 electronic board assembly Airbus Family	 power electronics Various planes
--	--	--	---	--

 Side Stick unit Airbus Family	 Business Class Seats Airbus & Boeing Families	 Honey comb Various planes	 Overhead Compartment ATR	 helmet box A320	 equiped panels A320
 Air conditioning parts Airbus Family	 Door panel A320	 Cockpit Furnishings Airbus A320	 Protect panels A320	 Cockpit panel A320	 Crew seats A320

 3D natives parts Various planes	 Taper Cone CFM 56	 Other machined parts Airbus Bombardier Dassault
 Brake Piston A320	 Primary parts Airbus Family	 Command ring Engines
 fasteners Various planes	 Box and tablet pilot A320	 Other machined parts Airbus family

### LEGEND

-  Subassembly aerostructure & engines parts
-  interior equipments & composite parts
-  Machined & sheet metal parts
-  Electrical harnesses, components & parts

## THESE AIRCRAFT FLY WITH PARTS MADE IN MOROCCO



# THEY TRUST MOROCCO



# DIVERSIFIED SUPPLY CHAIN WITH ENHANCED CAPABILITIES (1/2)

## AERONAUTIC EQUIPMENT

Equipment, final assembly & test ( Actuators, Cockpit & Cabin Equipment)



## AEROSTRUCTURE AND ENGINE PARTS

Assembly work packages (fuselage, nacelles...) Composite structural & non-structural



## MACHINING

CNC machining /aluminum/ steel/titanium metal analysis/ mechanical testing



## SPECIAL PROCESSES

Anodizing (OAC,OAD,OAS,OAT...) Plating, coating, phosphating, passivation



## SHEET METAL WORKS

Cutting metals stamping, bending, shot peening, or welding processes



**38% OF LOCAL INTEGRATION RATE**



# DIVERSIFIED SUPPLY CHAIN WITH ENHANCED CAPABILITIES (2/2)

## ELECTRICAL WIRING

Wiring /technical harnesses  
electronics systems testing



## ENGINEERING

Mechanic, Electric, Electronic,  
Hydraulic Study, design, FEA,  
Simulations, 3D Printing



## MRO

Heavy/line engine support services  
interiors

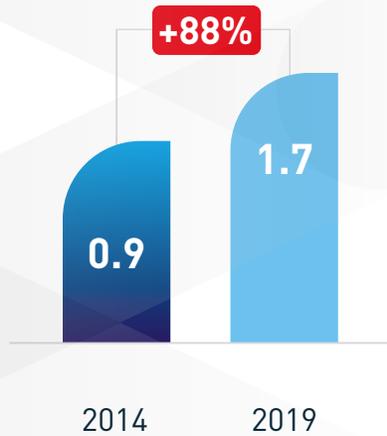


38% OF LOCAL INTEGRATION RATE

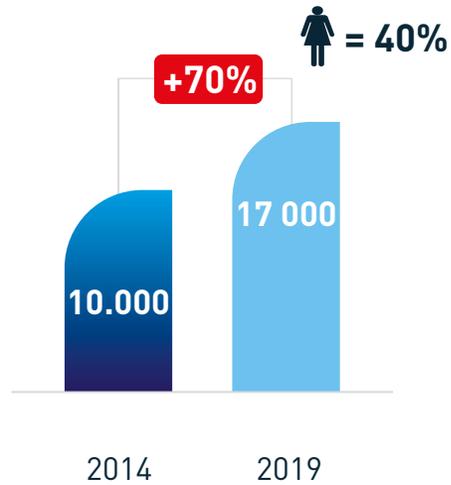
# THE FUTURE OF AVIATION WILL BE MADE "WITH" MOROCCO

## Key figures

**Revenue**  
(USD bn)  
20% growth rate average



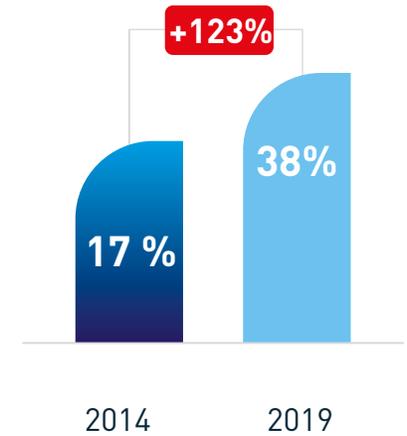
**JOBS**  
(# employees)



**COMPANIES**  
(# companies)



**LOCAL INTEGRATION**  
(% local integration)



*In 2020, like the rest of the aeronautics industry, we have been going through a period of economic turbulence for the past year, but at no time did we question this strategic choice.*



*Olivier Andriès, CEO, Safran*

# BOEING SUCCESSFUL SOURCING ECOSYSTEM IN MOROCCO



- Memorandum of Understanding signed 2016/27/9 by BCA former CEO Ray Conner and The Kingdom of Morocco (KoM).
- The Kingdom of Morocco, as part of the MoU, will provide a variety of critical parts to the Boeing production system with good quality and on-time delivery performance.

120

SUPPLIERS

8,700

JOBS<sup>2</sup>

\$1bn

ECONOMIC IMPACT<sup>1</sup>

1. Yearly expected exports, in-country direct and indirect revenues 2. Expected number of direct jobs created

Sources: Institutional sites, AMDIE



“ This MoU has been a great success as we have been able to integrate 11 suppliers including 2 that supply Boeing directly. These early successes have demonstrated that the Kingdom of Morocco offers excellent value for money and sets it apart from many other countries. We believe that together we can meet the challenges of global aviation and support the long-term growth objectives of both Morocco and Boeing. Stan Deal, President & CEO Boeing Commercial Airplanes ”

# PILATUS PC12- ASSEMBLY TO BE COMPLETED IN MOROCCO



- *Pilatus Aircraft and Sabca Maroc have signed a contract for the assembly of PC12- aerostructures in Casablanca.*
- *The first fuselage and wing structure assembled at the new Sabca facility will be ready for delivery by the end of 2022.*
- *The training required will be completed in collaboration with IMA.*



“ *Pilatus trusted us after an international competition, in which we were able to demonstrate that Sabca Maroc was the most competitive, the most qualified in terms of quality, work capacity but also confidence, motivation of the teams and their ability to achieve this goal.* ”

*Thibauld Jongen, CEO, SABCA*



# TALENTED PEOPLE YOU CAN RELY ON

## HIGHLY TRAINED WORKFORCE

### SPECIALIST TECHNICIANS AND OPERATORS

- Ad hoc training programs jointly developed with investors to address industry specific needs (e.g. soft skills with, middle management training)
- Subsidized by the government



### AERONAUTICS ENGINEERS TRAINED IN MOROCCO AND ABROAD

- **2,500 engineers** to be trained per year in Moroccan specialized engineering schools
- A growing number of partnerships with **leading international universities**



## COMPETITIVE PRODUCTION COSTS

Cost, Morocco, \$/ months



ASSEMBLY/FABRICATION



MECHANICS



QUALITY CONTROL



**TURNOVER RATE IS LESS THAN 5%**

*Our Spirit Casablanca site is strategically important to us. It provides a very competitive cost base, a highly skilled workforce, it gives us access to a very strong ecosystem and it is ideally located logistically for our customers in the UK and Europe and for other destinations around the world. Scott McLarty, SVP Spirit Aerosystems*



# PROXIMITY AND FREE OF DUTIES ACCESS TO MAJOR AEROSPACE MANUFACTURING HUBS

## Easy access to a USD +60 bn market



SOURCE: TRADEMAP



FRANCE

- **1st** worldwide market: USD 15.1 bn imports in 2019
- **2 days** transportation by land
- Free Trade Agreement (EU)



UNITED STATES

- **2nd** worldwide market: USD 20.3 b imports in 2019
- **10 days** transportation by sea
- Free Trade Agreement



GERMANY

- **3rd** worldwide market: USD 8.2 b imports in 2019
- **3 days** transportation by land
- Free Trade Agreement (EU)



UNITED KINGDOM

- **5th** worldwide market: USD 5.6 b imports in 2019
- **3 days** transportation by sea
- Association Agreement, with free of duties access



CANADA

- **6th** worldwide market: USD 5.3 b imports in 2019
- **10 days** transportation by sea

# YOUR WORLD-CLASS FACILITY READY IN LESS THAN 12 MONTHS

## MIDPARC CASABLANCA FREE ZONE



## NOUACEUR AEROPOLE



## TFZ (Tanger Free Zone), MELLOUSSA



## INDUSTRIAL PARKS: HAD SOUALEM, SAPINO, CFCIM



 INDUSTRIAL PARK

 AEROSPACE DEDICATED PARK



# A COMPREHENSIVE INCENTIVE PACKAGE AVAILABLE

## Direct Capital Expenditure Subsidies for investment in aeronautics

Direct Capital Expenditure Subsidies for aerospace activity, based on investment's level, added value and job creation.

## Tax incentives & Industrial Acceleration Zones advantages

One stop shop services for customs and administration requirements.

## Free on-demand training

On-demand and tailor-made training: Workers are trained in advance, to meet the start-of-production schedule.



# THE FUTURE OF AVIATION WILL BE MADE “WITH” MOROCCO

## 2025 AMBITION

- Reinforce existing capabilities with a focus on : Engineering, MRO

- Develop new ecosystems: Space, Interiors, Engine, Composites

- Export revenue x2,5

- Decarbonization of operations



MOROCCO



INVEST AND EXPORT