



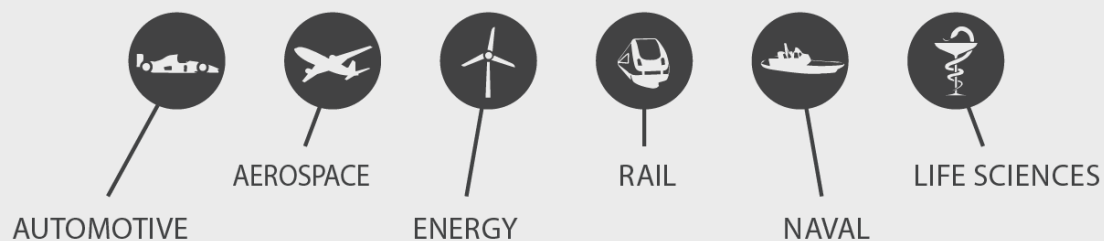
GROUP OVERVIEW

INCL. AERO FOCUS

SEGULA Technologies

GLOBAL ENGINEERING GROUP

SERVING THE COMPETITIVENESS OF ALL MAJOR INDUSTRIAL SECTORS



13 000+
EMPLOYEES



30+
COUNTRIES



140+
LOCATIONS



300+
CUSTOMERS



200+
R&I PROJECTS
EVERY YEAR

Our values

RESPONSIVENESS

PROXIMITY

AMBITION

INNOVATION

A STRONG INTERNATIONAL FOOTPRINT IN 30+ COUNTRIES

AMERICAS

Argentina
Brazil
Canada
United States
Mexico

ASIA - OCEANIA

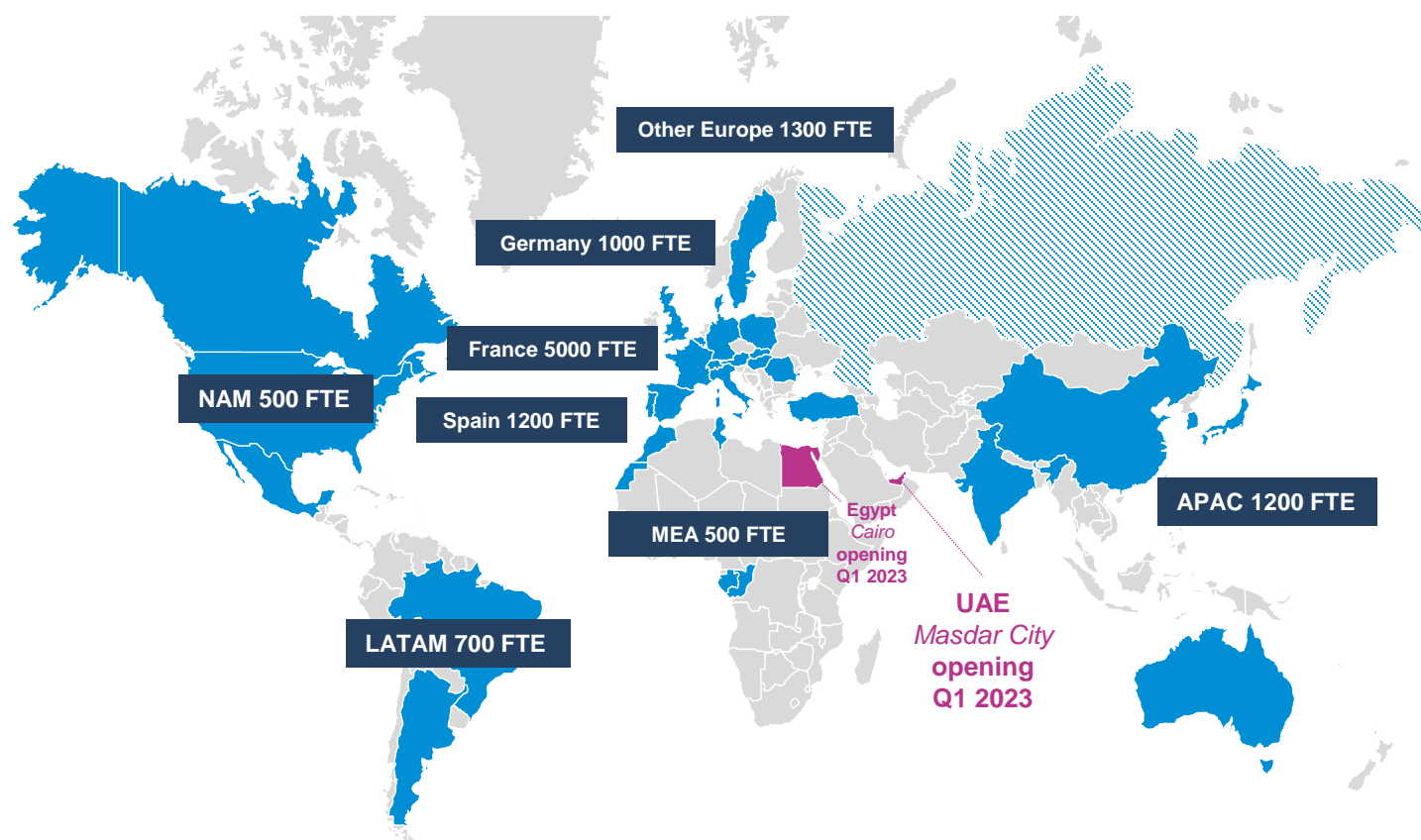
Australia
China
India
Japan
S. Korea

EUROPE

Germany
Austria
Belgium
Denmark
Spain
France
Hungary
Italy
Poland
Portugal
Romania
UK
Russia
Slovakia
Sweden
Switzerland
Cz. Republic

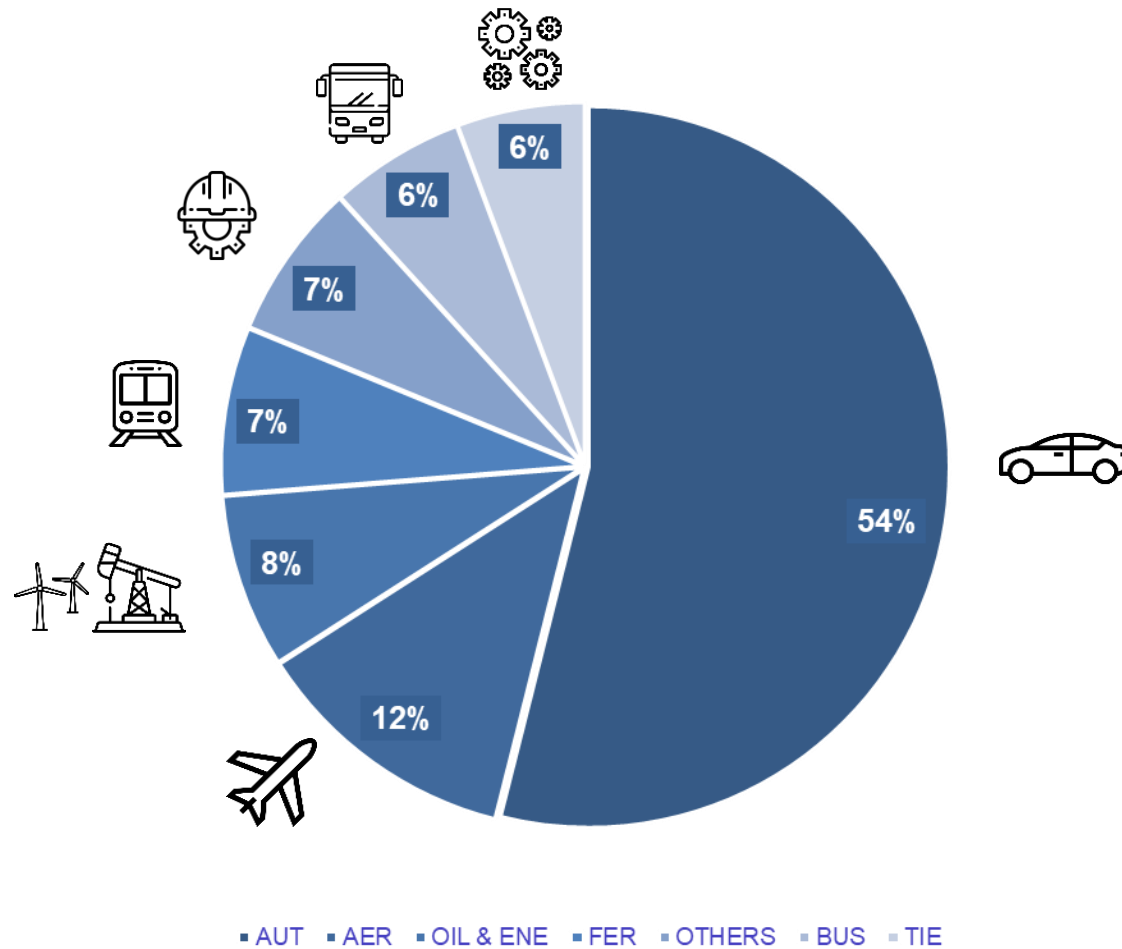
MENA

Congo
Gabon
Israel
Morocco
Tunisia
Turkey



SEGULA SPLIT

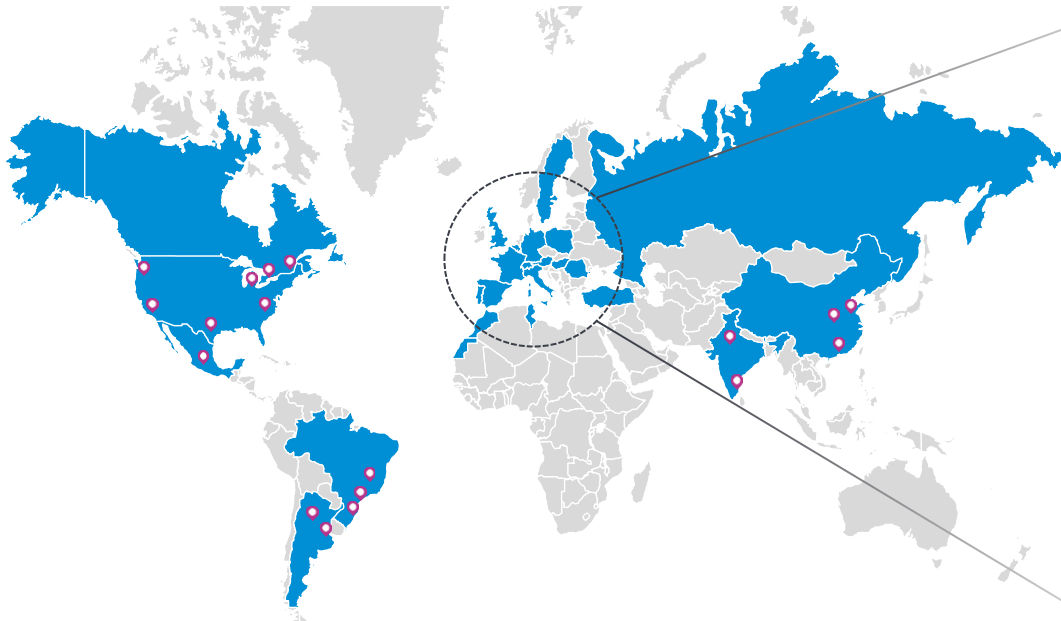
A DIVERSIFIED SCOPE OF ACTIVITIES



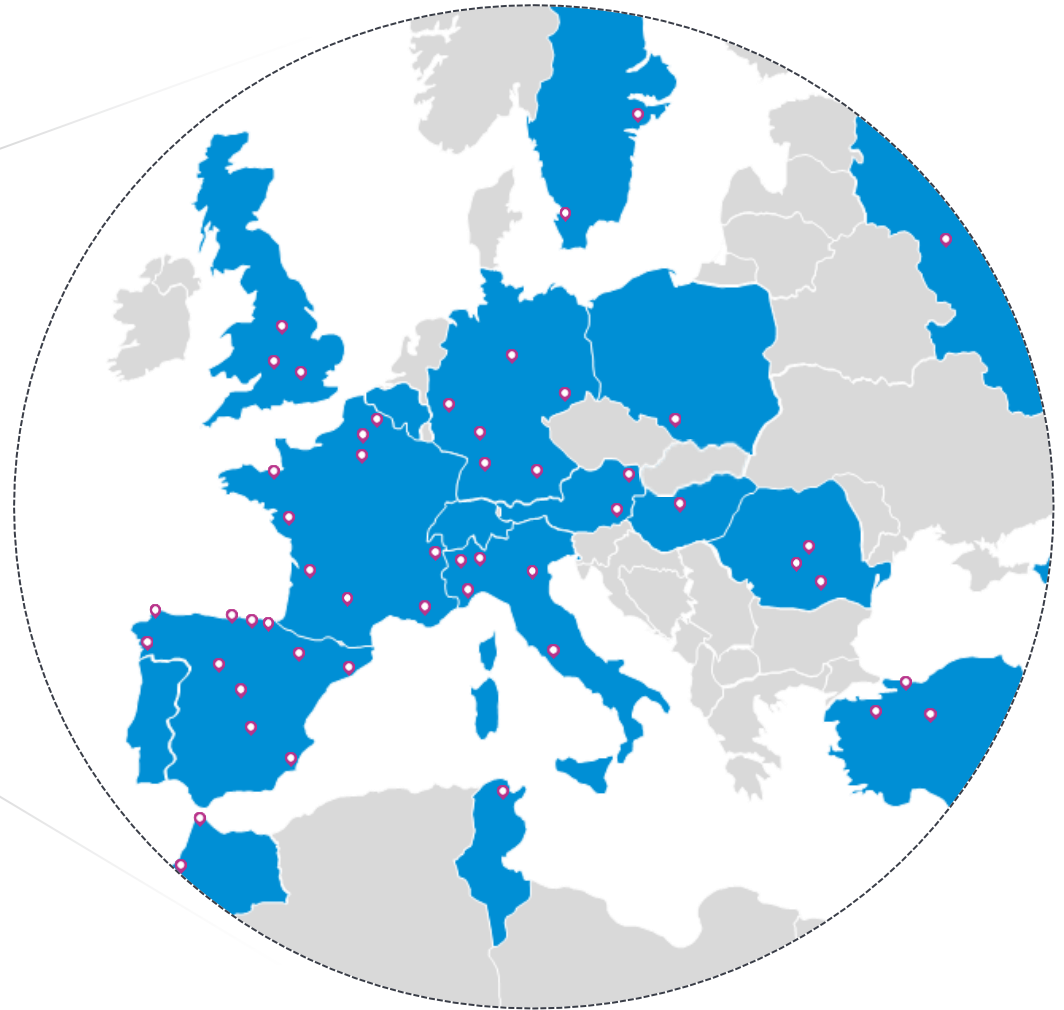


Focus on our Aero know-how

OUR GLOBAL AEROSPACE OPERATIONS



CANADA | UNITED STATES | BRAZIL | MEXICO | ARGENTINA | CHINA | INDIA | RUSSIA
SWEDEN | TURKEY | ROMANIA | POLAND | GERMANY | UNITED KINGDOM
BELGIUM | ITALY | AUSTRIA | HUNGARY | SPAIN | PORTUGAL
SWITZERLAND | FRANCE | MOROCCO | TUNISIA



AEROSPACE & DEFENCE CENTRES OF EXPERTISE



1,300+
EMPLOYEES



ENGINEERING



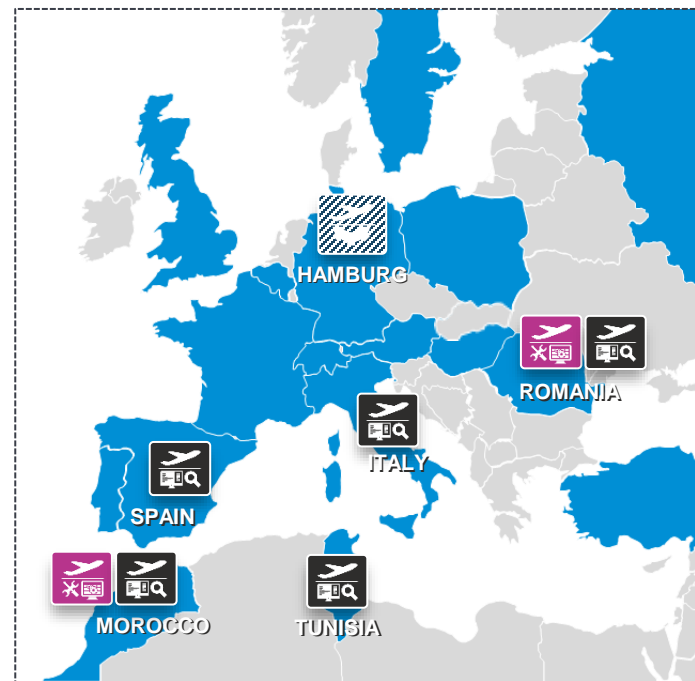
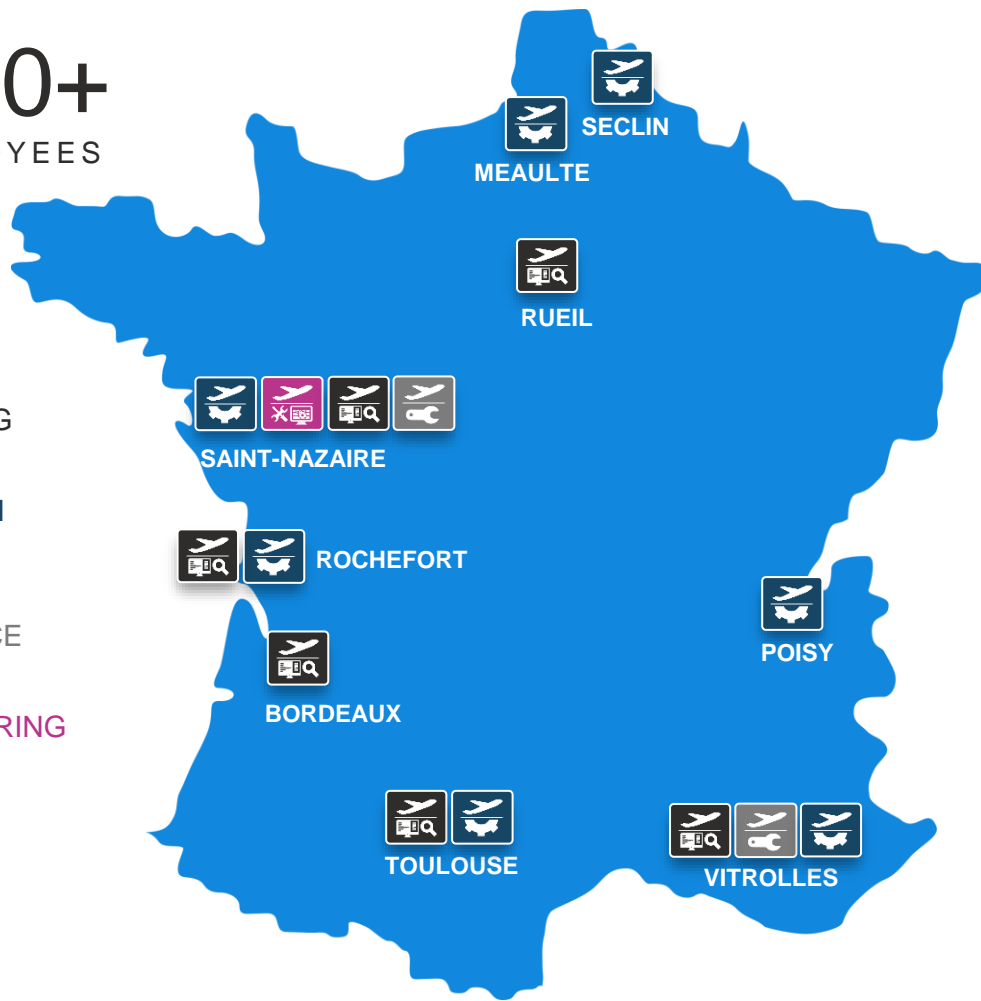
PRODUCTION
SERVICES



MAINTENANCE

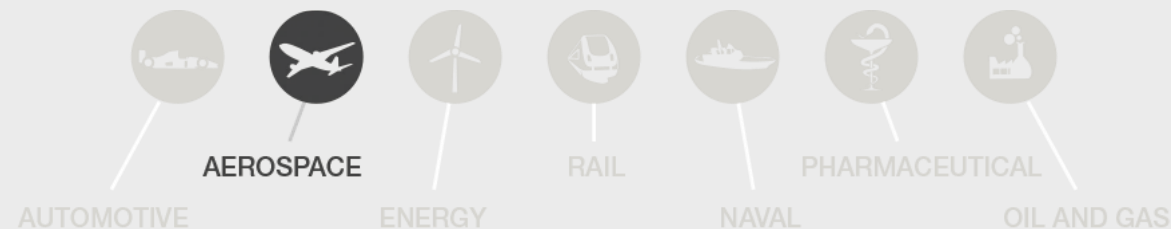


MANUFACTURING
PLANTS



SEGULA Technologies

GLOBAL ENGINEERING GROUP



 **1,300+**
EMPLOYEES

 **10+**
COUNTRIES

 **20+**
LOCATIONS

 **30+**
CUSTOMERS

 **40+**
R&I PROJECTS
EVERY YEAR

INNOVATION FOR AEROSPACE

Implementation of adapted production lines favoring decarbonisation



Design attractive and efficient solutions for systems and cabin interiors

Development of avionics and on-board equipment for more connectivity



Additive manufacturing to produce prototype pieces of reduced mass

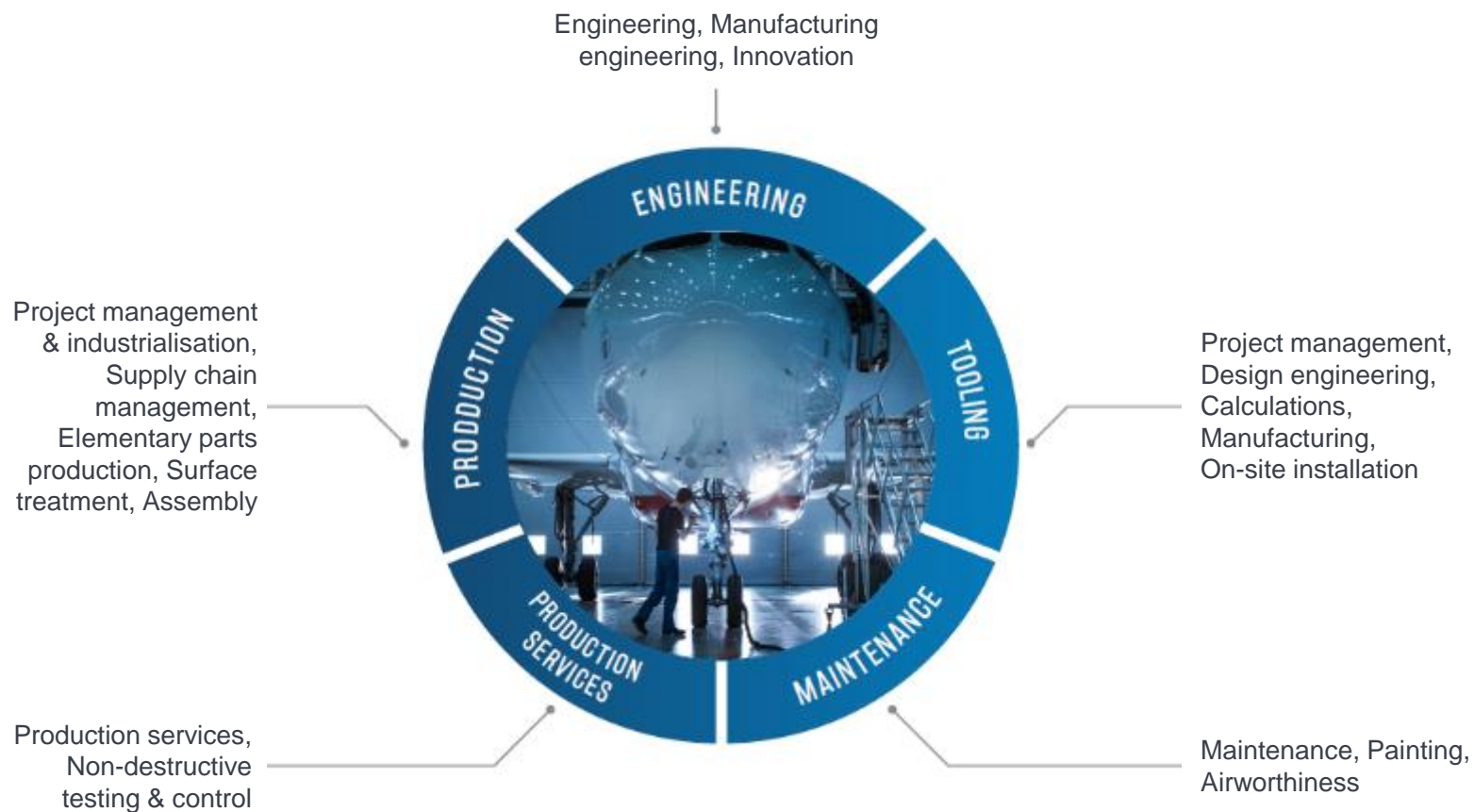
Development of low-carbon solutions



Data engineering to improve predictive maintenance and increase aircraft availability



A WIDE RANGE OF SERVICES COVERING THE ENTIRE LIFE CYCLE OF CIVIL AND MILITARY AIRCRAFT AND HELICOPTER



THE SEGULA

-  An international support from design to maintenance
-  An industrial culture for ever more efficient solutions
-  Expertise in digitalisation of service and production

SOME OF OUR REFERENCES





DESIGNING TOMORROW'S AEROSPACE SOLUTIONS

ENGINEERING

Structure, Calculation, Aerospace systems,
Dependability, Test benches,
Industrialisation, Design to data, Industry 4.0

TOOLING & TEST BENCHES

Design, Calculation, On-site manufacturing
and installation, Assembly, Tuning,
Performance testing and development.

PRODUCTION SERVICES

Structure assembly, Finishing, Global
intervention offer, Repair works,
Implementation of digital processes, Data
science

MANUFACTURING

Sheet metal work, Machining, Surface
treatment, Structural assembly, Equipment
assembly, Elementary parts production

MAINTENANCE

Technical support, Global maintenance
offer, Airworthiness, Teams projection,
Equipment / systems, Predictive
maintenance, Painting

THE SEGULA

-  International support from design to maintenance
-  An industrial culture for ever more efficient solutions
-  Expertise in digitisation of service and production

SOME REFERENCES

AIRBUS
GROUP

DASSAULT
AVIATION

BOMBARDIER

SAFRAN THALES

LIEBHERR
Aerospace


arianeGROUP

LATÉCOÈRE


cnes

 FAdeA

ENGINEERING

OUR SOLUTIONS

ENGINEERING

Aerostructure (design and stress), systems engineering, design electrification, calculations (crash, dynamic)

MANUFACTURING ENGINEERING

Test benches, work preparation, industrialisation, Industry 4.0, data analysis, industrial transfer

INNOVATION

Aware of processes and tools evolution related to the carbon aircraft, we have a structure dedicated to R&I which can support our clients in their innovation projects and their financing.

e.g. helium tank in additive manufacturing

SUCCESS STORY




AIRBUS: TRANSFER OF A HELICOPTER STRUCTURE ASSEMBLY LINE INTEGRATING THE LOGISTICS FLOW



ACHIEVEMENTS

- Assembly of upper and lower parts
- Assembly of the canopies and paint cabin
- Delivery of the assembled structures using a truck equipped with specific means

THE SEGULA

-  High technical level of the teams, professionalism, ability to find good profiles
-  Customer references
-  Proximity & our reactivity

SOME OF OUR REFERENCES

AIRBUS
GROUP

DASSAULT
AVIATION

DAHER

SAFRAN

ENIM

LIEBHERR

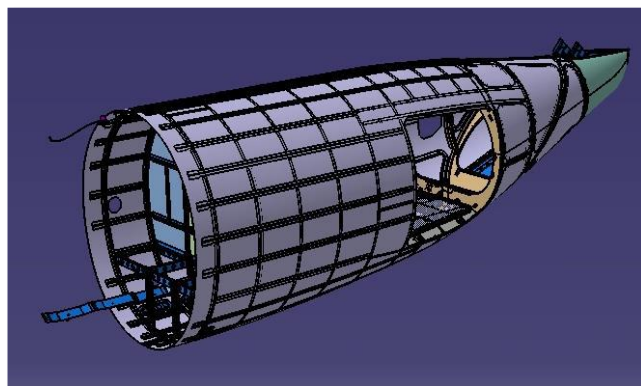
LATÉCOÈRE

cnès



Latecoere was awarded the

Design of an 11-seat Business Jet fuselage structure with panel and frames co-bonded



SEGULA scope of work:

Floor structure, Empennage attachment,
Baggage Bulkhead, Brackets

- **Customer support** to increase the **design** principle **maturity**
- **Engineering** of Part from preliminary design to detailed design
- Stress validation including **F&DT analysis**
- **PRA** related to SEGULA scope

HONDA HA 480 FUSELAGE DESIGN

- + Achieve a total of 230 P/N design for the Jet in 8 months
- + Multiple production methods 1/3 of the volume without design principle
- + Start of Detailed design without frozen maturity of concept
- + Management of modifications

Delivery performance in line with
LATECOERE expectations

PN validated > 90%

OTD > 95%

**Ability to support LATECOERE in
problem solving**

PRODUCTION SERVICES

OUR SOLUTIONS

PRODUCTION SERVICES

Management of in-situ activities (completion), production of packaged inter-customer site offers and global offers for site or series intervention in multiple trades, quality management system (5M, special processes, system audit).

NON-DESTRUCTIVE TESTING & CONTROL

Qualified controllers

Operational on programming and operation under calyso

Dimensional & visual inspection

Dimensional, Roughness, Electrical conductivity, Hardness, Coating thickness

Control of electronic components & equipment

Electronic components, bare circuits according to IPC600-A

SUCCESS STORY




OSW PRE-FAL/FAL AIRBUS SAINT-NAZAIRE & DASSAULT SECLIN PRODUCTION SERVICES



ACHIEVEMENTS

- Keys to success: agility, responsiveness and performances.
- Leader in OSW activities at Airbus in SNZ
- OSW at Meaulte's plant
- Ex-situ team at Airbus Hamburg
- Re-start of activities at Dassault's Seclin factory

THE SEGULA

-  A team of over 500 qualified employees
-  Flexible and high-performance partner
-  Wide range of testing devices (magnetic particle inspection, three-dimensional machine, suspension processing)

SOME OF OUR REFERENCES

AIRBUS
GROUP

DASSAULT
AVIATION

TOOLING

OUR SOLUTIONS

PROJECT MANAGEMENT

Definition of the specifications up to technical and contractual follow-up.

DESIGN ENGINEERING

Sheet metal and composite, assembly, machining, kinematics, testing.

CALCULATIONS

Calculation note (dynamic, thermal, etc.) and/or pre-dimensioning
Structure optimisation (mass, stiffness, distribution of forces, etc.)

MANUFACTURING AND ON-SITE INSTALLATION

Manufacturing for production means and MRO, assembly, adjustment, control, performance testing and development.

SUCCESS STORY

SMF ASSEMBLY PROJECT: FLEXIBLE HANDLING SYSTEM



PROJECT INFORMATION

- 1,400h studies
- 700h management
- 6,000h machining / assembly

THE SEGULA

-  Reactivity (for purchasing), end-to-end solution with our own production sites
-  Design and production, complexity management, design and implementation capacity
-  Production capacity BCC

SOME OF OUR REFERENCES



MAINTENANCE, REPAIR AND OPERATIONS

OUR SOLUTIONS

MAINTENANCE

Global offer of intervention and repair in worksite mode, preventive maintenance, technical assistance in mechanics and electrics, flight operation team at customer facility

AIRWORTHINESS

Navigability, work preparation, CAMO (Continuing Airworthiness Management Organisations), planning management and worksite coordination.

PAINTING

In-house spray booth with the latest environmental standards to carry out scraping and painting on all range of helicopters. A complete offer through our related services (helicopter transfer, service station with a secure heli-surface etc.).

SUCCESS STORY




AIRBUS HELICOPTERS: RETROFIT CAMPAIGN ON THE GREEK NH-90 AIRCRAFT



ACHIEVEMENTS

- Carry out a modification / retrofit campaign of the NH-90 according to the new standard
- Duration : 18 months
- A mixed team of technicians and engineers with all expertise combined (preparation, quality, B133 mechanics, fitters, B2 avionics electricians...)

THE SEGULA

-  Top 5 MRO players in terms of skills, in-house industrial tools, and workforce)
-  Leading supplier of services for the Tiger, NH90 and Super Puma military aircraft ranges
-  International support thanks to SEGULA Group's locations

SOME OF OUR REFERENCES



PRODUCTION

OUR SOLUTIONS

PROJECT MANAGEMENT & INDUSTRIALISATION

Product design assistance, manufacturing of prototypes from design to cost, in-house capacity to design and produce tooling.

SUPPLY CHAIN MANAGEMENT

Coordination of all our subcontractors and management of internal and external flows using an ERP (make or buy strategy).

ELEMENTARY PARTS PRODUCTION

Metal parts manufacturing (sheet metal work, boiler making, welding, machining).

SURFACE TREATMENT

Painting, assembly & non-destructive testing.

ASSEMBLY

Assembly and paint finishing of metal structures.

SUCCESS STORY




PYRAMID A320



ACHIEVEMENTS

- Elementary Parts activities transferred to Morocco, through a dedicated project
- TNF management with AIRBUS
- Management of buffer stock
- No customer impact during this TOW

THE SEGULA

-  Integrated solution for manufacturing and surface treatment
-  Certifications NADCAP, EN9100, ISO9001, MASE, CERFI
-  International geographical location close to our partners
-  Transfer capacity in BCC (adaptability to volume/needs)

SOME OF OUR REFERENCES

AIRBUS
GROUP

DASSAULT
AVIATION

DAHER

SAFRAN

BOMBARDIER

LATÉCOÈRE

ThalesAlenia
Space

STRATA 
A Middle East Company

■ OUR ACHIEVEMENTS

- Production capacities in France and Best Costs Countries (BCC) for E2E offers



3 sites - 200 employees

- ✓ Test Rigs & Test Benches
- ✓ Sheet Metal Work
- ✓ Forming
- ✓ TTH
- ✓ Assembly
- ✓ Paint Shops



7500m² - 120 employees

- ✓ Sheet Metal Work
- ✓ Machining
- ✓ Surface Treatment
- ✓ Welding
- ✓ Assembly
- ✓ Non Destructive Tests (NDT)



6000m² - 130 employees

- ✓ Rigs Manufacturing
- ✓ Tools
- ✓ Space: ESA geographic return (offset)

SOME OF OUR REFERENCES



SIMRA Saint-Nazaire



4 rue Thomas Edison – Zone de Brais – 44600 SAINT NAZAIRE

Capabilities & Core Business

- ✓ Sheet Metal working
- ✓ Alloy Heat Treatment
- ✓ Metal bonding
- ✓ Assembly
- ✓ Painting

Plant Surface = 1 750 m2

General informations

 **+45**
SKILLED LOCAL
TECHNICIANS

MORE THAN
12
CUSTOMERS

Certifications

- ISO 9001
- EN9100
- Qualifications Airbus

SIMRA MOROCCO

SIMRA Morocco is a 100 % subsidiary of SEGULA Technologies



Capabilities & Core Business

- | | |
|-----------------------|---------------------|
| ✓ Sheet Metal working | ✓ NDT |
| ✓ Machining | ✓ Surface treatment |
| ✓ Welding | ✓ Metal bonding |
| ✓ Painting | ✓ Assembly |

Plant Surface = 7 500 m²

General informations

SIMRA MOROCCO
Company founded in 2004

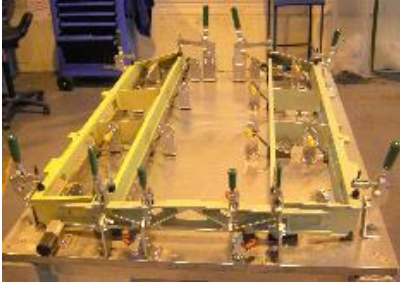
 **+160**
SKILLED LOCAL
TECHNICIANS

MORE THAN
25
CUSTOMERS

Certifications

- ISO 9001
- EN9100
- AIRBUS, Bombardier, Collins, UTC Qualifications
- NADCAP Merit (Chemical Processes and NDT)

Some examples of manufacturing ...



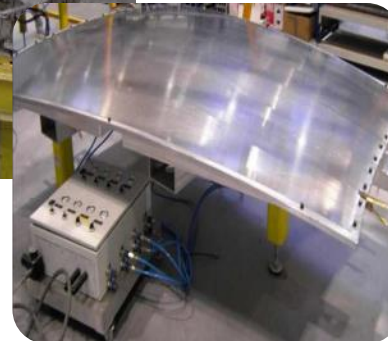
Rigs Assy ...



Riveting ...



Ground Antenna Sub-Assy



Welding Elements ...



Machined Parts ...

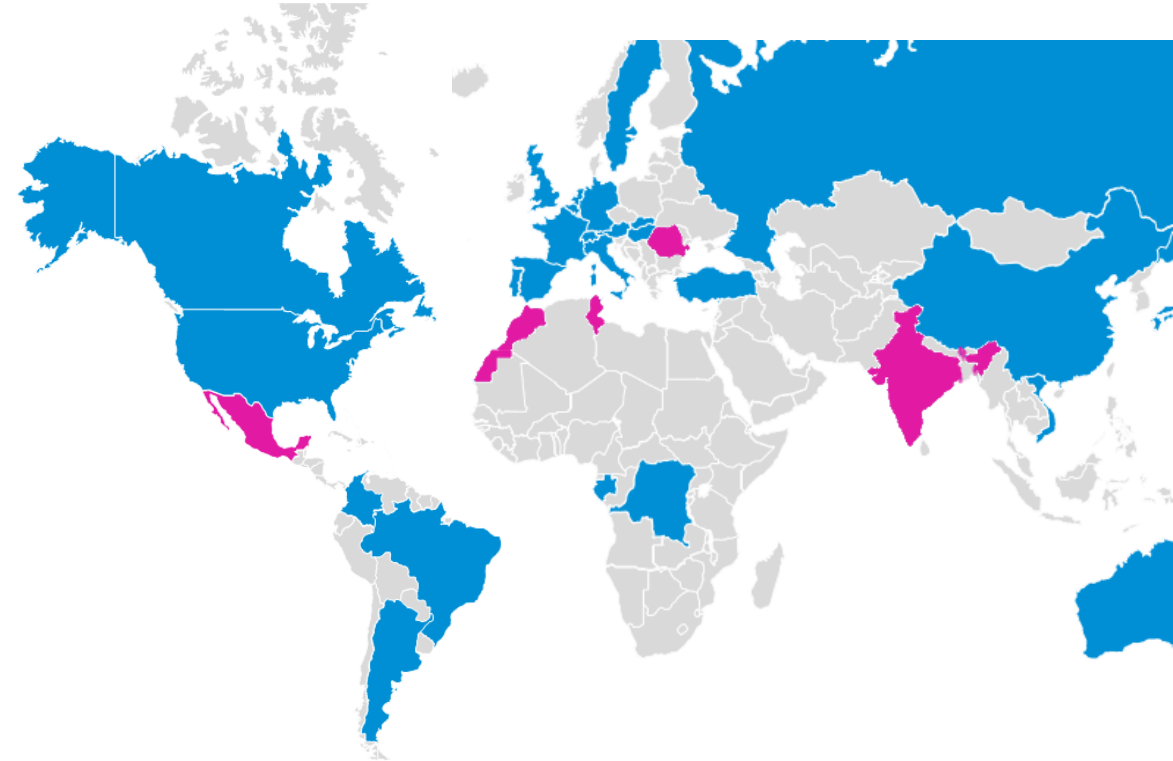


Offshore Delivery Centers

Global footprint

A single organization gathering more than 2000+ people in 5 countries

- 4 locations in **NORTH AFRICA (600+)**
 - 2 locations in Morocco (300+): Agadir and Casablanca
 - 2 locations in Tunisia (300+): Sfax and Tunis
- 4 locations in **INDIA (700+ and growing)**
 - 2 engineering offices in Chennai and Pune
 - Recruiting and administrative offices in Delhi and Bengaluru
- 3 locations in **MEXICO (200+)**
 - Office in Mexico City & operations in Mexico, Queretaro and Puebla
- 6 locations in **ROMANIA (700+)**
 - 3 Engineering offices in Bucharest, Brasov, Pitesti
 - 1 driving test workshop
 - 2 tooling manufacturing & assembly units





KEY PROJECT INFORMATION

- Client : **STELIA AEROSPACE**
- Location : Rochefort
- Type of contract : Engineering studies
- Duration : 2015 → 2018
- Workload : XXX hours



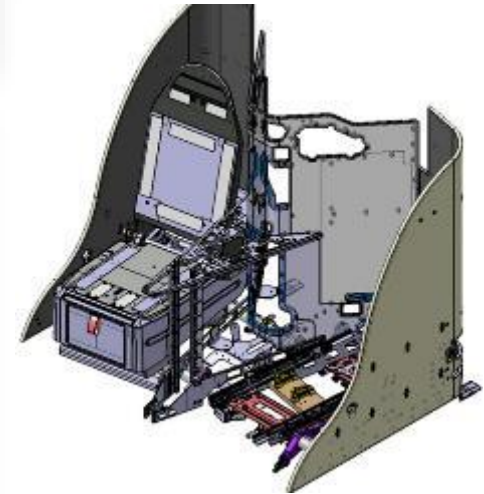
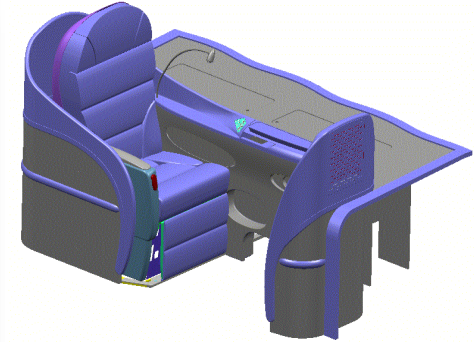
ENGINEERING SPECIFIC SKILLS

- Design
- Certification
- Central methods and workshop
- Response to call for tenders
- R&D

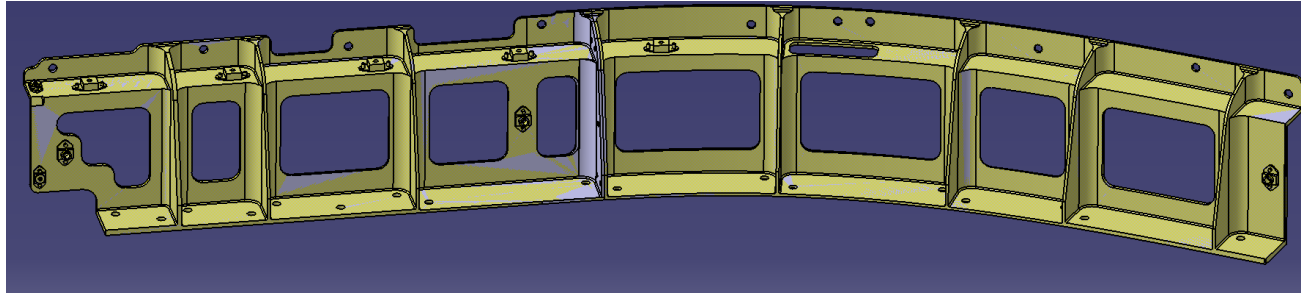


ACHIEVEMENTS

- *Design & certification of ultra-light composite seat frames*
Development of new composite part manufacturing processes
- *Seat cushion design, taking into account of the various frames, seat kinematics, design feedback, and composition (leather & foam)*
- *Routing design in line with supplier technical data sheets (harness, protection, etc.)*
- *Design of thermoplastic parts, taking into account of part production process restrictions, design, interfaces and fastenings*



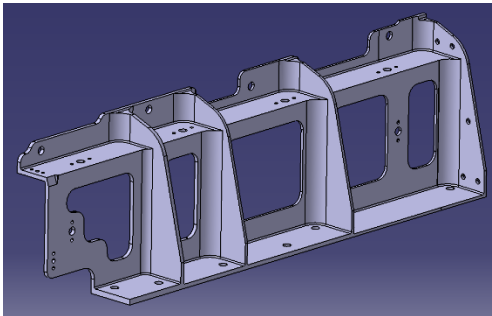
Design to cost : Optimization



RAW MATERIAL

Length : 900 mm
Width : 160 mm
Thickness : 135 mm
Raw Material weight : 61Kg

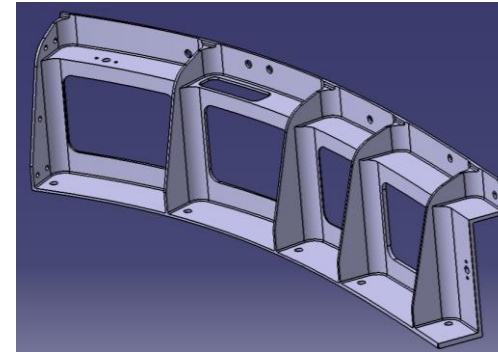
MACHINING TIME ESTIMATED : 12 HOURS



RAW MATERIAL

Length : 410 mm
Width : 130 mm
Thickness : 70 mm
Raw Material weight : 11,7 Kg

MACHINING TIME ESTIMATED : 2,5 HOURS



RAW MATERIAL

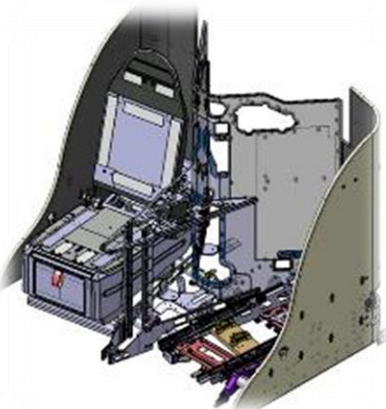
Length : 510 mm
Width : 130 mm
Thickness : 110 mm
Raw Material weight : 22,9 Kg

MACHINING TIME ESTIMATED : 7 HOURS



Airbus Atlantic was awarded the

Design and Production of Business Seats for an Airline A350 refurbishing programme



- Creation of Manufacturing drawings
- Industrialisation
- Design & Manufacturing of Toolings
- Manufacturing of parts & Assembling
- Surface Treatment & Painting

SEGULA scope of work:

Detailed design, industrialisation and manufacturing of 1000 Elementary Parts (SM and Machining)

BUSINESS SEATS ELEMENTARY PARTS MANUFACTURING

- + *Pricing of more than 1000 P/N done in less than 8 weeks*
- + *Start of Industrialisation while the design is not yet frozen –*
- + *Industrialisation and manufacturing of 900 references in a lead time of 12 weeks : AOG mode*

Delivery performance in line with AIRBUS ATLANTIC expectations

PN FAI validated > 90%

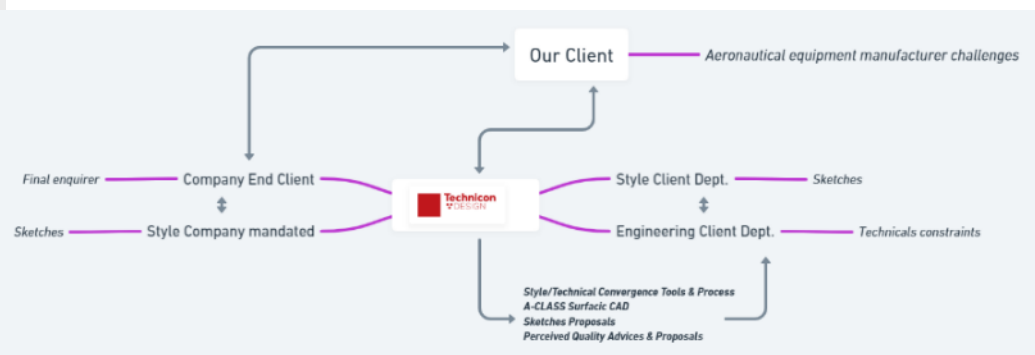
OTD : 100 %

Activity extension to B747



DESIGN SAFRAN SEATS

- AUTOMOTIVE APPROACH
- PERCEIVED QUALITY
- TIME & COST SAVINGS



AIRCRAFT SEAT STUDY

Styling
Design Thinking
Fast Modeling
Color & Trim
Technical Convergence
AR/VR Product Design Review



THANK YOU

www.segulatechnologies.com

