

Together

towards 2025

Content

Together towards 2025	4
Who we are	5
What we do	17
Securing the recovery ramp-up through operational excellence	29
Foundations of Sonaca's strategic plan for 2025	41

Together towards 2025

Like many others in our industry, 2021 for Sonaca remained disrupted by the Covid-19 crisis and the consequences of the grounding of the Boeing 737 Max fleet.

✎ The American and European certification authorities allowed the 737 Max to re-enter service at the end of 2020 and production gradually resumed in early 2021, reaching about a third of previous production volumes for the year.

With the certification by the Chinese authorities on December 2, 2021, and the gradual exit from the Covid crisis, production rates are expected to ramp-up significantly in 2022, representing an increase in volumes of more than 50% compared to 2021.

✎ The aviation industry continues to suffer from the impact of the pandemic on tourism and business travel. The lasting impact on airlines continues to significantly depress the production volumes of aircraft manufacturers and therefore those of their suppliers including Sonaca. Production rates in 2021 were only slightly better than 2020.

For Sonaca group as a whole, revenues for 2021 reached €450 million, an increase of 5% compared to 2020, but still down 42% compared to 2019. Despite this, EBITDA was positive at 15 M€, a good performance when compared to (11 M€) in 2020.

Net income however remained negative at (42) M€ before goodwill or (66) M€ after goodwill. Nevertheless, Sonaca group managed to generate a positive free cash flow of 17 M€ in 2021 (compared to 33M€ in 2020). This was achieved without increasing debt and despite the increase in volumes in the last quarter of 2021.

In this context, which continues to be challenging, Sonaca group has continued to rationalize its footprint in the United States: Everett-Merrill Creek was divested during the year.

The group's workforce increased during the year but economic unemployment due to "force majeure" remains used in Belgium.

In this second year of the Covid crisis, all the stakeholders of Sonaca group and, in particular, its employees, have remained united and have continued to maintain the level of performance and quality that makes the reputation of Sonaca group. Once again, the Group has established itself among its customers as a world reference in the aerostructure sector, which bodes well for Sonaca's promising future.



Yves Prete
Chairman of Sonaca group

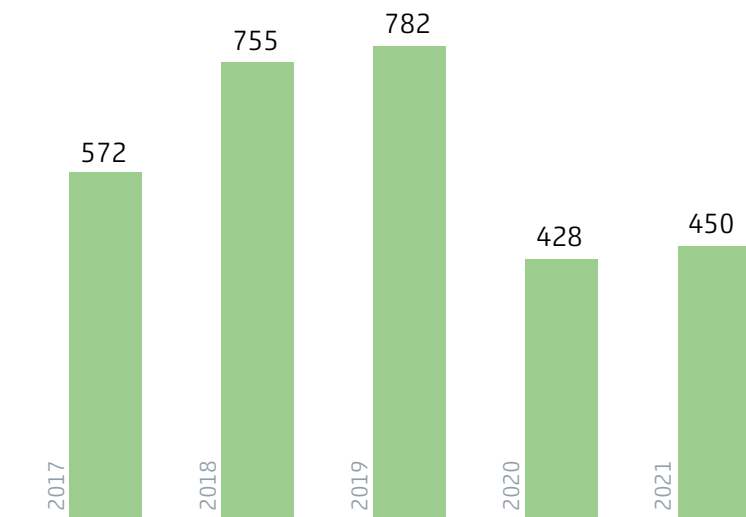


Yves Delatte
CEO of Sonaca group

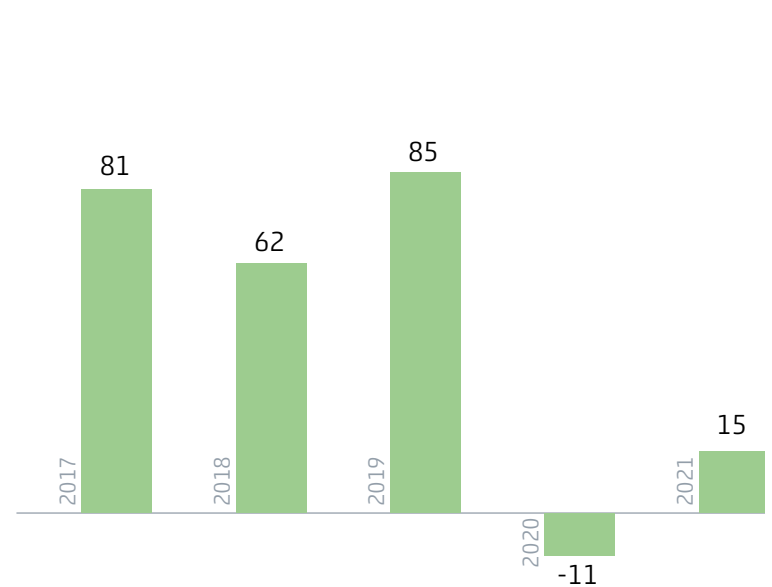
Who we are

Key figures

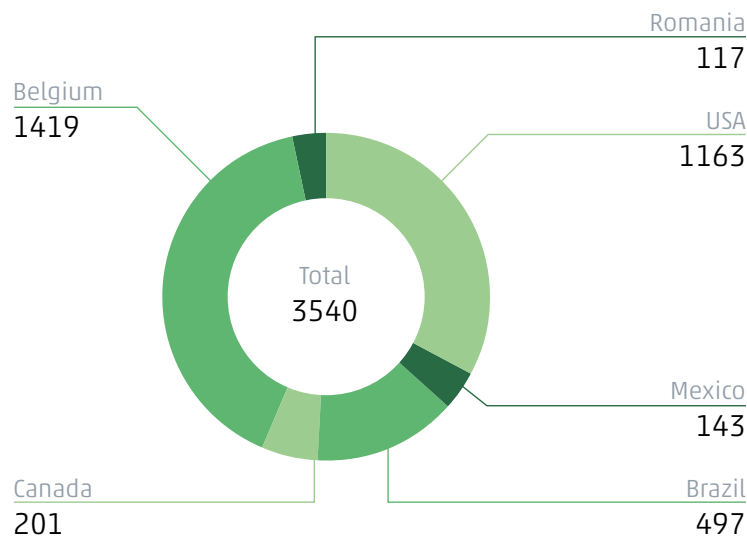
Revenues in millions of euros



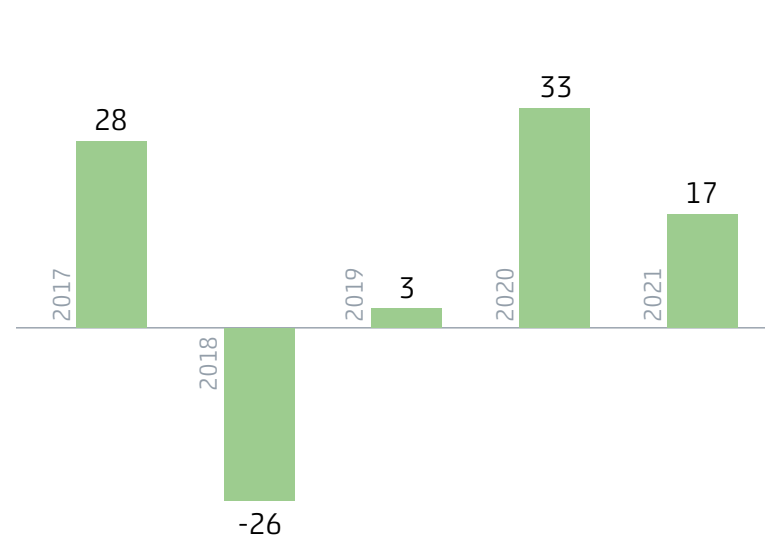
EBITDA in millions of euros



Human Resources Full Time Equivalent



Free cash flow in millions of euros





Sonaca group footprint

LMI Aerospace

United States of America:

St. Charles, MO
Washington, MO
Cuba, MO
Lenexa, KS
Cottonwood Falls, KS
Wichita, KS
Fredonia, KS
Tulsa, OK
Catoosa, OK
Auburn, WA
Vista, CA
Sun Valley, CA

Mexico:

Mexicali, BC

Manpower: 1306

Sonaca Montreal

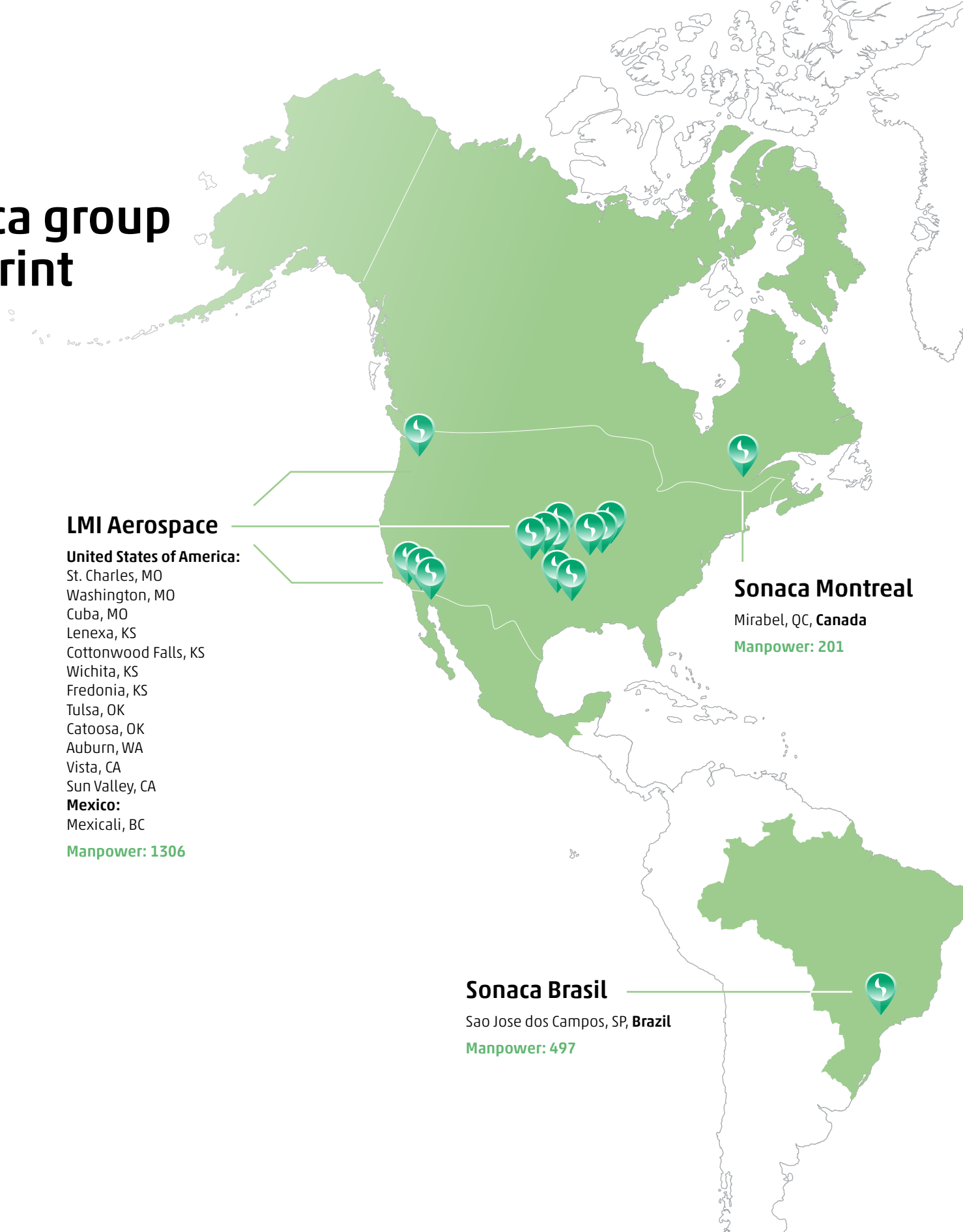
Mirabel, QC, **Canada**

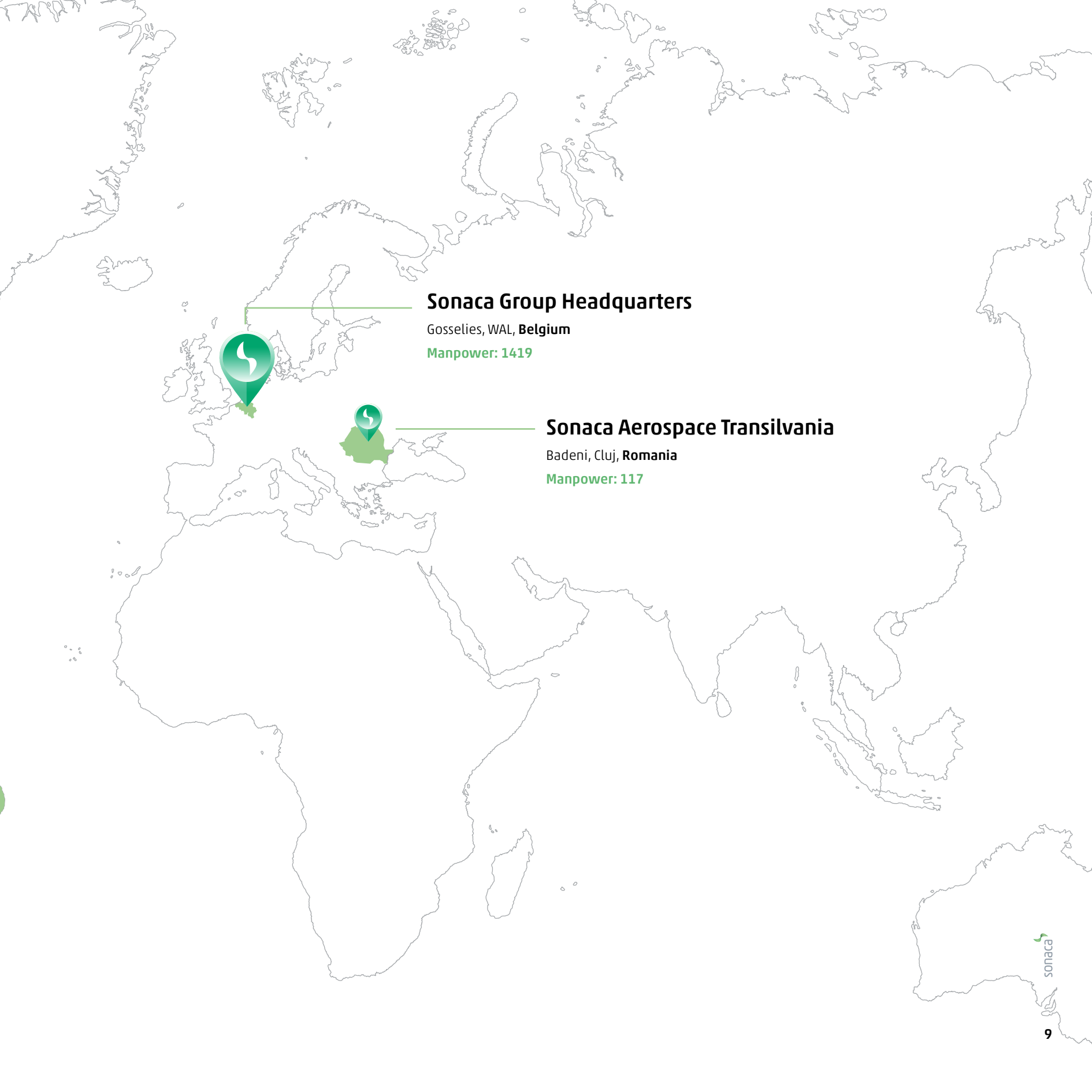
Manpower: 201

Sonaca Brasil

Sao Jose dos Campos, SP, **Brazil**

Manpower: 497





Sonaca Group Headquarters

Gosselies, WAL, **Belgium**

Manpower: 1419

Sonaca Aerospace Transilvania

Badeni, Cluj, **Romania**

Manpower: 117

Who we are

sonaca

10

Sonaca's executive committee

New leadership

YVES DELATTE

Chief Executive Officer

**Jan
BOECKX**

Chief Operations Officer

**Xavier
CARNOY**

Chief Finance & Strategy
Officer

**Thibault
CARRIER**

Chief Commercial Officer

**Paul
COSTANZO**

CEO Sonaca Montréal

**Lawrence E.
« ED » DICKINSON**

CEO LMI Aerospace

**Thierry
DUESBERG**

SVP Military & Defence

**François
PIRARD**

Chief Human Resources Officer

**Michel
PRINCEN**

Chief Quality Officer

**Yannick
RONGVAUX**

Chief Information Officer

**Steve
SCIARRABONE**

Technical Director

**Laurent
TROQUET**

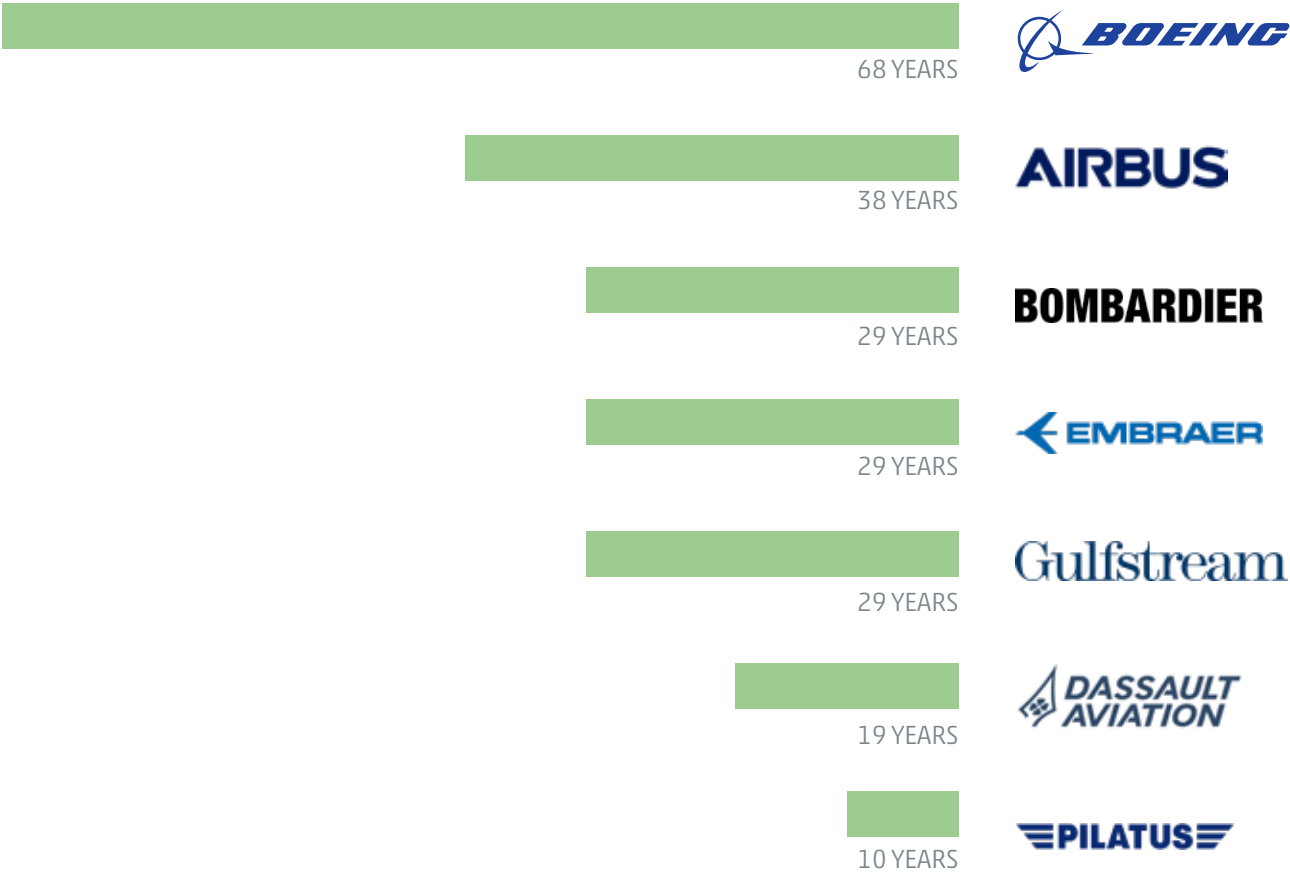
Chief Procurement Officer

**Dominique
ZEOLI**

Chief Officer, Programs, Services,
Space Defence & Diversification

Sonaca has been serving the largest manufacturers for many years

We build lasting relationships with our customers by listening, being responsive, proactive and solutions oriented



Sonaca manufactures parts for main western aircraft

AIRBUS

A320 Family

A330/340

A350

A380

A220

A400M



B737

B767

B777

B787



Phenom 300

Legacy/Praetor 500/600

ERJ 145

E1 170-175-190-195

E2 175-190-195

KC390

Gulfstream

G280

G500/600

G650

G700/800



HondaJet
HondaJet



MRJ



PC24



Falcon 2000
F7X/F8X

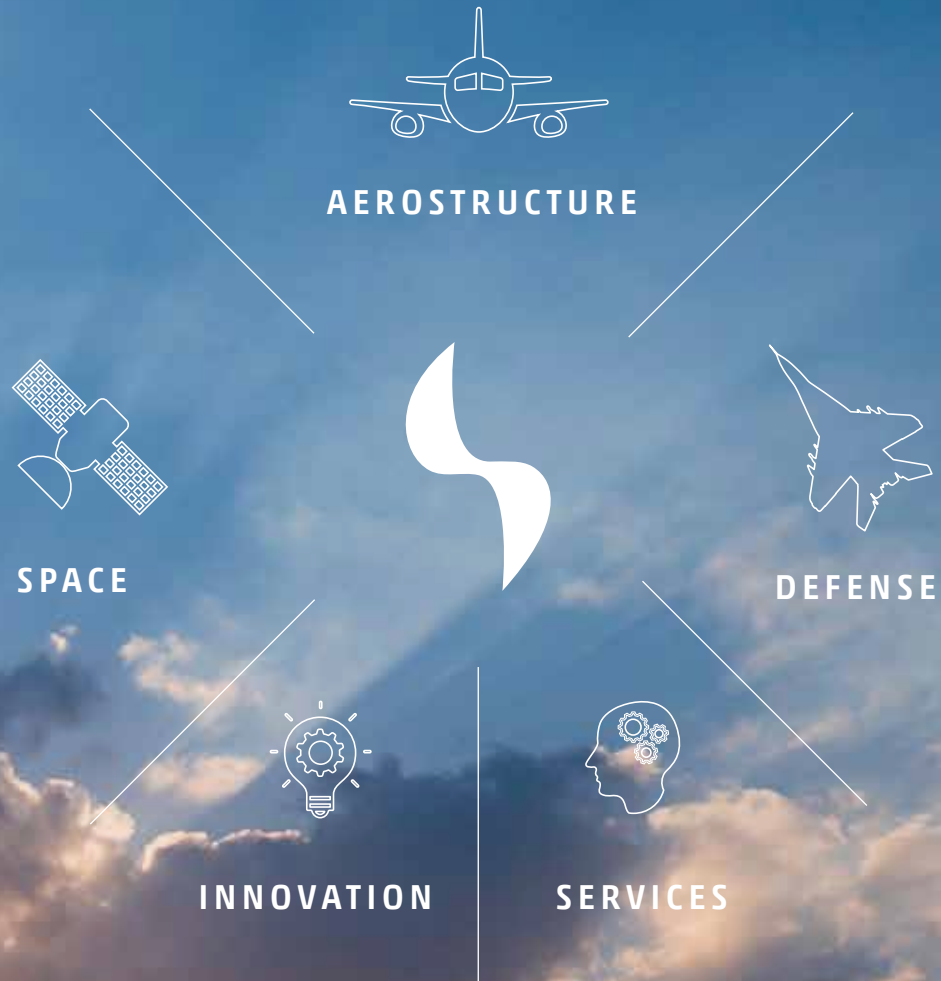
BOMBARDIER

Challenger 350/3500
Challenger 650
Global 5500/6500
Global 7500/8000

Aftermarket **Empennage** One-stop shops
MRO Project management
Slats
Aluminum Wing anti icing systems
Composites Hard Metal Machining
DOA **Build to print** **Engineering services**
Rudders Elevators
Stretch formed skins REACH compliant Spoilers
Defense Fuselage sections **Partnership**
Leading edge skins 5-Axis Machining Ailerons
Aerostructures Launchers
Chemical milling
Flaps SQ RTM **Design and Build**
Long Bed Machining
Empennage skins and spars Sheet metal parts
Wing Composites **Space** Satellites
Wing and empennage Spars
Integrated structures Large wing skins
Customer satisfaction ATL **Global supply chain**

Who we are

Sonaca has 5 business lines





What we do

Aerostructure Design and Build

World leaders and DOA holders for flight control surfaces and rear fuselage sections.

Sonaca is widely regarded as the world's leading reference in wing moveable flight control surfaces and complex fuselage sections.

Sonaca is a top tier supplier of

- ✋ Slats: we are proud to have designed, certified, and manufactured all wing leading edge flight control surfaces for all Airbus and Embraer aircraft and many other successful platforms. There are more than 150.000 Sonaca slats in service displaying unparalleled reliability and benefiting from world class in-service support.
- ✋ Wing ice protection systems: we have long and proven experience including system engineering (performance, qualification, certification and tests). We offer bleed and electrothermal technologies.
- ✋ Wing trailing edge movable flight control surfaces. Considerable investment in

recent decades notably in composites out of autoclave technology have resulted in in-service success of flaps on recent Embraer programs. Our rigorous research projects have enabled us to achieve high maturity on highly integrated and one-shot manufacturing solutions for ailerons, spoilers, rudders, elevators.

- ✋ Complex fuselages are also part of our D&B assets. Airbus, Embraer, and Mitsubishi have trusted Sonaca with fuselage and tail cone development.

Sonaca Engineering team is integrated and global with excellence centers in Belgium the USA and Brazil. We can draw on a full range of aircraft development skills from conceptual design to certification and in service product support. Our teams have unique experience in advanced and extended numerical analysis and virtual testing, bird strike certification (including the capability to perform this digitally without need for physical tests), certification testing

including composites structures, advanced icing simulations as well as system installation and integration.

To prepare the future and to secure our participation on next programs, we are continuously working to remain at the forefront and excellence on products, technologies, sustainability, and competitiveness.

To this aim, we are developing "Plug and Fly" leading edge and rear fuselage concepts fully integrating structure, kinematics, mechanisms, ice protection and other systems. We are also developing agile technologies supporting Advanced Air Mobility (Urban and Regional Air Mobility).



Complex Rear Fuselage of Praetor



Slats of A320



Composite Flaps of E2

Space

Reaching for the stars

The delivery of the last MWI and ICI flight model structures has successfully concluded Sonaca's contribution to the MetOp SG programme. These scientific projects have served to demonstrate and reinforce our ability to respond to very demanding design and manufacturing requirements.

In the launcher segment, our serial production activity will continue with an expected increase in the production rate after the first Ariane 6 launch (planned in 2022).

In the USA, we are proud to have added private actors to our customer portfolio by provide engineering services to Blue Origin and Virgin Galactic.

Sonaca's technical experience in exploration projects started back in the 1980s with the participation in the Hermes program. Since then, we have contributed with our expertise to the development of several structures for the International Space Station (ISS) and will be involved in the new I-HAB Lunar Gateway project from 2022.

Sonaca's space business unit is committed to continue to inspire the rest of the Group by participating in projects that further the cause of human understanding and exploration.









Sonaca Leading Edges are visible on this picture of a French A400M. Sonaca is also responsible for the composite Main Landing Gear Doors and Wing anti-icing system.

What we do

Defense

Equipping air forces for 100 years

In recent years, Sonaca has focused on returning to its roots as a key industrial partner in the Defense sector. Indeed, as hosts to NATO headquarters, the Belgian government actively engages in its national security interests and relies upon local companies to provide military hardware and know-how. Sonaca has always supported this effort with its full range of expertise. Our history of manufacturing iconic fighter aircraft such as the F-104, Mirage, the F-16 and more recently, as industrial partner (via FLABEL to OCCAR) on A400M, has made Sonaca the ideal choice for producing critical flight control surfaces on the F35 via the joint venture BeLightning. This agreement was signed in early.

Within Belgian ESI framework (Essential Security Interest), activities on the F35 started in 2021, in collaboration with Lockheed Martin and BAE Systems. The intent is to develop new capabilities and qualifications and achieve a step change in know-how on the latest generation of defense aircraft.

The relationships developed in Europe and the USA thanks to the acquisition by Belgium of the F35 should further strengthen Sonaca's position in the defense market in both these markets.

Sonaca Aviation Services

The aftermarket organization of Sonaca group

The Sonaca Aviation Services business unit was established three years ago with the objective of improving and growing the Maintenance, Repair and Overhaul (MRO) activities of Sonaca. Sonaca Aviation Services also provides spare parts, and engineering consulting directly to aircraft operators or via OEMs.

Sonaca Aviation Services is European Union Aviation Safety Agency (EASA) Part 145 approved, holds equivalent approvals from the Federal Aviation Administration (FAA) and can thus provide products and services worldwide.

With EASA Design Organization Approval (DOA) planned in 2022, Sonaca will be able to expand the offerings of Sonaca Aviation Services and ensure we can CARE even better for our customers.



Repair of a slat for a large long haul aircraft

YOU FLY

WE CARE

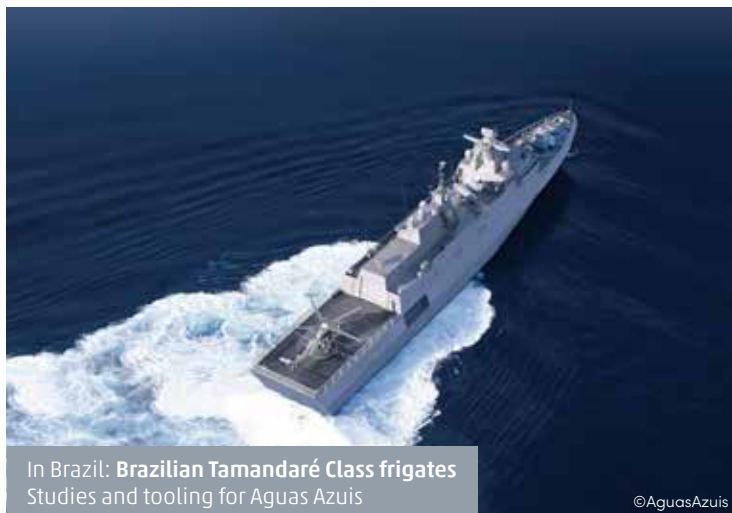
Components Supply Airframe delivery Repairs Engineering



Consultancy services

Sonaca Engineering Services

In 2021, Sonaca Engineering Services bucked the trend and registered another record year in new projects and successes. Our teams in Belgium, the USA and Brazil helped spearhead our 2025 diversification strategy by supporting, for instance, these exiting projects:



Consultancy services

Fast pass to project excellence with Skyline

Skyline provides consultancy services in project management under the Sonaca Engineering Services umbrella. It enables customers in other industries to benefit from Sonaca group's successful methods and experience in project management.

Skyline's mission is to make pragmatic project management a driver for performance and harmonious development of organizations.

It's five-year vision is to become a reference partner in Belgium for organizations seeking to improve their project management

efficiency, through the sharing of customized application of best practices focused on the sustained development of skills, processes and tools.

Many Belgian firms continue to trust Skyline with their project management requirements.

They trust Skyline, will you?



Securing the ramp-up through operational excellence

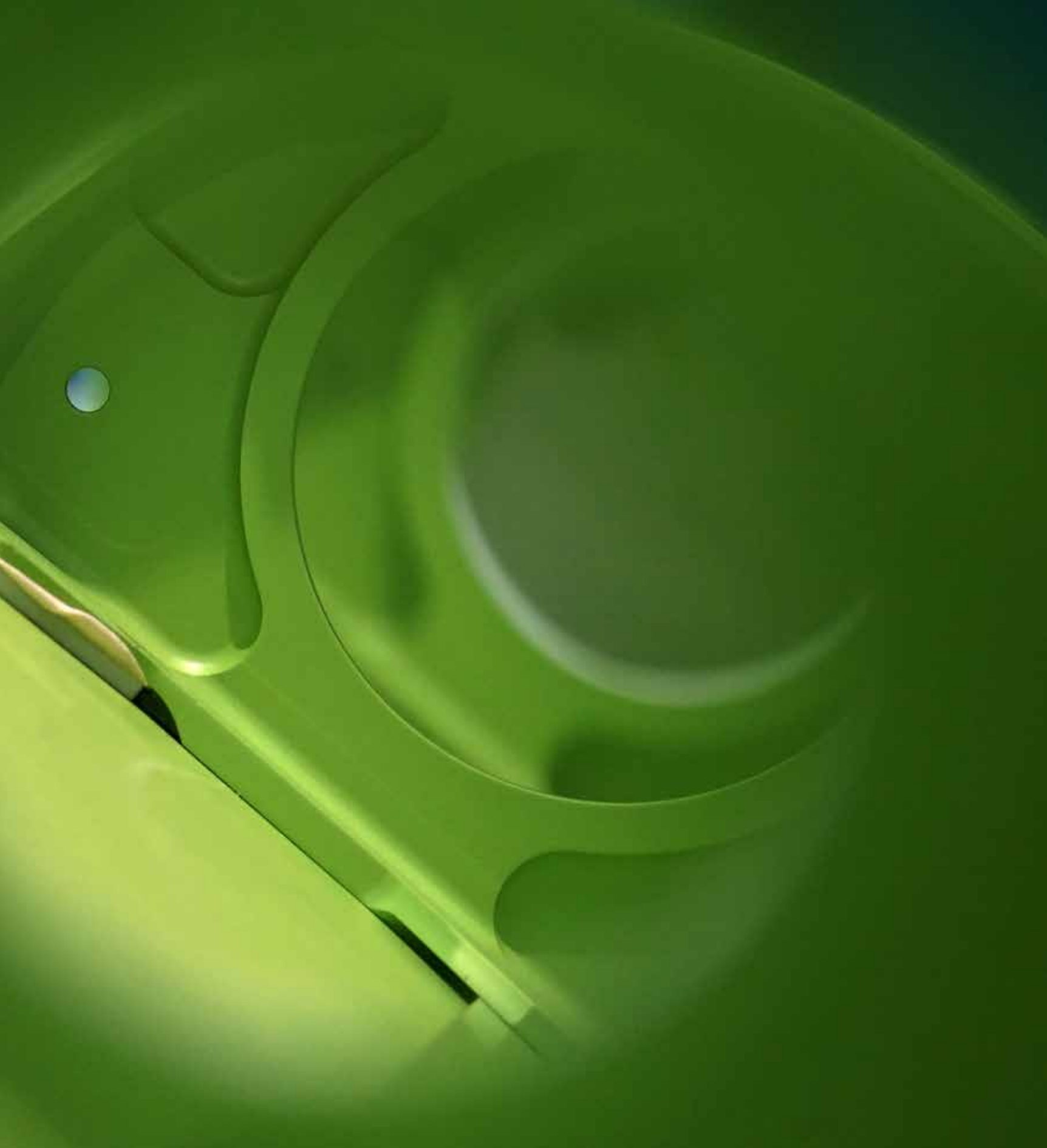
Efficient one-stop shops

Whilst the pandemic continued to impact production in 2021, our facilities also had to prepare for a sudden ramp-up of volumes, especially on single aisle and business jet programs where Sonaca has a high workshare. To adequately meet the demand of this recovery, our operational teams across the globe implemented several initiatives going so far as to optimize our footprint by consolidating sites into even more efficient one-stop shops.

We believe there are inherent operational and financial benefits from reduced travel of parts. Today, in several instances, parts spend too much time in our logistics chain, stretching our lead times beyond optimal levels. As we look forward, we want to better align product flow to reduce travel.

This has been done in our Mexicali facility where product can be formed, heat treated, routed, drilled, processed, and painted without ever leaving the building. Another example of an interim step towards a one-stop shop is our Tulsa processing facility. We are investing in assembly capability in Tulsa so product that historically has been sent to Tulsa for processing and painting then returned to the fabrication site for final assembly will stay in Tulsa for assembly and delivery to the customer. We will continue to look for these opportunities throughout our shops.





Europe & South America

Sonaca sa

2021 was a year with still a lot of operational impact from the covid crisis. Thanks to the support of the Belgian and Walloon governments, through the creation of a flexible unemployment system, damage to our operational structure remained under control.

The unemployment rate for our blue colored workers got from 47 % in 2020 to 32% in 2021 due to an increase in volumes during 2021. Managing the supply chain, which is becoming more and more under pressure, was another major challenge of 2021.

Despite the difficulties of managing the impact of covid and the tightening supply chain, Sonaca was able to deliver on time to all our customers. And all actions are taken, in a preventive way, to assure further ramp-up in 2022 and beyond.

Continuous improvement remains an important element of our culture. In 2021 our digital project was shaped, working groups are active on different subjects and a project team and governance has been put in place.

Quality, as always, has also in 2021 been a focus. An improvement of 10 % in our cost of non quality has been realized.

And all of our audits (EN9100, nadcap, ...) were performed with great success.



Ergonomic suspended working stations ensure that final out-jig operations on slats are performed to Takt time

Europe & South America

Sonaca Aerospace Transilvania

2021 was a balanced year in terms of volumes for Sonaca Aerospace Transilvania, even though we faced Covid-19 waves. It created a great opportunity to find ways to act with flexibility and carefulness with our talented employees.

In the last quarter we started to hire again for the ramp-up and to meet Embraer and Airbus 2022 new rates.

We are looking forward to 2022 new challenges on climate change solutions supported and lead by the group, with the goal to install a 240 KW photovoltaic power plant by the end of the year.



An SAT team leader working on an A320 slat



Europe & South America

Sonaca Brasil

In 2021 Sonaca Brasil continued to cope with the consequences of the covid crisis which hit Brazil particularly hard.

Thanks to effective countermeasures, Sonaca Brasil's staff had a lower contamination rate than the country average.

In order to prepare for ramp-up, 100 blue color workers were hired and trained in 2021. This makes us fit for ramp-up in 2022 and beyond.

The indirect structure, on the other hand, was redesigned to be more effective and closer to operations.

At the same time, SAP implementation was completed. Sonaca Brasil is now completely integrated in the Sonaca SAP network, resulting in a closer cooperation with Belgium and Romania.

Exchanges with LMI also increased. A stronger collaboration leading to a support with talented people of the US and Mexican facilities.

New safety and environmental metrics were introduced in preparation of Sonaca group 2022 objectives.

In summary, all foundations have been laid for the ramp-up in the coming years.



Assembly of KC390 slats in our Brazilian facility



Building extension with eight new machining cells, Sonaca Brasil

North America

Sonaca Montreal

Following the sudden decline caused by Covid-19, 2021 was a transitional year at Sonaca Montreal. While several regional jet and business jet programs were wound down, the business was busy preparing itself to meet the resurgence in demand of the business jet market, which will surpass pre-pandemic levels by mid-2022.

Among other things, this preparation included the execution of a succession plan which saw the addition of three new members to the executive team, including the transfer of a senior manager from Sonaca sa and the recruitment of an aerospace executive that will assume the leadership of Sonaca Montreal in 2022. These preparations also included the introduction of Sonaca group business practices relating to business planning and capacity management. As a result, Sonaca Montreal enters 2022 well positioned for growth and to continue to exceed customer expectations.



Sonaca Montreal is one of the only one-stop shops in the world to be able to produce skins and spars for wings and empennages 30 to 57 feet in length and up to 9 feet in width.

North America

LMI Aerospace Assembly

In 2021, we completed consolidation of our complex assemblies activities to prepare for 737 Max ramp-up. Sonaca used the sudden drop in volume of work to close sites and transfer work to expanded ones near our customers at Auburn and Cotton Wood Falls. Production flows were improved and these facilities are ready for the ramp-up of the 737 Max and 787. There is also available capacity for new build to print contracts. Sonaca's global footprint enables us to offer complex assemblies by manufacturing many parts in-house in competitive world class locations.



LMI Assembly 737max crew floor



Employee sealing fasteners on 737Max crew floor assembly - Cottonwood Falls

North America

LMI Aerospace large sheet metal

With some of the world's most powerful and versatile stretch form machines, LMI is North America's leading suppliers of fuselage panels and leading-edge skins. We master the full production cycle from stretch forming to chemical milling and surface treatment in our facilities on the West coast and Mid-West of the USA. Continuous improvement and footprint and process optimization in 2021 means the commodity is well positioned to deliver the ramp-up on exiting platforms and offer a competitive build to print solution for OEMs and Tier 1 customers.



LMI Vista (CA) stretch machine



Operator performing check-and-straight process on formed sheet metal for winglet

North America

LMI Aerospace Machining

2021 saw significant progress in our footprint and process optimization plan. A key output of the plan for this commodity is to focus plants on one or two methods of machining and the whole commodity uses our Tulsa processing facility as the final delivery hub to our build to print customers. For instance, Washington has become the center of excellence for 5 axis aluminum and titanium machining and is ideally equipped and has a unique capability to meet urgent needs and challenging ramp-up requirements of OEMs and customers.



LMI Washington (MO) hard and soft metal 5-axis machines



Titanium Fittings for Boeing 737 Max, Washington (MO)

North America

LMI Aerospace Mexicali

Significant investment in 2021 has extended the capabilities of this one-stop shop plant which feeds detailed parts to higher assemblies and delivers build to print packages directly to customers. On the border with California, Mexicali is ideally situated to deliver to the North American market. The plant has been transformed from a sheet metal forming facility with surface treatment to a full small aluminum detailed parts manufacturer including machining and expanded surface treatment capabilities. Mexicali is a key pillar of our competitiveness and performance drive ready for ramp-up.



Milling machine installed in Mexicali in 2021. Touch up after processing





Foundations of Sonaca's strategic plan for 2025

Talents management: Our people are the key to our success

Throughout 2021, the Human Resources department was central to the management of the Covid-19 crisis. Organizational and preventive measures were taken in close collaboration with the unions. This enabled the company to get through this crisis without directly harming our human capital.

With the pandemic abating, we looked at the experience gained over the past two years to innovate. The experience of mandatory home-working has allowed us, for example, to offer a better work-life balance to some of our employees through the implementation of a home-working policy from April 2022.

Our department will also play a key role in the execution of the 2022-2025 strategic plan through three main initiatives:

- 🌱 The digitization of our processes, making it easier for all staff to access the various services and documents related to human resources management.
- 🌱 The implementation of a talent management system at group level that will aim to offer each employee the necessary conditions for their personal and professional development.
- 🌱 And finally, the definition and implementation of the key values that will support our vision and represent the DNA of the large family that is the Sonaca group.





Our digital transformation

In 2021 a thorough assessment of the Group's needs was conducted leading to the preparation of a global, ambitious & consistent Digital Transformation roadmap. Indeed, where some pillars are well implemented and used on a daily basis (Enterprise Resource Planning (ERP) software as backbone for core enterprise processes, Product Lifecycle Management (PLM) software for engineering departments), many areas deserve technological & digital improvements to deliver their full potential so as to further improve Quality, Cost and Delivery performance.

The digital transformation roadmap has been structured in 4 major streams, covering dozens of practical projects, justified by solid business cases and managed as a consolidated endeavor:

- 🔧 **Industrial operations:** starting in 2022 with a pilot Manufacturing Execution System on a manufacturing line, closing the loop with PLM, ERP and connected machines.
- 🔧 **Development & engineering:** optimizing the current system capabilities by closely integrating engineering & manufacturing processes.

🔧 **Support functions (Finance, HR, Purchasing, Sales):** streamlining processes thanks to digital tools.

🔧 **IT supporting strategy:** building an up-to-date and cybersafe environment, with strong collaborative processes supporting our operations & integrating the different entities of Sonaca group.

The end goal is to accomplish a robust numerical continuity between customer's requirements, design engineers, production planners, operators, quality controllers, maintenance teams and machines: a paperless value chain, with real-time information, increased collaboration between connected operators, full traceability, equipment efficiency measures, connected machines allowing future developments in Big Data analysis.

Such an in-depth transformation is also a great opportunity for all employees to acquire new skills for the digital age and accompanying them with a dedicated change management process.



Nicolas Van Hille, Research and Technology is at the heart of Sonaca's activities in Aviation, Space and Defense

Innovation is at the heart of what we do

"The best way to predict the future is to invent it" said Abraham Lincoln, and we at Sonaca believe very much in the statement.

For the aircraft industry, the future will undoubtedly be sustainable, and that is where most of our Research and Technology efforts go. In that respect, we have two major workstreams:

1. We develop concepts and technologies reducing the direct environmental impact of our products. Mainly improving their aerodynamic performance, reducing the noise they produce and making them lighter. Some illustrations are:

- ✧ We develop leading edges of laminar wings (both NLF and HLFC technologies), which reduces aircraft emissions by more than 10%
- ✧ We develop advanced integrated composite movables (flaps, ailerons, spoilers), reducing the composite parts count and therefore the weight and cost of those elements.

We demonstrated a weight saving of more than 20% on our one-shot composite aileron compared to the non-integrated ('black metal') solution

- ✧ We have developed an electrothermal ice protection system that enables the so-called "bleedless" engine, reducing the emissions by more than 10%

2. Future greener aircraft will be different from current ones, and we need to adapt our products to those new aircraft. For instance, the future aircraft wings will be longer and more flexible, and therefore we need to think how our wing movables must adapt to those new wings

With a history of 40+ years of aerospace R&T, being at the forefront of the aerospace industry is in our DNA. And we are ready to keep on inventing the future.

Our sustainability roadmap

The Covid-19 pandemic was a watershed moment for the industry and the world. Convinced that sustainability is essential for the company's growth, the executive committee has made it a central part of the 2025 strategy. The slogan for this initiative is "Be Sonaca, Be Sustainable."

We wish to build on our legacy of sustainable projects, such as our new "Green" headquarters, and engage with our stakeholders to best address the relevant United Nations Sustainable Development Goals. In early 2022 we took our first steps on this journey by creating a sustainability executive committee chaired by the CEO.

In 2021, Sonaca continued to implement its compliance plan with European regulations, Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). These entered into force in 2007 to improve the protection of human health and the environment from the risks that can be posed by chemicals. We have already implemented significant changes in our surface treatments operations by introducing chromium-free alternatives not just in Belgium but also in Brazil. Also, at our main facility in Gosselies we installed washing water recovery tanks and filtration systems to our chimneys to reduce the risk of environmental contamination.

Furthermore, Sonaca group is a key partner in WINGS (Walloon INnovations for Green Skies). This groundbreaking research initiative aims to actively contribute to the introduction of a low carbon aircraft by 2035 and achieve carbon neutrality in 2050 for the aerospace sector.

be sonaca
be sustainable





sonaca





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