



AVIBRAS 60 YEARS

MAKING HISTORY  
PROMOTING THE FUTURE







We have reached 60 years of a trajectory of achievements and challenges, actively participating in technological, industrial and economic development of Brazil and contributing to the defence and security of our country.

Today we are among the 100 largest Brazilian export companies and we are proud to integrate the national Defence Industrial Base (BID).

We have many stories to tell, as we are the face of technology and innovation pioneering in Brazil, of courage, competence and perseverance of our collaborators, who work to create specific solutions oriented to the needs of each client.

We still have much to grow, conquer new markets and take higher flights.

**João Brasil Carvalho Leite**  
CEO



Avibras is a Technology and Innovation company with unique industrial capacity, 100% Brazilian, and recognized worldwide for the excellence and quality of its products, systems and services. Its essence is to be innovative and independent in critical technologies in Space, Aeronautics, Electronics, Armoured Vehicles and Defence.

With large, modern facilities located in Vale do Paraíba, São Paulo – Brazil’s main aerospace technology hub – Avibras has unique competitive advantages and excellence in quality and innovation, which are essential to keep its position as a key player in the international market.

- 1 Avibras facility in Lorena
- 2 Avibras Technology and Innovation Space (EATI) in São José dos Campos
- 3 Avibras facility in Jacareí



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*Our pioneering spirit and capacity to accept challenges will continue to guide our path to benefit the Brazilian Nation and our great and beloved Avibras Family”.*



## Engineer João Verdi, our founder

Considered a visionary and true citizen of the world, engineer João Verdi Carvalho Leite stood out in the technology and innovation scenario in Brazil and abroad when he founded Avibras in 1961, one of the first national companies to address the aerospace sector.

Born in June 25, 1935, in Alfenas, south of Minas Gerais, Verdi called attention for his intelligence, perseverance, determination and deep entrepreneurial vision. Graduated in Aeronautics Engineering from ITA (Aeronautics Institute of Technology), one of the most respected institutions in the country, Verdi was always passionate about aviation. At the age of 17, he had already finished pilot training, joining the roll of the first four thousand graduated aviators in Brazil.

With a successful trajectory, the engineer inserted Brazil in one of the most competitive markets in the world – the Defence – with the development and manufacture of the Artillery Saturation Rocket System (ASTROS).

Verdi believed Avibras to be an industry of knowledge. He was proud of the work developed in the company and trusted in the potential of its human capital, which strengthened the company culture and inspired the sense of belonging in all collaborators.

With the establishment of Avibras Foundation in 1980s, Verdi innovated again offering young students the opportunity to grow, develop and work in behalf of a better country for all.

In 2008, Avibras lost its founder. The brilliance and pioneering of Verdi and his team made history in Brazil and worldwide, continuing to the present. Nowadays, his legacy belongs to all collaborators who keep Avibras as one of the largest export companies of Defence products in Brazil, recognized worldwide for the excellence and quality of its products, systems and services.

Engineer Verdi was an exceptional salesman and always pursuing for new markets



Engineer Verdi at the desert with ASTROS II



THE 60'S

# 1961

## Pioneering and Innovation

### Foundation

Founded in 1961 by a group of engineers of the Aeronautics Institute of Technology (ITA), among them engineer João Verdi Carvalho Leite, Avibras conquered its place in the history of the aerospace industry as one of the pioneers in Brazil in aircraft building, participation in programs of space research, development and manufacture of special vehicles for military and civilian purposes.



### First Projects

Avibras' first projects were the aircraft "Alvorada" and "Falcão" - the latter, the first aircraft manufactured in São José dos Campos, with composite material, considered a global technological breakthrough at the time.



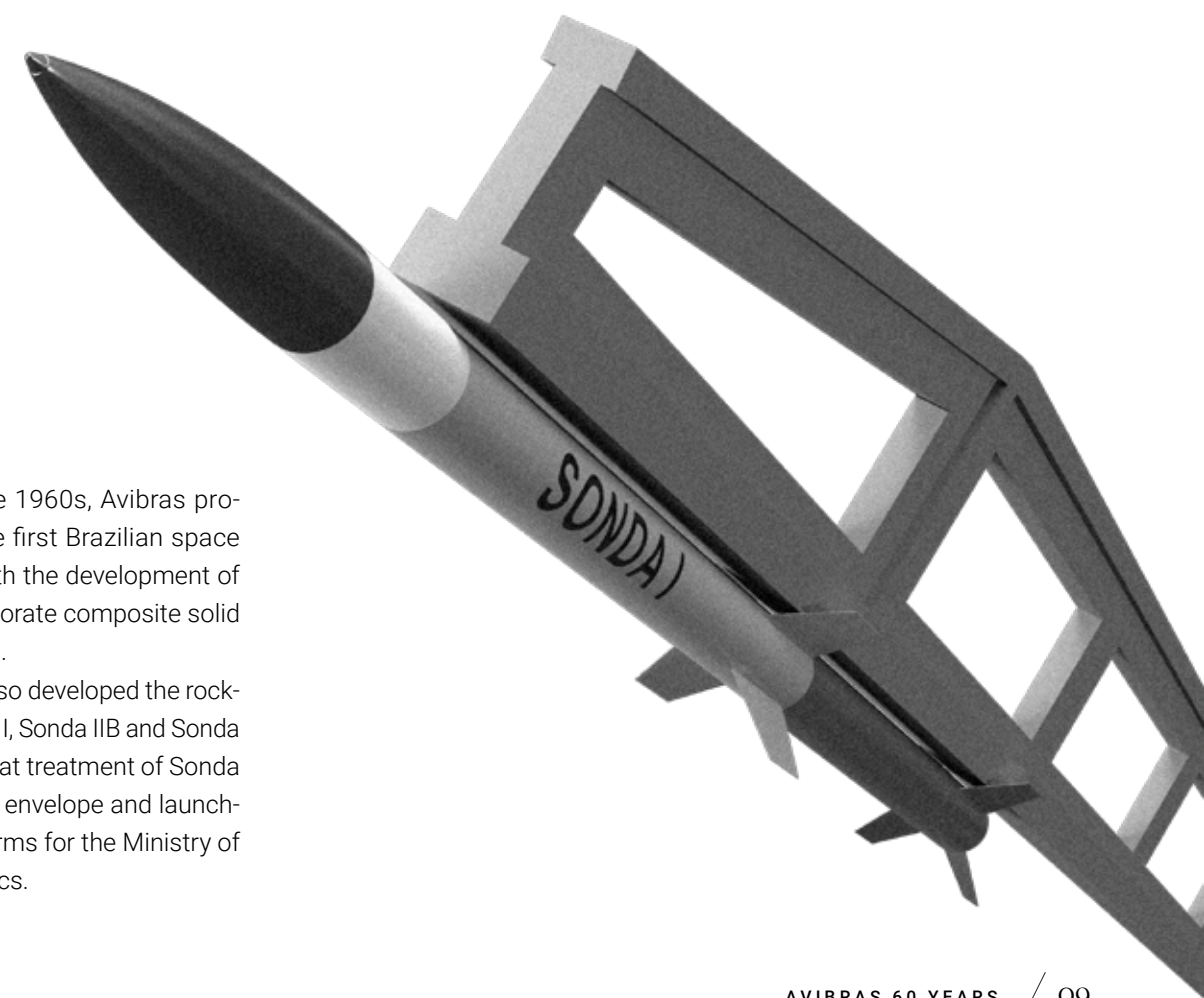
Engineer Verdi (to the left) with "Falcão" on his way to DCTA (Department of Science and Aerospace Technology) in São José dos Campos



### Space

Still in the 1960s, Avibras produced the first Brazilian space device with the development of the perchlorate composite solid propellant.

Avibras also developed the rockets Sonda I, Sonda IIB and Sonda IIC, the heat treatment of Sonda II metallic envelope and launching platforms for the Ministry of Aeronautics.





THE 70'S

# 1970

## National Integration and Products Diversification

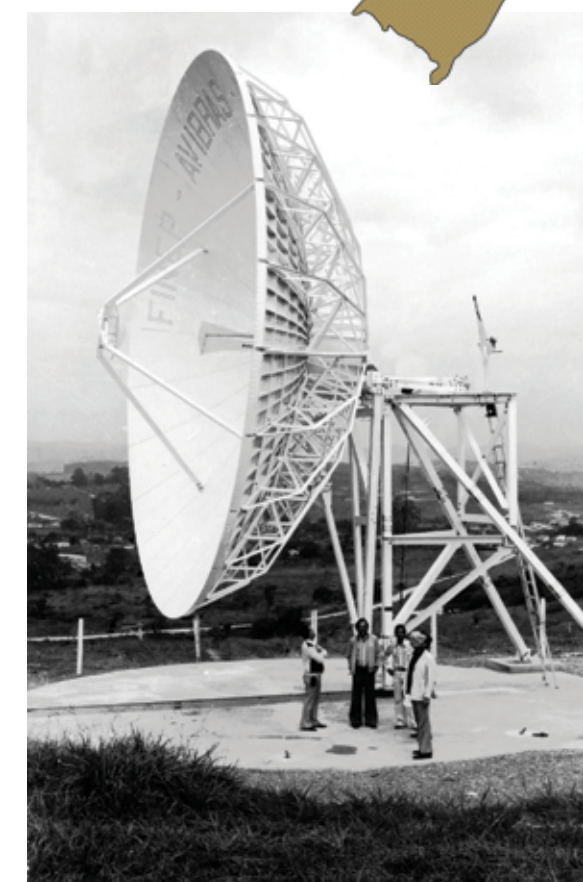
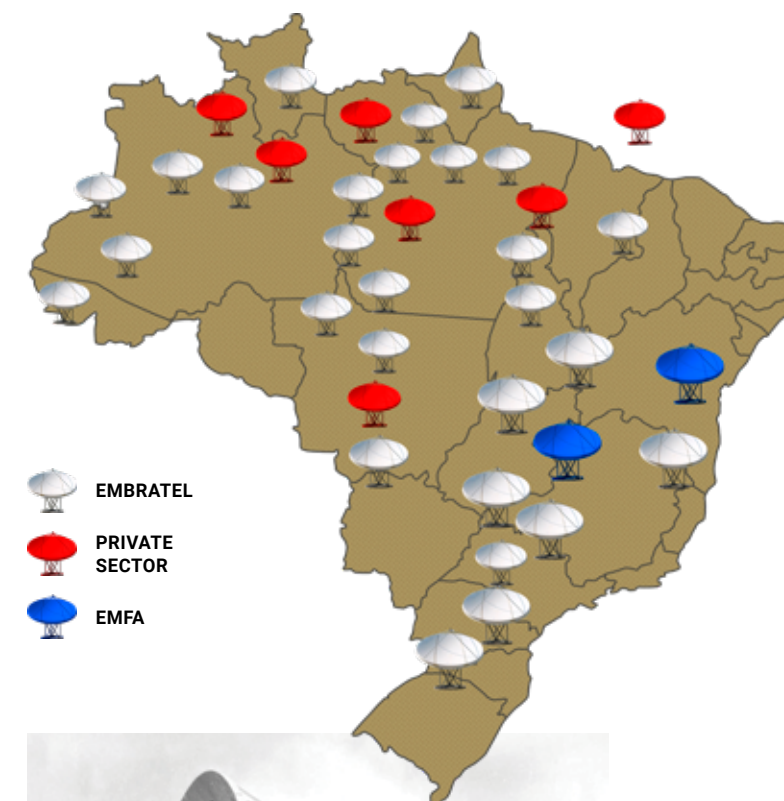
### Rockets

In the early 70's, the company started the development of surface-to-surface rockets and missiles for the Brazilian Army, in addition to air-to-surface rocket systems and helicopter armaments for the Brazilian Air Force and Naval Aviation of Brazilian Navy.



### Telecommunication

In 1970s, Avibras' 10-meter diameter satellite antennas, ANSAT-10, accounted for much of the telecommunication coverage in the vast Brazilian territory.



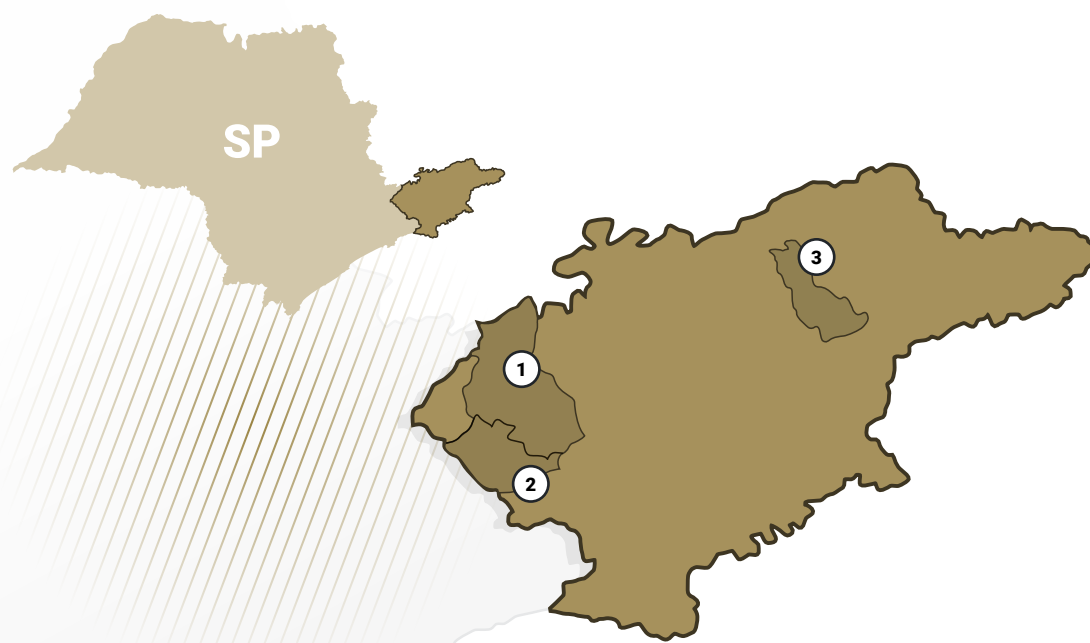


THE 80'S

# 1980

## Building the Future:

Export, Expansion and Social Development



- 1 Facility 1 in São José dos Campos
- 2 Construction of Facility 2 in Jacareí
- 3 Facility 3 in Lorena

### Expansion

The 80's were marked by the growth of exports, mainly through the development of new Defence systems and the expansion of Avibras with the creation of new facilities and other related companies to support the development of new products, systems and services in the civilian and military areas.



### ASTROS

The development of ASTROS Artillery Saturation Rocket System started in 1981 with rockets of different calibres and types of heads.



### Tectran

In 1982 Avibras' Facility 4 - Tectran - was opened to support the ASTROS System production, especially regarding the development and manufacturing of special vehicles.

### Transvip

In 1980 the transport company Transvip, Avibras subsidiary, also started to operate.





THE 80'S

# 1980

## Building the Future:

Export, Expansion and Social Development

### Export

ASTROS System was exported to several countries and was successfully employed in combat in the Persian Gulf region.



### Avibras Foundation

Avibras Foundation was created in 1983 with the slogan "Education and Work" to offer scholarships to low-income youngsters.



### FILA

In 1983 Avibras won the bid for the development of the Fire Direction Equipment (EDT) prototype for air defence. FILA was developed to comply with the Brazilian Army specifications.

### Facility 3

Opened in March 1984, the facility in Lorena was considered strategic for the production of raw material used in Facility 2, in Jacarei.





# 1980

## Building the Future:

Export, Expansion and Social Development



### Proven Experience

In 1985, the company started to manufacture a special articulated tractor for the transportation of heavy-duty equipment up to 60 ton.



### Awards

Road-Rail Locotrator TT-9 was considered the product of the year in 1985. NATO (North Atlantic Treaty Organization) analysts considered ASTROS System II the best existing artillery system for area saturation. Two years later, IMAM (Materials Storage and Handling Institute) awarded the Self-propelled Straddle Carriers. Avibras also received the Golden Medal Award for Quality in Brazil.

### Usiforja

Another Avibras subsidiary was opened in April 1986 – Usiforja – a company specialised in machining and forging of parts.



### Tectronic / Powertronics

Avibras' subsidiary Tectronic, with headquarters in Cotia (SP), specialised in power electronics, was the first Brazilian company to develop electronic traction command with project and materials 100% national. It was responsible for producing industrial equipment, electrical vehicles and trolleybuses.



# 1990

## Worldwide Recognition and New Products

### Recognition

The constant quest for technological innovation and excellence in engineering became Avibras main characteristic, being recognized by partners, the Brazilian Armed Forces and government financing agencies.



### ASTROS II

As of 1990, ASTROS II was incorporated into the Brazilian Army. In 1991, another batch of the system already proved in combat was manufactured and exported.

### SESI Aerospace Park

By means of a partnership between Avibras and other companies and institutions, in 1994 was created the Aerospace Park at Sesi, in São José dos Campos.



### Civilian Market

In 1994 Avibras Fibre Optics and Telecommunications (AFO) launched the Logiq system for management, control and location of vehicles via INMARSAT satellite. In 1995 the fabrication of explosives for civilian use in rocks destruction started at Lorena Facility, which had part of its plant adapted to meet the requirements of the Regulation for the Surveillance of Controlled Products – R 105, of the Brazilian Army.

The Chemical Division also started to offer to the civilian market other products of the most diverse applications: sealants and coatings, pre-polymers and resin, polyurethane paint, anti-hail system (SAGA-4000), and others.

Avibras Computers thrived in 1990 offering solutions in the computational area.



# 2000

## New momentum with innovative projects and ASTROS 2020

### New Projects

The development of the Tactical Missile AV-TM started in 2000. The project of the Reconnaissance Vehicle AV-VB4 RE "Guará" for the Brazilian Army, and the project VANT, in partnership with the Brazilian Armed Forces, started in 2005. The studies and development of the AV-VBL (Light Armoured Vehicle) started in 2007.



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- 1 Project VANT (Unmanned Aerial Vehicle)
- 2 AV-VBL Vehicle
- 3 Reconnaissance Vehicle AV-VB4 RE (Guará)
- 4 Tectran - São José dos Campos (SP)

### ASTROS II new batch

In 2008, the manufacture of a new batch of ASTROS II for export was initiated.



### Training Rockets

Training rockets were successfully launched from Alcantara Launch Centre (CLA), Maranhão, in 2009.



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### ASTROS 2020

Beginning of the Strategic Project ASTROS 2020. The objective is to make the Ground Force capable of providing long-range fire support with high accuracy.





# 2010

## Building the Future

People and company growth

### Social Responsibility

In 2010 Avibras made available the Guar vehicle to the Brazilian Army to support the Haiti peace mission.



### Strategic

In 2014, the Ministry of Defence certified Avibras as "Strategic Defence Company (EED)".

### Industrial Capacity

Result of a bold and entrepreneurial project, the new Avibras factory of armoured vehicles started operating at Facility 2, in Jacare, in December 2014. It is considered the most modern facility of armoured vehicles in Brazil.



### Technological Potential

2016 was marked by innovation with the launching of the prototype of the Light Armoured Wheeled Vehicle - Guar 4WS 4X4, completely designed by Avibras.



### Innovative Management

A deep transformation in the company's governance and management, based on Strategic Planning, resulted in the building of the future, offering the company opportunities for business, improvement in financial performance, strengthening of the relationship with clients and other strategic targets, in addition to development of employees and the organization as a whole.



FROM 2010 TO 2019

# 2010

## Building the Future

People and company growth



### Business Integrity

Avibras governance had a fundamental strengthening with the creation of the Committee of Audit and Risks, acting as a support for shareholders, and the Ethics Channel, ensuring transparency and reliability to business.

### Sustainability

In 2016, Avibras identified the most relevant themes of its management, resulting in the company's first Sustainability Report issued in 2017.



### Space Research

In 2016 other projects were also successfully launched, among them the contract with IAE (Institute of Aeronautics and Space) for the production of S50 motors designed for the projects VS-50 and VLM-1, representing a special milestone for the development of the Microsatellites Launching Vehicle.

### Quality Management

In 2017, Avibras was granted the certification AS9100D, an international standard of quality management for Aeronautics, Space and Defence industry. Greater confidence, customer satisfaction and competitive advantage in the market.

### Recognition

Avibras occupied the 44th position – in the export segment – on the list of the 1000 largest companies in Brazil, in 2016. This major result was published in the Biggest & Best issue of EXAME magazine.

The company also stood out at the list Valor 1000, published by Valor Econômico magazine, which announced the 1,000 biggest companies of the country in 2016.



### Excellence

Focused on continuous improvement, in 2017 Avibras started the Program AVPEX (Avibras for Excellence), which aims at elevating the company to world-class excellence.

### Technological Knowledge

Avibras innovated once more with the creation of EATI (Avibras Technology and Innovation Space) in December 2018, at Centro Empresarial IV, located in the São José dos Campos Technology Park. EATI was conceived to act as an embassy for research, development and innovation of products and solutions in Defence, Space and Public Security, in an environment of partnership and collaboration with universities, research centres and companies of similar technological basis.





FROM 2010 TO 2019

# 2010

## Building the Future

People and company growth

### HTPB Factory

The construction works of the HTPB (Hydroxyl-Terminated Polybutadiene) factory started in 2019 at Facility 3 in Lorena. Occupying an area of 55,000 m<sup>2</sup>, the new factory will produce the main raw material required in the production of solid propellant, essential for the rockets of the new Brazilian Space Program.



### Culture Strengthening

Initiated in 2018, the Culture Program reinforced Avibras' main priorities: Safety, Quality, Timing and Cost. One of the goals of this continuous work is to recover the concepts of each priority and raise awareness of the importance of their practice in everyday work to ensure results.



### Foreign Trade Representation

In November 2019 Avibras was awarded the trophy "Technological Export Highlight" by Brazilian Foreign Trade Association in Rio de Janeiro. The objective was to recognise companies and institutions that achieved a noticeable performance in the international market.



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1 Anti-ship Surface Missile (MANSUP)

2 5th generation Air Missile (A-Darter)

3 Gyro-stabilized Platform

### Successful Projects

Among the various projects in development, three of them were successfully concluded: Anti-ship Surface Missile (MANSUP), 5th Generation Air Missile (A-DARTER) and the Gyro-stabilized Platform.

The accomplishment of phase 2 of the MANSUP Project in partnership with the Brazilian Navy, in which Avibras was responsible for the propeller system, wings and integration of the missile's prototypes.

Also developed in partnership with the Brazilian Navy, the Gyro-stabilized Platform allowed the company to develop Avibras' concept of air defence, sparking the interest of international clients.

A-DARTER was developed in partnership with the Brazilian Air Force (FAB). Avibras was responsible for the national version of the rocket motor.



# 2020

## Conquering new markets and overcoming challenges

### VSB-30

Avibras and the Aeronautics and Space Institute (IAE), from the Department of Science and Aerospace Technology (DCTA), signed in January 2020 a technology transfer agreement that granted the company the licence to produce and commercialize the rocket motors of the suborbital vehicle VSB-30. This was a milestone that represented the entrance of Avibras in the market of microsatellites launchers.



### AV-TCM

The development of the Tactical Cruise Missile, with turbojet propulsion, is in its conclusion phase. The highlight of 2019 was the confirmation of its main requirements during the launchings at CLBI (Barreira do Inferno Launch Centre). In 2020, important tests were performed in partnership with the Brazilian Army and Air Force in order to collect data and to carrying out engineering analysis performance.



### ASTROS Competitiveness

In order to expand the market and the competitiveness of ASTROS System, in 2020 Avibras launched the ASTROS FIT (Flexible, Integrated and Tailored) to meet its clients' needs.



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1 Donation of protective masks to nearby cities

2 Videolaryngoscope development project

### COVID-19 Combat

In 2020, the coronavirus pandemic (COVID-19) caused great impacts to the world in all sectors. Determined to care for the health and safety of its employees, service providers and partners, Avibras adopted the best practices to combat coronavirus in its facilities.

The company also put its technology at the service of the community supporting the fight against the virus in the regions where Avibras operates: Sao Jose dos Campos, Jacarei and Lorena, assisting health professionals in the front line, contributing to the prevention and decrease of the pandemic impacts.

Hundreds of face shield protective masks were manufactured and donated to neighbouring cities. Avibras also donated protective equipment to RINEM (Vale do Paraíba Emergency Integrated Network).

Moreover, the company was in charge of the development project of the videolaryngoscope in partnership with Protec (medical equipment supplier). This equipment is essential to prevent the contamination of the medical doctors and their teams during the intubation of patients.

The kits were donated to nearby cities, which distributed them to hospitals for medical use.





## To us innovation is growth

We are a strong industry, strategic and committed to our collaborators, clients, service providers and community.

We are proud of being part of Brazil's technology and innovation history and of contributing to the development of our country.

Our journey does not end here. We will continue to build our history with creativity and without limits for innovation.

**We all are Excellence!**





**TECHNOLOGY AND INNOVATION  
WITH SUSTAINABILITY**

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**[www.avibras.com.br](http://www.avibras.com.br)**