

Brazilian Aerospace Cluster

Believing in great ideas.





The city of São José dos Campos

With a population of over 600 thousand inhabitants, São José dos Campos (SJC) is located between the country's two main cities: São Paulo (90 km) and Rio de Janeiro (310 km). Its total area is approximately 1,118 square kilometers (288 square kilometers of urban area), and its economic activity is predominantly industrial.

SJC is the headquarters of the largest aerospace complex in Latin America. It is the home of Embraer, the world's 3rd largest civil aircraft manufacturer. São José dos Campos is the heart of the aviation industry in Brazil, with companies such as Latecoere (France), Aernnova (Spain), Sobraer (Sonaca Group - Belgium), Sopeçero, C & D, GKN, ELEB and SK10.

The city attracts many people for work and business, because of its very strong aerospace, telecommunications, automotive, defense, chemicals, pharmaceuticals, and petroleum industries, and high technology research centers, such as ITA, INPE and CTA, working with aerospace science development.

SJC is the main city of Paraíba Valley. Other important cities in the region are Taubaté, Caçapava, Pindamonhangaba, Guaratinguetá and Lorena, with a highly developed industrial park. The region is home to major companies like Petrobras, Embraer, General Motors, Johnson & Johnson, Monsanto, Panasonic, Hitachi, Nestle, Pilkington, LG Philips, Ericsson. The agricultural sector also holds great importance in several cities of the Paraíba Valley region, which concentrates one of the largest GDPs in Brazil.

São José dos Campos is the 7th largest city in São Paulo state, Brazil's 30th largest and the country's 2nd most exporting city of Brazil, only behind São Paulo city in total exports.

Brief History of Brazilian Aerospace Industry

The origins of Brazilian aerospace industry go back to 1945, with the strategic conceptualization of CTA – “General Command for Aerospace Technology”, an institution of the Aeronautic Ministry. In 1950, CTA founded its engineering school, ITA – “Institute for Aerospace Technology”, one of the top engineering schools in the country up to this day.

The creation within CTA of the Research and Development Institute – IPD, in 1954, reinforced the strategy for obtaining knowledge and self-sufficiency in the fundamental areas of aviation industry - aircraft projects, electronics, materials, motors and flight testing.

In Brazil the aerospace industry produces commercial and military small to mid sized jets, helicopters, sailplanes, sounding rockets, satellite launch vehicles, satellites, defense systems and equipments, missiles, radars, air traffic control and flight protection systems, earth to satellite systems, unmanned aerial vehicles, on-board avionics and space avionics. Also, it supplies maintenance and repairs on aircrafts and aviation engines.

São José dos Campos is also home to Embraer and INPE – the National Institute for Space Research. Located in a valley cut by the Paraíba River, therefore known as Paraíba Valley, the region has been nicknamed “Technology Valley”, for its concentration of high tech companies and research centers.

The underlying reason for São José's success as a technology stronghold is the creation of government institutions such as CTA, INPE and ITA, in the 1950s and 1960s. The strategy was aimed at creating national excellence and self-sufficiency in the space & aviation industry. Embraer itself was created in 1969 as a government owned company, only to be privatized in 1994. With these important public investments, the Brazilian aerospace sector flourished, and numerous tech-based companies were formed, in space, defense and electronics, in large part spin-offs of CTA.

Brazilian Aerospace companies are mostly concentrated in São Paulo state, especially in the region of São José dos Campos (SJC, Taubaté, Jacareí, Caçapava), as well as in São Paulo, Campinas, Gavião Peixoto and Botucatu. However, there are important aerospace companies spread throughout the country, in the states of Rio de Janeiro, Rio Grande do Sul, and Minas Gerais, to name a few locations.



Brazilian
Aerospace
Cluster



CTA – “General Command for Aerospace Technology”

www.cta.br/

CTA is based in São José dos Campos, and is formed by various military organizations, in the areas of education, research, development and infra-structure and operational support.

Through its four main institutes – ITA, IAE, IFI and IEAv – CTA has been developing high quality science and technology, in various fields of aerospace research, participating in important projects of national industry, and contributing strongly with the region’s development, considered the most important aerospace technological and industrial pole of Latin America.

IFI, in particular, offers services in Metrology, Certification, Intellectual Property, Technology Transfers and Industrial Coordination, for the scientific-technological aerospace complex in Brazil.

ITA – “Institute for Aerospace Technology”

www.ita.br/ingles/ingles.htm

ITA is focused on providing top quality education in Science and Technology, forming specialized professionals in the interest of Aviation, in general, and in the interest of the Aeronautic Command, in particular. The Institute offers under-graduate, graduate, specialization and university extension courses. It promotes, through education and research, the progress of Aerospace Science and Technology.

EMBRAER

Embraer is a Brazilian aerospace conglomerate. The company produces commercial, military, and executive jets, and provides related aerospace services. From 1999 to 2001 it was Brazil's largest exporter and is still one of the main exporters in Brazil.

The company's headquarters, main production facilities, and engineering/design offices are in São José dos Campos, São Paulo, Brazil. Embraer also has a production plant and flight testing facility in Gavião Peixoto, São Paulo state. Embraer has maintenance and commercial sites in the USA and commercial offices in France, Singapore and China.

The company has produced approximately 4100 aircrafts since its creation, and its aircrafts are operative in approximately 69 countries, in five continents. It is one of the largest aerospace companies in the world, and has accumulated experience in designing, manufacturing, marketing and maintenance & repairs.

INPE – “National Space Research Institute”

www.inpe.br/ingles/

The National Space Research Institute – INPE, was created in 1961. Its mission is to promote and execute studies, scientific researches, technological development and human resources, in the fields of Space & Atmospheric Science, Space Applications, Meteorology and Space Engineering and Technology, as well as in related domains, according to the policies and guidelines defined by the Brazilian Ministry of Science and Technology.

INPE's work is focused on enabling adequate infra-structure for scientific and technological development, consolidating competences in science, technology and innovation in the areas of Space and Environment, responding to national challenges and promoting policies to develop the space industry, providing services and technologies.



São José dos Campos Technology Park

A recent partnership between São José's City Hall and São Paulo State Government, the São José dos Campos Technology Park Center is located in the district of Eugenio de Melo, on Presidente Dutra highway, and has been operating since March 2006. It is currently home to different initiatives and organizations, integrating education and research institutions, technology labs, business incubators and event centers. The Center totals 30.000 square meters of built facilities, plus 188.000 square meters of terrain. In the surrounding area of the Technology Park Center are 12 million square meters of land for companies to be installed. The focus is on technology based companies in the aerospace, automotive, energy, biotech and nanotech industries, among others. The following are currently operating in the Technology Park Center, besides CECOMPI:

CDTA – Center for Development of Technology in Aeronautics

CDTA is a research and development center that has as goal to stimulate scientific, technological, educational and industrial development in aviation. CDTA originated through a partnership between Embraer, ITA, IPT (Institute for Technological Research), Fapesp, Finep, BNDES and São José City Hall. Within CDTA there is a Light Structure Laboratory for Aviation.

VSE – Vale Solutions in Energy

VSE – Vale Solutions in Energy (a subsidiary of mining giant Vale), is dedicated to research and develop new processes and systems for energy generation. On its agenda are: coal gasification; biomass, including sugar cane for ethanol production; gas propellers and heavy multi-fuel engines. VSE will receive investments of approximately USD\$ 137,5 million over an initial 3 year period, from Vale and BNDES, the Brazilian "National Bank for Economic and Social Development". Partners in VSE are also ITA and USP São Carlos.

FATEC

College with under-graduate technology courses in Aviation Systems, Logistics and Information Technology.



Brazilian Aerospace Cluster

The Brazilian Aerospace Cluster is concentrated in São Paulo state, mainly in the region of São José dos Campos. The cluster has approximately 130 companies, and generates around 50.000 direct jobs. Ranging from small to large businesses, the aerospace cluster encompasses among others the following technological competences: services in metallic machining, precision machining, parts manufacturing, composite materials, assembly, engineering, tooling, surface treatments, aircraft armoring, nondestructive testing, landing gear, missiles, radars, air traffic control systems, flight safety systems, on-board systems, ground support systems, navigation systems, solar panels for artificial satellites, unmanned aerial vehicles, light sport airplanes, helicopters and regional jets for commercial, executive and military use.

Research institutions such as CTA, the renowned engineering school ITA and the National Space Research Institute – INPE, were central point for the development of Brazilian aerospace know-how. During the years, not only have these institutions supplied high quality professionals to companies in the industry, but generated various spin-offs, for Embraer as well as other companies.

Some companies in the Brazilian Aerospace Cluster are: Iacit, Winnstal, Finetornos, UTEC, Pan-Metal, Friuli, Globo Usinagem, Ambra Solutions, Geometra BTE, Mectron, Inbra-Aerospace, Avionics, Aeroarte, Akaer, Brascopter, DTAA, Embrasim, EQE, ESRA, Finetornos, Giovanni Passarella, Grauna Aerospace, Lane Design, ACS, Flight Solutions, Flight Technologies, GMP Marcatto, Gyrofly, Lanmar, Marcatto, Massucato, Solutions & Design Engineering, Tecplas, VBJ Engenharia, Vectra Technology, Astra Usinagem, Mikro-Stamp, Phoenix Serviços Aeronáuticos, Winnproject, Aisys, Fibraforte Engenharia, Equatorial Sistemas e Alltec.

A Governance Group composed of City Hall, Fiesp, Ciesp, Sebrae SP and Cecompi is focused on strengthening the aerospace cluster, supporting the internationalization of Brazilian companies, business management programs, partnerships with universities, professional qualification programs, public policies and technology partnerships.





Governance Group of the São José Aerospace Cluster



CECOMPI
www.cecompi.org.br

CECOMPI - Center for Competitiveness and Innovation of the São Paulo State Northeastern Region is a third sector organization with private rights that enables synergy with Government, Education & Research Institutions and the Private Sector, facilitating the innovation process, stimulating entrepreneurship and raising local competitiveness.

Located in São José dos Campos, within the city's Technology Park Center, its main projects are:

Brazilian Aerospace Cluster Project

The Brazilian Aerospace Cluster Project is focused on strengthening aerospace suppliers in Brazil, and is supported by an institutional arrangement, of which CECOMPI is the operational focal point. Actions include business management programs, supporting funding for research and development, partnerships with universities, professional qualification programs, international partnerships and trade promotion.

CECOMPI Business Incubator

Helps entrepreneurs develop sustainable businesses from innovative ideas. The incubator has a rigorous selection process, and approved projects receive full support through business planning, market strategy, sales management, funding for research, and product development. CECOMPI's Business Incubator is supported by São José City Hall and Sebrae SP.

CECOMPI Academy Network

Aims at facilitating partnerships between research institutions and the private sector. The goal is to promote innovation within companies, creating economic value through Open Innovation, Technology Transfers, Technology Partnerships and International Cooperation.





Meet Brazilian Aerospace Companies:



AEROARTE

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Aeroarte complies with the requirements of Brazilian law (RBHA 145) pertaining to our services, and is authorized by the Civil Aviation Department to perform modifications and repairs in the interior of aircrafts (airplanes and helicopters). It performs upholstery services, safety belts repairs and maintenance. Aeroarte also fabricate protective exterior covers, carpet protectors and windsocks.



AEROLANE

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Aerolane is an industrial company focused on the design, development and fabrication of new products for the aerospace, defense and automotive industry. Founded in 2008, as the industrial division of Lane Design, a design office with almost 20 years of expertise in these segments, Aerolane offers a wide range of technical services, from product conception to the fabrication of parts, subassemblies or complete assembly, depending on the client's need, for both - small businesses and large international companies.



AKAER

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www.akaer.com.br

AKAER is a Brazilian company devoted to development of structures in aeronautics and space industries. Founded in 1992, AKAER has been participating, since its creation, of the main aerospace programs in Brazil, such as CLA Launcher Center, CBERS, and almost all EMBRAER's programs - ERJ-145, EMB-314, ERJ-170/190, Phenom 100/300, Linage, and Legacy 500/450. AKAER also has long experience working in international programs, like: A 400M; A 380; 747-8 F/I. AKAER is experienced in all aeronautical structures and system installation disciplines, and can offer the best cost-effective engineering solutions, based on a strong commitment with its customers. AKAER has a skilled core staff, about 100 senior engineers and aeronautical designers, manages dedicated teams sized and allocated in accordance with the project needs, to comply with customer targets in schedule, quality and efficiency. Among the most updated engineering and design tools, AKAER uses intensively MSC NASTRAN package for structural analysis and optimization, and CATIA V4 and V5 complete packages for 2D/3D design, and VPM management system.



AMBRA SOLUTIONS

Start Date: 2004

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www.ambrasolutions.com

Ambra Solutions' activities are focused on Engineering Projects (Tooling Special Machinery, Assembly Lines, Interior technologies, Pneumatic and electric installation, CNC programming, Product conception and development), Project Management and Manufacturing (turnkey) for the aeronautic and automotive sectors. The company has a qualified workforce, with experience in Tooling, Products and Structural Analysis, utilizing cutting edge software for its projects. Ambra's philosophy is to work with clients to achieve technical customized solutions within required time schedules. Its main clients are Embraer, C&D (USA), Sobraer Brasil (Sonaca), Bombardier, General Motors, Tecsis, Tenaris Confab, among others.



AVIONICS

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www.avionics.com.br

Avionics Services is to present in 2009 an outstanding line of aircraft interior products that incorporate the latest novelties in technology, consonant to market needs. Among the items in the exhibition, the visitor will find and experience articles developed and commercialized by the company, such as LED Cabin Lighting, Pax Advisory Signs, Reinforced Cockpit Door Lock and Control System, Video Surveillance System, In-Flight Entertainment Systems and more.

**BRASCOPTER****Start Date: 2005****Contact: Donizeti de Andrade, Ph.D. - Director****Phone: +55 12 3947-5969****E-mail: donizeti@ita.br**

BrasCopter is dedicated to aeronautical and mechanical projects and services, and its mission is "to provide our customers excellent solutions in transportation by means of production and commercialization of helicopters of high quality and reliability, along with a differentiated follow-up of related services". The company's short and medium range goals include the integral materialization, in Brazil, of the complete development cycle (concept, design, manufacturing, certification and commercialization, including tests and engineering follow-up) of a light, two-seater, multitasking world class helicopter.



desenvolvemos produtos tecnológicos

CIENTISTAS ASSOCIADOS**Contacts: Antonio Valério Netto****Phone: +55 16 3376-6716****E-mail: contato@cientistasassociados.com.br****valerio@cientistasassociados.com.br****www.cientistasassociados.com.br**

Cientistas Associados was founded in 2003, the company is structured as and works like a technology lab, developing specific products for each company's needs. The proposal is to provide outsourcing services to innovate and increment technology, based on software and hardware, to companies that do not have expertise in certain technical knowledge areas.

The company, along its existence, has built an exceptional team of professionals, with excellence in various methodologies for technological product development. Here are the company's five main areas of expertise: intelligent mobile robots; systems integration; instrumentation and control; intelligent systems created for decision-making and human-computer interaction. Moreover, the company offers consulting and training services in areas that deal with technological innovation.



Empresa Brasileira de Simuladores

EMBRASIM

Start Date: 2006

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www.embrasim.com.br

Embrasim, a Brazilian company based in the city of Natal, operates in the simulation market, with emphasis in Aviation, and has a wide knowledge of professional flight simulator technology, qualified to the highest level by the aviation authorities. Embrasim offers a variety of services and products, specially tailored to clients' needs. Services include consultancy for flight simulator development, modification, relocation, installation, qualification, operation and maintenance. Embrasim provides simulation models and real time software development engineering services, to fulfill client requirements. From its simulation engineering knowledge and software development expertise, Embrasim has developed a variety of products for the flight simulation industry.



EQE TECNOLOGIA

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EQE Tecnologia develops and produces modes and electronic equipment for small, medium and large companies, handling its clients' high quality products and services with low costs.

Following the technological market tendency, EQE maintains employees that are able to act in the conversion of technologies, nationalization and development of components/products.

Following services

Search and purchase supplies, electronical board fitting up, functional and ambient tests, final system integration, test and cabinet fitting up, managing for repairs during and after warranty, support in discontinued products, fast production of prototype, warranty for tracking of electronic boards or equipments, development of HARDWARE, FIRMWARE and SOFTWARE for products and/or adaptations to new necessities of the market and technological innovations.

Areas of expertise:

- Industrial Automation
- Airspace
- Biomedical engineering



ESRA

Start Date: 1991

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www.esra.com.br

Activities/products : ESRA recovers landing gear, manufactures motor cradles, repairs helicopter wheels, auto-sealing, tanks and UFTs. Manufactures flight helmets, gloves, jackets, jumpsuits, pilot anti-flame boots, and surveillance systems for airports. The company is a representative of night and infrared vision systems and amphibian jets.

Main Clients: Brazilian Air Force, Brazilian Army, Brazilian Marine, Brazilian Federal Police, IBAMA, State Military Police, Argentinean Air Force, Venezuelan Air Force, Helibras, EMBRAER.



FINETORNOS

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Commercial Director and Development

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Finetornos operates with quality management systems certified by BRTUV, specifically ISO 9001 version 2000, and ISO-AS-9100 (NBR-15100). For the aviation sector, Finetornos produces Machined Parts, and Mechanical and Structural Products such as: Frames, Supports, Linings, Reinforcements, Platforms, Tracks, Connections, Actuator Assembly Supports, Bellcrank, Bolts, Anchor Plate Shank, Stabilizing Doors, among many others. It produces parts for commercial, executive and military airplanes. The company produces parts and assemblies for the aviation sector, with Heat Treatments and coatings of surfaces, as well as Passivation, Chromic Anodizing, Chemical Conversion/Alodine, Phosphatization, Painting and Sulphuric Anodizing, Laboratory Penetrating Liquid and magnetic particles. All aircrafts manufactured in Brazil, contains structural and mechanical parts manufactured by Finetornos.



**FLIGHT
SOLUTIONS**

FLIGHT SOLUTIONS

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Flight Solutions is a Brazilian company specialized in the development, integration and operation of unmanned aerial systems (UAVs) with complementary capabilities. These systems can be used in military and civilian roles in a number of monitoring, surveillance and reconnaissance missions. Flight Solutions' UAV family is composed of the: FS-01 Watchdog, a medium sized mid-altitude UAV; the FS-02 AvantVision, a hand-launched UAV; the FS-03 Starcopter, a vertical take-off and landing UAV. Flight Solutions is considered by Flight International a Top 100 UAV Developer and Manufacturer in the world. The company is now working on two contracts with the Brazilian Army to supply the FS-01 Watchdog for monitoring, surveillance and reconnaissance missions.



FLIGHT TECHNOLOGIES

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www.flighttech.com.br

Flight Technologies is a Brazilian company leader in the development of flight control and information systems for manned aircraft and unmanned vehicles. Flight Technologies is fully capacitated for integrated avionics and components design, software development and system integration. The company portfolio includes a complete set of avionics technologies for unmanned air vehicles and manned aircraft, such as: integrated glass-cockpit solutions, smart displays, autopilots and flight control systems, flight sensors, mission systems, ground control stations. Flight Technologies is the most preferable company for its experience in unmanned air vehicles' flight control system design. The company has contracts with the Brazilian Army and Brazilian Air Force.

**FRIULI****Start Date: 1987****Contact: Gianni Cucchiaro****E-mail: gianni@friuli.ind.br****Phone: +55 12 3933-0888****www.friuli.ind.br**

Friuli operates the metallic-mechanic segment, offering integrated solutions in the aeronautic and aerospace sectors. Its expertise covers the domain of developing products and processes in CAD/CAM; precision machining in complex profiles on 3, 4, and 5 axis CNC machines, MIG and TIG welding, and mechanical subassemblies. FRIULI has its own facility addressed to surface treatments, among which Shot-Peening installation is featured. The Quality Control of its treatments is carried out through Non-Destructive Tests such as Liquid Penetrant and Magnetic-Particle Inspections. Friuli has solid experience in CNC machining of a wide pallet of materials such as parts of aluminum and its high resistant alloys (ASTM 7075; 7050; 2024; 2014); various types of stainless steel of high hardness and resistance (15-5PH); steel-carbon alloys (SAE 4340; 4140; 8620; 9315); titanium and composite materials.

**GEOMETRA BTE****Contacts: Luiz Paulo Junqueira****Phone: +55 12 3949-9151****E-mail: lpj@geometrabte.com.br****www.geometrabte.com.br**

Geometra has an umbrella commercial agreement with a network of 15+ aerospace companies in Brazil – 1,400 + employees. A lean integrator 10 year old company with vast aeronautical industry management experience and technical skills. To improve its clients' competitiveness through the supply of state-of-the-art, lower cost aeronautical solutions: Conception, Engineering, Design, Development, Test and Certification of aircraft components; Manufacturing of airframe segments and components from both Geometra design and customer's "Build to Print». A convenient, effective single channel access to high quality/low cost Brazilian aerospace industry network

Main Programs: T-27 Tucano Landing Gear redesign and supply (Contract with BAF (FAB), supply to FAB and Embraer), A-67 Dragon COIN/ISR aircraft (Design Services contract with US Aircraft Co., OH, USA), B737 Spoiler Tooling Manufacturing.



***Giovanni Passarella
Ind. Metalúrgica LTDA***

GIOVANNI PASSARELLA

Start Date: 1967

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Giovanni Passarella operates in these major markets: aerospace, oil and gas, agriculture, mining, automotive, machines and equipments. Its main objective is to offer products and services with high quality to the serial machining and accuracy tooling market, from design to delivery, and technical assistance post sells. The company produces tools and special equipments like tyre and hydraulic devices of fixation and machining, formers, matrixes, stamps, calipers, special machines, machining of pieces and serial production ranging from light to heavy, in five axis. The company's CNC machines are interconnected by D.N.C. WIRELESS and they are commanded by CAD/CAM software, which provides an excellent productivity. It has CNC machines for machining up to 20 tons, in five axis. It is certificated on the standard ISO 9001:2000 and NBR 15100 (AS9100).



**GLOBO
USINAGEM**

GLOBO USINAGEM

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www.globousinagem.com.br

Globo Usinagem's major products are: machining in ferrous and non-ferrous materials for the aerospace sector and other industrial sectors. The company's major equipments and machines are: CNC Machining Center 4 and 3 axis, CNC Turning, Conventional and Measurement Instruments. Globo Usinagem's major mission is to supply cutting-edge products, without environmental damage, respecting federal demands.



GMP MARCATTO

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Marcatto Group history started in 1964, with the founding of Indústria Mecânica Marcatto. In 1981, through a partnership with Embraer – São José dos Campos, they started to supply aircraft parts. Due to the extreme specialization required for this segment, GMP Marcatto was founded in 2004.

GMP Marcatto provides services in bending, welding, milling, painting and assembling. With high technological capacity it has 3-4 axis machining centers up to 2.000mm in "X" and 5 axis up to 800mm in "Y".

With its full commitment to quality and differentiated services, GMP Marcatto holds the ISO 9001:2000 and AS 9100:2004 certifications by DNV. In 2008, proceeding with its expansion plan, Marcatto Group diversified its field by launching Marcatto Laser, a company focused on laser cutting market, offering services in various materials with outstanding finish.

The group maintains high investments in training and technology with the implementation and update of Aerospace Management System as well as an upgrade of the Integrated Management System in Quality, Environment, Health and Labor Safety, Social Responsibility and Information Security. Personnel training and motivational initiatives for employees are highly focused.



GRAUNA AEROSPACE S. A.

Start Date: 2006

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With over 17 years of experience in manufacturing parts, Grauna Aerospace S.A. provides the technical expertise customers require using precision technology and assembling structural parts. It is ISO 9000 and NBR 15100/ AS 9100 certified, counting on a high skilled team and a multiple axis CNC Machining Center. Grauna's history began in 1990 as Grauna Usinagem, performing CNC Machining and Assembling. In 2006 Grauna Aerospace was formed as a result from the merger of Grauna and Stratus – a venture capital company and two other companies; Bronzeana and SPU. This alliance has brought differentiated revenues, empowered the potent experience and know-how to face market needs and increase its exportation capacity. Today Grauna has 2 facilities and manufactures 5000 different items, totalling 14.000 parts a month, and strives to give optimum services and to meet customer's requirements through quality services and products. Main Customers: Embraer, Pratt&Whitney Canada, Eleb, Neiva, EADS CASA, Elbit, Cebrace, Petrobras and Nestle.



Gyrofly Innovations

GYROFLY

Start date: 2006

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GyroFly Innovations is an aeronautical technology company focused on engineering and product development of mini-UAVs (unmanned aerial vehicles), on-board aerial systems design and programming, as well as support for multiple market applications that utilize the reception, handling and interpretation of images and information registered in flight.

Gyrofly Innovations specializes in the design and production of small controlled aerial platforms, known as mini-UAV that address the growing demand for reception of local images and research on information ascertaining visual geographical areas. Located in São José dos Campos, Brazil's national center for the development and aerospace production, Gyrofly Innovations will deliver a line of products specifically designed for different control needs and aerial surveillance requirements, including chassis, transmission and reception systems, as well as custom on-board components videocameras, sensors and GPS navigation systems. Conceived by industry professionals, Gyrofly Innovations offers a wide set of services directly to users looking to increase adoption of these new technologies in various industries and applications: science, surveillance, publicity and patrimonial and human safety.



IACIT

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IACIT is a Brazilian company founded in 1986 with 21 years of engineering services in the Aeronautic, Telecommunication and Road Traffic segments. The company manufactures Aid Systems for Air Navigation, Weather Radars, Road Traffic equipment and Telemetry Systems. IACIT provides technical support services for the implementation of other systems in Defense and Air Traffic Control relevant to Brazil, such as DACTA I, DACTA II, DACTA III and SIVAM, Satellite Communication Systems, Mobile Cellular Phone, Structured Networks and Systems for the ATC, as well as for the provisioning of other services for Brazilian airports. IACIT is Certified by DECEA (Control of the Airspace Department) and also Certified ISO 9001:2000 by IFI – CTA.



INBRA

Start date: 2002

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INBRA-AEROSPACE, a company of GRUPO INBRAFILTRO – a reference in the development of ballistic solutions in military and civil security - is currently the largest Brazilian company specialized in the production of composite materials for aircrafts, and is undertaking a significant growth in its activities to face the increasing demand of this segment. The company has developed the armored cockpit door for Embraer's EMB 170/190 aircrafts, something which combines protection, facility and armoring in one single product. Another important highlight of INBRA-AEROSPACE is the partial armoring for Embraer's Super Tucano. Currently, 25 aircrafts of the Colombian Air Force are already equipped with this type of armoring, with the highest protection level ever implemented in Brazil and capable of stopping caliber 0.50" AP M2 projectiles, anti-aerial ammunition.



LANE DESIGN

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Lane Design is a design office specialized in technical publications (technical manuals, spare parts catalog and training manuals), and industrial design (product conception & design) focused on the aerospace, defense and automotive industry. Founded in 1991, Lane Design has almost 20 years of expertise in those segments, developing services of high quality for both small businesses and large international companies.



LANMAR

Start Date: 1973

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Lanmar's first services were focused on toolmaking machining such as: injection moulds, patterns, devices, etc. The experience with high precision machining allowed the diversification of the services offered and in the beginning of the 80s Lanmar started to supply parts for the aeronautical industries. Lanmar has been machining small, medium and structural parts using high speed and precision 3,4 and 5 axis CNC Machining. With particular emphasis on machining of special alloys such as titanium, inconel, aluminum, stainless steel, steel alloys among others. It is specialized in ULTRA high pressure jet cutting, manufacturing and assembly of machines, special equipments, CNC Bending Machines, assemblies and flanged nut riveting, mechanical assemblies, composite aircraft floor parts. Lanmar is ISO 9001: 2000, NBR 15100:2004 certified and ISO 14001:2000.



LIMA & BONFA

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Lima & Bonfá was founded in 1995, and is located in the city of Sumaré in a 1000sqm area splitted in two buildings that promote productive and organizational growth with skilled employees and more than 30 machines, such as, CNC Machien Centers, Turnings, Grinding Machines – Jig Bore – Jig Grinder, Wired EDM Plunge EDM, Coordinate Measuring Machines CNC, etc.

Non-stop concern with high quality led Lima & Bonfá to be certified ISO9001:2000, that is in the process of implementing NBR ISO 15100.

Its core segments are: Automotive, Aeronautic and White line.

Main customers: Embraer, 3M, Yazaki, Delphi



MARCATTO

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www.marcatto.com

With over 40 years experience, Marcatto is able to provide manufacturing of parts from raw materials to finished products in 3 and 4 axis vertical and horizontal Machining Centers. Marcatto presently produces 300 different items for a wide range of applications. Parts are manufactured out of steel, aluminum or iron (ferrous and non-ferrous materials), and meet with customer requirements.

Marcatto has developed manufacturing processes that produce complex components with tolerances of $\pm .0002$ " in various materials including Aluminum 2024, 6061, 7075, Stainless Steel 300 series, 416, 13-8, 15-5, 17-4, Inconel, plastics and other materials.

The company is capable of manufacturing complex precision machined components from solid models without detailed engineering drawings. Customers identify only critical features and Marcatto develops CAD/CAM programs directly from the customer supplied solid model. QC Inspection perform independent verification of all features using the CMM and the same solid model.

Besides the investments in new equipments, personnel and Certification, Marcatto is fully oriented to and has developed efficient environmental policies inside the facility. With the ongoing focus and commitment from all personnel, the process will continue to improve its production capacity, autonomy and environmental management.

Marcatto holds ISO 9001:2000 Certification (BSI Management Systems) and NBR 15100/AS 9100 Certification (CTA - General Command for Aerospace Technology)

Main Customers: Embraer, AGCO, Eaton Aerospace, Sew Eurodrive, Valtra, ZF, Komatsu



MASSUCATO

Contacts: Mr. Alcides Massucato (Director),

Ms. Jaqueline Massucato (Commercial Director)

and Mr. José Carlos Massucato

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Massucato started its activities in the Metallurgical Industry in April 1985. In its first years Massucato worked for packing companies like Tetra Pak, and other industries like General Electric, providing small components. In 1988 it started its partnership with Embraer and Eleb, starting to provide aircraft parts. Today, with 20 years of experience in the Brazilian Aerospace Sector, Massucato counts with 160 employees, 50 machines (3 to 5 axis CNC machines, 3 D, Milling and others) in a 4000sqm area.

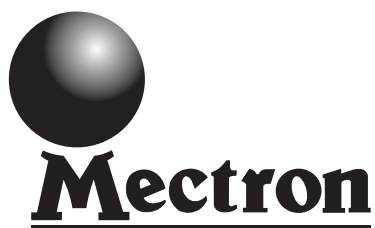
With the goal of modernising and increasing productivity, Massucato, which is specialized in high precision machining, design, project and manufacturing of tools, molds and machined parts, is expanding its manufacturing capabilities and investing in new machines.

Massucato aims at manufacturing structural parts for aircrafts in a near future made of aluminium, titanium and steel.

For its current customers it produces stick, wing and beam parts.

Massucato carries many approvals and Certifications for its services, from ISO 9001:2000 to international certification such as AS 9100:2004 for the aerospace sector.

Main Customers: Embraer, Eleb.



MECTRON

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Administrative Manager

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MECTRON is specialized in design, development and manufacturing of high-tech products, in both civilian and military sectors, for defense and aerospace applications. MECTRON has two business units: Defense and Aerospace. The DEFENSE Business Unit develops and manufactures intelligent weapons such as: MAA-1, short range air-to-air missile, a product that has been delivered to the Brazilian Air Force for operation on F-5, AM-X, Mirage and AL-X aircrafts; MAA-1B, fourth generation, short range, air-to-air missile that improves the MAA-1 capabilities. In its final development phase, MAA-1B will be a high performance weapon, with an excellent cost-benefit rate; MAR-1, antiradiation, air-to-surface missile, for suppression of enemy air defense purposes, with surface radars as targets; MSS 1.2, laser guided, antitank, surface-to-surface missile, developed to meet the Brazilian Army's requirements. The AEROSPACE Business is divided in three areas: Avionics (This area develops and produces aeronautical airborne equipment for civilian and military aircrafts), Space (This area develops and produces subsystems and equipments for satellites of the Brazilian Space Program) and Tests & Logistics.



PAN-METAL

Start Date: 1974

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Pan-Metal supplies machining services of parts for the aerospace sector, and specializes in TITANIUM and TEMPERED STAINLESS STEEL. Its applied technology is in 3 and 4 axis machines, sub-structure assembly, and heat treatment painting.

Hilghlight: Supplies parts in HARDMETAL to the pylons of jets ERJ 145, ERJ 170 and ERJ 190 of EMBRAER.



RASTREAL

Start Date: 2008

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www.rastreal.com.br

Rastreal provides traceability solutions for industrial and logistic processes, by means of auto-identification technologies such as RFID and barcode.

The name is derived from the Portuguese verb rastrear, which literally means "to trace". It has IT specialists with an extensive track record of process design and automation, and whose experience spans three continents and major industrial clients of global reach. Rastreal's staff has more than 8 combined years of specific experience in the development, deployment, and support of auto-id enabled traceability systems.

Rastreal is based within the Technology Park in São José dos Campos, Brazil, within one of the densest and most diverse industrial clusters in Latin America. This rich ecosystem provides exposure to cutting-edge traceability challenges, besides enabling collaboration with some of the most innovative companies in the country.

We invite you to explore the resources available at www.rastreal.com, and to contact us to discuss your traceability needs.



SOLUTIONS DESIGN & ENGINEERING

Start Date: 1999

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The main scope of services is aeronautical design and engineering. Includes Product installation, assemblies design, engineering analysis, certification, rigs, mock-ups and test specimens' design. Also, engineering for Production, tooling design, NC programs, factory optimization and for Product Support with GSE (Ground Support Equipment) design, technical publications, and maintenance plan. Solutions Design has the best class tools, such as Catia V4, V5, VPM, Enovia, Nastran, Patran, Microstation, Mentor Graphics, IG-XAO. With over 60 work stations and PCs, Data exchange is facilitated, duplicating the same tools, systems and PLM rules of customers, and using Multisite, 3Dcom, SAP or FTP. The company is committed to having the best skilled professionals tailored to each task. SDE can provide production of parts, assemblies, tooling, rigs and mock ups with associated fabrication companies. Our goal is to offer complete solutions to our customers.

Main clients: Embraer, Héroux-Devtek, Latecoère, Hamilton- Sundstran, Com. Aer, CAM-Tech, Heizer Aerospace.



TECPLAS - INDÚSTRIA E COMÉCIO LTDA

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With more than 20 years of experience, Tecplas is a Brazilian Company specialized in the manufacture of parts in Composite Material and Thermoforming Process (polycarbonate, ABS and acrylic) mainly for aeronautical and aerospace applications.

Located in São José dos Campos, the Brazilian aerospace cluster, the company is well prepared to supply quality products and services at very competitive prices.

Certified in ISO 9001 and SAE AS 9100, the company is one of the major suppliers of Composite parts for Embraer, Helibras/EADS, Neiva, INPE, among others.

Tecplas is capacitated to deliver a range of rigid and flexible ducting systems, matching aircraft specific demands. Working with reinforced Composite Materials and Thermoformed plastics, the company dominates a variety of manufacturing processes that guarantee the optimization of cost, weight, use of space envelope and installation time.

Tecplas' complete solutions philosophy includes:

System design and analysis; Tooling development; Prototyping;

Manufacturing of parts and assemblies; Painting and finishing.

TKA

TKA

Start Date: 1993

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In the heart of Brazil's most important industrial area, TKA's expertise is precision manufacturing of 3, 4 and 5 axis machined parts. Relying on the well developed base of local suppliers, TKA is able to offer machined parts and assemblies along with the special processes most commonly required for today's high technology industries. Counting on the latest coordinate measuring devices, TKA guarantees compliance with customer's specific tolerances, with a structured quality management system, complying with ISO 9001:2000 and AS 9100. With a 5000sqm plant, its goal is to be recognized as a first class integrator, providing complex engineering solutions to the Aerospace, Power & Energy, and Oil & Gas industries through component assembling, kitting and supply chain management.

Main Clients: EMBRAER, SULZER, ELEB, CAMERON, EATON



UTEC

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UTEC is a metallurgical industry, located in São José dos Campos - SP, founded in 1986, has guided its activities for the manufacturing, marketing and measurement of machined parts, components and assemblies geared to the Space, Aviation, Defense and Automotive sectors.

With a floor area of 1100sqms, its technology park is composed of machining centers, milling machines and conventional, turning CNCs, three-dimensional computerized machines and all necessary infrastructure to ensure the quality of its products. Utec's main customers are Embraer, Cellog, CTA, ELEB, Orbital, Techal, INPE and IAE.

Its Quality Management System has as reference, standards NBR NBR 15100:2004 and ISO 9001:2000, certified by CTA, which is a world reference in the field of aerospace.



VECTRA TECHNOLOGY

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Vectra provides the following services and support: Marketing activities and Image buildup; Opportunity identification; Information, intelligence, strategic planning and advice; Lobbying; Proposals preparation; Finance procurement, advice, offset and Joint Venture formation; Contract Negotiation (legal and fiscal) and Administration; After sales and training support. The company's major mission is to add value to clients and principals in terms of: time optimization, costs and risks reduction, quality and efficiency increase, smart solutions generation. Vectra Technology represents around 20 foreign companies, whose products aggregate a high level of technology, in countries such as Germany, Austria, Canada, USA, Great Britain and Sweden.

B&B

Berton&Barbosa

BERTON & BARBOSA AIR SERVICES

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B&B Company is specialized in aeronautical consulting in Brazil, and is focused in the search for investors world wide to build a Regional Air Company of small size in Brazil.

The regional Brazilian market has been growing in last 5 years at a rate of around 10% per year, and it represents only 2% of the Brazilian aeronautical market, while the European and North American mean is around 20%.

In the Brazilian market there are only 26 companies with only 372 aircrafts, which have traveled over 100 million passengers in the last year. Ten years ago these companies reached 400 different cities, and now a day only 120, which shows a big opportunity for aeronautical services in this area.

The B&B Plan is to start 2010 with 6 aircrafts, of 50 to 60 seats, turboprops or jets. The plan is to achieve 12 aircrafts in 2 years, and 24 in 4 years.

The proposal is to develop a company with low costs, low fair, high efficiency and to work in key cities with high economic power, those cities now a day are not being performed by any regular airline.

Our proposal is strong and innovative, and it will match all investors that may have interests for the mid to long term.



WINNSTAL

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WINNSTAL's spacious and modern industrial plants in São José dos Campos and Botucatu, in São Paulo State, have the conditions required to maintain the high standard of quality, safety, and reliability of its services. The infrastructure available for its plants include modern machining centers, water jet cutting machines, hydraulic presses and bending machines, rolling machines, milling machines, lathes, TIG/MIG welding machines, cutting machines, and area for special processes, in addition to metrology equipment such as three-dimensional measuring machines.

Main services: Manufacturing of metallic parts using steel, aluminum and titanium; CNC Milling machine with 3 axis, milling lathe and conventional machining; Assembling structural sets and subsets ; 3-D measurements up to 1.800 mm; Surface treatment and painting of parts and sub-assemblies; Design, development and manufacture of tooling and devices for stamping and milling; Storage, management and cutting of raw material.



Air Mod Consulting

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Delicato Serviços de Consultoria Aeronáutica Ltda in association with AirMod Consulting, specializes in engineering, consulting and aeronautical services.

We provide you the following solutions:

- development of aircraft modifications (STCs Supplemental Type Certificates)
- aeronautical systems' engineering and project
- management of modification and maintenance
- scheduled and non-scheduled maintenance
- procurement of specialized service providers and parts suppliers
- maintenance planning and maintenance costs consulting
- spare parts and GSE (Ground Support Equipment) planning
- configuration management
- in-factory follow-up of aircraft production
- quality inspections for aircraft acceptance.

Embraer specialists.





Companies





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