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# Special Focus: Brazilian Defence Industry





Defence is a sensitive issue for every country and therefore each country has its own specific context that is heavily interrelated with the other aspects of the socio-economical and political life of it. That is the reason why one should study the broader political status quo of Brazil, if he would like to extract some positive conclusions about the

future of the Brazilian armed forces and aerospace and defence industry.

Almost a year after his election in 2006, President Luiz Inacio da Silva, directed the creation of a new National Strategic Defense Plan (NSDP). The plan was published in December 2008 and the President highlighted at a ceremony at the Presidential Palace, his purpose to "treat

the armed forces as seriously as they deserve. It will serve to modernize equipment, armoured vehicles, ships and armament". Additionally, "It will reorganize the three forces and restructure the defence industry." Through this plan the President described the way through which the country will harness its military power to achieve its strategic objectives.

The aforementioned plan should be examined under the context that the armed forces could be the forefront of the socio-economical transformation that the Brazilian society is going through the last decades. The emphasis on transforming Brazil's military must be understood in the larger context of Brazil's political, economic, and diplomatic



ascendency and aspirations. The performance of the Brazilian economy is interconnected with the expansion of the military. Accordingly, we should assume that the strong and quick recovery that the country has mounted from the global financial crisis is the brightest hope for the Brazilian armed forces and its expansion.

# **HTA- High Technology Aeronautics**





HTA— High Technology Aeronautics is a group of

17 Brazilian companies founded in 2000 and specially dedicated to the advancement of the aerospace industry and business development.

The company has initiated exportation in the end of 2003 and has been consolidating partnership with leader companies in the international market

# such as:

- Pratt & Whitney Canada, initially supplying turbine parts, to be integrated in a selected company group that can provide this service.
- EADS / CASA, Espanha, supplying structural parts for EADS C-295 in a Offset
   Program with Brazilian Government through a 10-years Contract for supplying
   parts;

Additionally, HTA has been making its presence visible and consolidating business through the commitment with customers and through the participation in the most important International Aerospace Exhibition Fairs, such as:

- Le Bourget Air Show France, in the last 4 editions;
- Farnborough Air Show England, in the last 4 editions;
- Singapore Air Show Singapore (2008);
- Aeromart Toulouse France in the last 2 editions;
- ILA Germany;
- FIDAE Chile;
- LAAD Rio de Janeiro Brasil;
- Expo Aero Brasil Brasil (2008)

HTA companies are located mainly in the region of São José dos Campos, Campinas and São Paulo, near Embraer facilities and with direct access to the main exporting ports and airports. The 17 companies that make up HTA generated USD 208.5 million in revenues and exported USD 14.9 million in 2009. Currently HTA group employs 3.400 people, including high skilled professionals and technicians in the manufacturing, quality and logistics, making part of a selected group of companies holding ISO 9000/AS 9100.

HTA suite of resources includes: conventional, 3-5 axis CNC and high precision machining, milling, design & engineering projects, composite materials manufacturing, assembly of subassemblies, tooling, nondestructive testing, avionics systems, flight safety and ground support systems, structural parts manufacturing, special steels and alloys supplying, forged and laminated bars, retrofitting, surface and heat treatment, coating and brazing.

#### The companies are:

#### Lanmar Indústria Metalúrgica Ltda.



Lanmar is a Brazilian company that is activated in the machining of 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. Today Lanmar counts on a 106,000 sqm facility with 300 trained and high skilled professionals, CNC machines,

horizontal and vertical machinery centers, boring machines, wire and penetration erosion machines, horizontal and vertical lathes and high pressure water jet cutting machines. The company was founded in 1973 and has been serving its customers with efficiency and quality since then. Nowadays, it has expanded its services to the automotive, electronics, oil & gas, development of parts and plastic products. **The company is** certified with AS9100, ISO 9001: 2000, NBR 15100:2004 and 14001:2000.

### For Further Information Press Here

# Fastwork Program Systems Ltda.



Fastwork Program Systems is a Brazilian company that was established in March 1998. The company manufactures an extensive range of products, such as landing gear components, airframe components, hydraulic valves components, internal and external splines components, hydraulic valves components, parts for doors and flaps opening devices and highly complex parts. The highly 340

skilled employees of Fastwork help the company to identify and improve processes that support the company's quality goals. The quality assurance system of the company is ISO 9001:2000. Also the company has been audited in conformance with the requirements of NBR 15100 by CTA-Aerospace Technical Center- for production and sale of parts and machined components for the aerospace market.

# For Further Information Press Here

# **Bodycote Brasimet Processamento Térmico S/A**



Brasimet was founded in 1942 in São Paulo as a subsidiary of an international mining group. Nowadays the company is

synonymous with quality, reliability, and expertise on metal heat treatment, brazing, materials testing, and surface coating. Currently, Brasimet is exclusively focused on industrial services and has 7 plants with 900 employees located in Brazil's greatest industrial centres, covering a wide range of services such as: Commercial heat treatment, Surface Treatment, Brazing, PVD coating, KTL painting and Materials testing.

#### For Further Information Press Here

#### Villares Metals S/A



Villares Metals S/A,, located in Sumaré, São Paulo is the largest producer of specialty steels manufacturer for aeronautical applications (aircraft), aerospace application (satellite launch rockets) and military defense applications (rockets, missiles, etc) in the Southern Hemisphere. It is ISO 9001:2000 (Quality Management System) ISO 14001 (Environment Management System), AS 9100 (NBR

15100:2004) (Aerospace Segment) and NADCAP (National Aerospace and Defense Contractors Accreditation Program) certified. Villares Metals S/A is the only approved Brazilian mill to supply specialty steels to Embraer for the production of a range of aircraft components and to Eleb (Embraer Liebherr Equipamentos do Brasil S.A.) mainly for the manufacturing of landing gear components. The company exports to the USA, Canada, European countries as well as South Africa and Middle East. It supplies round, square, or rectangular forged and rolled bars in engineering steels, stainless steels and specialty alloys.

#### For Further Information Press Here

# CAL - Componende Aeronáutica Ltda.



Compoende is a 22-year old company offering Nondestructive Testing applied to structures, engines, and parts in the Aircraft Maintenance and Aeroparts Manufacturing areas. With more than 1000 customers in Brazil and Latin America it performs NDT on small, midsize and large aircrafts, either fixed or rotative wing, and

on over 10,000 aeroparts a year. 26 certifications including NADCAP, FAA-USA, Cessna, Pratt&Whitney Canada, Airbus Military, ISO 9001, and AS 9100. The construction of its Center of Special Processes, in a 322,917 square feet area will be able to provide a complete solution for the productivity chain. Main customers: Pratt&Whitney Canada, Latecoere, Sobraer (Sonaca Group), Aernnova, SK10, BHS (Canadian Helicopter Corporation), CT Brasil (Composites Technology Inc.), Rolls Royce, Líder Táxi Aéreo (Bristow Group).

## For Further Information Press Here

# ThyssenKrupp Autômata Indústria de Peças Ltda.



The company is one of the leaders in Brazil in supplying 3,4 and 5 axis precision machined parts to the Brazilian Aerospace Industry. Provides engineering solutions for the aerospace, power&energy and oil&gas industries

through components assembling, kitting and supply chain management. With a massive investment in modern equipment and a 5000 sqm Facility, ThyssenKrupp Autômata counts with state-of-art multi- axis CNC milling and drilling machines and it is able to provide

machined parts and assemblies along with the special processes most commonly required for todays's high technology industries.

#### For Further Information Press Here

#### PanMetal Indústria Metalúrgica Ltda.



With the capability to supply machined parts to the aerospace market in 3 to 4 axis CNC machining, hard metal parts and sub-assemblies Panmetal is a recognized leader in the sector bringing innovative problem solving and cost saving solutions. It has a 12600 sqm manufacturing facility with 84 machining

centers (500mm to 4000mm) and it is specialized in high precision machining, able to provide methods and processes solutions for the manufacturing of products from hard metal. Presently it is supplying parts for the pylons used in Embraer ERJ 145, ERJ 147 and ERJ 190 Aircraft.

#### For Further Information Press Here

#### Alltec Indústria de Componentes em Materiais Compostos Ltda.



Alltec is a 2400 sqm manufacturing company of composite parts for aeronautical and space applications. The main production activities of the company are: prepreg layups, curing in autoclaves, thermoplastics forming, hotpressing, wet layup, project & design, fabric cutting, thermopressing, CNC 5-axis cutting and drilling, finishing, painting and final

# assembly.

Responding to the worldwide increasing use of composite parts, Alltec is developing new markets and its range of technologies for sports, racing cars, medicine, armoring markets. Presently it has 3 autoclaves with 75,000 man-hour/month capacity and 230 employees. Another larger facilities are expected to be operational by mid 2010 (3100 sqm), for 2011 (5000sqm) and for 2012 (15.000sqm of building area) with an expansion project to triple the current capacity. NADCAP certification is in process and Lean Kaisen, Zero Defects, Six-Sigma, Poka Yoke or Mistake Proofing and Standard Work were already implemented.

# For Further Information Press Here

#### Indústria Mecânica Marcatto Ltda.



With more than 40 years of experience Marcatto is able to provide manufacturing of parts from raw material to finished product in 4 axis vertical and horizontal Machining Centers. Marcatto presently

produces 300 different items for a wide range of applications. Parts are made out of steel, aluminum or iron (ferrous and non-ferrous materials) and meet with customer requirements. Marcatto has developed manufacturing process for manufacturing complex components with tolerances +/- .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. Besides the investments in new equipments, personnel and Certifications and with the

ongoing focus and commitment from Personnel in this process, Marcatto will continue to improve its production capacity, autonomy and environmental management.

#### For Further Information Press Here

# Grauna Aerospace S.A.



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 increased its exportation capacity. Today Grauna has 2 facilities and manufactures 5000 different items, totalling 14.000 parts per month and strives to give optimum services and to meet customer's requirements through quality services and products. It is able to offer machining services in CNC 3, 4 and 5 axis.

# For Further Information Press Here (only in Portuguese Language)

#### A.S. Avionics Services Ltda.



The Avionics Services has over 12 years of experience in the avionics market. With a highly specialized team, the company is able to develop, install and certify any project of avionics in aircraft (civilian or military). The credibility gained came from a history of work

focused on quality and safety of their equipment, allowing them to obtain the highest rate of project approval with the competent agencies in several countries(Argentina, Uruguay, Chile, USA, Italy, Czech Republic, Slovakia, Russia, Israel, United Arabian Emirates among others). It is able to provide advices for avionics projects certification to other companies, as well as to conduct aircraft inspections to ANAC (National Agency of Civil Aviation). The company affords engineers DER (Designated Engineering Representatives), specific laboratories for development of new products (own brand), and still represents the major brands of avionics market.

#### For Further Information Press Here

#### Toyomatic Comércio e Indústria de Máquinas Ltda.



The company is a reference in the market for its emphasis on continuous improvement in high technology equipment. For bigger parts it counts on a 5 axis vertical machining centre. The high degree of specialization in

machining, using 20 CNC 5 axis guarantees the execution of aerospace parts, regardless of their complexity. The concept of accuracy and productivity are well proven in delivering quality parts to its customers. And in recent years it has improving its capabilities for manufacturing flight control manifolds for Embraer 170/190, elevator, rudder and aileron

manifolds. Toyo Matic makes a lot of its specialized tooling to aid in the manufacturing of the customers' products.

### For Further Information Press Here (only in Portuguese Language)

# Massucato Indústria e Comércio Ltda.



Massucato has been established in 1985, initially in the packing market. In 1988 it started its partnership with Embraer and Eleb an since then the company has been activated in the local market in a variety of segments

such as tools manufacturing, high precision machining, project & design, machined parts and plastic injection. It is able to provide manufacturing and projects for devices, tools, special machines, plastic molds, special parts for 3, 4 and 5 axis CNC machining. Today with 25 years, being 20 years dedicated to Aerospace Sector, Massucato counts on 160 employees, 50 CNC machines (3 to 5 axis), 3D, Milling and others in a 4000 sqm area.

# For Further Information Press Here (only in Portuguese Language)

### GMP - Marcatto Indústria e Comércio de Peças Ltda.



Marcatto Group history has started in 1964 and GMP Marcatto was founded in 2004. It offers services of laser jet cutting, bending, welding, milling, painting and assembling. It has 3 and 4 axis machining centers up to 2000mm in "X" and 5 axis up to 800 mm in "X". GMP Marcatto has implemented the Aerospace and Integrated Management System (Quality, Environmental, Health and Safety and Information Security). In 2008, proceeding with the expansion plan, Marcatto Group diversified its field by launching Marcatto Laser, a company focused on laser cutting market, offering services in different materials with outstanding

finishing.

#### For Further Information Press Here

#### UFT - Usinagem e Ferramentaria Tonini Ltda.



UFT was founded in 1991 and it is located in an area of 10000sqm, with 2500sqm of building area. Since then it is developing manufacturing of complex parts, machining devices and sub-assemblies in many different materials such as aluminum, titanium, steel

and stainless steel. It is able to offer machining in 3 to 5 axis and developing continuous improvement process in order to offer to its customers a product with quality and good prices. It is also developed a control software (UFT Win) which manages the entire process for total traceability. Through UFT Win they control production, process, including on-line refresh revision, stock, budget, purchase and sales. UFT holds ISO 9001 – SGC ICS Certification Ltda. And ISO 15100 CTA – General Command for Aerospace Technology.

#### For Further Information Press Here

#### Giovanni Passarella & Cia. Ltda.



Giovanni Passarella has a long tradition of machining, starting its activities in 1966 and until today continues to expand the product line and services to meet customer needs. With a 22.242sqm of total area being 4.100sqm of building area, Giovanni Passarella provides high quality machining services and tooling design and manufacturing. Presently Giovanni Passarela employs more than 140 skilled professionals and

it is strategically located in Hortolândia, São Paulo. Its broad range of capabilities includes manufacturing of tooling and special equipments, hydraulic devices, dies, stamps, calipers, machines, CNC 3-5 axis parts machining (up to 20 tons), offering a direct post-sales support services. Along with the recognized industrial capability Giovanni Passarela is able to furnish to other markets such as oil&gas, machinery for agriculture, automotive, machines and equipments.

#### For Further Information Press Here

# **Solutions Design & Engineering**



Solutions & Design Engineering has been a supplier of Engineering Services since 1999. The main scope is aeronautical, design and engineering. It includes product installations, assemblies, detail design, engineering analysis, certification, rigs, mock-ups and test specimen design. The company is also specialized in tooling design

for Production Engineering, NC programs, factory optimization and for Product Support. And for GSE (Ground Support Equipment) design, technical publications and maintenance plan. Solutions Design counts on tools such as Catia V4, V5, VPM, Enovia, Nastran, Patran, Microstation, Mentor Graphics, IG-XAO, 60 work stations and PCs. Data exchange is facilitated through the duplicate of the same tools, systems, PLM rules and using of Multisite, 3Dcom, SAP or FTP.

For Further Information Press Here

# Interview with Mrs. Dina Cruz - Commercial Manager of High Technology Aeronautics





" HTA is aimed at customers' needs and for that reason the companies work together, even the ones within the same domain. They assemble resources in a range of areas, each one with its expertise in an effort to deliver a finished and final product to the customer.", said Mrs. Dina Cruz - Commercial Manager of High Technology Aeronautics (HTA) on an exclusive interview given to Epicos.

Could you please describe the place of High Technology Aeronautics (HTA) in the national and international market?

High Technology Aeronautics is a consortium of companies in the aeronautical sector which it is very well placed in the national market as traditional suppliers of Embraer. Companies working independently or in group are a good alternative for OEM's in the supplying of parts and services as well as for partnerships.

How many companies are associated with HTA?

Presently we have 19 companies associated to HTA.

In what domains of the industries are these companies activated?

The suite of resources includes; CNC 3-5 axis, conventional and high precision machining, milling, engineering projects, tooling project and manufacturing, subassemblies, welding, laser cutting, NDT, avionics, flight safety, entertainment and ground support systems, aircraft interior retrofitting, structural parts manufacturing, special steels and alloys supply, forged and laminated bars, surface and heat treatment, coating and brazing.



What is the main entrepreneurship vision of the company?

HTA is aimed at customers' needs and for that reason the companies work together, even the ones within the same domain. They assemble resources in a range of areas, each one with its expertise in an effort to deliver a finished and final product to the customer.

Since its foundation in 2002 HTA has made its presence visible in the international aerospace and defense market. Could you please tell us the main ways though which the company achieved it?

With the aeronautical sector becoming more attractive, developed and flexible and with the impressive presence of the Embraer producing aircraft for different countries, the aerospace sector was abruptly improved and it paved the way to the creation of High Technology Aeronautics.

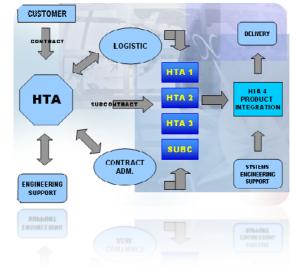
Since 2002 HTA has been building relationship with the international market through the participation in the Air Shows, B2B events and International Missions, and it is maintaining its status of complete solution for the aeronautical sector.

Currently, with the high quality of its products, HTA represents the best of the sector and a great opportunity for investments or partnerships.

Could you please describe the main operational flow that is created between HTA and a customer?

One of the main objectives of the HTA is to develop new customers to the associates and identify partners. After the contract is signed between Parties, HTA will be in charge of managing the actions with the associates or partners to attend the customer. As long as the business is being developed, the company can continue the job by itself.

What are the next steps and priorities of the company?



The next priority of HTA is to be a Center of Raw Material Purchase and Selling, combined with services already developed. It is our great challenge for 2010.

# Akaer, A Developing Company





AKAER is a Brazilian Company that is activated in the development structures for aeronautical, space and automotive areas. The company was founded in 1992 and since then it has participated in several important aerospace programs, such as the EMBRAER 170/190 development, the Embraer new regional jet aircraft family. The company is based in São José dos Campos, São Paulo. AKAER is always engaged in providing complete solutions for its costumers, defining the best design configuration and meeting the highest structural performance requirements. For example greatest strength

associated to minimum weight, taking into account the manufacturing cost and materiel parameters as guidelines for an optimized product

AKAER success is mainly based on its skilled core team of about 80 senior engineers and aeronautical designers, most of them with over than 15 years of experience in aeronautics. This team leads and manages dedicated teams sized and allocated in accordance with the project needs in order to comply with the customer targets regarding schedule, quality and efficiency.

Additionally, AKAER is intensively uses the most updated engineering and design tools such

as MSC, NASTRAN package for structural analysis and optimization, and CATIA V4 and V5 for 2D/3D design, including resources as 3D Digital Mock-up, 4-D Navigator, D'vise and VPM system management.



AKAER is activated in a

broad spectrum of high technological services and innovative solutions for the aerospace and automotive markets and it provides to the company's clients the above services and products:

**Consulting**: AKAER provides expert consulting studies for analyses, validation and optimization of specific projects or products.

**Conception**: A high-level experienced team assures engineering and design capability for conception of new solutions with efficiency and cost-effectiveness.

**Analyses and Design**: AKAER makes intensive use of the most up-to-date development tools such as MSC - NASTRAN for structural analyses, CATIA V4 and V5 for 2D/3D design and resources as 3D Digital Mock-up, 4D Navigator, D'vise, and VPM systems management.

**Engineering**: For each initial job, a multidisciplinary engineering team accomplishes the evaluation of all customer's requirements to determine the optimum solution in terms of stress calculation, material selection, production and assembly means, systems installation

and logistics aspects.

Integration: Systems engineering provides the studies for integration of the systems to the

structure as well as general interfacing analyses.

# Turn-key projects:

AKAER is experienced to supply turn-key systems fully based on customer specifications, being responsible in this case



to subcontract and manage manufacturing and assembling suppliers.

#### Main activities:

- Structure (metallic, composite and polymers): Conception, Design, Engineering and Tests:
- System Installation and Integration Design (including avionics, harness, AMS, hydraulic, control surfaces, fuel, aero tactics, FTI and GTI);
- Mechanisms Design;
- Composite Parts Drawings (including lay-up Specification);
- Electronic Mock-ups;
- Clash and Volumetric Analysis for Predictive Prototypes;
- Product Configuration Control;
- GSE: Conception, Engineering and Design;
- Crew Training Devices;
- Wind Tunnel Electronic Models;
- Development of Special Process and Liaison;
- Support to Tests, Technical Publication and Certification.

#### **Main Tools:**

- FEM NASTRAN, ALGOR, and MARC;
- Kinematics and Mechanisms ADAMS and WORKING MODEL;
- Thermal Analysis NASTRAN, ALGOR;
- Forming MARC;
- Impact Dytran;
- Fatigue and Fracture Mechanics Nasgro;
- Catia V4 and V5;
- D'vise
- VPM Virtual Product Management;
- DMU Digital Mock-up.



Quality is a prerequisite for the company. This is highlighted by the fact that the company is certified with the ISO 9001:2000 and NBR 15100:2004 / EN 9100 / AS 9100 certifications.

For Further information about the company visit <a href="http://www.akaer.com.br/home.html">http://www.akaer.com.br/home.html</a>

# or Contact

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# **Epicos Project Opportunities**

epicos.com Epicos "Project Opportunities" provides a unique set of online tools enabling the structure, identification and implementation of comprehensive Offsets programs, through a searchable database. By introducing different offset projects and ideas proposed by local A&D industry it ensures the optimum cost for Prime Contractors and reassures that the priorities of local industry are fully met...

For Further Information Press Here

# Provision and Installation of an Airborne Video Surveillance System for Homeland Security applications to a targeted country



A company excelling in the area of embedded systems and avionics is willing to undertake the task of collaborating with a local partner in a targeted country for the provision and installation of its Airborne Video Surveillance System to be used on Homeland Security (HLS) platforms (UAV, UGV, stationary posts). The system can be installed as stand-alone equipment or integrated in a major HLS system.

For Further Information Contact our ICO Department

Mail at: a-dimou@epicos.com

# Non-destructive Testing (NDT) services for the aerospace and defense industry



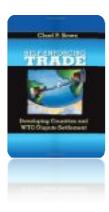
A company excelling in the area of Non-destructive Testing (NDT) is proposing the collaboration with a Prime Contractor or a third party for the provision of its NDT services in-country and abroad.

For Further Information Contact our ICO Department

Mail at: <u>a-dimou@epicos.com</u>



# Self-Enforcing Trade: Developing Countries and WTO Dispute Settlement, by Chad P. Bown



The World Trade Organization is undoubtedly the backbone of today's international commercial relations. WTO requires from its member-countries to self-enforce exporters' access to foreign markets. One of the most important functionalities of the organization is the dispute settlement system which is actually the crown jewel of the international trading system, but its benefits still fall disproportionately to wealthy nations. Could the system be doing more on behalf of developing countries? In "Self-Enforcing Trade", Chad P. Bown explains why the answer is an emphatic yes.

# Energy in Brazil: Past, Present and Future, by Antonio Dias Leite



Today, more than ever before, the future of energy is interconnected with the impact that it has to the climate changes. Rapidly developing countries such as China and India are the real main players in the climate debate, with the potential for massive increases in their carbon emissions in coming years. Brazil is often included in their number, yet this country is in fact notable for its exceptionally high reliance on energy from renewable sources -- approaching 50%. However, the fact that much of this energy comes from hydropower and biofuels, and recent discoveries of massive oil reserves off of the Brazilian coast, are a recipe for controversy. This book is a major contribution to the discussion

around climate change mitigation and therefore must be regarded as a must read for decision- and policymakers in the energy business.

# **Epicos- Newsroom**



#### India declares indigenous combat jet a success

India's defence minister announced Tuesday that a much-delayed project to build an indigenous supersonic combat aircraft was a success.

The jets are intended to become the country's frontline combat plane by 2020.

A.K. Antony told reporters the Light Combat Aircraft (LCA) -- billed by India as the world's smallest warjet -- would be cleared for limited flights by the end of 2010.

"Today I can declare that at last the LCA is going to be a reality," Antony said in the southern city of Bangalore where the locally built plane had been on the design board since 1983 when the multi-billion dollar project began.

The minister said the aircraft, powered by engines supplied by US-based General Electrics, would be ready for full induction into the military by 2012.

"All the doubting Thomases have proved to be wrong," Antony said, referring to sceptics who doubted that the combat jet would ever take off.

Antony said the Indian Air Force had already placed an initial order for 20 of the jets.

Although the first LCA prototype rolled out in 1995, the project hit an air pocket three years later when the United States and other Western governments slapped a slew of sanctions on India in retaliation for its 1998 nuclear tests.

The LCA won the nickname "last chance aircraft" because of the delays.

India's first attempt in the 1950s to make an indigenous fighter plane failed after it built a limited number of ground attack planes that fell far short of military specifications.

Source: 2009 AFP, Agence France-Presse (AFP)

Poland set to buy aerial drones for its troops in Afghanistan

WARSAW, February 1 (RIA Novosti) - Poland is set to buy eight unmanned aerial vehicles (UAV) from an Israeli defense firm to strengthen its contingent in Afghanistan, the country's defense minister said on Monday. "Four drones will be delivered to Afghanistan [for the Polish contingent there] and the four others will be used for training in Poland," Bogdan Klich told a news conference in Warsaw. The contract with the Aeronautics firm is worth about \$32 million, he added. Klich said Poland was also planning to buy five Mi-17 helicopters to be deployed in Afghanistan. Poland maintains a 2,000-troop contingent in the war-torn Central Asian country as part of the NATO-led International Security Assistance Force (ISAF), and plans to send 600 more troops this year.

Source: RIA Novosti

French court seeks answers on deadly Concorde crash

US airline Continental and French aviation officials go on trial Tuesday for the manslaughter of 113 people who died in Paris when a supersonic Concorde plummeted to the ground in a

ball of fire.

The New York-bound jet crashed shortly after take-off from Charles de Gaulle airport on July

25, 2000, killing all 109 people on board -- most of them Germans -- and four hotel workers

on the ground.

Two Continental employees, a former French civil aviation official and two Concorde

engineers will from Tuesday be tried on the same charge in a court near Paris, with

proceedings expected to last four months.

A French accident inquiry concluded in 2004 that the disaster was partly caused by a strip of metal that fell onto the runway from a Continental Airlines DC-10 plane that took off just

before the supersonic jet.

It said the Concorde ran over the super-hard titanium strip, which shredded one of its tyres.

That caused a blow-out and sent debris flying into an engine and a fuel tank and set it on

fire, according to the inquiry.

But Continental has rejected that claim, arguing that the fire began before the plane reached the spot where the metal strip lay and that Concorde suffered from dangerous design

defects which were known about but not corrected.

Continental is charged over a failure to properly maintain its aircraft, along with two US

employees: John Taylor, a mechanic who allegedly fitted the non-standard strip, and airline

chief of maintenance Stanley Ford.

The former Concorde engineers and French aviation boss are accused of failing to detect and

set right faults on the supersonic aircraft, brought to light during the investigation and

thought to have contributed to the crash.

A French civil aviation official is accused of overlooking a fault on Concorde's distinctive

delta-shaped wings, which held its fuel tanks.

Most of the victims' families agreed not to take legal action in exchange for compensation

from Air France, EADS, Continental and the Goodyear tyre manufacturer.

A successful prosecution would result in a maximum fine of 375,000 euros for the airline and

up to five years in jail and a fine of up to 75,000 euros for the individuals involved.

**Source:** 2009 AFP, Agence France-Presse (AFP)

India to buy more BrahMos missiles

NEW DELHI, February 2 (RIA Novosti) - India has introduced into its armed forces the new BrahMos missile, the head of the BrahMos Aerospace company, Sivathanu Pillai, told RIA

Novosti on Tuesday. Established in 1998, BrahMos Aerospace, a joint Indian-Russian

venture, produces and markets BrahMos supersonic missiles. The sea-based and land-based versions have been successfully tested and put into service with the Indian Army and Navy. Earlier on Tuesday, Russia's security chief, Nikolai Patrushev, visited the BrahMos plant in Hyderabad, India, where the new missile is produced. BrahMos is an acronym for the cities of Brahmaputra and Moscow. The missile, known as BrahMos Block-2, has a top speed of over Mach 5, which makes it virtually impossible to intercept, and can effectively engage even slightly visible ground targets. It has been designed primarily to meet the needs of the army. "The army officials said they were pleased with last year's ground trials of the missile, and approved of putting it into service," Pillai said. The company has also been developing another version of the missile for Air Force, the BrahMos-A missile, with a reduced mass and increased aerodynamic stability. The Indian Air Force chose the Russian-made SU-30 MKI Flanker-H multirole fighter as the trial platform for the missile. "[This] version of the missile is now ready. Air trials will commence in 2011, and by 2012, we are planning to fit the missiles onto aircraft," Pillai said. The required modifications of the SU-30 MKI for integration with the BrahMos-A missile system are being carried out by the Hindustan Aeronautics Limited (HAL) and Russia's Sukhoi Design Bureau. Analysts estimate that India could purchase up to 1,000 BrahMos missiles for its armed forces in the next decade, and export 2,000 to other countries during the same period.

Source: RIA Novosti

# Russia to corporatize Rossiya air carrier, merge with Aeroflot

MOSCOW, February 2 (RIA Novosti) - Russian Prime Minister Vladimir Putin agreed on Tuesday with proposals to transform the state transportation company Rossiya into a jointstock company in 2010 and merge it with the flagship air carrier Aeroflot. The St. Petersburgbased air carrier, which has been struggling to stay afloat amid tight competition on the market, will be corporatized along with other regional airlines that are run by the stateowned hi-tech corporation Russian Technologies before they are merged into Aeroflot. At a meeting with Transport Minister Igor Levitin, Putin said the move was in line with the government's strategy to encourage the emergence of reliable and sustainable air carriers capable of safeguarding passengers' interests and competing successfully on international markets. Aeroflot, which is more than 50% owned by the Russian government, controls over 42% of the Russian market of regular international flights. Its airliners perform flights to 169 destinations worldwide. After the merger with Rossiya and other regional airlines, Aeroflot's share of domestic air traffic will rise 15-20% to 30-35%, Levitin said. The transport minister said 15 air carriers had emerged in Russia after 2008 that control about 80% of the market in the country. "This means that the process of the sector's consolidation is under way. This is a global trend and the same can be seen in other countries," he said.

Source: RIA Novosti