AN INTRODUCTION TO THE AEROSPACE AND DEFENSE INDUSTRY IN BRAZIL

FACT PACK - BRAZILIAN AEROSPACE AND DEFENSE SECTOR

December 2015
São Paulo, Brazil
BRAZIL IS A MAJOR PLAYER WITHIN DEFENSE AND AEROSPACE, MAINLY DUE TO AIRCRAFT PRODUCTION

4% of Brazil’s GDP

BRL ~220bn in 2014*

- In 2014, Brazil exported 2,7 BUSD in aircrafts weighing more than 15 000 kg manufactured by Embraer
- Brazil is investing in the production and purchase of defense equipment. In 2014, Brazilian Air Force purchased Gripen aircrafts from SAAB, in a deal where Brazilian companies will take part in the production

*ESTIMATE OF FIPE/AIAB (NON-GOVERNMENTAL SOURCE) INCLUDING MILITARY AND SECURITY ACTIVITY, DEFENSE INDUSTRY, AEROSPACE INDUSTRY, INPUTS, SERVICES AND DISTRIBUTION

SOURCE: ABIMDE, AIAB/FIPE, MRE
BRAZIL HAS THE 10TH LARGEST MILITARY EXPENDITURE IN THE WORLD

HOWEVER, INVESTMENTS WILL BE AFFECTED BY THE RECESSION IN BRAZIL

SIPRI’S 2014 WORLD RANK OF MILITARY EXPENDITURE, BUSD*

1. USA 577.5
2. China 191.0
3. Russia 91.7
4. Saudi Arabia 73.7
5. France 63.0
6. Japan 59.0
7. UK 54.9
8. India 50.0
9. Germany 46.6
10. Brazil 37.3

REAL MILITARY AND PUBLIC SAFETY EXPENDITURE IN BRAZIL, BUSD*

MILITARY AND PUBLIC SAFETY SPENDING REACHED 119 BILLION BRL IN 2014, GOVERNMENT BUDGET CUTS EXPECTED FOR 2015-16

SOURCE: FÔRUM BRASILEIRO DE SEGURANÇA PÚBLICA, SIPRI

* PRICES OF 2014
** EXCHANGE RATE USD/BRL = 2.3475
BRAZILIAN DEFENSE COMPLEX GDP HAS GROWN WITH 9% SINCE 2009

The numbers include private and public security, besides machines, equipment, weapons and ammunition.

The decrease since 2012 is explained by the world economic crisis in 2009. Aircraft orders are made 4-5 years in advance, and they decreased at that time.

LARGE AND DIVERSIFIED AEROSPACE AND DEFENSE COMPLEX IN BRAZIL EXPECTED TO CONTINUE GROWING IN THE LONG-TERM

SOURCE: AIAB, FIPE/ABIMDE

* PRICES OF 2014
** SOURCE EXCHANGE RATES USD/BRL = 2.3475
SÃO JOSÉ DOS CAMPOS IS THE MAIN AEROSPACE AND DEFENSE CLUSTER IN BRAZIL, HOME TO EMBRAER

GEOGRAPHY

DEFENSE CLUSTERS
- Defense cluster
- Defense cluster involved in the Gripen deal

TRADE

BRAZILIAN TRADE OF AIRCRAFTS, BUSD

BRAZILIAN TRADE OF WEAPONS* AND AMMO, BUSD

TRADE GEOGRAPHY

BRAZIL HAS A POSITIVE BALANCE OF TRADE OF AEROSPACE AND DEFENSE PRODUCTS

SOURCE: BRAZILIAN MINISTRY OF FOREIGN RELATIONS, DESK RESEARCH *GUNS AND RIFLES
EMBRAER IS THE THIRD LARGEST COMMERCIAL JETS MANUFACTURER IN THE WORLD

- Embraer manufactures aircrafts for the commercial, executive, agricultural and defense segments
- Embraer is an open capital company*, with shares traded in São Paulo and New York
- The company is one of Brazil’s largest and most well-known, it competes directly with Canadian Bombardier in the global market

### Key Figures

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Net revenue (2014)</td>
<td>14 900 MBRL</td>
</tr>
<tr>
<td>Net profit (2014)</td>
<td>796 MBRL</td>
</tr>
<tr>
<td>R&amp;D investments (2015)</td>
<td>601 MBRL</td>
</tr>
<tr>
<td>Number of employees (2015)</td>
<td>19 357</td>
</tr>
<tr>
<td>Commercial jet order book (2015)</td>
<td>1 688 units</td>
</tr>
<tr>
<td>Headquarters</td>
<td>São José dos Campos (SP)</td>
</tr>
<tr>
<td>World presence</td>
<td>Brazil, China, United Emirates, US, France, Netherlands, Ireland, Portugal, UK, Singapore</td>
</tr>
</tbody>
</table>

### Revenue by Segment (%)

- Commercial: 58%
- Defense: 16%
- Executive: 25%
- Other: 1%

### Revenue by Region

- MEA: 48%
- Asia & Pacific: 14%
- China: 21%
- Latin America: 6%
- Europe: 4%
- Brazil: 3%
- North America: 4%

ALMOST 80% OF EMBRAER REVENUES ARE LINKED TO EXPORTS

* THE BRAZILIAN GOVERNMENT HOLDS A GOLDEN SHARE, WHICH GIVES IT THE RIGHT OF VETO IN MATTERS RELATED TO MILITARY PROGRAMS, BOARD OF DIRECTORS AND COMPANY’S CONTROL
BESIDES EMBRAER, OTHER RELEVANT AEROSPACE AND DEFENSE COMPANIES ARE PRODUCING IN BRAZIL

<table>
<thead>
<tr>
<th>Aerospace</th>
<th>Constructors</th>
<th>Weapons and Ammunition</th>
<th>Vehicles</th>
</tr>
</thead>
</table>
| **HELIBRAS** | Helibras is located in Itajubá (MG). The company is a subsidiary of Airbus Helicopters. It has approximately 50% of the market of turbine-powered helicopters in Brazil.  
Capital control: French  
Net revenue (2014): 671,3 MBRL  
Business: Helicopters | **AVIBRAS** | Avibras is located in São José dos Campos (SP). The company works with engineering of defense systems. It has worked in many projects with Brazilian Armed Forces.  
Capital control: Brazilian  
Net revenue (2014): 544,2 MBRL  
Business: Air defense systems, rockets, missiles | **CBC** | CBC is located in Ribeirão Pires (SP). With two manufacturing units, CBC exports 70% of production to more than 40 countries.  
Capital control: Brazilian  
Net revenue (2014): 591,5 MBRL  
Business: Weapons, ammunition | **IVECO** | Iveco is Fiat’s branch for trucks and buses. In 2011 it started to produce the 84 Guarani combat vehicles ordered by the Army, in Sete Lagoas (MG).  
Capital control: Italian  
Net revenue (2014): 3 617,1 MBRL  
Business: Combat and transport vehicles |
| **ODEBRECHT** | Odebrecht is the largest construction company in Brazil. The defense subsidiary was created in 2011 after the purchase of Mectron, a missiles manufacturer.  
Capital control: Brazilian  
Gross revenue (2014): 117,0 MBRL  
Business: Projects, construction | **ANDRADE GUTIERREZ** | Andrade Gutierrez is a major Brazilian construction company. The defense focus lies on public safety and border monitoring.  
Capital control: Brazilian  
Net revenue (2014): N/A  
Business: Projects, Construction | **IMBEL** | Imbel is the Brazilian Military Material Industry, a public company related to the Ministry of Defense. It has 5 production units and it is headquartered in Brasília (DF).  
Capital control: Brazilian (Public)  
Net revenue (2014): 55,5 MBRL  
Business: Weapons, ammunition, explosives, communication equip. |
| **Taurus** | located in Porto Alegre (RS). Taurus produces guns and submachine guns, exporting to 70 countries.  
Capital control: Brazilian  
Net revenue (2014): 621,5 MBRL  
Business: Weapons, ammunition, safety equipment | **ANDRADE GUTIERREZ** | | **IMBEL** | |
LEGISLATION GIVES PREFERENCE TO BRAZILIAN STRATEGIC DEFENSE COMPANIES – EED

“ED” AND “EED” EXAMPLES:

<table>
<thead>
<tr>
<th>STRATEGIC DEFENSE COMPANY (EED)</th>
<th>DEFENSE COMPANY (ED)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANDRADE GUTIERREZ</td>
<td>AEL SISTEMAS</td>
</tr>
<tr>
<td>AKAER</td>
<td>ARES</td>
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<td>AVIBRAS</td>
<td>AVIO</td>
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<td>CBC</td>
<td>CODECIPHERS</td>
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<td>CONDOR</td>
<td>COLUMBUS</td>
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<td>EMBRAER</td>
<td>DATA COM</td>
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<td>IMBEL</td>
<td>DSG DEFENCE</td>
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<tr>
<td>MECTRON</td>
<td>OMNYSYS</td>
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<tr>
<td>ODEBRECHT</td>
<td>ROCKWELL COLLINS</td>
</tr>
<tr>
<td>Taurus</td>
<td>STEFANINI</td>
</tr>
</tbody>
</table>

- Defense Companies – EDs – are companies manufacturing defense products and duly complying with local regulation
- EDs can be considered **EEDs** if they agree with requirements below:
  - High technology qualification
  - Supply of strategic defense products to the Brazilian Armed Forces
  - Headquarters and production in Brazilian territory
  - 2/3 Brazilian capital control
- **EEDs** can benefit from the advantages below:
  - Tax exemptions (IPI, PIS/COFINS)
  - Special treatment in general public biddings
  - Exclusive public biddings
  - Financing programs, projects and public initiatives
- In the case of strategic defense products imports, the Ministry of Defense can require that foreign suppliers get associated with a Brazilian EED for at least one phase of product development
- In the case of a joint venture, leadership should be taken by the EED

IT IS NECESSARY TO ENTER INTO A CONSORTIUM WITH A BRAZILIAN COMPANY IN ORDER TO PARTICIPATE IN PUBLIC TENDERS

SOURCE: DOU, BRAZILIAN LEGISLATION
BRAZIL’S GRIPEN PURCHASE IS A MAJOR STEP FOR SWEDISH-BRAZILIAN INDUSTRIAL COOPERATION

THE GRIPEN DEAL:

- Saab’s Gripen came out as the winner of the Project FX-2 of the Brazilian Air Force for the purchase of combat aircrafts. The other two contenders were Dassault’s Rafale (FR) and Boeing’s Super Hornet
- Project FX-2 resulted in the purchase of 36 Saab JAS 39 Gripen NG aircrafts for approximately 4,5 BUSD in December 2013. The deal included **technology transfer** to Brazilian companies
- The Gripen deal is considered the largest military aircrafts acquisition in Latin America in the last decade. Brazil will become part of Saab’s production chain, which will allow the further purchase of other Gripen aircrafts by the Brazilian Air Force

- **Brazil will produce 40% of parts and up to 80% of the aircraft structure.** Local companies involved in the technology transfer will be Embraer, Akaer, Inbra, Atech, AEL, Samal and Mectron
- Further on, it is expected that Embraer will substitute the foreign components, such as the engine, by locally produced parts. Hence, there will be many business opportunities for defense companies producing in Brazil in the future
- In an event organized by Business Sweden, ABIMDE (Brazilian Defense Industry Association) and SOFF (Swedish Defense Industry Association) signed a MoU for investments that will be allocated in the defense clusters of São Bernardo do Campo (SP) and São José dos Campos (SP)

**BRAZIL WILL PRODUCE THE FOLLOWING PARTS:**

- Infrared sensor
- **Display system**
- **Data link**
- Landing gear
- Navigation system
- Aircraft body
- **Weaponry**

GRIPEN DEAL WILL CREATE RIPPLES OF OPPORTUNITIES FOR SWEDISH COMPANIES IN AND OUTSIDE THE DEFENSE SECTOR

**SOURCE:** MINISTRY OF DEFENSE, FÓRUM DEFESA BRASIL, DEFESABR, MEDIA OUTLETS

*PICTURE FROM FÓRUM DEFESA BRASIL*
THE BRAZILIAN ARMED FORCES AND THE MINISTRY OF DEFENSE EXPECT TO INVEST 410 BBRL UNTIL 2031

ARMY, NAVY AND AIR FORCE ARE LEADING LARGE PROJECTS

**BRAZILIAN NAVY**
- Development of submarines of nuclear propulsion
  - Investment: 4.2 BBRL
  - Period: 1979-2031
- Brazilian maritime territory monitoring system
  - Investment: 12 BBRL
  - Period: 2013-2024
- Purchase of new ships and modernization of fleet
  - Investment: 175.2 BBRL
  - Period: 2009-2047

**BRAZILIAN ARMY**
- Brazilian borders monitoring system
  - Investment: 12 BBRL
  - Period: 2011-2035
- Development of new combat vehicle
  - Investment: 20.1 BBRL
  - Period: 2011-2034
- Protection system for strategic infrastructure
  - Investment: 13.2 BBRL
  - Period: 2011-2035

**BRAZILIAN AIR FORCE**
- Development of new drones, combat and transport aircrafts
  - Investment: n/a
  - Period: 2009-2017
- Support to the defense and aerospace industry in Brazil
  - Investment: 11.4 BBRL
  - Period: 2009-2030
- Construction and development of aerospace bodies
  - Investment: n/a
  - Period: 2015-2030

DUE TO THE ECONOMIC RECESSION, FUNDING FOR SOME DEFENSE PROJECTS ARE CURRENTLY ON HOLD

SOURCE: MINISTRY OF DEFENSE, BNDES
LARGE OPPORTUNITIES FOR DEFENSE AND AEROSPACE SUPPLIERS IN THE WAKE OF THE GRIPEN DEAL

**Investments**
- Large companies capable of investing
- Ripples from the Gripen deal in various segments
- Large investments in the Armed Forces

**Players**
- Opportunities for suppliers producing in Brazil
- Large clusters supported by the government

**Market**
- Large military and public safety expenditure
- Growing aerospace and defense complex
- Positive balance of trade

**Investments**
- Defense budget cuts by government due to recession
- Large deals only probable with establishment of local production and technology transfer

**Legislation**
- Public bidding only possible in association with Brazilian company (EED)
- Advantages to EEDs

**Business in Brazil**
- High production costs and poor logistics
- Excessive bureaucracy and complex tax system
- Current economic recession

Which opportunities make Brazil interesting?

What challenges should companies be ready to face?

- High production costs and poor logistics
- Excessive bureaucracy and complex tax system
- Current economic recession

LARGE PROJECTS IN THE UPCOMING 15 YEARS OFFER MAJOR OPPORTUNITIES DESPITE SHORT-TERM GOVERNMENT CUTS
**BUSINESS SWEDEN OFFERS A FULL SERVICE PORTFOLIO FOR EFFICIENT MARKET ENTRY**

**OUR INDUSTRY FOCUS**

| ICT | HEALTH CARE & LIFE SCIENCE | MATERIALS & MANUFACTURING | AEROSPACE & DEFENSE | AGribusiness | ENERGY & ENVIRONMENT | TRANSPORT SYSTEMS |

**OUR CUSTOMERS**

| SWEDISH COMPANIES EXPANDING INTO BRAZIL | LOCAL SUBSIDIARIES OF SWEDISH COMPANIES | SWEDISH GOVERNMENT |

**OUR MARKET OFFERING**

| MARKET ENTRY STRATEGY | PARTNER SEARCH | MARKET ANALYSIS | IMPORT ANALYSIS | ACQUISITION SUPPORT | STAKEHOLDER MANAGEMENT | SOURCING ANALYSIS | BUSINESS SUPPORT OFFICE | RECRUITING |

**OUR STRENGTH**

| EXPERIENCED TEAM WITH INDUSTRY FOCUS | UNIQUE OWNERSHIP PROVIDE ACCESS TO THE SWEDISH GOVERNMENT & FUNDING STRUCTURE | GLOBAL PRESENCE | LOCAL & SWEDISH PERSPECTIVE TO BUSINESS OPPORTUNITIES | ACCESS TO HIGH LEVEL AUTHORITIES & BUSINESS NETWORKS IN BRAZIL |

* BSO SERVICES INCLUDE: OFFICE PLACE & SERVICE, ADMINISTRATION, COMPANY ESTABLISHMENT (INCL LEGAL ADDRESS), Delegate Manager and Financial Analysis.
CONTACT US

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