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Brazil

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Market Overview

Brazil is the second largest economy in the hemisphere behind the United States, and the ninth largest economy in the world. The United Nations Conference on Trade and Development (UNCTAD) named Brazil the eighth largest destination for global Foreign Direct Investment (FDI) flows in 2015. In recent years Brazil has received more than half of South America's total incoming FDI and the United States is a major foreign investor in Brazil. The Brazilian Central Bank (BCB) indicated that the United States had the largest single-country stock of FDI (US$112 billion) in Brazil in 2014, the latest year with available data. The Government of Brazil (GOB) has made attracting private investment in infrastructure a top priority for 2017.

Brazil's recession has been longer and deeper than most economists anticipated. The country's GDP contracted by 3.6 percent in 2016 and is projected to grow only 0.5 percent in 2017. Per capita GDP decreased 4.4 percent in 2016 for a combined drop of almost 10 percent over two years. While unemployment stood at just 6.5 percent as recently as 2014, it ended 2016 at 12 percent and is projected to end 2017 above 13 percent.

Brazil was the world's eighth largest destination for Foreign Direct Investment (FDI) in 2015, with inflows of US$64.6 billion, according to UNCTAD. The nominal deficit stood at 9 percent of GDP (US$161.7 billion) in 2016 and is projected to end 2017 at around 10 percent of GDP (US$180.1 billion). Brazil's debt-to-GDP ratio reached 70 percent in 2016 and is projected to reach 77 percent this year. In part due to the slower than anticipated return to growth, annual inflation fell to 6.3 percent by the end of 2016 -- inside the Brazilian Central Bank's (BCB) target range of 4.5 percent +/- two percentage points -- for the first time in two years. This allowed the BCB to cut its benchmark interest rate to 11.25 percent (from a high of 14.25 percent in 2016) in April 2017.

Doing Business in Brazil					
Indicator	2016	2017	2018	2019	2020
Real GDP growth	-3.6%	0.5%	1.9%	2.1%	2.2%
Consumer price inflation (av)	8.7%	4.3%	4.5%	4.7%	4.5%
Exports of goods fob (US$bn)	$184	$197	$197	$206	$216
Imports of goods fob (US$bn)	$139	$151	$163	$178	$191
Source: The Economist Intelligence Unit; 07 April, 2017					

President Temer took over as interim President after the impeachment of former President Dilma Rousseff began in May 2016; he officially took office in August 2016 after the impeachment was completed. President Temer is now pursuing corrective macroeconomic policies to stabilize the economy. Congress approved a landmark constitutional federal spending cap in December 2016 and is now debating complementary constitutional reforms to curb social security spending. If robust social security reform is approved, financial analysts assert that investor confidence in debt sustainability will strengthen. Additional reforms to increase labor market flexibility and to rationalize Brazil's complex tax system are also on the

agenda. International capital markets have recognized Temer administration efforts, lowering risk premiums significantly from 2015 peak levels and boosting the value of the real. 2016 and early 2017 foreign direct investment inflows have been strong. Both portfolio and direct investors, however, remain sensitive to political uncertainties linked to ongoing corruption scandal investigations and Brazilian risk premiums fluctuate accordingly.

Brazil has been taking steps to improve infrastructure and education, expand trade, and increase the presence of multinational businesses in the development of Brazil's huge oil reserves. Brazil's large and diversified economy makes it attractive for investors.

In 2016, the United States was the second largest goods exporter to Brazil, accounting for 16 percent of Brazil's total imported goods; behind China and followed by Germany, Argentina, and South Korea. In 2016, Brazil imported US$30.3 billion from the United States – a 4 percent decrease from 2015, attributable to Brazil's continued economic recession. Brazil ranked as the United States' twelfth-largest export market for goods in 2016. Brazil is also a large market for U.S. services, accounting for $24.9 billion in exports in 2016, the most recent year for which services data is available. Overall, the United States' estimated goods and services surplus with Brazil in 2016 totaled $22.3 billion, and Brazil remains the United States' largest trading partner with which it maintains a trade surplus. (Source: Global Trade Atlas).

Brazil represents an excellent export partner for experienced U.S. exporters. Major reasons to export to Brazil include:

- Brazil's population of 207 million is the fifth largest in the world, representing nearly 3 percent of global consumers.
- Brazil is also a traditional leader among emerging markets. A BRICS member, many multi-national companies consider it as an essential market for truly global businesses.
- Brazil has a natural affinity for the United States and a high regard for U.S. made products, brands and technology.
- The Brazilian Government is actively cultivating relationships with international and U.S. businesses and prioritizing macroeconomic stability.

Web Resources:

- Brazilian Central Bank (BCB) - Inflation
- Brazilian Institute of Geography and Statistics (IBGE)
- Brazilian Central Bank (BCB) – Interest Rates
- Census – Foreign Trade

Market Challenges

Doing business in Brazil requires intimate knowledge of the local environment, including both the direct as well as the indirect costs of doing business in Brazil (referred to as "Custo Brasil").

- Such costs are often related to distribution, government procedures, employee benefits, complex labor code, environmental laws, and a complex tax structure.

- Logistics pose a particular challenge, given the lack of sufficient infrastructure. According to the World Economic Forum, Brazil ranks 107th out of 144 countries in the level of infrastructure development.
- In addition to high tariffs, U.S. companies need to navigate a complex legal system and customs procedures.

The Government of Brazil (GOB) is the nation's largest buyer of goods and services. Navigating the government procurement process, however, is challenging.

Brazil is not a member of the WTO Government Procurement Agreement, and offers "margins of preference" to domestic firms bidding on government contracts. As such, U.S. exporters may find themselves at a competitive disadvantage if they do not have a significant in-country presence – whether via established partnerships with Brazilian entities or some type of Brazilian subsidiary – as well as the patience and financial resources to respond to legal challenges and bureaucratic issues.

Since 2014, the criminal investigation, "Operation Carwash" (*Lava Jato*), has uncovered a complex web of public sector corruption, contract fraud, money laundering, and tax evasion stemming from systematic overcharging for government contracts. The ongoing investigation has led to the arrests of many executives, including executives from Brazil's largest construction companies, money launderers, current and former politicians, and political party operatives.

The investigation, which began in Brazil, was extended to neighboring countries in the region and to the Department of Justice in the U.S. At least one key Brazilian construction company was issued a severe penalty in the last year.

Brazil has laws, regulations, and penalties to combat corruption, and the government is working to improve their effectiveness. Several bills to revise the country's regulation of the lobbying/government relations industry are pending before Congress. Bribery is illegal and a bribe by a local company to a foreign official can result in criminal penalties for individuals and administrative penalties, including fines and potential disqualification from government contracts, for companies.

Market Opportunities

Infrastructure

- Since President Temer took office, his Investment Partnership Program (PPI) has announced a combination of road, rail, ports, airports, municipal water treatment, electricity transmission and distribution, and oil and gas concessions estimated to value US$14 billion (using minimal tender values).
- The new concessions will have less access to state bank financing than previous projects, with bidders expected to use private financing and debentures as well.

Defense

- Brazil's 2017 budget proposal for the defense sector is approximately US$30.3 billion. According to the Minister of Defense, programs such as the Submarines Development

Program (PROSUB), the Navy Nuclear Program (PNM), the Guarani, SISFRON, FX2 and KC-390 are essential projects for the Brazilian Military.

Digital Economy

- E-Commerce has grown in Brazil by more than 20 percent over the past three years.
- Brazil has the second largest electronic gaming market in Latin America and it is expected to grow 13.5 percent to US$ 844 million by 2018. Social media is a major driver for this sector, and online games are tremendously popular.

Healthcare

- The government of Brazil is investing heavily in the implementation of electronic medical records. Through the end of 2016, only 28 percent of this process was complete.
- A second health priority is the control of mosquito-borne illness including dengue, malaria, zika, and other diseases. In 2016, spending on malaria control totaled US$4 million, however, another US$40 million was invested in diagnostic tests for the zika virus. There were also educational campaigns to combat mosquitos. In early 2017, an outbreak of yellow fever is leading to increased spending to control that disease.

Other promising areas for U.S. exports and investment include:

- Agriculture
- Aircraft and Parts
- Chemicals
- Computer Hardware
- Education
- Electrical Power Systems
- Environmental Technologies
- Franchising
- Healthcare
- Mining Equipment
- Nuclear
- Oil & Gas
- Personal Care/Fragrances/Cosmetics
- Renewable Energy
- Safety & Security
- Travel & Tourism

Market Entry Strategy

Success in Brazil's business culture relies heavily upon the development of strong personal relationships.

- For most small and medium-sized U.S. exporters, it is essential to work through a qualified representative or distributor when developing new business in the Brazilian market.
- The U.S. Commercial Service encourages U.S. companies visiting Brazil to meet one-on-one with potential partners, and offers a slate of services such as our Gold Key

Service (GKS), through which companies can meet with pre-screened potential clients or partners in personal meetings.

- We also lead delegations of Brazilian buyers to connect with U.S. businesses at more than 30 International Buyer Program trade shows in the United States (refer to Export.gov Brazil website for list of upcoming trade shows and events.)

Political Environment

Political Environment Report – U.S. Department of State.

Selling US Products & Services

Using an Agent to Sell US Products and Services

Although some companies import directly from foreign manufacturers without local representation, in most cases the presence of a local agent or distributor is essential. Companies trading with the government of Brazil are legally required to use a local representative. As in other countries, the selection of an agent requires careful consideration. As Brazil is a huge country and has many regional economic disparities, varying states of infrastructure, complex inter-state trade and taxation rules, and a host of other issues, it is often difficult to find one distributor that has complete national coverage. The U.S. Commercial Service in Brazil offers a variety of services to help U.S. exporters find reliable local agents, representatives and distributors. For more information, please explore the Export.gov website regarding "Business Matchmaking".

The U.S. Commercial Service strongly recommends that exporters and representatives consult with a Brazilian legal representative before writing or signing an agreement. This will help exporters abide by Brazilian laws, particularly to limit their liabilities, protect trademarks, better ensure payments, and define warranty terms. Clauses related to exclusivity, promotional obligations, service and support duties, localization and performance targets, among others, may be included within the agreement.

Establishing an Office

Investment options in Brazil include setting up a company or acquiring an existing entity in country. Based on the World Bank Doing Business Project's measurements, starting a business in 2017 will take 79 days, down from 120 days in 2012.

Setting up a new company has become increasingly easier, partly because the Brazilian government implemented an online portal for business licenses. The time required to open a company is also related to the city where the company will be established, and what type of company will be opened. For example, a SIMPLES (simple) category refers to a company that requires environmental and other licenses. A SIMPLES (simple) company can be opened in approximately 40 days or within 5 days in the city of Sao Paulo if the company does not require any additional licenses.

The Central Bank closely monitors acquisitions of existing companies. Corporations ("sociedades anônimas") and limited liability companies ("limitadas") are relatively easy to establish. Brazilian law requires that foreign capital be registered with the Central Bank. Failure to comply may cause serious foreign exchange losses, as well as problems with capital repatriation or profit remittance. More information for potential investors can be found on the website for Brazil's Ministry of External Relations.

Web Resources:

- Agência Brasileira de Desenvolvimento Industrial (ABDI)
- Agência Brasileira de Promoção de Exportações e Investimentos (APEX Brasil)
- Brasil Global Net
- Portal Brasileiro de Comércio Exterior

- Ministry of Industry, Foreign Trade and Services – MDIC
- Brazilian Investment Information Network – Renai
- Ministry of External Relations – MRE
- Trade and Investment Guide – Brazil Export
- AmCham Brasil

Franchising

Brazil is the fourth largest market in the world (in the number of franchise chains). There are only 69 American brands operating in country, therefore, this represents a huge opportunity for U.S. concepts expanding their presence internationally.

The main challenge in Brazil is to identify a potential investor as a master franchisor, one who has the ability and desire to scale the franchise quickly. Local investors are normally interested in opening only one or two locations.

The Brazilian franchise sector is among the world's largest and most sophisticated markets, in terms of business practices and in adapting concepts from both foreign and domestic franchisors. The sector has consistently grown faster than Brazil's economy overall and has become one of the economy's main growth engines. In addition, even traditional retail companies are adding franchising to their channel expansion strategy. U.S. franchisors encounter strong competition in this robust market, with Brazilian franchisors offering a variety of product and service solutions, more so than what they might encounter in other Latin American markets.

In 2016, the Brazilian franchise sector grew by 8.3 percent and total sector revenue was about US$50 billion, (R$155 billion). There are 3,039 franchising chains (a decrease of 1.1 percent compared to 2015) and 142,600 franchising units in the country (a growth of 3.1 percent compared to 2015), making Brazil the sixth largest in the world, in number of units and the fourth largest in number of franchise chains. The franchise sector currently accounts for about 1.2 million jobs, a growth of 0.2 percent over last year, (projection to grow 3 percent in 2017) during a period in which the Brazilian unemployment rate was 11.5 percent.

The Brazilian Franchise Association (ABF) projects sector growth for 2016 as follows:

Sector Venue	9%
Units	5%
Brands	1%

According to the World Franchise Council (WFC), Brazil ranks fourth in number of brands offered (3,039) through the franchising model, behind China (4,500), South Korea (4,288), and USA (3,828). Rounding out the top ten countries are Turkey, France, India, Mexico, Philippines and Japan.

As for total number of franchising units operating, the top ten countries are:

USA	(795,932)
China	(330,000)
Japan	(260,992)
South Korea	(194,199)

Philippines (150,000)
Brazil (142,600);

followed by Germany, India, Mexico and Australia.

The franchise sector revenue is composed of:

- Food (26.7%)
- Health & Beauty (17.7%)
- Services & Other business (13.9%)
- Fashion (+ shoes & accessories) (13.5%)
- Education Service (6.9%)
- Hotel & Tourism (6.6%)
- Home / Construction (5.6%)
- Automotive Service (3.6%)
- Informatics / Electronics (3.1%)
- Entertainment / Recreation (1.4%)
- Cleaning (0.8%)

In terms of growth, rankings, the top 11 best-performing franchise sectors in Brazil in 2015 were (ranked by percentage of growth):

- Health & Beauty (15.5%)
- Automotive Service (11.6%)
- Fashion (+ shoes & accessories) (10.4%)
- Food (8.8%)
- Cleaning (7.9%)
- Informatics / Electronics (7.5%)
- Home / Construction (5.4%)
- Education Service (5.2%)
- Services & Other business (4.3%)
- Hotel & Tourism (3.2%)
- Entertainment / Recreation (-10.7%)

Local Brazilian franchises dominate the market across many sectors, controlling 94.8 percent of sales volume; while foreign groups, mostly from the U.S. - comprising 5.2 percent, are making headway. According to ABF, 161 foreign franchise brand concepts currently operate in Brazil, of which 69 are based in the United States.

Foreign Franchises Brands in Brazil	%
USA	42.9%
Portugal	9.9%
Argentina	8.7%
Spain	7.5%
U.K.	5.6%
France	5.0%

Italy	4.3%
Germany	2.5%
Australia	2.5%
Canada	2.5%
Others	8.6%

161 International Brands in Brazil	%
Food	29%
Fashion (+ shoes & accessories)	19%
Health & Beauty	13%
Education Service	10%
Cleaning	6%
Services & Other business	6%
Entertainment / Recreation	5%
Automotive Service	4%
Home / Construction	4%
Hotel / Tourism	3%
Informatics / Electronics	1%

There are franchise operations in 2,321 out 5,570 cities or 42 percent of Brazilian cities.

The presence of franchise units is distributed throughout Brazil as follows, grouped by areas:

Southeast 70.9%
Southern 17.3%
Northeast 7.5%
Middle West 3.7%
Northern 0.7%

Distribution by units by the ten largest Brazilian cities:				
Region	State	City	% 2015	%2016
Southeast	Sao Paulo	Sao Paulo	15.5%	13.0%
Southeast	Rio De Janeiro	Rio De Janeiro	6.9%	6.6%
Middle West	Distrito Federal	Brasilia	2.5%	2.4%
Southeast	Minas Gerais	Belo Horizonte	2.5%	2.3%
Southern	Parana	Curitiba	2.2%	2.0%
Northeast	Bahia	Salvador	2.1%	1.9%
Southeast	Sao Paulo	Campinas	1.6%	1.6%
Southern	Rio Grande Do Sul	Porto Alegre	1.8%	1.6%

Northeast	Ceara	Fortaleza	1.6%	1.5%
Northeast	Pernambuco	Recife	1.7%	1.4%

The ranking of the top 20 franchise operations in Brazil shows the dominance of Brazilian franchisors over foreign competitors. Only four out of the top 20 performing franchise brands (in terms of earnings revenue and number of units in operation) are foreign: Subway, McDonald's and AM-PM Mini Market from the US; and Kumon from Japan.

Top 20 franchise operations in Brazil			
#	BRAND	SECTOR	UNITIES
1	O Boticário	Health & Beauty	3,730
2	Subway	Food	2,153
3	Cacau Show	Food	2,045
4	AM PM Mini Market	Food	2,039
5	Colchões Ortobom	Home / Construction	2,011
6	McDonald's	Food	1,916
7	Jet Oil	Automotive Service	1,516
8	Lubrax +	Automotive Service	1,475
9	Kumon	Education Service	1,375
10	BR Mania	Food	1,255
11	Wizard Idiomas	Education Service	1,230
12	CVC Brasil	Hotel / Tourism	1,097
13	Bob's	Food	1,056
14	Farmácias FTB	Health & Beauty	985
15	Óticas Diniz	Health & Beauty	980
16	Nosso Bar	Food	955
17	Correios	Services & Other business	944
18	Óticas Carol	Health & Beauty	940
19	Dia%	Food	833
20	Fisk Centro de Ensino	Education Service	801

Finding suitable master franchisees in Brazil is very challenging for U.S. franchise companies. One strategy is to develop relationships with Brazilian franchisors and master franchisees of non-competing, yet complementary concepts. In general, Brazilian investors make decisions based on well-structured business plans and expectations of financial return. It is misleading to think that emotional factors will heavily influence a decision in favor of a certain brand or business concept. It is important that U.S. franchisors understand this, and approach the market only after having done the necessary homework, having estimated the true potential of the brand for Brazil.

It is also increasingly common for a Brazilian investor to negotiate risk-sharing agreements with a foreign franchisor when introducing a new brand to the market. "Risk" in this case refers to making actual direct investment in the form of a joint-venture partnership. In addition, as many Brazilian concepts are now seeking to expand internationally, some will be open to discussing bilateral agreements, wherein a foreign brand is launched in Brazil at the same time as the foreign franchisor develops a Brazilian brand in its home country.

According to ABF, 134 Brazilian brands are present in 60 countries in all continents: 37 operate in the USA, 25 in Paraguay, 21 in Portugal, 16 in Argentina, 13 in Mexico, 12 in Bolivia, 12 in Colombia and 11 in Spain, among other countries.

Resources:

- World Franchise Council
- Brazilian Franchise Association (ABF)

More information, please contact Renato Sabaine at renato.sabaine@trade.gov

Direct Marketing

According to Acton International, a U.S.-based international direct marketing services provider, the Brazilian consumer receives an estimated 9.3 pieces of direct mail every month. Their research has shown that 74 percent of Brazilian consumers like receiving direct mail.

Brazil continues to lead Latin America in direct marketing activities due to its large consumer base and growing economy. The Brazilian Association of Direct Marketing (ABEMD) is a self-regulated, non-profit entity representing the direct marketing sector. Its web site provides important information regarding codes of conduct, legislation compliance, and direct marketing service providers.

Joint Ventures/Licensing

Joint ventures are common in Brazil, particularly as an approach for foreign firms to compete for government contracts or in heavily regulated industries, such as telecommunications and energy. Usually, joint ventures are established through "*sociedades anônimas*" or "*limitadas*," which are similar to corporations and limited partnerships, respectively. Licensing agreements are also common in Brazil.

All licensing and technical assistance agreements, including trademark licenses, must be registered with the Brazilian Industrial Property Institute (INPI).

Selling to the Government

Many governments finance public works projects through borrowing from the Multilateral Development Banks. Please refer to the "Project Financing" Section in "Trade and Project Financing" for more information.

Distribution & Sales Channels

All of the customary import channels exist in Brazil: agents, distributors, import houses, trading companies, subsidiaries, and branches of foreign firms, among others. Brazilian importers generally do not maintain inventory of capital equipment, spare parts, or raw

materials, partly because of high import and storage costs. Recently, because of the creation of additional bonded warehouses, industries that rely heavily on imported components and parts are maintaining larger inventories in these warehouses.

Express Delivery

U.S. express delivery service companies face significant challenges in the Brazilian market due to numerous barriers, including high import taxes, an automated express delivery clearance system that is only partially functional, and a lack of a de minimis exemption from tariffs for express delivery shipments. Brazil's US$50 de minimis exemption applies only to postal service shipments to individuals.

The Brazilian government charges a flat 60 percent duty for all goods imported through the Simplified Customs Clearance process used for express delivery shipments. This flat rate is higher than duties normally levied on goods arriving through regular mail, putting express delivery companies at a competitive disadvantage. The Simplified Customs Clearance process is applicable only to shipments having no commercial purpose; business-to-business and business-to-consumer shipments are not eligible for express clearance. Moreover, Brazilian Customs has established maximum value limits of US$5,000 for exports and US$3,000 for imports sent using express services. Express delivery companies may transport shipments of higher value, but such shipments are subject to a formal import and declaration process.

DHL, FedEx, and UPS are the major U.S. companies in the market, and will ship documents, packages and freight shipments to Brazil. Other prominent vendors in the market include Atlas Transportes, Brasspress, Brazil Express Delivery Service, Direclog, Jadlog, Jamef, SF Express, TNT Express, and Total Express. Average delivery time from large U.S. cities is two to five days, depending on the frequency of international flights.

Selling Factors & Techniques

Price and payment terms are extremely important sales factors. Generally, U.S. goods are trusted and perceived as high quality; however, depending on quality as the primary competitive advantage may be risky. To be competitive, U.S. companies should adapt their products to local technical requirements and culture. In some sectors, competing with an increasing amount of Chinese imports can be difficult because of their low prices; therefore, emphasizing product quality, customer service, after-sale service, financing arrangements, and warranty terms are key competitive advantages for U.S. companies. As Brazilian companies become more concerned with environmental stewardship, it is also advisable to demonstrate commitment to sustainable development practices when introducing new products into this market.

e-Commerce

Overview

The Brazilian e-Commerce segment ended 2016 with US$13.4 billion (R$43b using a R$3.21 exchange rate) in earnings, an increase of 7.4 percent compared to 2015. Despite the current economic scenario in Brazil, projected growth is still positive at 12 percent, and is projected to

reach US$15.1 billion (R$48.5b) in 2017. In Brazil, 48 million consumers made at least one virtual purchase in 2016, representing an increase of 22 percent compared to 2015.

With nearly 122 million Internet users as of 2016 according to the International Telecommunication Union, Brazil is the largest Internet market in Latin America and the fourth largest Internet market in the world in number of Internet users. According to Statista, the Internet penetration rate is forecast to grow to about 61 percent in 2021, up from about 56.8 percent in 2016. Monthly Internet usage in Brazil amounted to 25.7 hours per user in 2016; in comparison, the Latin American average is 18.6 hours.

The popularization of mobile broadband is another key growth factor. Cheaper smartphones have connected people from the lower to lower–middle classes ("C" and "D" socio-economic classes) to the Internet, thus allowing these consumers to order online. In 2016, 55 percent of the views on e-Commerce websites were done through mobile devices such as smartphones and tablets, representing an increase of over 30 percent compared from previous year. However, it is important to note that only 21.5 percent of the purchases were actually made on a mobile device.

The average e-Commerce purchase (average cart price) in Brazil for 2016 was US$126.3 (R$417), 8 percent higher than the previous year. This number is projected to reach US$137 (R$452) in 2017. It is also estimated that the number of purchases will increase 3.5 percent in 2017, and will reach a total of 110 million purchases made online. The increase in sales in virtual stores in the country is due to new consumption habits of the population. The migration of purchases from physical retail to electronic commerce is a factor that will continue to contribute to increased sales. We estimate that in 2017 e-Commerce sales will account for approximately 4.3 percent of retail sales in Brazil, compared to 3.8 percent in 2016.

The most profitable industry sectors for online shopping include electronic appliances, computers, electronics, fashion, cosmetics, household appliances, and home decoration. Fashion is a particularly interesting category, due to the widely held belief that Brazilians need to try on clothes before purchasing.

Current Market Trends

Mobile commerce continues to be one of the strongest trends for 2017. Consumers are learning to compare prices and product information via the Internet and often prefer the convenience of purchasing items via e-Commerce. The rise in sales of mobile devices (2 percent), compared to the decrease in sales of notebooks (30 percent) and desktops (37 percent) demonstrates a change in people's lifestyle and buying habits.

Domestic e-Commerce (B2C)

Geography plays a major role when evaluating the country's market potential. Consumers in the southeast region of the country account for 72.1 percent of online purchases, which reflects Brazil's concentration of wealth and education. The southern region accounts for 11.3 percent, northeast 9.3 percent, center 5.2 percent, and north 2.1 percent. U.S. firms should take this into account when assessing potential partnerships and working with consultants and online service providers. The majority of e-Commerce firms are based in Brazil's business capital São Paulo.

The one factor enabling the development of the business-to-consumer (B2C) sector is the "long-tail" effect, which allows a wider product offering in niche areas compared to that found in physical storefronts. Surveys held in other countries, for example, indicate that online stores' inventories are 6 to 23 times larger than those of physical stores. Retailers are taking advantage of U.S. selling techniques to increase purchases. For example, Brazilian stores (both physical and online) offer Black Friday discounts. Black Friday (2016) in Brazil, generated e-Commerce sales of US$575.7 million (R$1.9bi) which broke all previous sales records for a single day. In total, 1.64 million e-consumers made at least one purchase within 24 hours of Black Friday.

According to the latest Statisa report, e-Commerce turnover in Brazil amounted to US$ 13.45 bi (R$ 44.4 bi) in 2016, up from US$ 12.5 bi (R$ 41.3 bi) in 2015.

U.S. B2C firms seeking to reach the online Brazilian consumer from their U.S. bases should proceed with caution. It is cost prohibitive and unreliable for online shoppers to purchase and import products into the country from the United States due to high import taxes. Direct sales from the United States are subject to customs and duties regulations. Although Brazil has made substantial progress in reducing traditional border trade barriers (tariffs, import licensing, etc.), rates in many areas remain high and continue to favor locally produced products.

Cross-Border e-Commerce

Research published by eBit shows that in 2016 Brazilian e-consumers spent US$2.4 billion in cross-border websites, which represents an increase of 17 percent compared to 2015 and 38 percent compared to 2014. It finds that 54 percent of Brazilian buyers purchased on international websites in 2016. The research also shows that despite the devaluation of the Brazilian currency compared to the dollar in 2016, each e-consumer made 3.7 purchases in cross-border sites, while in 2015 the rate was 3.8. This could be for several possible reasons including increases of international purchases by Brazilians outside the United States. On domestic sites, the average was 2.2 purchases. The average ticket price in cross-border sites decreased 27 percent from 2014 to 2015 and remained stabled in 2016.

Studies demonstrate that four out of 10 Brazilians completed a purchase on an international website over the last year and the figures continue to grow. Chinese websites are very popular among Brazilian shoppers. According to eBit research, the top five most used international websites in order are AliExpress (45 percent of consumers), Amazon.com (40 percent), eBay (26 percent), DealExtreme (12 percent) and Apple Store (10 percent).

The top 10 leading categories in 2016 of products purchased on international websites are: electronics (34 percent), software (25 percent), fashion and accessories (24 percent), mobile/telephones (18 percent), toys and games (17 percent), cosmetics and personal care (17 percent), automotive accessories (13 percent), books (13 percent), home furnishing and decoration (12 percent), and sports and leisure products (11 percent). Twenty percent of these purchases are delivered to hotels in the United States for pick-up or at friends/family houses in the United States for later postage to Brazil and approximately 80 percent are delivered directly to Brazil.

B2B e-Commerce

The B2B e-Commerce space is growing in Brazil, however, not as fast as the B2C market. There are B2B e-Commerce sites offering electronic products, cleaning supplies, safety equipment, and travel services, among others.

e-Commerce Services

The most profitable industry sectors for online shopping include electronic appliances, computers, electronics, fashion, cosmetics, household appliances, and home decoration. Fashion is a particularly interesting category, due to the widely held belief that Brazilians need to try on clothes before purchasing. There are e-Commerce sites offering pharmacy and beauty products, cleaning supplies, safety equipment, services related to travel, among others. Travel and tourism services purchased digitally within Brazil play an important role in the growth of e-Commerce. E-market analysts estimate that travel represented close to a third of the country's total e-Commerce sales in 2015.

Brazilians tend to purchase through marketplaces and group buying websites. Brazilians also like to take advantage of online discount websites and coupons. Many middle-class consumers are aware that online prices for consumer goods and customer service policies are better than in stores.

e-Commerce Intellectual Property Rights

Brazil has been on the U.S. Trade Representative's Special 301 Watch List since 2007. This designation reflects significant concerns with respect to high levels of counterfeiting and piracy in Brazil, including with respect to Internet piracy and online sales of counterfeit goods. It is important to be aware of this situation when buying or selling content online.

Businesses that locate content that infringes their rights online may be able to contact Internet Service Providers (ISPs) to attempt to resolve their concerns, in the event that the ISP hosts the infringing content. Businesses also can contact Brazilian enforcement authorities to explore potential criminal action. With respect to potential civil actions, businesses should be aware that generally ISPs will not be found civilly liable for damages resulting from content generated by third parties. Thus, companies should be aware that their civil actions against an ISP, based on online sales of counterfeit goods may not be successful. On the other hand, ISPs that host content infringing on copyrights or neighboring rights may be found civilly liable, if the ISP does not remove content in a timely matter after notice has been given by the rights holder. The legislation in this area is still developing in Brazil, so companies may wish to consult local counsel if they have any concerns.

Businesses seeking to market in Brazil also may wish to consider registering their trademark(s) as domain name(s) ending in ".br," which is the country-code top-level domain (TDL) for Brazil. Registering trademarks in country-code TLDs may be helpful in establishing a local market presence. Defensively registering trademarks as domain names also helps ensure against cybersquatters, i.e., bad actors that register others' trademarks as domain names in bad faith. Domain names typically can be registered for future use, thus preserving the company's options for expansion. The .br TLD, unlike some country code TLDs (ccTLD),

has an administrative dispute resolution policy for addressing cybersquatting. Court litigation also remains an option for instances of cybersquatting.

For more information on e-Commerce IPR please visit World Intellectual Property Organization website.

Popular e-Commerce Sites

According to the latest Statisa, the Brazilian e-Commerce turnover amounted to US$13.45 billion (R$44.4bi) in 2016, up from US$12.5 in 2015. The most popular sites in Brazil in relation to number of users include:

- Mercado Livre - 77%
- Extra - 38%
- Ponto Frio - 36%
- Submarino - 34%
- Walmart - 28%
- OLX - 10%

As far as international markets, the most used websites include:

- AliExpress - 45%
- Amazon.com - 40%
- eBay - 26%
- DealExtreme - 12%
- Apple Store - 10%

Online Payment

According to PagBrasil, 90 percent of Brazilians' online purchases are made through Brazilian payment methods, although the country's online payments market is restricted. In addition, domestic payment solutions are more cost effective since they save the 6.38 percent IOF tax, which is applied to all international transactions. Brazilian credit cards issued by local banks are limited to payments in Brazilian Reais (hey-EYES). U.S. companies selling in Brazil need to offer ways to pay using Brazilian credit cards and be able to convert currency. Another payment method in Brazil is the Boleto Bancário (payment slip), essentially a payment receipt issued through a bank. This is most often used for Brazilians who do not have a credit card and for B2B payments because it allows companies to avoid costly wire transfer fees, according to Allpago. One of the drawbacks to Boleto is that the payment confirmation is delayed and can take up to three business days. Companies like Paypal are growing in popularity but will still take some time to be mainstream.

Payment methods are complex and varied in nature. 62 percent of online consumers used credit cards, 28 percent used Paypal, while nine percent used payment slips (Boleto). Security continues to be a concern especially regarding online fraud.

International transactions can be challenging for residents and visitors alike. While visitors have relatively few problems using credit cards at hotels and tourist venues, the same is not true for online purchases. The majority of Brazilians do not carry international credit cards. Those wishing to pay for services such as airline or movie tickets online encounter barriers,

as many Brazilian websites do not accommodate international credit cards. The most commonly accepted cards in Brazil are Visa and MasterCard with chip and PIN technology.

Mobile e-Commerce

Mobile Internet use has skyrocketed in Brazil in comparison to traditional fixed-line online connections. In 2016, there were 81.4 million mobile phone Internet users in Brazil, which accounted for nearly 40 percent of the Brazilian population according to Statista. By 2021, these figures are forecast to increase to 112.7 million and 51.8 percent. The leading mobile app in the country is WhatsApp with a 93 percent reach. Facebook ranks second with 79 percent, followed by YouTube and Instagram.

According to ABComm (Brazilian Association of Electronic Commerce), roughly 30 percent of consumer goods were bought in 2016 using mobile devices (smartphones and tablets). Faced with continuing growth in e-Commerce, U.S. companies looking to sell in Brazil need to improve the mobile experience for customers. According to GSMA, Brazil is expected to end 2016 with 42 million 4G connections, an increase of 87 percent over last year.

Digital Marketing

U.S. companies need to have a digital marketing strategy to be successful in Brazil. Companies should understand the power of Search Engine Optimization (SEO), Google Adwords, Mobile Ads, Facebook Marketplace, Twitter, Youtube, and inbound marketing to reach new customers. Companies are using WhatsApp to sell and advertise new products and discounts in Brazil. Brazilians trust online recommendations, so having a digital marketing and social media strategy when entering this market is key.

Major Buying Holidays

Brazil has five holidays where retail sales increase:

Christmas	
Mother's Day	(second Sunday in May)
Valentine's Day	(June 12)
Father's Day	(second Sunday in August)
Easter	

There are four other dates where retail sales also grow: Carnival (holiday), Children's Day (commemorative date), Black Friday, and Cyber Monday.

Social Media

In 2013, the Wall Street Journal bestowed Brazil with the title of "Social Media Capital of the Universe." Social media is the ideal way for U.S. companies to market to Brazilian marketers. Brazilian users are among the world's most engaged, spending an increasing amount of time on social media. Over 100 million Brazilians use some type of social media on a daily basis. Facebook and WhatsApp are the leading social networks in the country, followed by Facebook Messenger, Instagram, and Twitter. For social media marketers targeting Brazil, this popularity opens up unprecedented opportunities. For U.S. companies targeting Brazil, it is important to understand the importance of social media.

e-Commerce Web Resources:

- Brazil Chamber of Electronic Commerce
- E-bit
- Statista
- ABComm

Trade Promotion & Advertising

With its well-established and diversified industrial sector, Brazil has a variety of specialized publications that can provide excellent advertising outlets that target a multitude of trade and consumer audiences. TV advertising can be an especially important marketing channel for Brazil's growing consumer base. The top advertising categories by expenditure are trade and commerce, consumer services, culture, leisure, sports and tourism, media, and public and social services.

The most popular magazine in Brazil, with a circulation of over one million copies, is the weekly Veja, published by the Abril Publishing Company. Like many places, daily newspaper circulation is declining, but tabloids still lead the pack:

Maganizes and Newspapers in Brazil			
Newspaper	**State**	**Daily circulation**	**Format**
Super Noticia	Minas Gerais	249.297	Tabloid
O Globo	Rio de Janeiro	193.079	Broadsheet
Folha de Sao Paulo	Sao Paulo	189.254	Broadsheet
O Estado de Sao Paulo	Sao Paulo	157.761	Broadsheet
Daqui	Goias	153.049	Tabloid
Zero Hora	Rio Grande do Sul	152.573	Tabloid
Diario Gaucho	Rio Grande do Sul	148.547	Tabloid
Extra	Rio de Janeiro	136.831	Broadsheet
Correio do Povo	Rio Grande do Sul	102.335	Tabloid
Meia Hora	Rio de Janeiro	96.138	Tabloid

Digital Press in Brazil		
Digital Press	**State**	**Digital circulation**
Folha de Sao Paulo	Sao Paulo	146.641
O Globo	Rio de Janeiro	118.143
O Estado de Sao Paulo	Sao Paulo	78.410
Super Noticia	Minas Gerais	49.332
Estado de Minas	Minas Gerais	48.284
O Tempo	Minas Gerais	46.015

Zero Hora	Rio Grande do Sul	44.749
Extra	Rio de Janeiro	25.941
Valor Economico	Sao Paulo	18.291
Correio Braziliense	Distrito Federal	17.429

Trade fairs are another important marketing tool. The city of São Paulo hosts around 300 trade fairs per year. Other principal cities host significant shows as well: Rio de Janeiro for the oil and gas industry, and Belo Horizonte for mining. These events attract many visitors and exhibitors from Brazil and foreign countries. Specialists from the U.S. Commercial Service Brazil participate in many of these events, and can help you arrange meetings with potential agents, distributors, lawyers, and customers at these trade shows.

Pricing

Payment terms are extremely important in Brazil because of the country's high interest rates. In fact, it is not unusual for a local company to select a U.S. supplier with higher prices but better financing terms.

Sales Service/Customer Support

The "Consumer Protection Law" of 1992 mandates customer support and after-sale servicing. In the case of imported products, the importer or local channel partner of record is responsible for such services; therefore, U.S. manufacturers should appoint agents or distributors who are qualified to provide such services.

Protecting Intellectual Property

Intellectual Property Rights (IPR) Climate in Brazil

Brazil has been on the U.S. Trade Representative's Special 301 Watch List since 2007. This designation reflects significant concerns with respect to high levels of counterfeiting and piracy in Brazil, including Internet piracy, as well as concerns regarding the long delays in the examination of patents and trademarks (a reported average pendency of nearly two and a half years for trademarks and almost 11 years for patents).

Patents, Technology Transfer Contracts, Plant Variety Protection and Genetic Resources

Patents are regulated by Federal Law No. 9279 of May 14, 1996 (IP Law). Patent rights may only be acquired in Brazil through registration with the National Institute of Industrial Property ("Instituto Nacional de Propriedade Industrial" - INPI). U.S. patent rights are valid only in the U.S. and thus are not recognized in Brazil. Patent applications are analyzed on a first-to-file basis, regardless of the date of creation or invention. A minor exception applies (*1) Priority under the Paris Convention may be claimed, and the Patent Cooperation Treaty system may be used. INPI has various programs for expediting the prosecution of patents. Recently, the office launched a term-limited Patent Prosecution Highway Pilot Program with the U.S. Patent and Trademark Office.

(*1) Article 45 - A person who, in good faith, prior to the date of filing or the date of priority of a patent application, exploits its object in this country, will be guaranteed, without onus, the right to continue the exploitation (...) [generally known as prior user rights].

Pharmaceutical products and procedures need to receive prior consent by the Brazilian Heath Surveillance Agency ("Agência Nacional de Vigilância Sanitária" - ANVISA) before their respective patents can be granted.

For full economic implementation of technology transfer contracts in Brazil, they must be recorded with INPI. Such contracts are understood to include: licensing of rights (e.g., exploitation of patents and industrial designs, and the use of trademarks); acquisition of technological knowledge (e.g., supply of technology and provision of technical and scientific assistance); and franchising contracts.

Recording at INPI will facilitate the remittance of royalties to foreign countries, when applicable, and tax deductions for amounts paid as royalties by a local company. Registration also sets constructive public notice of the agreement. For more information see Articles 61, 62, 68, 121, 139, 140 and 211 of the IP Law, the Central Bank Circular Letter No. 2819/98, the Normative Act No. 135/7, and Decree No. 3.000/99.

Plant Varieties are regulated by Federal Law No. 9456 of April 25, 2007 (Plant Variety Protection Law). Plant Variety Protection is acquired by means of its registration before the National Service of Plant Variety Protection ("Serviço Nacional de Proteção de Cultivares" - SNPC).

Finally, Brazil protects genetic resources under Act No. 13.123/15. Under the Act, a Genetic Heritage Management Council (CGen) is responsible with overseeing access to genetic heritage and associated traditional knowledge. Foreign individuals are not permitted to access the Brazilian Genetic Patrimony and Traditional Knowledge database. However, foreign businesses with headquarters located outside of Brazil are able to access such patrimony if the activity is conducted in association with a Brazilian Research or Scientific Institution, regardless whether the institution is public or private.

Copyright and Computer Software

Copyrights, including authors' rights and neighboring rights, are regulated by Federal Law No. 9610 of February 19, 1998 (Copyright Law). Copyright registration is not required in order to have protection, but it is nevertheless helpful in the event a dispute arises, as a registration certificate will allow a presumption of authorship if there is no evidence to the contrary.

Computer software or computer programs are regulated by Federal Law No. 9609 of February 19, 1998 (Computer Software Law), Federal Law No. 9610 of February 19, 1998 (Copyright Law), and the IP Law, when applicable.

According to this law, software may be registered at INPI. Registration is not mandatory, but obtaining it will provide software creators with relevant documentation and proof of ownership during disputes. Also, authorship is presumed for registered software, requiring a showing of evidence to the contrary.

The portions of the program and other data which characterize the software as an independent creation and which are displayed in the application, are confidential in nature. INPI is required to maintain such information in confidence unless required to disclose by court order or at the author's request.

Trademarks and Geographical Indications

Trademarks are regulated in Brazil by the IP Law (Federal Law No. 9279 of May 14, 1996). Trademark rights may only be acquired in Brazil through registration with INPI. (*2) Trademark applications are analyzed on a first-to-file basis, taking into consideration any claimed priority, including Paris Convention priority. (*3)

(*2) Article 125. A mark that is registered in Brazil and considered to be famous shall be assured special protection in all branches of activity.

Article 126. The well-known mark within its branch of activity pursuant to Article 6bis(I) of the Paris Convention for Protection of Industrial Property enjoys special protection, regardless of whether it has already been filed or registered in Brazil.

(*3) Article 127. The application for registration of a mark that has been filed in a country that maintains an agreement with Brazil or in an international organization, when such produces the effect of a national filing, shall be assured the right to priority, within the time limits established in the agreement, and the filing is neither invalidated nor prejudiced by events occurring within those time limits.

Geographical Indications (GIs) are also regulated by the IP Law. Registration is not mandatory, but it is recommended for foreign GI owners as a registration will provide GI owners with relevant documentation in the event that a dispute arises in Brazil.

Enforcement

In 2004, the Brazilian Federal Government established the National Council to Combat Piracy and Crimes against Intellectual Property ("Conselho Nacional de Combate à Pirataria e Delitos contra a Propriedade Intelectual" - CNCP), under the Ministry of Justice. The Council coordinates national action on the fight against IPR crimes and works in cooperation with representatives from both public and private sectors. For further information, please visit CNCP's website.

In the Federal sphere, three different agencies are directly involved with IPR enforcement work:

- Customs authorities, which fall under the Federal Revenue Service ("Receita Federal do Brasil")
- Federal Police ("Polícia Federal")
- Federal Highway Police ("Polícia Rodoviária Federal")

Additionally, various states in Brazil have Civil Police Units that are dedicated to IPR enforcement. As examples:

State of Rio de Janeiro
Police Unit of Repression to Crimes Against IP ("Delegacia de Repressão de Crimes Contra Propriedade Intelectual" – DRCPIM)

Av. Dom Helder Câmara, 2066
20910-061 - Rio de Janeiro, RJ – Brazil
Tel: (55 21) 2582-7466

State of Pernambuco
Police Unit for Crimes Against IP ("Delegacia de Crimes contra a Propriedade Intelectual")

Government Organizations with Responsibility for IP and Technology Transfer Contract Registration in Brazil

INPI is the government organization with primary responsibility for patent, trademark, GI, and computer program registration, and registration of technology transfer agreements. Registration of trademark licenses also is required in certain situations. Plant variety protection is obtained at the National Service of Plant Variety Protection. Multiple organizations are responsible for copyright registration, depending on the nature of the work.

For Patents, Trademarks, GIs, Computer Programs, and Technology Transfer Contracts

National Institute of Industrial Property - Ministry of Development, Industry and Foreign Trade ("Instituto Nacional da Propriedade Industrial – Ministério do Desenvolvimento, Indústria e Comércio Exterior")
Rua São Bento 1 - 20090-010 - Rio de Janeiro, RJ – Brazil
Tel: (55 21) 3037-4000

For Plant Varieties

National Service of Plant Variety Protection ("Serviço Nacional de Proteção de Cultivares")

Esplanada dos Ministérios - Bloco D - Anexo A - Sala 251

Brasília, DF – Brazil

Tel: (55 61) 3218-2547 / 3218-2549

For Copyrights

Literary Works

Copyrights Office of the National Library Foundation ("Escritório de Direitos Autorais da Fundação Biblioteca Nacional")
Rua da Imprensa nº 16, 12ºandar - sala 1205
20030-120 - Centro - Rio de Janeiro, RJ – Brazil
Tel: (55 21) 2220-0039 or (55 21) 2262-0017

Musical Works

School of Music of the Federal University of Rio de Janeiro ("Escola de Música da Universidade Federal do Rio de Janeiro")
Largo da Lapa, 51 - Prédio II – 2º andar
20021-170 - Rio de Janeiro, RJ – Brazil
registro@musica.ufrj.br

Art Works

Av. Pedro Calmon, 550
Prédio da Reitoria - Cidade Universitária – sala 737 - 21941-901 - Ilha do Fundão
Rio de Janeiro, RJ – Brazil
Tel: (55 21) 3938-1649/1949

Engineering, Architectural and Agronomical Works

Federal Council of Engineering, Architecture and Agronomy ("Conselho Federal de Engenharia, Arquitetura e Agronomia")
SEPN Quadra 508, Bloco B – Ed. Adolfo Morales de Los Rios Filho
70740-542 Brasilia, DF – Brazil
Tel: (55 61) 3348-3700

Applications for registration shall be forwarded to CONFEA through its Regional Councils (CREA).

Protecting Your IP in Brazil

Several general principles are important for effective management of intellectual property rights in Brazil. First, it is important to have an overall strategy to protect your IP. Second, IP is protected differently in Brazil than in the United States. Third, rights must be secured and enforced in Brazil under local laws. Your U.S. trademark registrations and patents will not protect you in Brazil. Similarly, there is no such thing as an "international copyright" that will automatically protect an author's writings throughout the entire world. Protection against unauthorized use in a particular country depends on the national laws of that country. However, most countries offer copyright protection to foreign works under certain conditions, and these conditions have been greatly simplified by international copyright treaties and conventions.

Patents are considered on a first-to-file, first-in-right basis. Similarly, trademark registration is determined on a first-to-file (unlike the U.S., where rights are based on first-to-use), first-in-right basis, so you should consider applying for trademark and patent protection even before selling your products or services in the Brazilian market. Copyright registration, while not required, provides evidence of authorship that will be needed in the event of a dispute. It is vital that companies understand that IP is primarily a private right and that the U.S. government cannot enforce rights for U.S. companies in Brazil. It is the responsibility of the right holders to register, protect, and enforce their rights where relevant, retaining their own counsel and advisors. Companies may wish to seek advice from local attorneys or IP consultants who are experts in Brazilian law through their U.S. counsel (most U.S. trademark and patent lawyers maintain international networks of agents and attorneys in other countries). The U.S. Commercial Service in Brazil also can provide a list of local lawyers upon request.

While the U.S. Government stands ready to assist, there is little we can do if the right holders have not taken such fundamental steps necessary to securing and enforcing their IP in a timely fashion. Moreover, in many countries, right holders who delay enforcing their rights with the mistaken belief that the U.S. Government can provide a political resolution to a legal problem

may find that their rights have been eroded or abrogated due to legal doctrines such as statutes of limitations, laches, estoppel, or unreasonable delay in prosecuting a lawsuit. In no instance should U.S. Government informational resources be seen as a substitute for the obligation of a right holder to promptly pursue its case.

It is always advisable to conduct due diligence on potential partners. A good partner is an important ally in protecting IP rights. Permitting your partner to register your IP rights on your behalf is generally inadvisable. Doing so may create a risk that your partner will list itself as the IP owner and fail to transfer the rights should the partnership sour or end. Keep an eye on your cost structure and reduce the margins (and the incentive) of such would-be bad actors. Projects and sales in Brazil require constant attention. Work with legal counsel familiar with Brazilian laws to create a solid contract that includes non-compete clauses, and confidentiality/non-disclosure provisions.

It is also recommended that small and medium-sized companies consider the importance of membership in and participation with IP as well as industry-specific trade associations and organizations to support efforts to protect IP and stop piracy and counterfeiting. There are a number of these organizations, both Brazil and U.S.-based. These include:

- The United States Chamber of Commerce
- National Association of Manufacturers (NAM)
- International Intellectual Property Alliance (IIPA)
- International Trademark Association (INTA)
- The Coalition Against Counterfeiting and Piracy (Part of the U.S. Chamber)
- International Anti-Counterfeiting Coalition (IACC)
- Pharmaceutical Research and Manufacturers of America (PhRMA)
- Biotechnology Industry Organization (BIO)

IP Resources

A wealth of information on protecting IP is freely available to U.S. rights holders. Some excellent resources for companies regarding intellectual property include the following:

- For information about patent, trademark, or copyright issues -- including enforcement issues in the U.S. and other countries -- call the STOP Hotline: 1-866-999-HALT or go to StopFakes website
- For more information about registering trademarks and obtaining patents (both in the U.S. as well as in foreign countries), contact the U.S. Patent and Trademark Office (USPTO) at: 1-800-786-9199.
- For more information about registering for copyright protection in the U.S., contact the U.S. Copyright Office at: 1-202-707-5959.
- For more information about how to evaluate, protect, and enforce intellectual property rights and how these rights may be important for businesses, please visit the "Resources" section of the STOPfakes website.
- For information on obtaining and enforcing intellectual property rights and market-specific IP Toolkits, visit the STOPfakes website. The toolkits contain detailed information on protecting and enforcing IP in specific markets and also contain contact information for local IPR offices abroad and U.S. government officials available to assist SMEs.

The U.S. Commerce Department has positioned IP attachés in key markets around the world. You may obtain the information for the IP Attaché in Brazil or at the end of this section.

In any foreign market companies should consider several general principles for effective management of their intellectual property. For background on these principles please link to our article on Protecting Intellectual Property and also Corruption.

IP Attaché Contact:

Laura Hammel
U.S. Consulate General, Rio de Janeiro, Brazil
+55 21-3823-2499 laura.hammel@trade.gov

Due Diligence

It is always advisable to conduct due diligence on potential partners before signing a contract. Negotiate from the position of your partner and give your partner clear incentives to honor the contract. As stated in the previous section, a good partner is an important ally in protecting IP rights, but permitting your partner to register your IP rights on your behalf generally is inadvisable. Doing so may create a risk that your partner will list itself as the IP owner and fail to transfer the rights should the partnership end.

Closely monitor your cost structure and reduce the margins (and the incentive) of potential bad actors. Projects and sales in Brazil require constant attention. Work with legal counsel familiar with Brazilian laws to create a solid contract that includes non-compete clauses and confidentiality/non-disclosure provisions.

In Brazil, the U.S. Commercial Service can provide U.S. companies with lists of well-known and respected credit rating companies and law firms that can conduct credit checks on potential customers or provide important legal advice. Additionally, the U.S. Commercial Service offers U.S. companies detailed background information, including visits to the target company, through the International Company Profile (ICP) service. For information, please visit Export.gov/Brazil website.

Local Professional Services

The U.S. Commercial Service in Brazil has a list of local business providers that can support your needs in Brazil and can be found at the U.S. Commercial Service Brazil website.

Principle Business Associations

Belo Horizonte, Minas Gerais, Brazil

- AMCHAM Belo Horizonte
- ACMinas-Associacao Comercial e Empresarial de Minas Gerais (Minas Gerais Commercial and Business Association)
- FIEMG-Federacao das Industrias do Estado de Minas Gerais (Federation of Industires of the State of Minas Gerais
- FEDERAMINAS-Federacao das Associacoes Comerciais e Empresariais de Minas Gerais (Federation of Commercial and Business Associations of Minas Gerais)
- CDL-Camara de Dirigentes Lojistas (Retail Shopps Chamber)

- FDC-Fundacao Dom Cabral (Dom Cabral Foundation)

Brasilia: (responsible for Northern and Midwest except the State of Mato Grosso do Sul)

- AMCHAM Brasilia
- ACDF-Associacao Comercial do Distrito Federal (Distrito Federal Commercial Association)
- CNI-Confederacao Nacional da Industria (National Confederation of Industry)
- SESI-Serviço Social da Industria (Social Service of Industry)
- SENAI-Servico Nacional de Aprendizagem Industrial (National Inudstry Learining Service)
- FIBRA-Federacao das Industrias do Distrito Federal (Federation of Industries of Distrito Federal)
- IEL-Instituto Euvaldo Lodi (Euvaldo Lodi Institute)

Northern:

- FIEAC-Federacao das Industrias do Estado do Acre (Federation of Industries of the State of Acre)
- FIEAP-Federacao das Industrias do Estado do Amapa (Federation of Industries of the State of Amapa)
- FIEAM-Federacao das Industrias do Estado do Amazonas (Federation of Industries of the State of Amazonas)
- FIEPA-Federacao das Industrias do Estado do Para (Federation of Industries of the State of Para)
- FIERO-Federacao das Industrias do Estado de Rondonia (Federation of Industries of the State of Rondonia)
- FIER-Federacao das Industrias do Estado de Roraima (Federation of Industries of the State of Roraima)
- FIETO-Federacao das Industrias do Estado do Tocantins (Federation of Industries of the State of Tocantins)

Midwest: (except the State of Mato Grosso do Sul)

- FIEG-Federacao das Industrias do Estado de Goias (Federation of Industries of the State of Goias)
- FIEMT-Federacao das Industrias do Estado de Mato Grosso (Federation of Industries of the State of Mato Grosso)

Recife in Northeast Brazil: (Except the State of Bahia)

Alagoas

- FIEA-Federacao das Industrias do Estado de Alagoas (Federation of Industry of the State of Alagoas)

Ceara

- AMCHAM Fortaleza

- FIEC-Federacao das Industrias do Estado do Ceara (Federation of Industries of the State of Ceara)

Maranhao

- FIEMA-Federacao das Industrias do Estado do Maranhao (Federation of Industries of the State of Maranhao)

Paraíba

- FIEP-Federacao das Industrias do Estado da Paraiba (Federation of Industries of the State of Paraiba)

Pernambuco

- AMCHAM Recife
- FIEPE-Federacao das Industrias do Estado de Pernambuco (Federation of Industries of the State of Pernambuco)

Piauí

- FIEPI-Federacao das Industrias do Estado do Piaui (Federation of Industries of the State of Piaui)

Rio Grande do Norte

- FIERN-Federacao das Industrias do Estado do Rio Grande do Norte (Federation of Industries of the State of Rio Grande do Norte)

Sergipe

- FIES-Federacao das Industrias do Estado de Sergipe (Federation of Industries of the State of Sergipe)

Rio de Janeiro (+ State of Espirito Santo, Souhteast and Bahia, Northeast)

- AMCHAM Rio
- ACRJ-Associacao Comercial do Rio de Janeiro (Rio de Janeiro Commercial Association)
- FIRJAN-Federacao das Industrias do Estado do Rio de Janeiro (Federation of Industries of the State of Rio de Janeiro)
- FCCE-Federacao das Camaras de Comercio Exterior (Federation of Foreign Trade Chambers)
- Rio Negocios (Rio Business)

Southeast - State of Espirito Santo:

- FINDES-Federacao das Industrias do Estado do Espirito Santo (Federation of Industries of the State of Espirito Santo)

Northeast - the State of Bahia

- FIEBA-Federacao das Industrias do Estado da Bahia (Federation of Industries of the State of Bahia)

Sao Paulo (Southern and State of Mato Grosso do Sul, Midwest)

- AMCHAM-Brasil
- ACSP-Associacao Comercial de Sao Paulo/ Sao Paulo Chamber of Commerce (Sao Paulo Commercial Association)
- FECOMERCIO-Federacao do Comercio do Estado de Sao Paulo (Sao Paulo Federation of Commerce)
- FIESP-Federacao das Industrias do Estado de Sao Paulo (Federation of Industries of the State of Sao Paulo)
- Investe Sao Paulo (Sao Paulo Invest - a State economic development organization)
- SP Negocios (Sao Paulo Business – the city economic development organization)

Southern:

- FIEAPR-Federacao das Industrias do Estado do Parana (Federation of Industries of the State of Parana)
- FIERGS-Federacao das Industrias do Estado do Rio Grande do Sul (Federation of Industries of the State of Rio Grande do Sul)
- FIESC-Federacao das Industrias do Estado de Santa Catarina (Federation of Industries of the State of Santa Catarina)

Midwest, the State of Mato Grosso do Sul

- FIEMS-Federacao das Industrias do Estado de Mato Grosso do Sul (Federation of Industries of the State of Mato Grosso do Sul)

Limitations on Selling US Products and Services

Oil and Gas Sector

The Brazilian oil and gas sector does not pose any direct limitations on foreign sales of products and services to the upstream, midstream, or downstream sub-sectors. However, local content requirements (percentage of Brazilian manufactured goods and services in a given project) may limit the amount of foreign goods and services that are contracted and purchased. Local content requirements only apply to the upstream subsector, and vary from project to project. For example, with engineering services, a foreign company must have legal representation/local certification in order to conduct business and provide services in Brazil.

On March 28, 2017, the Industry and Competitiveness Development Secretariat of the Brazilian Ministry of Industry and Foreign Trade (MDIC) published Resolution #1 ratifying proposals

made last February by the Brazilian interagency group leading local content requirement changes. The reforms, which apply to the 14th bid round (concession regime) and for the 3rd pre-salt (PSA regime) round, have lowered the percentage of Brazilian-made goods and services required for oil and gas exploration and production. New global local content requirements for deepwater oil and gas exploration fell by half (on average), to a minimum of 18 percent – down from 37 percent for previous auctions – and local content requirements for deepwater production development will now follow macro-segments: 25 percent for oil/gas well construction; 40 percent for subsea production activities; and 25 percent for oil offshore production units. Previous local content requirements for the production/ development phase was 55 percent. Onshore exploration and development, previously at 70 percent and 77 percent, respectively, were reduced to 50 percent as well.

All the existing oil exploration and production concession and production sharing contracts will continue to follow their local content requirement percentages, as the new rule will only apply for the upcoming 2017 bid rounds. Currently, exploration phase activities require between 37 and 85 percent local goods and services, and development phase activities must use between 55 and 80 percent Brazilian content.

As for asset ownership, a recent reform took place on October 5, 2016, when Brazil's lower house passed a long-awaited bill (PL-04567/2016) that removed restrictions on offshore oil and gas production, and reshaped thr state-owned oil company Petrobras's role in Brazil's deep water "pre-salt" oil and gas fields. The bill amended a 2010 law to allow greater international oil company (IOC) participation in offshore exploration and production in future pre-salt auctions. The 2010 law, known as the pre-salt law in Brazil, saw newfound offshore oil and gas as Brazil's exclusive patrimony, and required Petrobras to serve as sole operator and minimum 30 percent equity holder in all offshore pre-salt oil and associated gas fields. While Petrobras still maintains right of first refusal under the new law, its previously burdensome production and equity requirements have been lifted.

While that bill kept the production sharing agreement regime for pre-salt fields, the original concession regime (which never limited asset ownership by foreign companies) is also in force in Brazil's oil and gas sector, and will continue to apply for future bid rounds of the non-pre-salt fields.

Nuclear sector

Brazilian legislation does not allow foreign ownership of nuclear power plants. The same limitation applies to uranium mining and nuclear fuel production, although joint-venture for uranium mining is beginning. Eletronuclear (ETN), a subsidiary of government-owned company Eletrobras, holds the monopoly to operate nuclear power plants in Brazil. Indústrias Nuclears do Brasil (INB), a subsidiary entity under the Ministry of Science and Technology is responsible for uranium mining and its transformation into nuclear fuel.

Health Care

The process of refurbishment of medical equipment can be done only by companies located in Brazil. Brazil can import only new or unused medical equipment. If necessary to refurbish the equipment for a new user, the whole process must be done in country; however, it is still

possible to send equipment to other countries for technical assistance, but it must return to the same owner.

Mining

There is a limitation on ownership of mining projects located less than 150 km from the Brazilian border. They must be owned at a minimum 51 percent by Brazilian citizens, a minimum of 2/3 of its employees must be Brazilian citizens. Its administration must be controlled by Brazilian citizens, at least 51 percent of all employees in management positions must be Brazilian citizens, and their headquarters must be located in Brazil. There is a discussion in congress considering a project for modification of this law, with support of the Ministry of Mines and Energy, to allow for more participation of foreign-owned capital, so that this situation may change within a few years. There are no limitations in supplying to mining companies in Brazil, except for the import taxes and fees. The only state-owned mining company in Brazil is CRM, a small coal mining company with an output of 2.5 Millions of metric tons.(Mt)

Used Goods

The Brazilian government imposes a series of restrictions on the importation of used equipment, parts, pieces, and accessories. Import duties on refurbished machines are the same as on new products. Imports of used vehicles and used consumer goods into Brazil are not allowed.

When selling to the Brazilian government in public procurements, Brazil offers "margins of preferences" whereby companies offering domestically produced goods are awarded contracts even if the cost of their goods are higher than those offered by producers of goods made outside Brazil. "Margins of preference" vary by product and cannot exceed 25 percent.

Foreign companies that do not operate in Brazil must fulfill, as much as possible, the requirements by submitting equivalent documents, certified at the respective consulates and translated by certified public translators. Additionally, foreign companies must have a legal representative in Brazil with power of attorney to respond administratively and judicially.

Web Resources

Government of Brazil

- Central Bank
- Foreign Investment and International Trade Promotion Agency (APEX Brasil)
- Industrial Property Institute (INPI)
- Portal Brazil
- Trade and Investment Guide (Brazil Export)
- The Brazilian Securities Exchange Commission (CVM)
- Superintendence of Private Insurance (SUSEP)
- Brazilian Bank Federation (Febraban)

Industry and Trade

- American Bar Association - Section of International Law

- Brazil Agency for Industrial Development (ABDI)
- Brazil Association of Direct Marketing (ABEMD)
- Brazil Bank Federation (Febraban)
- Brazil Franchise Association (ABF)
- You may want to check our Export.gov Global Teams page and our Top market reports.

U.S. Government

- Business USA
- U.S. Mission to Brazil - Intellectual Property Protection
- U.S. Commercial Service Brazil
- US Agency for International Development
- Ministry of Industry, Foreign Trade and Services – MDIC

Business Publications in Brazil

- Carta Capital
- Jornal do Comércio
- Merkur Monitor
- Valor

Global organizations' summaries of Brazil

- IMF
- OECD
- Organization of American States - Brazil
- WIPO
- World Bank
- World Trade Organization

Doing Business Guides on Brazil

- Brazil Biz
- Brazil Factoid
- Doing Business Guides (UK)
- Doing Business Guides (World Bank Group)
- Federation of International Trade Associations
- Michigan State University
- Price Waterhouse Coopers

World Trade Center webpages in Brazil

- Belo Horizonte
- Brasilia
- Curitiba
- Goiania
- Rio de Janeiro
- Sao Paulo

e-Commerce Web Resources:

- Brazil Chamber of Electronic Commerce
- E-bit
- Statista
- ABComm

Leading Sectors for US Exports & Investments

Below you will find Top Prospects for U.S. Exports to Brazil.

Aerospace and Aviation

Overview

Brazil is one of only five countries in the world that manufacture commercial jets, and has been one of the top ten export destinations for U.S. aircraft and aircraft parts for many years. Affected by one of the most serious economic and political crises in recent years, Brazil's GDP dropped 3.6 percent in 2016. Nevertheless, U.S. suppliers of aircraft and aircraft parts maintained almost the same level of sales to Brazil in 2016 compared to 2015. In 2016, U.S. firms exported US$5 billion worth of aerospace products to Brazil, while imports from Brazil totaled US$3.4 billion.

Leading Sub-Sectors

- Avionics
- Communication systems
- Aircraft and helicopter parts and components
- Replacement parts

Opportunities

There are two major segments that U.S. suppliers in this industry should focus on, which are the OEM (original equipment manufacturers), as well as the repair and maintenance market. A small new niche, still pending final rules from the regulatory agencies, are UAVs (unmanned aerial vehicles.)

- **OEMs**: The Brazilian aerospace industry is led by Embraer, the world's third largest aircraft manufacturer. In 2016, the company delivered 108 commercial jets and 117 executive aircraft (73 light and 44 large executive jets). In 2017, Embraer expects to deliver 97 to 102 commercial jets, 70 to 80 light executive jets, and 35 to 45 large executive jets. Approximately 53 percent of Embraer's suppliers are located in the U.S., supplying over US$2 billion worth of components to Brazil every year. The other major player is Helibras, the Brazilian subsidiary of Airbus Helicopters. Companies interested in supplying to these OEMs in Brazil must undergo a strict qualification process of the company, product, and technology. Embraer's requirements for suppliers are based on the International Aerospace Quality Group, including but not limited to AS9100, EN9100, JISQ9100, and NBR15100. Depending on the type of the product, suppliers are subject to additional requirements.
- **Repair and Maintenance**: According to the Brazilian National Civil Aviation Agency, the Brazilian fleet consists of 21,895 aircraft, which generates a high demand for imports of replacement parts. The fleet is composed of 686 commercial aircraft, 15,342 general/business aircraft, and 5,867 experimental aircraft. There are approximately 670 companies that hold certification to provide maintenance and repair services. Although the demand for new commercial aircraft has slowed down over the last couple of years due to political and economic turmoil in the country, the demand for replacement parts

will likely continue to grow over the next few years. The market for aircraft repair and maintenance is estimated at US$730 million, and has annually expanded 5-6 percent. The relatively strong market for repair and maintenance is driven by more than 40 percent of the general aviation fleet being composed of one or two-engine piston-powered aircraft with more than 30 years of use. The average age of the general aviation fleet is currently 27 years, while the commercial aviation fleet has an average age of 12 years.

- **UAVs :** The Brazilian UAV market is estimated at US$60 million. Brazil does not yet allow flights of fully autonomous drones and the market is still small, composed predominantly of drones with prices varying from US$2,000 to US$20,000. However, following the global trend, the Brazilian market should grow rapidly over the next few years. The legislation and regulatory policies to fly UAVs are still being formulated by the National Civil Aviation Authority (ANAC) and the Department of Airspace Control (DECEA). UAVs that have radiofrequency transmitters must also be licensed by the National Telecommunications Agency (ANATEL). In Brazil, drones are used principally for recreation, security, and agriculture.

Brazil is a geographically large country with a sprawling and growing aviation industry. Aircraft parts suppliers without local representation may find it difficult to build relationships, receive timely information, and gain access to decision-makers.

The oversight and management of the Brazilian aviation industry is divided amongst several government agencies:

- SAC – Civil Aviation Secretariat: mainly responsible for implementing policies to develop Brazil's civil aviation sector, as well as for airport infrastructure and civil aeronautics.
- ANAC – National Civil Aviation Agency: responsible for the regulation, inspection, and safety of civil aviation activities, aeronautical products, and airport infrastructure. All aeronautical products must obtain a certification issued by ANAC.
- DECEA – Department of Airspace Control: responsible for the airspace control, promoting traffic safety and control.

Web Resources

Government of Brazil:

- ANAC – National Civil Aviation Agency
- SAC – Secretariat of Civil Aviation
- SAR – Brazilian Airworthiness Superintendence
- DECEA – Department of Airspace Control

Other:

- AIAB – Brazilian Association of Aerospace Industries
- ABAG – Brazilian Association of General Aviation
- ABEAR – Brazilian Airlines Association
- ABIMDE – Brazilian Association of Defense and Security
- Brazilian Institute of Aviation

- FCS Global Aerospace Team
- Aircraft Parts Top Markets Report
- IBA – Brazilian Aviation Institute

For more information about export opportunities in this sector, please contact U.S. Commercial Service Industry Specialist Marina.Konno@trade.gov

You may want to check our Export.gov Global Teams page and our Top market reports

Agricultural

Agricultural Products:

Information on best prospects in Brazil for agricultural products, food, and beverages can be found in the Global Agricultural Information Network (GAIN) Report on Brazilian Retail Foods in 2016.

The main point of contact in Brazil for U.S. food and beverage exporters is the Agricultural Trade Office (ATO), located in São Paulo. For any questions, please contact:

USDA/FAS/Agricultural Trade Office (ATO)

Rua Thomas Deloney, 381
04709-041 São Paulo, SP Brazil
Phone: 55 11 3250-5400
Fax: 55 11 3250-5499
Email: atosaopaulo@fas.usda.gov

Airports

Overview

Brazil recently concluded a round of airport concessions that signals exciting opportunities for U.S. companies interested in partaking in the expansion of the country's system of airports. While most of the large international airport concessions have already taken place, many opportunities (particularly in regional airport development) will become available as Brazil works to meet demand for travel.

Decision makers realize the urgent need to expand and modernize the country's airports and are responding accordingly. As of April 2017, the government of Brazil has privatized nine of the country's busiest airports, four of which were conceded in the most recent round of auctions in March 2017. The funds generated by auctioning these airports are being reinvested in the modernization of regional airports. Both the privatization and investment in regional airports is creating significant opportunities for U.S. airport suppliers of services and equipment. Even with a sluggish economy, the development in Brazil's airports is noteworthy.

The Brazilian Civil Aviation Secretariat (SAC) predicts that the domestic segment needs to triple in size within the next 20 years, however, investments made by Infraero (the federal agency in charge of airport operations) have not matched the ever-increasing number of passengers. Major airports in Brazil have reached critical utilization levels, and it is clear that large amounts of capital must be invested quickly in order to ease the burden of running over capacity and allow the segment to grow with demand.

With nine important airports privatized and master-planning currently underway, the airport industry is a potentially lucrative area for U.S. suppliers in a wide range of airport-related technologies and services. Additional airport concessions are expected in the future, likely in the capital cities of Goiâna, Recife, and Vitória, according to Brazil's Planning Minister Dyogo Oliveira.

Recent Concessions

In June of 2015, Brazil's then president Dilma Rousseff announced plans to continue modernizing and expanding Brazil's airports as part of Brazil's Logistics Investment Program (PIL). In 2016, when Michel Temer became president, he created the Investment Partenship Program (PPI) also known as Projeto Crescer (Project Growth). Housed within the Office of the President, Projeto Crescer prioritizes federal infrastructure projects and coordinates the work of all of the ministries and agencies involved in the process. In a break from past practice, Projeto Crescer has also taken a more market based approach to PPPs and concessions, responding to past private sector complaints about the concession process. The first round of concessions under the new project banner were held in the first quarter of 2017 and included four critical international airports: Fortaleza, Florianopolis, Porto Alegre, and Salvador.

Bid winners have responsibility for refurbishing and maintaining the newly privatized airports. The actual investment raised by the auction exceeded the US$967 million expected by the government, totaling US$ 1.2 billion. All of the airport rights were purchased at a premium: US$212 million for Salvador (113 percent above minimum initial fee), US$93 million in Porto Alegre (837 percent above minimum initial fee), US$137 million for Fortaleza (18 percent above minimum initial fee), and US$30 million in Florianopolis (57 percent above minimum initial fee). On average, the purchase price was 23 percent above the minimum initial fee. The winning companies have committed to additional investments in the infrastructure of those airports totaling over US$2.12 billion over 10 years, tied to increases in passenger levels.

Due to its focus on market forces dicting rates of return and investment commitments, in contrast to the previous round of concessions, under the PPI/Crescer model the government was able to attract investors with extensive experience in airport management. Germany's Frankfurt-based Fraport that runs Delhi (India), Lima (Peru), and St. Petersburg (Russia) won the Fortaleza and Porto Alegre concessions. Swiss Zurich, which runs the Zurich airport and Confins (Belo Horizonte), in partnership with CCR, took Florianópolis. Finally, French operator Vinci, which operates the airports of Lisbon and Porto (Portugal), Santiago (Chile), and Santo Domingo (Dominican Republic) made the winning offer for Salvador.

The implications for this round of concessions extend beyond the parties directly involved. On a larger scale, many view it as a confidence test between the market and the current government of Brazil. Based upon the success of the concessions, there is great hope for the future of the Brazilian market and air transportation within the country. Though the specific airports have not yet been selected, at least ten additional airports are being considered for future concession contracts.

Regional Airports

In August 2016, the Temer government decided to drastically cut Brazil's federal aviation investment program launched by outgoing President Dilma Rousseff, reducing the number of airports that will undergo expansion works in the future from 270 to 53.

The regional aviation development plan was launched at the end of 2012. At the time, the initial plan called for investments in about 800 small and medium airports, but ended up being reduced to 270 regional airports and heliports. Upon completion of the program, the GOB's goal was for 96 percent of the country's population to live less than 100 kilometers away from an airport.

The estimated investment at the time was US$2.3 billion, but almost nothing has been done over these past years. According to the Minister of Transportation, Civil Aviation and Ports, Maurício Quintella Lessa, the new list is "much more realistic" and appropriate given the current financial situation of the federal government. The new plan will require US$774 million in investments in 53 airports by 2020, and resources will come from the National Civil Aviation Fund.

In addition to the 53 airports, the GOB has a list of another 123 that could receive investments as the country´s economic situation improves or if the states assume control over the projects.

Of the airports that will receive investments, 27 currently receive flights. Another 11 are on a list that the Brazilian Airline Association (ABEAR) published in 2012, calling for prioritization of resources due to strong potential demand. According to Minister Quintella, the choice of airports was made in agreement with the states, congress, and airlines. Minister Lessa also said that the government will require cities to offer (at the signing of contracts) guarantees that local laws will preserve areas around airports in order to avoid leaving terminals unused in the future due to inadequate construction.

U.S. Mission Role in Brazilian Airport Modernization

In May 2014 and 2015, the U.S. Commercial Service partnered with the U.S. Federal Aviation Administration (FAA) to host an Aviation Trade Mission and a Brazilian Airport Roadshow for American suppliers of airport equipment and services. The U.S. Commercial Service also provided a series of webinars addressing current airport and aviation market opportunities in Brazil.

According to ANAC (National Agency of Civil Aviation), consumer air travel between the U.S. and Brazil grew 9.4 percent annually from 2005-2015, more than doubling in size over the period (146 percent of cumulative growth). As a result, the U.S. FAA has an established an office in Brazil to work closely with local officials in order to ensure the safety and security of U.S. passengers and develop an efficient air transportation network between the two countries. Through the U.S.-Brazil Aviation Partnership, and in coordination with the U.S. Trade and Development Agency, (USTDA), the FAA coordinates training programs and workshops between the U.S. and Brazil on a variety of aviation topics.

USTDA hosts a very active program with the Brazilian Aviation Authorities known as the US-Brazil Aviation Partnership. The Partnership allows the U.S. and Brazilian governments to develop structured bilateral activities (e.g. conferences, strategic dialogues) which support the

development of a modern airport infrastructure in Brazil. It also promotes a fair and open trade environment in the airport industry.

Through the Partnership, USTDA works with Brazilian entities such as Infraero, SAC, ANAC, and the U.S. private sector to host technical workshops encompassing topics such as Olympic Games preparations, regional airports, and the Open Skies Agreement. USTDA also conducts studies with the aim of creating market opportunities for U.S. companies.

Challenges

The economic outlook for 2017 in Brazil continuous to improve, as analysts predict some growth is likely for Brazil's airlines after two years of great difficulty in 2015 and 2016. This was largely due to the current economic recession, with recent growth outlooks forecasted at one percent. Further complicating the situation, Brazil is dealing with one of the largest corruption scandals in its history. Although the origin of the scandal is in the oil and gas sector, many of the engineering and construction firms that are being investigated have contracts across multiple sectors, including stakes in the country's existing airport consortia.

Leading Sub-Sectors

The aviation sub-sector is a very dynamic segment in the Brazilian aviation industry, demanding services and training which includes the following segments:

- highly skilled and technical roles, such as pilots and air traffic control
- customer service roles, including passenger check in and support, terminal and airport management and cabin crew
- ground services undertaking tasks, such as baggage and cargo handling, aircraft preparation and flight planning

Opportunities

Brazil's airport infrastructure upgrades present significant business opportunities for U.S. companies. In addition to providing design and consultancy services, concessions winners are also purchasing products such as passenger bridges, docking systems, baggage handling systems, handling equipment, check-in conveyors, x-ray integration, baggage claim carousels, x-ray machines and other safety and security equipment.

Companies with know-how in the areas of airport management and operations are welcome to establish partnerships with local Brazilian companies and are encouraged to participate in future privatization auctions. To succeed in Brazil, U.S. manufacturers must either be established in the country or have a well-informed local representative. Much like in other sectors in Brazil, it is important to have a distributor or system integrator that can offer post-sale and maintenance services, replacement parts, and repairs. Whether introducing a product to the market independently or entering with an existing local partner, it is necessary to have a coherent market entry strategy to penetrate the Brazilian airport industry.

For U.S. investors, the Brazilian government has indicated that upcoming airport concessions will offer more flexibility for companies interested in investing in Brazil. In indeed, airport concessions have being attracting consistent investment, as market research indicates that Brazil will continue to have growth in passenger demand.

Web Resources

- ANAC - National Agency of Civil Aviation
- INFRAERO
- SAC- Civil Aviation Secretary
- Projeto Crescer
- Ministry of Defense
- Folha

The U.S. Commercial Service — Your Global Business Partner

With its network of offices across the United States and in more than 80 countries, the U.S. Commercial Service of the U.S. Department of Commerce utilizes its global presence and international marketing expertise to help U.S. companies sell their products and services worldwide.

For more information about export opportunities in this sector, please contact US Commercial Service Industry Specialist: Genard.Burity@trade.gov.

Architecture, Construction and Engineering Services

Overview

Brazil has experienced significant growth in the Architecture, Construction, and Engineering (ACE) sectors over the past several years, garnering global attention due to the FIFA World Cup in 2014 and the Rio Olympics in 2016.

During the past two years, Brazil's once thriving economy has faltered and its status as a favorite of international investors within the BRIC countries has diminished considerably. The 2014-2016 recession in Brazil was largely due to a complex mix of political and economic factors, resulting in a 3.6 percent contraction of GDP in 2016. However, analysts are hoping for a slow recovery starting this year, encouraged by the expectation of lower inflation and interest rates.

In order to boost the economy, one of the first measures adopted by President Temer was to make it clear to the global community that the new Brazilian Government will welcome the participation of the private sector in public infrastructure projects. In 2016, President Temer launched the Investment Partnership Program (PPI) also known as "Projeto Crescer". The program envisions investments in roads, railways, airports and ports, with an additional investment of US$29 billion from 2019 onward. It also includes measures to reduce bureaucracy, to simplify the contracting process, and to encourage innovation and access to new markets.

Still, in a country of over 200 million people spread over 27 states, there are numerous opportunities waiting to be explored by those eager to embrace new challenges and partner with creative and entrepreneurial Brazilians. With respect to the ACE sectors, green and sustainable businesses are gaining more attention, as well as legacy opportunities in several cities, such as large infrastructure projects (transportation, healthcare, education, etc.) – all of which will be discussed in further detail ahead.

Projeto Crescer (Project Growth)

Projeto Crescer was promulgated though Provisional Measure No. 727 of May 2016 (MP 727/2016), Law No. 13.334 of September 2016 which codified MP 727/2016, and Provisional Measure No. 752 of November 2016 (MP 752/2016) which established guidelines for partnership contracts under Law No. 13.334. Projeto Crescer is led by Minister Moreira Franco, and is reshaping the format of public concessions in Brazil. In essence, Projeto Crescer's ultimate goal is to facilitate business opportunities and help Brazil return to economic growth.

In September 2016, the GOB announced 34 initial projects and privatizations under Projeto Crescer. The announcement included projects related to, airports, power generation and distribution companies, railways, one lottery company, mining, oil and gas bid rounds, ports and water treatment companies.

The project is based on ten guidelines that will ensure that concessions occur with a "spirit of competition" between business owners, as well as transparency and predictability on the part of the government. Regulatory agencies will also play an effective role, and notices will only be issued after public debate and endorsement by the Court of Audit of the Union (TCU). In addition, all edicts will be published in Portuguese and English.

Notable among the new rules, it was determined that deadlines between the launch of an announcement and the receipt of proposals will be more than 100 days. This change will allow investors more time to prepare to participate in the bids. Lastly, only projects with proven environmental feasibility will go to the concession.

Leading Sub-Sectors

- Urban Planning
- Airport Design
- Real Estate: new or retrofit
- Industrial: new or retrofitted plants
- Hospitality (new hotels, retrofit of existing hotels, transformation of residential buildings into hotels)
- Health Sectors (new hospitals and upgrades to existing hospitals)
- Education
- HVAC
- Furniture design
- Drywall technologies
- Lighting (residential, commercial, industrial, urban)
- Sports venue design and equipment
- Building Information Modeling (BIM) process
- Landscaping

Opportunities

The integration of big cities with the rest of the country is limited by troublesome and inadequate transportation systems. In their 2015-2016 report, the World Economic Forum ranks Brazil 74 of 138 countries for the quality of its infrastructure. Overall, Brazil's

operational success is still constrained by infrastructure inefficiencies, as there are bottlenecks in every sector hampering the development of industry.

Opportunities in the ACE sectors can be found in areas such as urban planning, real estate, airports, ports, highways, pavement, hospitality, and hospitals, including master plans and executive projects.

These projects must contain sustainable or "green" content, according to LEED, AQUA and other certification programs. According to the U.S Green Building Council, Brazil ranks fifth in LEED registrations worldwide in 2016, with 7.4 million square meters of certified buildings, trailing only the United States, China, Canada and India.

U.S. ACE firms should be aware of the administrative and regulatory differences among each of the Brazilian states. In addition, though construction in major cities such as São Paulo and Rio de Janeiro is recovering, the high number of ACE firms already operating in these areas may make it difficult for smaller firms to enter the market. Other states, such as Pernambuco and Ceará (in the north and northeast regions of the country) may offer better opportunities in industrial, residential, hospitality, health, education, and other subsectors.

Establishing a Presence in Brazil

The U.S. Commercial Service recommends that U.S. firms, with no physical presence in Brazil, partner with Brazilian firms before bidding directly on projects.

In the architectural sector, the overall experience for registration and licensing has shown that foreign architectural firms with international awards or a specialized niche have been the most successful at attracting partnerships with Brazilian architectural firms. Having a local office with the necessary licensing to do design work in Brazil is very advantageous as well, due to the hefty taxes levied by Brazil for importing services, including architectural services.

To justify these costs, Brazilian clients prefer to work with firms that have certain expertise that is normally not available from a local competitive architectural firm. This option works for U.S. firms looking to do business in Brazil over the long term, as starting a business in Brazil and obtaining the necessary approvals to do architectural work in the country is not a short-term process.

An alternative for U.S. firms that do not yet have a presence in Brazil, is to partner with a local firm that is licensed to provide architectural or engineering services in Brazil. As with most services imported to Brazil, the Brazilian architectural firm using the design services will have to pay additional tax of up to 40 percent of the price of those services rendered, for the portion of the design work that the foreign firm will produce. This is not unusual even with projects where a U.S. firm's experience in a certain area is not easily available in Brazil.

Established ACE firms have been successful by considering joint-ventures or mergers with Brazilian entities. This option works well for ACE firms who are looking to expand in Brazil over the long term and have plenty of patience.

In summary, a foreign ACE firm can complete projects in Brazil through:

a) The establishment of a local office in Brazil, with legal registration at the Brazilian Architecture and Urban Planning Institute (CAU), which will allow the firm to design and execute projects; or
b) By partnering with a local architect or architectural firm. The local firm or architect should be legally registered with CAU and understand the total costs levied on the service imported, including the portion of the design work that is done by the U.S. architectural firm; or
c) Finding a partner with whom the foreign firm can merge, or transform it into a local subsidiary, or establish a joint-venture partnership.

Despite aggressive competition and bureaucratic hurdles in ACE, many U.S. firms have been competing and winning projects. One of the most notable success stories is with the Los Angeles based firm AECOM, which won the bid to design the Olympic Park, the heart of the 2016 Olympic and Paralympic Games. Another is with U.S. firm Hanse Golf Course Design, which won the bid to design the new golf course used during the 2016 Olympic Games. Also, New York-based firm Diller & Scoffidio is designing the Museum of Image and Sound in the popular Copacabana area of Rio de Janeiro.

Legal Requirements

The general rule is that any foreign company can be a partner, investor or shareholder in a Brazilian company, making the Brazilian company a subsidiary of the foreign entity. The Brazilian company will then be fully governed by Brazilian law and will have the same rights and responsibilities as any other Brazilian company.

Opening a branch of a foreign company in Brazil is slightly more complicated. This requires a specific authorization from the Brazilian Ministry of Development, Industry, and Foreign Trade. A foreign company that wishes to install a local branch in Brazil will have to send a formal request to the Brazilian Ministry of Development, Industry and Foreign Trade, where the National Department of Trade Registration, known as DNRC, will evaluate the request.

In order to form a limited partnership in Brazil it is necessary to have at least two partners. The general rule is that both partners in the company can be foreign and they can either be individuals or legal entities.

It is important to emphasize that all companies formed in Brazil need a unique address. A regular virtual address is not accepted as a fiscal address. For operations where there are several companies registered at the same office address it is common to specify which room each company is registered to, as this makes each address unique for fiscal purposes.

Conclusions and Recommendations

Brazil has a large and diversified economy that offers U.S. companies many opportunities to export their goods and services. Brazilians are aware that in order for their country to continue to grow, they must invest in infrastructure, particularly in transportation and logistics.

With the current political and economic issues facing the federal government and some of the largest Brazilian engineering firms, the U.S. Commercial Service recommends partnerships with smaller firms that are willing to discuss business opportunities with U.S. firms. But, with

the current strength of the dollar versus the Brazilian real, this might just be the right time for U.S. investors and companies to consider working in Brazil.

Although there is strong competition from local firms, opportunities exist for U.S. suppliers of construction products and services that offer new products and technologies in very niche areas. American ACE firms with a niche expertise are welcome to do business in Brazil, provided they understand the procedures for being able to work in Brazil. In addition, many of Brazil's infrastructure procurement requirements are setup to ensure that bidders have the necessary experience to complete large-scale projects. Therefore, many Brazilian ACE firms seek partnerships with foreign firms that have a niche expertise which can add additional levels of capability to their portfolios in order to enhance their bids.

Web Resources

Projeto Crescer
The Brazilian Council for Architecture and Urbanism (CAU)
The Brazilian Association of Architecture Firms (ASBEA)
The Federal Council for Engineering and Agronomy (CONFEA)
The Brazilian Association of Architectural and of Consulting Engineering Companies (SINAENCO)
The Brazilian Association of Engineering Consultants (ABCE)
The Brazil Business
Invest in Brazil
BMF Bovespa
World Bank Group
LEED in Motion Brazil

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For more information about export opportunities in this sector, please contact U.S. Commercial Service Industry Specialist: Patrick.Levy@trade.gov

Chemicals

Overview

Brazil imported US$34.2 billion in chemical products in 2016: 56 percent of these products, worth US$10.2 billion, were supplied by companies from the European Community, and US$8.9 billion came from North America. The Brazilian chemical industry is very receptive to American chemicals, based on the quality of the products and in several cases coupled with competitive prices offered.

The challenge in the market is related to product registration, several chemical products, including raw materials, must be registered with governmental agencies on the municipal, state, and federal levels. The Brazilian government has been working to reduce the amount of

time to register products, but it can take up to one year to complete the registration process depending on the product.

Chemicals in Brazil				
	2014	2015	2016	2017 (Estimated)
Total Local Production	156.7	112.4	113.5	N.A.
Total Exports	14.4	12.8	12.2	13 – 13.5
Total Imports	46.1	38.2	34.2	35 – 36
Imports from the US	10.2	8.2	7.1	8 – 9
Total Market Size	202.8	150.6	147.7	N.A.
Exchange Rates	2.35	3.33	3.49	

In US$ billions (Total market size = (total local production + imports) - exports)

Net sales for the Brazilian chemical industry in 2016, taking into account all segments, were about US$113.5 billion, a 1.5 percent increase over 2015. The chemical industry accounts for 2.5 percent of Brazil's GDP.

Considering the Brazilian Institute of Geography and Statistics (IBGE)'s figures of 2014, the chemical sector is the 3rd largest industry in Brazil, representing 10.4 percent of the industrial GDP, behind Processed Food & Beverage (21.2 percent); and Petrochemical (16.6 percent).

According to the Brazilian Chemical Industry Association (ABIQUIM), Brazil imported US$34.2 billion of chemical products in 2016, a reduction of 10.7 percent which accounts for 37.5 million tons; however, in million tons the imports grew 11.6 percent Nevertheless, Brazil faces a trade deficit of US$22 billion in the chemical sector. Fertilizers are the principal product imported, in the amount of US$5.2 billion and 22.2 million tons.

Brazil exported US$12.2 billion in 2016, which decreased 5.3 percent compared to 2015. Countries from Mercosur and Latin America were the main destinations for Brazilian chemical exports in 2016: Argentina, Paraguay and Uruguay imported US$747 million, while other Latin American (except Mercosur and Mexico) countries bought US$854 million.

The top 10 products imported in 2016, were:

The top 10 chemical products imported in 2016 - Brazil		
	PRODUCT	USD Million
1	Potassium Chloride	1989
2	Diohydrogen-Orphosphate (Monoamonic or Monoamonical Phosphate), even if mixed with Diamonian Hydrogen-Orphosphate (Diamoniacal or Diamoniacal Phosphate)	978
3	Blood Fractions, Modified Immunological Products (Drugs)	953
4	Urea (with nitrogen content >45% by weight)	902
5	Other medicines containing heterocyclic compounds in doses	826

6	Pesticides	786
7	Fungicides	624
8	Fertilizers / Fertilizers with nitrogen and phosphorus	547
9	Other Vaccines for Human Medicine, in doses	489
10	Other Heterocyclic Compounds Containing 1 Cycle Pyrazole, not condensed	445

Brazil is the 8th largest chemical industry in the world

Total amount worldwide: US$5.226 billion

Chemical Industry		
#	Country	Net Sales US$ Billion
1	China	1,921
2	Usa	797
3	Japan	254
4	Germany	238
5	South Korea	169
6	India	134
7	France	124
8	Brazil	112
9	Uk	110
10	Switzerland	99
11	Italy	86
12	Taiwan	83
13	Ireland	83

Leading Sub-Sectors

- Pharmaceuticals
- Inorganics
- Organics
- Resins and Elastomers
- Pesticides
- Other Chemicals
- Fibres, Wires, Cables and Continuum Filaments
- Soaps, Detergents, Cleaning Products and Personal Care Items
- Paints, Varnishes, Lacquers and Related Products

Chemicals Sub-sectors in Brazil		
#	Sub-sector	Tons

1	Inorganics	29,554,150
2	Organics	3,783,729
3	Resins and Elastomers	2,391,691
4	Other Chemicals	570,720
5	Pesticides	519,101
6	Fibres, Wires, Cables and Continuum Filaments	442,038
7	Pharmaceuticals	134,238
8	Soaps, Detergents, Cleaning Products and Personal Care Items	86,823
9	Paints, Varnishes, Lacquers and Related Products	70,585

U.S. suppliers have a great opportunity to grow their exports in the following top five chemical sub-sectors: pharmaceuticals, inorganics, organics, resins, and pesticides.

Imports By Region

Chemical imports by Region					
#	Sub-sector	TOTAL	Mercosur	N. America	EU
1	Pharmaceuticals	8,778,763	151,231	2,005,968	4,309,103
2	Inorganics	7,992,336	107,095	2,264,932	1,169,959
3	Organics	6,403,428	140,938	1,702,052	1,659,033
4	Resins and Elastomers	3,822,752	526,549	1,220,719	968,127
5	Pesticides	3,436,285	195,108	860,907	863,121
6	Other Chemicals	2,031,018	114,552	664,092	823,901
7	Fibres, Wires, Cables and Continuum Filaments	788,789	25,080	43,839	76,370
8	Soaps, Detergents, Cleaning Products and Personal Care Items	537,728	148,231	146,069	181,584
9	Paints, Varnishes, Lacquers and Related Products	375,391	12,968	89,332	155,378

Imports By Trade Bloc

Chemical Imports by Trade Bloc					
#	Sub-sector	TOTAL	ALADI (except Mercosur and Mexico)	Asia (except Middle East)	Others
1	Pharmaceuticals	8,778,763	58,373	1,547,416	706,671
2	Inorganics	7,992,336	257,448	773,407	3,419,494
3	Organics	6,403,428	149,250	1,943,368	808,788

4	Resins and Elastomers	3,822,752	219,133	687,592	200,633
5	Pesticides	3,436,285	68,283	1,161,088	287,778
6	Other Chemicals	2,031,018	19,990	353,496	54,988
7	Fibres, Wires, Cables and Continuum Filaments	788,789	13,477	606,778	23,246
8	Soaps, Detergents, Cleaning Products and Personal Care Items	537,728	13,665	36,138	12,043
9	Paints, Varnishes, Lacquers and Related Products	375,391	3,607	71,048	43,058

Regarding chemical products, Brazil imported a total of US$8.9 billion from North American suppliers in 2016, 79.1 percent (US$7.1 billion) of which came from U.S. companies:

Chemical imports from	
NORTH AMERICA	2015
Canada	13.7%
USA	79.1%
Mexico	7.2%

Opportunities

As trade deficit statistics indicate, Brazil is by no means self-sufficient in the chemical sector. Imports have been increasing significantly. Brazil imported a total of US$3.6 billion in chemicals in 1991. Since then, chemical imports have grown more than 852 percent.

Chemical Imports – Brazil						
Brazilian chemical imports	1991	1998	2001	2008	2009	2016
US$ Billion	3.6	10.1	10.8	35.1	26.1	34.2

During January and February of 2017, chemicals represented 22.8 percent of Brazilian imports, a total amount of US$5.3 billion, generating a deficit of US$3.2 billion. Fertilizers are the principal product imported, with a total of US$1 billion. Brazil has already imported 7.2 million tons of chemical products.

Challenges

While an excellent market for U.S. chemical products, Brazil's chemical sector has several challenges to importers, including:

- Product registration: Several chemical products, including raw materials, must be registered with governmental agencies, such as the Brazilian Federal Police and the Brazilian Army; and may also require registration with municipal, state and federal agencies.

- Import taxes and duties: Brazil's costly and complex cascading tax system and import duties can be challenging for some U.S. chemical companies. However, Brazilian chemical importers and customers trust in the quality of U.S. chemicals and, in some cases, may opt to pay more for U.S. products. Suppliers in Germany, France and UK are the strongest competitors for United States exporters.
- Competition from Mercosur: Since Brazil is part of Mercosur, its fellow member countries, Argentina, Paraguay and Uruguay can export to Brazil with lower or no taxes.
- Mercosur International Agreements: Chemical suppliers within Mercosur member countries benefit from several unilateral and regional international agreements. Brazilian suppliers, meanwhile, reap similar benefits through the country's unilateral trade agreements with five Latin American countries.

Web Resources

Brazilian Chemical Industry Association (ABIQUIM)
Brazilian Institute of Geography and Statistics (IBGE)

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Defense

Overview

The table below are unofficial estimates of the Brazilian defense and aerospace market for import and export of equipment, parts, components, systems and others. Total market size equals local production plus imports.

Defense sector in Brazil			
(in U.S. billions)	2015	2016	2017 (estimated)
Total Market Size	7.1	6.0	6.8
Total Local Production	4.8	4.6	4.5
Total Exports	3.6	3.5	3.8
Total Imports	2.3	1.4	2.3
Imports from the U.S.	1.7	1.2	1.1
* The above are unofficial estimates and assume an exchange rate of 3.10/US$			

Source: Ministry of Defense/ Brazilian Association of Aerospace Industry (AIAB)/ Brazilian Association of Defense Material (ABIMDE)/ National Defense and Foreign Relations Committee at the Federal Senate/ FIESP – COMDEFESA/ AIAB.

Brazil's 2017 budget proposal for the defense sector is approximately US$30.3 billion. The National Strategy of Defense (NSD) published in 2008 and revised last year, continues to be the guide for the medium and long term strategy for the Defense sector in Brazil, highlighting three strategic sectors: nuclear, cyber, and space, as well as promoting the development and strengthening of the Brazilian defense industry.

The Minister of Defense highlighted at the LAAD 2017 trade show in Rio de Janeiro the following strategic defense projects: the Submarine Development Program (PROSUB), the Navy Nuclear Program (PNM), the Guarani, SISFRON, FX-2 and KC-390 as essential projects for Brazilian defense sector development and the country's economy. Those projects will continue to move forward as permitted by the overall federal budget.

Leading Sub-Sectors

Brazilian Navy Priority Programs

The Brazilian Navy's most important strategic projects are the Submarine Development Program (PROSUB) and the Navy Nuclear Program (PNM). The PROSUB includes the production of four diesel-electric submarines and a single much larger nuclear powered submarine. The first conventionally-powered submarine is expected to be completed this year. The Brazilian Navy Nuclear Program foresees the development of a nuclear fuel production cycle, the development of a nuclear electric generation laboratory (LABGENE), the development and construction of a prototype reactor, and the upgrade to the Navy's Technological Center in the State of Sao Paulo. The nuclear submarine should enter into operational service in 2029 and the total cost of this project will be US$10 billion dollars. (U.S. companies interested to supply good for the navy nuclear program need to comply with all U.S. restrictions).

The Brazilian Navy has recently announced the opening of another important strategic project: the construction of warships "Tamandaré Class Corvette", which calls for the development and construction of four 2.7 thousand ton warships. The technical specifications of this project are available from the Brazilian Navy's Management Program Directory (DgePM) in Rio de Janeiro. The bid process will be closed in 2018 with construction starting in 2019. The total investment is US$1.8 billion and in the long-term the Brazilian Navy's orders could reach 12 units, depending on budget.

Brazilian Army Priority Programs

The Brazilian Army's list of strategic projects includes the Guarani, SISFRON, and Cyber Defense. Guarani is a new family of armored, wheeled vehicles for troop transportation (VBTP-BR 6X6) and Armored Reconnaissance Vehicles (VBR-BR 8x8). Despite the recent cuts in its budget, the Army Command should receive 60 - 80 vehicles this year. A total of 1,580 vehicles should be delivered until 2035. The project total value is approximately US$3.1 billion.

Another strategic project for the Brazilian Army is the Integrated Border Monitoring System (SISFRON) which will create a system capable of monitoring incidents along the entire border. The projected total investment is US$4 billion through 2035. In 2017, the Ministry of Defense has allotted US$152 million for procurements related to SISFRON. The project's second phase is under final planning and will include four other states, in addition to the pilot-project in

Mato Grosso do Sul. According to Brazil's Institutional Security Cabinet, Brazil will share technology, cost, and results of SISFRON with its neighboring countries. Discussions with Argentina on the topic have begun.

A third strategic project under development by the Brazilian Army Command since 2010, is Cyber Defense. The program's goal is to provide Brazil a high-level structure to protect the country from cyberattacks. The project includes the construction of a Cyber Defense Center, the development of software and hardware solutions, the acquisition of super computers and digital forensic equipment and the creation of a national cyber defense school and a cyber defense command. The project's total value is around US$106 million and should be concluded in 2020.

Brazilian Air Force Priority Programs

The Brazilian Air Force's most important strategic projects are the FX-2 Fighter aircraft, KC-390 cargo aircraft, and the Geostationary Satellite for Defense and Strategic Communications (SGDC), which launched in May 2017. The SGDC is operated by Telebras on the K (civilian) band and by the Ministry of Defense on the X (military) band. Visiona, a joint venture between Embraer and Telebras is responsible for integrating the SGDC system. Total value is around US$570 million with a service life of 18 years. The FX-2 fighter aircraft project includes the acquisition of 36 Gripen NG fighter aircraft from Sweden, with Embraer and SAAB as prime contractors. The FX-2 project does offer opportunities for sub-contractors to supply these primes. Both projects are priorities and will continue to move forward, according to the Minister of Defense.

An additional priority project for the Brazilian Air Force is the KC-390 cargo aircraft developed by Embraer. A total of 28 aircraft will be delivered over 12 years starting in 2018. The total value of this project is approximately US$2.4 billion, with several international suppliers expected to provide components.

Another essential project for the Air Force is the ATN – Air Traffic Management coordinated by the Commission for the Implementation of Airspace Control Systems (CISCEA). The ATN will be a Public-Private-Partnership to manage an integrated communication network. The winning bidder will be responsible for the project's development, installation, operation, management and maintenance for 25 years under Brazilian Air Force guidance. The technical and economic study for ATN is currently underway and a public tender should be published this year.

Opportunities

The Brazilian Armed Forces have long-term development, construction and acquisition plans that include: weapons, escort ship platforms, transport ships, offshore patrol vessels, tugs and hydrographic/oceanographic ships, UAVs, long range radars, helicopters, tactical radio communication systems, and spare parts and components, among others. To conduct business with the Brazilian Armed Forces, U.S. companies must be prepared for a long and complex engagement. As in most industries, having a local office or a trusted and well-respected local representative with extensive contacts and a solid sales record is a critical business practice in order to succeed in Brazil. In addition to the ever-present desire for offsets, U.S. firms must be prepared to transfer technology (subject to pertinent export control regulations) and

oftentimes engage in long-term partnership with the Brazilian aerospace and defense industry for the co-development and local production of components, parts, and assembly.

Since 2015, Brazil and the United States have engaged through the Defense Industry Dialogue (DID) to increase bilateral trade and investment in the defense sector, improve the regulatory and bureaucratic environment for U.S. and Brazilian defense firms, and enhance understanding of U.S. export control policies to increase opportunities for technology transfer and exchange.

Web Resources

Ministry of Defense
Associação das Indústrias Aerospaciais do Brasil (AIAB)
Associação das Industrias de Material Bélico e Segurança (ABIMDE)
Ministry of Development, Industry and Foreign Trade
National Defense White Book 2013 version
Defesanet
Tecnologia & Defesa

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Education and Professional Training

Overview

Despite the current economic/political challenges that Brazil is going through, it is the fifth largest higher education market in the world and the largest higher education market in Latin America. Education expenditure as a percentage of GDP reached 6.6 percent in 2015, compared to 4.6 percent in 2004. According to the National Plan for Education, the goal is to spend 10 percent by 2024. The Brazilian Ministry of Education's budget for 2017 is US$34 billion.

Brazil has 57 million students in its basic education system, with 8.7 million in pre-school, 37.2 million in elementary school and 11.1 million in high school. The higher education sector includes 7.3 million enrolled students. Approximately 72 percent of higher education students go to private institutions.

The education sector is a high priority for the Government of Brazil. The internationalization of higher education is a subject that is gaining increasing relevance both for public and private Brazilian Higher Education Institutions. Brazilian federal research agencies have a long history of supporting international research partnerships, and such bilateral agreements with various countries in Europe, North and Latin America have existed for decades. However, available English language courses at Brazilian universities are still limited but growing.

In contrast to the segment for primary education, private institutions dominate higher education in Brazil. Public institutions in Brazil are small and are not capable of meeting the overall demand for higher education courses. Public higher education institutions are directed to serve as centers of excellence and research, with extremely competitive admissions standards and a limited capacity for expansion. Private higher education institutions are focused on meeting the professional requirements of the labor market and have developed flexible programs to meet the needs of the working population.

Industry specialists such as Hoper Education expect that despite the challenging economic/political situation, the education sector in Brazil will continue to grow, particularly the distance-learning segment. The lower monthly tuition fees in distance learning are expected to increase the penetration of higher education in Brazil. Distance learning solutions are particularly attractive to the large number of private, for-profit universities in Brazil. According to the Brazilian Association of Distance Learning (ABED), out of the 226 institutions that offer distance-learning classes, 64 percent are private, while 36 percent are public.

Leading Sub-Sectors

Brazil ranks eighth as a country of origin for foreign students studying in U.S. universities. In the 2015-16 academic year, 19,370 students from Brazil were studying in the United States. The breakdown was as follows: 36.1 percent undergraduate; 22.2 percent graduate students; 34.9 percent other (language, short-term non-degree programs, etc.), 6.8 percent OPT (Optional Practical Training).

Non-recognition of foreign university credits toward earning a degree in Brazil is a barrier to U.S. education exports. The Ministry of Education is in the early stages of creating a system to recognize foreign university degrees. Once the system is established, foreign universities will have to register to be included on the certified list; this is intended to be a fast-track system for students to have their foreign diplomas recognized. For continuing education purposes, the private universities have authority to work on case-by-case diploma recognition.

Despite the bureaucratic challenges of having U.S. degrees recognized in Brazil, the number of Brazilian students choosing U.S. education is significant. The economic impact of Brazilian students in U.S. colleges and universities contributed $820 million to the U.S. economy during the 2015/16 academic year last year.

Approximately 80 percent of Brazilian students who study abroad come from Brazil's southern and central eastern states (São Paulo, Santa Catarina, Rio Grande do Sul, Paraná, Rio de Janeiro, Brasília and Minas Gerais). Among these states (each of which presents excellent opportunities for overseas recruitment), São Paulo, Brasília, and Rio de Janeiro represent the three best locations to recruit Brazilian students to study in the United States. São Paulo has the largest applicant pool, and attracts the most talented students to its own university campuses. The capital city of Brasília, located in Distrito Federal (Federal District) has the country's highest GDP per capita at approximately $16,500, over twice that of São Paulo, the region with the second-highest GDP per capita. The state of Rio de Janeiro (the country's hub for the oil and gas industry) attracts many engineering and science majors. EducationUSA includes each of these three cities in its annual South American Roadshow in August.

Brazil recognizes the need to improve English language skills across the country. The majority of the population (including those employed in the tourism sector) lack basic English language skills, which is the main challenge for many Brazilian students applying for study abroad programs. Institutions that can address this issue by providing conditional acceptance tied to English language training or other such "pathway programs," may have a competitive advantage in attracting Brazilian students.

Although private English language schools are abundant, student exchange programs are a huge market in Brazil, especially short-term and part-time programs. Over the past ten years, the number of students going abroad to study a foreign language increased by 600 percent according to the Brazilian Educational and Language Travel Association (BELTA). In 2014, 234,000 students went abroad for foreign language courses and student exchange agencies generated around US$1 billion. Examples of exchange programs currently popular in Brazil include part-time study programs combined with tourism and outdoors sports; teen vacation (specifically for teenagers with a mix of classes and leisure activities) and English language programs designed for 50+ year old students. U.S. schools interested in recruiting in Brazil should provide creative financing options, including options to pay in installments, since cost (along with proficiency in English language skills) will continue to be a challenge for Brazilian students studying abroad. Installment payments are also widely popular throughout Brazil, from personal care to larger purchases such as computers.

Opportunities

Provision of technology, equipment, and curricula for technical courses also present excellent opportunities for U.S. entities in Brazil. Since 2007, the Education Ministry has invested in "PROINFO," a program that promotes information technology as an important teaching tool. The program promotes installations of technology labs in public elementary and high schools, laptops for teachers and students, digital boards, projectors, and tablets. In 2017, the government will continue to invest in technology programs with additional purchases of tablets for teachers, computers for technology laboratories at schools and universities, smart and digital boards, projectors, and other learning technologies.

For the next decade, the fastest growing segment of the educational market in Brazil will be short-term vocational and English learning courses, due to government investments in technical schools and courses for high schools students and adults. Over the past five years, demand for professional/vocational courses grew 50 percent.

In 2011, the Government of Brazil launched "PRONATEC" (National Program for Technical Courses and Jobs) and designated $3.5 billion for the program. Between 2011 and 2015, PRONATEC funded technical and vocational courses for over nine million students. Companies and educational institutions interested in participating in these programs should consider partnering with local companies or universities. The National Confederation of Industry (CNI), through its Technical Schools SESI, SENAC, and SENAI, is also offering vocational courses.

Education Fairs and Trade Shows

Education fairs are one of the most efficient means to recruit individual Brazilian students, including the biannual "EducationUSA" roadshows, supported by the U.S. Department of

State's Bureau of Educational and Cultural Affairs (ECA). This year's fairs will take place in April and August 2017. Universities interested in participating and exhibiting at the fairs should contact the EducationUSA office in Brazil.

ICEF - September 21-23, 2017 – São Paulo – This workshop provides an opportunity for international educators from all sectors to consolidate existing partnerships as well as establish new ones with quality, screened student recruitment agents. This is the largest event of its kind in Brazil.

Study Travel - ALPHE Conferences –March 7-9, 2018 – São Paulo – The Conference creates an environment for networking between international educators and student recruitment agents.

FAUBAI Conference –April 14 – 18, 2018 – Rio de Janeiro – The Brazilian Association for International Education (FAUBAI) meets annually to promote the improvement of exchange programs and international cooperation as a means to improve teaching, research, extension and administration of affiliated institutions, seeking to stimulate the continuous improvement of the management of international exchange and cooperation.

Bett Brasil Educar – May 10 – 13, 2017 – São Paulo – Despite the fact that the vast majority of exhibitors are domestic manufacturers of low cost equipment trying to capture a portion of the market created by Education Ministry spending on PROINFO, this show represents the best annual opportunity to exhibit classroom technology and furniture in Brazil. The main objective of Bett Brasil Educar is to provide an enabling environment for network, business and present solutions to improve the quality of the Brazilian education, for more information:

Web Resources

U.S. Government:

Foreign Commercial Service Education Team
Education-Brazil Top Markets Report
EducationUSA Brazil
Department of Commerce U.S. Educational Institutions and Intensive English Programs

Government of Brazil:

Brazilian Ministry of Education
Language without Borders
FNDE
Proinfo

Other:

Institute of International Education - Open Doors
Belta – Brazilian Educational and Language Travel Association
Anima Educação
Top Universities - rankings

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Electrical Power

Overview

Brazil is the largest electricity market in Latin America and the third largest in the Americas, behind only the United States and Canada.

According to the Brazilian Development Bank (BNDES), the Electrical Power Sector is expected to receive investments of approximately US$65 billion between 2015 and 2018. This estimate is based on the generation and transmission auctions that have already taken place, as well as studies conducted by the Brazilian Energy Planning Agency (EPE). The large majority of these investments are in generation (US$40 billion), of which US$18 billion are forecast for hydropower projects.

The estimated 2016 market for Brazil's Electrical Power Systems Sector, which encompasses generation, transmission, and distribution (GTD) equipment, is projected to have reached US$5.5 billion and expected to grow three percent in 2017. Imports are estimated to have amounted to US$993 million in 2016, with about ten percent being from the United States.

Brazil's electricity market is regulated by the National Electricity Agency (ANEEL), while the Ministry of Mines and Energy (MME) leads energy policy developments. ANEEL regulates public tenders for electricity sold to distribution utilities, sets tariffs for residential consumers in the regulated market, and is responsible for maintaining an economic balance that enables distributors to cover operating costs and recover an adequate return on investment. Meanwhile, a liberalized and unregulated system governs the trade of electricity between independent energy suppliers, and industrial consumers have the option of purchasing from the unregulated market.

Despite the long-standing goal of nationwide deployment, Brazil's smart meter market has experienced a number of false starts and the regulatory environment has not developed favorably to drive deployment. In 2012, ANEEL approved a long-awaited resolution establishing requirements for smart meters, but the regulator limited the classes of consumers for the rollout. The smart grid market is still eagerly awaiting additional technical regulations from both ANEEL and Brazil's lead standards body, INMETRO, that will finally kick-off deployment.

Brazil's Energy Efficiency Program (EEP) mandates distribution utility spending in energy efficiency, requiring about US$250 million to be invested annually. Restrictive program requirements, however, have limited the effectiveness of spending, and the wider energy efficiency market in Brazil has been stifled by a high cost of capital for financing deals.

Leading Sub-Sectors

Generation

At the end of 2016, the National Electric Energy Regulator (ANEEL) recorded installed generating capacity of 151 gigawatts (GW), representing a nine GW expansion from 2015.

Renewable energy has long held a significant role in Brazil's energy matrix, with hydropower as the overwhelmingly dominant source of power generation. Due to devastating droughts in the last five years, the government and energy regulators have set out on an ambitious plan to increase and diversify its energy mix, with goals to invest approximately US$235 billion and install 36 GW of hydropower, 12 GW of biomass, and 11 GW of wind over the following ten years.

Brazil has highlighted its intention to remain a clean energy leader by directing the matrix diversification towards other renewable energy sources such as wind and solar power rather than fossil fuels or nuclear.

Brazil's energy matrix in 2016 shows the country still relying heavily on hydropower:

- Hydro: 65.1%
- Coal & Oil: 9.8%
- Biomass: 9.4%
- Natural Gas: 8.8%
- Wind: 5.4%
- Nuclear: 1.4%
- Solar: 0.01%

Brazil is credited as the first country to successfully hold reverse energy auctions, in which bidders submit lowest-cost bids in a blind auction. These auctions, which provide bidders three and five year terms to develop their projects, are conducted by the Electric Energy Trade Chamber (CEEE) on behalf of ANEEL and form the biggest source of energy generation contracting in Brazil. Reverse auctions are credited with contributing to increased competition and lower electricity prices in Brazil.

As well as ANEEL regulated auctions in Brazil, power purchase agreements (PPAs) are being negotiated on the fast growing spot market. The spot market is an unregulated space, where consumers negotiate PPAs directly with generators and traders. The spot market currently accounts for just under one third of total energy sold; some analysts posit that it will expand by 30 percent this year.

In December 2015, then-Minister of Mines and Energy (MME) Eduardo Braga launched a multi-agency distributed generation initiative (Pro-GD) that hoped to attract $25 billion in investment by 2030. This included the announcement of installing 2.7 million solar units to help increase Brazil's non-hydropower renewables share from 13 to 23 percent by 2030. The initiative was expected to lower CO2 emissions by 29 million tons as to contribute to Brazil's goals of cutting greenhouse gas emissions.

Transmission and Distribution (T&D)

Brazil now requires that projects involved in energy auctions prove that they have transmission lines secured prior to participating in the auctions. This will reduce the problems of delays associated with insufficient transmission infrastructure, while helping to drive the market for T&D equipment.

In addition to transmission shortages, poor energy efficiency and average electricity losses in excess of 15 percent also affect Brazil's market. Challenges include aging transmission lines that lose efficiency as they deliver power over long distances and rampant electricity theft in segments of the distribution network. The Brazilian government recognizes the need to upgrade power sector infrastructure, but a lack of finance and an uncertain investment climate have made attracting investments difficult.

Brazil's electricity needs and investment in large infrastructure projects through the 2013 period of economic growth have been important growth drivers for U.S. suppliers of grid modernization equipment and services. In 2013, U.S. T&D equipment exports to Brazil more than doubled to over US$94 million in revenue. Imports, however, dropped to resume modest growth in 2014 and decreased to $40.9 million in 2015.

Beginning with the Lula administration, Brazil set ambitious goals for its national smart grid deployment, but the market has been slow to develop. The smart grid regulatory and business environment has fallen short of expectations. Once the technical hurdles are overcome, the market expects significant investment in smart distribution solutions that can solve the problem of electricity theft. While the smart meter market is likely to be limited to an estimated US$500 million in the near-term, some of the larger, urban utilities with higher-income consumer footprints will require advanced smart grid solutions to a range of power management challenges.

Opportunities

Sustained opportunities for U.S. suppliers of GTD (Generation, Transmission and Distribution) infrastructure are expected in Brazil. U.S. exports of generation, transmission and distribution equipment have grown substantially in recent years and investment in Brazil's power infrastructure will need to continue in order to meet projected future electricity demand, particularly in urban centers far from traditional hydropower sources.

In the power generation subsector, best sales prospect opportunities include supply of control and supervision equipment, rectifiers, converters, inverters, solar trackers, high efficiency solar panels, and energy storage solutions.

U.S. suppliers continue to find export success in Brazil's T&D sector, where projects are continuing apace though economic and political issues pose a threat to future growth. Opportunities exist for transmission to connect areas of energy supply growth, with an emphasis on wind projects to growing demand centers. Transmission build-outs and solutions to ensure supply/demand balance show good potential in Brazil.

As the distributed generation and integration of new power sources moves forward, many Brazilian utilities will require more advanced power management solutions. Electricity

delivery and demand side management solutions as smart grid deployments are expected to advance in 2017.

Web Resources

EPE (Empresa de Pesquisas Energéticas)
National Grid Operator (ONS)
National Electrical Energy Agency
Top Market Reports on Smart Grids

Key Local Trade Associations:

Brazilian Power Distribution Associaton (ABRADEE)
Brazilian Power Transmission Association (ABRATE)
Brazilian Power Generation Association
Brazilian Association of Independent Power Producers

Key Trade Shows in Brazil

FIEE
SENDI

Key Trade Shows in the United States

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Environmental Technologies

Overview

Based on published sales revenues of the country's leading state-owned water and waste water (W&WW) utilities, the W&WW subsector is estimated at US$11 billion. ABRELPE, a nationwide solid waste management association, estimated the market size for solid waste management at US$8 billion. A source from the State of São Paulo's Environmental Authority (known as CETESB) estimates that the W&WW sector represents 50 percent of the total environmental market, while the air pollution control technologies subsector accounts for 17 percent, and solid waste management (including soil/water remediation sector) represents 33 percent of the total market. The actual market size is only a fraction of the market potential, which is estimated between 1-7 percent of Brazil's GDP (US$2.3 trillion).

Water and Wastewater Sector in Brazil

Brazil's budget deficit prevents the Brazilian Government from investing in the country's infrastructure. In an attempt to stimulate economic activity and attract the much needed

investments to this sector, President Temer announced a package of infrastructure concessions and privatization programs and created "The Investment Partnership Program" (Programa de Parcerias de Investimentos, or "PPI") for monitoring the projects in September 2016. PPI is part of the President's office, reflecting the high priority the administration attaches to infrastructure.

Industry sources expect a large reorganization of Brazil's water and wastewater market within the next two years, with increased participation of privately owned firms. BNDES, the National Bank for Economic and Social Development, has recently contracted private consulting services to determine models for private company participation in this market. Six state-owned water and wastewater utilities will initially be put forth for either privatization, long term concession or Public Private Partnerships (PPPs), after which, five additional companies will go through the same process.

In addition to the BNDES program, roughly 250 municipalities are interested in attracting private investments, which will result in a large number of new concession contracts and PPPs, all of which will attract significant investments in the sector for the next 30 years.

Although water distribution is available to 93 percent of the population, water rationing was established due to severe droughts in Brazil in 2014 and 2015. This situation highlighted the unreliable nature of the water supply system in Brazil. Industry experts attributed the water crisis to the historical lack of investments and planning, and also to poor management practices in Brazil's public utilities. Experts agree that inadequate efforts to reduce the water loss (national average of 37.57 percent) and low sewage treatment rates, largely contributed to the reduction of the water reservoirs to the critical levels observed in São Paulo and Rio de Janeiro in the recent past. In addition, a deficient rainy season left Brasília's reservoirs at only 50 percent of capacity by the end of April 2017, instead of the historic 100 percent level. Rationing currently shuts off water to neighborhoods one day in six. The failure to build a processing facility on Lake Paranoa (estimated completion end of September 2017) and the 200 KM pipeline to a large lake are more examples of poor planning and an assumption that Brasilia would always get lots of rain.

Sewage collection services are currently available to only 48 percent of the population, and only 32 percent of the collected sewage is treated, presenting a major pollution and basic sanitation challenge to Brazilian policy makers. Rural areas have almost no sewage infrastructure; larger cities show better numbers, but irregular settlements and a history of clandestine discharges are major challenges. Access to sanitation also varies by region – southern states collect 77 percent of their sewage, while northern states collect only 6.5 percent according to Brazil's national statistics.

In Brazil, municipalities are responsible for water and sanitation services. They either provide the services directly or have concession contracts with state and private companies to perform the services. Of the 25 state-owned utilities that serve about 76 percent of the population, 13 charge fees that do not cover their operating costs. Municipal and private sector utilities serve about 10 percent of the population.

Funds for sanitation are made available by federal, state, and municipal governments, as well as by multilateral development agencies and private sector companies. According to industry

experts, there is great need for investments in the expansion and replacement of existing water supplies, sewage collection, and sewage treatment systems, as well as increased management efficiency, quality of service, and technical capacity at all of the nation's utilities. The National Bank for Economic and Social Development (known as BNDES) estimated that R$37 billion (US$9.7 Billion) will be invested in the water and wastewater sector from 2015 to 2018.

Solid Waste Management

In Brazil, municipalities are responsible for the collection and disposal of solid waste. There is large participation of privately owned companies in the sector, mostly through concession contracts through Public Private Partnerships (PPP). Waste disposal and landfill operations are either performed directly by the municipalities or contracted to a third party. Sanitary landfills are the most common destination of the waste in Brazil. In addition to the municipal public works, about 200 private companies perform nearly 80 percent of the solid waste management services (street sweeping, waste collection, disposal, sanitary landfill management).

According to the Brazilian Association of Solid Waste Management companies, ABRELPE, Brazil produces 78 million Metric Tons of municipal solid waste per year and ninety percent of that waster is collected. 45.6 percent of this waste is disposed in sanitary landfills and 32.4 percent ends up in dumps. In 2003 to 2014, the waste production in Brazil, increased by 29 percent whereas the population grew by 6 percent. Recyclable waste collection services have yet to grow. Statistics from Brazil's Environmental Ministry indicate that only 23.7 percent of cities in Brazil have some type of selective (recyclables) waste collection service.

Brazil's National Solid Waste Policy mandates that municipal waste be reduced, reused, recycled, treated, and recovered. Only after all these steps can it can be sent to sanitary landfills. The National Solid Waste Policy of 2010 also established targets and deadlines, which includes:

- Municipalities must submit their solid waste management plan by the end of 2012. (The latest figures that the Brazilian Environmental Ministry reported are from 2015, where 2,325 out of Brazil's 5,570 municipalities had submitted their plans);
- The closure of all dump sites by 2014, though the Brazilian senate approved postponement of the deadline according to a schedule based on city size;
- Remediation by 2025 of areas contaminated by waste dump activities;
- 45 percent reduction of the amount of recyclables directed to landfills by 2031;
- 53 percent reduction of the amount of organic waste directed to landfills by 2031;
- Waste-to-Energy production – 300 megawatts per hour (MW/h) by 2031;
- Social inclusion of 600,000 independent waste collectors by 2031.

Air Pollution Control

Sources from CETESB estimate that about one third of the market for air pollution control equipment in Brazil is in the state of São Paulo, with half of that within the greater São Paulo metropolitan area. Brazil's goal is to reduce greenhouse gas emissions 37 percent by 2025 and 43 percent by 2030. Brazil's Intended Nationally Determined Contribution (INDC) focuses on

the end of illegal logging in the Amazon forest; recovery and reforesting of 12 million deforested hectares; recovery of 15 million hectares of degraded pastures; and, increasing the share of renewable energy in Brazil's energy mix to 45 percent.

The state of Sao Paulo has recently launched an online self-reporting protocol for companies operating in Sao Paulo state to report their greenhouse gas (GHG) emissions and their climate change mitigation strategies, including benchmarks, targets, and timetables. Executives from DOW, Toyota, Unilever, and GE expressed their support for the Protocol and their general willingness to participate in the reporting mechanism; many of these companies track and report GHG emissions on a global scale.

Leading Sub-Sectors

Water and Wastewater Treatment Technologies

Some water utilities have plans to adopt advanced treatment technologies, including ultra-filtration, nano-filtration, and reverse osmosis membranes for the supply of industrial water.

There is also increased demand for water-saving technologies with associated installation, training, and maintenance services. Such solutions include effluent treatment and energy management, advanced water treatment, water-loss prevention solutions, intelligent valves, efficient water distribution and reuse projects, water-saving devices, and rainwater systems.

The Brazilian agricultural sector has opportunities in more efficient agricultural irrigation technologies, such as drip irrigation control systems. However, the agricultural sector is generally not as affected by Brazil's shortage of water as households and industry because most growers draw supplies from proprietary wells and groundwater aquifers.

New technology solutions are in high demand, as are related services for improving water potability, monitoring and measurement control systems for the reduction of use, loss, and leakage due to theft and deteriorating infrastructure. Remote, online control systems, and smart grid technologies fit well within this profile.

In addition to the municipal demand, the chemical, oil and gas, metallurgy, textile, automotive, sugar, ethanol, pulp and paper, and food and beverage industry sectors all are potential buyers of water and wastewater solutions.

Solid Waste Management Technologies

According to BNDES's sector analysis, technologies for waste collection (i.e., compactor trucks) and for sanitary landfills (i.e., earth moving equipment, polyethylene landfill liners with leachate and gas collection pipes) are all made in Brazil.

However, compliance with the National Solid Waste Policy will require large investments to build new sanitary landfills, expand old ones, and acquire technologies for waste to energy production, reverse logistics, recycling, composting, etc. BNDES estimated those investments at US$1.7 billion per year in the period 2015-2018. Because of the relative low cost, sanitary landfills will continue to be widely used in Brazil in the next few years. Production of biogas is encouraged by existing state legislation that enables the concessionaires to sell part of the biogas. There are 15 waste-to-energy projects in Brazil that generate 117.76 megawats (MW), of which seven are in the state of São Paulo: Termoverde in Caieiras; São João; Guatarapá;

Bandeirantes; Tecipar; Ambient, and Energ-Biog. In addition, there are projects in Santa Catarina, Rio de Janeiro and Paraná. Power generators of one megawatt plus capacity for energy production are imported. Waste incineration is deemed too expensive for Brazil's market, however, increased energy prices, the end of life of sanitary landfills, and lack of room for new sanitary landfills, could make incineration economically feasible in the future.

Air Pollution Control

According to Companhia de Tecnologia de Saneamento Ambiental (CETESB), technologies and services that are in highest demand related to air pollution include:

- Continuous emission monitoring systems (extremely high demand due to the implementation of new waste incinerators)
- Analytical and laboratory testing goods and services
- Air pollution control equipment
- Fuel vapor control systems (new legislation on gas station vapor emissions is currently being drafted)

Opportunities

Water and Wastewater Sector

There is new emphasis in attracting private participation to Brazil's infrastructure sectors and the poor situation of Brazil's basic sanitation, presents business opportunities for technology suppliers and for investors wishing to acquire assets. The increased private participation in the sanitation business also means additional opportunities for U.S. exports, as privately managed utilities are not subject to public procurement legislation.

Solid Waste Management

Industrial companies are jointly addressing policy compliance through their respective industry trade associations, which typically contract feasibility studies, design reverse logistic methods, establish waste collection points, and select appropriate waste treatment technologies.

Air Pollution Control

Given Brazil's heavy reliance on hydroelectric power, air pollution in Brazilian cities primarily originates from industrial and mobile sources. Nevertheless, the drought that has been affecting the South, Southeast, and Northeast, regions of the country, is expected to result in increased use of thermoelectric power, which may cause changes in the air quality. Addressing air pollution has become a priority for the Brazilian government and has generated demand for gas emission monitoring technologies, gas analyzers, and air pollution control technologies.

In 2013, the state of São Paulo established "New Standards for Air Quality," similar to the EPA NAAQS, which should generate a demand for consulting, analysis, and measurement services, as well as for equipment. CETESB published a study called "Emission Reduction Plan for Stationary Sources" (known as PREFE), which was released to the public in January 2014. The plan evaluates the ambient air quality in seven geographic regions of Sao Paulo with similar pollution sources, and establishes the emission reduction targets. Among the industries that

do not currently comply with the new emission standards are: oil refineries, steel plants, petrochemical industries, pulp, paint, paint cabins, combustion equipment, and glass industries. According to CETESB, cement plants in the state of São Paulo are seeking alternative fuels, which should generate demand for control and monitoring equipment for emissions.

Web Resources

- IBAMA – Brazilian Environmental Institute
- CETESB – Environmental Authority of the State of São Paulo
- ABRELPE - Brazilian Association of City Cleaning and Waste Treatment Companies
- ABETRE- Brazilian Association of Solid Waste Treatment Companies

Trade Show:

ABES / FENASAN Congress - Exhibition of Environmental and Sanitation Services

Date: October 2 to 6, 2017

Site: Expocenter Norte – São Paulo

Organizers: Brazil's Association of Sanitary Engineers (ABES) and São Paulo State water utility Engineers Association

Comments: ABES bi-annual congress and the FENASAN trade shows will be held in conjunction for the first time. ABES and FENASAN are the number one water & wastewater related events in Brazil and attract a large audience and significant international exhibitors and visitors.

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Healthcare

Overview

Drugs and Pharmaceuticals

Brazil is ranked among the top ten largest pharmaceutical markets in the world. While Brazil hosts manufacturing plants of some of the largest U.S. pharmaceutical companies, local industries are mostly focused on the production of generic and similar brand medicines. Also, public laboratories supply chronic disease medicines that are distributed for free or at discounted prices to the public. Foreign companies can participate in partnership programs with local laboratories for the manufacturing of strategic drugs for the public system.

ANVISA is the Brazilian Health Regulatory Agency (equivalent to the U.S. FDA) that controls the registration, commercialization, post market surveillance and in some cases, the price of

medicines. According to Interfarma, the Brazilian Research-based Pharmaceutical Manufacturers Association, despite the efforts to reduce bureaucracy in the process for registration and clinical trials, new medicines may take up to 18 months for approval in contrast to the six month period stipulated by law. Pharma companies also have expressed concern about a recent fee increase for registration of medicines. INPI, the Brazilian Institute for Industrial Property (equivalent to the U.S. Patent and Trademark Office), reviews patent applications for new drugs and new uses of traditional medicines in Brazil.

Foreign companies must establish a local office or assign a local company to submit the petition for the registration of medicines.

Market revenues of pharmaceutical products in dollar value increased six percent from 2015 to 2016, with sales around US$14 billion. The first three months of 2017 showed an expansion of two percent for this year. Due to currency fluctuations in the Brazilian Real, the same period showed an increase of 13.7 percent in sales and growth of 13 percent is expected in 2017. Imports of pharmaceutical raw materials reached US$2.5 billion in 2016, representing a decrease of 1.6 percent. Major imported products in this category are for alpha tocopheryl acetate, cephalosporins, and amoxicillin. For medicines, imports increased 0.7 percent to a total of US$5.96 billion. Generics comprise 29 percent of the market. U.S. exports of pharmaceutical preparations (HC 40100) to Brazil doubled since 2006 and reached US$1.1 billion in 2015. Statistics were sourced from Brazilian Association, Sindusfarma.

The Brazilian market for nutritional supplements and natural products is expected to grow 25 percent per year. ANVISA requires that nutritional products make no therapeutic claims (other than the ones that are authorized by law for nutritional supplements) and ingredients should be limited to daily intake values, in order to not be classified as medicines.

Medical Equipment and Devices

There are broad opportunities in the Brazilian Medical Equipment and Devices market: medical devices and equipment, in vitro diagnostics, and e-health solutions. Private and public healthcare expenses in Brazil roughly correspond to 9.6 percent of the GDP. Of this amount, US$10.4 billion was related to the purchase of medical equipment and devices. In 2016, imports of medical products and devices were US$4.6 billion, a reduction of 16 percent from the previous year. A few notable growth areas were in dental products, where imports increased 10.6 percent, and in imaging diagnostics, where imports increased by 32.4 percent.

According to the Brazilian Association of Innovation in Healthcare (ABIIS), the segmentation of the market for medical equipment and devices is: reagents for in vitro diagnostics, 20 percent; materials and consumables, 19 percent; prosthesis, implants and parts, 15 percent; lab equipment, 14 percent; imaging equipment and consumables, eight percent; dental equipment, three percent; furniture, two percent; other, 19 percent.

There are 6,742 hospitals in Brazil, with 494,000 beds. Of these hospitals, 70 percent are private/not for profit hospitals. Approximately 55 percent of healthcare expenditures are performed by the private sector, while the other 45 percent are under the public budget.

ANVISA regulates commercialization and registration, and monitors the price of medical products in Brazil. Other government bodies involved in the introduction of new medical

products are the National Institute of Metrology, Quality and Technoloy (INMETRO) (certifies electromedical devices and implants), and the National Commission for Incorporation of Technologies in the Brazilian public health care system (CONITEC) (incorporates new medical technologies in the public health system).

For registration purposes, products classified as risk grade I and II require the cadastro, which is the simplified form for new medical products. Class III and IV products require a more detailed registration process that includes the certificate of Good Manufacturing Practices (GMP). ANVISA accepts the single audit program, where, in conjunction with other international health agencies, the agency recognizes the GMP certificate audited by third party companies. Also, to reduce bureaucracy, ANVISA allows the transfer of registration of products among companies. Foreign companies must assign a Brazilian representative or establish a local office in order to submit the registration/cadastro petitions to ANVISA. Products considered as essential for the government may have an expedited registration process.

There are nearly 4,000 manufacturers of medical products in Brazil and 10,400 distributors. Some of the largest multinational companies established manufacturing facilities in Brazil in order to reduce costs and be more competitive with the public system. Foreign companies can participate in partnership programs for technology transfer with local manufacturers for development and production of medical products. Some of those programs grant at least 30 percent of market share for private companies for a period of five years with the government purchase.

Leading Sub-Sectors

- Medical Equipment and Devices
- Medical devices and equipment
- In vitro diagnostics
- E-health solutions

Opportunities

Drugs and Pharmaceuticals

In the pharmaceutical industry, there are opportunities for innovative drugs, raw ingredients, and equipment. U.S. companies have improved their market competitiveness when partnering with local pharma companies. Both multinational and Brazilian companies have been investing in R&D and clinical trials.

Best prospects are innovative medicines to treat chronic diseases and modern life disorders, such as weight loss and erectile dysfunction. Medicines that are not commercialized in Brazil are being imported by judicial procurement for the treatment of rare diseases through the public system.

Medical Equipment and Devices

Brazil has some of the highest quality hospitals in Latin America and attracts patients from neighboring countries, mostly for plastic surgery, cancer, and cardiovascular treatment. U.S. hospitals have been partnering with Brazilian hospitals for education, telemedicine, and second opinion programs.

U.S. companies may also consider joint-ventures with local industries for the assembling or manufacturing of medical products in Brazil. This strategy may help to reduce duties and allow companies to use Brazil as a springboard to reach other Mercosur countries.

ANVISA provides an expedited process for products related to the diagnostics or treatment of the Zika virus.

There is strong demand for eHealth solutions in Brazil, including some of the most basic protocols for patient records to the most modern analytics solutions. Further information regarding the U.S. Commercial Service activities to promote the health IT segment in Brazil is available at the Export.gov Health IT Industry site.

Web Resources

Drugs and Pharmaceuticals

Abenutri – Brazilian Association of Nutritional Products
ANVISA – Brazilian Health Surveillance Agency
United States Census Bureau
Interfarma – Brazilian Research-based Pharmaceutical Manufacturers Association
INPI – National Institute of Industrial Property
Sindusfarma – Brazilian Pharmaceutical Industry Syndicate

Medical Equipment and Devices

Abiis – Brazilian Alliance for Innovative Health Care Industry
Anahp - Brazilian Private Hospitals Association
ANVISA – National Health Surveillance Agency
Conitec – National Committee for the Technology Incorporation
INMETRO – National Institute of Metrology
Websetorial – Websetorial Economic Consulting

Major international medical events in Brazil:

Hospitalar – The largest medical event in Latin America
Jornada Paulista de Radiologia – Organized by the Brazilian Society of Radiology
Congresso Brasileiro de Patologia Clinica – Organized by the Brazilian Society of Clinic Patology and Laboratory Medicine
Congresso Internacional de Odontologia – Organized by the Sao Paulo Association of Dental Surgeons
Naturaltech – The largest natural products show in Brazil

Events supported by the U.S. Commercial Service Brazil:

HIMSS Conference – The largest Health IT conference in World
Natural Products Expo West – The largest natural products and supplements event in the United States
American Association of Clinical Chemistry – The largest event for clinical chemistry in the United States
The Greater New York Dental Meeting – The largest dental products event in the United States

Supply Side West – The largest event for ingredients for nutritional supplements and vitamins in the United States

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Information Technology – Computer Software and Hardware

Overview

The Brazilian market for Information Technology (IT) is considered the seventh largest in the world, with a positive outlook for the coming year with projected investments of US$74 billion, a growth of 2.5 percent compared to 2016. Global IT investments are also projected to increase 2.9 percent and reach US$3.4 trillion.

Gartner projections for 2017 indicate that the device segment (including PCs, tablets, mobile phones, and printers) in Brazil is expected to reach a total of US$14 billion, an increase of 5.3 percent over 2016. Expenses with Data Center systems will total US$2.1 billion, down 1.4 percent over 2016. Software expenses will reach US$4.5 billion, up 7.8 percent. Expenditures on IT services will reach US$17.3 billion in 2017, an increase of 6.3 percent compared to previous year.

Despite the forecast for limited growth of the Brazilian economy over the next few years, the Brazilian IT market is expected to grow 2.5 percent in 2017, according to IDC-International Data Corporation. Data communication in mobile devices, security (cybersecurity), cloud computing, IoT – Internet of Things, infrastructure for cloud-based services, and investments in big data and analytics are also trends for the coming year.

Challenges

Although Brazil's growing market presents opportunities for exporters, foreign companies may still face market access challenges, including:

- Government procurement law: Although price is to be the overriding factor in selecting suppliers and the Brazilian government may not make a distinction between domestic and foreign-owned companies during the tendering process, when two equally qualified vendors are considered,the law's implementing regulations provide a preference to Brazilian goods and services. Brazil's regulations on the procurement of information technology goods and services require federal agencies and parastatal entities to give preferences to locally produced computer products based on a complicated and nontransparent price/technology matrix. However, Brazil permits foreign companies that have established legal entities in Brazil to compete for procurement financed by multilateral development bank loans.

- Data protection and privacy: The data protection and privacy draft legislation currently under consideration in the Brazilian Congress is modeled on the European Union's framework and could present challenges to U.S. companies.Current data protection and cybersecurity initiatives—including Decree 8135 that sets cybersecurity standards for government procurement—have the potential to force companies to use local data centers in order to comply with actual or de facto requirements. In August 2016, the Ministry of Planning announced its intention to revoke the decree in favor of approved hardware and software solutions for government entities, but it has not yet issued an alternative measure.
- Taxes and Tariffs: The Processo Produtivo Basico – PPB (Basic Production Process) requires a minimum level of local content. As a result of the tax advantages granted to domestically produced equipment that conforms to PPB specifications, foreign software and IT products can face significantly higher taxes in comparison to domestically developed software or IT products; putting U.S. ICT producers at significant price disadvantage. This process is currently being challenged at the WTO, and a decision is expected by the end of 2017. Brazil is also not a signatory to the WTO Information Technology Agreement, meaning that foreign ICT goods are subject to high import tariffs in Brazil. Finally,various policies and licensing rules establish local content requirements for software and hardware procured by Brazilian service providers.

Leading Sub-Sectors

- Digital transformation will continue to gain space in new business models. New applications will be designed to run on the cloud, with great attention to the customer experience (anywhere/anytime).
- Investments in security will increase and may reach US$360 million in 2017 with new projects in the areas of IAM – Identity Access Management, IoT, BYOD – Bring Your Own Device, among others.
- New technologies such as augmented reality, virtual reality, holograms, 3D prints, drones and wearables, among others, will generate interest in the coming years, however, they are niche markets and should not move large volumes. According to IDC, the Brazilian augmented/virtual reality (AR/VR) market will double in unit volume, surpassing 100,000 units. Major consumer manufacturers are expected to develop and launch AR/VR devices for the Brazilian market.
- The IoT – Internet of Things market is expected to double by the end of the decade and reach US$13 billion in Brazil. Equipment suppliers and developers of platforms, software, and industrial solutions will migrate from traditional applications to the IoT paradigm. According to IDC research, ten percent of the households interviewed had an Internet-connected device (game console, smart TV, air conditioner, security camera, etc.) other the PC and smartphone at home.
- Mobile payments will gain critical mass, exceeding 30 percent of all financial transactions. Among electronic media, mobile devices have gained prominence. According to Brazil Central Bank, 60 percent of the Brazilian payment transactions

were carried out on non-presence channels, such as the Internet, mobile phones and call centers.

- An increasing number of companies are seeking information and knowledge on cloud computing. Demand for international collaboration, security, CRM, storage, and productivity will accelerate in the coming years. Virtualization and consolidation of infrastructure investment will continue as a priority in business. New solutions will lead to a profound change in the operation and delivery of IT solutions, as suppliers release specific and targeted offers for the cloud environment, with the rapid proliferation of platforms as a service (PaaS) and infrastructure as a service (IaaS). Public cloud is expected to grow above 20 percent per annum until the end of the decade. In 2017, the public cloud computing segment is expected to reach US$890 million.
- The proximity between IT and line of business, will continue leveraging big data and analytics projects. A better understanding of organizational needs will intensify the cases and expansion of business areas. Analytics is projected to increase 4.8 percent reaching US$848 million in Brazil.

Opportunities

The majority of computer distributors in Brazil are national companies, but in recent years, foreign distributors have entered the market and have joined with Brazilian dealers/reseller channel partners to become more competitive. In most cases, to sell to the government one must have a local presence and/or partner to be allowed to participate in the bid process.

A strong financial partner is important for computer hardware/software distributors in Brazil; therefore, many Brazilian distributors are collaborating with banking partners to solidify their financial position. The increased financial resources of these distributors allow them to offer better financing and improved payment terms to their resellers. In Brazil, due to high interest rates on loans, this ability is a distinct competitive advantage.

As the number of resellers, value-added resellers (VARs), and agents grows and their portfolios expand, more distributors will adhere to local distribution models.

Web Resources

- Abes – Brazilian Association of Software Companies
- Gartner
- IDC - International Data Corporation
- National Trade Estimate

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Mining

Overview

Unit: US$ Thousands

Mining Sector in Brazil			
	2015	2016	2017 (estimated)
Total Market Size	4,800,000	4,610,000	4,310,000
Total Local Production	5,200,000	5,000,000	4,700,000
Total Exports	800,000	770,000	750,000
Total Imports	400,000	380,000	360,000
Imports from the U.S.	100,000	95,000	93,000
Exchange Rate to US$ 1.00:	R$2.34	R$3.80	R$3.10

Total Market Size = (Total Local Production + Total Imports) – (Total Exports)

Data Sources:

Total Local Production: Brazilian Mining Institute (IBRAM), Brazilian Ministry of Industry and Commerce MDIC, Brazilian Association of Machinery Manufacturers ABIMAQ and press reports.

Exports and Imports: Brazilian Ministry of Industry and Commerce MDIC.

Brazil is the world's fifth largest mineral producer and, as a result, one of the world's largest markets for mining equipment. During 2013 to 2016 however, a prolonged recession occurred in the international mining market and prices for most Brazilian mineral commodities decreased significantly, with a corresponding negative impact on Brazilian mining companies. In the case of iron ore (Brazil's main mineral product), prices decreased by 75 percent during this period, and nickel decreased by 60 percent. The Brazilian mining industry depends heavily on exports, so global mineral commodity prices have a greater impact on Brazilian mining companies than on Brazil's overall macroeconomic outlook.

By the end of 2016 global mineral commodities began to slowly increase, with some recovery in international prices and in sectoral activities. The price for iron ore (a crucial indicator for this sector in Brazil), went from US$40/metric ton (62 percent grade) to almost US$90/metric ton, but it dropped to US$70 by late April 2017. A small improvement is expected in the following years, depending on the performance of the metallurgy industry worldwide, especially the steel industry. As a result, there are no new ("greenfield") large projects confirmed for the next few years and many mining companies are facing a difficult financial situation.

The aluminum subsector has suffered the most due to increased competition from China and higher production costs in Brazil. After reaching a record of 1.66 million metric tons of primary aluminum produced in 2008, its output has fallen to 772,000 metric tons in 2015 and 793,000 metric tons in 2016.

Statistics for the combined total of all mineral production in Brazil during 2016 were not available at the time of this report, but are estimated to be at the same values as the previous year (US$53 billion), or slightly lower. This compares to the highest annual value achieved in 2011, of US$70 billion. Falling prices were the main factor causing the decline, especially for iron ore, since in tonnage terms the output for most minerals actually showed a small increase. Gold, nickel, copper, bauxite/aluminum and other minerals are also on the same trend of falling prices.

Brazilian mineral exports were US$36.6 billion during 2016 or 19.2 percent of all Brazilian exports. Iron ore represented 36 percent of all mineral exports and 7 percent of all Brazilian exports (in terms of value) during 2016. Brazil exported 374 million metric tons (MMT) of iron ore during 2016, compared to 366 MMT during 2015. In spite of this increase of 2.2 percent in the volume exported, the income generated by these exports actually decreased by 5.6 percent to US$13.3 billion.

Brazilian mineral imports in 2016 were US$18.5 billion, or 13.5 percent of all Brazilian imports. NPK (nitrogen, phosphate, and potassium), the raw materials for the fertilizer industry, are the main minerals imported into Brazil, accounting for nearly 35 percent of Brazil's total mineral imports. Coal is second, representing nearly 30 percent. Brazil is also a big importer of copper concentrate and sulfur.

The United States was largest exporter of minerals to Brazil in (11.8 percent of the total), followed by Chile (10.5 percent) Russia (10.2 percent), Colombia (9.4 percent) and Australia (8.6 percent). U.S. exports to Brazil in this sector are largely comprised of metallurgical coal for the steel industry.

China has played a very important role for Brazilian mining companies and has become the largest importer of Brazil's minerals, especially iron ore. Most of the mining sector's recently developed or planned projects are tied to China's demand for Brazilian minerals. During 2015, China was the destination of 30 percent of all Brazilian mineral exports (in terms of value). The United States was the second largest importer in 2015, (6.8 percent of the total), followed by the Netherlands (6.3 percent), Japan (6.1 percent), UK (5.2 percent), and Germany (4.3 percent).

Brazil is the world's largest producer of niobium, the second largest producer of iron ore and manganese, and the third largest producer of bauxite. It's the 11th largest producer of gold, with a total output of nearly 2.8 million ounces/year. The most important minerals in Brazil, with their respective production stated in millions of metric tons per year (MMT/y), or in metric tons per year (MT/y) in 2015, and the Brazilian share of the world production are:

Mining - Brazil share of world production		
Mineral	**Production/year**	**Percent World total**
Iron ore	400 MMT/y	16%
Aluminum	793,000 MT/y	4%
Bauxite	35 MMT/y	14%

Gold	80 MT/y	2.3%
Kaolin	3 MMT/y	6%
Manganese	2.8 MMT/y	20%
Niobium	90 MT/y	94%
Potassium Chloride - KCl	490,000 MT/y	n/a
Phosphate Concentrate	8 MMT/y	n/a
Zinc	290,000 MT/y	2.3%
Lead (primary)	25,000 MT/y	n/a
Lead (recycled)	142,000 MT/y	n/a
Copper	500,000 MT/y	2.5%
Tin	12,000 MT/y	n/a
Nickel	270,000 MT/y	n/a
Uranium (U3O8 concentrate)	180 MT/y	n/a
Construction aggregates	416 MMT/y	n/a
Raw Material for Cement	70 MMT/y of cement	n/a
Coal	6.4 MMT/y	0.1%

In 2015, iron ore comprised 60 percent of the total value of minerals produced in Brazil, followed by construction aggregates (15 percent); gold (8 percent); copper (4 percent); nickel (3 percent); bauxite (3 percent); phosphate, coal, manganese and potash nearly one percent each; and kaolin, asbestos, niobium, graphite, and zinc each providing less than one percent of the total value of minerals produced. Brazilian mineral production is concentrated in the central state of Minas Gerais (37 percent of the total value), and in the northern state of Pará (mainly in the Carajás mining area, in the Amazon region), with 35 percent of the total, followed by the states of Bahia and Goiás.

Brazil still has potential for discovering new mineral deposits, especially in the north of the country, where its territory has not been fully surveyed. Investments in geological exploration in Brazil have been under US$300 million annually, which some analysts consider low when considering that Brazil is the fifth largest mineral producer of the world when compared to the estimated worldwide exploration budgets in 2015 of US$13 billion.

Legal Limitations in Brazil: There is a limitation on ownership of mining projects located less than 150 kilometers from the Brazilian border. They must be at least 51 percent owned by Brazilian citizens, a minimum of 2/3 of its employees must be Brazilian citizens, its administration must be controlled by Brazilian citizens, at least 51 percent of all employees in management positions must be Brazilian citizens, and their headquarters must be located in Brazil. There is currently a discussion in Congress considering a project for modification of this law, with support of the Ministry of Mines and Energy, to allow for more participation of

foreign-owned capital. There are no limitations in supplying to mining companies in Brazil, although import taxes and fees may be high (see item "Opportunities"). The only state-owned mining company in Brazil is CRM, a small coal mining company with an output of 2.5 million metric tons/year.

Leading Sub-Sectors

Brazil has a very limited market for turnkey machinery in general, as a large number of leading multinational manufacturers have factories in Brazil. In fact, many of them export some of their products from Brazil. These companies provide excellent opportunities for U.S. suppliers of parts and components for most types of mining equipment, such as earth-moving machines, belt conveyors, crushers and grinding equipment, laboratory instruments, drilling machines and geological survey systems. For this reason, it is very difficult to export turnkey equipment to Brazil as opposed to components.

The best prospects for exports are components for local manufacturers located in Brazil, or components for maintenance of existing facilities. In order to supply turn-key projects it is normally also necessary for the supplier to get involved in long term financing operations with the project owners.

In order to be competitive, imported products will need to offer much higher technology or cost/benefits compared to the locally-made products, as local companies tend to prefer buying locally even in cases of lower quality. Import taxes and fees in Brazil are generally very high, and import procedures are complicated and bureaucratic, which often leads tobuyers favoring local over imported products.

Most of Brazil's mines are open pit, so the market for underground mining equipment is small. There are, however, some gold mining projects due to come out in the next 4 years, that are expected to open underground mines.

Opportunities

The Brazilian Mining Institute IBRAM estimated in 2015 the total amount being invested in mining to be nearly US$15 billion annually. This may be considered a very low volume of investments, given the potential of the country. And this figure will certainly be much lower in the next few years, as most operations are running well below full capacity because of low global commodity prices. However, investment in maintenance of existing facilities is still one of highest in the world, as Brazil is a top producer of many minerals.

According to IBRAM, there are several other reasons for the recession in this sector, such as excessive bureaucracy for the necessary environmental permits; difficulty in raising local capital; and a federal mining regulatory framework that has been undergoing revision by Congress for almost nine years. To date, a revised mining code has not been submitted to Congress for debate and review.

The Brazilian market for mining equipment is very competitive. Most large multinational manufacturers have factories in Brazil, where they manufacture for the domestic market and frequently also export from Brazil to many other countries. Typically, these companies use 50 to 90 percent Brazilian-made components to build their equipment in Brazil, in terms of value of the final product.

U.S. and other international firms with factories for mining products in Brazil include Caterpillar, Cummins, Eaton, GE, Goodyear, Ingersoll Rand, ITT, P&H MinePro, Terex, Timken, 3M (USA), AseaBB, Sandvik, Atlas Copco, Scania, SKF, Tamrock, and Volvo (Sweden), Case New Holland, FIAT, CNH and Iveco (Italy), Koch, Kuttner, Liebherr, MAN, Mercedes Benz, Schaeffler, Schenk Process, Siemens, Thyssen Krupp, Voith and Wehr, (Germany), Michelin Tires and Saint Gobain (France), Komatsu, NSK and Toshiba (Japan), Metso and Outokumpu (Finland), Orica (Australia) and JCB (UK).

There are many Brazilian manufacturers competing with similar technologies, or which have technology transfer agreements with foreign companies and dominate big shares of the domestic market. The largest ones include Bardella, Dedini, Isomonte, Jaraguá, Randon, and Villares. There are also hundreds of medium-sized Brazilian companies that specialize in manufacturing all types of parts and components for the suppliers of turn-key equipment.

It is beneficial for foreign manufacturers of equipment to have some degree of local presence in Brazil. Smaller companies that cannot afford to establish a local subsidiary must at least have a good Brazilian representative that can supply or subcontract technical maintenance. Brazil's mining companies, even the very large ones, prefer to contact a Brazil-based representative and do all the import procedures through them, instead of contacting the foreign suppliers directly.

Price and just-in-time delivery for components are key factors for most importers. Some large mining companies have their own bonded warehouses where they store imported products in Brazil, locked under customs' agreement. These products will go through customs and be paid only when they really need to be used. Unskilled labor is relatively cheap in Brazil compared to the U.S., so equipment that eliminates large numbers of employees are not necessarily financially attractive to Brazilian companies. Highly qualified labor, especially engineers, earn wages that are competitive with those in the U.S.

Import tariffs and fees in Brazil are very high. Import duties on mining equipment are normally between 5 to 12 percent calculated based on the CIF (cost, insurance and freight) price. These import duties are adopted as a single tariff structure for the Mercosul free trade area which also includes Argentina, Paraguay, and Uruguay. There are also three local taxes. The following taxes apply to both local and foreign products. They apply the same rate for Brazilian or imported products, but for imported products they will apply on the top of the import and other taxes, so that the actual rate for imported products is higher:

- IPI Industrialized Products Tax: federal tax calculated on top of the CIF price plus Import Tax, is five percent to eight percent for most products
- ICMS Merchandise and Services Circulation Tax, a state government value-added tax: 18 percent of the final price in most Brazilian states
- PIS/COFINS, Social Integration and Social Security Financing Contributions: 9.25 percent but can represent up to 12.63 percent of the CIF price due to a complex calculation formula
- Additional Miscellaneous Taxes and Fees: Warehousing, handling charges at port, transportation, etc.

If a specific product is not manufactured in Brazil and it is considered a priority by the federal government (normally raw materials and machines only), it may be granted the minimum import tariff of two percent for up to two years, pending an official analysis by the import authorities that may take about one year. This is the "Ex-Tarifário" system.

Trade Shows:

Exposibram

The Brazilian mining show is the largest event of this sector in Brazil. It is held every second year in September in Belo Horizonte. It is sponsored and organized by the Brazilian Mining Institute IBRAM, with support from most local mining companies and manufacturers of mining equipment. This show is recommended for U.S. companies looking to understand or partner with Brazilian mining companies, and to make personal contact with related government entities that travel to the show from around the country. The next edition of this event will be on September 19-21, 2017 in Belo Horizonte.

MT Expo

MT Expo is a trade show for maintenance and technology of heavy construction and earthmoving machines. It is held every second year, and the next one will be in June 2018 in São Paulo. It is organized and sponsored by the Brazilian Association for Construction and Mining Technology SOBRATEMA.

Projects:

The main mining projects expected to launch in the future in Brazil are:

VALE started a ramp up in 2016 of its "S11D" project (also known as Serra Sul), its largest-ever operation and the biggest private investment project made in the last 10 years in Brazil. Vale is investing US$14.5 billion in this project, to add 90 MMT/y of iron ore of very high quality and very low cost when fully operational by 2020. It also includes a new processing plant, a 101 Km railroad, and expansion of the port in São Luis. The project uses a truckless system of transportation, with 30 Km of conveyor belts. The processing plant will reduce water consumption by 93 percent compared to conventional methods. The entire S11D deposit has a mineral potential of 10 billion metric tons of iron ore.

VOTORANTIM has the "Alumina Rondon" project, with an investment of US$2 billion, for an integrated alumina refinery with a capacity of three MMT/y and a bauxite mine with a capacity of 7.7 MMT/y in the north of Brazil, that is to start before the end of 2017.

It also has the "Caçapava do Sul" project in the south of Brazil, to open a mine for the annual production of 36,000 metric tons (MT) of lead, 16,000 MT of zinc and 5,000 MT of copper concentrate. The company expects approval of the environmental license for 2017 and start-up of operations by early 2020. This project involves an investment of nearly US$100 million, in a joint-venture with the company Iamgold.

Copelmi started last year the construction of the "Seival" mine, which will supply 2 million metric tons/year of processed coal to a new power plant that is being built by Tractebel. This project has already contracted electricity sales to end-users in public auctions in Brazil and must be ready within 2 years (2018).

MRN Mineração Rio do Norte is currently investing nearly US$2 billion to expand its output of currently 18 MMT/y of bauxite. This company belongs to Vale(40 percent), Rio Tinto(12 percent), Alcoa(18 percent), South 32 (15 percent), Hydro(5 percent) and CBA(10 percent).

There are many gold mining projects underway in Brazil. Besides the companies mentioned in more detail below, there are smaller projects by Crusader, Equitas, Luna Gold, Santa Elina, Brasil Minerals (BMIX), Orinoco, Cleveland Mining, Brio Gold and Anfield Gold.

Many other projects that were planned in recent years have been postponed or canceled due to the low prices in the international market, especially for iron ore by the companies Manabi, MMX, Bamin, Gerdau, Centaurus Metals, London Mining and others.

Prospective Buyers:

VALE S.A. is Brazil's largest (and the world's third largest) mining company. It is also the largest world producer of iron ore and nickel. Privatized in 1997, VALE is responsible for more than 40 percent of Brazil's mineral output in terms of value, and represents an excellent opportunity for U.S. equipment suppliers. VALE produces nearly 80 percent of all Brazil's iron ore output, 100 percent of potash, 85 percent of manganese, and is also the top player in copper and nickel production. The output of its main minerals in 2016 (including all operations worldwide) was 349 million metric tons (MMT) of iron ore, plus 46 MMT of iron ore pellets, 483,000 oz of gold (as a by-product of nickel and copper concentrates), 2.37 MMT of manganese ore, 453,000 MT of copper concentrate (contents in ore), 500,000 MT of potassium chloride (KCl), 7.2 MMT of coal (in Australia and Mozambique), 7.5 MMT of phosphate rock, 311,000 MT of nickel (in Brazil, Canada, Indonesia and New Caledonia). VALE is also the top logistics player in Brazil, especially for ports and railroads, not only for its own use, but also as a supplier of logistics services to other companies. It is the largest Brazilian consumer of electricity.

During 2015 VALE had its biggest loss in history, of US$12.2 billion, mainly due to very depressed prices for its products, write-offs of several assets and the devaluation effect (45 percent) of the Brazilian currency on its debt in dollars. But in 2016 the company has recovered again with very good results and a bottom line of US$3.9 billion net profits (worldwide). VALE has been the largest Brazilian exporter since 2013, with total exports in excess of US$12 billion annually, or 6 percent of all Brazilian exports, considering only its exports from Brazil.

CSN is Brazil's second largest mining company, producing 35 MMT/y of iron ore, in joint-venture with several Japanese and Korean partners. It is also the second largest Brazilian steel producer, with an output of 6 MMT/y of steel.

Samarco was the third largest Brazilian mining company, but it has discontinued production when its tailings dam collapsed on November 5th, 2015, causing the worst environmental disaster in Brazilian history. The company could re-start operations in 2017 depending on the outcome of litigation in cases related to the tailings mine collapse. It belongs 50 percent to Vale and 50 percent to BHP, and was producing 30 MMT/y of iron ore pellets before the disaster.

MRN (Mineração Rio do Norte) produces 18 MMT/y of bauxite. It belongs to Alcoa (18 percent), South 32 (15 percent), Rio Tinto (12 percent), Votorantim (10 percent), Norsk Hydro (5 percent)

and Vale which is currently negotiating sale of its 40 percent share. MRN is the fourth largest mining company in Brazil.

Yamana is the fifth largest mining company in Brazil. It has two big operations: "Chapada" mine, which produced 111,000 GEO gold last year and 130 million Lbs copper and the "Jacobina" mine an underground mine that produced nearly 75,000 GEO last year. Adding other smaller projects and its subsidiary Brio Gold, Yamana produced 310,000 GEO in Brazil last year, or 26 percent of its worldwide output. Yamana bought in April 2016 the gold mining operations of Carpathian Gold in Brazil, adding some 40,000 GEO/y to its output.

Since 2010, Anglo American has a big nickel project named "Barro Alto," with an output of 35,000 MT/year in ferro-nickel alloys, besides 9,500 MT in another mine. In late 2014 it started up a large iron ore project that has been built for an output of 25 MMT/year. It is currently in ramp up process and delivered 16 MMT in 2016. Anglo sold its niobium and phosphate operations in Brazil to China Molybdenum (CMOC), for US$1.7 billion last year.

Norsk Hydro (from Norway) has bought in the last years most of Vale's assets in the aluminum chain. Hydro has currently five percent of MRN (bauxite mining), 57 percent of the Alunorte alumina refinery (the largest in the world), the big bauxite mine of Paragominas (15 MMT/y of bauxite), 51 percent of the Albras foundry and 61 percent of the CAP refinery project, all of them located in the state of Pará, in the north of Brazil.

AngloGold Ashanti is the second largest gold producer in Brazil, with an output in excess of 500,000 oz/year (13 percent of its worldwide output). It projects to increase its output in Brazil to 670,000 oz in the next years.

Kinross Gold Corp of Canada has been Brazil's largest gold producer since 2008. Its output in Brazil has been more than 500,000 oz/y. Its Paracatu mine is the largest gold mine in Brazil and is planned to be in operation until 2040. It also operates one mine in Brazil ("Crixás") in joint-venture with AngloGold Ashanti.

Votorantim is the largest industrial conglomerate in Brazil, it is the only local producer of zinc and the fifth largest in the world, with an output of 690,000 MT of electrolytic zinc in 2015. Votorantim also owns a share of 80 percent of Milpo (lead, copper and zinc mining in Peru and Chile). Its subsidiary CBA produced 325,000 MT of aluminum metal in 2015. Its nickel operations have been discontinued in 2015 due to very low prices in the international market, and will resume as soon as market conditions improve. Votorantim also has many limestone mines for its own consumption, as it is Brazil's largest cement manufacturer, with more than 40 percent of the total local output. Other subsidiaries in the group include big manufacturers of steel products, cellulose, orange juice and a bank. Votorantim reached an agreement last year with Eldorado Gold for joint operation of Eldorado's gold mines in Brazil.

CBMM has a share of nearly 80 percent of all the production of niobium in the world, and Brazil has 97 percent of all known niobium deposits. It is currently expanding its installed capacity from 90,000 metric tons/year of ferro-niobium to 150,000. CBMM has also researched the metallurgy of rare earths, and is investing to develop technology to start producing magnets from rare earths out of its own deposits.

Usiminas is Brazil's largest steel manufacturer, it also has a mining company, but its output has been decreasing significantly in the last years. In 2016 it was only 2.8 MMT of iron ore, compared to 3.9 MMT the year before, and 5 MMT in previous years.

Gerdau is also one of the largest Brazilian steel-makers, produced nearly 8 MMT/y of iron ore in 2015, mainly for its own consumption.

ArcelorMittal has had an output of 3 MMT/y of iron ore, for its own steel mills. This company is Brazil's third largest steel producer.

Ferro + Mineração is currently 2.5 MMT iron ore/year, it sold most of its operations to Usiminas.

V&M (Vallourec & Mannesmann) has an output of 4 MMT/y of iron ore, also for its own consumption.

The former MMX, which had an output of 6 MMT of iron ore in 2012 and planned to reach 24 MMT before going bankrupt, was recently sold to the Dutch Trafigura and UAE's Mubadala. It is expected to start up again in the next year under the name Mineração Morro do Ipê.

Jaguar and its subsidiary Mineração Turmalina produced 96,536 oz of gold in Brazil in 2016.

Serabi produced 30,000 oz of gold in 2015.

Aura Minerals and its subsidiary Min. Apoena, with an output in excess of 150,000 oz of gold in 2016.

Avanco Resources started up in April 2016 its copper and gold mine in the north of Brazil, and produced 11.188 metric tons of copper content and 7.779 oz gold until the end of the year, after having made an investment of US$55 million. The company is expanding to reach an output of 50,000 metric tons of copper content and 30,000 oz gold/year. Glencore and BlackRock are investors in this project.

Beadell Resources, from Australia, is the third largest Brazilian gold producer, with 150,000 oz of gold in the north of Brazil during 2016.

Amarillo Gold is investing nearly US$200 million to produce 140,000 oz/y of gold in the next years.

Belo Sun, a Canadian company controlled by Forbes & Manhattan, has a plan to invest US$300 million to develop what would be the largest gold mine in Brazil, the Volta Grande project. This project would be located alongside the Xingu riveronly 14 Km from Belo Monte, the second-largest Brazilian hydro power plant (11,200 MW). Belo Sun estimates that it could produce 167,000 oz/y during 21 years in this mine. The project has been through long and expensive technical research and negotiations with the local government. To date, it is unclear if Belo Sun will receiveits operations permit due to environmental concerns.

Caraíba, a traditional copper mining company that had closed all operations in 2016 due to the low global copper prices, was sold in early 2017 to the Canadian company Eros Resources Corp. and will re-start operations in 2017. Caraíba also created a subsidiary for gold mining, called NXGold, which has started up in 2013 and has processed nearly 300,000 MT of ore/year.

Largo Resources, from Canada, has had an output of nearly 800 metric tons/month of vanadium pentoxide.

Mirabela Nickel was producing nearly 12,500 MT of nickel (in metal content) and 3,500 of copper/year, but totally discontinued its production in Brazil in early 2016, due to the current low metal prices.

Diamonds and Gems: Brazil has exported approximately US$200 million worth of gemstones and US$7 million worth of diamonds per year, but these products have a very high potential for increasing production. Recent discovery of a large primary deposit (kimberlite) of diamonds will soon put Brazil back on the map of the world largest diamond producers. Last year the Belgian company Lipari started producing these diamonds in Brazil, planning an output of 220,000 carats in 2017 and 400,000 carats in 2020. This would change Brazil's position in the world ranking of diamond producers from 19th to 11th. The whole output of the country in 2014 was 31,000 carats. Another important company is Five Star Diamonds, which successfully launched an IPO in the Toronto Stock Exchange TSX-V in April2017, valued at C $40 million, with 22 diamond mining projects in Brazil.

Magnesita has produced nearly 1 million metric tons/year of refractory materials.

Cancana Resources and Brazil Manganese Corp. have produced 30,000 MT/y of manganese ore, planning to increase to 50,000 in 2017.

Fertilizers: Brazil is a big importer of raw materials for fertilizers: phosphate, potassium and nitrogen. The largest local producers of fertilizers are Mosaic, Yara, Galvani, MBAC (Itafós) and Vale, which is currently in the process of selling most of its assets in this subsector to Mosaic. Galvani is currently investing US$500 million to start a plant to produce 1.2 MMT/y of phosphate fertilizers.

Construction Aggregates: The total Brazilian consumption of construction aggregates during 2016 was only 416 million metric tons, compared to 741 million in 2014, due to the overall economic recession in the country. For 2017, an increase of only 4 percent is expected. The largest supplier of this segment is Mineração Jundu, with large sand mining operations.

Coal

For more than 35 years Brazilian coal production has been stagnant with output varying between four to seven million metric tons of processed coal/year. Total output of processed coal reached 6,354,000 metric tons during 2016. Only steam coal is available in Brazil (no metallurgical coal), and it is of poor quality with low calorific values and very high contents of ash and sulfur. Total Brazilian coal deposits are estimated to be 32 billion metric tons with proven reserves of seven billion metric tons, 89 percent of which is in the state of Rio Grande do Sul. The Candiota mine in RS has 38 percent of all proven reserves in Brazil. Geological research in coal deposits has been stagnant in Brazil for decades because of the low quality of the local coal. For this reason, market analysts believe that the size of the proven deposits could increase significantly if there were more investments in exploration.

As new coal-fired power plants come on line, the total output is expected to reach 11 million metric tons/year by 2020. The total capacity of coal fired power plants in Brazil is 3,205 MW, or 2.5 percent of the total energy generation.

There are 13 coal mining companies operating in Brazil and all of them are small when compared to U.S. producers. The largest coal companyis CRM (Companhia Riograndense de Mineração), which is owned by the state of Rio Grande do Sul. This is the only state-owned mining company in Brazil. It had an output of 2.5 MMT of processed coal in 2015. The second largest coal mining company in Brazil is Copelmi, with an output of nearly 1.6 MMT/y of processed coal. The only coal project currently in development in Brazil belongs to Copelmi. Nearly all of the other Brazilian coal mining companies are located around the city of Criciuma, in the state of Santa Catarina, and all of them operate small underground mines and use the room and pillar method.

Two Brazilian companies have coal mines in foreign countries: VALE has produced coal in Mozambique since 2011 and in Australia since 2002. Votorantim has a subsidiary investing in coal production in Colombia, called Minas Paz del Rio (MPDR). It plans to expand production from 200,000 MT in 2013 to 2.5 MMT by 2020.

Brazil is traditionally a large importer of metallurgical coal for its steel mills, as all of its domestic coal production is steam coal. Total Brazilian imports of coal have been nearly US$2.8 billion/year. The United States has been the main supplier of coal to Brazil, with more than one third of all Brazilian imports, followed by Colombia (28 percent), Australia (20 percent) and Canada (11 percent). There is a list of Brazilian steel manufacturers, with technical details, market information in English and links to each one's website.

Web Resources

Information in most of these websites is available only in the Portuguese language.

- U.S. Commercial Service/Brazil
- U.S. Commercial Service Market Research Worldwide
- Ministry of Mines and Energy (MME)
- Brazilian Geological Service
- VALE
- Brazilian Mining Institute (IBRAM)
- Magazine Brazil Mineral, and special edition in English about mining in Brazil.
- Magazine Minerios
- Magazine In the Mine
- Magazine M&T (Maintenance and Technolgy): includes many reports on construction and mining machines.
- Magazine for the railway sector
- Professional Geologists Association
- ABIMAQ - Brazilian Association of Machinery Manufacturers, with a good database of manufacturers, for who supplies what in Brazil
- Infomine has a special session on Brazil, with market reports and lists of Brazilian companies that supply products to this sector.
- Brazilian Coal Association, and its Clean Coal Technology Center
- Brazilian Coal Association List of all member companies, with their respective contact information.
- Association of the Coal Mining Companies of the State of Santa Catarina

- ABM - Brazilian Metallurgy and Materials Association
- DNPM - Brazilian Mineral Production Department
- Brazilian Aluminum Association
- Brazilian Association of Mineral Researching Companies
- The Brazilian Association of Thermo Power Generators (Abraget) - list of names and addresses of all its member companies
- CPRM - Brazilian Geological Survey

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Nuclear Power

Overview

Approximately one percent of Brazil's energy is supplied by two pressurized water nuclear reactors at the Angra dos Reis nuclear power plant (NPP) near Rio de Janeiro. The Angra 1 & 2 have 626 MWe (Meter Water equivalent) and 1270 MWe generating capacity, respectively. A third 1270 MWe reactor, Angra 3, is under construction, but its completion date has not yet been determined. The Angra 3 project, which started construction in 1970s and was suspended in 1986 due to budgetary issues, was resumed in 2010 after France's Areva signed a deal with Brazil's state-owned utility Eletronuclear, to take over the project. Eletronuclear (ETN), a subsidiary of Eletrobras, is responsible for building and operating NPPs in Brazil.

In 2015, former Brazilian Minister of Mines and Energy (MME) Eduardo Braga confirmed Brazil's plans for nuclear expansion: four new plants by 2030 and eight additional plants by 2050, which would bring Brazil's fleet to a total of 15 units. However, the new MME Minister Fernando Coelho took office in May 2016, and while he seems supportive of additional nuclear power as a base load solution for Brazil's power matrix, no concrete actions have taken place in this direction. For example, Brazil's Long-Term Energy Plan (PNE 2050) has not yet been concluded, and although industry contacts expect new nuclear plants to be part of the study, as of May 2017, it has not been completed.

Additionally, the GOB and the Brazilian Congress will have to revise the business model, including the possibility of public-private partnerships (PPPs); how nuclear energy would be traded in the current purchasing power pool model; and what the criteria will be regarding technology qualification and selection for new nuclear power plants. Also, the Brazilian Nuclear Development Association has submitted a constitutional amendment proposal (PEC) calling for a more simplified approval process of future nuclear power plants. Currently, the Brazilian Congress has to approve each individual nuclear power plant before it is submitted to the Nuclear Power Regulatory Commission (CNEN).

There is a proposal waiting to be reviewed at Congress to split CNEN into two entities to create a separate regulatory agency. CNEN currently plays the joint role of regulator and promoter. It is independent of nuclear power plant operations. CNEN has the authority to pass regulations, approve licenses, inspect nuclear installations, and to enforce its policies.

Industry contacts hope that the GOB and Congress will choose a business model for future nuclear procurement that promotes transparency and private sector participation. Requiring high equity investment and risk assumption will most likely preclude strong competition since only state owned enterprises would usually compete under such terms.

The following 2015 and 2016 statistics relate to selected U.S. civil nuclear equipment exports to Brazil:

U.S. Civil Nuclear Equipment Exports To Brazil		
Item	2015 (US$)	2016 (US$)
8401--Nuclear Reactors;Fuel Elements (N-I); Machinery And Apparatus For Isotopic Separation	2,294,439	3,235,320

Source: The Office of Trade and Economic Analysis (OTEA), Industry and Analysis of ITA/U.S. Department of Commerce

Leading Sub-Sectors

- Safety and other plant upgrades
- Works related to the extension of Angra one operation license for additional 20 years
- Plant design modifications
- Modernization of instrumentation and controls
- Upgrade of radioactive waste handling systems, including a new spent fuel dry storage facility (**)
- Moderate opportunities to supply components to existing plants, one of which was built by Westinghouse, with engineering support, fuel components and related materials.
- Licensing support services to Brazil's nuclear regulator, the National Nuclear Energy Commission (CNEN). CNEN's Directorate of Radiation Protection and Safety is responsible for licensing and supervising all nuclear facilities.

Opportunities

ETN recently indicated that it will invest about US$5.04 billion from 2017 to 2021, as shown in the table below:

In US$ Thousands (direct investments):

Nuclear Power - Direct Investments					
Projects	2017	2018	2019	2020	2021
Operations & Maintenance, power plant expansion & Spent Fuel Dry Storage Facility (UAS)	67,300	67,666	69,500	94,400	66,667

New nuclear power plants	3,333	0	0	0	0
Corporate Management Projects (IT)	6,733	7,133	7,466	7,800	8,166
Expansion Project- Angra III plant (*)	532,367	771,666	955,800	1,314,000	1,035,000
TOTAL	609,733	846,465	1,032,766	1,416,200	1,109,833

Source: ETN - Exchange rate: 3.1

* Investments for the conclusion of Angra III nuclear power plant will depend on the availability of financial sources and approval by Brazil's National Energy Policy Council.

** The international tender for the Spent Fuel Dry Storage System took place in early 2017. At the writing of this report, ETN had not yet announced the winning bidder.

Foreign suppliers do not need to pre-register at ETN's suppliers registration website to participate in international tenders. Suppliers can check ETN's website for tender announcements.

However, if a foreign supplier has a Brazilian distributor, dealer or legal representative, which is advisable, they will register on behalf of the foreign supplier, and will be considered a local domestic company. In this case, they will be paid in Brazilian Real currency when they win a tender.

ETN does not procure equipment, goods or services through e-Commerce. However, they use "Comprasnet", which is a federal government electronic procurement portal where suppliers can also learn about tenders, and submit specific types of bids to all federal government companies, like ETN.

Web Resources

- Ministry of Mines and Energy (MME)
- Eletronuclear
- CNEN
- ANEEL

Local Trade Events:

International Nuclear Atlantic Conference (INAC)
October 22-27, 2017
Dayrell Hotel & Convention Center, Belo Horizonte, Minas Gerais, Brazil

SIEN 2017. 8º International Seminar on Nuclear Energy

July 12-14, 2017
Bolsa do Rio Convention Center
Address: Praça XV, 20. Centro, Rio de Janeiro, Brazil

Trade Events in the U.S.:

Power-Gen International (this show includes a nuclear power pavilion)

December 5- 7, 2017

Las Vegas Convention Center, Las Vegas, NV

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Oil and Gas

Overview

Unit: US$ millions

Oil and Gas Industry in Brazil				
	2014 (Est)	2015 (Est)	2016 (Est)	2017 (Est)
Total Local Production	35,000	20,000	14,500	14,000
Total Exports	3,000	2,000	3,000	3,000
Total Imports	20,000	12,180	11,500	10,500
Imports from the US	5,000	3,045	2,875	2,625
Total Market Size	52,000	30,180	23,000	21,500
Exchange Rates	3.1	3.1	3.1	3.1

(*Total market size = (total local production + imports) - exports*).

Source: CS Brazil estimate.

Long-term growth in Brazil's Oil and Gas (O&G) sector remains strong because of proven below-ground resources, a developed and sophisticated O&G sector, and a diversified economy. The 2017 estimate for purchases in Brazil's oil and gas equipment and services market, including the upstream, midstream, and downstream segments, as well as maintenance and operations (M&O), is approximately US$21.5 billion. Of that amount, US$10.5 billion will likely be imported, with approximately US$2.6 billion being imported from the United States, according to CS Brazil estimate.

Data Sources: Statistics are unofficial estimates built upon state-owned oil company Petrobras's investments and other oil companies' estimated market share. The Brazilian Foreign Trade Office does not publish complete oil and gas equipment/machinery import and export statistics in a single chapter, as many types of equipment also apply to other industry sectors. The import statistics on the above table were partially based on the Brazilian Federal Income REPETRO data available for 2014 and 2015. In 2015, Brazil imported US$9.37 billion worth of oil and gas equipment; however not all types of oil and gas equipment are eligible under the REPETRO (*).

In 2015, Brazil ranked 12th in world crude oil production, 5th in the Americas, 3rd in Latin America, and 2nd in South America, according to Brazil's National Oil Regulator (ANP) and BP.

According to ANP, Brazil owns the 15th largest world proven reserves of 12.67 billion barrels of oil and 372 billion cubic meters of gas. Estimated possible reserves are 22.7 billion barrels of oil and 638 billion cubic meters of gas. The BP Energy Outlook forecasts a 16 percent and 43 percent increase in oil and natural gas consumption, respectively, in Brazil, by 2035.

In 2016, data from the ANP shows that Brazil produced 2.5 million barrels of per day (mbpd) of oil, 94.9 percent of which comes from offshore, very deep water. The development of deep-water and especially 'pre-salt' resources have driven dramatic increases in Brazil's production, with pre-salt production making up for 40.7 percent of overall production in 2016 with an average of 1.02 mbpd, an increase of 45 percent in one year. BP Energy Outlook estimated Brazil's oil production to reach 4.4 Mb/d by 2035.

According to the Ministry of Mines and Energy (MME) Annual Report, in 2016, natural gas (NG) production reached 103.8 million m3 /day, of which 30.24 mm3/d were reinjected; 4.05 mm3/d were flared or lost; 12.89 mm3/d were consumed in oil exploration and production units; and 4.2 mm3/d were absorbed by gas process units. Deducting the above, Brazil's NG supply amounted to 52.40 mm3/d in 2016.

According to MME, to complement Brazil's NG demand of 80.26 mm3/day, in 2016, Brazil imported 28.33 million m3/day from Bolivia; and 3.81 mm3/d from liquefied natural gas (LNG) cargoes. The significant reduction in LNG imports in 2016 (e.g.: from 17.94 mm3/d in 2015) reflects the economic downturn and improved hydrologic conditions, which allow for increased hydropower generation, in Brazil. The electrical power and industrial sectors demanded 29.59 and 40.82 mm3/d, respectively, in 2016.

Recent reforms in Brazil's offshore O&G sector are being driven by Petrobras cashflow issues, the reduced world oil price, and changes to the Brazilian Administration. One such reform took place on October 5, 2016, when Brazil's lower house passed a long-awaited bill (PL-04567/2016) that removed restrictions on offshore oil and gas production and reshaped state-owned oil company Petrobras's role in Brazil's deep water "pre-salt" oil and gas fields. The bill amended a 2010 law to allow greater IOC participation in offshore exploration and production in future pre-salt auctions. The 2010 law, known as the pre-salt law in Brazil, saw newfound offshore oil and gas as Brazil's exclusive patrimony, and required Petrobras to serve as sole operator and minimum 30 percent equity holder in all offshore pre-salt oil and associated gas fields. While Petrobras still maintains right of first refusal under the new law, its previously burdensome production and equity requirements have been lifted.

While that bill kept the production sharing agreement (PSA) regime for pre-salt fields, the concession regime is also in force in Brazil's oil and gas sector, and will continue to apply for future bid rounds of the non-pre-salt fields. There will be at four bid rounds in 2017, two of which for pre-salt fields, under a PSA regime. Additionally, the Brazilian National Energy Policy Council (CNPE) has recently approved an oil auction calendar with 10 bid rounds between 2017 and 2019.

Local Content Requirements (LCR) Reforms:

On March 28, 2017, the Industry and Competitiveness Development Secretariat of the Brazilian Ministry of Industry and Foreign Trade (MDIC) published Resolution #1 ratifying proposals made last February by the Brazilian interagency group leading LCR changes. The reforms,

which apply to the 14th bid round (concession regime) and for the 3rd pre-salt (PSA regime) round, have lowered the percentage of Brazilian-made goods and services required for oil and gas exploration and production. New global LCRs for deep water oil and gas exploration fell by half on average, to a minimum of 18 percent – down from 37 percent for previous auctions – and LCRs for deep water production development will now follow macro-segments: 25 percent for oil/gas well construction; 40 percent for subsea production activities; and 25 percent for oil offshore production units. Previous LCR for the production/development phase was 55 percent on shore exploration and development LCRs, previously at 70 percent and 77 percent respectively, were reduced to 50 percent as well.

All the existing oil exploration and production concession and/or PSA contracts will continue to follow their LCR percentages, as the new rule will only apply for the upcoming 2017 bid rounds. Currently, exploration phase activities require between 37 and 85 percent local goods and services, and development phase activities must use between 55 and 80 percent Brazilian content.

The new rules also establish a one percent charge to producers, the proceeds of which will go to increasing local industry's competitiveness with imports. The GoB also announced that no further waiver requests for LCRs in the petroleum industry will be entertained. In the past, offshore producers won auctions by agreeing to very high LCRs and were subsequently fined when they could not meet those untenable requirements. According to the revised regulations, if the percentage of violated LCR is less than 65 percent of the established LC, the fine will be 40 percent of the value of the non-compliant investment. In case the violated LCR reaches 65 percent or above, the fine will vary from 40 to 75 percent following the same principle.

Another upcoming change that the oil operators in Brazil are looking for is the extension of the REPETRO regime (*). In 1999, the GOB established the Special Customs Regime of Export and Import of Goods destined to Exploration and Production of Oil and Natural Gas ("REPETRO"), which aimed at reducing the tax burden levied on exploration and production of oil and gas fields. The REPETRO suspends and provides exemption of Import Duty ("II"), Excise Tax ("IPI"), and Social Contribution on Imports ("PIS/COFINS-Importação") to goods listed in the appendix of the Normative Ruling N. 844/08 ("IN 844/08"). This regime is due to expire in 2019, but the Brazilian Ministry of Mines and Energy has been working with the Brazilian Treasury Ministry to extend it for another 20 years, thus allowing oil companies to take long-term investment decisions.

Despite the recent positive changes, Petrobras and IOCs are still concerned about a Rio State December 2015 law attempting to reintroduce an 18 percent ICMS tax at the wellhead on oil and gas production (Note: ICMS is a state-level tax levied on the movement of merchandise). First introduced in Rio in 2003, this law was found to be unconstitutional. The Brazilian Oil and Gas Institute has filed a legal suit against the Rio State proposal.

Leading Sub-Sectors

On April 11, 2017, the Petrobras Strategic Procurement Department provided the U.S. Commercial Service Rio a list of critical goods and services for 2017. Petrobras noted, however, that they "cannot guarantee a concrete demand for all the listed items, but they are open to evaluating market opportunities and new business models".

Category: Well services, FPSO and Rig Leasing

- FPSO and floating rig leasing
- Well integrated construction services
- Services of cementing, well evaluation, drilling, and logging
- Managed pressure drilling (MPD) services
- Fluid, completion, and casing management services
- Mudlogging
- Diving Support vessels

Category: EPC and Engineering Services, Project Design, and Revamp

- EPC/Construction & assembly of stationary oil production units (UEP) and industrial plants
- EPC/Construction & assembly of land pipelines
- Maintenance of UEPs, oil and gas pipelines
- Technical conformity assessments
- Industrial unit projects
- Oil and petrochemical processing projects
- Support to engineering project management
- Civil construction

Category: Subsea Systems and EPCI

- Flexible lines and accessories
- EPCI for subsea projects
- ROV and diving support systems
- Manifolds, subsea PLEMs and PLETs, tools, and parts
- Electro-hydraulic umbilicals and accessories
- Wet Christmas trees, associated tools, and spare parts
- Polyester cables, mooring, and anchor systems
- Drill pipe risers
- Subsea equipment (pigs, ESDVs, and others)
- Geodesy

Category: Valves, Tubing, Fittings, and Static Equipment

- Casing tubes (OCTG)
- Pressure vessels
- Heat exchangers
- Manual and actuated valves: sphere, butterfly, globe, retention, and other types
- Process ovens and towers

Category: Industrial Equipment

- Turbogenerators and turbo compressors
- Motor pumps and motor compressors
- Cranes
- Maintenance support for rotary equipment

Category: Logistics

- Vessel, airplane, and helicopter leasing
- Storage, transportation, and materials control
- Port tugs/dredges
- Land load and personnel transportation
- Docking services

Category: HSE, IT, and Geophysical

- Software development, maintenance, licensing, and technical support
- Seismic acquisition and processing
- Environmental Defense Centers (CDAs)

Category: Chemicals and Catalysts

- UFCC and HDT catalysts
- Chemical products for oil/gas exploration and production
- Chemicals (gas dehydrators, corrosion inhibitors, additives, and several others)
- Solvent and kerosene markers
- Special gases, nitrogen, etc
- Lubricant oil for engines and pumps

Other Items:

- Accounting payment outsourcing services
- International inspection services
- Catering, sea and land lodging services
- Facilities (cleaning services)

In the oil onshore segment, independent Brazilian oil producers noted that best sales prospects could include:

- Drilling rigs
- Flow measurement equipment
- Mobile well test plants
- Pig valves
- Pig launchers
- Chokes
- Electrical panels
- Completion tools

Additionally, as ANP has renewed the exploration and production concession contracts of several fields lately, in exchange for increased production, deepwater oilfield life extension services should be in high demand. The same demand will apply to operational efficiency programs.

Opportunities

The 2016 Rio Industry Federation Oil and Gas Report estimates investments in the Brazilian oil and gas sector over US$500 billion just to develop discovered and to-be-developed pre-salt fields.

The largest oil player in Brazil is still the national oil company Petrobras. In 2016, Petrobras's oil and gas production (2.14 million/bpd) increased 0.75 percent from 2015. As of December, 2016, Petrobras production accounted for 94 percent of Brazil's total production. After Petrobras, companies including Statoil (two percent), Shell (two percent), Chevron, and others (one percent each) were the other main oil producers and/or operators in Brazil.

On March 21, 2017, Petrobras announced its 2016 financial results. It reported a loss of R$14.9 billion (approximately US$4.5 billion), against a net income loss of R$34.8 billion in 2015.

Despite financial constraints and a five-year investment plan decreased by 25 percent, Petrobras will invest US$74.1 billion during the 2017-2021 period, thus remaining one of the world's largest investors. The E&P area will receive US$60.6 billion (76 percent for production development; 11 percent to exploration; and 13 percent to operational support). A total of US$12.4 billion will be invested in the refining and natural gas segments, 50 percent of which allocated to the assets' operational continuity and the remainder to projects related to the outflow of oil and gas production.

Petrobras is expected to raise nearly $20 billion through a divestment plan that creates strategic partnerships in the areas of exploration and production (E&P), refining, transportation, logistics, fuel distribution among other segments. In the previous biannual divestment plan (2015-2016), the company divested $13.6 billion by concluding the sales of its 60 percent stake in the Carcará pre-salt oil field to Statoil; its LPG Liquigás subsidiary to the Ultragaz/Ultrapar group; and its Southeast Gas Transportation subsidiary (NTS) to the Canadian company Brookfield.

Aside from Petrobras, 47 local and 49 foreign companies hold oil exploration and appraisal areas in Brazil, as shown below. Hence, opportunities to supply these oil companies in Brazil also exist:

Oil Exploration companies				
Group	**Country**		**Group**	**Country**
Aloes	Brazil		Maersk	Denmark
Alvopetro	Canada		Mitsui & Co	Japan
Anadarko	United States		Niko	Canada
Arclima	Brazil		ONGC	India
A.R.G.	Brazil		Orion Holding	Brazil
Aurizonia	Brazil		Ouro Preto	Brazil
Azimuth Group	Bermuda		Pacific Rubiales	Canada
Barra Holding	Cayman Islands		Panergy	Brazil

Bayar	Brazil		Panoro	Norway
BG	United Kingdom		Parnaíba Gás Natural	Brazil
BHP	Australia		Partex Oil and Gas	Portugal
Bildung	Brazil		Perenco	United Kingdom
Bizzo Sotomayor	Brazil		Perícia Engenharia	Brazil
Bolognesi	Brazil		Petro Latina	Singapore
BP P.L.C.	United Kingdom		Petro Rio S.A.	Brazil
Brasoil	Brazil		Petrobras	Brazil
BTG Pactual	Brazil		Petrorecôncavo S.A.	Brazil
CEMIG	Brazil		Premier Oil PLC	United Kingdom
Central Resources	United States		Proen	Brazil
CEPSA	Spain		PTT E&P	Thailand
Chariot	Guernsey		Queiroz Galvão E&P	Brazil
Cheim	Brazil		Quantra	Brazil
Chevron	United States		Ral	Brazil
CNOOC	China		Repsol YPF	Spain
Codemig	Brazil		Rio Proerg	Brazil
COPEL	Brazil		Rosneft	Russia
Cowan	Brazil		Royal Dutch Shell PLC	United Kingdom
EBX	Brazil		Serena	Angola
Ecopetrol S.A.	Colombia		Severo & Vilares	Brazil
Egesa	Brazil		Sinochem	China
Eneva S.A.	Brazil		SINOPEC	China
EP Imetame	Brazil		Sollita	Brazil
ERG	Brazil		Sonangol	Angola
Eromanga	Australia		Statoil ASA	Norway
Exxon Mobil	United States		Stogas	Brazil
Galp Energia	Portugal		STR	Brazil
G&C	Brazil		Synergy Resources	Panama
GDF Suez	France		TDC	United States
Genesis 2000	Brazil		Trayectoria	Panama
Geopar-Geosol	Brazil		Grupo Total	France
Geopark Limited	Bermuda		Tucumann	Brazil
Governo da China	China		UBX	Brazil

Gran Tierra	Canada		UTC Participações	Brazil
HLJW	China		Vale	Brazil
Inbrael	Brazil		VB	India
Inpex	Japan		Vibrapar	Brazil
JX Group	Japan		Vipetro Petróleo S.A.	Brazil
Karoon	Australia			

Total companies: 96 - Source: ANP, as of March 2017

The companies listed above have competed for the 1,300 oil blocks awarded through 13 annual oil-concession licensing rounds, plus the first pre-salt round. Petrobras has won the majority of these concessions. Interested suppliers need to register in order to sell to Petrobras(click on the right side of the bottom for "instructions for suppliers from other countries").

The registration requires that a foreign firm have a local representative. It is our recommendation that U.S. firms not established in Brazil consider partnering with a local firm that is registered as a supplier to Petrobras rather than attempting to register directly.

Once Petrobras approves the registration of a supplier under their CRCC registration process, Petrobras uses an electronic purchase and contract portal called "Petronect" to invite companies to submit bids.

A supplier can start by securing a "Q" (technically qualified) status. The "Q" enables the company to submit a bid proposal. However, if the company wins a tender, it will need to complete an "A" (fully approved for registration) process. Through Petronect, one can also start its supplier's registration process.

Petrobras does not procure through international oil and gas e-Commerce websites.

Web Resources

- Petrobras
- Petrobras power point presentations
- Ministry of Mines and Energy (MME)
- ANP – National Petroleum Agency
- ANP - Statistics
- ANP - Concessions
- ANP - Publications
- The Brazilian Petroleum Institute
- Brazilian Federal Income (Receita Federal)/REPETRO (*) regime information
- The Brazilian National Oil Industry Organization – ONIP

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Personal Care, Fragrances and Cosmetics

Overview

Unit: US$ billion

Personal Care, Fragrances and Cosmetics in Brazil			
	2015	2016 (estimated)	2017 (estimated)
Total Market Size	198	173.08	154
Total Local Production	218	198.38	198
Total Exports	191	171.3	160
Total Imports	171	146.55	116
Imports from the U.S.	0.137	0.319	0.139
Exchange Rate: 3.1 US$			

Total Market Size = US$154 billion

Data Sources: ABHIPEC

Total Local Production: US$198 billion

Total Exports: US$160 billion

Total Imports: US$116 billion

Imports from U.S.: US$139 million

Brazil is the fourth largest market for Personal Care, Fragrance, and Cosmetic products. Brazil is home to extremely beauty-savvy women and has become a trend-setting market for the global industry. Brazil represents 7.1 percent of the worldwide consumption in the toiletry and fragrance industry, which amounts to 1.8 percent of the entire Brazilian GDP in 2016. Brazil ranks second in fragrances, sunscreen protection, men's products, depilatories, and deodorants, third in haircare, children's products, fourth in oral care, fifth in color cosmetics (makeup and nail care), and eighth in skincare. Brazilian imports decreased 14.5 percent in 2016, likely due to the Brazilian recession in 2015. Brazil is the second largest export market for U.S. Personal Care, Fragrance, and Cosmetic products and represents about 15 percent of imports into the market.

The Brazilian market requires companies to have a high degree of quality assurance and certification, such as ISO 9000 and ISO 14000, to sell into the market. The process and procedures for regulatory approval from ANVISA, the regulatory body, for many products in this sector is time consuming and complex. The most difficult issue in the market is the complicated tax scenario facing many products in this segment which results in an increase of approximately 60 percent in price to the consumer.

In addition, U.S. companies must consider social responsibility and environmental sustainability as high priorities when marketing their products. There is an on-going demand for natural and organic products that use recyclable materials.

Leading Sub-Sectors

- Bio-cosmetics
- Ethnic products
- Children's products
- Cosmetics for men

While the personal hygiene market in Brazil constitutes the majority of total sales in the cosmetics and toiletries sector, the cosmetics sector shows the largest potential. Within cosmetics, new and improved product lines for teenagers, and women between the ages of 35 and 60, are expected to show the highest growth.

Best prospects for U.S. exports to the Brazilian cosmetics and toiletries market include: bio-cosmetics, ethnic products, children's products, and cosmetics for men.

Opportunities

U.S. products have higher quality standards and higher prices than the mass-market products produced locally, which provides an opportunity to sell to the upper class. That said, Brazilian companies import all types of U.S. cosmetic products, which are then sold to all segments of the population. The United States is Brazil's largest cosmetic supplier and that is expected to continue.

Research by Brazilian NGO Instituto Akatu highlighted the five top aspects that Brazilian consumers consider when choosing a product and where U.S. firms could differentiate themselves in the market. These are: "cruelty-free" (52 percent), "socially responsible" (46 percent), "environmentally friendly" (46 percent), "low energy consumption" (44 percent), and "certified for fair labor practices" (43 percent).

Web Resources

- Brazilian Agency for Sanitary Health
- Brazilian Association of the Cosmetic Toiletry and Fragrance Industry

Major Trade Shows:

- FCE Cosmetique
- Hair Brasil
- Beauty Fair

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Renewable Energy

Overview

Brazil is Latin America's largest renewable energy market. Brazil's commitment to renewable energy is still strong and continued investment is expected in wind, solar, and hydropower capacity growth.

Brazil generates nearly 76 percent of its electricity from renewable resources. While wind and hydropower have been the major source of Brazil's renewable energy expansion, new solar energy developments over – provided Brazil creates an encouraging investment framework – could potentially rival investments in wind power.

With growth occurring in almost every energy subsector, large hydropower still accounts for the vast majority of Brazil's energy capacity. Large hydropower dams account for 93 gigawatts (GW) of Brazil's total energy capacity. Other renewable energy technologies include 86 GW for biomass and waste-to-energy; 4.77 GW for small hydropower; and 8.99 GW of installed wind power.

Leading Sub-Sectors

Wind

Wind capacity in Brazil (the largest in Latin America with nearly 9 gigawatts (GW) of installed capacity), should continue to buttress renewable energy growth for the near future. As an established power source in Brazil, wind has been removed from the renewable specific energy auctions. It is now sold in the conventional energy auctions alongside hydropower and energy from fossil fuels, a sign of its maturity in the market.

Brazil enjoys one of the world's strongest wind resource bases; and as only hydropower provides lower cost per kilowatt in the Brazilian energy matrix, wind is likely to draw increased investment. According to the Brazilian government's Energy Research Agency (EPE), the wind industry would need to install 17 GW of new wind capacity over the next decade to meet the country's target of 24 GW of installed wind generation capacity by 2024. Economists predict that investment in wind energy will reach US$24.5 billion by 2020.

Wind service providers likely have the best opportunities since component suppliers face strong competition from local manufacturers that benefit from advantageous financing terms from Brazil's state owned development bank (BNDES). Resource mapping, turbine design, environmental impact assessment, and other consultancy services are likely to be in high demand and should offer opportunities for U.S. companies.

Hydropower

Despite the emphasis on wind and solar by Brazilian policymakers, they have not completely abandoned large hydro, which currently generates about two-thirds of the country's electricity. According to the Ministry of Mines and Energy, Brazil will attempt to increase hydropower capacity by 27 GW by 2024.

Some export opportunities will result from changes in Brazil's hydropower market. The lack of production from some of Brazil's largest hydropower dams due to recent droughts increased

the awareness in the Brazilian energy sector, both private and public, that Brazil must diminish its dependence on large hydropower. The resulting shift in perception could open Brazil's existing market to the expertise of engineering firms that can increase efficiency and generation capacity in existing dams through technological and engineering services. Small hydropower, an area where U.S. technology is often highly competitive, has also been steadily increasing in Brazil.

Solar

Today, solar power accounts for only 0.02 percent of Brazil's total installed electricity generation, at about 27 MW. However, a further 2.2 GW has already been tendered. Upon installation, the tendered power will represent a 750 percent increase of installed solar power capacity.

Brazil's solar insolation resources could yield impressive medium-term growth opportunities. By 2024, Brazil forecasts that it could bring up to 7 GW of solar generation capacity online. BNDES alone (Brazilian Development Bank) expects to invest US$2.5 billion in solar development through 2018. With a solar distributed generation regulation already in place, investments in this area alone could reach US$25 billion by 2030.

A significant development for Brazil's solar strategy was the recent enactment of new rules by Brazil's National Electric Power Regulator (ANEEL) aimed at reducing barriers for the incorporation of distributed solar power. The enacted resolution:

1. expands the net metering program by allowing small-scale power generators of up to 5MW to offset their electricity bills with credits from the energy they provide to the grid;
2. allows participating consumers to distribute net-metering credits among multiple electric service accounts, for instance, on a multi-tenant commercial property or a residential apartment building;
3. introduces the concept of shared/community solar, allowing several energy customers to share the benefits of a solar power generating facility as one single consumer;
4. allows for the net-metering credits obtained and not used by the generating facility to offset the excess energy consumption of other sites provided that (i) both sites are serviced by the same distribution concessionaire; and (ii) ownership of both sites is the same;
5. establishes that the credits obtained by the solar power producer expire after 60 months.

For U.S. exporters, the opportunity is now – and will likely diminish over time. Through 2017, BNDES' local content requirement (LCR) rules mandate that solar modules be assembled in Brazil, but cells and other equipment can be imported. This will change as LCR percentage mandates increase. U.S. exports should find some opportunities in the short-term. As Brazil does not currently have a complete solar supply chain in country, imports will be required.

Polysilicon producers, wafer manufacturing, and solar cell providers should all find opportunities. Solar project developers and other service providers may find more lasting opportunities, as the market expands over the reminder of the decade.

Opportunities

In 2014, renewable energy investment was catalyzed by one of the worst droughts in Brazilian history, which reduced power generation at some of its most important hydroelectric facilities and even stoked talk of power rationing and electricity rate spikes.

The country's ongoing drought could even lead to electricity shortages in the near-term, potentially creating a market opportunity for distributed renewable energy providers, particularly roof-mounted solar PV. In the longer-term, the economic realities caused by the drought may shift the Brazilian Government's support towards renewables even further.

On 2009, Brazil began a series of successful reverse auctions to govern and facilitate the deployment of renewable energy technologies. Through the reverse auction system, which has since been duplicated in other markets around the world, developers seeking to build renewable energy projects compete against other developers in blind auctions to deliver projects at the lowest cost per kilowatt hour. The auctions thus reduce the price paid by the Brazilian consumer for renewable energy, as developers are incentivized to offer the lowest possible cost.

For technology suppliers, the reverse auction system provides a long pipeline of planned and approved projects. Exporters are encouraged to seek out auction winners to facilitate export sales.

Web Resources

- EPE (Empresa de Pesquisas Energéticas)
- National Electrical Energy Agency
- Top Market Reports: Renewable Energy

Key Local Trade Associations

- Brazilian Solar Power Association (ABSOLAR)
- Brazilian Distributed Generation Association (ABGD)
- Brazilian Wind Energy Association (ABEEOLICA)

Key Trade Shows in Brazil

- Brasil Solar Power
- Brazil Windpower
- Intersolar Latin America

Key Trade Shows in the United States:

- Solar Power International
- Intersolar North America
- AWEA Windpower

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Safety and Security

Overview

Safety and Security - Brazil				
	2014	2015	2016 (est)	2017 (est)
Total Market Size	$24,000	$26,000	$28,600	$26,240
Total Local Production	$20,400	$23,100	$25,300	$22,270
Total Exports	$180	$170	$187	$170
Total Imports (Electronic Products)	$3,600	$3,900	$4,290	$3,800
Imports from the U.S.	$1,600	$1,800	$1,980	$1,800

- Statistical data are unofficial estimates from trade sources
- Note: exchange rate US$1 - R $3.1
- Unit: US$ thousands

Brazil has an extensive and well-developed security market that should be followed closely by U.S. companies. Despite political and economic uncertainties which have featured over the last two years, Brazil continues to experience double digit growth in this sector.

While the current economic recession is projected to continue through 2017, a slow recovery is expected to unfold into the latter half of 2017, as confidence in macroeconomic policies improves. Spending related to the Olympics and the World Cup has prioritized security services and products, and it is set to continue in the near future. Investments have been made in mass transport systems, with funds being spent on both roads and airports to increase their efficiency, security, and capacity.

Opportunities for security suppliers will continue to emerge, as the government continues to focus on infrastructure development in order to drive GDP forward. Local analysts anticipate that the market for security technologies across a wide range of critical national infrastructure segments will continue to grow as the country continues this internal development.

The 2013 riots in São Paulo, Brasilia, and Rio de Janeiro highlighted the social instability caused by a lack of spending on social projects and the high cost of hosting international sporting events. This instability and threat from organized crime incentivized the Government of Brazil to invest in security infrastructure.

Brazil has registered an average annual growth in the security sector of 15 to 20 percent for the last eight years with annual sales around US$26 billion, which includes private security services. The market for electronic security equipment alone, accounts for US$592 million and is expected to more than triple to US$1.8 billion by 2017. Foreign products account for approximately 50 percent of the electronic security total market share, with U.S. products representing half of these imports.

The largest clients in the security market are the Government of Brazil (GOB), and financial and commercial institutions. Large investments in the country's military modernization program are key drivers in the Brazilian security market. Over the next decade, government security programs aim to strengthen border controls, combat organized crime, improve the prison system, create a National Information System for the public security agencies, and reduce crime and the flow of drugs.

At the state level, the public security secretariats are also promoting investments in the acquisition of new technologies. Command and control centers have become the "brain and the heart" of the state police agencies, which need to be able to quickly analyze and coordinate responses to ensure the safety of delegations, sports teams, tourists, etc.

As in most other industry sectors, to be successful in Brazil foreign manufacturers must either establish themselves in the country or have a local representative. The GOB and the private sector prefer to contact a local representative to handle all import procedures through them, instead of contacting foreign suppliers directly.

Leading Sub-Sectors

Below are the areas that currently present the best prospects in the Security market.

Brazil best prospects in the Security market						
	Surveillance Equipment	Access Control	Security Systems	Detection Devices (drug, fire, metal)	Unmann-ed Aerial Vehicles	Cyber Security (hardware, software)
Personal	Personal security, access control, alarm systems and surveillance circuits					
Residential Buildings	•	•	•			
Home Security			•	•		•
Commercial	Personal security, access control, alarm systems and surveillance circuits					
Airport Security	•	•	•	•		
Banking Institutions	•	•	•			•
Public Safety & Security	Surveillance equipment e.g. UAVs, emergency response integrators and professional training					
Mass Transportation	•	•	•			
Government	•	•	•	•		•

According to the latest Security Industry Association's (SIA) report, the Brazilian market for electronic security equipment is expected to reach US$2.0 billion by 2018. The current market breakdown is as follows:

- Video Surveillance – 39.6%
- Access Control – 20.8%
- Intrusion Alarms – 19.2%
- Fire Detection and Suppression – 10.4%
- Electronic Surveillance – 10%

Geographically, the security market is concentrated in the south and southeast regions of Brazil, where 63.4 percent of security companies and 65.5 percent of personnel can be found. Outside these regions, other states such as Bahia, Ceará, Pernambuco, Goiás and Distrito Federal (due to purchases made by the Federal Government) also deserve some attention.

Anti-virus specialists' report from Symantec estimates that cybercrime in Brazil accounts for 60 percent of all cybercrimes in Central and Latin America. The total price tag of consumer cybercrime in Brazil is approximately US$8 billion.

Opportunities

The Brazilian cybersecurity market is expected to grow from US$2.61 billion in 2013 to US$7.29 billion in 2019, at a CAGR of 17.80 percent for the reported period. The market is primarily driven by huge investments in military modernization programs. Micromarket Monitor produces a Brazilian cybersecurity market report, providing competitive benchmarking of the leading players in the industry as well as market trends, overall adoption scenarios, competitive landscapes, and key drivers, restraints, and opportunities in this market, estimating the current size and the future growth potential across different types, solutions, and services.

The Center of Cybersecurity (CDCiber) began its operations in 2010, and was created within the Brazilian Army in the Ministry of Defense, to study cyberspace threats, establish national doctrine on the subject, improve and monitor the means of defense against these threats, including investments in hardware and software, and to protect Brazilian cyberspace. This organization works in collaboration with other government organizations, including the Office of the President and Federal Police. CDCiber already coordinates projects with universities, as is the case with the agreement with UNB in the operation of the National School of Cyber Defense (ENaDCiber), in addition to maintaining links with government companies, such as Brazilian Federal Service of Data Processing (SERPRO) and private developers of technology.

As a result of the continuous reduction in the price of electronic monitoring devices, the Brazilian Association of Private Security Guards noted an increased deployment of such devices, particularly in private security. Electronic monitoring devices are being used in support of private security services, in some cases, replacing the presence of a private guard altogether. Without considering the effectiveness of this market trend, local market experts indicate a potential opportunity in the use of electronic devices in support of local private security companies, especially for those companies that have a good critical mass of customers and could act as "cross selling " dealers of new products and services for their existing clients.

The use of non-lethal weapons, such as stun guns, has been growing year after year, indicating a market tendency across both the public and private sectors. Non-lethal technology companies have witnessed revenue increases above 30 percent and the overall government policy towards the use of less harmful devices are expected to prompt more sales.

The continuous struggle over the last 20 years in Brazil to effectively address high levels of crime and violence should generate a bigger market for security technologies across a wide range of critical segments.

Vehicle surveillance is another market segment that has seen rapid growth over the last few years. According to the press, more than 500,000 cars are stolen in Brazil every year, and in large cities like São Paulo and Rio de Janeiro, car hijackings occur every few hours. Additionally, cargo robberies are a problem.

Other promising niches are small businesses and private homes as high crime rates force individual citizens and business owners to increase their security expenditures. These end-users, however, usually buy less expensive and less sophisticated equipment. Specialists estimate that Brazil has around seven million homes that should have some type of security device, but only seven percent are equipped with electronic security systems.

Financial institutions are the market's main end-users, and the most sophisticated consumer niche, demanding quality, warranty, and after-sales service. Port and airport security is another high-quality segment, which although they have continuously implemented improved security measures, should continue to offer excellent opportunities for U.S. suppliers as Brazil continues its concession logistic program.

Market Entry

The largest clients in this market are the GOB and financial/commercial institutions, which supply the national public security sector. As in most other sectors, to be successful in Brazil, foreign manufacturers must either establish themselves within the country or have a local representative.

The GOB and the private sector prefer to contact Brazilian representatives and do all the import procedures through them, instead of contacting the foreign suppliers directly. It is also important to have a distributor who can offer post-sales, maintenance services, replacement parts, and repairs.

Due to the size of the country, most distributors and system integrators cover only specific regions. They are usually small to medium-sized companies that the lack financial capability to invest heavily in product promotion, technical training, and translation of technical manuals. Therefore, it is often important that U.S. companies provide financial support for some of those activities. U.S. companies who have seen the greatest success in Brazil have worked closely with their agents and distributors, investing heavily in personnel training.

The Brazilian Army, through its Supervisory Board of Controlled Products, exerts the control over activities involving the acquisition, transportation, importation and exportation of small arms and light weapons, ammunition, and other related public security products - including non-lethal equipment. Prior to exporting law-enforcement related products, our office advises U.S. companies to contact the U.S. Department of Commerce for information regarding the products that fall into the Brazilian Army control.

Limitations on selling U.S. Products and Services

Technical literature must be translated into Portuguese. Although there are no official regulations and technical standards for electronic security equipment, the Brazilian Association for Electronic System Companies (ABESE) issues sector-specific certification called the "Yellow Stamp of Quality". This certification is issued to companies in the electronic security sector, including manufacturers, distributors, and service companies.

When signing an agent or distribution contract with a Brazilian firm, it is important to use the services of local law firms that are familiar with Brazilian legislation. Commercial distribution contracts are regulated by general Brazilian commercial laws - not by specific legislation. However, there is a special legislation that regulates the relationship between a foreign company and Brazilian agents or sales representatives. According to this legislation, if an agency contract is broken, the monetary compensation owed by the U.S. party usually favors the local agent.

Web Resources

- ABESE - Brazilian Association of Electronic Security Equipment
- ASIS International, Brazil Chapter
- ABSEG – Brazilian Association of Security Professionals
- FENAVIST – National Federation of Security Companies
- Security Center of Studies, Response, and Incidents
- Special Secretariat of Security for Major Events

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Transportation

Overview

Brazilian primary transportation infrastructure faces many challenges. According to the World Economic Forum, Brazil ranks 107th out of 144 countries in level of infrastructure development. Roads and ports need to be upgraded. The most common method of cargo transportation is in trucks via roads due to a limited rail network. Despite the existence of several rivers, waterways are rarely used, except in the Amazon region where rivers are usually the only way to access many isolated points. Railroads are few and uncompetitive. The use of trains for long distance transportation of passengers is restricted to a few urban tourist routes, while cargo transportation is mostly restricted to raw minerals.

In 2016, Brazil's President Michel Temer launched the Investment Partnership Program (PPI) also known as "Projeto Crescer", an infrastructure concessions program to raise US$14.4 billion in investments for building and operating roads, port terminals, railways, and power transmission lines. The program is a key part of the government' strategy to restore business confidence. According to the GoB, 55 new projects will be opened to the private sector. The full list of PPI projects is located at the "Projeto Crescer" website.

The new program is driven by several key considerations:

a) As Brazil emerges from a devastating recession, the Brazilian government is facing a tight fiscal situation which limits its ability to spend money on large investment projects.
b) Given limited public investment funding, the GOB has focused on transferring billions in state –owned airport, road, railway, and port assets to private investors through long term (up to 30 year) infrastructure concession agreements (public-private partnership - PPPs).
c) The major engine of economic growth is exports, particularly of commodities, but Brazil's current primary infrastructure is proving to be a bottleneck to expanding exports. Therefore, Brazil needs to address a multitude of needs across its infrastructure sector;
d) Corruption tied to past infrastructure concessions, has raised the Government's desire to bring outside investment and financing.

In March 2017, Brazil raised $ 1.2 billion with the auction of four airports. Three European groups were awarded the rights to operate four airports over the next 30 years independent of Brazil's state-owned airport administrator INFRAERO. For railways, the GOB will authorize early renewal for five railways already already under concession contracts in exchange for investments. The program also includes the concession of five big roads and port terminals.

Leading Sub-Sectors

- **Logistics:** Brazil has one of the highest logistics costs in the world. Market analysts estimate that the distribution cost structure represents approximately 31.8 percent of logistics cost. This includes management, warehousing, inventory, legal requirements and transportation costs. Logistical costs represent an average of 12 percent of Brazil's gross domestic product (GDP), while in the United States this amount is 8 percent. The objective of GOB's PPI program is to provide Brazil with a transportation system that reflects its continental size. Opportunities for U.S companies in the logistics segment include digital infrastructure (big data); new technologies that improve control of freight movement and logistics, including drones and improvement in vehicle routing and efficiency, such as platooning of trucks.
- **Roads:** Highways represent more than half of all public transportation infrastructure in Brazil, followed by railways with 25 percent waterways with 17 percent and others, such as air transportation. With the enactment of PM752/16 GOB will be able to enter into renegotiation talks with rail and road concessionaires up to five years before the expiration of the contract. These renegotiations could be renegotiations for extensions with the promises of new investments, or the early termination of the contracts if the concessionaire and the GOB cannot come to an agreement on new investment terms. It also allows the GOB to terminate road contracts early if they are not "functioning" or meeting the terms of their contract, without any renegotiation. A list of the renegotiations projects can be found at the "Projeto Crescer" website.

Opportunities for this sector include in-road embedded sensors; mobile interfaces; intelligent transportation systems (ITS); radio and digital systems for the dissemination of highways conditions (events, closures, weather, etc.); transmission of highway related information to

control center; access to highway information 24/7 through Wi-Fi and implementation of a "point to point" toll collection system.

- **Railways:** Brazil has less than half as many kilometers of railroads as do either China or India. Transportation by roads represents 61 percent of total freight, while that of railroad comprises 21 percent Rail transportation has proven to be up to 30 percent cheaper and more efficient than paved roads. As part of the PPI concession plan, GOB plans to anticipate renewals of the already existing concessions of MRS, Rumo Logística and VLI. A new build rail priority in 2017/8 is the Ferro Grão railroad that seeks to create a railway corridor for commodities exports from the state of Mato Grosso to the riverine ports in the north of Brazil. This rail line will parallel the existing road BR-163 which moves over half of the commodities produced in Mato Grosso. This should grant more than US$ 7.5 billion in investments for the rail sector. The upcoming rail auctions are part of the government's efforts to raise private investment for infrastructure projects and boost a recovery from Brazil's recession. Opportunities in this sector include embedded technologies; intelligent transportation systems (ITS); risk and traffic management systems/operations; train control systems; signaling and communication systems; track material and equipment; installation of track systems; track inspection systems and rail maintenance equipment and locomotive spare parts.
- **Ports:** The GOB launched a very aggressive program of port concessions in several states. The criteria for defining the new leasing contracts for terminals at organized ports is primarily a fee-based concession paid by the companies operating the facilities. The main objective is to increase Brazil's competitiveness, reduce barriers to market entry, modernize port management, increase trade, and reduce the high cost of doing business in Brazil. As part of the PPI program, a group of public port terminals will also enter the list, with extensions of existing contracts - such as those as the ports of Santos (SP), Vila do Conde (PA) and Niterói (RJ) - and concessions for new areas in the ports of Santana (PA), Itaqui (MA) and Paranaguá (PR). Best prospects for the port's sector are: port terminal operation and management systems; vessel traffic management systems (VTMS); communications and radar technologies; security systems; RFID systems and dredging operations.
- **Waterways:** Brazil has enormous potential for river traffic with approximately 63,000 km of rivers and lakes, of which 45,000 km are navigable. However, Brazil's use of transportation by waterways is small when compared to other countries. For example, 25 percent of cargo is transported by river in the United States and 35 percent in Canada; in Brazil, only 14 percent of cargo is transported this way. Most of this navigation occurs only in 15,000 km, most of which is in the Amazon region. Currently, the largest share of investments comes from the public sector, representing 97 percent of the funds (or about US$3 billion per year).
- **Public Transportation:** The Ministry of Cities is an autonomous federal agency responsible for establishing strategies, direction and priorities supporting the development of Brazil's cities. One of the Ministry's largest federal programs involves public transportation initiatives such as metros, Bus Rapid Transit (BRT), mass transit and traffic improvement. Every day, millions of Brazilians spend three to six hours traveling to and from work or school. The current metropolitan rail system transports

about 8 million people daily throughout all major Brazilian cities. All public transportation projects are run at the municipal level so projects should be searched for on their web sites. Furthermore, the study showed that 63 percent of cities with more than 300,000 residents use illegal, unsafe and unreliable means of transportation. These many problems with the current system signal offer opportunities for growth and investment, including for U.S. companies. Some of the best prospects for this segment are on-board safety/surveillance systems that provides real time information; ITS; reliable train wireless data transmission (including inside tunnels) and management/operations transportations systems.

Opportunities

Logistics: Digital infrastructure (big data); new technologies to improve control of freight movement and logistics including drones; improvement in vehicle routing and efficiency such ads platooning of trucks.

Roads: Embedded sensors; mobile interfaces; ITS; radio and digital systems for the dissemination of highways conditions (events, closures, weather, etc.); transmission of highway related information to control center; access to highway information 24/7 through Wi-Fi; implementation of a "point to point" toll collection system.

Railways: Embebed technologies; ITS; risk and traffic management systems/operations; train control systems; signaling and communication systems; track material and equipment; installation of track systems; track inspection systems and rail maintenance equipment and locomotive spare parts.

Ports: Port terminal operation and management systems; vessel traffic management systems (VTMS); communications and radar technologies; security systems; RFID systems; dredging operations.

Public Transportation: On-board safety/surveillance systems that provides real time information; ITS; reliable train wireless data transmission (including inside tunnels); management/operations transportations systems.

BRAZIL - Investment Partnership Program (PPI) - Key Projects	
RAILWAYS - Click on the project's name for additional information	
EF 151 – SP/MG/GP/TO – North-South Railroad	Sub-concession
EF 170 – MT/PA - Ferrogrão Railroad	Common concession
EF 334/BA - FIOL Railroad	Sub-concession
Early extension of 5 railroad concessions	Extension

Source

HIGHWAYS - Click on the project's name for additional information	
Highway BR-101 RS (BR 101/290/386/448/SC/RS)	Common concession

Highway BR-364/365/MG/GO - Uberlândia a Jataí	Common concession
Highway BR-101/SC – Paulo Lopes a São João do Sul	Common concession
Highway BR-040/MG/RJ – Juiz de Fora a Rio de Janeiro	Common concession
Highway BR-116/RJ – Além Paraíba à BR-040	Common concession
Highway BR-116/RJ/SP – Rio de Janeiro a São Paulo	Common concession

Source

PORTS - Click on the project's name for additional information	
Vehicle Terminal in the Port of Paranaguá/PR - (PAR12)	For Rent / Lease
Cellulose Terminal at the Port of Paranaguá/PR - (PAR01)	For Rent / Lease
Wood Chip Terminal in the Port of Santana/AP - (MCP1)	For Rent / Lease
General Cargo Terminal at the Port of Itaqui/MA - (IQI 18)	For Rent / Lease
Terminal XXXIX in the Port of Santos S.A. – Caramuru	Extension
Chemical Terminal in the Port of Itaqui/MA - (TEQUIMAR)	Extension
NITSHORE PORT SERVICES S.A.	Extension
NITPORT SERVIÇOS PORTUÁRIOS S.A.	Extension
DECAL Port Terminal in Porto SUAPE/PE	Extension
Container Terminal in Porto Vila do Conde/PA - (Convicon)	Extension

Source

Web Resources

- Projeto Crescer" an Investment Partnership Program (PPI)
- Ministry of Cities
- ANTP-National Association of Public Transportation
- ANTF National Association of Railway Transport
- ABIFER Brazilian Association of Railroad Industry
- ABTP Brazilian Association of Port Terminals

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Travel and Tourism

Overview

Brazil is the 7th largest overseas source of visitors to the United States (excluding North America-Canada and Mexico) for 2015, the most recent full year information that is available. According to the National Travel and Tourism Office, Brazil is the top arrivals market from South America and accounts for more than 30 percent of all arrivals in the United States from the continent.

In 2014, 2,264 million Brazilian travelers visited the United States, a 10 percent increase over 2013. This number dropped slightly in 2015, when 2,219 million Brazilian visitors visited the U.S. Considering the weak Brazilian economy in 2016, and a major devaluation of the Brazilian currency against the US dollar value, preliminary statistics from January through August 2016 show that 1,109,066 Brazilians visited the United States, representing a 25.7 percent decrease compared to that same period in 2015.

Spending by Brazilian visitors to the United States will also show an impact related to Brazil's economic situation and the significant growth in the U.S. dollar value. In 2013, Brazilians spent $12.6 billion in the U.S. In 2014, expenditures reached a total of $14.019 billion, and continued to rise in 2015 reaching $14.3 billion in expenditures, which represents more than $6,400 by each Brazilian visitor.

The table below shows the top 20 countries that sent tourists to the United States in 2015.

TOP 20 COUNTRIES – 2015 – Tourism to U.S.			
Rank	Country of Residence	Number of Arrivals	percent Change
1	Canada	20,704,701	-10.0
2	Mexico	18,413,649	7.9
3	United Kingdom	4,900,823	18.1
4	Japan	3,758,297	3.8
5	People's Republic of China (Excl. HK)	2,591,333	18.3
6	Germany	2,271,820	10.5
7	Brazil	2,218,883	-2.0
8	South Korea	1,764,871	20.9
9	France	1,752,611	5.7
10	Australia	1,450,113	11.2
11	India	1,125,783	17.0
12	Italy	1,039,397	7.9
13	Colombia	853,624	-3.1
14	Argentina	791,905	15.6
15	Spain	752,823	6.4

16	Netherlands	726,011	13.0
17	Venezuela	590,733	-4.1
18	Sweden	586,332	6.2
19	Switzerland	536,584	7.4
20	Ireland	450,132	12.5
TOTAL TOP 20		67,280,425	2.4

Leading Sub-Sectors

The U.S. is Brazil's second most popular destination just behind neighboring Argentina. More Brazilians are traveling to the U.S. because of promotions offered by U.S. companies and new routes to the United States from Brazil offered by U.S. carriers.

According to the National Travel and Tourism Office, Brazil ranked 5th in country of origin for overseas visitors to the U.S. during 2014. In 2015, Brazilian currency fluctuations and the economic/political situation in Brazil had a significant impact on outbound travel. Preliminary statistics for January through August of 2016 show an even greater impact on the number of Brazilian visitors to the United States, with 1,109,066 tourists from Brazil, representing a 25.7 percent drop in comparison with the 2015 numbers.

Regarding the main purpose of their trip to the U.S., the majority of arrivals from Brazil in 2015 were on vacation/holiday (73 percent), followed by visiting friends/relatives (9 percent), business (8 percent), convention/conference/trade show (5 percent), and education-related purposes (4 percent). Top tourism activities when visiting the U.S. include shopping, which accounted for 89 percent of their preferences; sight-seeing (69 percent); visits to National Parks (34 percent); dining in fine restaurants (22 percent); visiting historical sites (24 percent); and amusement/theme parks (51 percent). Other activities include guided tours (13 percent); Art Gallery/Museums (28 percent); Concert/Play/Musicals (19 percent); visiting small towns (17 percent); cultural heritage sites (10 percent); sports (16 percent); visit to casinos (6 percent); water sports (3 percent); golf and tennis (2.1 percent); ski (1.2 percent); ecotourism (2.1 percent); and fishing (0.8 percent). The most popular destinations for Brazilian visitors in the U.S. are Orlando, Miami, and New York City, followed by Las Vegas and Los Angeles. Washington, DC, New Orleans, Massachusetts, San Francisco and Texas are popular secondary destinations. The mode of travel most popular with Brazilian visitors while in the United States was rented autos (55 percent), followed by private or company auto (32 percent), taxicab/limousine (24 percent), air travel between U.S. cities (23 percent), and city subway/tram/bus (24 percent).

The high season for Brazilian travel to the U.S. is December through January, and during the month of July due to school holidays. Shorter trips during public holidays are also very popular. Fly and drive trips are becoming increasingly attractive to Brazilian families wishing to drive through Arizona, California, Nevada, Colorado, Florida, Louisiana or New England.

Brazil's Travel and Tourism Distribution System

According to Brazil's Ministry of Tourism, Brazil has 18,872 travel agencies, with 60 percent issuing international tickets. Many travel agencies also serve as tour operators, which started

out as travel agencies. As a result, there is stiffer competition prompting many agencies to upgrade technologies to improve efficiency. Associations are important in Brazil's travel industry. The Brazilian Tour Operators Association (BRAZTOA), formed by 70 operators, is the main association of tour operators. The Brazilian Travel Agencies Association (ABAV) has approximately 3,500 members, and asserts that they are responsible for 85 percent of international air ticket sales. These associations report that a majority of Brazil's visitors to the U.S. go through a travel agency, while others go directly to airlines to purchase tickets through the Internet, and a smaller group use state/city travel offices.

Opportunities

Travel and tourism promotion in Brazil has seen success over the past two decades. Brazil's large and diverse population means the country has a diverse set of interests from which U.S. destinations can recruit travelers. For a U.S. destination, finding the hook for potential Brazilian travelers could lead to great returns.

Those working in tourism may want to capture some of the increasing niche markets of Brazilian travelers to the United States. Visa adjudicating officers at the US Consulate in São Paulo, the largest visa issuing post in Brazil, have indicated notable trends among Brazilian visitors in 2015. Among Brazilians traveling with the specific aim of shopping, agents should consider tours specifically designed to cater to the soon-to-be mothers and wedding shoppers. Officers also indicated that modest Brazilian shoppers find inexpensive accommodations in the outskirts of major cities and even take advantage of outlet shopping. Another growing market is the adventurous traveler who aspires to trek the famous Route 66 or participate in motorcycle road tours in the South.

While Florida remains a popular destination, some are making New York City, Los Angeles, San Francisco, New Orleans or Las Vegas their first destination. Among this group, several have specific intentions to drive along the California coast or drive from Los Angeles to Las Vegas.

Young professional and business travelers have also shown notable trends. When taking holiday leave, many young professionals opt to use their 30 days of vacation for an extended stay in the United States. The vast majority take a light load of English language courses as incidental to tourism. Hours spent outside of class are dedicated to exploring a major city and getting a taste of American living before returning home. Consular officers specifically highlighted Chicago as a major destination for architects and building lovers. Other trends include industry shoppers traveling specifically to purchase equipment, and hobby or professional travel by photographers, disc jockeys, artists and farmers.

Several Brazilian travelers obtain U.S. visas with the specific purpose of transiting to destinations in Canada, Mexico, Japan, and Caribbean cruises with intentions of doing a quick stay in the U.S. for shopping. Agents may want to capture this market to facilitate the needs of these travelers, who simply want quick and easy access to shopping and dining.

Each year, the U.S. Commercial Service in Brazil organizes the VISIT USA shows. This is the most effective and affordable vehicle for the U.S. travel trade industry to increase its market exposure in Brazil. VISIT USA 2017 Brazil took place in São Paulo and Rio de Janeiro in March

2017, and was visited by over 1,300 select travel agents, tour operators and media visitors in the two cities.

Web Resources

- U.S. Department of Commerce's Office of Travel & Tourism Industry – OTTI
- National Travel and Tourism Office, 2015 Market Profile: Brazil
- FCS Global Travel & Tourism team
- Top Markets Report on Travel & Tourism for Brazil

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You may want to check our Export.gov Global Teams page and our Top market reports

Customs, Regulations & Standards

Trade Barriers

Brazil ranked 123 out of 190 countries in the World Bank's 2016 Ease of Doing Business Report. U.S. companies cite high tariffs, an uncertain customs system, high and unpredictable tax burdens, and an overburdened legal system as major hurdles they must overcome to do business in Brazil. U.S. exporters in regulated industries (e.g., medical devices, health, and safety products) have a particularly challenging time navigating Brazilian rules and regulations.

As Brazil has implemented the *Brasil Maior* (Greater Brazil) plan, we have seen a rise in trade protections such as tax breaks to benefit local manufacturers, increased tariffs, and local content requirements. U.S. companies will increase their chances of success by working with strategic Brazilian partners and highlighting their commitment to the Brazilian market. While U.S. companies have faced market access challenges in Brazil over the past several years, such as high tariffs, local content requirements and a "Buy Brazil" policy, the U.S. government (USG) is working with the Brazilian government (GOB) to reduce non-tariff barriers in the area of trade facilitation, technical standards, regulations and conformity assessment.

Import Tariff

Imports are subject to a number of taxes and fees in Brazil, which are usually paid during the customs clearance process. There are three taxes that account for the bulk of import costs: the Import Duty (II), the Industrialized Product tax (IPI) and the Merchandise and Service Circulation tax (ICMS). In addition to these taxes, several smaller taxes and fees apply to imports. Note that most taxes are calculated on a cumulative basis.

Brazil and its Southern Common Market (Mercosul) partners, Argentina, Paraguay, and Uruguay implemented the Mercosul Common External Tariff (CET) on January 1, 1995. Venezuela became a full member of Mercosul in 2012. Each country maintains a separate exceptions list of items for tariffs.

In 1995 Brazil implemented the Mercosul Common Nomenclature, known as the NCM (Nomenclatura Comum do Mercosul), consistent with the Harmonized System (HS) for tariff classification.

The Brazilian Government established a computerized information system to monitor imports and to facilitate customs clearance known as the Foreign Trade Integrated System (SISCOMEX). SISCOMEX has facilitated and reduced the amount of paperwork previously required for importing into Brazil. Brazilian importers must be registered in the Foreign Trade Secretariat's (SECEX's) Export and Import Registry and receive a password given by Customs to operate the SISCOMEX. The SISCOMEX online registry creates electronic import documents and transmits information to a central computer.

Import duty (abbreviated in Portuguese as II) is a federally-mandated product-specific tax levied on a CIF (Cost, Insurance, and Freight) basis. In most cases, Brazilian import duty rates range from 10 percent to 35 percent MDIC publishes a complete list of NCM products and their tariff rates.

Brazil's customs regime does allow for ex tariff imports (ex tarifário) of foreign and U.S. manufactured goods under some circumstances. When there is no similar equipment being manufactured locally, an importer can seek import duty waivers to reduce import costs. This tax reduction is called 'ex tariff' or 'ex tarifário'. The ex-tariff regulation consists of a temporary reduction on import duties of capital goods, information technology and telecommunications (BIT), as written in the Mercosur Common External Tariff (TEC), when there is no domestic equivalent production. The Ministry of Industry, Foreign Trade and Services (MDIC) coordinates ex tariff program which can only be requested by local companies with import / export registration with Customs. Generally, if this status is granted, the import tariff can be temporarily lowered to 2 percent for up to two years. To qualify, U.S. exporters or their legal representatives must submit a technical application to the Ministry of Trade for review.

Industrialized Product Tax (IPI)

The IPI is a federal tax levied on most domestic and imported manufactured products. It is assessed at the point of sale by the manufacturer or processor in the case of domestically produced goods, and at the point of customs clearance in the case of imports. As part of the federal government's efforts to support local producers, IPI rates between imported and domestically produced goods within the same product category may differ. The IPI tax is not considered a cost for the importer, since the value is credited back to the importer. Specifically, when the product is sold to the end user, the importer debits the IPI cost.

The Government of Brazil levies the IPI rate by determining how essential the product may be for the Brazilian end-user. Generally, the IPI tax rate ranges from 0 percent to 15 percent In the case of imports, the tax is charged on the product's CIF value plus import duty. A product's IPI rate is directly proportional to its import tariff rate. As with value-added taxes in Europe, IPI taxes on products that pass through several stages of processing are reduced to compensate for IPI taxes paid at each stage. Brazilian exports are exempt from the IPI tax. Brazilian Customs publishes the complete list of NCM products and their IPI tariffs at Brazil Government website or on the PDF.

Merchandise and Service Circulation Tax (ICMS)

The ICMS is a state government value-added tax applicable to both imports and domestic products. The ICMS tax on imports is assessed ad valorem on the CIF value, plus import duty, plus IPI. Although importers have to pay the ICMS to clear the imported product through Customs, it is not necessarily a cost item for the importer because the paid value represents a credit to the importer. When the product is sold to the end user, the importer debits the ICMS, which is included in the final price of the product and is paid by the end user.

Effectively, the tax is paid only on the value-added; the tax is generally passed on to the buyer since it is included in the price charged for the merchandise. The ICMS tax due to the state government is based upon taxes collected on sales by a company, minus the taxes paid in purchasing raw materials and intermediate goods. The ICMS tax is levied on both intrastate and interstate transactions and is assessed on every transfer or movement of merchandise. The rate varies among states: in the State of São Paulo, the rate varies from seven percent to 18 percent. On interstate movements, the tax will be assessed at the rate applicable to the

destination state. Some sectors of the economy, such as mining, electricity, liquid fuels and natural gas can be exempt from the ICMS tax. Most Brazilian exports are exempted.

Import Requirements & Documentation

U.S. exporters and Brazilian importers must register with the Foreign Trade Secretariat (SECEX), a branch of the Ministry of Industrial Development and Commerce (MDIC).

Depending on the product, Brazilian authorities may require more documentation. For instance, the Ministry of Health controls all products that may affect the human body, including pharmaceuticals, vitamins, cosmetics and medical equipment/devices. Such products can only be imported and sold in Brazil if the foreign company establishes a local Brazilian manufacturing unit or local office, or the foreign company appoints a Brazilian distributor who is authorized by the Brazilian authorities to import and distribute medical products. Such products must be registered with the Brazilian Ministry of Health. The registration process is often complex and/or time consuming. More details about documentation are available at the FedEx website.

Labeling/Marking Requirements

The Brazilian Customer Protection Code requires that product labeling provide the consumer with precise and easily readable information about the product's quality, quantity, composition, price, guarantee, shelf life, origin, and risks to the consumer's health and safety. Imported products should bear a Portuguese translation of this information. Products should be labeled in metric units or show a metric equivalent.

U.S. Export Controls

At this time, the U.S. Government maintains no export controls specific to Brazil. Normal controls are maintained on military equipment, high-tech information systems, and equipment of a highly sensitive nature. Items on the Munitions Control List are also a controlled export to nearly all countries worldwide, including Brazil, requiring special licenses from the State Department or Commerce Department depending upon the item. You can see the current list of export controls at the U.S. Bureau of Industry and Security (BIS) website.

For information on controls on exports of defense articles, see the State Department's Directorate of Defense Trade Controls (DDTC).

The Department of Commerce provides a list that consolidates eleven export screening lists of the Departments of Commerce, State and the Treasury into a single search as an aid to industry in conducting electronic screens of potential parties to regulated transactions.

Temporary Entry

Since 2000, the Government of Brazil has made an allowance for temporary importation of products that are used for a predetermined time period and then re-exported. Brazil has already ratified the International Convention for the Temporary Admission of Goods. Under Brazil's temporary import program, the II and IPI are used to determine the temporary import tax. Products must be used in the manufacture of other goods and involve payment of rental or lease fees from the local importer to the international exporter.

As of June 28th, 2016, Brazil is only accepting ATA Carnet from countries overseen by the Istanbul Convention. U.S. Carnets are overseen by the ATA Carnet Convention and U.S. Carnets are being rejected. The U.S. government is working with the Government of Brazil toward resolution of this issue.

The ATA Carnet is an international customs document that allows importers to temporarily import goods up to one year without payment of normally applicable duties and taxes, including value-added taxes.

A copy of the Brazilian Administrative Ruling 1639 (*Instruçao Normativa*) published in the Brazilian Official Gazette that codifies the adoption of the ATA Carnet, is available on the ATA Carnet website.

Additional resources can be found at:

- Normative ruling of the Brazilian Internal Revenue Service (RFB)
- ATA Carnet Specialists
- Carnet document

Under Brazil's temporary import program, the Import Duty (II) and Industrialized Product tax (IPI) are used to determine the temporary import tax. Products must be used in the manufacture of other goods and involve payment of rental or lease fee from the local importer to the international exporter.

There are very strict rules regarding the entry of used merchandise into Brazil. An example of products falling under this program would be the temporary importation of machine tools. The example in the table below shows that taxes due are proportional to the period the imported product will remain in Brazil. This also applies to temporary entry of personal belongings.

Permanent and Temporary Tax example - Brazil	
CIF price of machine tool	$200,000
II of 10 percent on CIF	$20,000
IIPI of 5 percent X (CIF plus II)	$11,000
Taxes that would be owed if importation were permanent	*$31,000*
Total life span of machine tool	60 months
Time machine tool with stay in Brazil	12 months
Tax for temporary importation	$6,200
Value =31000 X (I-(60-12)/60)	
(20 percent of tax is owed as tool will stay in Brazil 1/5 of it's useful life)	

Prohibited & Restricted Imports

The Brazilian Government has eliminated most import prohibitions with certain exceptions. In general, all used consumer goods are prohibited from being imported. Used capital goods are allowed only when there is no similar item produced locally. Aviation parts, for example, are one of the few used products allowed to enter Brazil. Remanufactured goods are still considered used goods.

The country prohibits the imports of beef derived from cattle administered with growth hormones, fresh poultry meat and poultry products coming from the U.S. and color prints for the theatrical and television market. There is also specific legislation that prohibits the importation of products that the Brazilian regulatory agencies consider harmful to health, sanitation, national security interest, and the environment.

For a more detailed list of prohibited and restricted items, access the website.

Customs Regulations

It is essential to have all Customs documents in complete order. Products can get delayed for various reasons, including minor errors or omissions in paperwork. Products held at customs in Brazil can be assessed high fees. Brazilian Customs frequently seizes shipments that appear to have inaccurate documentation. Customs has the right to apply fines and penalties at its discretion. For further information on customs regulations in Brazil, visit the Customs website (in Portuguese).

Standards for Trade

Overview

Brazil has strict rules regarding standards and an active group of standards organizations. The National Institute of Metrology, Quality, and Technology (INMETRO) is a government entity and is the operating arm of Brazil's standards regime, led by the National Council of Metrology, Standardization and Industrial Quality, CONMETRO. The council is formed by a group of 8 ministries and 5 governmental agencies. The Council is the regulatory body of The National System of Metrology, Standardization and Industrial Quality (SINMETRO).

ANSI, the American National Standards Institute, also has Brazil-related standards information via their Standards website.

Standards

INMETRO is the main national accreditation body and is in charge of implementing the national policies regarding quality and metrology established by CONMETRO, the Council that oversees INMETRO's activities. INMETRO is responsible for certification of products, services, licensing, and testing labs, among other duties.

The Brazilian Association of Technical Standards (ABNT) is the recognized standards organization. The Associação Brasileira de Normas Técnicas (ABNT) was created in 1940, as a non-profit organization engaged in the preparation of national standards.

ABNT establishes and manages marks of conformity with standards applied in voluntary or compulsory product certification schemes. ABNT is an accredited registration body to certify quality systems, environmental management systems and several products. They develop standards, and reference ISO and IEC standards, and sometimes U.S. developed international standards.

When the need for standardization of a given topic arises, ABNT refers the matter to the responsible Technical Committee, where it will be exposed to the various sectors involved. Once the Draft Standard has been prepared, it is then submitted for National Consultation. In this process, the Draft Standard, prepared by a Study Committee representing the stakeholders and sectors involved, is submitted to the society for consideration. During this period, any interested party may express, without any burden, in order to recommend to the Study Group authorizing the approval of the text as presented; The approval of the text with suggestions; Or its non-approval, and, for this, the interested party must present the technical objections and justification.

Contributions can be made at the ABNT website.

More information about ABNT can be found at ABNT website.

NIST Notify U.S. Services

Member countries of the World Trade Organization (WTO) are required under the Agreement on Technical Barriers to Trade (TBT Agreement) to report to the WTO all proposed technical regulations that could affect trade with other Member countries.

Notify U.S. is a free, web-based e-mail subscription service that offers an opportunity to review and comment on proposed foreign technical regulations that can affect your access to international markets. (Registration online).

Testing, inspection and certification

Conformity assessment includes all activities needed to demonstrate compliance with specified requirements relating to a technical regulation or voluntary standard. In Brazil, the conformity assessment system follows ISO guidelines. Conformity assessment includes test and calibration laboratories, product certification bodies, accreditation bodies, inspection and verification units, quality system registrars, and others.

Conformity assessment can be voluntary or mandatory (done through a legal instrument to protect the consumer on issues related to life, health and environment). Interested U.S. parties can be accredited by INMETRO to perform conformity assessment activities.

Brazilian laboratories accredited by INMETRO can be found here.

For regulated products, the relevant government agency generally requires that entities engaged in product testing and mandatory certification be accredited by INMETRO. Generally, testing must be performed in-country, unless the necessary capability does not exist in Brazil. INMETRO is a signatory to the mutual recognition arrangement (MRA) of the International Laboratory Accreditation Cooperation (ILAC), which can facilitate acceptance of test results

from U.S. laboratories that are accredited by U.S. organizations and are also signatories. For a complete list of MRAs to which INMETRO belongs, visit the website.

A complete list of products subject to mandatory certification can be found on this INMETRO website.

There is no legal mandate as of yet to retest non-regulated products that have been approved in their country of origin. For non-regulated products, some U.S. marks and product certification may be accepted. As with all voluntary standards, any certification that may be required in non-regulated sectors is a contractual matter to be decided between buyer and seller. Market forces and preferences sometimes de facto require a specific certification.

To facilitate U.S. product acceptance in Brazil by recognizing existing certifications, agreements between U.S. and local certifiers/testing houses are encouraged. Also, there is no impediment for the establishment of U.S. certification organizations in Brazil. If your product has been certified in the U.S. or Europe, it may not need to be recertified (see MRA above). If your product is not certified, please refer to the mandatory product certification link.

A list of certified products (both mandatory and voluntary) in Brazil is available at the INMETRO website.

The General Coordination for Accreditation (CGCRE) of INMETRO is responsible for accrediting certification bodies, quality system registrars, inspection bodies, product verification and training bodies, as well as testing and calibration laboratories.

Information about accreditation requirements and currently accredited bodies is available at the INMETRO website.

Publication of technical regulations

The regulations on Public Consultation are on the Inmetro website.

INMETRO and CONMETRO use their websites to inform the public about updates to technical regulations.

Contact Information

For additional information please contact Standards Attache, Sarah Cook at Sarah.Cook@trade.gov or Standards Assistant Bruna Pizzuti at Bruna.Pizzuti@trade.gov

The U.S. Commercial Service — Your Global Business Partner

With its network of offices across the United States and in more than 80 countries, the U.S. Commercial Service of the U.S. Department of Commerce utilizes its global presence and international marketing expertise to help U.S. companies sell their products and services worldwide. Locate the U.S. Commercial Service trade specialist in the U.S. nearest you by visiting the Export.gov website.

Trade Agreements

Brazil is a member of the Mercosur trading bloc, which has its own regional standards organization that issues and harmonizes standards. Technical committees write and recommend standards in selected areas. Each country must ratify the standard before they are

adopted in that country. A number of standards have already been adopted as Mercosul standards. Adopted and proposed Mercosur standards are listed on Mercosur's website.

The Executive Secretariat of the Mercosur Standards Organization is located in São Paulo, Brazil.

Licensing Requirements for Professional Services

Many professions in Brazil are regulated or inspected by councils. Councils are public authorities, with responsibility to regulate, supervise, direct, and discipline certain professional categories.

It is up to the councils to certify that a certain individual is able to exercise the profession for which they are responsible. It is also the council's responsibility to make sure that unauthorized people do not do so. Councils have a code of conduct and ethics parameters that must be followed.

Certain workers are obliged to be registered at corresponding councils in order to exercise their profession. Anyone that works without a registration is subject to penalties according to Brazilian law. There are also many professions that are not supervised by councils in Brazil. For example anyone can be a farmer, software developer or a bus driver, if approved by a hiring company.

Registering at a Professional Council

The basic requirement to be licensed by a professional council is to own a valid graduation certificate in the chosen area. Since there are several different professional councils, requirements to be registered in each one of them may vary. The most common procedure is to visit a regional council or send the necessary documents.

The required documents are usually:

- Completed registration form
- Proof of payment of the registration fee
- Copies of personal documents, like ID, proof of residence, CPF
- Copies of the diploma and of the undergraduate transcript
- Photos to be used on the registration card

This registration has an expiration date, and needs to be renewed periodically, according to the council's rules.

Can foreigners be registered by a council?

The registration of a foreigner in a Brazilian professional council also varies according to each profession. Some — like the Council of Psychology and the Council of Administration, for example — allow foreigners to be registered. The main conditions for this are the revalidation of the foreign diploma and a proficiency test in the Portuguese language.

Other councils have stricter rules, allowing foreigners to register only in exceptional cases, like a lack of manpower, or only providing temporary permits for the realization of a specific project in Brazil. This is the case in the Council of Engineering and Agronomy.

Examples of Professional Councils

Below are some examples of some of the main federal and regional professional councils in Brazil. The first acronym refers to the federal council, while the second acronym refers to the regional one.

- Cofea/CREA - Council of Engineering and Agronomy (Conselho de Engenharia de Agronomia)
- CFP/CRP - Council of Psychology (Conselho de Psicologia)
- CFA/CRA - Council of Administration (Conselho de Administração)
- CFM/CRM - Council of Medicine (Conselho de Medicina)
- CFF/CRF - Council of Pharmacy (Conselho de Farmácia)
- COFECI/CRECI - Council of Real Estate Brokers (Conselho de Corretores de Imóveis)
- CAU - Council of Architecture and Urbanism (Conselho de Arquitetura e Urbanismo)
- CFC/CRC - Council of Accounting (Conselho de Contabilidade)
- CFO/CRO - Council of Odontology (Conselho de Odontologia)
- CFQ/CRQ - Council of Chemistry (Conselho de Química)
- Confere/Corce - Council of the Commercial Representatives (Conselho dos Representantes Comerciais)

OAB - The Brazilian Bar Association

Technically, the Brazilian Bar Association, or *Ordem dos Advogados do Brasil*, which acronym is OAB, is not a professional council. It was already a federal authority, like the councils mentioned previously, but nowadays OAB is an independent organization. It is autonomous, benefits of tributary exemption and its employees are hired like in any other company, not needing to apply for a public service entrance exam — known in Brazil as concurso público, which is basically the selective process for a position offered by the government.

Some of the OAB functions, though, are very similar to the councils' ones. They also inspect and regulate the work of lawyers in Brazil, as well as take part in political questions when necessary.

Web Resources

Contacts of main Standards organizations in Brazil can be found on the following web sites:

- National Institute of Metrology, Standardization and Industrial Quality – INMETRO
- National Council of Metrology, Standardization and Industrial Quality – CONMETRO
- National System of Metrology, Standardization and Industrial Quality – SINMETRO
- Brazilian Tax Authority (Receita Federal)
- Brazilian country profile with useful customs and standards information
- List and description of mutual recognition agreements between Brazil and USA
- Technical regulations of international markets
- Brazilian Foreign Trade Integrated System
- Brazilian Ministry Development, Industry, and Trade
- U.S. export control information
- Brazilian IPI and other tax rates
- Brazilian Common External Tariffs

Investment Climate Statement

Executive Summary

Brazil is the second largest economy in the hemisphere behind the United States, and the ninth largest economy in the world. The United Nations Conference on Trade and Development (UNCTAD) named Brazil the eighth largest destination for global Foreign Direct Investment (FDI) flows in 2015. In recent years Brazil received more than half of South America's total incoming FDI and the United States is a major foreign investor in Brazil. The Brazilian Central Bank (BCB) indicated that the United States had the largest single-country stock of FDI (USD 112 billion) in Brazil in 2014, the latest year with available data. The Government of Brazil (GOB) made attracting private investment in infrastructure a top priority for 2017.

Brazil's recession has been longer and deeper than most economists anticipated. The country's Gross Domestic Product (GDP) contracted by 3.6 percent in 2016 and is projected to grow only 0.4 percent in 2017. Per capita GDP decreased 4.4 percent in 2016 for a combined drop of almost 10 percent over two years. While unemployment stood at just 6.5 percent as recently as 2014, it ended 2016 at 12 percent and is projected to end 2017 above 13 percent. Brazil was the world's eighth largest destination for FDI in 2015, with inflows of USD 64.6 billion, according to UNCTAD. The nominal budget deficit stood at nine percent of GDP (USD 161.7 billion) in 2016 and is projected to end 2017 at around 10 percent of GDP (USD 180.1 billion). Brazil's debt-to-GDP ratio reached 70 percent in 2016 and is projected to reach 77 percent this year. In part due to the slower than anticipated return to growth, annual inflation fell to 6.3 percent by the end of 2016 - inside the Brazilian Central Bank's (BCB) target range of 4.5 percent +/- two percentage points – for the first time in two years. This allowed the BCB to cut its benchmark interest rate to 11.25 percent (from a high of 14.25 percent in 2016) in April 2017.

President Temer, who took over as president after the impeachment of former President Dilma Rousseff in May 2016, is pursuing corrective macroeconomic policies to stabilize the economy. Congress approved a landmark federal spending cap in December 2016 and is now debating a complementary reform to curb social security spending. If a robust social security reform is approved, financial analysts assert investor confidence in debt sustainability will strengthen. Additional reforms to increase labor market flexibility and to rationalize Brazil's complex tax system are also on the agenda. International capital markets have recognized Temer administration efforts, lowering risk premiums significantly from 2015 peak levels and boosting the value of the real. 2016 and early 2017 foreign direct investment inflows have been strong. Both portfolio and direct investors, however, remain sensitive to political uncertainties linked to ongoing corruption scandal investigations (please see corruption section) and Brazilian risk premiums fluctuate accordingly.

Notwithstanding the current macroeconomic context, Brazil's large economy and vast middle class continue to make the country a destination for long-term investment, particularly in consumer products, albeit not without challenges.

With a USD 1.8 trillion economy, a population of over 200 million, and a large middle-class consumer base, Brazil is a top 10 destination for global FDI. The GOB investment promotion

strategy prioritizes the automobile, renewable energy, life sciences, oil and gas, and infrastructure sectors. Foreign investors in Brazil receive the same legal treatment as local investors in most economic sectors; however, foreign investment is restricted in the health, mass media, telecommunications, aerospace, rural property, maritime, and air transport sectors. The Brazilian Congress is currently considering legislation to liberalize restrictions on foreign ownership of rural property and airline companies.

In addition to current economic difficulties, since 2014, Brazil's anti-corruption oversight bodies are investigating allegations of widespread corruption involving state-owned energy firm Petrobras and a number of private construction companies. Analysts contend that high transportation and labor costs, low domestic productivity, and ongoing political uncertainties hamper investment in Brazil. Foreign investors also cite concerns over poor existing infrastructure, rigid labor laws, and complex tax, local content, and regulatory requirements; the so-called "Custo Brasil" (Brazil Cost).

Table 1

Measure	Year	Index/Rank
TI Corruption Perceptions Index	2016	79 of 175
World Bank's Doing Business Report "Ease of Doing Business"	2017	123 of 190
Global Innovation Index	2016	69 of 128
U.S. FDI in partner country ($M USD, stock positions)	2015	USD 111,715
World Bank GNI per capita	2015	USD 9,850

Openness To, and Restrictions Upon, Foreign Investment

Policies Towards Foreign Direct Investment

Brazil was the world's eighth largest destination for Foreign Direct Investment (FDI) in 2015, with inflows of USD 64.6 billion, according to UNCTAD. The GOB actively encourages FDI – particularly in the automobile, renewable energy, life sciences, oil and gas, and transportation infrastructure sectors – to introduce greater innovation into Brazil's economy and to generate economic growth. GOB investment incentives include tax exemptions and low-cost financing with no distinction made between domestic and foreign investors. Foreign investment is restricted in the health, mass media, telecommunications, aerospace, rural property, maritime, and air transport sectors.

Limits on Foreign Control and Right to Private Ownership and Establishment

A 1995 constitutional amendment (EC 6/1995) eliminated distinctions between foreign and local capital, ending favorable treatment (e.g. tax incentives, preference for winning bids) for companies using only local capital. However, foreign investment is restricted by Constitutional law in the health (Law 13097/2015), mass media (Law 10610/2002), telecommunications (Law 12485/2011), aerospace (Law 7565/1986, updated by MP 714), rural property (Law 5709/1971), maritime (Law 9432/1997 and Decree 2256/1997), insurance (Law 11371/2006), and air transport sectors (MP 714/2016).

Screening of FDI

Foreigners investing in Brazil must register their investment with the BCB within 30 days of the inflow of resources to Brazil. Registration is done electronically. Investments involving royalties and technology transfer must be registered with Brazil's patent office, the National Institute of Industrial Property (INPI). Investors must also have a local representative in Brazil. Portfolio investors must have a Brazilian financial administrator and register with the Brazilian Securities Exchange Commission (CVM).

Foreign investors in Brazil receive the same legal treatment as local investors in most economic sectors. Constitutional amendments passed in 1995 prohibit all forms of discrimination against foreign capital not explicitly set out under law.

To enter Brazil's insurance and reinsurance market, U.S. companies must establish a subsidiary, enter into a joint venture, or acquire or partner with a local company. Applications for banking licenses are reviewed by the BCB on a case-by-case basis. Of the top 50 banks in Brazil, 20 are owned or controlled by foreign interests. Citibank, the only U.S. retail banking operation in Brazil, sold its Brazilian retail banking assets to Brazilian bank Itau in October 2016. On June 8, 2016, Brazil's anti-trust authorities approved Bradesco bank's August 2015 purchase of HSBC's Brazilian retail banking operation.

Foreign ownership of airlines is limited to 20 percent, although the Brazilian Congress is considering legislation to eliminate the restriction. On March 19, 2011, the United States and Brazil signed an Air Transport Agreement as a step towards an Open Skies relationship that would eliminate numerical limits on passenger and cargo flights between the two countries. The GOB advanced the agreement to Congress in June 2016 for ratification. It was approved by the three requisite lower house committees and is pending lower house plenary approval before moving on to the Senate.

The Brazilian reinsurance market opened to competition in 2007. In December 2010 and March 2011, however, the Brazilian National Council on Private Insurance (CNSP) rolled back market liberalization through the issuance of Resolutions 225 and 232, which disproportionately affects foreign insurers operating in the Brazilian market.

Resolution 225 requires that 40 percent of all reinsurance risk be placed with Brazilian companies. Resolution 232 allows insurance companies to place only 20 percent of risk with affiliated reinsurance companies. In December 2011, the CNSP issued Resolution 241, which walked back some of the restrictions of Resolution 225 by allowing the 40 percent requirement to be waived if local reinsurance capacity does not exist. Despite these limitations, Brazil accounts for more than 40 percent of Latin America's reinsurance market, and the volume of business written in Brazil is expected to grow as the government invests in energy projects and infrastructure upgrades.

In September 2011, Law 12485/2011 removed a 49 percent limit on foreign ownership of cable TV companies and allowed telecom companies to offer television packages with their service. Content quotas require every channel to air at least three and a half hours per week of Brazilian programming during primetime. Additionally, one-third of all channels included in any TV package have to be Brazilian.

The National Land Reform and Settlement Institute (INCRA) administers the purchase and lease of Brazilian agricultural land by foreigners. Under the applicable rules, set by guidelines published in 2013, the area of agricultural land bought or leased by foreigners cannot account for more than 25 percent of the overall land area in a given municipal district. Additionally, no more than 10 percent of agricultural land in any given municipal district may be owned or leased by foreign nationals from the same country.

The rules also make it necessary to obtain congressional approval before large plots of agricultural land can be purchased by foreign nationals, foreign companies, or Brazilian companies with majority foreign shareholding. Draft Law 4059/2012, which would lift the limits on foreign ownership of agricultural land, is expected to be voted on by the Brazilian Congress in 2017. The National Land Reform and Settlement Institute (INCRA) administers the purchase and lease of Brazilian agricultural land by foreigners. Under the applicable rules, the area of agricultural land bought or leased by foreigners cannot account for more than 25 percent of the overall land area in a given municipal district. Additionally, no more than 10 percent of agricultural land in any given municipal district may be owned or leased by foreign nationals from the same country. The rules also make it necessary to obtain congressional approval before large plots of agricultural land can be purchased by foreign nationals, foreign companies, or Brazilian companies with majority foreign shareholding. Draft Law 4059/2012, which would lift the limits on foreign ownership of agricultural land, will be up for vote in the Brazilian Congress in 2017.

Brazil is not a signatory to the World Trade Organization (WTO) Agreement on Government Procurement (GPA). U.S. companies seeking to participate in Brazil's public sector procurement need to partner with a local firm or have operations in Brazil in order to be eligible for "margins of preference" offered to domestic firms to help these firms win government tenders. Foreign companies are often successful in obtaining subcontracting opportunities with large Brazilian firms that win government contracts. Under trade bloc Mercosul's Government Procurement Protocol, member nations Brazil, Argentina, Paraguay and Uruguay are entitled to non-discriminatory treatment of government-procured goods, services and public works originating from each other's' suppliers and providers. The Protocol has only been ratified by Argentina and thus is not yet in force.

Other Investment Policy Reviews

Brazil rose to become one of the world's top ten economic powers, and its growth and social welfare policies lifted millions out of poverty, notwithstanding some regression during the current economic downturn. The November 2016 the Organization for Economic Co-operation and Development (OECD) Brazil Economic Forecast Summary noted "The economy is emerging from a severe and protracted recession. Political uncertainty has diminished, consumer and business confidence are rising and investment has strengthened…Inflation will gradually return into the target range." The OECD projects growth to resume progressively during 2017 due to improvements in confidence and investment. OECD highlights that "a new fiscal rule is being implemented and, in combination with a planned reform of pensions and social benefits, it should strengthen fiscal sustainability." Additionally, the OECD states that a "credible commitment to containing public expenditures will allow further monetary easing

going forward, which should give rise to stronger investment." The OECD forecast can be found here.

Business Facilitation

A company must register with the Board of Trade to obtain the National Registry of Legal Entities (CNPJ). Brazil's Export Promotion and Investment Agency (APEX) has a mandate to facilitate foreign investment. The agency's services are available to all investors, foreign and domestic. Foreign companies interested in investing in Brazil have access to many benefits and tax incentives granted by the Brazilian government at the municipal, state, and federal levels. Most incentives are granted based on project sector, amount to be invested, and potential job generation. Brazil's business registration can be found at the website.

Outward Investment

Brazil does not restrict domestic investors from investing abroad. In fact, Brazil's Investment Promotion Agency, Apex-Brasil supports Brazilian companies' efforts to invest abroad. Apex-Brasil frequently highlights the United States as an excellent destination for outbound investment, and Apex-Brasil and SelectUSA. SelectUSA (the U.S. Government's investment promotion office at the U.S. Department of Commerce) signed a memorandum of cooperation to promote bilateral investment in February 2014. Apex-Brasil has an "internationalization program" to help companies invest abroad.

Bilateral Investment Agreements and Taxation Treaties

Brazil does not have a Bilateral Investment Treaty (BIT) with the United States. In the 1990s Brazil signed BITs with Belgium and Luxembourg, Chile, Cuba, Denmark, Finland, France, Germany, Italy, the Republic of Korea, the Netherlands, Portugal, Switzerland, the United Kingdom and Venezuela. None of these were ratified by Brazil's Congress. In 2002, an inter-ministerial working group withdrew the agreements from Congress after determining that treaty provisions on international investor state dispute resolution was unconstitutional and thus the agreements could not be ratified.

The GOB signed seven Cooperation and Facilitation Investment Agreements (CFIAs) since 2015 (http://dai-mre.serpro.gov.br/atos-internacionais/bilaterais/2015), which are pending Congressional ratification: Mozambique (April, 2015), Angola (May 2015), Mexico (June 2015) Malawi (October 2015), Colombia (October 2015), Chile (November 2015), and Peru (2016).

The signed CFIAs outline progressive steps for the settlement of any "issue of interest to an investor" including 1) an ombudsmen and a Joint Committee appointed by the two governments will act as mediators to amicably settle any dispute; 2) if amicable settlement fails, any of the two governments may bring the dispute to the attention of the Joint Committee; 3) if the dispute is not settled within the Joint Committee, the two governments may resort to interstate arbitration mechanisms."

Bilateral Taxation Treaties

Brazil does not have a double taxation treaty with the United States, but it does have such treaties with 36 other countries, including, Japan, France, Italy, the Netherlands, Canada, Spain, Portugal, and Argentina. Brazil signed a Tax Information Exchange Agreement (TIEA)

with the United States in March 2007, which entered into force on May 15, 2013 when President Rousseff signed Decree 8003/2013. In September 2014, Brazil and the United States signed an intergovernmental agreement (IGA) to improve international tax compliance and to implement the Foreign Account Tax Compliance Act (FATCA). This agreement went into effect in September 2015.

Legal Regime

Transparency of the Regulatory System

In the 2017 World Bank Doing Business report, Brazil ranked 123th out of 190 countries in terms of overall ease of doing business in 2016, a decline of eight positions compared to the 2015 report. According to the World Bank, it takes approximately 101.5 days to start a business in Sao Paulo. Rio de Janeiro was also profiled in the report. The GOB is seeking to streamline the process and decrease the amount to time it takes to open a business to five days through its RedeSimples Program. Similarly, the GOB reduced red-tape through the implementation of the SIMPLES program, which was designed to simplify the collection of up to eight federal, state, and municipal-level taxes into one single payment.

The 2017 World Bank study noted that the annual administrative burden of tax payments to a medium-size business in Brazil is an average of 2,038 hours versus 163.4 hours in the OECD high-income economies, which marks an improvement for Brazil that corresponded with improvements in other OECD high-income economies over recent years. The total tax rate for a medium-sized business in Rio de Janeiro is 69 percent of profits, compared to the average of 40.9 percent in the OECD high-income economies. Business managers often complain of not understanding tax regulations, despite their investments in creating large local tax and accounting departments in their companies.

Tax regulations, while burdensome and numerous, do not generally differentiate between foreign and domestic firms. However, there are instances of complaints that the value-added tax collected by individual states (ICMS) favors local companies. Although the tax is designed to be refunded when goods are exported abroad, exporters in many states had difficulty receiving their ICMS rebates. Taxes on commercial and financial transactions are particularly burdensome, and businesses complain that these taxes hinder the international competitiveness of Brazilian-made products. In addition, the U.S. government has been evaluating and continues to monitor the impact of PIS/Cofins tax rates on imported goods after the passage of Law 13137/2015.

Of Brazil's ten federal regulatory agencies, the most prominent include: ANVISA, the Brazilian counterpart to the U.S. Food and Drug Administration, which regulatory authority over the production and marketing of food, drugs, and medical devices; ANATEL, the country's telecommunications agency, which handles licensing and assigning of bandwidth; ANP, the National Petroleum Agency, which regulates oil and gas contracts and oversees the bidding process for oil blocks, including for pre-salt oil; ANAC, the agency that oversees the civil aviation industry; and ANEEL, the country's electric energy agency. In addition to these federal regulatory agencies, Brazil has at least 27 state-level agencies and 17 municipal-level agencies.

The Office of the Presidency's Program for the Strengthening of Institutional Capacity for Management in Regulation (PRO-REG), created in 2007 by Decree 6062, has introduced a broad program for improving Brazil's regulatory framework, including via an ongoing Work Plan launched in 2014 with the U.S. White House Office of Information and Regulatory Affairs (OIRA) to exchange best practices in developing high quality regulations that mandate the least burdensome approach to address policy implementation. Ex-ante Regulatory Impact Analyses (RIAs) are completed on a voluntary basis by regulatory agencies. A bill on Governance and Accountability for Federal Regulatory Agencies (PL 6621/2016) has been approved by the lower house of Congress and presently awaits Senate approval. Among other provisions, the bill would make RIAs mandatory for regulations which affect "the general interest". Pro-Reg is drafting enabling legislation for implementing this provision.

The general public has online access to both approved and proposed federal legislation via websites for the Chamber of Deputies, Federal Senate, and the Office of the Presidency. Brazil is seeking to improve its public comment and stakeholder input process. In 2004 the GOB instituted a Transparency Portal, a website in which data is available on funds transferred to and from the federal, state and city governments, as well as to and from foreign countries. It also includes information on civil servants' salaries.

International Regulatory Considerations

Brazil is a member of Mercosul, and routinely implements Mercosul common regulations.

Brazil is a member of the WTO; the government regularly notifies draft technical regulations, such as on agricultural potential barriers, to the WTO Committee on Technical Barriers to Trade (TBT).

Legal System and Judicial Independence

Brazil has a civil legal system structured around courts at the state and federal level. Contract enforcement can be accomplished either through the court system or via mediation, although both processes can be lengthy. Foreign contract enforcement judgments must be accepted by the Brazilian Superior Court of Justice (STJ) to be considered valid in Brazil, and among other considerations must not contradict any prior decisions by a Brazilian court in the same dispute. Commercial disputes are regulated under the Brazilian Civil Code, enacted in 2002, although an older, largely superseded Commercial Code remains applicable solely for commercial cases involving maritime law. Federal judges hear most disputes in which one of the parties is the Brazilian State, and also rule on lawsuits between a foreign state or international organization and a municipality or a person residing in Brazil.

The judicial system is generally independent and frequently rules on politically sensitive issues. Judges at both the state and federal level are largely career officials selected through a meritocratic examination process. The judicial system is extremely backlogged, however, and disputes or trials of any sort frequently require years to arrive at a final resolution, including all available appeals. Regulations and enforcement actions can be litigated in the court system, which contains mechanisms for appeal depending upon the level at which the case is filed. The Supreme Federal Court (STF) is the ultimate court of appeal on constitutional grounds; the STJ is the ultimate court of appeal for cases not involving constitutional issues.

Laws and Regulations on Foreign Direct Investment

Foreigners investing in Brazil must register their investment with the BCB within 30 days of the inflow of resources to Brazil. Registration is done electronically. Investments involving royalties and technology transfer must be registered with Brazil's patent office, the National Institute of Industrial Property (INPI). Investors must also have a local representative in Brazil. Portfolio investors must have a Brazilian financial administrator and register with the Brazilian Securities Exchange Commission (CVM).

Competition and Anti-Trust Laws

Regulatory review of mergers and acquisitions are carried out by the Administrative Council for Economic Defense (CADE). In October 2012, Brazil performed its first review of a pending merger, bringing Brazil in line with U.S. and European practices. This shift to pre-merger review was a result of 2011 legislation (Law 12529) adopted to modernize Brazil's antitrust review process and to combine the antitrust functions of the Ministry of Justice and the Ministry of Finance into CADE. This government body is responsible for enforcement of competition laws and consumer defense.

Expropriation and Compensation

Article 5 of the Brazilian constitution assures the property rights of both Brazilians and foreigners that live in Brazil. The Constitution does not address nationalization or expropriation. Brazilian Law does allow the government to exercise eminent domain under certain criteria which include, but are not limited to, national security, public transportation, safety, health, and urbanization projects. Owners are compensated in cash. The rules for eminent domain are laid out in Decree-Law 3365 from 1941, as amended.

There are no known expropriation actions in Brazil against foreign interests in the recent past, nor have there been any signs that the current government is contemplating such actions. Some claims regarding land expropriations by state agencies were judged by Brazilian courts in U.S. citizens' favor; however, compensation has not always been paid, as states have filed appeals to these decisions.

Dispute Settlement

ICSID Convention and New York Convention

Brazil ratified the 1958 Convention on the Recognition and Enforcement of Foreign Arbitration Awards. Brazil is not a member of the World Bank's International Center for the Settlement of Investment Disputes (ICSID). Brazil joined the United Nations Commission on International Trade Law (UNCITRAL) in 2010, and its membership will expire in 2022.

Investor-State Dispute Settlement

Article 34 the 1996 Brazilian Arbitration Act (Law 9307) defines a foreign arbitration judgment as any judgment rendered outside the national territory. The law established that the Brazilian Federal Supreme Court must ratify foreign arbitration awards. Law 9307 also stipulates that the foreign arbitration award is to be recognized or executed in Brazil in conformity with the international agreements ratified by the country and, in their absence, with domestic law. A 2001 Brazilian Federal Supreme Court ruling established that the 1996 Brazilian Arbitration

Act, permitting international arbitration subject to Federal Supreme Court ratification of arbitration decisions, does not violate the Federal Constitution's provision that "the law shall not exclude any injury or threat to a right from the consideration of the Judicial Power."

Contract disputes in Brazil can be lengthy and complex. Brazil has both a federal and a state court system, and jurisprudence is based on civil law. Federal judges hear most disputes in which one of the parties is the State, and rule on lawsuits between a foreign State or international organization and a municipality or a person residing in Brazil. Five regional federal courts hear appeals of federal judges' decisions. The 2017 World Bank Doing Business report found that on average it takes 11 procedures and 731 days to litigate a contract breach.

International Commercial Arbitration and Foreign Courts

Brazil ratified the 1975 Inter-American Convention on International Commercial Arbitration (Panama Convention) and the 1979 Inter-American Convention on Extraterritorial Validity of Foreign Judgments and Arbitration Awards (Montevideo Convention). Law 9307/1996 pertains to advanced legislation on arbitration and anchored in what is most modern about the principles and guarantees of litigants. The GOB developed a new Cooperation and Facilitation Investment Agreement (CFIA) model in 2015, that does not include investor state dispute settlement mechanisms. (See section 13)

Bankruptcy Regulations

Brazil has a commercial code that governs most aspects of commercial association, except for corporations formed for the provision of professional services, which are governed by the civil code. In 2005, bankruptcy legislation (Law 11101) went into effect creating a system modeled on Chapter 11 of the U.S. bankruptcy code, which allows a company in financial trouble to negotiate a restructuring with its creditors outside of the courts. In the event a company does fail despite restructuring efforts, the reforms improved creditors' ability to recover their debts. In the World Bank's 2017 Doing Business Report, Brazil is ranked 67th out of 190 countries for ease of "resolving insolvency."

Industrial Policies

Investment Incentives

The GOB extends tax benefits for investment in less developed parts of the country, including the Northeast and the Amazon regions, with equal application to foreign and domestic investors. These incentives are successful in attracting major foreign plants to areas like the Manaus Free Trade Zone in Amazonas State, but most foreign investment remains concentrated in the more industrialized southern part of Brazil.

Individual states seek to attract private investment by offering ad hoc tax benefits and infrastructure support to companies, negotiated on a case by case basis. Competition among states to attract employment generating investment leads some states to challenge such tax benefits as beggar-thy-neighbor fiscal competition.

While local private sector banks are beginning to offer longer credit terms, state-owned development bank BNDES is the traditional Brazilian source of long-term credit, and also provides export credits. BNDES provides foreign- and domestically-owned companies

operating in Brazil financing for the manufacturing and marketing of capital goods and primary infrastructure projects. Much of this financing is provided at subsidized interest rates. As part of its package of fiscal tightening, in December 2014, the GOB announced its intention to scale back the expansionary activities of BNDES and ended direct Treasury support to the bank. In March 2017, Brazil's National Monetary Council (CMN) lowered BNDES' long-term subsidized reference interest rate (the TJLP) from 7.5 percent to seven percent. The CMN also announced the creation of a new Long-Term Lending Rate (TLP) which will apply to new loans starting Jan 1, 2018. The TLP will initially be set at the same level as the TJLP and over time be reduced to equal Brazil's five-year bond yield (a rate which incorporates inflation and is called the NTN-B). The GOB plans to reduce BNDES's role further as efforts to promote long-term private capital market are made.

In January 2015, the GOB eliminated industrial products tax (IPI) exemptions on vehicles, while keeping all other tax incentives provided by the October 2012 Inovar-Auto program. Through Inovar-Auto, auto manufacturers are able to apply for tax credits based on their ability to meet certain criteria, including manufacturing processes performed in Brazil, enhancing fuel efficiency, committing to investing in research and development in Brazil or using Brazilian engineering services, and agreeing to participate in a fuel-efficiency labeling scheme. The Inovar-Auto program will end on December 31, 2017.

In 2014, the GOB issued Decree 8304 to reinstate the Special Regime for the Reinstatement of Taxes for Exporters, dubbed the Reintegra Program. Under the program, exporters of products covering 8,630 tariff codes receive a subsidy of three percent of the value of their exports. To qualify, the imported content of the exported goods cannot exceed 40 percent, except in the case of high-tech goods, such as pharmaceuticals, electronics, and aircraft and parts, which are permitted to have up to 65 percent of inputs imported. In addition, Reintegra exempts exporters from so-called indirect taxes on capital expenditures, including the PIS/Cofins social contribution taxes and the tax on financial transactions (IOF). On February 27, 2015, Decree 8415 revoked Decree 8304 and determined new regulations for the program. The three percent subsidy on the value of the exports was reduced to one percent for 2015, to 0.1 percent for 2016.

In May 2010, the GOB launched a National Broadband Plan, which featured fiscal incentives, private sector participation, and regulatory reform to build out Internet infrastructure under the leadership of state-owned firm Telebras. While the plan provided commercial opportunities for foreign investors, it also sought to boost Brazilian technology by granting domestic IT equipment tax exemptions, favorable BNDES financing, and preference in the procurement process.

Industrial Promotion

In October 2012, via Decree 7819/2012 Inovar-Auto, the GOB approved a program that offers a variety of incentives to encourage vehicle manufacturers to expand investment and production in Brazil. The European Union (EU) and Japan filed separate World Trade Organization (WTO) complaints in 2013 and 2015 that argue that some Inovar-auto tax benefits discriminate against foreign product imports and restricts trade. A final WTO decision on these programs is expected this year. The program will expire in December 2017 and expectations are that it will not be renewed. Meanwhile, the InovAtiva Brasil and Startup Brasil programs support

start-ups in the country. The GOB also uses free trade zones to incentivize industrial production. A complete description of the scope and scale of Brazil's investment promotion programs and regimes can be found at: http://www.apexbrasil.com.br/en/home.

Foreign Trade Zones/Free Ports/Trade Facilitation

The federal government grants tax benefits for certain free trade zones. Most of these free trade zones aim to attract investment to the country's relatively underdeveloped North and Northeast regions. The most prominent of these is the Manaus Free Trade Zone, in Amazonas State, which has attracted significant foreign investment, including from U.S. companies. In October 2011, then President Rousseff signed a constitutional amendment that extends Manaus's status as an industrial zone for another 50 years. Constitutional amendment 83/2014 came into force in August 2014 and extended the status of Manaus Free Trade Zone until the year 2073.

Performance and Data Localization Requirements

Performance Requirements

Investors in certain sectors in Brazil must adhere to the country's regulated prices, which fall into one of two groups: those regulated at the federal level, or by a federal company or agency, and those set by sub-national governments (states or municipalities). Regulated prices managed at the federal level include telephone services, oil products (gasoline and bottled cooking gas), electricity, and healthcare plans. Regulated prices controlled by sub-national governments include water and sewage fees, vehicle registration fees, and most fees for public transportation, such as local bus and rail services. As part of its fiscal adjustment strategy, the GOB sharply increased administered prices in January 2015.

In firms employing three or more persons, Brazilian nationals must constitute at least two-thirds of all employees and receive at least two-thirds of total payroll, according to Brazilian Labor Law Articles 352 to 354. Foreign specialists in fields where Brazilians are unavailable are not counted in calculating the one-third permitted for non-Brazilians.

Decree 7174 from 2010, which regulates the procurement of information technology goods and services, requires federal agencies and parastatal entities to give preferential treatment to domestically produced computer products and goods or services with technology developed in Brazil based on a complicated price/technology matrix.

Data Storage

Brazil's Marco Civil, an Internet law that determines user rights and company responsibilities, states that data collected or processed in Brazil must respect Brazilian law, even if the data is subsequently stored outside the country. Penalties for non-compliance could include fines of up to 10 percent of gross Brazilian revenues and/or suspension or prohibition of related operations. Under the law, Internet connection and application providers must retain access logs for specified periods or face sanctions. While the Marco Civil does not require data to be stored in Brazil, its provisions – as well provisions of other proposed legislation, including a data privacy bill – should be closely tracked by Internet and other data-related companies investing in Brazil operations.

Protection of Property Rights

Real Property

Brazil has a system in place for mortgage registration, but implementation is uneven and there is no standardized contract. Foreign individuals or foreign-owned companies can purchase real property in Brazil. These buyers frequently arrange alternative financing in their own countries, where rates may be more attractive. Law 9514 from 1997 helped spur the mortgage industry by establishing a legal framework for a secondary market in mortgages and streamlining the foreclosure process, but the mortgage market in Brazil is still underdeveloped, and foreigners may have difficulty obtaining mortgage financing. Large U.S. real estate firms, nonetheless, are expanding their portfolios in Brazil.

Intellectual Property Rights

Rights holders in Brazil continue to face intellectual property rights (IPR) challenges. Brazil has remained on the "Watch List" of the U.S. Trade Representative's Special 301 report since 2007.

For additional information about treaty obligations and points of contact at local IP offices, please see WIPO's country profiles.

Resources for Rights Holders

Shannon Brink
U.S. Embassy Brasilia Economic Officer
+55 61 3312-7000
BrinkSM@state.gov

Laura Hammel
U.S. Mission Brazil IP Attache
+55 21 3823-2000
laura.hammel@trade.gov

- USPTO
- AMCHAM
- AMCHAM RIO
- List of lawyers – U.S. Embassy website

Financial Sector

Capital Markets and Portfolio Investment

The Central Bank of Brazil (BCB) embarked in October 2016 on what appears to be a sustained monetary easing cycle, lowering the Selic baseline reference rate from a high of 14.25 percent in October 2016 to 11.25 percent in April 2017. Inflation fell to 6.3 percent by year-end 2016 and is now on course to undershoot the 4.5 percent inflation central target set for 2017-2018, allowing for further monetary policy easing. Financial analysts assert a reduction in the BCB's target for inflation to four percent in 2019-21 is a growing probability. Because of a heavy public debt burden and other structural factors, the neutral real policy rate will remain higher than those of Brazil's emerging-market peers (around five percent) over the forecast period.

After a boom in 2004-2012 that more than doubled the lending/GDP ratio (to 55 percent of GDP), the financial services sector was hit hard by the recession and higher interest rates. In real terms, lending turned negative, declining by nearly three percent in December 2016, a slide that would have been worse had it not been for lending by the public banks. This reduced the lending/GDP ratio to 49.3 percent at end-2016. Financial analysts contend that credit will pick up again in the medium term, owing to interest-rate easing and economic recovery.

The role of the state in credit markets grew since 2008, with public banks now accounting for over 55 percent of total loans to the private sector (up from 35 percent). Directed lending (that is, to meet mandated sectoral targets) as a share of the total also rose and accounts for almost half of the total. The GOB is paring back lending by public banks and trying to develop more of a market for long-term private capital.

While local private sector banks are beginning to offer longer credit terms, state-owned development bank BNDES is a traditional Brazilian source of long-term credit, and also provides export credits. BNDES' lending in 2016 reached its lowest level in 20 years. While some of this reflected a reduction in disbursements due to the Car Wash corruption scandal, at least half reflects a new limited focus in BNDES lending. (For more information on BNDES' lending programs please see investment incentives section.)

All stock trading is performed on the Sao Paulo Stock Exchange (BOVESPA), while trading of public securities is conducted on the Rio de Janeiro market. In 2008, the Brazilian Mercantile & Futures Exchange (BM&F) merged with the BOVESPA to form what is now the fourth largest exchange in the Western Hemisphere, after the NYSE, NASDAQ, and Canadian TSX Group exchanges. BOVESPA launched in 2000 a "New Market" in which the listed companies comply with stricter corporate governance requirements. A majority of initial public offerings (IPOs) are listed on the New Market. At year-end 2016, there were 129 companies listed under the "New Market" program. Their market value reached USD 185 billion in 2016. At year-end, there were 338 companies traded on the BM&F/BOVESPA. Total daily trading average volume increased from R 6.1 billion (USD 1.8 billion) in 2015 to R 6.6 billion (USD 1.9 billion) in 2016.

Foreign investors, both institutions and individuals, can directly invest in equities, securities and derivatives. Foreign investors are limited to trading derivatives and stocks of publicly held companies on established markets. At year-end 2016, foreign investors accounted for 52 percent of the total turnover on the BOVESPA. Domestic institutional investors were the second most active market participants, accounting for 25 percent of activity. Individual investors comprised 17 percent of activity, followed by financial institutions (five percent), and public and private companies (one percent).

Wholly owned subsidiaries of multinational accounting firms, including the major U.S. firms, are present in Brazil. Auditors are personally liable for the accuracy of accounting statements prepared for banks.

Money and Banking System

The Brazilian financial sector is large and sophisticated. Banks lend at Brazilian market rates, which remain high. Reasons cited by industry observers include high taxation, repayment risk, and concern over inconsistent judicial enforcement of contracts, high mandatory reserve

requirements, and administrative overhead, as well as persistently high real (net of inflation) interest rates.

The financial sector is concentrated, with BCB data indicating that the four largest commercial banks (excluding brokerages) account for approximately 72 percent of the commercial banking sector assets. Three of the five largest banks (in assets) in the country – Banco do Brasil, Caixa Economica Federal, and BNDES – are partially or completely federally owned. Lending by the large banking institutions is focused on the largest companies, while small- and medium-sized banks primarily serve small- and medium-sized companies.

The BCB strengthened bank audits, implemented more stringent internal control requirements, and tightened capital adequacy rules to better reflect risk. It also established loan classification and provisioning requirements. These measures are applied to private and publicly owned banks alike. The Brazilian Securities and Exchange Commission (CVM) independently regulates the stock exchanges, brokers, distributors, pension funds, mutual funds, and leasing companies with penalties against insider trading.

Foreign Exchange and Remittances

Foreign Exchange

Brazil's foreign exchange market remains small, despite recent growth. The latest Triennial Survey by the Bank for International Settlements, conducted in April 2016, showed that the net daily turnover on Brazil's market for OTC foreign exchange transactions (spot transactions, outright forwards, foreign-exchange swaps, currency swaps and currency options) was USD19.7 billion, up from USD17.2 billion in 2013. This was equivalent to around 0.3 percent of the global market in both years.

Brazil's banking system is adequately capitalized and has traditionally been highly profitable, reflecting high interest rates and fees. In September 2016 all banks exceeded the solvency ratios of 4.5 percent of common equity capital, 6.5 percent of Tier 1 capital and 11 percent of total capital, a comfortable buffer.

There are few restrictions on converting or transferring funds associated with a foreign investment in Brazil. Foreign investors may freely convert Brazilian currency in the unified foreign exchange market where buy-sell rates are determined by market forces. All foreign exchange transactions, including identifying data, must be reported to the BCB. Foreign exchange transactions on the current account are fully liberalized.

All incoming foreign loans must be approved by the BCB. In most cases, loans are automatically approved unless loan costs are determined to be "not compatible with normal market conditions and practices." In such cases, the BCB may request additional information regarding the transaction. Loans obtained abroad do not require advance approval by the BCB, provided the Brazilian recipient is not a government entity. Loans to government entities require prior approval from the Brazilian Senate as well as from the Finance Ministry's Treasury Secretariat, and must be registered with the BCB.

Interest and amortization payments specified in a loan contract can be made without additional approval from the BCB. Early payments can also be made without additional

approvals, if the contract includes a provision for them. Otherwise, early payment requires notification to the BCB to ensure accurate records of Brazil's stock of debt.

In March 2014, the Federal Revenue Service of Brazil consolidated the regulations on withholding taxes (IRRF) applicable to earnings and capital gains realized by individuals and legal entities resident or domiciled outside Brazil. The regulation states that the cost of acquisition must be calculated in Brazilian reais. Also, the "technical services" definition was broadened to include administrative support and consulting services rendered by individuals (employees or not) or resulting from automated structures having clear technological content.

Upon registering their investments with the BCB, foreign investors are able to remit dividends, capital (including capital gains), and, if applicable, royalties. Remittances must also be registered with the BCB. Dividends cannot exceed corporate profits. The remittance transaction may be carried out at any bank by documenting the source of the transaction (evidence of profit or sale of assets) and showing that applicable taxes have been paid.

Remittance Policies

Under Law 13259/2016 passed in March 2016, capital gain remittances are subject to a 15-22.5 percent income withholding tax, with the exception of the capital gains and interest payments on tax-exempt domestically issued Brazilian bonds. The tax rate is determined by capital gains: up to USD 1.5 million is taxed at 15 percent; USD 1.5 million to USD 2.9 million is taxed at 17.5 percent; USD 2.9 million to USD 8.9 million is taxed at 20 percent; and more than USD 8.9 million is taxed at 22.5 percent.

Repatriation of a foreign investor's initial investment is also exempt from income tax under Law 4131/1962. Lease payments are assessed a 15 percent withholding tax. Remittances related to technology transfers are not subject to the tax on credit, foreign exchange, and insurance, although they are subject to a 15 percent withholding tax and an extra 10 percent CIDE (Contribution for Intervening in Economic Domain) tax.

Sovereign Wealth Funds

The Sovereign Fund of Brazil (FSB) was established in 2008 under Law 11887. It is a non-commodity fund with a mandate to support national companies in their export activities and to offset counter-cyclical development, promoting investment in projects of strategic interest to Brazil both domestically and abroad. The GOB also has the authority to use money from this fund to help meet its fiscal targets when annual revenues are lower than expected, and to invest in state-owned companies. The FSB was worth USD 2.2 billion in 2016. FSB resources are derived from GOB financial revenues.

State-Owned Enterprises

The GOB maintains ownership interests in a variety of enterprises at both the federal and state levels. Typically, state-owned enterprise (SOE) corporate governance is led by a board comprised of directors elected by the state or federal government with additional directors elected by any non-government shareholders. Although Brazil, a non-OECD member, has participated in many OECD working groups, it does not follow the OECD Guidelines on Corporate Governance of SOEs. Brazilian SOEs are concentrated in the energy, electricity

generation and distribution, transportation, and banking sectors. A number of these firms are also publically traded on the Brazilian and other stock exchanges.

In the 1990s and early 2000s, the GOB privatized state-owned enterprises across a broad spectrum of industries, including mining, steel, aeronautics, banking, energy, and electricity generation and distribution. While the GOB has divested itself from many of its state-owned companies, it maintains partial control (at both the federal and state level) of some previously wholly state-owned enterprises.

Notable examples of majority government owned and controlled firms include national oil and gas giant Petrobras and power conglomerate Eletrobras. Both Petrobras and Eletrobras include non-government shareholders, are listed on both the Brazilian and NYSE stock exchanges, and are subject to the same accounting and audit regulations as all publicly traded Brazilian companies. Brazil previously restricted foreign investment in offshore oil and gas development through 2010 legislation that obligated Petrobras to serve as the sole operator and minimum 30 percent investor in any oil and gas exploration and production in Brazil's offshore "pre-salt" fields. As a result of the GOB's desire to increase foreign investment in Brazil's offshore "pre-salt" hydrocarbon sector, in October 2016 the Brazilian Congress passed a bill that gives Petrobras right-of-first refusal in developing "pre-salt" offshore fields, allows foreign companies to serve as sole operators in "pre-salt" exploration and production activities, and eliminates Petrobras' obligation to serve as a minority equity holder in "pre-salt" oil and gas operations.

Privatization Program

Given limited public investment funding, the GOB focused on transferring billions of dollars in state –owned airport, road, railway, and port assets to private investors through long term (up to 30 year) infrastructure concession agreements(public-private partnership - PPPs). These privatizations are carried out through public tenders Both domestic and foreign private companies are invited to participate in the privatization auctions.

In June 2016, Brazil launched its newest version of these efforts to promote PPPs for primary infrastructure. The Crescer Investment Partnerships Project (PPI), based in the Presidency, brings together the broad inter-agency to ensure consistency in the request for tenders and the contract awards. PPI covers federal concessions in road, rail, ports, airports, municipal water treatment, electricity transmission and distribution, and oil and gas exploration and production contracts. The estimated value of the concessions is USD 44.2 billion (using minimal tender values).

While some subsidized financing through the Brazilian National Development Bank (BNDES) will be available, PPI emphasized that bidders should also use private financing and debentures on these projects. All federal and state-level infrastructure concessions are open to foreign companies with no requirement to work with Brazilian partners.

Responsible Business Conduct

Most state-owned and private sector corporations of any significant size in Brazil pursue corporate social responsibility (CSR) activities. Brazil's new CFIAs (see section on bilateral investment agreements) contain CSR provisions. Some corporations use CSR programs to

meet local content requirements, particularly in IT technology manufacturing. Many corporations support local education, health and other programs in the communities where they have a presence. Brazilian consumers, especially the local citizenry where a corporation has or is planning a local presence, expect CSR activity. It is not uncommon for corporate officials to meet with community members prior to building a new plant or factory to review what types of local services the corporation will commit to providing. Foreign and local enterprises in Brazil often advance United Nations Development Program (UNDP) Millennium Development Goals (MDGs) as part of their CSR activity, and will cite their local contributions to MDGs, such as universal primary education and environmental sustainability.

The U.S. diplomatic mission in Brazil supports U.S. business CSR activities through the +Unidos Group (Mais Unidos), a group of more than 100 U.S. companies established in Brazil.

Corruption

Brazil has laws, regulations and penalties to combat corruption, but their effectiveness is inconsistent. Several bills to revise the country's regulation of the lobbying/government relations industry are pending before Congress. Bribery is illegal, and a bribe by a local company to a foreign official can result in criminal penalties for individuals and administrative penalties, including fines and potential disqualification from government contracts, for companies. A company cannot deduct a bribe to a foreign official from its taxes. While federal government authorities generally investigate allegations of corruption, there are inconsistencies in the level of enforcement among individual states. Corruption is reported to be problematic in business dealings with some authorities, particularly at the municipal level. U.S. companies operating in Brazil are subject to the U.S. Foreign Corrupt Practices Act (FCPA).

In 2016, Brazil dropped from 76th (in 2015) to 79th out of 176 countries in Transparency International's Corruption Perceptions Index.

Since 2014, the criminal investigation, "Operation Carwash" (*Lava Jato*), uncovered a complex web of public sector corruption, contract fraud, money laundering, and tax evasion stemming from systematic overcharging for government contracts, particularly at parastatal oil company Petrobras. The ongoing investigation led to the arrests of Petrobras executives, oil industry suppliers including executives from Brazil's largest construction companies, money launderers, former politicians, and political party operatives. Many sitting Brazilian politicians are currently under investigation.

In December 2016, Brazilian construction conglomerate Odebrecht and its chemical manufacturing arm Braskem agreed to pay a penalty and plead guilty to charges filed in the United States, Brazil, and Switzerland that alleged the companies paid hundreds of millions of dollars in bribes to government officials around the world. The U.S. Department of Justice case stemmed directly from the *Lava Jato* investigation and focused on violations of the anti-bribery provisions of the Foreign Corrupt Practices Act (FCPA).

In 2015, GOB prosecutors also announced "Operation Zealots" (Operacao Zelotes), in which both domestic and foreign firms are alleged to have bribed tax officials to reduce their assessments.

UN Anticorruption Convention, OECD Convention on Combatting Bribery

Brazil is a signatory to the OECD Anti-Bribery Convention and a participating member of the OECD Working Group on bribery. It was one of the founders, along with the United States, of the intergovernmental Open Government Partnership, which seeks to help governments increase transparency.

Resources to Report Corruption
Georgia Diogo
International Affairs Advisor
Brazilian Federal Public Ministry
contatolavajato@mpf.mp.br

Transparencia Brasil
R. Bela Cintra, 409; Sao Paulo, Brasil
+55 (11) 3259-6986

Political and Security Environment

Strikes and demonstrations occur occasionally in urban areas and may cause temporary disruption to public transportation. Occasional port strikes also impact commerce.

In 2016, over three million people demonstrated to call for President Dilma Rousseff's impeachment and protest against corruption, among the largest public protests in Brazil's history. At the same time, almost one million people demonstrated in support of the Rousseff administration. Non-violent pro- and anti-government demonstrations have occurred regularly over the past few years.

Although U.S. citizens have traditionally not been targeted during such events, U.S. citizens traveling or residing in Brazil are advised to take common-sense precautions and avoid any large gatherings or any other event where crowds have congregated to demonstrate or protest. For the latest U.S. State Department guidance on travel in Brazil, please consult the state website.

Labor Policies and Practices

Brazil ratified a number of International Labor Organization (ILO) conventions. Brazil is party to the UN Convention on the Rights of the Child and major ILO conventions concerning the prohibition of child labor, forced labor, and discrimination.

In Brazil's labor code, formal sector workers are guaranteed 30 days of annual leave and severance pay in the case of dismissal without cause. Brazilian employers are required to pay a "thirteenth month" salary to employees at the end of the year. Brazil also has a system of labor courts that are charged with resolving routine cases involving unfair dismissal, working conditions, salary disputes, and other grievances. Labor courts have the power to impose an agreement on employers and unions if negotiations break down and either side appeals to the court system. As a result, labor courts are routinely called upon to determine wages and working conditions in industries across the country. The system is tantamount to compulsory arbitration and does not encourage collective bargaining. In recent years, however, both labor and management became more flexible, and collective bargaining assumed greater relevance.

The Ministry of Labor estimates there are nearly 11,000 labor unions in Brazil, but officials note these figures are inexact. Labor unions, especially in sectors such as metalworking and banking, tend to be well-organized and aggressive in advocating for wages and working conditions and account for approximately 19 percent of the official workforce according to a recent Brazilian Institute of Applied Economic Research (IBGE) release. Strikes occur periodically, particularly among public sector unions. Unions in various sectors engage in industry-wide collective bargaining negotiations mandated by federal regulation. While some labor organizations and their leadership operate independently of the government and of political parties, others are considered to be closely associated with political parties.

Employer federations, supported by mandatory fees based on payroll, play a significant role in both public policy and labor relations. Each state has its own federation, which reports to the National Confederation of Industry (CNI), headquartered in Brasilia, and the National Confederation of Commerce (CNC), headquartered in Rio de Janeiro.

OPIC and Other Investment Insurance Programs

Programs of the Overseas Private Investment Corporation (OPIC) are fully available. Brazil has been a member of the Multilateral Investment Guarantee Agency (MIGA) since 1992.

Foreign Direct Investment and Foreign Portfolio Investment Statistics

Table 2: Key Macroeconomic Data, U.S. FDI in Host Country/Economy					
	Host Country Statistical source*		USG or international statistical source		USG or International Source of Data: BEA; IMF; Eurostat; UNCTAD, Other
Economic Data	Year	Amount	Year	Amount	
Host Country Gross Domestic Product (GDP) ($M USD)	2016	$1,799,436	2015	$1,774,700	The World Bank Central Bank of Brazil
Foreign Direct Investment	Host Country Statistical source*		USG or international statistical source		USG or international Source of data: BEA; IMF; Eurostat; UNCTAD, Other
U.S. FDI in partner country ($M USD, stock positions)	2014	$111,714*	2015	$65,272**	BEA U.S. is Historical-Cost Basis
Host country's FDI in the United States ($M USD, stock positions)	2015	$9,606*	2015	$23,660**	BEA
Total inbound stock of FDI as % host GDP	2015	26%	N/A	N/A	IMF CDIS 2015 total inbound investment

*In this year's report, we are using latest BCB "Historical-Cost Basis" statistics for this chart.

**There is a discrepancy between BCB and IMF calculations for U.S. FDI distribution in Brazil, as well as Brazilian FDI distribution in the United States. According to the BCB, the United States had the highest stock of FDI in Brazil as of 2014.

Table 3: Sources and Destination of FDI

Direct Investment from/in Counterpart Economy Data (IMF Coordinated Direct Investment Survey, 2015)					
From Top Five Sources/To Top Five Destinations (US Dollars, Millions)					
Inward Direct Investment			Outward Direct Investment		
Total Inward	460,381	100 %	Total Outward	145,043	100 %
Netherlands	110,210	24 %	Cayman Islands	52,456	36 %
United States*	82,125	18 %	Austria	30,937	21 %
Spain	57,426	12 %	Brit Virgin Islands	24,523	17 %
Luxembourg	34,732	8 %	The Bahamas	20,730	14 %
United Kingdom	23,213	5 %	Spain	11,403	8 %
"0" reflects amounts rounded to +/- USD 500,000.					

*There is a discrepancy between BCB and IMF calculations for U.S. FDI distribution in Brazil, as well as Brazilian FDI distribution in the United States. According to the BCB, the United States had the highest stock of FDI in Brazil as of 2014. The BCB calculates FDI distribution by ultimate investing country (for which the United States ranks number one), whereas the IMF calculates FDI distribution by immediate investing country (for which the Netherlands ranks number one). The differences between "immediate" and "ultimate investing country" measures of FDI likely reflect the use by both U.S. and Brazilian multinational corporations of 3rd country affiliates as investment vehicles in order to minimize their consolidated tax liabilities.

Table 4: Sources of Portfolio Investment

Portfolio Investment Assets (IMF Coordinated Portfolio Investment Survey, June 2016)								
Top Five Partners (Millions, US Dollars)								
Total			Equity Securities			Total Debt Securities		
All Countries	23,595	100%	All Countries	71,816	100%	All Countries	5,779	100%
United States	10,316	44 %	United States	6,936	39 %	United States	3,380	58 %
Cayman Islands	2,604	11 %	Cayman Islands	2,481	13 %	Spain	713	12 %
Spain	1,685	7 %	Bermuda	1,502	8 %	Denmark	650	11 %
Bermuda	1,503	6 %	Luxembourg	1,105	6 %	Republic of Korea	487	8 %

Luxembourg	1,135	5 %	Spain	972	5 %	Cayman Islands	123	2 %

Contact for More Information

Economic Section
U.S. Embassy Brasilia
55-61-3312-7000

Note: Average annual R/USD exchange rates were used for this report:

2014 = R 2.36
2015 = R 3.34
2016 = R 3.48

Trade & Project Financing

Methods of Payment

Imports in Brazil are primarily handled using traditional letters of credit (L/C) or collections through established banks with correspondent banking agreements overseas. To a lesser extent, U.S. exporters may choose to operate on an open account or cash in advance basis once they have established a trustworthy relationship with their Brazilian buyers.

(Note: given high interest rates and intermediary spreads, Brazilian buyers are likely to push for an open account or cash up front. We highly recommend that U.S. companies work with Ex-Im Bank insurance or guarantees to ensure payment).

Credit and Collection

Credit information on Brazilian companies is available for a fee from Dun & Bradstreet, Equifax or SERASA, a Brazilian commercial information service company (SERASA recently merged with the Irish firm EXPERIAN, which has a strong presence in the U.S.). In the event of a commercial dispute or non-payment by a Brazilian importer requiring legal action, the U.S. exporter should contact a renowned legal firm with experience in international collections. Local collection agencies do not handle international disputes. The U.S. Commercial Service in Brazil can furnish lists of law firms through our Customized Contact List (CCL) or International Partner Search (IPS).

Banking Systems

The Brazilian banking system today is extremely efficient. Most banks have sophisticated Internet sites offering most, if not all, of their products and services. Bank branches are numerous and nearly all cities in the country have at least one major bank branch. The five largest banks have approximately 15,000 branches throughout Brazil. International operations are centralized at the bank's headquarters, usually in São Paulo or Rio de Janeiro, although major branches at larger cities may handle routine operations involving trade finance. All Brazilian banks have a number of correspondent banks around the world.

Number of Foreign Banks and Origin

According to the Brazilian Central Bank, of the top 10 banks in Brazil ranked in December 2016 by assets, three are state owned banks (Banco do Brasil, Caixa Economica Federal and Banrisul); five are private Brazilian banks (Bradesco, Itaú-Unibanco, Votorantim, Safra and BTG Pactual); two are foreign (Banco Santander from Spain and Citibank).

Of the top 50 banks in Brazil, 20 are foreign owned or controlled, ranked by assets as follows (as of December 2016):

Banks in Brazil		
Country	Total	Banks (ranking)

U.S.A.	6	Citibank (ranking 9th); JP Morgan (13th); BofA Merrill Lynch (24th); Morgan Stanley (29th); John Deere Bank (39th) and Cargill Bank (48th)
Germany	1	Deutsche Bank
Netherlands	2	RaboBank Int'l, ING
U.K.	1	Barclays
France	3	Societé Générale, BNP Paribas, Crédit Agricole
Spain	1	Santander
Switzerland	1	Credit Suisse
Bahrain	1	ABC Brasil
Japan	3	Tokyo-Mitsubishi, Sumitomo and Mizuho
Canada	1	Scotiabank

Source: Brazilian Central Bank

Foreign Exchange Controls

In Brazil, accounts can only be kept in local currency (Brazilian Reais, R$). For a Brazilian importer to remit funds to a seller in the United States, the importer must purchase the corresponding foreign funds by means of an exchange contract at any bank authorized by the Brazilian Central Bank. The exchange rate and related fees are negotiated directly between the purchaser of the foreign currency (the importer) and the bank.

The Brazilian Central Bank is the federal agency entrusted to implement the National Monetary Council's (*Conselho Monetário Nacional*) policies to improve and stabilize the national financial system. Its functions include the control of foreign capital flows.

US Banks & Local Correspondent Banks

The U.S. presence in the Brazilian banking system consists of regular commercial banking activities by Citibank, investment banking by JP Morgan, Merrill Lynch, Morgan Stanley and BNY Mellon, and consumer credit for automobile, agricultural machinery and goods and IT products purchases by General Motors (Banco GMAC), IBM (Banco IBM), Caterpillar (Banco Caterpillar), John Deere (Banco John Deere), Cargill (Banco Cargill), Ford (Banco Ford) and remittances (Western Union).

Citibank, currently the largest U.S. bank operating in Brazil, announced on October 8, 2016 the sale of its Consumer Banking Business to the Brazilian main private bank, Itaú Unibanco. This includes credit cards, personal loans and deposit accounts, as well as Citi Brazil's retail brokerage business. On the other hand, Citi will continue to be active in Brazil through its Corporate and Investment bank operations.

Brazil's strong foreign trade sector and increasing trade activities have led the large banks to increase the number of correspondent banks around the globe in new and expanding markets, as well as with traditional trading partners such as the United States.

Note: the U.S. Export Import Bank (Ex-Im) provides both export insurance and working capital for U.S. exporters and guaranteed loans for Brazilian importers. Contact the international department of your bank for information regarding correspondent banks in Brazil and to see if they work with Ex-Im Bank. You will also find contact information for Ex-Im insurance brokers and guaranteed lenders.

Project Financing

Direct Loan by Local Development Bank to Buyer (in foreign currency):

Local companies can arrange at-market or even below-market direct loans with the Brazilian National Economic Development Bank (BNDES). In many cases, the funds can be used to purchase goods from U.S. exporters. Some companies claim that the loan approval process is bureaucratic and consequently slow.

Import Finance by a Latin American Bank (in Foreign Currency):

A Latin American bank pays a U.S. exporter in advance for goods to be shipped to a Latin American buyer. The Latin American bank is essentially providing the buyer a loan and the buyer will have to repay the bank per their financing agreement. In Latin America, this type of financing generally has a six-month grace period after which the buyer must begin repaying the Bank. Although this option is extremely expensive for Latin American buyers, it is frequently the only alternative available to them, particularly when they are purchasing larger ticket capital equipment items. Ex-Im Bank also offers a variety of trade and project finance options.

Multilateral Development Banks:

U.S. Commercial Service Liaison Offices at the Multilateral Development Banks (Inter-American Development Bank), World Bank.

The Commercial Service maintains Commercial Liaison Offices in each of the main Multilateral Development Banks, including the Inter-American Development Bank and the World Bank. These institutions lend billions of dollars in developing countries on projects aimed at accelerating economic growth and social development by reducing poverty and inequality, improving health and education, and advancing infrastructure development. The Commercial Liaison Offices help American businesses learn how to get involved in bank-funded projects, and advocate on behalf of American bidders.

Learn more by contacting the Commercial Liaison Offices to the Inter-American Development Bank and the World Bank.

Financing Web Resources

- Export-Import Bank of the United States
- Country Limitation Schedule
- OPIC (Overseas Private Investment Corporation)
- USTDA (U.S. Trade and Development Agency)
- SBA (Small Business Administration) Office of International Trade
- USDA (U.S. Department of Agriculture) Commodity Credit Corporation

- USAID (U.S. Agency for International Development)
- Commercial Liaison Office to the World Bank
- Commercial Liaison Office to the Inter-American Development Bank
- Brazilian Central Bank

Business Travel

Brazil is a beautiful and vibrant country, but visitors should prepare before arrival by reading about local customs, checking for any travel restricitions, and applying for a visa. Some useful information is included below.

Business Customs

Business visitors should be aware of several customs specific to Brazil. Compared to the United States, the pace of negotiations is slower and is heavily based on personal contact. It is rare for important business deals to be concluded by telephone, email, or letter. Many Brazilian executives do not react favorably to quick and infrequent visits by foreign sales representatives, or to changes in the negotiating team. They prefer a more continuous working relationship, ideally involving multiple visits/meetings with the same person or group of people. The Brazilian buyer is also concerned with after-sale service provided by the exporter.

The Brazilian approach to time is somewhat flexible, with scheduled meetings often starting late and/or running later than expected. Prepare your agenda in order to accommodate these possible changes. Persistent traffic issues in most major Brazilian business centers mean that sufficient time should be scheduled for transportation, as well. It is advisable to be punctual, and to not show signs of frustration or impatience with delays.

During a first visit to a company it is customary to give a gift, usually promotional items without great material value. Expensive gifts can be misunderstood as bribes and are not welcome. Be aware that business dress is often formal and conservative, in spite of the apparent informality while conducting business.

Personal space standards in Brazil are different than those in the U.S. It is not uncommon for a local contact to stand very close while speaking, pat a business contact on the shoulder, or even hug that person. In spite of the difference in personal space, it is better to act more formal rather than less during an initial meeting. Also, communication in Brazil happens in an overlapped manner, with people interrupting each other constantly – this is a sign of interest in the subject, not of disrespect.

Brazilians are very proud of their country and their culture. It is appreciated when visitors can comment intelligently on culture during meetings. Also, refrain from making cultural references to other countries and cultures in Latin America. Brazilian culture is unique and is regarded as distinct from Spanish-speaking nations.

It is advisable not to use brochures in Spanish or translate presentations from Spanish. While many Brazilian executives speak some level of English, they will be more comfortable and open in Portuguese. Having an interpreter available is recommended. English is not widely used by service workers, such as drivers or restaurant staff.

Lastly, don't be afraid to share personal information that can help establish a good relationship up front.

Travel Advisory

U.S. Department of State travel advisory on Brazil website.

In general, crime rates throughout Brazil are high, especially in large cities. The incidence of crime against tourists is greater in areas surrounding beaches, hotels, bars, nightclubs, and other similar establishments that cater to visitors and is especially prevalent during *Carnaval* (Brazilian *Mardi Gras*). Occasionally, crime against tourists has been violent and has led to some deaths. While the risk is greater at dusk and during evening hours, street crime can occur any time and areas considered "safer" are not immune. Incidents of theft on city buses are frequent, and such transportation should be avoided. Several Brazilian cities have established specialized tourist police units to patrol areas frequented by tourists.

"Express kidnappings," where victims are abducted and forced to withdraw money from ATMs, occur often enough to warrant caution. At airports, hotel lobbies, bus stations, and other public places there is much pick-pocketing, and the theft of carry-on luggage, briefcases, and laptop computers is common (including some reports of thefts on domestic flights). Travelers should "dress down" when outside and avoid carrying valuables or wearing jewelry or expensive watches. "Good Samaritan" scams are common. If a tourist looks lost or seems to be having trouble communicating, they may be victimized by a seemingly innocent and helpful bystander. Care should be taken at and around banks and internationally connected automatic teller machines that take U.S. credit or debit cards. Poor neighborhoods known as "*favelas*" are found throughout Brazil. These areas are sites of criminal activity and are often not patrolled by police. U.S. citizens are advised to avoid these unsafe places.

While the ability of Brazilian police to help recover stolen property is limited, it is nevertheless strongly advised to obtain a "*boletim de ocorrência*" (police report) at a "*delegacia*" (police station) whenever any possessions are lost or stolen. This will facilitate insurance claims and the traveler's exit from Brazil.

The local equivalent to the "911" emergency line in Brazil is divided between three services: 190 - Policia (Police), 192- Ambulancia (Ambulance), and 193- Bombeiros (Fire Department).

Demonstrations: Demonstrations and political/labor strikes are common in urban areas, may cause temporary disruption to public and private transportation, and could become violent. Even demonstrations or events intended to be peaceful can turn confrontational and possibly escalate into violence. U.S. citizens traveling or residing in Brazil are advised to take common-sense precautions, avoid large gatherings or other events where crowds have congregated to demonstrate or protest, and comply with the instructions of local authorities. Check the website of the Embassy or consulate nearest you for current information on demonstrations.

To stay connected:

- Enroll in the Smart Traveler Enrollment Program so we can keep you up to date with important safety and security announcements.
- Follow the Bureau of Consular Affairs on Twitter and Facebook.
- Bookmark the Bureau of Consular Affairs, which contains the current Travel Warnings and Travel Alerts, as well as the Worldwide Caution
- Follow the U.S. Embassy in Brazil on Twitter, and visit the Embassy's website.

Take some time before traveling to consider your personal security and checking for useful tips for traveling safely abroad.

Visa Requirements

(A passport and visa are required for U.S. citizens traveling to Brazil for any purpose.) There are no "airport visas," and immigration authorities will refuse entry to Brazil to anyone not possessing a valid visa. All Brazilian visas, regardless of the length of validity, must initially be used within 90 days of the issuance date or will no longer be valid. The U.S. Government cannot assist travelers who arrive in Brazil without proper documentation.

Minors (under 18) traveling alone, with one parent, or with a third party, must present written authorization by the absent parent(s) or legal guardian specifically granting permission to travel alone, with one parent, or with a third party. The authorization (in Portuguese) must be notarized and then authenticated by the Brazilian Embassy or Consulate.

If you are entering the country with a U.S. diplomatic or official passport you must apply for a Brazilian visa before entering Brazil. Travelers must also apply for a Brazilian visa if they are traveling on a regular (tourist) passport for reasons other than tourism. Questions should be directed to the nearest Brazilian Consulate or Embassy outside of Brazil, or in Brazil, the consular division of the Brazilian Foreign Ministry.

For current entry and customs requirements for Brazil, travelers may contact the Brazilian Embassy.

Travelers may also contact Brazilian consulates in Atlanta, Boston, Chicago, Hartford, Houston, Los Angeles, Miami, New York, or San Francisco. Link contains addresses, phone numbers, website, e-mail addresses and jurisdictions of these consulates.

U.S. companies that require travel of foreign businesspersons to the United States should be advised that visa adjudications are handled via an interagency process. Visa applicants should go to the following links:

State Department Visa Website
Visa information - U.S. Embassy in Brazil

Currency

The official **Brazilian currency** since 1994 is the Brazilian real (plural *reais*, sign R$, code BRL). It is subdivided into 100 ***centavos*** ("Cents") The dollar-like sign (cifrão) is the currency's symbol (both historic and modern). Coins were introduced in denominations of 1, 5, 10 and 50 centavos and one real; the 25 centavos piece soon followed. In 1994, banknotes were introduced in denominations of 1, 5, 10, 50 and 100 reais. These were followed by 2 reais in 2000 and 20 reais in 2001. On 31 December 2005, BCB discontinued the production of the one real banknote, but it remains legal tender.

Telecommunications/Electric

Within metropolitan areas, the telecommunications system is robust and reliable. The major cell phone service providers in Brazil are Vivo (Telefónica from Spain), TIM (Telecom Italia from Italy), Claro (América Móvil from Mexico), and Oi (Brazil). Cell phone penetration in Brazil is about 140 percent Internet can easily be found in most hotels as well as at Internet cafes in most cities and towns. Internet penetration is just over 50 percent.

Electrical current information for Brazil.

Transportation

Brazil has numerous international and domestic airports, and American Airlines, Azul, Delta, Tam and United Airlines offer direct flights between Brazil and the U.S. The country's taxi services run very well, though U.S. citizens are recommended, for safety reasons, to meet one at a taxi stand or to call a radio-dispatched taxi, not to simply hail a taxi on the street. Public transportation, such as busses and subways, are also available in metro areas but can often be unsafe.

In major Brazilian cities, mobile apps are available to hire taxis and personal drivers for transportation inside metropolitan areas using credit card and cash as methods of payment:

- Uber
- 99Taxi

Language

Portuguese is Brazil's official language. English proficiency varies among Brazilian businesses. It is usually a good idea to have an interpreter accompany you to meetings and on business calls. Correspondence and product literature should be in Portuguese, and English is preferred as a substitute over Spanish. Specifications and other technical data should be in the metric system.

Health

Yellow fever vaccination is recommended by the World Health Organization if the traveler's destination in Brazil includes any of the following states: Acre, Amazonas, Amapá, Federal District (Brasília), Goiás, Maranhão, Mato Grosso, Mato Grosso do Sul, Pará, Rondônia, Roraima, and Tocantins. The Brazilian Ministry of Health has recently reported an ongoing outbreak of yellow fever. In response to this outbreak, health authorities have recently expanded the list of areas in which yellow fever vaccination is recommended for travelers. Yellow fever vaccination is now recommended in all of Espirito Santo and Rio de Janeiro states; São Paulo state, with the exception of the urban area of the city of São Paulo; and a number of municipalities in the state of Bahia.

Beyond yellow fever, insect-borne illnesses such as malaria and dengue are also present in Brazil. There is a low risk for malaria outside of the Amazonian region and it can be prevented through medication. There is currently no vaccination for dengue.

A polio vaccination certificate is mandatory at the port of entry in Brazil for children between the ages of 3 months and 6 years.

Mosquito-borne illnesses such as chikunguya, dengue, and the Zika virus have been well-documented recently. For further information, please consult the following websites:

- Who
- Center for Diseases Control and Prevention (CDC)
- CDC – Chikungunya
- CDC – Dengue

- CDC - Zika

Local Time, Business Hours and Holidays

Most of Brazil observes daylight savings time from October to February – with the exception of the Northeast region, which does not observe daylight savings. Note, however, that the U.S. and Brazil do not change daylight savings at the same time. When daylight savings is in effect in the United States, i.e. March to November, Brazilian time is one hour ahead of Eastern Daylight Time. When daylight savings is in effect in Brazil, i.e., October to February, Brazilian time is three hours ahead of Eastern Standard Time. During the changeovers to and from daylight savings time, there are a few weeks in February-March and October-November when Brazil time is two hours ahead of Eastern time in the U.S.

While office hours in Brazil are generally 8 am to 6 pm, decision-makers begin work later in the morning and stay later in the evening. The best times for calls on a Brazilian executive are between 10 am and noon, and 3 pm and 5 pm, although this is less often the case in São Paulo where appointments are common throughout most of the day.

January, February, and July are difficult months in which to schedule business meetings with high-level decision-makers. Schoolchildren are on vacation; hence many families choose this time to take their long vacations. Brazilians go back to work after the Carnaval holiday (which usually falls in late February or early March).

Brazil's national public holidays in 2017			
Date	**Weekday**	**Holiday Name**	**Holiday Type**
1-Jan	Sunday	New Year's Day	National Holiday
25-Feb	Saturday	Carnival Saturday	Observance
26-Feb	Sunday	Carnival Sunday	Observance
27-Feb	Monday	Carnival Monday	Optional Holiday
28-Feb	Tuesday	Carnival Tuesday	Optional Holiday
1-Mar	Wednesday	Carnival end (until 2pm)	Optional Holiday
20-Mar	Monday	March equinox	Season
14-Apr	Friday	Good Friday	National Holiday
16-Apr	Sunday	Easter Sunday	Observance
21-Apr	Friday	Tiradentes Day	National Holiday
1-May	Monday	Labor Day / May Day	National Holiday
14-May	Sunday	Mother's Day	Observance
12-Jun	Monday	Brazilian Valentine's Day	Observance
15-Jun	Thursday	Corpus Christi	Optional Holiday
21-Jun	Wednesday	June Solstice	Season
13-Aug	Sunday	Father's Day	Observance

7-Sep	Thursday	Independence Day	National Holiday
22-Sep	Friday	September equinox	Season
12-Oct	Thursday	Our Lady Aparecida/Children's Day	National Holiday
15-Oct	Sunday	Teacher's Day	Observance
28-Oct	Saturday	Public Service Holiday	Optional Holiday
2-Nov	Thursday	All Souls' Day	National Holiday
15-Nov	Wednesday	Republic Proclamation Day	National Holiday
20-Nov	Monday	Black Consciousness Day	Observance
21-Dec	Thursday	December Solstice	Season
24-Dec	Sunday	Christmas Eve (from 2pm)	Optional Holiday
25-Dec	Monday	Christmas Day	National Holiday
31-Dec	Sunday	New Year's Eve (from 2pm)	Optional Holiday

Temporary Entry of Materials or Personal Belongings

Since 2000, the Government of Brazil has made an allowance for temporary importation of products that are used for a predetermined time period and then re-exported. Brazil has already ratified the International Convention for the Temporary Admission of Goods.

Under Brazil's temporary import program, the import duty (II) and industrialized product tax (IPI) are used to determine the temporary import tax. Products must be used in the manufacture of other goods and involve payment of rental or lease fees from the local importer to the international exporter.

The Brazilian Government is in the process of adopting the ATA carnet, an international customs document that allows importers to temporarily import goods up to one year without payment of normally applicable duties and taxes, including value-added taxes. The adoption of the ATA carnet in Brazil will have a huge impact on customs clearance for U.S. trade show exhibitors that currently face extreme difficulties and delays in getting these temporary imports into Brazil, often writing off the imports as a complete loss. The GOB selected a Brazilian agency to issue and guarantee ATA carnets in April 2014; however, as of this writing, implementation of the program is pending.

There are very strict rules regarding the entry of used merchandise into Brazil. An example of products falling under this program would be the temporary importation of machine tools. The example in the table below shows that taxes due are proportional to the time frame the imported product will remain in Brazil. This also applies to temporary entry of personal belongings.

Permanent and Temporary Tax example - Brazil	
CIF price of machine tool	$200,000
II of 10% on CIF	$20,000
IIPI of 5% X (CIF plus II)	$11,000

Taxes that would be owed if importation were permanent	$31,000
Total life span of machine tool	60 months
Time machine tool with stay in Brazil	12 months
Tax for temporary importation	$6,200
Value =31000 X (I-(60-12)/60)	
(20% of tax is owed as tool will stay in Brazil 1/5 of it's useful life)	

Travel Related Web Resources

U.S. Government:

- CIA World Factbook
- U.S. Embassy in Brazil
- U.S. Department of State Travel Advisory on Brazil
- State Department Visa Website

Government of Brazil:

- Brazilian Embassy in the U.S..

Brazilian Business Culture:

- WorldBusinessCulture
- Brazzil
- Geert - Brazil
- Maria-Brazil