



## **Report**

### **Construction Equipment Association (CEA)**

#### **Scoping Visit to Brazil**

#### **Supported by UK Trade & Investment Advanced Engineering**

**23 May – 6 June 2009**

#### **Introduction**

Brazil, as one of the emerging BRIC nations is an increasing consumer of construction equipment. Following an approach from UK Trade & Investment (UKTI), the Construction Equipment Association (CEA) undertook a scoping visit to Brazil to assess the opportunities for manufacturers of construction equipment and its components in the UK. A report on the market visits forms part of this document in tandem with reports, presentations, other sources of information and market statistics.

Brazil has just been awarded the 2016 Olympics to be held in Rio de Janeiro and will host the 2014 World Cup – both these events will require a huge investment in infrastructure. Brazil has been less seriously affected by the global recession and has a growing domestic market for construction equipment. Many global OEMS have a manufacturing base in Brazil – eg JCB, Caterpillar, Volvo, Terex, etc.

The UK is a leading exponent of advanced engineering technology and innovative R&D, supplying customer facing solutions in the construction equipment sector. The Brazilian CE market continues to grow rapidly – providing significant opportunities for UK manufacturers, both OEMs and component suppliers.

The UK is a supplier of high quality, innovative and technologically advanced equipment and components which can be integrated into the domestic supply chain to replace those from our competitors – eg Japan, North America and Europe. The UK is a centre for advanced engineering, R&D and advanced manufacturing capabilities.

Although Brazilian import tariffs and other barriers to trade may preclude the mass importation of general construction equipment, the UK has a number of companies producing high quality niche capital equipment and sophisticated electronics and

instrumentation which could develop new market opportunities with Brazilian end users.

The CEA is the UK trade association representing the manufactures, both OEM and component suppliers, and sector service providers. The CEA has over 120 members and maintains a database of over 1,600 UK companies associated with the sector.

UKTI is the arm of the UK government tasked with improving exporting opportunities for UK manufacturers and securing inward investment into the UK. The CEA represents the UK construction equipment sector as part of the UKTI Advanced Engineering Sector. UKTI generously provided grant funding to enable the CEA to implement the study and market visits.

Construction equipment has many applications over a number of market sectors. As the recession tightened and sales in many developed markets slumped dramatically, it was ever more critical to investigate new markets and applications for construction equipment, to ensure the future of the UK as a manufacturing base for construction equipment and its components.

A key feature of the initial Brazilian market study, and of the subsequent in market and domestic profile enhancing events, is to identify the major consumers and manufacturers, establish their specific needs for equipment and technology and to educate them as to the scope and capability of the UK construction equipment sector, with the ultimate goal of increased sales, from the UK, identification of cross sector market opportunities and investment in UK technologies and knowledge transfer.

The Brazilian government both nationally and at state level are responsible for the financing of many infrastructure projects. However, there is an increasing trend towards PPP (public private partnership) and BOT (build, operate, transfer) projects.

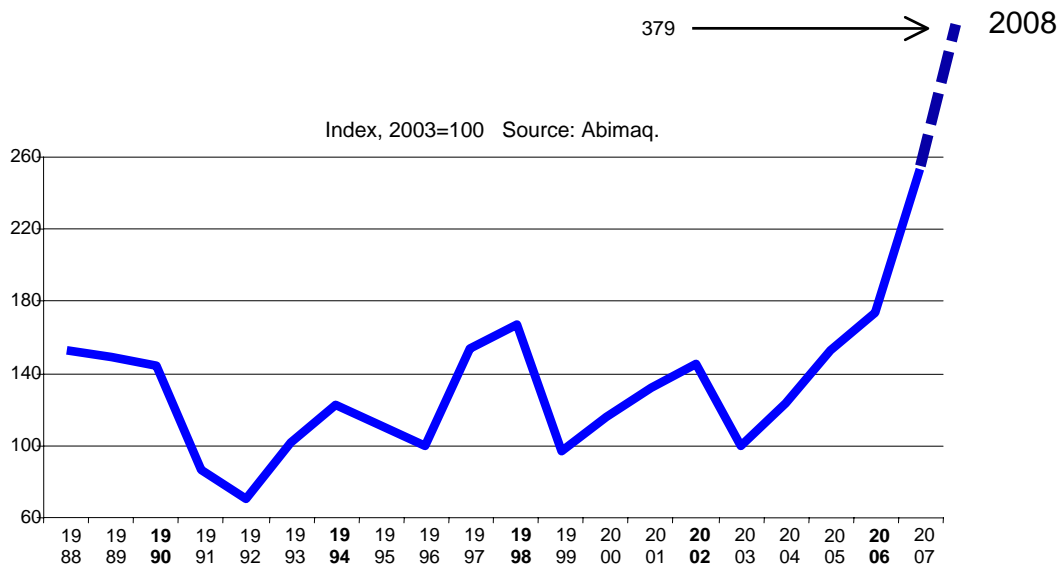
## Construction Equipment In Brazil

Until the recession hit, Brazil had a rapidly growing market for construction equipment as can be seen in the table below. Whilst sales in 2009 will inevitably be lower, it is not anticipated that Brazil will have been as badly hit as European and North American markets.

Domestic CE sales) 2008 (estimate	Units 08/07	%age increase
Backhoe loaders	5,320	+ 56%
Track-type tractors	700	+ 59%
Compactors	880	+ 83%
Hydraulic excavators	4,500	+ 57%
Wheel loaders	3,160	+ 15%
Motor graders	1,200	+ 20%
Skid steers	1,030	+ 58%
Off-Highway trucks	140	+ 47%
Trucks for construction	26,012	+ 47%
Heavy wheel tractors	3,389	+ 42%
Tower cranes	150	+ 58%
Cranes	360	+ 45%
Aerial work platforms	2,150	+ 78%
Compressors	1,420	+18%
<b>Total</b>	<b>50,411</b>	<b>+ 46%</b>

Source Sobratema 2008 Market Study

## Earthmoving equipment - market since 1988



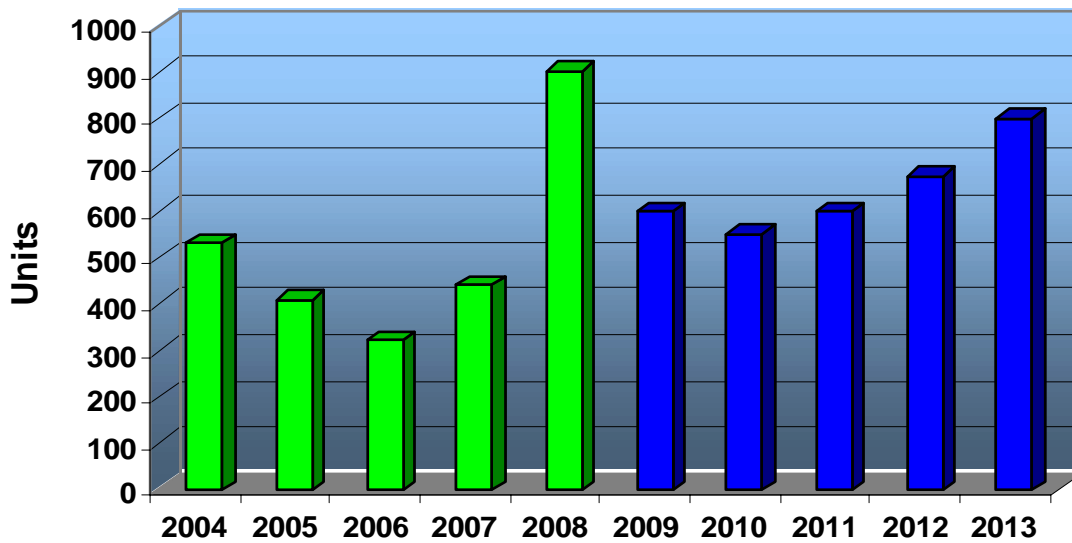
# YENGST ASSOCIATES

MACHINERY MARKET RESEARCH

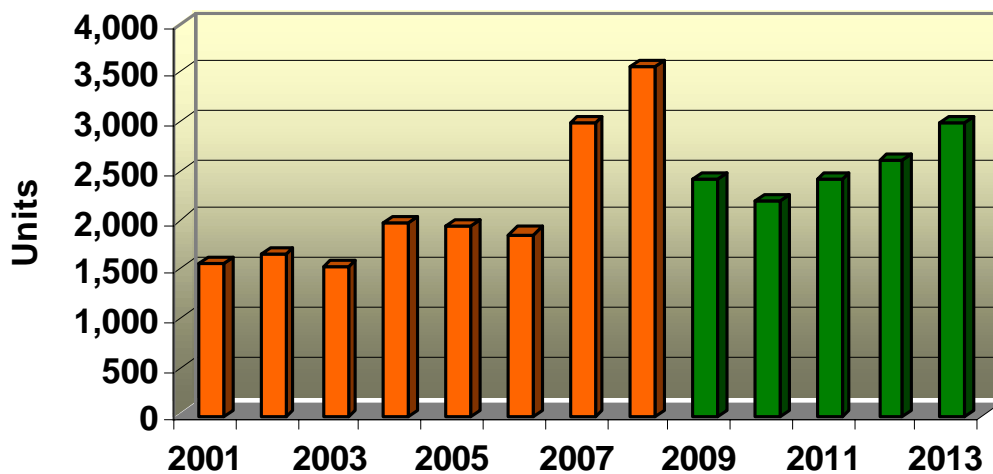
[WWW.YENGSTASSOCIATES.COM](http://WWW.YENGSTASSOCIATES.COM)

Market Forecasts for Crawler Dozer Wheel Loader and Sales, 2004 – 2013

## Crawler Dozer Sales and Forecast



## Wheel Loader Sales and Forecast Through 2013



## **Implementation**

In order to carry out the research necessary to produce this report it was necessary to visit Brazil, initially São Paulo State – a centre for the production and consumption of construction equipment, and meet as many manufacturers and end users as possible. An additional visit to Brasilia was added.

The visit was carried out by CEA Director of Global Programmes, Joanna Oliver, from 23 May to 6 June 2009. Visits were facilitated by using Joanna's existing contacts in Brazil – these included global OEMs manufacturing in Brazil who were CEA members, contacts at the CEA's counterpart Brazilian trade association, SOBRATEMA and with the head of the Automotive Sector team at the UK Consulate General in São Paulo, Erika Azevedo. Site visits were made to the following companies. Individual reports are appended to this document:

### **Manufacturers:**

JCB do Brasil Ltda  
Komatsu do Brazil Ltda  
Perkins Engines Brazil (by telephone)

### **Contractors:**

Odebrecht S.A.  
Andrade Gutierrez  
Caenge Ambiental  
Eco Attitude

### **Trade Associations:**

SOBRATEMA  
ABIMAQ

### **Government:**

São Paulo State Government  
Investe São Paulo  
UK Trade & Investment (at the British Consulate General) Automotive  
UK Trade & Investment – Construction  
University of Brasilia – (environmental department)

### **Additional on site meetings were held during M&T Expo with:**

Suspensys	Orguel
Terex Pegson	Menegotti
Randon	Zoomlion
Grupo Carraro	Compugeo
Gascom	Tradewind
CZM Foundation Equipment	Fullcomex
Mills Rental Brazil	

## Applications

As construction equipment is used across a diverse range of industry sectors, the Brazilian sectors using construction equipment include:

- Earthmoving
- Ground foundation & Piling
- Roadbuilding
- Civil Engineering
- Ports
- Airports
- Railways
- Asphalt handling
- Cement processing
- Lifting & Access
- Drainage & sewerage
- Irrigation
- Public Utilities
- Rental
- Mining (mostly surface)
- Quarrying
- Recycling
- Remanufacture
- Industrial
- Agriculture
- Demolition
- Forestry
- Mineral, oil and gas extraction and processing
- Tunnelling
- Major civils support
- Defence

## Brazilian Army

The Brazilian army is responsible for the implementation of much of the infrastructure development in Brazil away from the metropolitan areas – especially in the Amazonia and remote areas of the country. This makes the army major purchasers of construction equipment. Joanna was introduced to the General Avena, Head of Purchasing for the Brazilian Army Construction and Engineering Division during the opening of M&T Expo.

General Avena made a detailed presentation during M&T Expo as part of the Elacom Conference. Sadly there was no interpretation during the session – but a copy of the General's presentation is appended to this report together with an English translation courtesy of UK Trade & Investment Brazil (two separate files). As an indication of its scope, Brazilian Army Infrastructure projects completed to the end of July 2008 included:-

- Highways - 13,378 km
- Railroads - 5,881 km
- Airports - 34
- Bridges and viaducts - 57,813 km
- Tunnels - 52,043 km
- Telegraph lines - 2,000 km
- Wells - 1,401
- Schools and residences - 10,035
- Barracks - 59
- Weir and dams - 202
- Ports – 3

## **Localisation of Components**

Current Brazilian legislation requires all products manufactured in Brazil to contain a minimum of 60% domestically produced components. These can be manufactured by global companies – but must be produced in Brazil. From the company meetings it would appear that these rules are interpreted with varying degrees of consistency. Sometimes the 60% applies to the value of the components and sometimes to the quantity used.

## **Import Tariffs and Barriers to Market**

Brazil is a founding member of the World Trade Organisation (WTO) which legislates for international trade, intellectual property and provision of goods and services.

Brazil is a highly regulated market with not only national and state regulations but also differing standards and legislation for different municipalities. Import tariffs are high – starting at around 14-18% depending on the product – but additional duties and customs costs can easily add on an additional 20-25%.

It was reported in some of the meetings that some Brazilian states have restrictions or variable taxation and tariffs on what the product is to be used for. The manufacturer is initially responsible for the definition of the product's use – even after it has been sold to the end user and can be taxed at a higher rate if the product is not used for its designated sales description.

Brazil has a strict regime of examination and regulation of imported goods and UK companies should be prepared for a significant amount of red tape to be overcome when importing a new product.

Brazil has very strict anti-dumping laws which are rigorously enforced. If an anti-dumping case is brought then Brazil, unlike other countries, calculates both dumping and injury margins. The injury margin is the amount of "injury" caused to the domestic market by the dumping.

## **Taxation and Tax Holidays**

Taxation of domestically produced equipment can vary from state to state. However, a number of cities are trying to encourage investment and will offer tax holidays for overseas investors setting up a business and employing local workers.

## **Business Guide**

To guide companies through the regulatory minefield, the British Chamber of Commerce in Brazil produces an excellent guide – *Doing Business in Brazil* – which is updated periodically. Copies are available from the Chamber [www.britcham.com.br](http://www.britcham.com.br).

## **Mercosur / Mercosul**

Brazil forms part of the Mercosur / Mercosul (Mercosur – Spanish / Mercosul – Portuguese) Free Trade Area. The Mercosul included Brazil, Argentina, Uruguay and Paraguay and covers 11.9 million sq km with a population of over 270 million. Mercosur has trade agreements in place with Associate members Chile, Ecuador, Peru, Columbia and Bolivia, and Venezuela have membership pending. It is the world's fourth largest trading block after the EU, NAFTA and ASEAN.

Mercosul aims to work in a similar way to the EU to:

- Establish a common external trade tariff.
- Remove restrictions on reciprocal trade.
- Follow common trade policies with third countries.
- Co-ordinate macro-economic and industry policies.

## **Freight**

Brazil is considered to be one of the most challenging and expensive destinations in the world. Manufacturers reported it as being even more difficult than Russia and India. It is recommended that only experienced and specialist freight forwarders are used when sending goods to market, and plenty of time should be allowed to customs clearance.

Brazil currently has around 50 ports with more under construction – but only a few are capable of taking large deep water cargo ships.

## **Intellectual Property**

Intellectual property laws in Brazil confirm the WTO standards and are strictly enforced by the courts. There is no perceived problem with IP in Brazil as there is in many Asian markets – but nevertheless infringements do occur.

## **M&T Expo Exhibition**

The M&T Expo exhibition was held in São Paulo from 2-6 June 2009. The exhibition has increased dramatically in size and importance since the CEA's last visit in 2001. M&T Expo 2009 saw:

- Total exhibition area: 52,120 m<sup>2</sup>
- Total Visitors: 41,372
- International Visitors: 2,482
- Exhibitors total: 436
- Domestic Exhibitors: 231
- International Exhibitors: 205
- 880 brands represented, from 65 countries
- 4 International Pavilions – China, Spain, Italy and South Korea

The Chinese government sponsored a very large exhibitor group to M&T Expo – making up over 25% of total exhibitor numbers.

The CEA facilitated a free exhibition stand for Invest Northern Ireland who was visiting the exhibition with a trade mission. The CEA was also able to use the stand as a base during the exhibition. The stand was manned by personnel from Invest

Northern Ireland, which gave missioners the opportunity to publicise their products and still be free to walk the show floor.

A report on the exhibition is appended to this document.

A networking reception was held during the M&T Expo exhibition sponsored jointly by the CEA / UKTI and Invest Northern Ireland. It was organised by the Invest Northern Ireland Brazilian representative.

## Brazil – Geographical and Political

- Brazil is the largest country in Latin America and the 5<sup>th</sup> largest country in the world.
- Brazil covers 8.5 million square kilometres and occupies nearly half of South America.
- Brazil shares land borders with all South American countries except Ecuador and Chile.
- Brazil has a coastline of 7,451 kilometres.
- The climate is mostly temperate but tropical in the north.
- Brazil has four time zones. São Paulo and Rio are GMT minus 3hrs.
- Natural resources include:- bauxite, gold, iron ore, manganese, nickel, phosphates, platinum, tin, uranium, petroleum, hydropower, timber.
- Brazil is just developing huge oil and gas fields in the Santos Basin and off the coast of Bahia State. These reserves will contribute significantly to the countries GDP.
- The population is 198.7 million (CIA - 2008).
- 86% of the population live in urban areas.
- Life expectancy is 71.99 years.
- The literacy rate is 88.6%.
- Communications – Brazil had 41.141 million land-lines and 150.641 million mobile phone connections in 2008.
- Brazil is a Roman Catholic country with around 73% of the population.
- Brazil is a young country – the population demographic is:-
  - 0-14 years: 26.7%
  - 15-64 years: 66.8%
  - 65 years and over: 6.4%
- Brazil is a Federal Republic which gained independence from Portugal in 1822. It is divided into 26 States and 5,564 Municipalities.
- São Paulo is the 5<sup>th</sup> largest city in the world with a metropolitan population of over 20 million.
- The national airline is TAM which connects all Brazilian cities and some smaller towns. Internal flights in Brazil can be expensive – but tend to be reasonably reliable.

- The official language is Portuguese and the currency is the Real (R\$). Exchange rate 6/10/09 R\$ 2.8: £1.
- Brazil is a democracy – the President is currently Luiz Inácio Lula da Silva – Lula – leader of the Workers’ Party, who was first elected in 2002 and again in 2006. The next election will be in October 2010.
- Voting is compulsory between the ages of 18 and 70 and voluntary between 16-18 and over 70.
- Military service is compulsory for 9-12 months.

## Key Economic Data – September 2009

- GDP US\$ 1.993 trillion (2008, source the CIA).
- GDP per capita – \$US 10,200 (2008, source the CIA).
- GDP growth rate 2008 5.1%.
- GDP Division 2008 estimate –
  - agriculture: 6.7%
  - industry: 28%
  - services: 65.3%
- Labour force 93.65 million (2008).
- The Brazilian economy is not reliant on exports – they accounted for only around 13% of trade in 2008 and have relatively stable inflation rates which have helped hedge against a more severe recession.
- The Economist (14 September 2009) reported that “*Brazil is the first Latin American country to emerge from recession—and one of the earliest among the G-20 countries to have done so—following a 1.9% quarter-on-quarter expansion in economic activity in the April-to-June period.*”
- *Exports of goods and services fell by 11.4%, easing from the 15.2% decline of the first quarter. However, imports fell more steeply, by 16.5% compared with a drop of 16% in the first quarter.*
- Economic Recovery: speaking in September 2009, Brazilian Finance Minister, Guido Mantega, forecast that Brazil's economy would record overall GDP growth of 1% in 2009 and expand to 4.5% in 2010.
- It is predicted that the awarding of the 2016 Olympics to Rio de Janeiro will add a further 1% to Brazil's GDP. Stocks in Brazilian companies connected with infrastructure, vehicle manufacture and transportation rose after the Olympic announcement.

- Brazil pegged its currency to the U.S. dollar in 1994, before letting it float again 10 years ago. The Brazilian Real has more than doubled in value against the U.S. dollar since 2002.

## Brazil's Economic Stimulus Programme :-

- US \$235 billion on infrastructure to 2010 on roads, bridges, ports, airports and sewage plants.
- US \$15 billion on building at least 1 million new houses.
- The figures above tie in with the Federal Government's PAC programme announced as a result of the recession.

*Sobratema Study of the Brazilian Market for  
Construction Equipment - 2008-2013*



## The Federal Government's Faster Growth Program - PAC

*US\$ billions*

	<b>2007-2010</b>	<b>After 2010</b>	<b>Total</b>
Logistics	42	16	57
Energy	128	202	330
Social/urban	111	1	112
<b>TOTAL</b>	<b>281</b>	<b>218</b>	<b>499</b>

*Values published by government in February 2008;  
Converted unofficially at US\$1.0 = R\$2.3; columns may not sum due to rounding*

### **Words of caution:**

- Total projects > 1,400
- PAC includes previously announced projects
- PAC groups together public-private money

### **PAC includes (targets 2006-2011):**

- Highways: construction, upgrading and repair – adds 4,690 km paved
- Railroads: construction, upgrading and repair – adds 2,110 km track
- Ports + airports: construction and expansion
- Power generation: mainly hydro, some thermal – adds 14,162 MW
- Power lines – adds 15,074 km
- Gas pipelines
- Refinery expansion – adds 400,000 BOPD capacity
- Offshore oil development (major pre-salt fields)
- Popular housing; water + waste water

## **Conclusion**

Brazil is undoubtedly a high growth market for construction equipment – but currently a well protected one. There are opportunities for UK manufacturers of either niche products not already manufactured in Brazil, or those looking for remanufacturing partners or joint venture in Brazil.

The 2014 World Cup, 2016 Olympic Games and oil field development in the Santos Basin provide a wealth of opportunity for infrastructure improvement projects – with their associated need for construction equipment.

However, Brazil is not an easy market to access – nor will it deliver quick returns. But for companies with the foresight to develop and implement a long term strategy – Brazil will prove to be a lucrative market.

Joanna Oliver  
CEA Director of Global Programmes  
July 2009.