

# Focus on Brazil



Over the past few years, Brazil has been frequently cited as one of the few countries around the globe that has continued to grow rapidly. As a result many crane and access equipment manufacturers have been working hard to establish a foothold. Cranes & Access editor Mark Darwin visited the country and filed this report.

Mauricio Novis Botelho



It is difficult to describe Brazil in a few words however after just a short visit it is obvious that the country is developing rapidly. Hosting the football World Cup in 2014 and Olympics in 2016 is already transforming some areas, but elsewhere there are swathes of poverty alongside small pockets of wealth.

It is a country undergoing huge change, driven by its massive mineral deposits while at the same time struggling to cope with its poor transport infrastructure. With a limited rail network, most products are transported by truck, causing traffic chaos on roads that you or I would think twice about travelling on by car. And once away from the coast you have the constant battle with the equatorial rainforest terrain and hot, humid weather.

I met Mauricio Novis Botelho - one of the most respected businessmen in Brazil - a graduate mechanical engineer with 30 years' experience in senior positions with Brazilian and international companies. In 1995 he was appointed chief executive of aircraft manufacturer Embraer, turning it into the third

largest in the world. Since 2007 he has been a board member of a number of institutions and in 2009 was elected as one of the 100 most influential executives in the world by Harvard Business Review. The following are his thoughts on the economy.

### World's sixth largest economy

Brazil is the largest country in South America and the fifth largest in the world in terms of size and population at around 200 million. What may be more of a surprise is that it is now the sixth largest economy in the world. In 2011 GDP was \$2.37 trillion - higher than that of the UK (\$2.26 trillion) and just behind France (\$2.70 trillion). According to IMF estimates it will become the fifth largest economy by 2015 - behind the USA, China,

Japan and Germany. In 2012 however the Brazilian economy spluttered, with just a half percent growth in the first half, due to a 20 percent fall in the Real and economic slowdown.

### 30 years of evolution

It was the late 1960s and 1970s when the country's economic emergence began with the creation of big state-owned companies which - helped by global financial resources - funded important industrial and infrastructure projects. This led to annual growth rates of more than 10 percent and was viewed as the 'Brazilian Miracle' era. However, by the end of the 1980s, the country was in financial crisis - a combination of changing governments, rising oil prices, the change in world economic environment and the Mexican debt crisis of 1982. As a result it entered a period of economic stagnation and hyper-inflation.

### New phase in 1994

1994 saw a new phase with the Real Plan and creation of a new currency (the Real) which combined

with other strong economic measures put an end to runaway inflation. Since 2003 the government has maintained this solid economic and financial structure, while stimulating growth, foreign trade and employment. As a result around 50 million people were lifted out of poverty, becoming middle class. And in spite of the world economic crisis of 2008 Brazil has managed to maintain growth.

### Safe legal environment

One of the factors that has encouraged European companies to invest is a legal system which follows western principles, with a clear, safe legal environment.

"We are nearly 200 million people, a race, religion, education and age diversified population," says Botelho. "This country prides its diversity and practices tolerance and its people have an optimistic approach to life. Two very strong characteristics are their joy for life and flexibility."

Brazil has a diversified industrial base. It is one of the largest vehicle manufacturers in the world, has significant oil and gas reserves -

This stadium at Belo Horizonte is one of 12 being built for the 2014 World Cup.



Once unloaded, most goods travel around Brazil by road.



How the new Corinthians Arena should look at the opening of the 2014 World Cup.

C&a

Brazil



boosted by recent offshore discoveries – and has one of the most modern agricultural sectors in the world. The financial system is stable and the level of credit is just over 50 percent of GDP. Government net debt represents 35.3 percent of GDP and foreign reserves have reached \$380 billion. The economy should end 2012 with growth of around 1.5 percent, while the forecast for 2013 is 3.5 to four percent. Foreign direct investment has totalled \$64 billion over the last 12 months, demonstrating the high

interest from international investors. As a result of all this Brazil has almost full employment.

### Challenges and opportunities

Regarding infrastructure, the federal government is planning to build 7,500 km of highways and 10,000 km of railways over the next 25 years, at a cost of over \$65 billion. Around 60 percent of this is due to be spent in the first five years. Petrobrás, the giant state-owned oil company, is planning to spend \$236.5 billion over the next four

years. Most electricity in Brazil is generated by hydro-electric plants and the installed capacity will be expanded from 110,000 MW in 2010 to 171,000 MW by 2020, with emphasis on renewables, such as water, wind and biomass, with wind set to grow from one to seven percent of the total. This expansion will represent an investment of about \$95 billion - most of which has already been authorised. The energy transmission system which was extended to 100,000 km in 2010 will be

expanded to 142,000 km by 2020. Demand for biofuels is forecast to triple to 73 billion litres by 2020, with seven billion litres for export. Hence the country will be investing the equivalent of \$500 billion in defined projects over the next few years.

"I am fully conscious on the magnitude of such challenges but I am also fully confident of our strengths," says Botelho. "All of this convinces me that Brazil will be one of the most advanced nations of the world."

## World Cup fever

12 new stadia costing an estimated RL1.9 billion (\$ 900 million) are needed for the 2014 World Cup. Six are new build, while six involve modernising existing grounds.

Nine out of 12 stadium construction projects are using Liebherr cranes including 15 EC-B, EC-H, and HC series flat top tower cranes with load moments from 110 to 280 tonne/metres, 10 All Terrain cranes with capacities from 100 to 500 tonnes, four large crawler cranes from 400 to 1,350 tonnes as well as one 100 tonne telescopic crawler crane.

Brazil is one of Liebherr's most important crane markets, in 2010 it was second behind Germany and in 2011 and 2012 third after Germany and Russia. The company claims a market share of 65 percent for mobiles and 70 percent for crawler cranes, with rental company Locar its biggest customer, with a fleet topped by the 1,350 tonne LR 11350. The most popular crane in Brazil is the 120 tonne Liebherr LTM 1120 with more than 150 delivered so far. There are also five 1,200 tonne LTM 11200 in the country, most of them working on wind farm projects.

### Corinthians Arena' in São Paulo

One of the largest new stadiums is the Arena Corinthians being built by contractor Construtora Norberto Odebrecht. Situated in one of the poorest areas in Eastern São Paulo, it will have a capacity of 48,000 spectators, although for the opening match on June 12th next year, an additional 18,000 temporary

seats will be added taking the capacity to 66,000. In all, the stadium will host six matches – the opening ceremony, first game, four matches in the group stages and the semi-final.

The 200,000 square metre arena is a fixed price, 31 month contract - valued at RL 800 million (\$400 million), is due for completion this December. The statistics are impressive with 3,100 precast piles and 16,000 precast slabs to place. The work is being carried out by more than 2,200 staff working three shifts, 24 hours a day, six days a week. The stadium has a 32,300 square metre steel roof, with an impressive 106 metre clear span. The largest stand is the 11 storey, West grandstand which houses the corporate boxes. The design is similar to many English grounds with spectators very close to the pitch, for a much better atmosphere. Odebrecht opted to use five Liebherr HC flat-top cranes - two 195.3 HC, two 98.3 HC and a 450 C with hook heights up to 56 metres, maximum capacities between eight and 22 tonnes and jib tips of 57 metres. One of the 98.3 HC tower cranes is the first tower crane Liebherr manufactured in Brazil in 1978. Two 200 tonne LTM 1220-5.2 and a 100

Lifting in the first, 200 tonne roof truss



tonne LTM 1100-4.2 are used for general lifts.

During the site visit last November, the fifth 200 tonne roof truss had been erected so the roof was starting to take shape. Odebrecht had considered using a 750 tonne LR 1750 crawler crane for the contract, but because of

One of the 98.3 HC tower cranes on site is the first tower crane Liebherr manufactured in Brazil in 1978.



the high profile nature of the job, and the tricky roof lifts, it decided to play safe and use Locar's 1,350 tonne LR 11350, currently the largest Liebherr crawler crane in South America.

The 1,350 tonne Liebherr LR11350 is used primarily for the roof structure.

