

# Brazil

## Growing economy and an emerging force in the global pulp and paper industry

Area	8,511,965 km <sup>2</sup>
Population	186,112,794
Most populated city	São Paulo, approx. 11 million inhabitants

### Key economic data


GDP (purchasing power parity)	\$ 1.6 trillion
GDP (official exchange rate)	\$ 605.6 billion
GDP real growth rate	2.6%
GDP per capita (purchasing power parity)	\$ 8,500
Inflation (consumer prices)	6.8%
Unemployment rate	9.9%

Source: CIA World Factbook 2005

Avenida Atlantica and Copacabana, Rio de Janeiro

**Renato Guéron**  
President of Veracel Celulose S.A., Brazil

**“Andritz’s EPC approach makes our job of managing projects considerably easier and reduces our risk exposure.”**



In May 2005, the Veracel, Brazil, pulp mill started up very successfully and ahead of schedule. Andritz provided the complete fiberline from the digester to the finished market pulp bales and the white liquor plant. Photo: The Andritz-Downflow Lo-Solids® system at the Veracel mill represents the latest continuous cooking technology from Andritz.

# “WE DEPEND UPON ANDRITZ TECHNOLOGY.”

## Interview with Renato Guéron

President of Veracel Celulose S.A., Brazil

**Through a series of strategic acquisitions, Andritz has transformed itself from a vendor of specialized equipment to a full-line supplier of pulping and chemical recovery solutions. Andritz delivered the complete fiberline (including the drying plant) for Veracel Celulose’s greenfield mill in Brazil. We spoke with Renato Guéron, President of Veracel, about the role of technology and the relationship with Andritz.**

### Experience

I’ve been involved in the pulp and paper industry since graduating with a degree in Pulp & Paper Technology from the University of Maine, USA in 1968. I’ve worked in engineering, project management, operations, and I am now Chief Executive of Veracel.

### Process improvements

Throughout my career, the technology has continued to evolve. Brazil has continuously followed the best available technologies. Perhaps that is why the industry in Brazil is so effective. The most notable improvements have been in the environmental performance of the mills. Yet, we have not had to sacrifice yield (more usable fiber out of a tree and into the pulp) or quality (higher brightness and strength).

### Project management improvements

The advent of EPC (engineer-procure-construct) in this industry has been a tremendous boom. Before coming to Veracel, I worked at Aracruz, where we were among the

first to take the “risk” of doing an EPC project (an Andritz recovery boiler). Now, I think the risk would be in not doing it EPC. We are improving upon the EPC concept every time we do a project. Suppliers are much more interested in EPC and behaving as partners. Andritz guarantees schedule, cost, and performance for an entire process area. It makes our job of managing the project considerably easier and reduces our risk exposure.

### Single line advantages and risks

There was a time when no mill would take the risk of having one large piece of equipment – there was built-in redundancy with at least two of everything. The thinking was, “If we have only one, we have nothing.” Times have changed. Suppliers like Andritz now have the technology and competence to make complete lines. Since we want to save money by making lower cost investments, we chose the single-line concept. If we now have only one, we have everything we want. This mill depends upon Andritz technology to make pulp. There is no backup position.

### The Veracel start-up

Our start-up was excellent. Our production is ahead of plan – we’re producing more pulp than we thought we would at this point. More importantly, the quality of the pulp has been exceptional. One of the very important start-up tools was the Andritz dynamic simulator. I don’t see any possibility for a new, big mill to be installed in the future without the use of a simulator. I would think that the simulator paid for itself within the first few days

of operation. Veracel construction was completed in 17 months and six months later we are consistently achieving design capacity. It’s very important to start the return on investment quickly. Every day is important.

### Perfect partner

We gave out awards after the start-up and selected two perfect partners for this project. One was the Andritz consortium for the drying machine. The team had outstanding performance in meeting our schedules and always maintained a proactive attitude if a potential problem developed. We’ve had very good cooperation.



**Veracel is committed to sustainable development of its resources. It owns 172,982 ha of land in the State of Bahia, Brazil. All of the plantations are planted on land previously used for pasture.**

**Areas that are not a part of the plantations are being rehabilitated to become Atlantic Rainforest. Since 1994, more than three million plants have been cultivated for reforestation of natural forests.**

**Photo: Nilton Souza**

# SUSTAINABLE VERACEL

## Interview with Antônio Sergio Alipio

Forest Director of Veracel Celulose S.A., Brazil

As the largest single-line bleached eucalyptus pulp mill in the world, Veracel is a technological achievement. Veracel generated thousands of jobs during its construction, has created thousands of permanent jobs, and has brought significant improvements to the local infrastructure, healthcare, and education.

Veracel's forest management practices are also second to none. The company has committed to sustainable development of its resources, preservation, and enhancement of the environment, and sustainable social benefits for the surrounding communities.

Veracel took the initiative to create the largest nature conservation area in Northeastern Brazil (6,000 ha known as Veracruz Station). Veracruz Station has been named to the United Nations Educational, Scientific and Cultural Organization's (UNESCO) list of World Natural Heritage Reserves.

A key person responsible for maintaining and protecting these resources and ecosystems is Antônio Sergio Alipio, Forest Director of Veracel. We had the opportunity to speak with him about Veracel's commitment to sustainable development. To follow are his comments:

### Can you provide us with some background about the Veracel project?

The Veracel project was originally launched in 1991 as a forest project. The decision to build the mill was made in 2003 and construction started the same year. The mill became operational in May 2005. It has the capacity to produce 900,000 tons of bleached ECF eucalyptus pulp per year, exclusively from sustainable forest plantations using 3.2 million cubic meters of wood.

### What is required for sustainable development of your business?

Sustainable development has at least three characteristics: economic, environmental, and social. The key is to keep these things in balance. When Veracel generates a profit, it also generates the resources for reducing environmental impact and improving living standards of the local people.

Environmental performance means creating more value with less ecological impact. It drives us to use our resources in the most productive way. When we avoid, recover or eliminate waste, we become more efficient and more competitive.

### In the area of social progress, what activities is Veracel involved with?

We are part of a local society, a Brazilian society, and are therefore serious about ensuring that our actions have a positive impact on the social and economic well-being of local communities.

We have invested 21 million Real (8 million Euros) in education, health, and urban infrastructure improvements that benefit the local communities. We renovated workers' housing, several hospitals, and health clinics in the area. We invested in medical equipment plus six mobile dental care clinics. We built, restored and expanded schools.

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We established an ecological park in nearby Eunápolis, and we support the whale-monitoring program along the coast in Bahia.

We also maintain a non-profit institute (The Veracel Institute) to support the education and healthcare projects in the surrounding municipalities. We are particularly proud of the education projects "To Be a Child" and "Little Seeds", which benefit 1,350 children between 4 to 15 years old in five local municipalities.

Among other efforts, our company supports the cultivation of honey and piassava in areas close to our plantations. We have trained a group of Pataxó Indians to cultivate certain Atlantic rainforest species. Our intention is that they will establish local plant nurseries and replant their seedlings in natural forest areas. Or, they can use the plants to craft their own art products.

In addition, we support local small producers of door and window frames and of fruit packaging boxes by providing them with eucalyptus at nominal prices.

#### **What are the main points about the Veracel forest?**

Veracel owns 172,982 ha of land in the State of Bahia. We did not convert Atlantic rainforests to eucalyptus plantations. Of our total land, 74,440 ha (43%) are eucalyptus plantations. All of our plantations are planted on land previously used basically for pasture.

Plantation areas consist of a mosaic of eucalyptus and native forest formations. Areas that are not a part of the plantations are being rehabilitated to become Atlantic rainforest. This involves the planting of over 300 native Atlantic rainforest tree species, primarily endangered hardwoods. Since 1994, more than three million plants have been cultivated for reforestation of natural forests.

In order to maintain the landscape in the municipalities, the maximum share of our plantations is restricted to 15-20% (15% for coastal municipalities and 20% inland) of the land area. Today, our plantations make up approximately 5% of the land area of the ten surrounding municipalities. In order to maintain the landscape in the coastal area, no plantations are established within 10 km of the Atlantic Ocean.

Economically, we have a competitive advantage with our eucalyptus plantations. Brazil has some of the most productive forests in the world, and Bahia has the most

productive in Brazil. The climate here is ideal – warm and sunny, yet with nearly daily rainfall. Here in Bahia, we harvest about 50 cubic meters of wood on average per ha/year – about ten times more than in Finland. A eucalyptus tree in Bahia grows to about 30 meters in length and 20 centimeters in diameter in seven years.

#### **What are the main points of your forest management policy?**

My 2,400 forestry workers, and the third parties we work with, know that we are serious about our sustainable forestry policies. These policies were designed to comply with the strict requirements of internationally recognized certification programs.

For example, our plantations are established on unforested sites or lands previously converted for other purposes than tree production. The rights of indigenous peoples are respected by not establishing plantations on their territories. No one has been forced to resettle because of the activities of Veracel.

We do not plant any invasive tree species that may threaten biological diversity in the surrounding natural forests. Soil and water resources are effectively protected. We leave the logging residue (bark, branches, and tree tops) in the forest. This minimizes the leaching of nutrients from the soil and provides organic material for natural processes. We also use tracked harvesters in order to decrease pressure on the soil.

We also provide a very high level of occupational health and safety for our workers.

#### **Tell us about the Atlantic rainforest program.**

The Atlantic coast rainforest, or Mata Atlantica as we call it in Brazil, contains one of the world's richest ecosystems. At its best, 450 different species of trees can be found in a single hectare.

Unfortunately, this native vegetation has dramatically been reduced over the past decades. Deforestation in this region has taken place mainly since the 1940's, and particularly in the 1970's. Forests located on flat or moderate terrain were converted primarily to grasslands for cattle grazing.

The conservation and rehabilitation of the Atlantic rainforest is a nationwide effort. In our nursery, we cultivate seedlings from 300 different species of vegetation that appear naturally in the Atlantic rainforest. In total, we pro-

duce about 600,000 seedlings a year. These seedlings are planted in such a way to create mosaic landscapes. We focus on connecting the native forests which grow in scattered patches on our land to develop cohesive corridors for plants and animals.

#### **How do your plantations impact the local people?**

First, our forests provide about 2,400 jobs in the area. Second, by replanting cattle grazing land, we are bringing vegetation back into a deforested area. Third, we are providing opportunities for surrounding landowners, farmers, and entrepreneurs.

This area of Bahia is relatively poor. Other than Veracel, there is no major industry in the area. The median annual income for an adult outside the mill is 4,810 Real (1,845 Euros).

In 2003, we began a tree farming program for local farmers. When it is fully functioning, our aim is to procure about 20% of our fiber requirements from these private sources. This corresponds to 23,000 ha of eucalyptus planted within the tree farms. We hope to reach our target by 2008.

Veracel provides the eucalyptus cuttings, the technology, and the funding for the farmers. Tree farmers receive an upfront payment from us covering the costs of establishing the plantations. At harvesting time, the payments will be deducted from the income generated by selling the wood.

Tree farmers have to fulfill all the legal requirements for legal reserves and permanent preservation areas in cases where the land needs to be rehabilitated. The same technical and environmental criteria that we maintain for company plantations apply to tree farms.

#### **What are your goals with regard to forest certification?**

Our forest management and harvesting operations are certified by CERFLOR (the Brazilian standard for planted forests) and ISO 14001. Next year, we plan to apply for international certification from the Forest Stewardship Council (FSC). The CERFLOR standard is very close to the FSC standard.

CERFLOR is now undergoing the endorsement process from the Program for Endorsement of Forest Certification schemes (PEFC), which is the other international forest certification system commonly used in the world.

**Antônio Sergio Alipio**

Forest Director of Veracel Celulose S.A., Brazil

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