

Profitable plots

A small agricultural-automation company in São Carlos gains international recognition

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Brazil is getting ready this year to harvest its biggest ever crop of grains. But that is not the only good news from the countryside. Enalta, an agricultural automation company based in São Carlos, in the inland region of São Paulo State, was chosen as one of the world's 50 most innovative companies by the U.S. technology magazine *Fast Company*. The only representative from Brazil on the list, which is headed by multinationals like Nike and Amazon, Enalta ranked 43rd, ahead of giants like Microsoft (48th) and Tumblr (50th). In the South American sectoral ranking, the company captured first place. According to *Fast Company*, Enalta earned its position for "supporting the biofuels industry in Brazil by introducing GPS sensors and software applications that monitor seeding and irrigation so that farmers can obtain a more abundant harvest." This is the second consecutive year that Brazil appears in the ranking, which is published annually. In 2012, the start-up firm Bug Agentes Biológicos, from Piracicaba (SP), appeared in the 33rd spot (see *Pesquisa FAPESP issue n° 195*).

"In the last two years, we have been recognized as one of the fastest-growing companies in Brazil. Engineer Cléber Manzoni, Enalta's owner, says "Our goal is to market two new solutions every year." Founded in 1999, the company is one of the pioneers in the field of agricultural automation in Latin America. It specializes in developing tools to optimize production processes and in designing managerial software for agriculture that helps improve crop productivity. The main focus is on the sugar/alcohol sector, but the firm also provides equipment for the forest products industry. Its portfolio includes automatic controllers and pilots for precision farming and onboard computers for agricultural machinery and vehicles. Those technologies are bringing about changes to the processes involved in planting, growing, cutting, harvesting and transporting various crops. José Carlos Hausknecht, an agronomist and director of the consulting firm MBAgro, in São Paulo, says Enalta's innovations can help reduce costs and crop losses. "Automation is important, primarily in sugarcane growing where, historically, the degree of mechanization has

been low," he says. According to Enalta's Manzoni, products sold by his company can result in productivity gains as high as 15%.

Confident that demand for its products by the sugar/alcohol industry will increase, Enalta estimates its sales will amount to R\$15.8 million this year, 30% higher than the R\$12.2 million in 2012. About 10% of sales are made to foreign customers, notably in Colombia. One indication that innovation is at the foundation of the company's growth is the fact that 60% of the growth in revenues in 2012 came from products that had been introduced in late 2011. The company calculates that it will invest R\$2.5 million in research and development this year, the equivalent of 16% of its forecasted sales for the period. Major sugarcane growers in Brazil, such as Odebrecht Agroindustrial, Grupo São Martinho and Grupo Nova América are on the list of Enalta customers, which includes about 60 companies.

Enalta's flagship product is the onboard computer known as EES (Enalta Embedded System), used to manage agricultural machinery. When coupled to the e-Manager system, also manufactured



Onboard computers, sensors, and systems installed on agricultural machines permit greater control of production

Enalta by the numbers

The company plans to grow by 20% this year and to invest 16% of its sales in R&D

18

Products in its portfolio

10%

Percentage of revenues from sales to customers in other countries

30%

Forecasted growth this year

R\$ 2,5

Million is the anticipated investment in R&D in 2013

R\$ 12,2

Million in sales in 2012

15%

Active customers

56

The crop productivity gain produced by its software and systems

by this firm, the computer improves the productive performance of the cutting, loading, and transportation of raw materials for agroindustry. Reading data from more than 20 sensors installed on tractors and harvesters enables the farmer to trace a productivity map of a cane field. One of Enalta's newest products is a voice-command software program that warns truck drivers about critical points along the shipment route, thereby preventing accidents and making farm work safer. That device is used on vehicles that transport cane seedlings, vinasse (liquid waste from cane processing used in cane field irrigation) and the cane itself as harvested from the field.

STRATEGIC ADVANCES

Enalta's success is due in large part to partnerships forged with universities such as the University of Campinas (Unicamp), from which it licensed a patent for a scale invented at the School of Agricultural Engineering for use in the company's sugarcane productivity system. In another partnership, with Embrapa Instrumentação Agropecuária in São Carlos, it developed a precision irrigation system. Funding from research-

sponsoring agencies also played a decisive role. "In 2001, only two years after the founding of Enalta, we were able to move our headquarters from Catanduva to the business incubator at Fundação Parque de Alta Tecnologia de São Carlos (ParqTec) because we were granted approval of a FAPESP Innovative Research in Small Businesses Program (Pipe). The objective was creation of a system to manage crop spraying. That support was vital in enabling the company to strengthen its position in the market," says Manzoni. After that, Enalta had four more Pipe projects. In all, FAPESP invested more than R\$1.2 million in the company.

Enalta also received funding from the Economic Subsidy Program administered by the Brazilian Innovation Agency (Finep), a federal government agency, for a project designed to fertilize cane field soil by controlled application of vinasse. In 2010, the company received financial support from the Criatec Fund, which specializes in providing seed capital to emerging and innovative companies. Francisco Jardim, representative of the Criatec Fund on the Enalta board of directors, pointed out that "Enalta is the

second company our fund has invested in that has appeared on the Fast Company list of innovative companies. Both are in the agricultural technology segment. This is clear recognition that Brazil is not an agricultural power merely because of its natural resources, but also because of the ability our entrepreneurs have for bringing high-impact innovations into the countryside." ■ Yuri Vasconcelos

Projects

1. System for management of "spraying" in agriculture using automatic date-acquisition technology in the field (Nº 1999/11662-5); **Grant mechanism** Innovative Research in Small Businesses Program; **Coordinator** Cléber Manzoni/Enalta; **Investment** R\$203,105.57 (FAPESP).
2. Development of a technological platform for precision irrigation in perennial crops (No. 2003/07998-5); **Grant mechanism** Innovative Research in Small Businesses Program; **Coordinator** André Torre Neto/Embrapa; **Investment** R\$399,054.49 (FAPESP).
3. Development of a sugarcane-productivity monitor to obtain productivity maps for self-propelled harvesters (Nº 2004/08777-5); **Grant mechanism** Innovative Research in Small Businesses Program; **Coordinator** Domingos Guilherme Cerri/Unicamp; **Investment** R\$290,230.40 (FAPESP).
4. Development of a system for monitoring the cutting, loading, and transportation of sugarcane for fleet management (Nº 2006/56606-0); **Grant mechanism** Innovative Research in Small Businesses Program; **Coordinator** Domingos Guilherme Cerri/Unicamp; **Investment** R\$328,866.32 (FAPESP).