

## Smar selected for U.S Navy Supply

*SMAR International Corporation has recently been selected to provide Smart Pressure and Temperature Transmitters for the next generation aircraft carrier.*



Royalty Free Rendered Illustration / Image Bank

The Navy receives State-of-the-Art instrumentation for its newly designed platform

The newly named USS Gerald Ford (CVN-78) is the first of the next generation of U.S. Navy aircraft carriers. In conjunction with the introduction of these new ships, is a plan for the incorporation of radical new technologies within. The most critical mission of an aircraft carrier involves the launching and recovery of aircraft. The legacy catapult system used steam to push the craft down the track to launch the aircraft. The new Electro Magnetic Aircraft Launch System (EMALS) uses magnetic fields to pull the craft down the track. Protection of the EMALS is accomplished by the implementation of three separate cooling systems. The cooling systems

utilize Smar technology to measure differential and gage pressure, flow totalization and temperature inherent with the entire EMALS platform. Starting with the CVN-78, all aircraft carriers will be forward fit



with this new design. A prototype system is planned this year in Lakehurst, New Jersey.

Equally impressive with the aircraft carrier implementation of Smar technology, the Navy's nuclear power plants will also feature Smar Pressure and Temperature Transmitters throughout. These installations will include pressure and temperature monitoring on the new Machinery Control Management System (MCMS).

This is a "win-win" situation for all parties. The Navy receives state-of-the-art instrumentation for its newly designed platform. Throughput is increased and reliability is significantly improved, while allowing for incredibly simplified system maintenance. With Smar being selected for the CVN-21, they partner as a team member in supporting the introduction of

the next generation of modernized aircraft carriers.

Successful testing and operation of the instrumentation on board this vessel will lead to future implementation of Smar technology on subsequent ship designs.

### Key application engineering support pays off...

It's been two years since Smar International Houston brought Virginia based SCI-Standard Calibration Inc. on board as the Smar Representative to the U.S. Naval community. Smar International and SCI have captured significant US Navy business with sales slated for the next thirty years.

For more information, please contact SCI.  
908 Ventures Way – Chesapeake, VA. 23320  
Phone: (757) 549-6534  
Website: [www.standardcal.com](http://www.standardcal.com)

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# Smar and Profibus: Proven Success in Biofuel / Bioenergy Production

Brazil has made tremendous progress in consolidating the technical production of biofuel originated from sugar cane, particularly ethanol. Significant investment from joint local and international capital has driven the involvement of various industrial segments. The Brazilian ethanol market is expected to account for production exceeding US \$15 billion through 2012.

The automation segment's particular focus was to consolidate digital networks, especially Profibus, with its two variants DP and PA. This is due to a number of factors including the importance of low-cost technology for implementation, data protection, ease of operation and maintenance, and complete integration between field instrumentation and the so-called intelligent MCC. Presently, more than 50% of the new sugar and ethanol plants are designed with Profibus technology.

One new project for Tropical Bioenergia S.A. includes approximately 1000 nodes in Profibus distributed by 15 Smar DF1302 DF73 controllers. This installation utilizes the System302-7, a hybrid digital control system with decentralized architecture, and has enabled the facility to duplicate its production as early as the second phase of installation.

On September, 2007, Santa Elisa Distillery signed a contract with Smar for the complete automation of four of their new plants. Santa Elisa is owned by the Santelisa-Vale Group, a major sugar ethanol producer in Brazil and abroad. SVG was elected the best Brazilian company of 2006. This agreement involves the supply by Smar of its control system, the SYSTEM302-7, in addition to

complete field instrumentation with Profibus technology, process controllers and control panels. It also includes the infrastructure of a COI (Center of Integrated Operations) similar to the successful Smar system implemented at Santa Elisa, which has been continually referred to by automation and control media.

Included in the supply for Santa Elisa are more than 3200 Smar Profibus PA field instruments and four supervision and control systems. The installation is designed to operate with digital control technologies, with an open and distributed architecture that also includes 21 DF73 DPV1 CPUs per unit. Add to this the AS-I technology for control of the on-off valves and sensors. Two of the four contracted units – Ituiutaba and Itumbiara, are scheduled to start grinding operation in July 2008. The subsequent two units, Campina Verde and Platina, will start up in May 2009.

Another facility owned by the Santelisa-Vale Group and Maeda Group – Usina Tropical, is located in Edéia, Goiás state and will be included with the agreement. This contract was signed in June 2007 with grinding operations beginning in 2008, and involves the similar project scope and conditions to the four facilities under contract SVG.

All of the above projects are integrated with Studio, a SYSTEM302-7 component that allows complete management of the project's software requirements, with user-friendly interface. The SYSTEM302-7 is an open automation control system with several diagnostics features, high failure tolerance, numerous Flexible Function Blocks, connectivity with OPC and other protocols. It includes a series of other features that make it a complete control system as opposed to a simple communication bus with proprietary integration.

SYSTEM302-7 is the choice of a number of major sugar ethanol plants due to its comprehensive process control functions, which make it possible to collect valuable information for accurate and timely decisions to guarantee operational excellence. The automation system's open technologies seamlessly integrate with the hardware, while permitting connectivity of software and hardware from various manufacturers. Users are free to choose their preferred devices or even build their own system should they determine.





The flexibility and availability for expansion prompted the engineering architecture of the System to allow for reconfiguration and expansion according to ongoing requirements of the process conditions without necessitating major upgrade or reinvestments. Modern technologies require quick response to fluctuating market conditions.

In terms of operational excellence, the sugar ethanol sector is no different from any other segment and is under constant pressure to strive for excellence in order to guarantee competitiveness. Operational excellence requires users to optimize and strengthen processes through analysis of data in real time, allowing and facilitating the decision making in a precise and strategic way at all levels.

Consider the following to realize the return on results:

- Optimization of production: If real production capacity is known, the operation is more accurate and purchase orders are better met.
- Improvement of performance: By combining digital technology and automation, processes are improved and plant operations are more efficiently managed.
- Easier standardization and availability: By standardizing the metrics of performance, quality and production throughout the plant, brand integrity and product availability is protected.
- Reduction of costs: By identifying and solving inefficient processes in production, general profitability is improved, along with cost-benefit ratio, resulting in improved financial results.

Another critical point to recognize is the ongoing technological update of existing facilities. Usina Zanin in Araraquara, São Paulo state replaced steam turbines

for electric motors with Profibus DP protocol; Vale do Paranaíba plant in Minas Gerais state recently upgraded its system of juice extraction and distillery by diffusion. Both of these units combined will be able to process the annual 15 million tons of sugar cane in eight months at a competitive cost (as they use less man power), while supplying quality products to the international market.

One fourth of the primary energy used in Brazil comes from biomasses that compete with other sources of energy, a unique situation in the world. On the basis of the sources and applications in Brazil, different bioenergetic chains co-exist. This includes sugar cane ethanol (pure or mixed with gasoline) being utilized by light vehicles, and charcoal from planted trees, which fuels a considerable percentage of the Brazilian steel industry.

Biomass from sugar cane used for ethanol production results from plant cultivation and serves as the primary source of liquid fuels that replace gas or diesel oil. This facilitates its acceptance by the oil byproducts market and enables the use of the same logistics as for their distribution. The utilization of most sources of liquid fuels leads to the secondary production of a considerable amount of biomass that was formerly regarded as reject, but now is used as a renewable energy resource, thanks to technological advancement.

These secondary biomasses may reach quantities that exceed the current demand or the capacity of the processing plants and therefore can be sold to third parties for heating or electricity production. Brazilian success in achieving this shift in bioenergy production and use has made an impression worldwide, especially in view of the increasing costs of conventional fossil energy.



## Foundation Fieldbus Users and Suppliers Meet in India

Smar attended the first Foundation Fieldbus Technical Meeting held in Mumbai, India. The company was represented by Business Development Manager Max Ludewig and International Sales Manager Cláudio Borges at the event, which draws FF technology users and suppliers from all over the world.

The Fieldbus Foundation India Marketing Committee – FFIMC, sponsored the conference. Many of the world's largest producers of DCS/PLC control systems, field instrumentation, interface, parts and integrators were on hand to present numerous solutions utilizing fieldbus protocol.

The event focused on presenting clients with the latest innovations and benefits provided by fieldbus technology. In addition, the venue provided a forum to allow for open discussion and exchange of information to further assist users in implementing the fieldbus protocol in their respective applications.

“China-Laxons, Smar’s representative in Índia, exhibited our main products, while communicating to the local market that Smar was the engineering pioneer of this protocol,” said Max Ludewig. Smar invests and continues to develop this technology in partnership with Fieldbus Foundation International. [Read more about this subject.](#)







# CFE Mexico Annual Manufacturer's Meeting

Smar recently participated in the annual meeting of power plant superintendents promoted by the Mexican Federal Electricity Committee. This meeting was held in Acapulco. The event gathers power plant product manufacturers together to exchange operation experiences and solutions and at the same time provides

an opportunity to introduce the latest industry technology to these professionals. Smar was represented by managers Fernando Luquetti, Fernando Rosas and Oscar Matus, who made presentations on SYSTEM302. SYSTEM302 operates in each of the seven CFE units generating energy in Mexico.

## Smar International Division Sales Manager Quartely Meeting

Every three months, the Smar International Division hosts the sales team members from its international subsidiaries as they attend the quarterly sales meeting. The recent meeting was held October 16-19 at the Smar Training Center in Sertaozinho, São Paulo Brasil.

The focus of these meetings includes analyzing previous quarter sales and current forecast YTD. During this third quarter meeting, future goals were identified and established for 2008. According to International Sales Manager Cláudio Borges, "This event provides a preview for developing a definitive

business plan within the following two months, based on the last quarter figures".

Some fifty participants enjoyed the keynote presentations made by Smar President, Edmundo Gorini, Directors Paulo Lorenzato and Eduardo Munhoz, and Product Managers Marcus Vinicius Silva and Celso Nobre, as well as additional presentations by members of the Smar team.

Each of the presentations focused on three main subjects: (1) comparison of the forecast with third quarter results; (2) details and data regarding the introduction of the company's new products (the 400 line - the RD, a guided-waves level meter / the LD, a pressure transmitter / and the FY valve positioner); and, (3) analysis of the sales forecast for 2008. "Business Managers report for their respective territories to identify the sales forecast for each product, each country and associated pricing strategies, etc.", added Borges.

At the conclusion of the meeting, attendees had the opportunity to relax and enjoy visiting at an open-air gathering at fazenda Vista Alegre, a nearby rural resort.



## Bioenergy Australia 2007

Smar was present at the Bioenergy Australia 2007 event as a member of the Arranjo Produtivo Local de Alcool da Região de Piracicaba (APLA). The "Piracicaba Regional Ethanol Cluster" held the event in Gold Coast, Australia from November 26-30.

APLA is a group formed by sugar cane agro-industry chain agents, whose objective is to promote the use of ethanol, biomass and biodiesel as new sources of energy and as replacements of non-renewable resources.

The Ethanol Cluster works as a supplier of complete solutions for the sugar cane agro-industrial chain, which includes Smar as supplier for field instrumentation and control systems. The ongoing objective of this event is to extend renewable resource knowledge to other countries and share experiences of Bioenergy to gain investment in this industry sector.

Smar was represented by Tiago C. da Costa, Managing Director of Smar Singapore."





# South Africa Automation Show Renovates World Sugar Market

Smar has been in attendance at each International Society Sugar Cane Technologist Conference since the initial conference in 1987. This year's event was held July 30 through August 2 in Durban, South Africa.

The ISSCT conference takes place every three years and attendees represent a significant number of the world's finest sugar technicians. This year welcomed 70 participants from Brazil and with 28 Brazilian exhibitors, the significant influence of Brazil as one of the industry's top providers for international sugar & ethanol companies was clearly evident.

The conference was attended by close to 1000 people from 64 different countries. Smar representatives included directors Paulo Saturnino Lorenzato and



Brazilian delegation and visitors



Eduardo Munhoz (Smar), Kevin Barnfather (Smar South Africa representative) and Paulo Lorenzato (Smar)

Eduardo Munhoz, who presented the most advanced sugar and ethanol process automation and control technology. "The ISSCT, founded in 1924, is a world sugar technical association that has played a relevant role for this sector's development, one that accentuates the importance of Smar's presence at the event", says Munhoz.

# ATAM Mexico Highlights Smar Brazil Technology

The Mexican Sugar Technician's Association (ATAM) hosted its annual meeting in Veracruz, Mexico and gathered leading engineers, technicians and manufacturers of equipment for the sugar industry.

Smar was represented by Smar Mexico Director, Oscar Matus, and Brazil Product Managers Luis Salazar, Celso Nobre and Evaristo Orellana Alves. The Smar stand displayed both technology and product presentations throughout the show to address the industry's latest equipment and technology innovations.

There was particular focus given to Smar's LD301 pressure, level and flow transmitter, the FY301 intelligent valve positioner, DT301 intelligent concentration and density transmitter, TT301 temperature transmitter and the LC700 programmable logic controller.



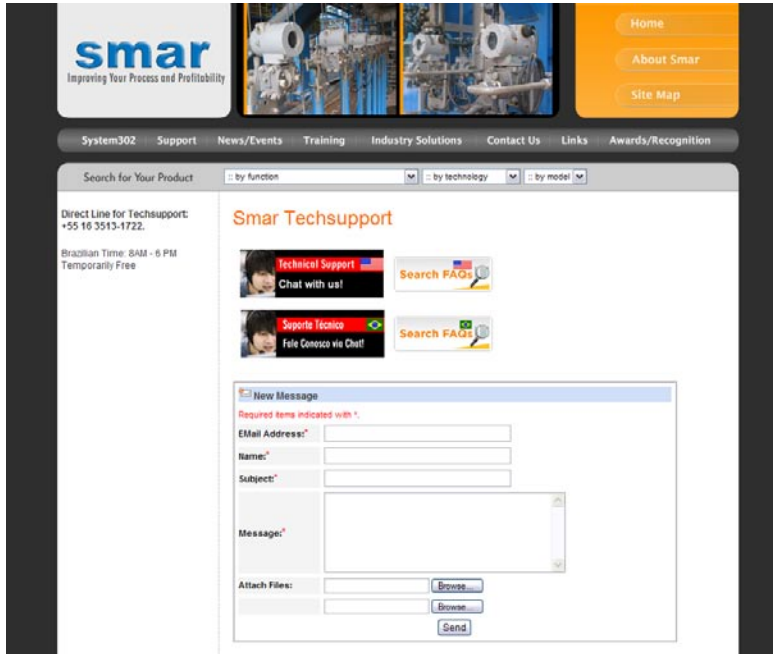
Smar booth at ATAM Mexico 2007



# Smar Provides Distinctive Quality Assistance

Smar clients can now clarify their troubleshooting and application questions quickly and safely, by utilizing the Tech Support option tab on the website at

[www.smar.com](http://www.smar.com). With this easy access tool, users may choose to submit technical questions ([techsupport@smar.com.br](mailto:techsupport@smar.com.br)), review the on-line FAQ section or complete a data information form. The idea has been developed to provide fast and reliable solutions for all clients.



The response to inquiries is provided via chat, e-mail or telephone (+55 16 3946 3611) within a 24 maximum turnaround time. The inquiry is reviewed and directed to the appropriate technical team for reply. The diversity of the submitted inquiries is supported by the applications engineering department, factory and manufacturing personnel, product development team, etc. The assistance program operates from 8 a.m. to 6 p.m., Brazil time, in Portuguese, Spanish and English.

Through constant evolution and the use of new channels to improve the quality of its service, Smar technical support has registered more than 7,000 calls to date. Total client satisfaction is measured by a qualified opinion survey, according to Tiago Piccin, the Tech Support International Coordinator.



## Smar Brazil Provides Training to Chile Representatives



Smar representatives from Chile

Smar representatives from Chile – Impeco, attended a training program in Brazil on the Smar 301 product line from November 5 through 16. The course was given by training engineer André Araújo and focused on the operation, installation, configuration and maintenance of Smar.

During their stay, the participants were provided the opportunity to learn the procedures for equipment maintenance at SRS. They also enjoyed visiting the Brazilian facilities of Usina Guariroba and Santelisa Vale. Smar is pleased to congratulate these professionals with their recently acquired knowledge and training. With this added technical background, these representatives are sure to experience success and growth in the sales and application for Smar products in their countries.





# A Nuclear Automation Perspective - Case study presented in Australia

HIMA Australia, a company that manufactures and supplies Safety Instrumented Systems (SIS), has entered into a partnership with Smar to market SYSTEM302 within Australia and New Zealand.

Jointly with the Australian FF End Users Council, which coordinates conferences for updating the market technology, HIMA Australia held a seminar on the implementation of Fieldbus Foundation technology for the Duke Energy project. The event promoted the latest innovations with fieldbus technology and allowed for the exchange of experiences among users.

The conference had Smar's participation through a presentation made by Business Development Manager Alexandre Peixoto and took place in Melbourne and Perth. The Duke Energy case study was chosen as it is the first nuclear plant ever to use the fieldbus technology on a large scale. The plant was automated by SMAR.

According to Peixoto, the presentation illustrated many of Smar's innovations in the Fieldbus solutions. The study included the role Duke Energy played in choosing the state-of-the-art technology and highlighted Smar's expertise in the international Fieldbus market.



Alexandre Peixoto, Smar Business Development Manager, during his presentation at Foundation Fieldbus End Users Council



# New State-of-the-Art SYSTEM302-Studio at Lee College Fieldbus Center

Smar introduces its new series of controllers for complete supervision and horizontal control of a plant during an event promoted by the Fieldbus Educational Center – Lee College, Baytown-Texas as parts of its Educational Technology Partnership Program. All of the installed controllers are connected to High Speed Ethernet I/O (HSE-RIO) with the SYSTEM302 providing the network backbone.

This event included the participation of several partnership companies and was attended by Joe Rondan, President/CEO of Smar Houston and other associates. During his interview, Rondan stated that Lee

College has expressed unprecedented fieldbus education knowledge with SYSTEM302 and has utilized a unique hands-on/minds-on forum to educate the automation, instrumentation and control community throughout the USA.



Rondan adds that, "End-users are experiencing an open, scalable solution designed to protect installed assets and co-exist with legacy systems". Smar SYSTEM302-Studio is the "all-in-one" structure that supports the use of many different technologies in a single, integrated and transparent environment for engineering, operation and maintenance of a plant".

Unique to SYSTEM302-Studio are the network connections of your choice (FOUNDATION Fieldbus™, Profibus, DeviceNet, and AS-i). All of the controllers can access conventional signals from a variety of discrete and analog I/O cards and the technology also has a Modbus connection for legacy equipment integration. Other capabilities include Function Block Programming and Ladder Logic via FFB (Flexible Function Block and EDDL).



Marcelo Lopes and Joe Rondan (Smar), Chuck Carter – Lee College – Fieldbus Center Instructor and Bill Colaianni (Smar)



# Brazilian Ethanol Provides Opportunity for Automation Suppliers

Local ethanol plants see automation as a path to increased production and productivity.

Sertãozinho, Brazil, was the stage for two of the largest world ethanol exhibitions Sept. 18-21. Fenasucro and Agrocana had 420 exhibitors and attracted 25,000 visitors.

The city is recognized as one of the most important in the ethanol industry. Brazil has 10 percent of the sugar cane cultivation in the world. São Paulo State is responsible for 45 percent of Brazilian sugar cane cultivation. The Ribeirão Preto region, including Sertãozinho, registers 80 percent of the sugar cane production of São Paulo State. Thirty percent of the 340 million tons of sugar cane produced in Brazil annually come from Ribeirão Preto and Sertãozinho.

According to São Paulo State Governor, José Serra, Brazil will continue producing the cheapest ethanol and sugar in the world. "Now, there are 7 millions hectares of sugarcane, and everybody knows that it has about 90 millions additional hectares of soil that can easily be cultivated, of which 25 million are suitable for sugarcane cultivation. We only need to invest in technology."

It is exactly this that the sugar and ethanol plants in the region are doing, trusting in their automation as the path to increased production and productivity.

The Brazilian company Smar Equipamentos Ind. Ltda. intends to be a leader in this market, and is ideally located

in Sertãozinho, providing easy access to local plants. During Fenasucro and Agrocana, Smar provided one of the highlights in the automation, instrumentation and control arena. Among several solutions, the company presented the control system System302-7 and the RD400 release, a level transmitter based on guided-wave technology, which is widely used in sugar and ethanol mills.



Smar guided wave Radar transmitter

"The ethanol sector is in a tremendous growth mode. In new enterprises, advanced automation is being installed, but there is also a significant market with existing plants that are in retrofit and technological upgrades," said Marcus Vinicius Ribeiro, Smar sugar and ethanol manager. He indicates that the company continues to expand its growth in sugar and ethanol projects every year, and that the market should continue to grow for some time.

The future of the Amazonian forest is not threatened by ethanol. In an article published in the "Washington Post" last March, the Brazilian President Luiz Inácio Lula da Silva affirmed: "The ethanol is not a direct threat for the tropical forests, because the Amazonian soil is extremely inadequate for sugarcane cultivation." Brazilian ethanol is a success worldwide and the industrial automation can be expected to prevail as well.

Extracted from Automation World Website - ([www.automationworld.com](http://www.automationworld.com)). [Click here to read the original article.](#)

## Smar Worldwide

### USA

Smar International Corporation  
6001 Stonington Suite 100  
Houston, TX 77040  
Phone +1 713 849-2021  
Fax: +1 713 849-2022  
E-mail: [sales@smar.com](mailto:sales@smar.com)  
Website: [www.smar.com](http://www.smar.com)

Smar Research Corporation  
2110 5th Ave.  
Ronkonkoma, New York 11779  
USA  
Tel: +1 631 737 3111  
Fax: +1 631 737 3892  
[sales@smarresearch.com](mailto:sales@smarresearch.com)  
Website: [www.smarresearch.com](http://www.smarresearch.com)

### Brazil

Smar Equipamentos Ind. Ltda.  
Rua Dr. Antonio Furlan Jr., 1028  
Sertãozinho - SP 14170-480  
Tel.: +55 16 3946-3510  
Fax: +55 16 3946-3554  
E-mail: [smarinfo@smar.com](mailto:smarinfo@smar.com)  
Website: [www.smar.com.br](http://www.smar.com.br)

### China

Smar China Corp.  
C-209, Ye Qing Plaza  
No. 9 Wangjing Beilu  
Chaoyang District  
Beijing 100102, P.R. China  
Tel.: +86 10 6439-8693  
Fax: +86 10 6439-0781  
E-mail: [info@smar.com.cn](mailto:info@smar.com.cn)  
Website: [www.smar.com.cn](http://www.smar.com.cn)

### Germany

Smar GmbH  
Rheingaustrasse 9  
55545 Bad Kreuznach  
Tel: +49 671-794680  
Fax: +49 671-7946829  
E-mail: [infoservice@smar.de](mailto:infoservice@smar.de)  
Website: [www.smar.de](http://www.smar.de)

### Singapore

Smar Singapore  
315, Outram Road #06-07  
Tan Boon Liat Building - 169074  
Phone: +65 6324 0182  
Fax: +65 6324 0183  
E-mail: [info@smar.com.sg](mailto:info@smar.com.sg)  
Website: [www.smar.com.sg](http://www.smar.com.sg)

### Netherlands

Smar Netherlands  
A. van Leeuwenhoekweg 19b  
2408 AL Alphen aan den Rijn  
Phone: +31 172 494 922  
Fax: +31 172 479 888  
E-mail: [pk@smar.nl](mailto:pk@smar.nl)  
Website: [www.smar.nl](http://www.smar.nl)

### Mexico

Smar Mexico S.A. de C.V.  
Cerro del Cubilete #140  
Fracc. Lomas de Mazatlán C.P. 82110  
Mazatlán, Sinaloa, México  
Phone / Fax: 52 + (669) 984 47 34  
Phone / Fax: 52 + (669) 913 32 96  
E-mail: [ventas@smar.com](mailto:ventas@smar.com)  
Website: [www.smar.com.mx](http://www.smar.com.mx)

### United Kingdom

Smar UK Ltd  
Bluebell Farm,  
Sandy Lane  
Romsey,  
Hampshire  
SO51 0PD  
Phone: +44 (0)797 0094138  
Fax: +44 (0)797 4747502  
Email: [info@smarUK.co.uk](mailto:info@smarUK.co.uk)  
Website: [www.smarUK.co.uk](http://www.smarUK.co.uk)

Find a nearest Smar Representative to you:  
<http://www.smar.com/contactus.asp>

### Editorial Staff

Notes is Published by Smar Equipamentos Industriais  
General Coordination: César Cassiolato  
Journalist: Rita Rodrigues - MTb. 47.592 / Daiana Selli - MTb. 50.328  
Contributing Editors: Adriano Oliveira, Max Ludewig, Pedro Biondo, Áurea Naves, Fernando Luquetti, Marcelo Lopes, Tiago Costa, Marcus Vinicius Silva, Marco Cesar and Alexandre Peixoto.  
Graphic Design: Mensagem Marketing e Comunicação