

LSI TEC DEVELOPS CHIP IN PARTNERSHIP WITH TREETECH

The integrated circuit tt0307f chip is under development by the USP (LSI-TEC) Integrated Systems Laboratory in partnership with Treetech. It will be included in the new Treetech product line, scheduled for launch in 2010/2011. This line will be specifically focused in applications for electric power generation substations, transmission and distribution public utilities.

The integrated circuit is a SoC (System on Chip) that incorporates into a single chip various specialized functions that were previously carried out by a combination of discrete electronic components.

The development of the chip, whose prototype is under testing, was supported by FINEP (Studies and Projects Financing Agency), and along with the Treetech's collaboration has shared know-how and developed the technical specification for the project.

According to Hugo Daniel Hernández, designer at IC-Design House/LSITEC, the concept adopted for the chip was to maximize the sharing of the same hardware with different functions previously accomplished by different hardware. The objectives of the project are:

- Standardization: Guaranteeing to the public utility standard equipment that can be applied to different tasks, reducing maintenance costs, spare parts as well as purchase orders. Standardization also helps to reduce the resupply cost for the supplier;
- Reliability: increase the reliability of hardware, since several components previously distributed in the electronic board are now condensed in the chip. This reduces the handling of components during manufacture and quality control tests;
- Robustness: the new technological level embedded in the Treetech hardware further increases its supportability in regards to severe weather, mechanical and electromagnetic operational conditions - exceeding the standardized requirements;
- Flexibility: the construction and programmability of the chip allows the inclusion of new features to the hardware, keeping it updated;
- Simplification: due to its versatility, it is possible to use the chip in product lines for control, command and protection of electrical assets in the substation, replacing a significant portion of hardware traditionally distributed for the same purpose.

Among the features of the chip, Walter Santana, LSI-TEC manager of new business partnerships, points out that the configuration of signal conditioning and treatment functions is done digitally.

TREETECH - A GLOBAL REFERENCE

According to Gilberto Amorim, commercial manager of Treetech, the company is one of few in the world, and the only in Brazil, specializing in the *on-line* management and monitoring of large electric assets offering numerous solutions as an international benchmark in technological innovation. Amorim reiterates that Treetech and LSI-TEC work in partnership in the pursuit of new technologies and signed agreements for the

development of new products in the coming years.

Treetech products include hardware and software solutions for the control, command and protection of transformers, reactors, circuit-breakers, switches and other electric assets of substations. The unique features of the innovative chip will allow Treetech to continue researching and developing products. This is decisive for the evolution of its product line, and contributes to help position Brazil in the select group of countries that develop and dominate a technology that directly contributes to the infrastructure of a country.

LSI-TEC IC-DH AND PNM

LSI-TEC IC-DH (LSI-TEC Design House) develops systems and services for Integrated Circuit Projects. LSI operates in the capital of São Paulo and Salvador with a complete infrastructure including EDA software and last generation hardware with expertise in digital and analog integrated circuit project development.

The LSI-TEC Design House (DH) was created as part of the CI-Brasil's Ministry of Science and Technology and is one leg of the tripod of the National Microelectronics Program (Programa Nacional de Microeletrônica - PNM), developed within the Department of Information Policies (Secretaria de Políticas de Informática). The team consists of experts, masters and doctors engaged in project development integrated circuits for the productive sector, and has an ethical and professional posture in keeping with the long term relationships established with its customers. Some of these professionals have over 18 years experience in the development of projects for national and international companies in various segments of the industry.