

# Espaço Energia

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Editorial

Development and innovation have received significant attention from corporations in recent years. Small and large companies have made use of incentives in order to develop research and development programmes and projects, aiming at achieving differentiation by means of innovation. A new law has recently been passed, the so-called "Lei do Bem", which reflects a new vision in politics and a new strategy, in an attempt to place the country in the technology vanguard, fostering the development and the qualification of people. However, a change of direction is still necessary as far as the mentality of businesses is concerned. Their mission requires a posture of constant evolution, which can break old rules and thoughts as well as incorporate a new mentality towards innovation. The immediate output of the company then turns out to be only a small part of the corporate strategy, which begins to embody a vision towards preparation, formation and specialization directed to results in the medium and long terms, which in turn will determine the success of the company.

Projects within this context have contributed to this scientific vehicle, reporting new methods, processes and results obtained in programmes directed to innovation through research and development (R&D). This issue of Espaço Energia encompasses four papers which report works in disciplines related to the energy sector.

Distributed substation automation is the theme of an R&D project executed by professionals and researchers at Copel, by means of a programme managed by Agência Nacional de Energia Elétrica (ANEEL), whose aim is to conceive and develop a model which provides local computational intelligence in order to improve the process of substation control and supervision. The solution proposed in the paper describes "virtual operation centres", which, due to their dynamic nature, can reconfigure themselves once events with significant impacts on the system take place. Such proposed model is based on a technology called "multi-agents". This technology can be used to endow distributed agents with intelligence to make decisions which solely depend on them or to contribute with other agents so that the decision making process is satisfactory.

The issue of automation and optimization is also addressed in another paper which presents the development of a computational tool to help in the process of scheduling phone attendant shifts. This application involves a large volume of information, and takes into consideration ordinary restrictions related to those employees, such as vacation period, rest day once a week and maximum time of uninterrupted activity, as well as further restrictions, which make this proposal unique, namely, individual preferences and other needs of the attendance service.

Sustainable development is the focus of a paper on the market of carbon and energy generation by means of small hydro power plants (SHPPs). The paper analyses the impacts caused by the commercialization of carbon credits as regards the economic-financial attractiveness of this kind of enterprise, and emphasizes the importance of investments in infrastructure and the decentralization of energy generation in the country, especially in the regions close to load centres, contributing to the performance of the national interconnected grid.

Lastly, an interesting work on planning of secondary power distribution grid is described, which makes use of a computational intelligence technique called genetic algorithms. With this technique, possible solutions for a specific problem are represented by a population of individuals, whose genes go through alterations in order to optimize the final result. The practical aim of this work is to provide means of improving the voltage level in the circuit under analysis taking into account parameters such as the replacement of cable width and the change of phases. A relevant point in this work is the fact that it addresses the secondary power grid, since most works described in the scientific literature approach the primary power grid.

This issue number 05 of Espaço Energia introduces another novelty. The periodical and all its contents can now be accessed on the internet. The address is <http://www.espacoenergia.com.br>. The templates containing instructions for paper submission are available on the website. We hope this issue be of interest and of great value to its readers. Paper submissions are always welcome.

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Editor-in-chief