

UADE AND GL&A WIN THE PRIZE ARLOG 2008

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The fifth edition of the Prize ARLOG 2008 had as winner to the UADE (The Corporation University), through a development carried out together with GL&A Consultants for a company of rail transportation of the pampeana area. The Logistical Management Argentine Association (ARLOG) it grants every two years since 1998 the prize ARLOG to the logistics practice, with the purpose of to deepen and to promote the development, the innovation and the best practices in the logistical administration.

Delivery of prizes was carried out in the mark of the exhibition Logisti-K and in the selection of the winners a jury integrated by Alejandro Mohamad, dean of the School of Sciences Physical-Mathematics and Engineering of the UCA, Ignacio Sánchez Chiappe, director of the Institute of Teaching for the Competitive Excellency (IEEC), Mauro Sperperato, president of ARLOG, Pablo González, director of Logistics of Cervecería Quilmes, and Jorge Marchesotti, former president of ARLOG. Carlos Arredondo, president of the prize ARLOG, affirmed that “the prize contributes to enrich the knowledge and it offers a well deserved recognition to the authors of the works that elevate the quality of the logistical administration in our country.”

The work carried out by UADE and GL&A consisted on the development of a discreet and stochastic simulation model for a railway company transporting cereals, oils and other products to the ports of Bahía Blanca and Rosario from the areas of production in the Argentinean humid pampas. The increase in the production of those elements that has registered in the last years has its correlation in the increment from the transport to port and, with it, the necessity to improve the logistical capacity of the company.

The conceptual model of the logistics of the system implies to respond to load orders assigning a locomotive for where are available and to transfer to the origin the empty boxcars, to expect the dear time of load and to send the same one or another locomotive to transfer the boxcars loaded to the destination. The pattern should also keep in mind the statistic of times of load in the different places, as well as of discharge of the boxcars in the terminals and its later conditioning to take a new service.

The operation of the complete system is very complex, since dozens of locomotives in constant movement to transfer some thousands of boxcars for the rail net, subject to the mechanical, climatic and human contingencies, and with a horizon of planning - the advance with which they receive the orders - very narrow.

The model was implemented in a discreet simulation platform based on the software Extend™ (Imaging That Inc., <http://www.extendsim.com>). The simulation generates each load order and simulates the assignment and the movement of each locomotive and groups of boxcars to respond to them. This simulation allows the evaluation of operative policies, essentially the way of assignment of locomotives to respond to the multiplicity of load orders, and the policies of rejection due to saturation of the capacity of transport, and to evaluate new investments. In this last case, such scenarios are evaluated as the increment of capacity consequence of the acquisition of rolling material, the habilitation of tracts of the net, and others. In a summary, the work allowed to implement a tool of advanced simulation, based on the operation data, to apply it to the optimized use of its resources.