

**Title**

The multiplicity of applications of dynamic simulation technology

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**Abstract**

The dynamic simulation technology has opened a great panorama of possibilities for the industry, since it is possible to perform various tests and get various information without loss of production downtime. Among the emerging applications can be mentioned the use of dynamic simulation of flowcharts designed for validation, validation of different control techniques and strategies, evaluation of sampling points for process and quality control, operator training, even before the plant is ready with fidelity to the causes and effects of physical and chemical phenomena of the process, such as Soft-sensor, support mass balances for inventories of plants.

In this paper we present a case study in the dynamic simulation was used as an evaluation tool for sizing of designed plant. Furthermore, we present the evolution, current possibilities and scope that the technology will have in the future applications.

The technology can enable the economy millions of dollars in a project if the gains are accounted for with a scaling grounded in a more concrete scientific method, identification of best control technique, to obtain a soft-sensor that can replace a physical sensor as well as avoid penalties due to errors in accounting for production and extraction.