

# Stochastic Simulation Modeling of Quality Assessment, a Forecast Approach in Maquila Industry

José Roberto Cantú-González

Escuela de Sistemas PMRV, Unidad Acuña, Universidad Autónoma de Coahuila.  
roberto.cantu@uadec.edu.mx

Raymundo Juarez-Del-Toro

Facultad de Contaduría y Admón. Unidad Torreón. Universidad Autónoma de Coahuila.  
r.juarez@uadec.edu.mx

F-Javier Almaguer

Facultad de Ciencias Físico-Matemáticas, Universidad Autónoma de Nuevo León.  
francisco.almaguermrt@uanl.edu.mx

Gustavo Roberto Illescas

Fac. De Ciencias Exactas. Universidad Nacional del Centro de la Provincia de Buenos Aires  
illescas@exa.unicen.edu.ar

Norman Alexis Cantú-Delgado

Unidad Monterrey, Centro de Investigación y de Estudios Avanzados del IPN  
normancantu@hotmail.com

## Abstract

Because of the necessity to improve the quality level in manufacture operations, investments in process are an imperative initiative to be considered in the yearly plan in the maquila industry; moreover the essence of this industry orients its investment efforts to the workforce using automation as a support tool, and rarely robotics is included in special operations. In this context, an important concern is usually present: it is necessary to support the investments in quality assurance, including workforce and error proof devices, but the risk to do a bad investment is highly potential while not be possible to have an approximation for the quality performance indicator in the immediate future period. As an alternative to attend this concern, this research work presents a stochastic simulation model based in the behavior of historic data in order to forecast the quality performance indicator for the immediate future period in manufacture operations of a determined maquila industry.

## References

1. SODERBERG UNDEFINED AND R. UNDEFINED AND WARMEFJORD UNDEFINED AND K. UNDEFINED AND CARLSON UNDEFINED AND J. S. AND & LINDKVIST AND L. UNDEFINED. Toward a Digital Twin for real-time geometry assurance in individualized production. CIRP Annals - Manufacturing Technology 66-1 (2017), 137–140. doi:http://dx.doi.org/10.1016/j.cirp.2017.04.038.