



Genoveva Vargas-Solar
EDITOR

CRITICAL FACTORS IN INDUSTRY 4.0

A Multidisciplinary Perspective



El Colegio de
Chihuahua
Institución Pública de Investigación y Posgrado

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Calle Partido Díaz 4723
Colonia Progresista, C.P.32310,
Ciudad Juárez, Chihuahua, México
Tel. 52 6566390397



Texto sometido a doble proceso ciego por académicos externos a esta institución.

Primera edición publicación electrónica 2021
ISBN: 978-607-8214-64-8

Coordinación editorial: E. Liliana Chaparro Vielma
Corrección: Carolina Caballero Covarrubias
Cubierta y diagramación: Karla María Rascón González

Editado en México/Edited in Mexico

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Weibull Reliability Methodology for Ball Bearing Design Based on Hertz Stress With Focus on Industry 4.0

Baldomero Villa-Covarrubias^{*1}, Manuel R. Piña-Monarez¹,
Lázaro Rico-Pérez¹

¹ *Doctorado en Tecnología, UACJ.*

**Corresponding Author: baldomero.villa@uacj.mx*

Abstract. The fourth industrial revolution, also known as Industry 4.0, is characterized by the digitalization of processes and use of technologies for manufacturing along with the combination of production processes and machines using internet, software and sensors is common. Since many of the mechanical elements of machines like bearings, screws, springs, gears, and pulleys are prone to failures or require constant maintenance, Industry 4.0 allows an analysis and provides instant feedbacks of the problems. Thus, when the process machines are interconnected and available, fewer failures will surface due to instantaneous feedback. Consequently, maintenance programs need to be rigorously designed, implemented and monitored. Moreover, there exist various types of maintenance such as preventive, corrective and predictive. The latter is the maintenance that is more commonly used in Industry