

NT13

Structural Identification of the Bearing Manufacturing Process – Case-Study

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Abstract. In the manufacturing industry, globalization, shorter life cycles of products and changing customer needs, leads to high competitive pressure on companies. In addition to product quality and variety, flexibility, shorter processing times, and high-level compliance with delivery times have become essential factors for market success through efficient, efficacious and continually manufacturing processes optimization. To be successful in a highly competitive global production environment, a company must be able to deliver products that customers request at the requested time. In this paper is developed a novel method of structural identification of the bearing manufacturing process. This method allows the structuring of its activities, at all levels involved (order acceptance, production planning, product design, processes planning, and product processing), by elaborating the tree of the specific activities. The relations between the manufacturing process stages and related information circuit are revealed and the identification of the manufacturing process variants, at the level of each manufacturing activity is performed. Following the selection of the best alternatives from each level of the manufacturing activity, the optimal technological path is obtained for taking over an order for the bearing manufacture.

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