



Dear readers,

From the first editorial of the year, I would like to wish the entire community of production Engineering 1 2020 full of hope and achievements. I believe that as a scientific community we have much to contribute to the improvement of national production systems in the direction of new levels of excellence.

The first edition of 2020 opens the year of the Online Production magazine with 15 articles that well represent our area and related disciplines.

The first article proposes a comparative analysis of the Reverse Logistics systems for tires, batteries and batteries implemented in Brazil. The following article aimed to determine a mathematical function, to describe the behavior patterns of the total costs of an egg production aviary as a function of the variables: productivity, mortality, feed consumption and hours worked. The data collected were related to the period from March 2016 to January 2017. The third article presents a framework to support the production strategy using Big Data aspects. The fourth article analyzes the application of continuous improvement methods aimed at solving problems, A3 the Root Cause Analysis, in a hospital environment, indicating guidelines for the selection of the most appropriate method in a given situation. The methods were applied in operations related to medication prescription at a university hospital. The fifth article analyzes the reasons and implications of the reduction of the rice production chain, involving the processing industry and producers in the municipality of Lagoa da Confusão, in Tocantins. It is a qualitative research with an exploratory and descriptive character. Data collection was carried out through semi-structured interviews with stakeholders in the production chain (producers, agro-industry, suppliers of inputs and machines, and municipal government).

The sixth article identifies the most suitable demand forecasting method for the product families of a company in the segment of articles for Dance, Fitness, Swimming and Sportswear (sports fashion industry). The seventh article presents a systematic review of literature in Brazilian magazines in order to identify the characteristics of the Manufacturing Strategies Implementation (IEM) process related to three categories: Systematic (steps), Critical Success Factors (FCS) and Tools / Practices. The following article presents a systematic review of the literature regarding the implementation of lean production in health organizations. Article nine analyzes the main metrics used by professionals to assess the maturity of Lean Manufacturing projects. The tenth article presents an application of mathematical modeling in the

optimization of routes of substation maintenance teams in an electric utility.

The next article looks at the factors that underpin the results of kaizen on productivity in companies from a long-term perspective. Article twelve analyzes data related to equipment downtime in a food industry in the fruit sector, located in the state of São Paulo, Brazil. The following article proposes a methodology, which includes multiple assessment criteria for risk classification of outsourced companies, using ELECTRE TRI, based on risk management with third parties. Article fourteen, using the Life Cycle Assessment technique, assessed the environmental impacts of the production of Muçarela cheese from the receipt of milk at the industry gate to the product's dispatch. Finally, our fifteenth article identified the reasons that lead organizations to stop outsourcing logistics activities and to carry out re-insourcing. The research method addressed a multiple case study was in a commercial vehicle manufacturer and a tractor and agricultural vehicle manufacturer.

The content of the articles evidences the growing scientific and practical relevance of research in the field of production engineering. It is also evident the constant concern with the resolution of real problems in several regions, which results in the increase of competitiveness and sustainable development in Brazil. As always, we hope that this collection of articles, which reflects the state of the art of production engineering, can contribute to the enrichment of their learning.

Prof. Dr. André Luís Helleno  
Editor-in-chief (2018 – 2020)

Prof. Dr. Antonio Cezar Bornia  
Co-Editor-in-chief (2018 – 2020)

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#### **Key editorial performance indicators – March 2020**

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Average time between submission and first feedback to authors: 90 days