

## Special Session/ Special Track proposal for MIM 2022

### 1. Session/Track Title:

Natural Language Processing in Production and Supply Chain Management

### 2. Session/Track Objectives and Scope:

Modern manufacturing systems produce tremendous amounts of data through sensors, cyber-physical systems, and software. Among them, text and speech data directly generated by humans may encapsulate meaningful knowledge to create intelligent decision support systems. For example, harnessing text and speech data is likely to improve customer relations in the supply chain, quality control in manufacturing, distribution, maintenance, and production planning and control. Nevertheless, natural language data can be chaotic and highly unstructured, posing big challenges when exploiting it. To tackle this problem, Natural Language Processing (NLP) has been widely used to process and analyze large volumes of natural language data. It is an active and growing research domain with potentially promising applications. For instance, chatbots are now widespread in customer service, sentiment analysis techniques allow efficient recommendation systems that support marketing strategies, and virtual assistants embedded in smartphones have automated tedious tasks. However, text mining and NLP seem to be seldom employed in manufacturing and supply chain management compared to other AI techniques. Hence, this invited session aims to gather original research regarding novel systems, tools or theoretical frameworks involving NLP and text mining to tackle the challenges of the industry of the future. Examples of these are mass customization, environmental sustainability, enhanced customer service, predictive maintenance, and human interaction with machines. This invited session calls for research papers or case studies providing original contributions to the enhancement of manufacturing and supply chain management through text mining and NLP.

### 3. Organizer(s):

(Name, affiliation, email address)

Samir LAMOURI, LAMIH UMR CNRS 8201- Arts et Métiers ParisTech, France

samir.lamouri@ensam.eu

Robert PELLERIN CIRRELT, Polytechnique Montréal Canada