
Editorial

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Biographical notes: Aicha Seklouli Sekhari received her PhD in Industrial Engineering from Blaise Pascal University of Clermont Ferrand/Aubière in France. She joined the University of Lyon five years ago and is currently an Associate Professor at the DISP (Decision and Information for Production System). She teaches automatic control and industrial engineering. Her current research interests cover the areas of production quality and product lifecycle management (PLM).

Antonio Mazza received his Master (Cum Laude) in Automation Engineering from the University of Sannio, Benevento, Italy, in 2010. Since 2011, he has been at a research position in the Department of Engineering of University of Sannio on models and advanced techniques for quality, environment and supply chain management. Actually, he is involved in industry research projects with big firms like ST Microelectronics, Magna Powertrain, Atitech, and is in charge of relationships with IEEE digital library.

The purpose of this focused issue is to explore the recent advances in the application of product design and engineering tools able to allow firms for an effective and efficient product development, prototyping and production within international standards compulsory requirements. The issue has been also managed by Matteo Mario Savino, of the Department of Engineering of University of Sannio.

The main objective is to unpack all theories and case studies relative to an efficient product development under sustainability issues and normative constraints.

The guest editors acknowledge that product development and lifecycle engineering is a fast developing theory that now is highly constrained by local and EU normatives.

In this context, modern society is dependent on electromechanical products and, as common experience teaches us, they pervade all aspects of our daily life: communications, transport, consumer electronics, and to name a few. Moreover, all consumer products, included electromechanical ones for which performance requirements are always higher with less space as possible, the compliance to international standards like CE labelling is compulsory for firms who want to front a globalised market (Ouzrout et al., 2009; Savino et al., 2008; Sekhari and Savino, 2009).

Companies need to develop products compliant to CE label, with its attendant costs and time that the related operations entail. Product design and engineering tools/methods can give the possibility to minimise costs, time and risks for product compliance from the beginning of its product life cycle. CE labelling is also encompassing safety and health issues and it is compulsory for all types of consumer products.

Research into these aspects is at a nascent stage, thus this special issue seeks to increase knowledge and develop some themes and concepts that may be useful both to organisations seeking to be informed about product development under normative constraints (Savino and Mazza, 2014; Zhang et al., 2014) and researchers seeking to assess the issue of product design complying EU normatives, with relative experimental tests. The problem of integrated safety and quality product management has been earlier investigated only in process management (Brun et al., 2011; Savino et al., 2014), and within the framework of concurrent collaborations among the various function for product's supplying (Derrouiche et al., 2010).

This special issue raised from two seminal works, the first of Mazza et al. (2012), concerning product lifecycle management tools for product conformity and the second one of De Chiaro et al. (2013) relative to product development under normative constraints. In these works, the first seminal approaches for complying with CE normative during product development were dealt. With these two papers, the authors set the basis for exploring the concept of complying with CE regulations within design lifecycle, so giving the start to an almost unexplored research field.

In seeking to achieve goals of further contribution to the body of knowledge in this under-researched area, the review process brought to eight high-quality contributions to theory and practice. An important overall finding is that multiple and diverse case study and theoretical perspectives may inform and increase knowledge on how to comply with normative without expensive modification after product testing.

The research papers published in this special issue demonstrate the wide scope of theories, subject matters, and geographical areas that may be considered in the investigation of product development and product lifecycle management. Yet, despite their marked differences of scope and scale, the studies appear to dovetail on the vital importance of effective management at organisational, project, and people levels. Relationships play an important role when seeking to achieve responsibility as regards to CE requirements. The authors of this focused issue acknowledge that they have only explored a small number of the potential research avenues. Therefore, each study provides strong evidences that lifecycle design and product development should need of further research.

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