THEMATIC SESSION: TS16

Title: **Improving supply chain sustainability in an industry 4.0 setup through circular economy**

Conference associated Topic: Sustainable Supply Chains

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Abstract: **The prevalence of connectivity, through the Supply Chain digitalization, will accelerate and streamline the processes within and between companies creating new ways to generate value. The question is: how can these technological advances be harnessed to enable a Supply Chain sustainability? The Industry 4.0 is already increasing efficiency in the linear model 'take, make, dispose' economy. Could it also, however, enable a less resource-dependent Circular Economy that is restorative and regenerative which aims to keep products, components, and materials at their highest utility and value? The development towards Industry 4.0 will influence the way Supply Chains are configured, designed and managed. Additionally, new and disruptive business models are evolving around the Circular Economy change. By breaking down structural barriers established over time between production and consumption or use, an Industry 4.0-enabled Circular Economy offers considerable opportunities for a multitude of sectors. It is defended that the Industry 4.0 and Circular Economy will be a step forward towards more sustainable industrial value creation, but it will also contribute to the three dimensions of Supply Chain sustainability: economic, social and environmental? This special session intends to present the latest developments in the field and set the state-of-the-art, especially with the application of quantitative and qualitative techniques to demonstrate the interfaces that exist between Supply Chain Sustainability, Industry 4.0 and the Circular Economy.**

Keywords: *Supply Chain Sustainability, Industry 4.0, Circular Economy*