

**Special issue on the theme:**

**Supply Chain 4.0 : roles and opportunities of industrial management**



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**CALL FOR PAPERS**

Over the past 30 years, the Supply Chain has undergone fundamental changes. With the advent of the digital revolution in the Industry 4.0 era, a whole new paradigm has been born. It's all about new devices that serve to increase sales, create more value and retain it. It is no longer just about delivering the right quality at the lowest cost with the agreed upon level of service. In this new context, the Supply Chain is expanding to connect its partners with systems where information is a central element. In addition, manufacturers are also innovating by offering their customers a wider range of personalized, targeted and intelligent products.

Supply Chain 4.0s take a dominant position and require manufacturers to take responsibility for the entire value chain directly to the end customer. In addition, its partners must be able to provide an end-to-end service oriented and targeted towards the end customer. Flows and processes would be controlled and analyzed along the entire value chain. Moreover, there are adjustments to the entire cycle based on customer information and its analysis via tools such as Big Data Analytics (BDA) and the Internet of Things (IoT). However, when there is a lack of data, a situation which is all too common, the information can only be estimated, sometimes with unreliable sources.

Anticipating these potential evolutions represents the key element in Supply Chain 4.0 but also constitutes a real challenge for the researchers of our community.

This Special Issue welcomes high quality submissions seeking to address some of these research questions but is not limited to them. Indicative themes for the Special Issue (though these are not restrictive) are, for example :

- ✓ Approaches to modeling, optimization, planning and decision support of the Supply Chain 4.0.
- ✓ Which impacts of Industry 4.0 affect Supply Chain 4.0? (especially on the implementation of the supply chain?)
- ✓ What is the role of information, data (quantity, quality, reliability, availability ...), data production and analysis methods in the planning and management of the supply chain of the future? (Vision data-driven supply chain planning and management).
- ✓ What are the impacts of digital innovations (big data, geolocation, connected/intelligent objects, warehouse of the future, blockchain, etc.) on the Supply Chain 4.0?
- ✓ What IS the impact of digital innovation (big data, geolocation, connected/intelligent objects, warehouse of the future, blockchain, etc.) on the Supply Chain 4.0?

- ✓ What are the challenges and opportunities of innovation (in the broadest sense: products, services, business strategies and practices, technologies and logistics processes) in the improvement and resilience of supply Chains in the future?
- ✓ What is the role of supply chain innovation in the performance of Industry 4.0?
- ✓ What changes can industrial management methods (project management, production management, predictive maintenance, demand forecasting, logistics management and transport management, etc.) undergo with the new technological and organizational advances of the Supply Chain 4.0?
- ✓ Which collaborative strategies can we apply, with partners for Supply Chain 4.0?
- ✓ How can sharing information and collaboration be integrated into the Supply Chain 4.0?
- ✓ What developments do we need, in terms of traceability of flows, flexibility, reactivity and adaptability of Supply Chain 4.0?
- ✓ Which analytical methods and techniques do we need to apply to Supply Chain 4.0?
- ✓ What are the changes caused by IoT on the management within Supply Chain 4.0?
- ✓ What are the synergies between sustainable urban logistics and smart cities and Supply Chain 4.0 ?

La Revue Française de Gestion Industrielle, being a place of scientific exchanges between the academic and industrial world, the expected works must have both a scientific basis (research problem, use of rigorous methods, development of a research methodology, verifiable and rigorous results) and be of practical interest and utility. Applied research on industrial cases will be particularly welcome.- Which methodologies should be used to evaluate SC 4.0? (Qualitative, Quantitative, mixed ...)

**Key words:** Supply Chain; Industry 4.0; Data Oriented Supply Chain; Internet Of Things (IoT); Warehouse of the Future; Optimization; Supply Chain Innovation; Collaborative Supply Chain.

### **Submission:**

All papers should be submitted through the Journal's website (Tab: For Authors: [New Submission](#)) by September 30, 2021.

### **Timeline:**

- ✓ **Articles proposals submissions:** September 30, 2021
- ✓ **First return of revisions:** October 30, 2021
- ✓ **Submission of corrected articles:** November 15, 2021
- ✓ **Finalization of the issue:** November 30, 2021
- ✓ **Indicative publication of the issue:** December 2021

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## References:

- Babiceanu, R. F., and R. Seker. 2016. "Big Data and Virtualization for Manufacturing Cyber-physical Systems: A Survey of the Current Status and Future Outlook." *Computers in Industry* 81: 128–137. doi: 10.1016/j.compind.2016.02.004.
- Bidet-Mayer, T. 2016. *L'industrie du futur : une compétition mondiale*. Paris : Presses des Mines.
- Derrouiche R. & Lamouri, S. (2020) Numéro spécial : « Supply Chain 4.0 », *Logistique & Management*, 28:1, 1-3, DOI: 10.1080/12507970.2020.1718335
- Dijkman, R. M., B. Sprenkels, T. Peeters, and A. Janssen. 2015. "Business Models for the Internet of Things." *International Journal of Information Management* 35: 672–678. doi: 10.1016/j.ijinfomgt.2015.07.008.
- Lee, J., B. Bagheri, and H. A. Kao. 2015. "A Cyber-Physical Systems Architecture for Industry 4.0-based Manufacturing Systems." *Manufacturing Letters* 3: 18–23. doi: 10.1016/j.mfglet.2014.12.001.
- Moeuf, A., R. Pellerin, S. Lamouri, S. Tamayo, and R. Barbaray. 2018. "The Industrial Management of SMEs in the Era of Industry 4.0." *International Journal of Production Research* 56 (3): 1118–1136. doi:10.1080/00207543.2017.1372647.
- Moeuf, A., S. Lamouri, R. Pellerin, S. Tamayo, and V. E. Tobon. 2019. "Identification of Critical Success Factors, Risks and Opportunities of Industry 4.0 In SMEs." *International Journal of Production Research*, 1–17 JCR. doi:10.1080/00207543.2019.1636323.
- Rosin, F., P. Forget, S. Lamouri, and R. Pellerin. 2019. "Impacts of Industry 4.0 Technologies on Lean Principles." *International Journal of Production Research*, 1–18 JCR. doi:10.1080/00207543.2019.1672902.
- Schumacher, A., S. Erol, and W. Sihn. 2016. "A Maturity Model for Assessing Industry 4.0 Readiness and Maturity of Manufacturing Enterprises." *Procedia CIRP* 52: 161–166. doi: 10.1016/j.procir.2016.07.040.
- Seiger, R., C. Keller, F. Niebling, and T. Schlegel. 2015. "Modelling Complex and Flexible Processes for Smart Cyber-physical Environments." *Journal of Computational Science* 10: 137–148. doi: 10.1016/j.jocs.2014.07.001.
- Shiyong, W., W. Jiafu, D. Li, and Z. Chunhua, 2016, Implementing Smart Factory of Industrie 4.0: An Outlook, *International Journal of Distributed Sensor Networks*, (4): 1–10. doi:10.1155/2016/3159805.
- Terkaj, W., T. Tolio, and M. Urgo. 2015. "A Virtual Factory Approach for in Situ Simulation to Support Production and Maintenance Planning." *CIRP Annals* 64: 451–454. doi: 10.1016/j.cirp.2015.04.121.
- Trappey, A. J. C., C. V. Trappey, U. Hareesh Govindarajan, A. C. Chuang, and J. J. Sun. 2016. "A Review of Essential Standards and Patent Landscapes for the Internet of Things: A Key Enabler for Industry 4.0." *Advanced Engineering Informatics*. doi: 10.1016/j.aei.2016.11.007.