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— Call for Papers —
Special Issue:
Smart and Sustainable Supply Chain and Logistics – Trends, Challenges, Methods and Best Practices

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As a result of the positive and inspiring responses by the academic and wider community to the recent research on where supply chain management, logistics, inventory and production management meet the goals of sustainability and become supported by emerging smart technologies, operations research and recent advances in mathematics, the 15th International Congress on Logistics and SCM Systems (ICLS 2020) will be celebrated in Poznan, Poland on July 1–3, 2020 (http://icls2020.put.poznan.pl/). The Guest Editors of this special issue of *Annals of Operations Research* welcome submissions on the subjects of ICLS 2020's special theme: **Smart and Sustainable Supply Chain and Logistics – Trends, Challenges, Methods and Best Practices**.

The increasing digitalization of the processes in logistics and the need for more integrated and seamless cooperation in logistics, supply chain, inventory and production management currently belong to the dominant trends in the business world. Moreover, the pressure for CO_2 emissions reduction and more resource-efficient business and waste management models strongly influence the organization of logistics operations on both a local and global scale. The integration of physical and cyber systems is necessary in order to achieve more environmentally friendly, efficient, safe logistics, supply chain, inventory and production operations.

The continuously expanding pools of managerial data and the sets of environmental and technical constraints have triggered the development of new mathematical models that ought to be the foundations of most advanced simulation and decision making techniques that are just what the business and economic areas of logistics, supply chain, inventory and production management urgently require. All of these emerging problems are facing the high obstacle of *uncertainty* that has become the striking characteristic of the many items included in the operations aforementioned, at every stage and every moment. Here, we also mention stochastic disruption and regime switching. All the smart processes of learning, improvement, optimization and control under uncertainty are core purposes of modern operations research, data mining, analytics, machine learning and artificial intelligence (AI) that will be discussed, used and refined in this special issue.

This special issue will cover a wide range of subjects in the fields of logistics, supply chain management and related topics that employ and further create advanced operations research (OR) and management science (MS) approaches, theories and methods. The potential scope therefore includes, but is not limited to, the following areas, methodologies and challenges of logistics (L), supply chain management (SCM), inventory management (IM) and production management (PM):

Sustainability in L, SCM, IM and PM:

- o Closed-loop SC (reuse, recycling, remanufacturing)
- o Waste management
- o Green L
- o Green sourcing and procurement
- o Green mobility
- o Green routing with time windows and intermediate depots

- o Reverse L
- o Human factors
- o Ethics in OR/MS
- o Sustainability assessment
- o Challenges in a circular economy

Smart L, SCM, IM and PM:

- o Recent advances in OR/MS, data mining, analytics, machine learning and AI
- o Digitalization
- o Data mining and analytics applications
- o Machine learning and AI applications
- o IoT applications
- o Interval, polyhedral, ellipsoidal, fuzzy, rough sets, grey systems and stochastic goals
- o Future intelligent transportation systems
- o Conic scalarization in multi-choice and -objective transportation problems
- o Multi-objective two-stage grey transportation problems
- o Multimodal processes approach
- o IM with variable holding cost, multi-level trade-credit policy
- o IM with stock-dependent demand and variable holding cost for deteriorating items
- o IM with shortage under stochastic deterioration
- o PM with overtime and outsourcing
- o L, SCM, IM for humanitarian applications
- o L, SCM, IM and PM in social media and networks
- o L, SCM, IM and PM in the Cloud
- o TOPSIS method
- o Modelling, simulation and optimization
- o Stochastic calculus, pricing and optimal control

Recent Trends and Best Practices in L, SCM, IM and PM:

- o Intralogistics
- o Maintenance L
- o Lean L
- o Sustainable and biological energy production
- o Logistics excellence
- o Last-mile distribution
- o Uncertainty and countering strategies
- o Performance assessment
- o Resilience
- o Innovations
- o Stochastic deterioration
- o Two-warehouse probabilistic model with price discount
- o Price- and stock-sensitive demand
- o Imperfection with inspection policy
- o Dual hesitant fuzzy transportation problem
- o Solid transportation-p-facility location problem
- o Games and stochastic games
- o Data mining, analytics and machine learning of stochastic disruption and regime switching
- o Management, optimization and control under stochastic disruption and regime switching

The use of methods from modern *operations research* **in** *logistics, supply chain, inventory or production* is a prerequisite for any paper submitted to this special issue to enter the reviewing process.

Instructions for Authors can be found at:
https://www.springer.com/journal/10479/submission-guidelines

Authors should submit a cover letter and a manuscript by **October 15, 2020**, via the Journal's online submission site. Manuscripts submitted after the deadline may not be considered for the special issue and may be transferred, if accepted, to a regular issue.

Please see the Author instructions on the web site if you have not yet submitted a paper through Springer's web-based system, **Editorial Manager**. When prompted, please select the special issue's *title* "**Smart and Sustainable Supply Chain and Logistics – Trends, Challenges, Methods and Best Practices**" to ensure that it will be reviewed for this special issue.

Papers will be subject to a strict review process under the supervision of the Guest Editors, and accepted papers will be published online individually, before print publication.

Important Dates
- Full paper submission deadline: **October 15, 2020**
- Final decision notification: **July 30, 2021 (tentatively)**
- Publication: **October 15, 2021 (tentatively)**

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