# Industrial Management for Industry 4.0 – Simulation System to Support Learning of Opportunities and Challenges of Dealing with Real-Time Data

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**Abstract.** The fourth industrial revolution brings many opportunities for the exploration of new business models, based on increasing digitalization that ultimately enables the prediction of the behavior of systems. Several challenges may be identified in the Industrial Management (IM) field. One of the most relevant is the opportunity to deal with real-time data and adapt the decision-making processes with agile approaches. IM learners will need to increase their awareness of these opportunities and challenges, both in professional training and in higher education. Thus, this study proposes a simulation system to support the learning process of opportunities and challenges to deal with big data from production systems' sensors. The proposed simulation system implements simple dispatching rules for the jobs entering the production queue. Additionally, the system allows the creation of many coupled machines, each one associated with a one-level bill of materials, and a set of sensors delivering data to an excel file simulating a cloud. The study will show how to use the data in a learning experience for learners to understand the high amount of data delivered by sensors and the type of information and decisions it allows.

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