

Special session**Deadline: 15 May 2020****Title:****4.0 Key Performance Indicators and Decision-Making Dynamics****Organised by (names, affiliations and emails)**Lamia Berrah, LISTIC - Université Savoie Mont Blanc, lamia.berrah@univ-smb.frVincent Clivillé, LISITC – Université Savoie Mont Blanc, vincent.cliville@univ-smb.frFrançois Vernadat, LGIPM - UFR MIM Université de Lorraine, vernadat30@gmail.com**Abstract:**

To cope with the QCD (Quality-Cost-Delay) triptych, Performance Indicators (PI) of the post-Taylorian industrial systems were focusing on the dual challenge of optimising internal efficiency and increasing external customer satisfaction. Overall Equipment Effectiveness (OEE) and Service Rate are two major examples of KPIs of this period. Some extensions have then been realised, progressively integrating the innovation and sustainability dimensions. In the current digital era, industrial systems are becoming more sophisticated, offering many new functionalities, leading to new paradigms in control and performance expressions and relying on new principles such as Cyber-Physical Systems (CPS). Notably, the real-time availability of information constitutes one important opportunity in the Industry 4.0 context, leading to highlighting tools such as MES (Manufacturing Executive Systems) and questioning the organisation of current ERP systems raising new management questions, especially considering the tactical decision-level. Therefore, the purpose of this session is to analyse the consequences of the 4.0 changes on performance measurement paradigms and approaches. It is proposed to revisit the developed frameworks regarding the performance expression point of view, by considering the new criteria to be defined as well as the new ways of handling measurements and making decisions. Three aspects will thus be highlighted.

- New performance criteria and KPIs.
- Evolution of existing PMSs (Performance Measurement Systems)
- PI measurement, scorecard management and decision-making dynamics.

List of topics:

Key Performance Indicators (KPIs)
Performance Measurement Systems (PMSs)
Data analysis
Real-time and Big Data
Performance Management
Decision-making dynamics

Keywords:

KPI, Performance Measurement and Management, Decision-making, Data analysis