

DMIN 2015

Special Session on

“eMaintenance and Maintenance 4.0”

Call for Papers (Special Session)

Organizer: Diego Galar

Production, transportation and other type of assets like health care or facilities are systems extremely complex both with respect to technology and to operations, and involve a wide range of human actors, organizations and technical solutions. For the operations and control of such complex environments, a viable solution is to apply intelligent computerized systems, such as computerized traffic control systems for coordinating transportation, automation systems like SCADA for monitoring and control of production systems and obviously advanced monitoring and diagnostic systems for health assessment for all those systems.

Moreover, modern assets cannot compromise the safety being this a must for operation and maintenance. Indeed safety becomes a more difficult goal to be achieved in the traditional way, and computerized solutions come into the picture as the only feasible option to deal with such complex systems interacting among them trying to balance the growth in technical complexity together with stable and acceptable dependability indexes.

eMaintenance and Maintenance 4.0 describe the fourth generation of maintenance activity which is enabled by smart systems and Internet-based solutions. Two of the characteristic features are computerization by utilizing cyber-physical systems and intelligence that are based on the concept of "internet of things". In this scenario of smarter assets, eMaintenance and Maintenance 4.0 will provide maintenance services like diagnosis and prognosis, predicting failures and optimizing further decisions.

The papers presented in this session will discuss the possibilities that lie within applying the eMaintenance and maintenance 4.0 concepts in asset management. Aspects from data collection from assets such as condition monitoring or work orders until decisions taken based on this huge and disparate amount of data will be addressed.

The topics of interest include, but are not limited to, the following:

- Data taxonomies and ontologies for asset management
- Data Services and servitization of maintenance
- Data Lifecycle in AM
- Data Quality in AM
- Data Complexity in AM
- Data Manipulation in AM
- Data Acquisition in AM
- Data Analytics in AM

- Knowledge Discovery in AM data
- Information fusión
- Maintenance decisión support systems
- AM expert systems
- eMaintenance platforms
- Emaintenance and Maintenance 4.0 hardware solutions

This special session of DMIN'15 will cover all aspects of asset data. The special session will be held during the DMIN conference, July 27-30, 2015, in Las Vegas, Nevada, USA. All papers should be submitted using the standard procedures for DMIN papers (see <http://www.dmin-2015.com/submission.htm>). **For your submission of the draft paper, please select the Track 'eMM4 – Special Session on eMaintenance and Maintenance 4.0'.**

Any questions should be directed to the special session organizer via diego.galar@itu.se or to one of the DMIN conference organizers via special-session-chair@dmin-2015.com or conference-chair@dmin-2015.com.