PROSPECTS 5.0

PROSPECTS 5.0 Industry 5.0 Wiki

Standardization as a Nutshell in Industry 5.0

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Organization : Austrian Standards International

Author : Dipl.-Ing. Dr. Karl Grün

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The digital transformation can benefit industry in many ways, from increasing efficiency to enabling growth. Standards play a crucial role in shaping the digital transformation process, as they provide a common framework for digital technology applications.

Digital Transition is an opportunity for Europe to boost its competitiveness in global markets. European Standards play a key role in this ambition, seeing as they:

1) promote security and safety for products and services
2) build trust in emerging technologies
3) work to find consensus and enable state of the art solutions for Europe

The term Industry 4.0 was publicly introduced in 2011 at the Hannover Fair, Germany. Since them new synonyms were deployed such as Industrial Internet of Things or Smart Manufacturing. Almost ten years later, the term Industry 5.0 was created. It places the wellbeing of the worker at the centre of the production process and uses new technologies to provide prosperity beyond jobs and growth while respecting the production limits of the planet. It complements the existing "Industry 4.0" approach by specifically putting research and innovation at the service of the transition to a sustainable, human-centric and resilient European industry.

In a joint effort the International Organization for Standardization ISO and the International Electrotechnical Commission IEC defined Smart Manufacturing as Manufacturing that improves its performance aspects with integrated and intelligent use of processes and resources in cyber, physical and human spheres to create and deliver products and services, which also collaborates with other domains within enterprises' value chains. Performance aspects include agility, efficiency, safety, security, sustainability or any other performance indicators identified by the enterprise. In addition to manufacturing, other enterprise domains can include engineering, logistics, marketing, procurement, sales or any other domains identified by the enterprise.

Given the complexity of intelligent manufacturing, there are numerous standards in this area, including standards for cybersecurity, interoperability, data exchange and advanced manufacturing. In ISO/IEC TR 63306-2, Smart Manufacturing Standards Map (SM2), Catalogue lists smart manufacturing related standards with their characteristics as specified in ISO/IEC TR 63306-1 SM2 Framework. ISO/IEC TR 63306-2 Catalogue consists of two elements: The document which describes the ISO/IEC TR 63306-2 Catalogue and provides the URL for each of the ISO and IEC repositories which contain the SM2 Catalogue. The actual information about the smart manufacturing related standards (list and characteristics) which is found in both ISO and IEC repositories. The SM2 Catalogue applies to international standards, de facto standards and consortium specifications; publications or projects; thereafter named "standards". ISO/IEC TR 63306-2 is intended for SM2 Catalogue users.

Other documents are provided to SM2 Catalogue contain managers. This comprehensive catalogue can be downloaded from here.

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