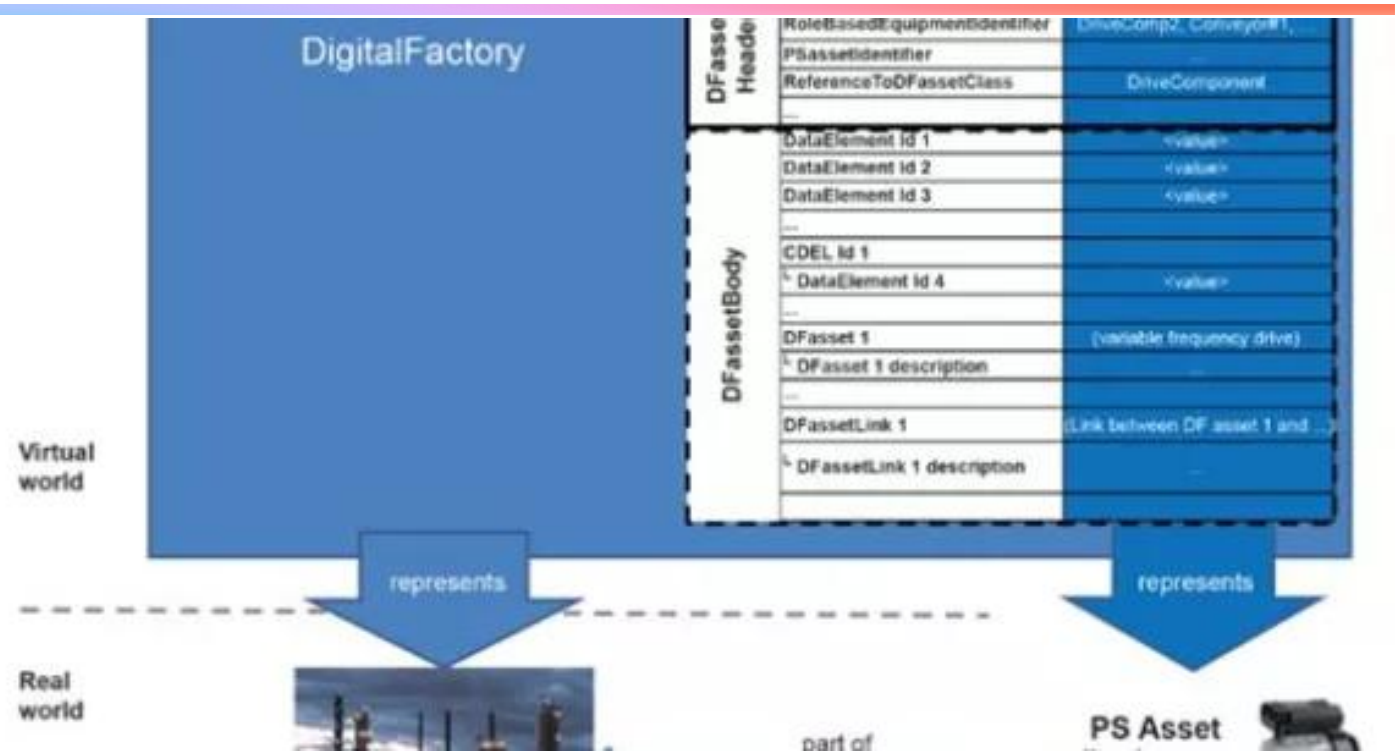


Revised standard to facilitate exchange of information on production system

22 September 2020, 02:00

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The modern world is increasingly interconnected. Departments and enterprises must be able to share the latest and most accurate information about the production system and its operation. The international standard IEC 62832, Digital Factory Framework, which is currently being updated, provides a common reference for the digitisation of data related to production systems.

High performance, flexible dynamic processes, and agile machines and production systems are essential to meet the demands for quality, delivery and cost of the products. This situation spurs the enterprise to exchange product data and production system data in electronic form.

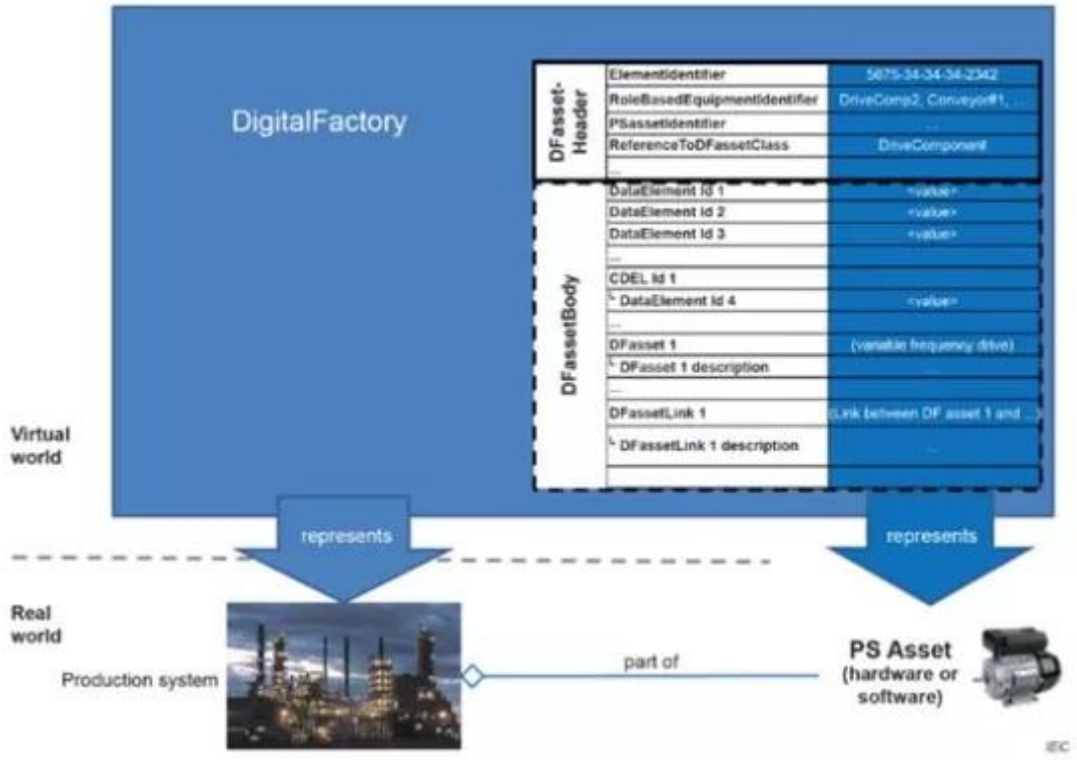
Cost has therefore been a major challenge, as different applications have often required custom implementations in order to make it possible for them to understand and share the same data. Traditionally, this information has been distributed in different formats, including drawings, lists and data sheets. It is presented in different structures and identified differently, for example using different denominations for the same assets or for the same data points. It means the same data must be inputted multiple times and worst of all, the latest information updated in one engineering tool is not automatically reflected in the same data in another engineering tool.

How do standards help to take up this challenge?

In order to manage a production system effectively throughout its life cycle, it is very important to have its digital representation and to maintain the contents appropriately in response to its evolution in its life cycle. Activities related to the production system will access, update, and use the contents of digital representation in order to support the whole life cycle of the production system.

The IEC/TC 65 Working Group 16 is working on a framework for establishing and maintaining the digital representations of production systems, including the elements, and relationships between these elements. The framework is intended also to support the exchange of information about these elements.

The international standard IEC 62832, which is currently being updated, provides a common reference for the digitization of data related to production systems. The framework sets out common rules for utilising data based on computer-understandable data attributes and classifications. It does this by using data dictionaries (for instance IEC CDD, eCl@ss, eOTD) as a common base for identifying and for providing semantic information. These annotated values facilitate the exchange of data within one production system between machines of different manufacturers or between different companies. Digital Factory is the term used in IEC 62832 to



Representation of a production system

Defining the framework as an international standard makes it easier to develop interoperable engineering software and tools, as well as enabling multiple enterprises around the globe to use information collaboratively.

When a company provides a component to another company the first step is to exchange information about the component. With the Digital Factory framework it is able to provide quality data, including data for monitoring the production.

Rather than simply an exchange of goods, it is providing services and information about the services.

The Digital Factory framework

- IEC 62832-1:2020 PRV
  Industrial-process measurement, control and automation - Digital Factory framework - Part 1: General principles
- IEC 62832-2:2020 PRV
  Industrial-process measurement, control and automation - Digital Factory framework - Part 2: Model elements
- IEC 62832-3:2020 PRV
  Industrial-process measurement, control and automation - Digital Factory framework - Part 3: Application of Digital Factory for life cycle management of production systems

Download the information document for a more in-depth look at the IEC 62832 and the Digital Factory framework.

This article has been written within the framework of Standards Cell Industrie 4.0.

Source

- https://blog.iec.ch/2020/09/how-the-digital-factory-framework-facilitates-smart-manufacturing/

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