

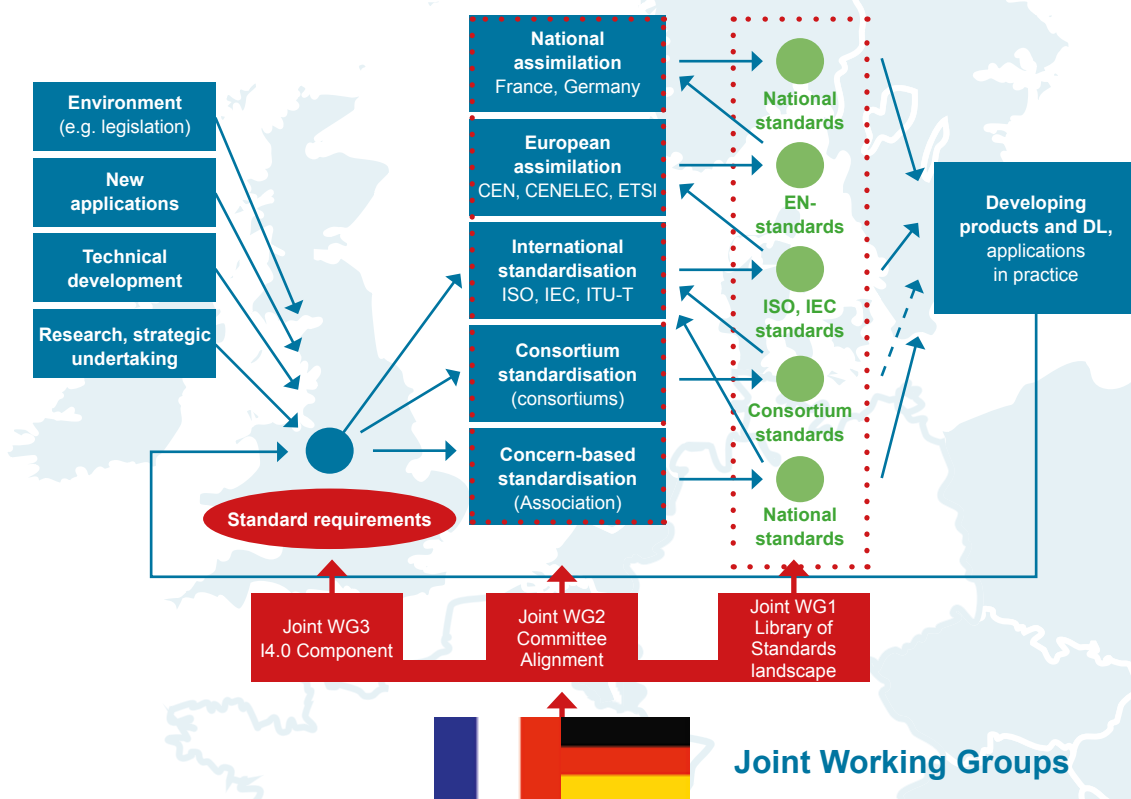
Plattform Industrie 4.0 & Alliance Industrie du Futur

Joint working program 2017 for Convergence in standardization

The shared Action Plan from 26th April 2016 of Plattform Industrie 4.0 and Alliance Industrie du Futur announced, that a shared roadmap will be available by the end of the year 2016. Following this action plan, experts from Germany and France are working together for the preparation and implementation of Standards for Industrie 4.0/Industrie du Futur.

Standardisation as a driving force for innovation

Standards create a secure basis for technical procurement, enable interoperability in applications, protect the environment, plant, equipment and consumers by means of uniform safety rules, provide a future-proof foundation for product development and assist in communication between all those involved by means of standardised terms and definitions.



Picture 1: Standardisation Joint Working Groups
Source: Plattform Industrie 4.0

Common approach

Standardisation is a key issue for the success of a Smart Manufacturing vision of our industries in France and Germany. Industrie 4.0 / Industrie du Futur requires an unprecedented degree of system integration across domain borders, hierarchy borders and life cycle phases. This is only possible if it proceeds from standards and specifications based on consensus. Therefore a close cooperation between France and Germany will force together the concepts to the international level.

Within the complex standardisation landscape (Picture 1) we are addressing three fields of action for our common approach:

- Standards landscape with its reference model and library
- Alignment of German and French experts in international standardisation bodies
- Work on Industrie 4.0 component concept, its administration shell and Smart Manufacturing Architecture Framework

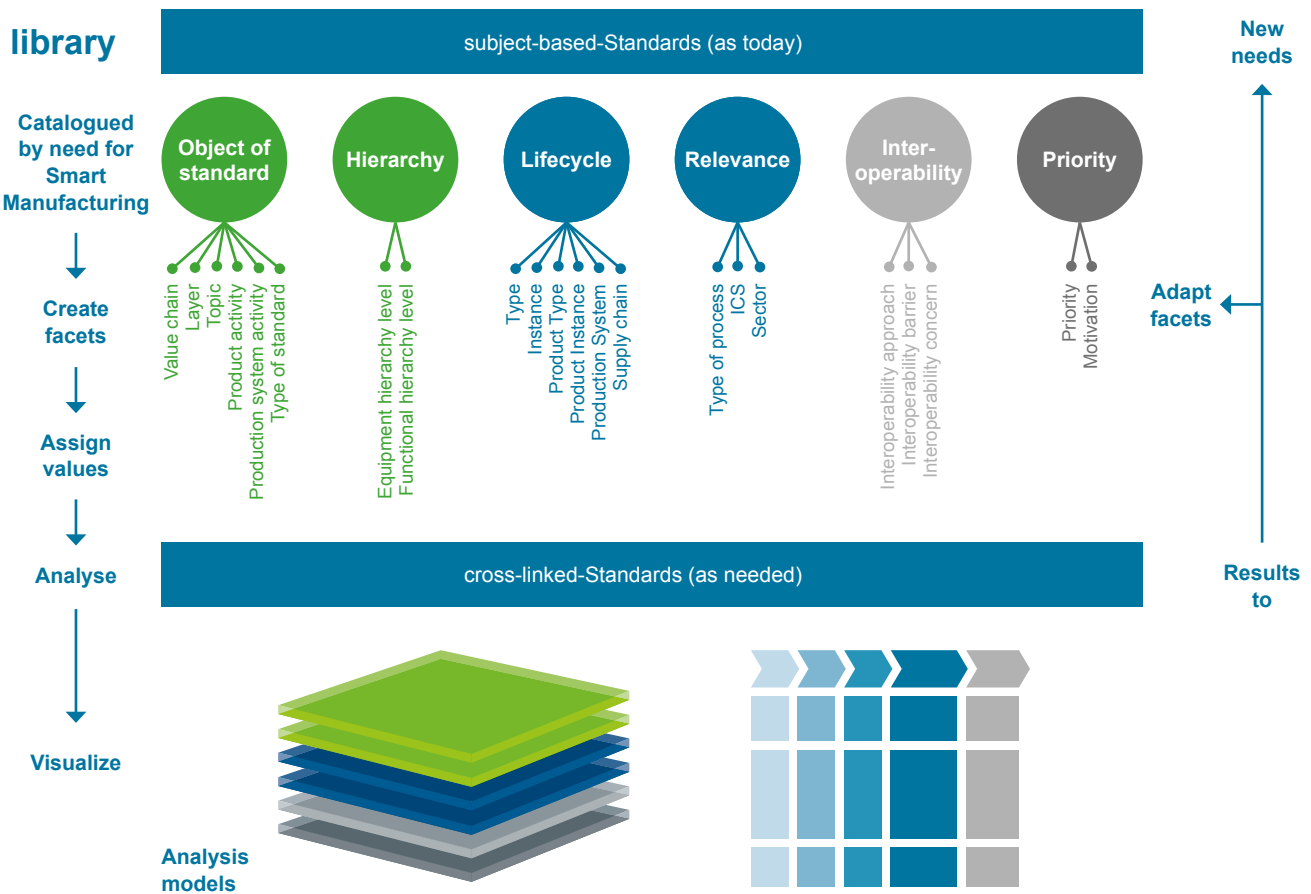
Those three Joint Working Groups are setting up to develop our common objective.

Joint Working Group1: Standards landscape

This JWG aims to build a common standards landscape where all aspects of Smart Manufacturing will be addressed.

The framework for the Smart Manufacturing standards landscape enables the standardisation stakeholders to identify for each concerned standard or standardisation project the relevant characteristics related to its potential role and the impact of its use in the industry.

Industrie 4.0 / Industrie du Futur needs a consistent set of standards which are today mostly subject-based with their detail view developed from dedicated committees or consortia. By structuring the library with facets, the dependency between the standards and the relevance of each standard will be pointed out. This will help to identify standards to modify, or even to develop new cross-linked standards.



Picture 2: Methodology to build the common standards landscape
Source: Alliance Industrie du Futur

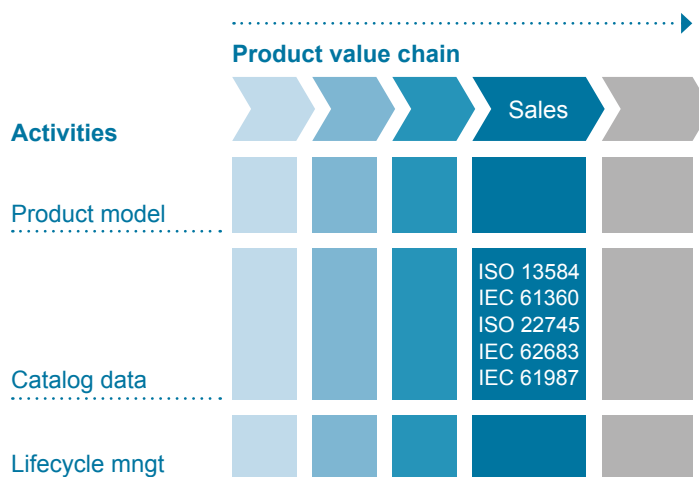
The core item is the library, filled with standards from IEC, ISO and consortia. The huge amount of existing standards needs to be analyzed by facets to grasp them into the appropriate content and generate an added value. It allows to identify gaps and redundancies between standards and to make decision concerning standardisation projects and the use of standards. Any new insight may lead to adapt new facets which are possibly not known yet.

JWG1 has agreed on the list of facets and developed a first 1st version of the library of standards. These documents will

be proposed by France at IEC level. JWG1 is planning to propose a working process at IEC/ISO level to maintain this library of standards.

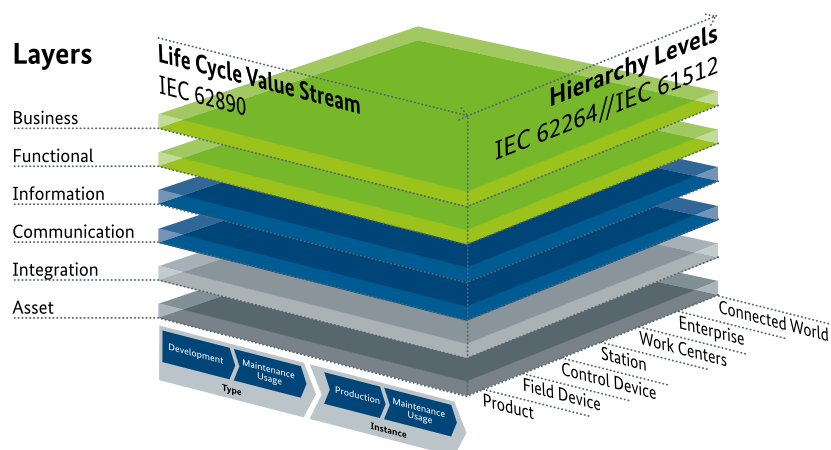
Different representations can be generated from the standards library. The type of graphical representation depends on the view point that is needed for the investigation.

A 2D-representation may be needed to analyze in detail the standards landscape in the product value chain according to different activities (see Picture 3).



Picture 3: Example of graphical 2D representation
Source: Alliance Industrie du Future

A 3D-representation may be needed to analyze the standard landscape according to layer, life cycle and hierarchy level facets in overall (see Picture 4).



Picture 4: 3D-representation through RAMI4.0
Source: Plattform Industrie 4.0 and ZVEI

Joint Working Group2: Committee Alignment

We need to coordinate, in accordance with our common standardisation strategy, the various existing standardisation activities concerning Smart Manufacturing as there are many different organizations and working groups in which German and French officers and experts are involved.

We set up, by beginning of 2017, JWG2 in charge of:

- Inventorying the bodies to influence and coordinate
- Defining strategy and actions to be conducted in those

bodies to get the adoption of our common German-French approach at international level

- Insuring the coordination with German and French experts involved in those bodies.

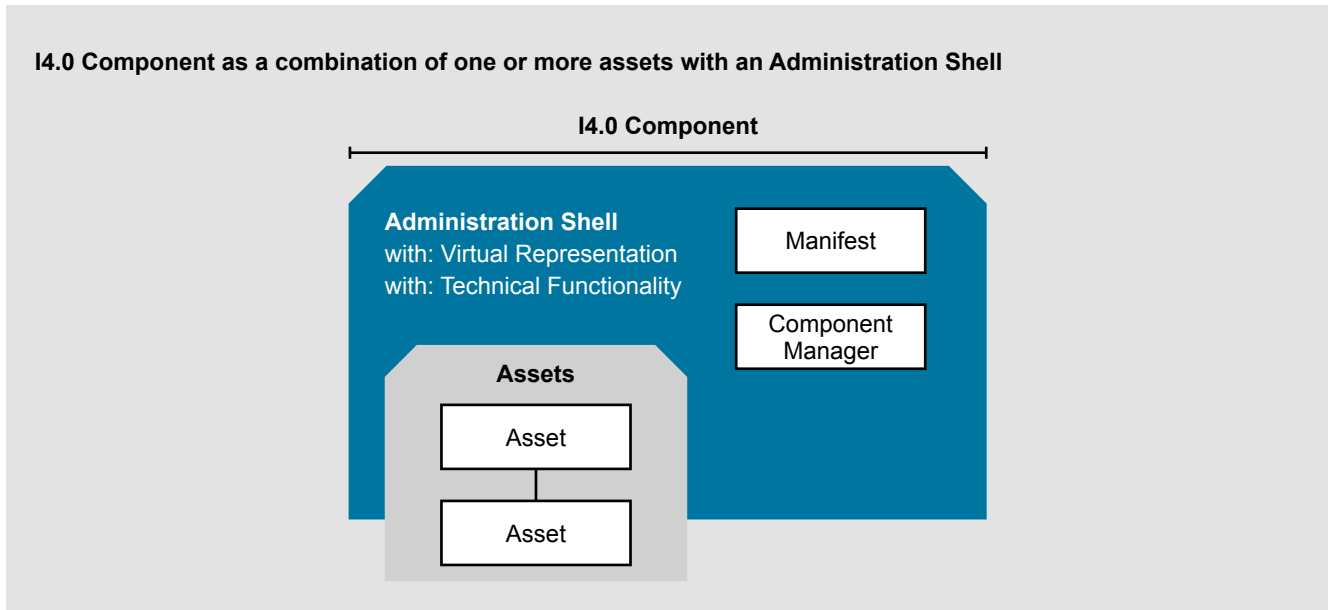
Based on the JWG1 library of standards, those standards and their committees which are indicated with mid and high prioritization will be the starting point for the coordination work.

Joint Working Group3: Administration shell

The Industrie 4.0 component is a reference model for linking the assets in the real world with their digital representations describing the cyber-physical systems.

The Industrie 4.0 component enables interoperable description of the capabilities of real objects in a production environment networked with virtual objects and processes.

To ensure the Interoperability between the asset and the virtual representation a set of common communication, data exchanges and functions must be defined and managed by a container referred to as an “administration shell” in Industrie 4.0.



Picture 5: Industrie 4.0 Component

Source: ZVEI SG Modelle und Standards

The main task for 2017 is to define the content and mechanism of this container, its detailed description and how requirements from different stakeholder can be merged into the standardisation process.

- Collect the requirements from stakeholders
- Define the role of the administration shell
- Define content and mechanism of the administration shell

- Identify the associated standards
- Propose the implementation through standardisation projects

A detailed working schedule between France and Germany will be set up by end of February 2017.

Imprint



STANDARDIZATION
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