DIN SPEC 92222

Reference Model for Industrial Cloud Federation

DIN SPEC 92222 CASE STUDY

Pioneering Industrie 4.0

The background

Industrie 4.0 is a dynamic environment for the implementation of innovative applications, service concepts and data-driven business models. Operators of machines and plants often make use of the IT services offered by third parties as these are important for ensuring the continued success of their businesses. As a consequence, they are required to share data of their heterogeneous machines and their components from typically different vendors with a multitude of external companies. Furthermore, it is often the case that IoT applications not only need this data, but also need access to selected software functionalities of a machine or its components via remote services.

The DIN SPEC

To enable uniform access to data and software functions of machines and their components, there needs to be a standardized means of communication between these field devices and cloud services. This is where DIN SPEC 92222 comes into play. It looks at the communication of machines (in particular so-called edge components) with the cloud of the manufacturing company, as well as communication between cloud systems of other companies (suppliers). An edge component can be any field device, such as a sensor, actuator or control system, that is suitable for compliant cloud communication. DIN SPEC 92222 defines a reference model for the Industrial Cloud Federation: It looks at concrete applications and sets out interoperability criteria such as transport protocol requirements and essential basic services to which the actors in Industrie 4.0 can refer. In this way, the specification helps ensure communication between different cloud systems and the machines, irrespective of who is the manufacturer.

The benefits

DIN SPEC 92222 gives innovations and data-driven Industrie 4.0 business models a coherent framework. It unifies the requirements of

Our partners (among others)

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"DIN SPEC 92222 paves the way for data-driven business models and innovative services in Industrie 4.0."

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different stakeholders, whether these are machine builders or plant operators, vendor of components or providers of cloud platforms or cloud services. There are many advantages for the engineering sector: Well defined rules governing conformity mean that plant operators retain control over their data and their infrastructure. In addition, uniform application and transport protocols reduce the amount of time and effort spent on application maintenance. And uniform standards mean that operators are not dependent on any one platform and it is much easier to integrate another cloud solution. Yet another advantage is the simplification of communication from field to cloud and of access from cloud to machine. The specification also supports new service models such as pay-per-use concepts.

The collaboration

31 institutions and companies from all the areas mentioned above have worked together to develop DIN SPEC 92222. To formulate recommendations for action that are as close as possible to actual practice, the project partners chose to take a new collaborative, agile approach which involved developing the specification in workshops. Concrete use cases served the partners as the starting point for defining general solution concepts. DIN SPEC 92222 is available for download free of charge at www.dinmedia.de.

About DIN SPEC

The success of a good idea often depends on how long it takes to reach the market. With a DIN SPEC, it is possible for companies – from start-ups through medium-sized enterprises to large companies – to set a new standard in an agile and uncomplicated way within only a few months. In this process, the DIN SPEC is firmly connected to the names of the innovators and thus represents an effective marketing instrument which, thanks to the worldwide respect for the DIN "brand", is widely accepted by customers and potential partners alike. DIN's job is to ensure that a DIN SPEC does not conflict with any existing standards and to publish it internationally. Any DIN SPEC can be used as a basis for developing a full standard.

Five reasons for DIN SPEC

- Fast: DIN SPECs can be developed and published within only a few months.
- Acknowledged worldwide: The DIN "brand" is well established worldwide and creates great trust on the market. This makes innovations and companies accepted by potential users and investors alike.
- Agile Networks: The DIN SPEC process promotes the exchange with important market participants. This helps to expand networking with key players: As a result, the needs of manufacturer and customer alike are covered by a common specification.
- Easy handling: DIN organizes the entire DIN SPEC process from beginning to end. This saves you time, letting you concentrate on content and networking with your partners.
- Direct Plug & Play: The DIN SPEC process makes sure innovations are up-to-date with the latest technology. Users thus have no trouble working with the standard immediately.

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