

# Technical Paper

February 2023

More efficiency with structured data:

## For efficient maintenance

**Nordheim – February 10, 2023 – Implementing smart maintenance is an essential strategy in the processing industry. In new or modernized plants, it can reduce downtime, increase safety and promote maintenance efficiency among plant operators. However, plant engineers often need access to an appropriate document database. From the point of view of the valve manufacturer AS-Schneider, structured product data and associated documentation create the basis for efficient maintenance and transparent processes.**

"As per my experience, plant engineers are increasingly asking their suppliers to organize component documentation in a particular format. The VDI 2770 standard is significant in this context," explains Michael Hasselbach, Digital Innovation Lab Expert at the AS-Schneider Group. The standard specifies the format in which digital manufacturer information must be made available in order for manufacturers, plant operators, and outside service providers to readily transfer and automatically process documents. This avoids data confusion between companies.

The varied information is arranged into so-called document containers (ZIP files), in accordance with standard VDI 2770. Components such as valves should be provided with a unique identifier, ID for short. For instance, this can be carried out in accordance with the requirements of the IEC 61406 standard. The ID needs to be linked to a corresponding order at AS-Schneider after which it needs to be encoded in a QR code or RFID tag. The document containers hold data in various formats. These include machine-readable XML files for simple customer-side integration with third-party software and human-readable PDF files for

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maintenance staff, operators, engineers, and plant engineers. "However, the original data can also be used to gather data for in-depth research. The VDI 2770 standard classifies the manufacturer's data into the categories of identification, technical characteristics, activity-specific docs, and contract documents to provide a clear directory," describes Michael Hasselbach.

### **Fast access to technical information**

According to AS-Schneider, employing structured data has a wide range of benefits. For example, quick access to technical information is possible for efficient maintenance and repair. Information reaches the maintenance technician quickly. Processes become more transparent, and optimization opportunities can be identified more easily. The integration of newly acquired equipment into existing plants is easier.

At the end of 2021, a new industry committee was established - a merger of the IEC 61406 and VDI 2770 standards groups. It resulted in the Digital Data Chain Consortium (DDCC). "Out of its work came a third technology known as the Information Exchange Platform IEP. IEPs operate in cloud-based environments. This supports the easy transfer of VDI 2770 ZIP files from vendors like AS-Schneider to third parties," says Michael Hasselbach.

### **More flexibility due to various formats**

Plant engineers benefit from data exchange via IEPs, according to AS-Schneider's experience. It enables quick accessibility of every employee in the plant and short response times. The availability of data in different formats increases flexibility. The standardized format according to VDI 2770 brings more freedom. If necessary, providers can be changed immediately and without a drawn-out conversion process. "Additionally, there is an improvement in communication between manufacturers, operators, and service providers. This reduces errors and saves a lot of time," explains Michael Hasselbach.

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Plant engineers should collaborate with manufacturers who have experience compiling, organizing, and conveying digital information, proposes AS-Schneider. Important inquiries must be addressed: Does the supplier have funds set up for digital departments and internal digitalization processes? Exist any cross-functional teams with strategic objectives to prevent digitalization from being pursued solely for its own sake? However, there is additional homework for plant engineers. It is crucial to learn about recent advancements, especially those including IEP solutions, through industry associations or committees. Internally, a procedure for handling digital documentation should be started.

### **Intensive client use**

The combination of the VDI 2770 standard and cloud-based data provision is bearing fruit in the market. Michael Hasselbach: "Our customers are making intensive use of the benefits of normalized product data, for example, to make maintenance faster and safer. All teams work with the same information from just one source. Some customers even want to make the provision of structured product documentation mandatory for their suppliers in the near future."

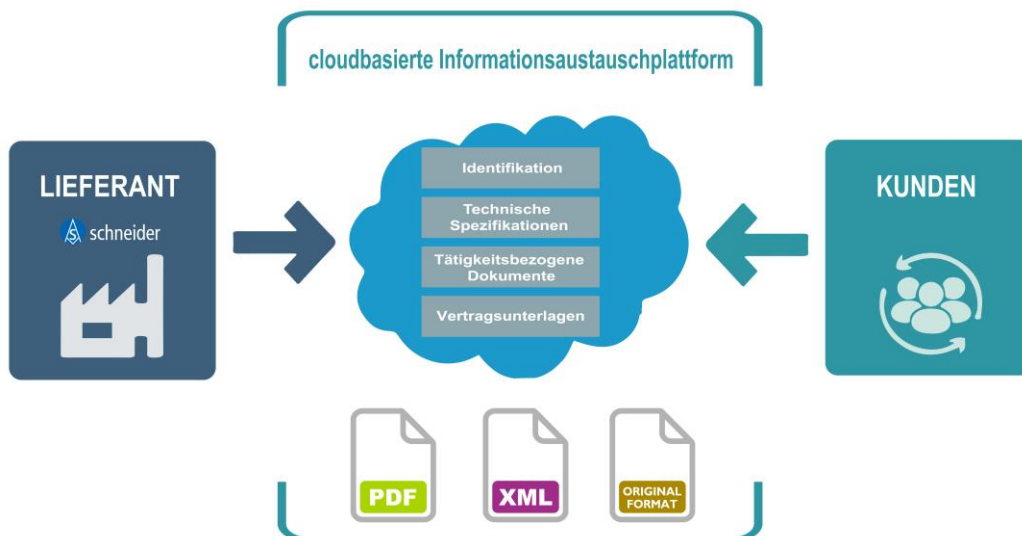
And for plant engineers who do not yet have experience with digitized data, he has some advice: "I encourage you to take the plunge. You won't regret it."

**Scope:** 4,974 characters including spaces

**Captions:**



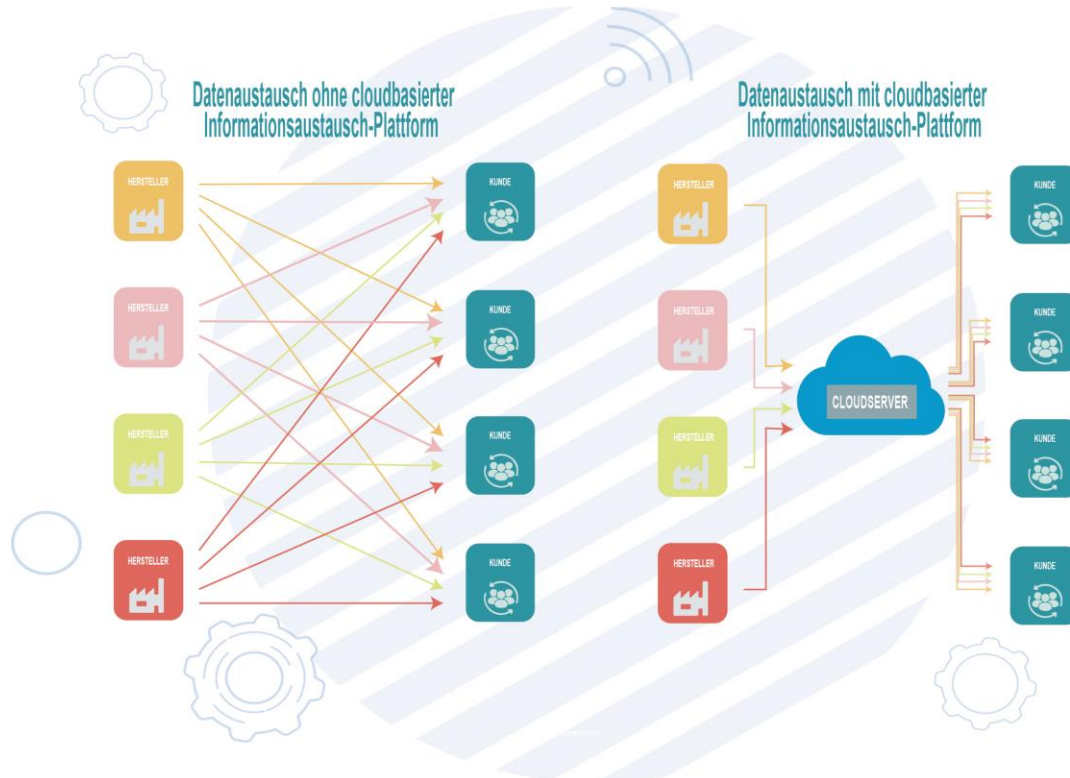
**Picture 1:** According to the VDI 2770 standard, the various information is grouped in so-called document containers (ZIP files) and provided in various formats such as PDF, XML and original.



**Picture 2:** Data provision according to VDI 2770 standard via so-called cloud-based information exchange platform.

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**Picture 3:** In the future, thanks to their interoperability, IEPs will no longer be limited to one provider and its specific application. This means that all stakeholders can use the solution depending on their individual access conditions.

**Pictures by:** Armaturenfabrik Franz Schneider GmbH + Co. KG

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## **About AS-Schneider**

AS-Schneider is one of the world-wide leading manufacturer of Instrumentation and DBB Valves. Our 145 years of experience are built upon the close cooperation with our customers and engagement in industry associations.

Our purpose is to help our customers to make their application more safe, efficient, and environmental friendly (e.g. by the fulfillment of the TA-Luft). Since 20+ years we offer valves supporting the media hydrogen. Our portfolio is suitable for up to 100% hydrogen service. On top, we support the digitalization of the process industry e.g. by our DIN SPEC 91406 (IEC 61406) compatible Digital Product Pass which provides easy access to technical product information or our Digital Valve Kit for remote access and remote control of the valves as well as the ability to monitor the current health status of the installed valves.

With our own subsidiaries in Romania, Singapore, Dubai (UAE), Houston (USA), India and professional partners in more than 20 countries worldwide, we are located everywhere our customers need us.

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