THE STRONGEST LINK.

STAHL

DIGITAL TWINS: LEADING INTO A SAFE FUTURE

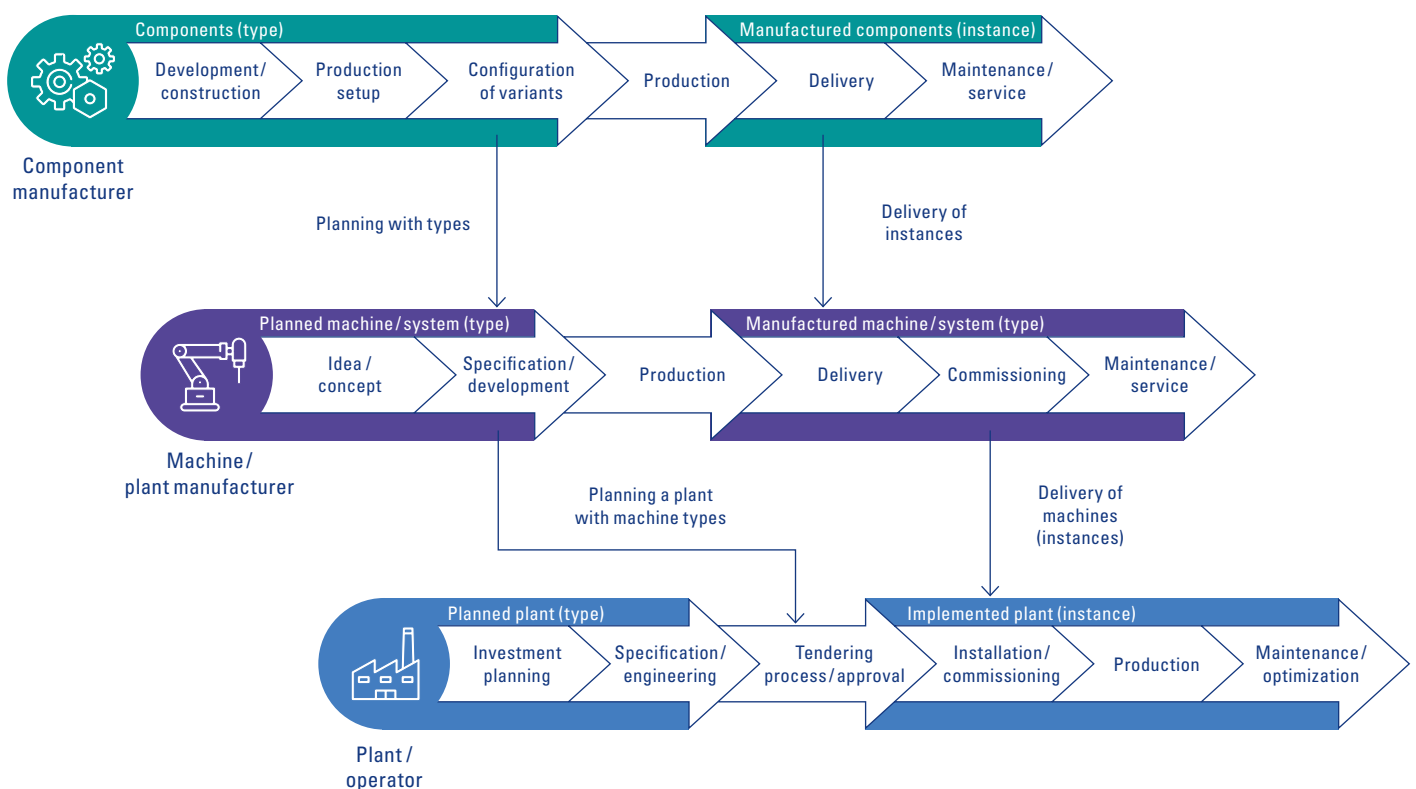Interoperable data models for your explosion protection.

WORLDWIDE ACCESS TO EVERY DETAIL

When it comes to explosion protection, one simple truth applies: the whole is only as good as the sum of its parts. This applies not only to the practical aspects, but also to the theory.

With our globally unique **Digital Twin platform**, you can close precisely this gap. As a user, you can access stored instance Asset Administration Shells with serial number accuracy via digital nameplates. And as a planner, by using the information from the stored type Asset Administration Shells as a basis for digital engineering.

This gives you a complete overview of every single component of your explosion protection system worldwide – from maintenance details to the latest firmware updates.
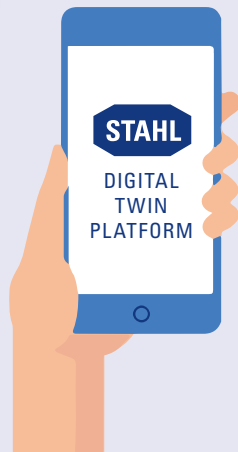
THE VALUE CHAIN

Component manufacturer

Components (type)
- Development/ construction
- Production setup
- Configuration of variants
- Production

Manufactured components (instance)
- Delivery
- Maintenance/ service

Planning with types

Delivery of instances

Machine/ plant manufacturer

Planned machine/system (type)
- Idea/ concept
- Specification/ development
- Production

Manufactured machine/system (type)
- Delivery
- Commissioning
- Maintenance/ service

Planning a plant with machine types

Delivery of machines (instances)

Plant/ operator

Planned plant (type)
- Investment planning
- Specification/ engineering
- Tendering process/approval

Implemented plant (instance)
- Installation/ commissioning
- Production
- Maintenance/ optimization

BENEFITS FOR THE VALUE CHAIN

Whether as a **developer of components, plant engineer, manufacturer of machines** or **operator of systems**: various software packages are used in every area of the value chain. These include planning tools, ERP systems, service software and asset management systems. Thanks to interoperable and machine-readable data, all of these systems can be filled automatically with the help of the Asset Administration Shells. And this even works across company boundaries.
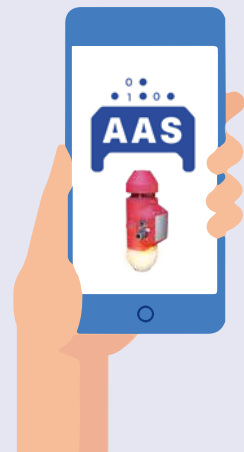
1 Smartphone camera app
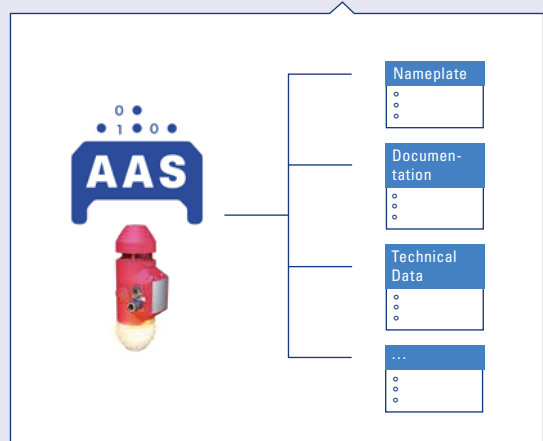
2 Platform of the product manufacturer

3 Instance Asset Administration Shell

Digital nameplate with QR code
IEC 61406

Asset Administration Shell (AAS)
IEC 63278-1

① DIGITAL NAMEPLATE

A digital nameplate in accordance with IEC 61406 is a printed nameplate **with an additional QR, RFID or 2D data matrix code**.

This code contains a link to the manufacturer's platform and the serial number of the asset.

This combination is unique worldwide and guarantees the provision of all product-related information with serial number accuracy.

You can easily recognize the code by the **black frame with the small triangle in the corner**.
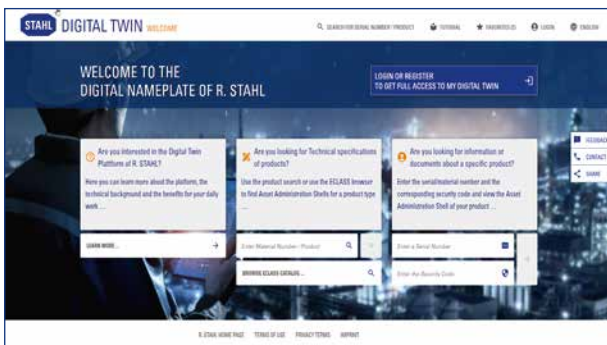
② DIGITAL TWIN PLATFORM BY R. STAHL

Our Digital Twin platform is **the heart of the system for digital twins** and has been **optimized for two user groups** – for planners and users.

Planners can find all the data they need for digital engineering via the various type Asset Administration Shells. They can also view current data on the product life cycle.

Users, on the other hand, can access instance Asset Administration Shells and retrieve all information, documents and data for the corresponding instance with serial number accuracy.

Whichever target group you belong to: in every case, you have the option of actively interacting with the administration shells – and being informed about changes to the product or firmware updates, for example. Simply scan the QR code directly or via **r-stahl.com/digitaltwin**

③ ASSET ADMINISTRATION SHELL

An Asset Administration Shell (AAS) is **the digital twin of a component**. This virtual counterpart is intended to accompany a product from production through use to further utilization or recycling.

Currently, data along the value chain is often still copied manually between different systems.

This manual effort often results in a high level of data loss.

If, on the other hand, you use interoperable data from Asset Administration Shells, you can auto-fill the systems. **This increases your data quality noticeably**.

SOLUTIONS FOR DAY-TO-DAY BUSINESS

With the Digital Twin platform by R. STAHL, you benefit from **six important applications for your day-to-day work in industrial plants**:

REMOTE ACCESS TO AAS:

Whether you are a technician in the field, in your home office or at the office - using the serial number and pin from the nameplate, you can access all details in the administration shell from anywhere and at any time.

DIRECT ACCESS TO DOCUMENTATION:

Each Asset Administration Shell contains all available documents in digital form in accordance with VDI 2770, which can be downloaded directly in any available language - replacing paper documentation.

LIGHTNING-FAST RETURNS REGISTRATION:

Simply scan the digital nameplate and start the returns registration via the instance Asset Administration Shell. The pre-filled return forms are transmitted directly in digital form.

DISPLAY OF SUCCESSOR PRODUCTS:

A scan of the nameplate is all it takes to get information on available successor products. You can also request a quote directly from the manufacturer.

MORE EFFICIENT MAINTENANCE:

In the Maintenance submodel, you will find all maintenance details broken down and stored interoperably. You can use this to create a shared digital maintenance manual with all participants in the value chain.

AUTOMATIC INFO ON FIRMWARE UPDATES:

You can easily be informed about available firmware updates by subscribing to the corresponding instance AAS of your product.

THE DIGITAL PRODUCT PASSPORT

The new **Ecodesign for Sustainable Products Regulation (ESPR)** will be introduced in 2026.

The intention of the ESPR is to make products significantly more sustainable, eco-friendly and repairable. As part of the ESPR regulation, manufacturers will have to provide the so-called **Digital Product Passport (DPP)** prior to distribution.

As things stand, **the Asset Administration Shell is one of the leading technologies** for providing the information required for the DPP as a data model.

ASSOCIATIONS AND ORGANIZATIONS

Digital nameplates, digital twins and DPPs are currently being pushed forward by various organizations. In addition to the already established standards and specifications (IEC 61406, IEC 63278-1, VDI 2770), further standards are also being developed. Further information can be found at:

IDTA
Industrial Digital Twin Association

ZVEI e. V.
German Electro and Digital Industry Association

Plattform I4.0
Federal Ministry for Economic Affairs and Climate Action

DIN
German Institute for Standardization

DDCC
Digital Data Chain Consortium

DKE
German Commission for Electrical, Electronic & Information Technologies

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