

A wide-angle photograph of Earth from space, showing the curvature of the planet and a bright horizon line. The surface is covered in white clouds and blue oceans. The sky is a deep blue gradient.

# REQUISIS Tools for IBM DOORS and IBM ELM

# **Nikolai Stein, REQUISIS**

## **Solution Architect, DOORS & IBM ELM Expert**

- > Active in the field of RE&M with DOORS in the automotive sector since 2002
- > Senior Consultant & Managing Director of REQUISIS GmbH since 2007
- > RE&M methods and concepts
- > Data exchange with ReqIF and OSLC
- > DNG interfaces, automation and migration scenarios
- > Global Configuration Management with DNG
- > DOORS security
- > Kubernetes and ELM-SaaS
- > Artificial Intelligence & IBM ELM



# REQUISIS GmbH

- > Internationally operating company with offices in Berlin and Stuttgart
- > Specialist for tool-supported requirements management and individual pragmatic solutions
- > Solutions for DOORS & DNG
  - > ReqIF-Manager
  - > DOORS-Next-API-Gateway
  - > DOORS to DNG Migration
  - > AI Copilot
- > SaaS & managed service provider for IBM ELM products
- > Consulting regarding ReqIF & IBM APIs (also for other tool vendors)
- > Many satisfied customers
- > Our customers are mainly from the automotive sector



# Rhapsody SE Evaluation

> Request your personal Rhapsody SE Environment:

**[sysml.app/eval](https://sysml.app/eval)**

# Products Overview

## > For IBM ELM

- > requisis\_MiX - Migration Tool
- > requisis\_Toolbox – ReqIF-Manager
- > requisis\_ELM.ng
- > requisis\_ORCA – Ai Copilot for DNG

## > For IBM DOORS 9

- > requisis\_DoX – Document Generation
- > requisis\_SproX – Synchronization Tool
- > requisis\_ReX – ReqIF-Exchange Tool for DOORS 9
- > requisis\_MiX - Migration Tool
- > requisis\_MoRE – Review Tool
- > requisis\_DSP – Security Proxy
- > DoorsBouncer – Auto-Logoff Idle Users

## > For ReqIF

- > ReqIF-Libraries
- > requisis\_Toolbox – ReqIF-Manager for DNG
- > requisis\_ReX – ReqIF-Exchange Tool for DOORS 9

**requisis\_DSP**

**Securing the IBM DOORS 9.x Server incl. MFA**

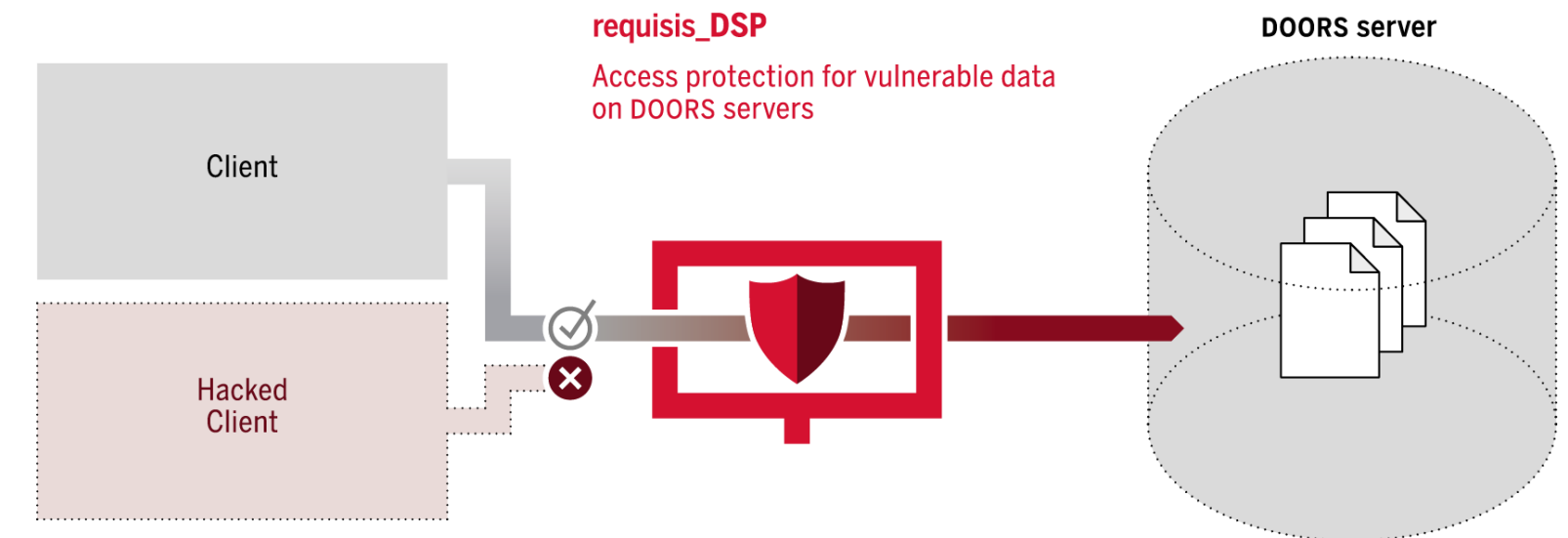
# requisis\_DSP: Overview

## > Function

- > Additional Layer of Security to the DOORS Server
- > Access Control enforced on every Access
- > Based on personal Doors-Certificate-Files
- > Provides detailed logging for all Access

## > USPs

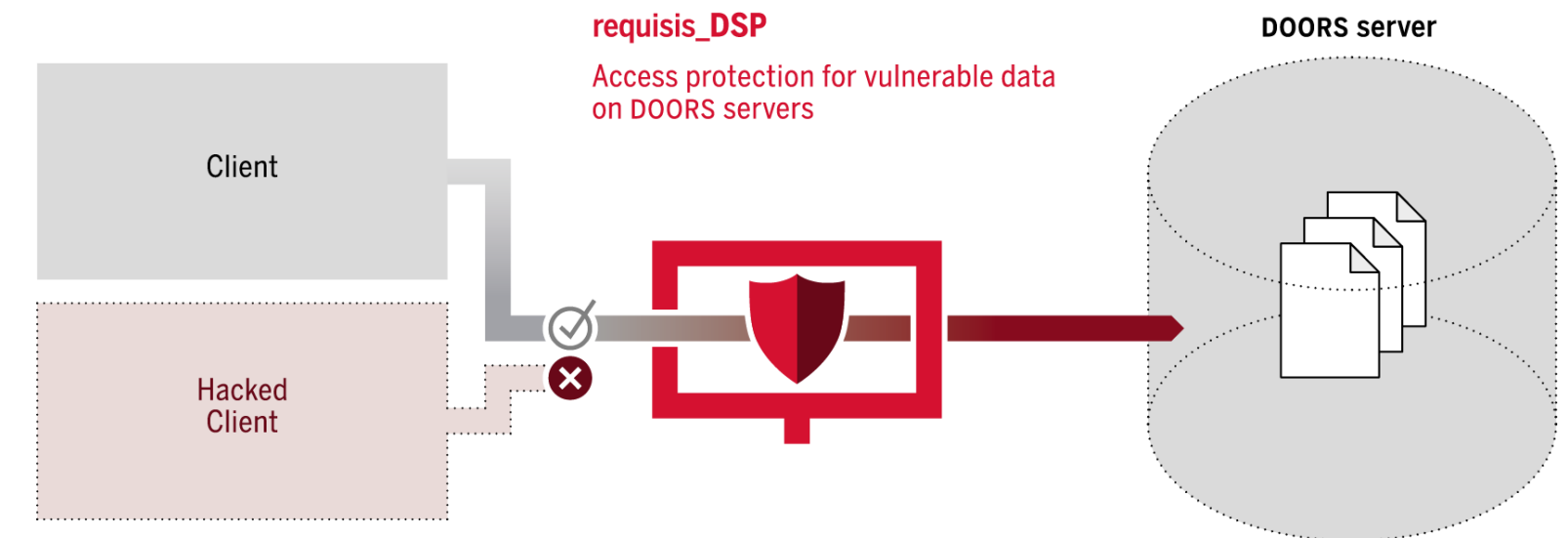
- > No performance impact
- > 6 Years in the market
- > In production on DOORS Servers with 800+ concurrent users



[requisis.com/en/dsp](https://requisis.com/en/dsp)

# requisis\_DSP: Background

- > DOORS 9.X Server does not provide any Authentication or Authorization
- > Requests are only checked inside DOORS-Client
- > Manipulated DOORS-Clients or Programs talking to DOORS-Server can read and modify data
- > Available POC upon request:
  - > Resetting DOORS-Administrator-Password using a TCP-Client to connect to doors server port.



# requisis\_DSP: MFA für DOORS 9.x

## > Phase 1

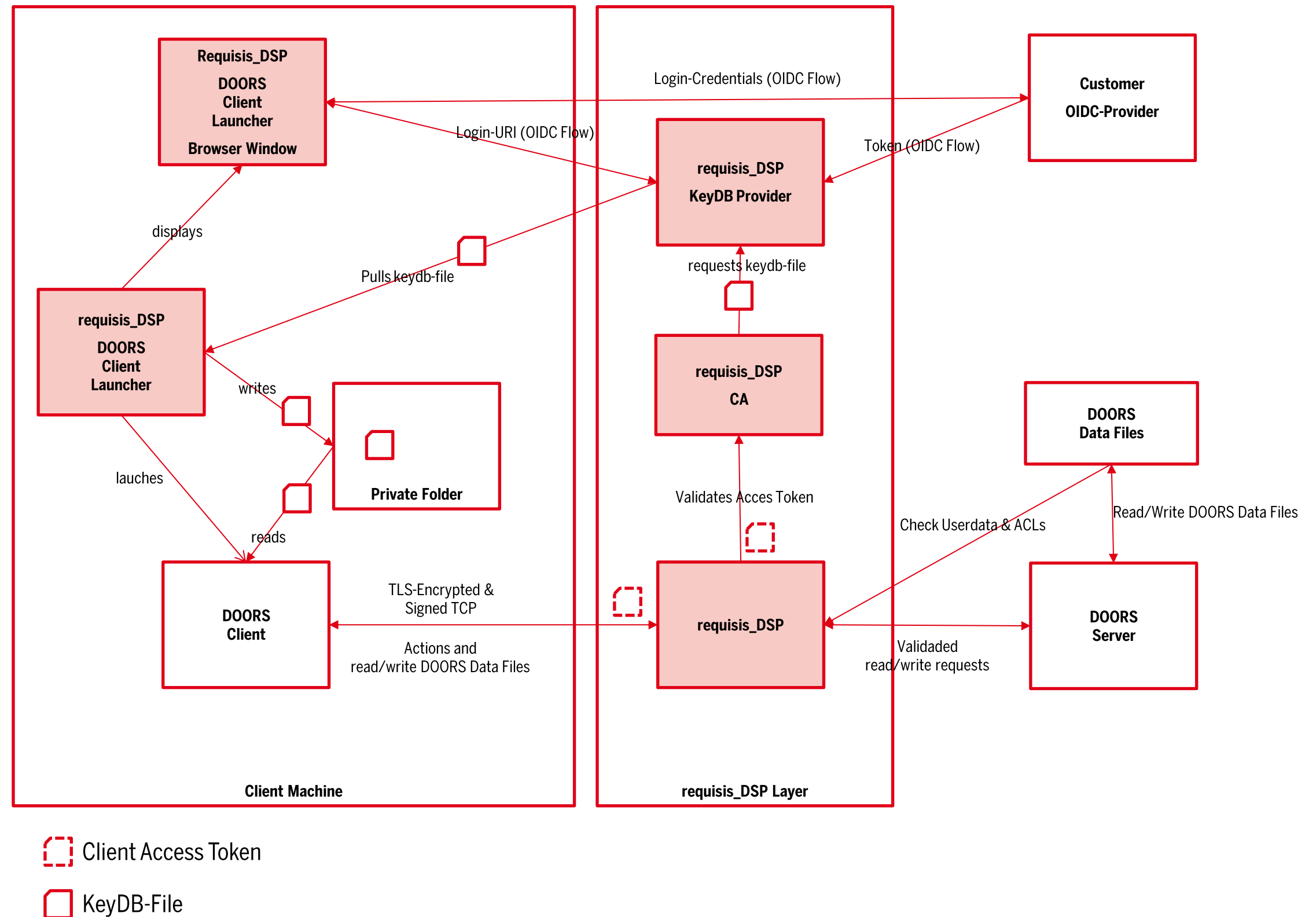
- > OIDC Login in Browser Fenster
- > KeyDB Generation

## > Phase 2

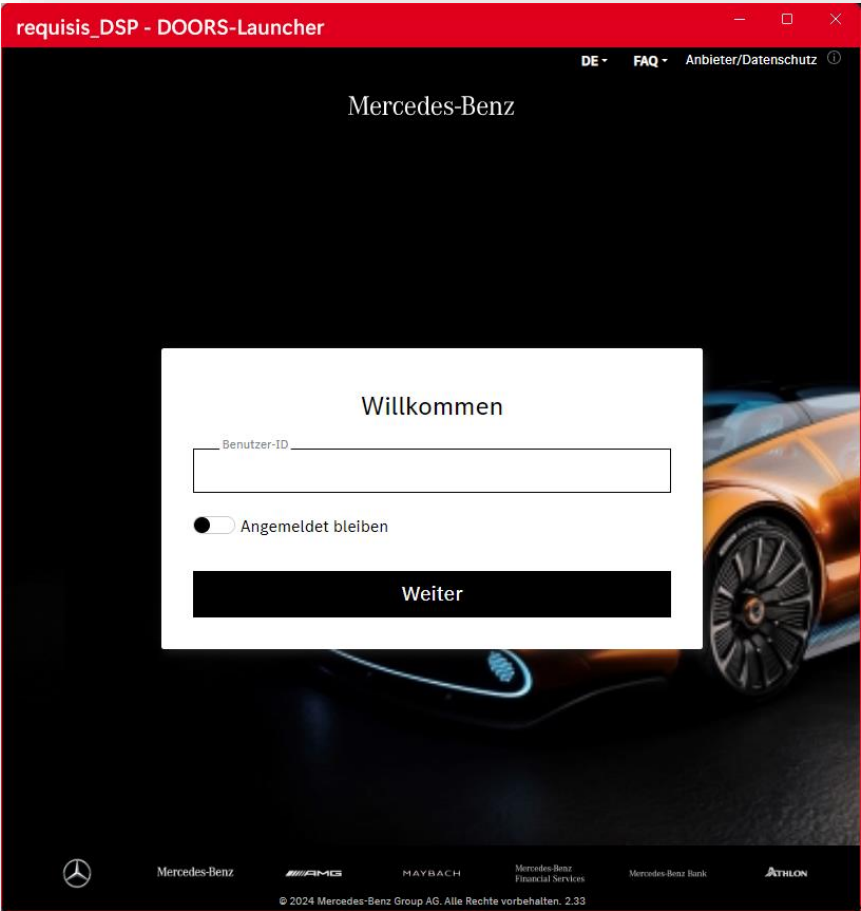
- > DOORS-Client started with KeyDB
- > DOORS-Client connects using KeyDB to requisis\_DSP
- > requisis\_DSP checks access token
- > requisis\_DSP enforces ACLs

## > Phase 3

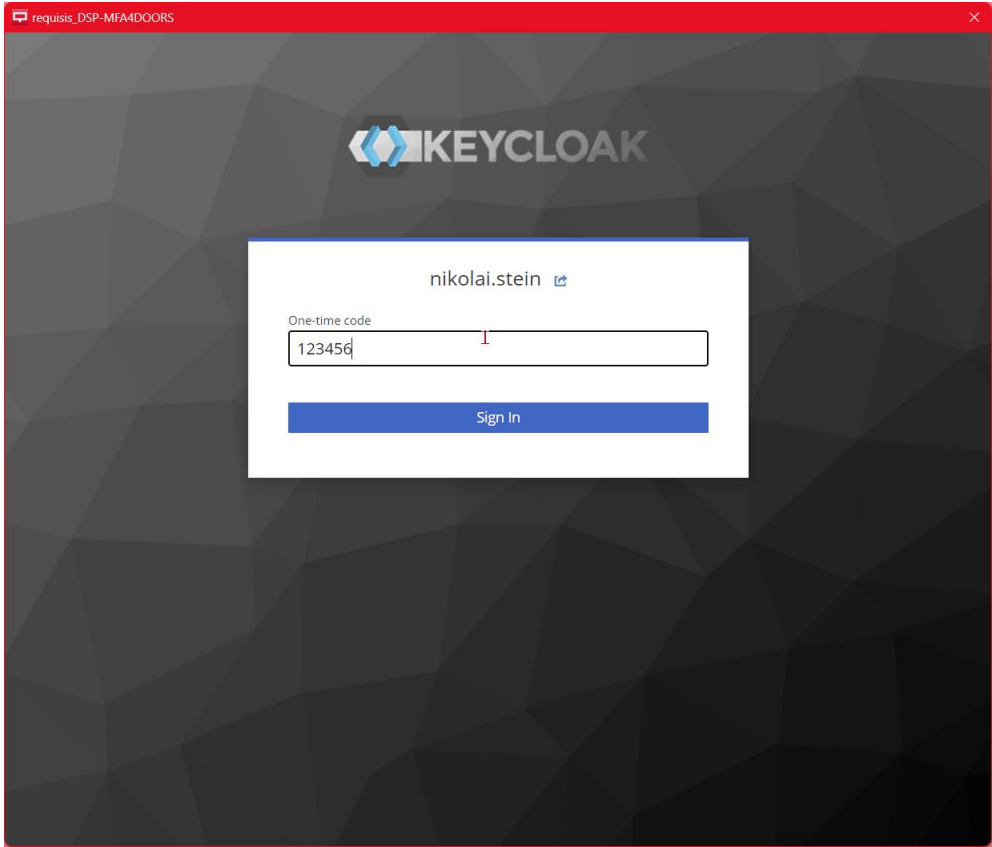
- > All requests will be checked against DOORS ACL before being passed to the server



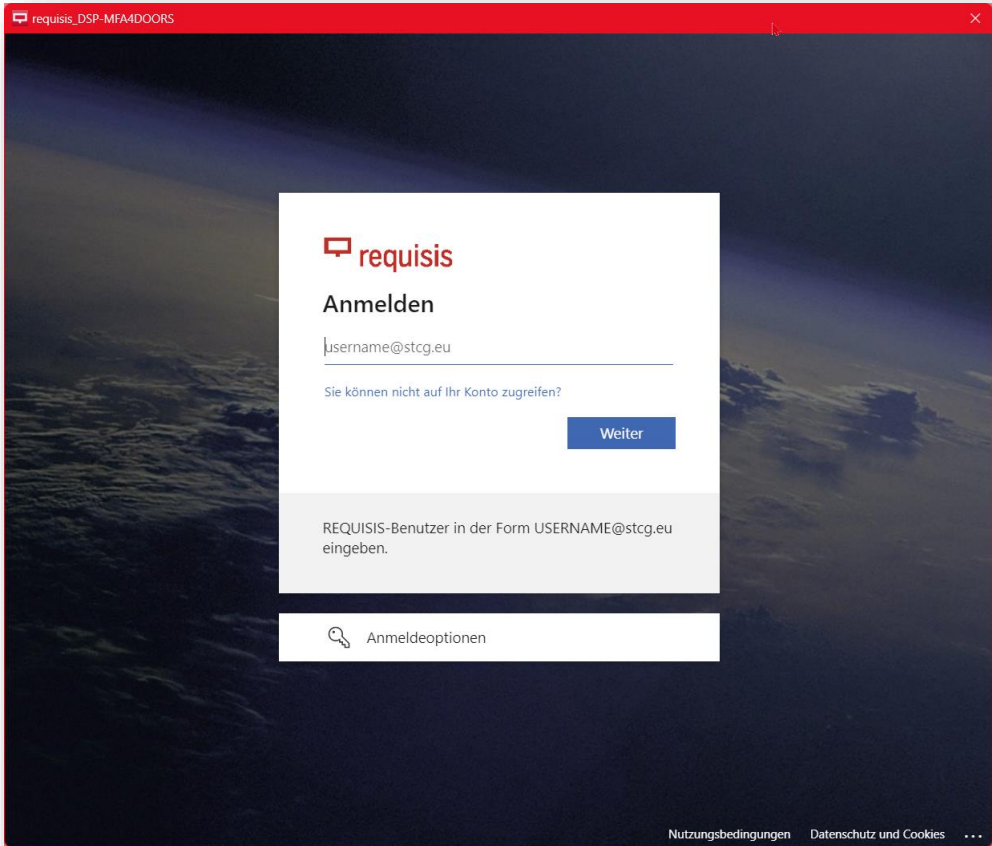
# Impressions



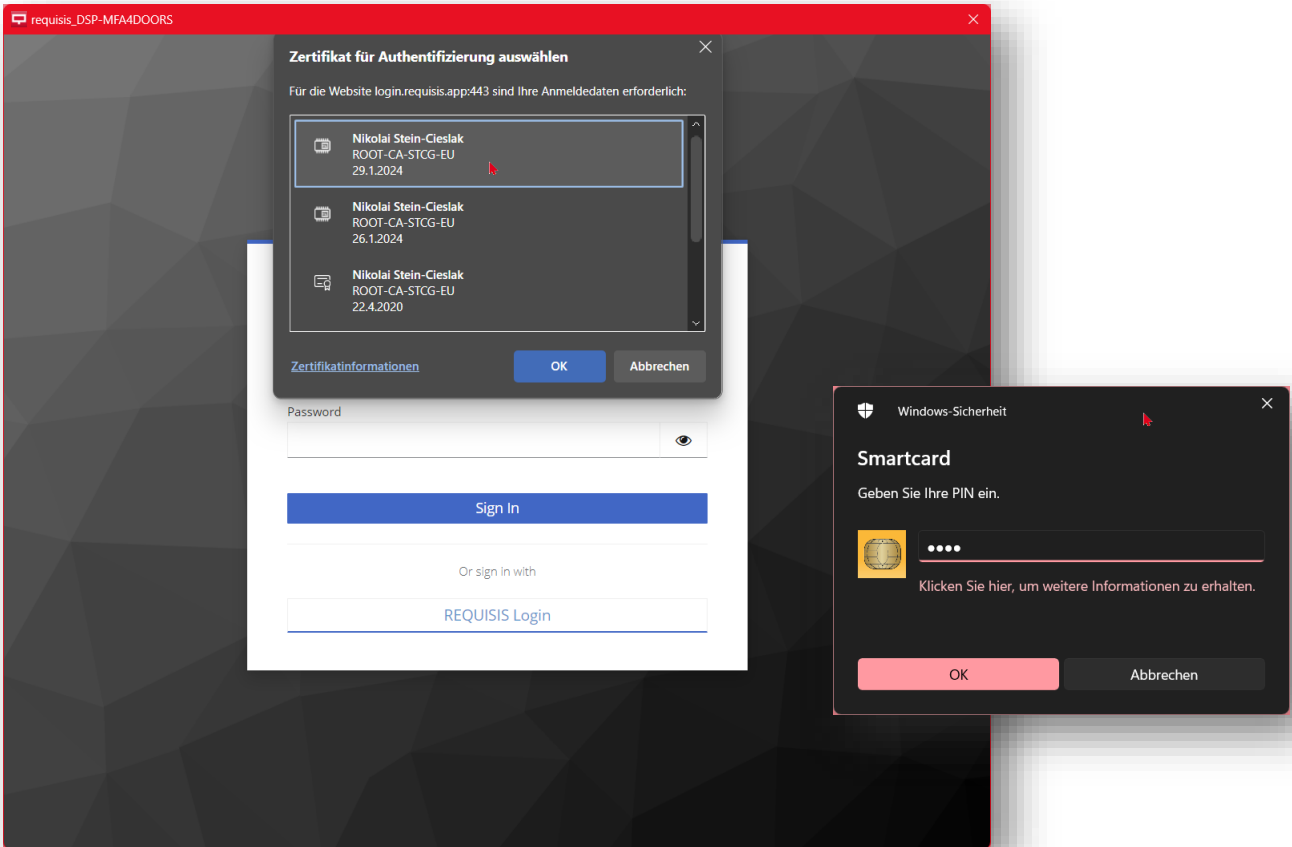
Customer Example



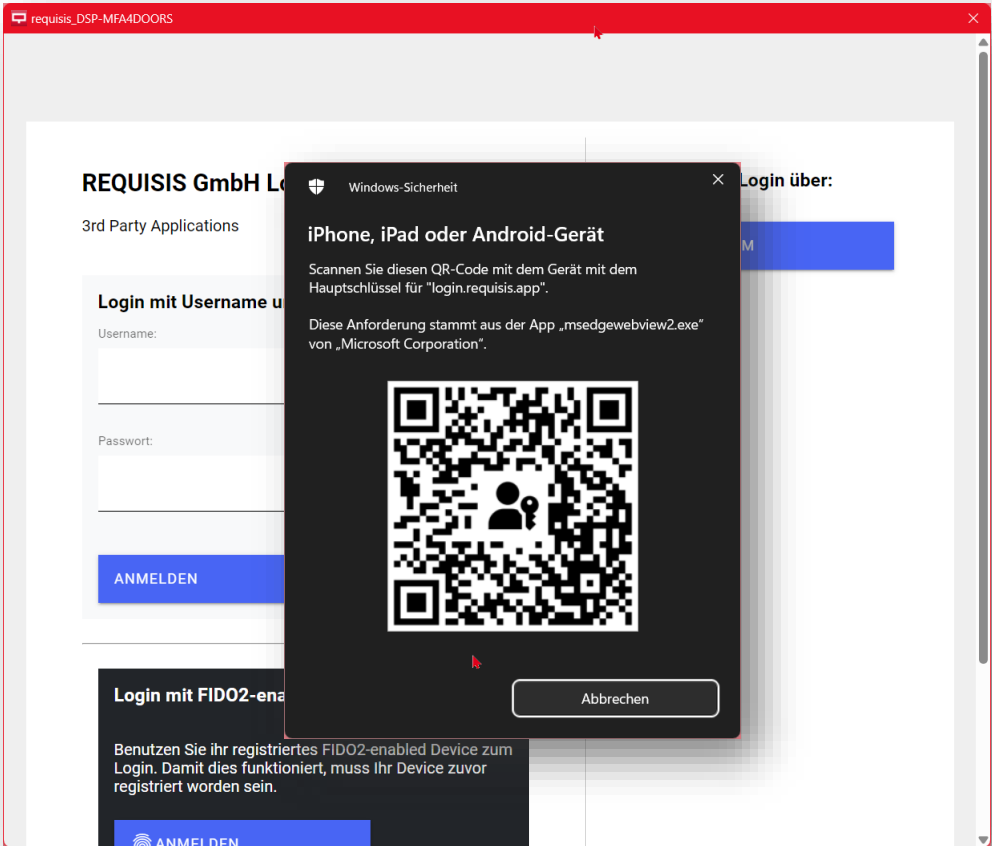
Google Authenticator



Azure ID



PKI Card / Smartcard



Passkey

# Requisis\_DSP MFA – Demo

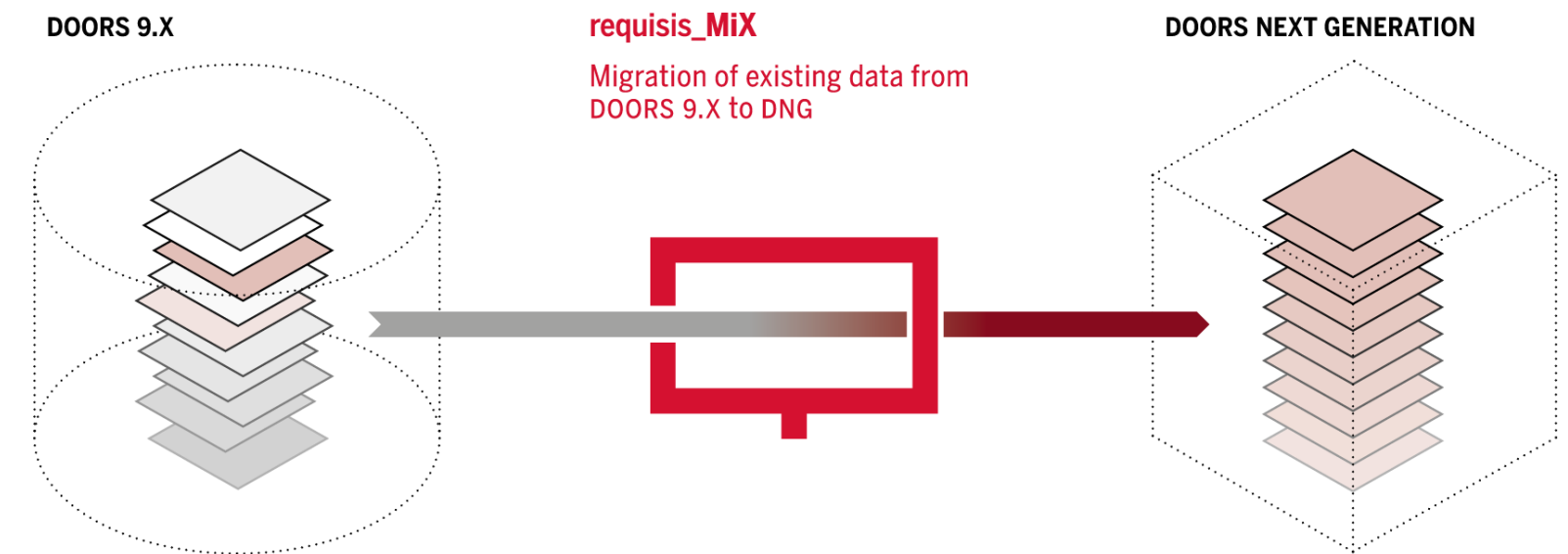
**requisis\_MIX**

**Easy Migration from DOORS 9.x to DOORS Next**

# requisis\_MiX: Overview

## > Function

- > Migration and Synchronization from DOORS 9 to DNG
- > Uses UI and Rule-Based Mapping to Live Type System in DNG to harmonize the Type-System during Migration
- > Optimized Content for best Migrations Results
- > No Experts Needed: UI-Based Migration with automation



[requisis.com/en/mix](https://requisis.com/en/mix)

# requisis\_MiX: Key Facts

- > **Fully integrated in DOORS 9**
- > **Mapping to live data in DNG**
  - > Artifact types, Attributes, Enumeration values
  - > Configure mapping rules to reduce needed manpower.
- > **Automatic Pre-checks**
  - > Find possible data losses and other issues
- > **Direct data transfer using Rest API (OSLC)**
  - > no export and import required
  - > Most OLE-Objects are migrated as native file format
  - > DOORS Tables are migrated as XHTML-Table
- > **Process in 2 stages**
  - > Configuration (Mapping&Prechecks) and Performing the Migration
  - > Allowing to split the tasks between the author and the support team
- > **Not only migrate: Synchronize**
  - > Repeated migrations
  - > Special update use cases
  - > Later back synchronization to DOORS 9 (pull data from DNG)
- > **Extraordinary Usability**
  - > Every author and support user can use it

# requisis\_MiX' USPs

- > **Best migration results**
- > **Separation of type system and data**
  - > “Keep-your-DNG-type-system”
  - > Live mapping of type system between DOORS and DNG
- > **No Experts needed**
  - > do-it-yourself-migration
- > **Efficient**
  - > Scalable migration due to mapping rules
  - > ~ 5 Minutes for Mapping
  - > 2-3 Minutes per 1000 Artifacts for migration
- > **Content optimization**
  - > Migrating into compatible types
  - > Merging into string attributes
  - > DOORS tables as XHTML tables
  - > Unwrapping of most OLE-Objects -> Migrating as native file format
- > **Repeatable Migration and Synchronization**
  - > Shadow-Migrations of content that is still managed in DOORS
- > **Migration of attribute-controlled variants into Streams**
  - > Migration of different views into different streams (by maintaining same artifact) for variant migration

A wide-angle photograph of Earth from space, showing the curvature of the planet and a bright light source (the sun) creating a lens flare effect across the upper half of the image. The clouds are visible as white, textured patterns against the dark blue of the oceans and the black of space.

# requisis\_MiX – Demo

# **requisis\_MiX**

## **Executing the Migration**

# Step 1: Select Target Module + Basic settings

- > Select Target Module by its URI
- > Select a view which content will be migrated
- > Select a DOORS Enum Attribute for derive the Artifact type
- > Select Heading Behaviour
  - > Same as in DOORS
  - > Based on Artifact Type

The screenshot shows the 'requisitis\_MiX V1.2.02-2-stable [DOORS -> DNG] - DOORS' application window. The 'Settings' tab is active, displaying the following configuration options:

- DNG Target Module:** A text field containing a long DNG URI: `bse-int.daimler.com/rm1/resources/_Q7vsZA6Eeqox-Gi9Vj3ZA?oslc_config.context=https%3A%2F%2Fbse-int.daimler.com%2Frm1%2Fcm%2Fstream%2F_Jc_bUJ1-EemCzN1xJ7O99Q`. A 'Connect to Module' button is to the right.
- Target Module:** A dropdown menu showing 'Sandbox CompSpec (RM) > mix-test'.
- Target Context:** A dropdown menu showing 'Sandbox CompSpec (RM) Initial Stream {Stream}'.
- DOORS Settings:**
  - Select a DOORS view for the migration:** A dropdown menu showing 'OLE-Export'.
  - Select an Enumeration Attribute that defines the Object Type in DOORS:** A dropdown menu showing 'Object\_Type'.
  - Select how headings are set in DNG:**
    - ☒ Based on DOORS (A heading in DOORS is always a heading in DNG, independent of the mapped DNG artifact type.)
    - ☐ Based on the mapped DNG artifact type (Only DOORS objects mapped to DNG artifacts of type heading will become headings in DNG.)

At the bottom of the window, there are buttons for 'User Manual', 'Support', and 'Start Mapping'.

# Database login to get oAuth token (works also with OIDC)



DNG Login - DOORS

**jazz**  
TEAM SERVER

Der Jazz Team Server auf `jazz606.requisis.com` in Jazz erfordert eine Benutzer-ID und ein Kennwort:

Benutzer-ID:

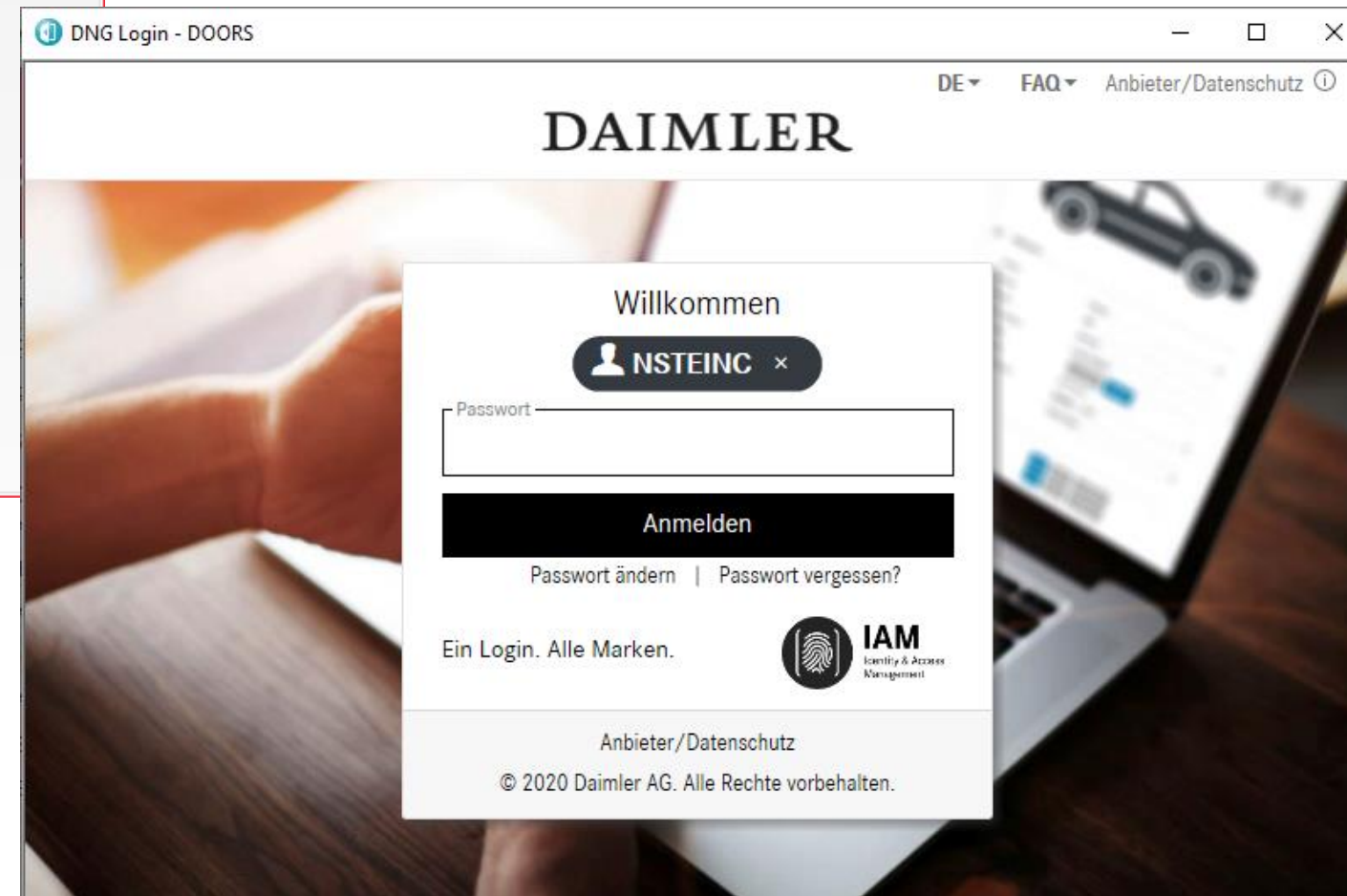
Kennwort:

☐ Benutzer-ID merken

Anmelden

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**IBM.** **Rational. software**



DNG Login - DOORS

DE FAQ Anbieter/Datenschutz

**DAIMLER**

Willkommen

**NSTEINC** ×

Passwort

Anmelden

[Passwort ändern](#) | [Passwort vergessen?](#)

Ein Login. Alle Marken.

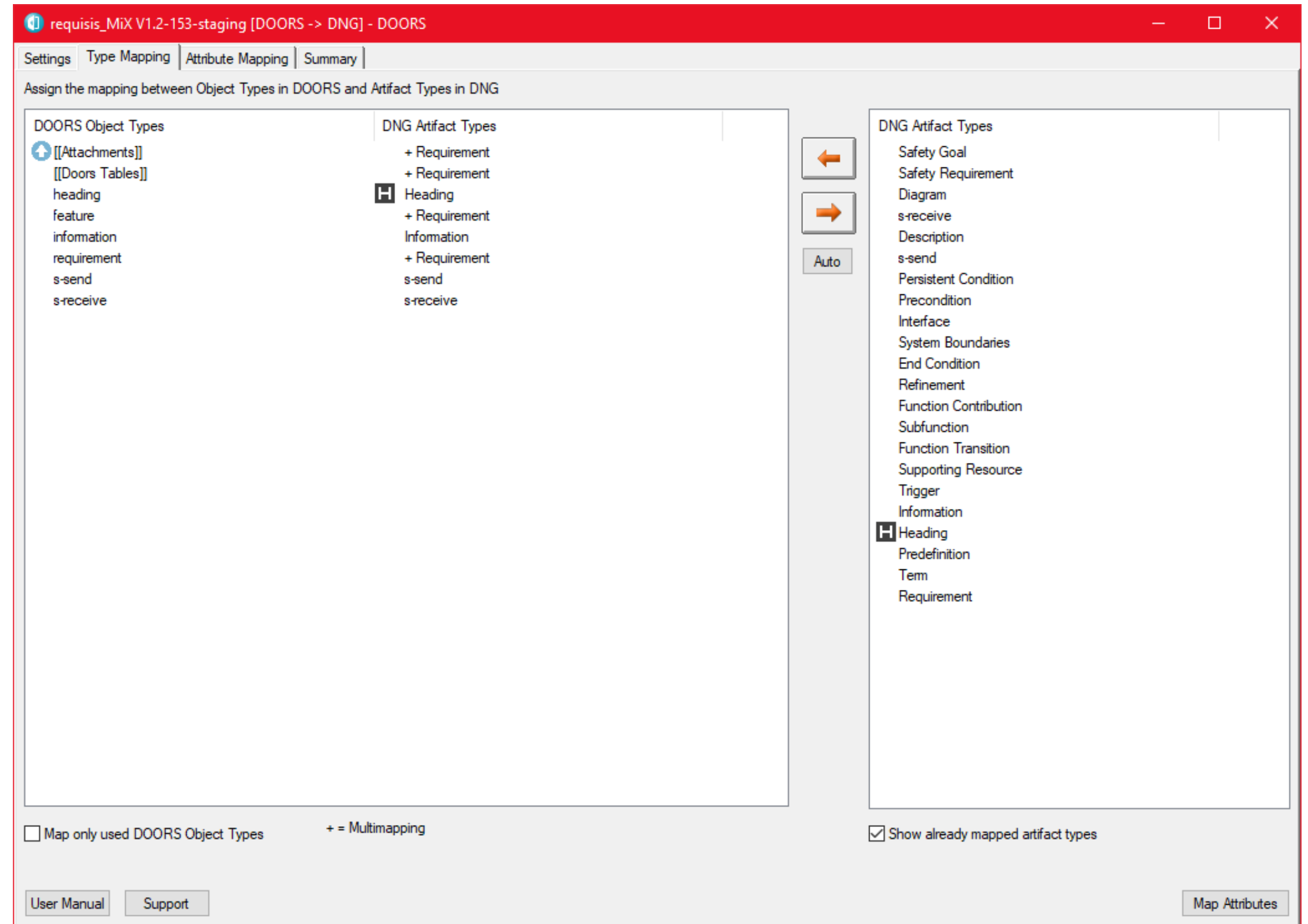
**IAM**  
Identity & Access Management

Anbieter/Datenschutz

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# Step 2: Artifact Type Mapping

- > Artifact Types are read directly from DNG
- > Mapping prefilled by mapping rules
- > n:1 Mapping is possible
- > Just drag and drop or use arrows to map



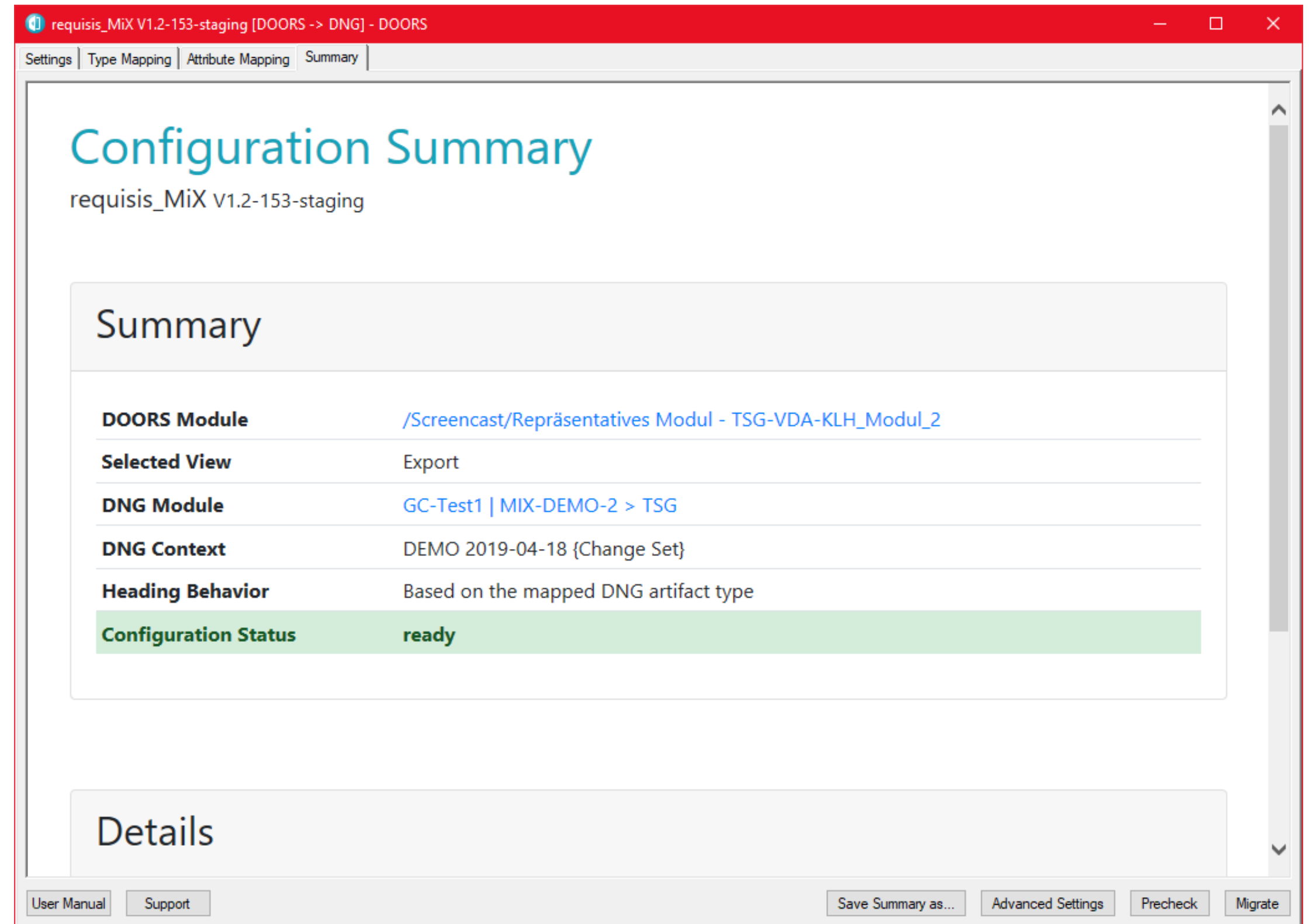
# Step 3: Attribute and Enumeration Value Mapping

- > Attribute are read directly from DNG
- > Mapping prefilled by mapping rules
- > Mappings per Artifact type
- > n:1 Mapping is possible
- > Also mapping of Enumeration Values
- > Just drag and drop or use arrows to map

The screenshot shows the 'Attribute Mapping' window in the REQUISIS tool. The window title is 'requisis\_MiX V1.2-153-staging [DOORS -> DNG] - DOORS'. The 'Attribute Mapping' tab is selected, and the 's-receive' artifact type is chosen. The window displays two main sections: 'Choose mapping between the attributes of both types:' and 'Choose mapping for enumeration values:'. The first section shows a list of DOORS Attributes (Object ID, Object Heading, Object Text, Object Type, \_ASIL, IESE-Kommentar, CustomAttr1, CustomAttr2) and DNG Attributes (SourceID (static), + Primärtext, + Primärtext, [[no transfer]], ASIL, + Beschreibung, + Beschreibung, + Beschreibung). The 'ASIL' attribute is highlighted in blue. The second section shows a list of DOORS Enumeration Values (ASIL C, ASIL C(C), ASIL C(D), ASIL D, ASIL D(D), ASIL X, k.A., -) and DNG Enumeration Values (ASIL C, ASIL C(C), ASIL C(D), ASIL D, ASIL D(D), ASIL X, open, not relevant). The 'ASIL C' value is highlighted in blue. On the right side, there are two lists of 'Unmapped DNG Attributes' and 'Unmapped DNG Enumeration Values'. The 'Unmapped DNG Attributes' list includes: [[no transfer]], Titel, Potential Verification Method, OriginID, Variant Info, English Preparation Note, Components\_Systems, Maturity, Function Type, Relevance, PVSubstitutionMarker, Review Info, Preparation Note, English Heading. The 'Unmapped DNG Enumeration Values' list includes: [[no transfer]]. At the bottom, there are buttons for 'User Manual', 'Support', 'Next Type', and 'Finish Mapping'. A legend at the bottom left indicates '+ = Multimapping'.

# Step 4: Check Summary (Basic Settings)

- > All relevant settings
- > Including chosen Mappings
- > Basic configuration check
  - > Do all objects have a selected “object type”
  - > Does the view contains a filter without “show ancestors”
- > Can be saved to disk



# Step 4: Check Summary (Mapping Rules)

- > All active Mappings shown as a table
  - > Artifact Type Mapping
  - > Attribute Mapping
  - > Enum Mapping

requisis\_MiX V1.1.03-0-stable [DOORS -> DNG] - DOORS

SettingsType MappingAttribute MappingSummary

NO errors or warnings occurred

Show/Hide "Mapping Rules"

Mapping Rules

|                             |                           |
|-----------------------------|---------------------------|
| DOORS Type: "[Attachments]" | DNG Type: "Requirement"   |
| DOORS Type: "feature"       | DNG Type: "Requirement"   |
| Object ID                   | Description               |
| Object Heading              | Primary Text              |
| Object Text                 | Primary Text              |
| FO_Object_Type              | FO_Object_Type            |
| 1. Heading                  | 1. Heading                |
| 2. Vehicle function         | 2. Vehicle function       |
| 3. End condition            | 3. End condition          |
| 4. Trigger                  | 4. Trigger                |
| 5. Precondition             | 5. Precondition           |
| 6. Subfunction              | 6. Subfunction            |
| 7. Persistent condition     | 7. Persistent condition   |
| 8. Refinement               | 8. Refinement             |
| 9. Transition function      | 9. Transition function    |
| 10. Instance                | 10. Instance              |
| 11. Function contribution   | 11. Function contribution |
| 12. Description             | 12. Description           |

HelpSave Summary as...Advanced SettingsPrecheckMigrate

# requisis\_MIX: Pre-check

- > Pre-check for possible data loss caused by tool differences, like
  - > OLEs in attributes mapped to other attributes than primary text
  - > Text formatting in other attributes
  - > Unsupported text formatting
- > Can be saved to disk

The screenshot shows a window titled "Precheck Result - DOORS" with a red header bar. A green banner at the top states "2 Warning(s) - Please check the log messages below for details." The main content area is divided into sections: "Details", "Overview of Warnings and Errors:", "Log Messages", and "Mapping Rules".

**Overview of Warnings and Errors:**

- 1 objects contain an OLE-object that cannot be transferred, since the DNG target attribute is of type string:**  
1105(IESE-Kommentar)
- 1 objects contain text formatting in attributes that are mapped to string attributes in DNG:**  
579(IESE-Kommentar)

Buttons: "Show/Hide 'Log Messages'", "Show/Hide 'Mapping Rules'"

**Log Messages**

|          |                                                                                                                                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|
| warn     | Object 1105 contains an OLE-object in attribute "IESE-Kommentar". The mapped DNG attribute does not support embedded attachments. |
| warn     | Object 579 contains text formatting in attribute "IESE-Kommentar". The mapped DNG attribute does not support text formatting.     |
| progress | 18.04.2019 10:25:16<br>Processed 1100 objects.                                                                                    |

Buttons: "Show/Hide 'Mapping Rules'"

**Mapping Rules**

|                              |                         |
|------------------------------|-------------------------|
| DOORS Type: "[Attachments]"  | DNG Type: "Requirement" |
| DOORS Type: "[Doors Tables]" | DNG Type: "Requirement" |
| DOORS Type: "feature"        | DNG Type: "Requirement" |

Object ID      SourceID (static)

Buttons: "User Manual", "Support", "Save as..."

# Step 5: Perform Migration

- > Perform the Migration
  - > Direct or later
  - > Repeat if needed as update to prio migrated data
- > Migration Result
  - > All relevant configuration settings
  - > Information about data-loss
  - > Migration Results
  - > can be saved to disk

The screenshot displays the 'Sync Result - DOORS' application window. The main content area is titled 'Migration Result' for 'requis\_MiX V1.2-153-staging'. It features a 'Summary' section with a table of migration details and a 'Details' section at the bottom.

| Summary                                                                                                                                                                                                                      |                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| DOORS Module                                                                                                                                                                                                                 | /Screencast/Repräsentatives Modul - TSG-VDA-KLH_Modul_2                                                     |
| Selected View                                                                                                                                                                                                                | Export                                                                                                      |
| DNG Module                                                                                                                                                                                                                   | GC-Test1   MIX-DEMO-2 > TSG                                                                                 |
| DNG Context                                                                                                                                                                                                                  | DEMO 2019-04-18 {Change Set}                                                                                |
| Heading Behavior                                                                                                                                                                                                             | Based on the mapped DNG artifact type                                                                       |
| Start Time                                                                                                                                                                                                                   | 18.04.2019 10:26:47                                                                                         |
| End Time                                                                                                                                                                                                                     | 18.04.2019 10:32:34                                                                                         |
| Migration Status                                                                                                                                                                                                             | <b>successful</b><br>Duration: 5:47 min<br>33 Warning(s) - Please check the log messages below for details. |
| <b>Summary of operations applied in DNG:</b><br>1100 object(s) created.<br>0 object(s) deleted.<br>0 object(s) moved.<br>3320 attribute value(s) updated in 1100 object(s).<br>0 external links(s) transferred.<br>(Remarks) |                                                                                                             |

The 'Details' section at the bottom contains links for 'User Manual' and 'Support', and buttons for 'Save Summary as...', 'Advanced Settings', 'Precheck', and 'Migrate'.

# Finishing the Migration

- > Review the results in DNG
- > Deliver change-set if satisfied with the result
- > Lock-down Modules in D00RS if desired

147854: TSG - Requirements Man...

147854: TSG - Requirements Man...

+

← → ↺

https://jazz606.requisis.com/rm/web?action=com.ibm.rdm.web.pages.showArtifact&artifactURI=https%3A%2F%2Fjazz606.requisis.com%2Frm%2Fresources%...

☆

Requirements Management (/rm)

GC-Test1 | MIX-DEMO-2

DEMO 2019-04-18 | Nikolai Stein-Cieslak

Project Dashboard

Artifacts

Reviews

Reports

Search Artifacts

← | MIX-DEMO-2 > | 147854 TSG

Create

Type to filter by text or by ID

ID

Contents

The diagram illustrates the TSG system architecture. It features a central block containing 'Benutzer-management', 'Türschloß', 'Innenraum-beleuchtung', and 'Außenpiegel-einstellung'. This central block is connected to various peripheral components: 'Schloßauß-schalter', 'Tür-Öffen-Sensor', 'Zentralver-riegelung', 'Türverriegelungssensor', and 'Ausstiegs-leuchte' on the left; 'Bedien-beleuchtung' and 'CAN-Bus (Innenraum)' at the bottom; and 'Spiegel-heizung', 'Spiegel-motoren', 'Spiegel-position', 'Spiegel-taster', and 'Spiegelwahl-schalter' on the right.

Abbildung 1: Schematische Darstellung des TSG mit seinen peripheren Komponenten.

1105\_Object\_Text\_0.zip

167263

1.2 Doors Table Test

167266

| Column 1 | Column 2 | Column 3 | Column 4 |
|----------|----------|----------|----------|
| A2       | B2       | C2       | D2       |
| A3       | B3       | C3       | D3       |
| A4       | B4       | C4       | D4       |

167264

1.3 Physische Systemumgebung

167265

| Signal                 | Funktionsgrup                                                  | TSG    | Realisation                                                            |
|------------------------|----------------------------------------------------------------|--------|------------------------------------------------------------------------|
| WSC_VL_OP<br>WIN_VL_CL | Liniensteuer, Comp, Cabine, Liniensteuer, Bedientaster         | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| WSC_VR_OP<br>WIN_VR_CL | Liniensteuer, Comp, Cabine, Liniensteuer, Bedientaster         | Rechts | apertieren                                                             |
| WSC_RL_OP<br>WIN_RL_C  | Liniensteuer, Liniensteuer, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| WSC_RR_OP<br>WIN_RR_CL | Liniensteuer, Liniensteuer, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| WSC_RL_OP<br>WIN_RR_CL | Comp, Cabine, Liniensteuer, Liniensteuer, Bedientaster         | Beide  | apertieren                                                             |
| WSC_RR_OP<br>WIN_RR_CL | Liniensteuer, Liniensteuer, Bedientaster                       | Links  | apertieren                                                             |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | apertieren                                                             |
| SL_FIB_VL              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S1.1, M0110R1 und S1.1, M0110R2  |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Rechts | Bewegen der Scheibe vom rechts mittels S2.1, M0110R1 und S2.1, M0110R2 |
| SL_FIB_VL              | Comp, Cabine, Liniensteuer, Liniensteuer, Cabine, Liniensteuer | Beide  | apertieren                                                             |
| SL_FIB_VR              | Liniensteuer, Comp, Cabine, Bedientaster                       | Links  | Bewegen der Scheibe vom links mittels S                                |

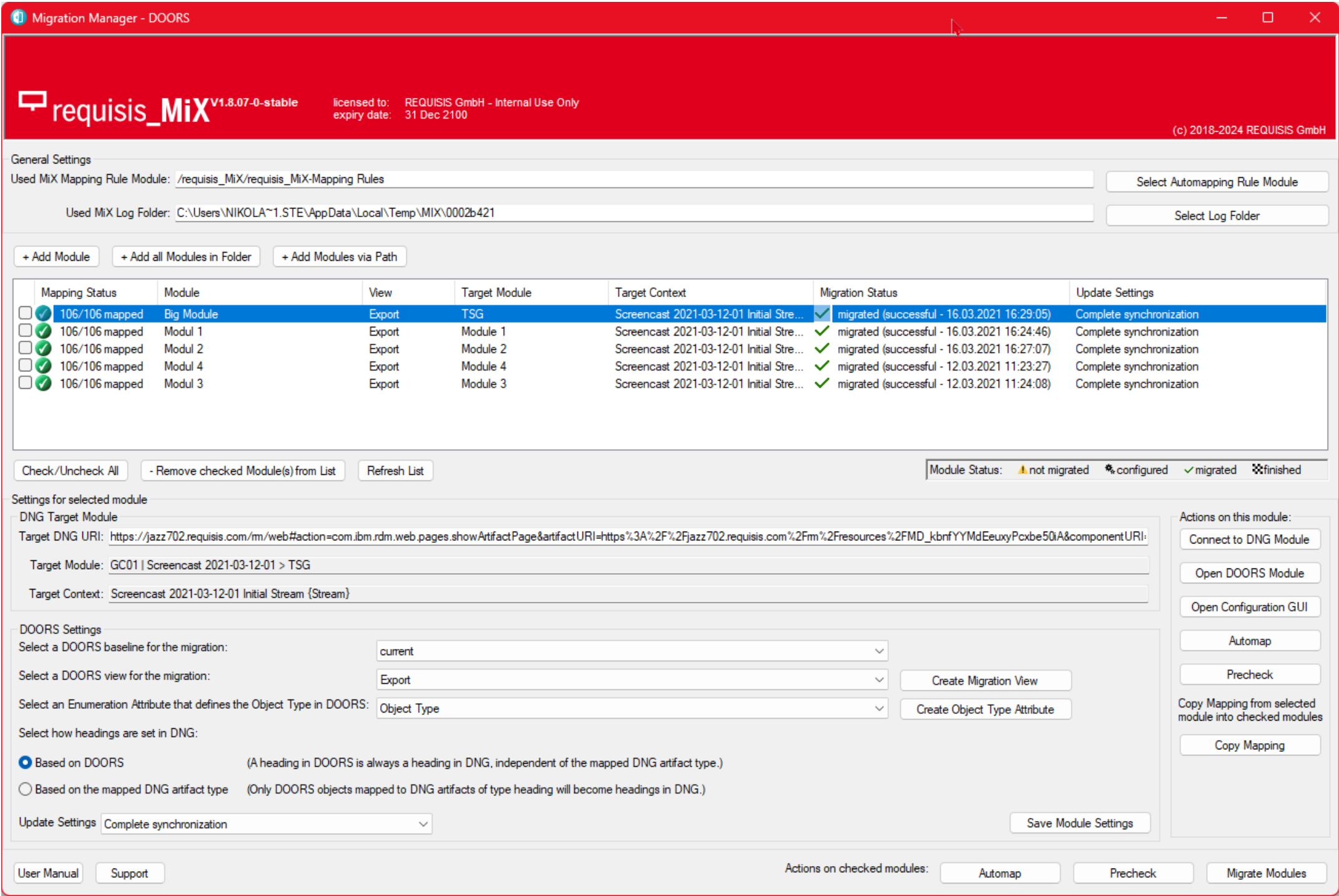
# Synchronization History

- > Allows to see all prior migrations of a module
- > Migration Targets are stored as Module Attributes and Object Attributes (Base Artifact and Binding-Artifact Uri)

| Date                   | Sync Direction | DNG Module | DNG Stream                    | User          | Sync Status    |
|------------------------|----------------|------------|-------------------------------|---------------|----------------|
| 04.05.2020<br>17:30:39 | DOORS to DNG   | TSG        | 2020-05-04 {Change Set}       | Administrator | successful     |
| 05.03.2020<br>15:20:14 | DOORS to DNG   | TSG        | DEMO 2020-03-05b {Change Set} | nikolai.stein | successful     |
| 05.03.2020<br>15:05:03 | DOORS to DNG   | TSG        | DEMO 2020-03-05 {Change Set}  | nikolai.stein | not successful |
| 05.03.2020<br>15:01:36 | DOORS to DNG   | TSG        | DEMO 2020-03-05 {Change Set}  | nikolai.stein | not successful |
| 05.03.2020<br>14:30:38 | DOORS to DNG   | TSG        | DEMO 2020-03-05 {Change Set}  | nikolai.stein | not successful |
| 13.11.2019<br>13:32:03 | DOORS to DNG   | TSG        | DEMO-2019-11-13 {Change Set}  | nikolai.stein | successful     |

# Migration Manager

- > Conduct Migration of many modules
  - > See the status of all Modules
    - > Migration Settings
    - > Mapping Status
    - > Migration Status
  - > Bulk Actions
    - > Auto-Mapping & Copy Mapping
    - > Precheck
    - > Migrate
- > DXL-API
  - > Creation of Modules in Migration Manager and DNG
  - > Execution of Migration-Steps



# Link Migration

- > Replicate Links within DOORS to Links within DNG
- > Workflow
  - > Select Target Configuration
  - > Add DOORS-Link-Modules
  - > Select Default Link Type per Link-Module
  - > Modify Settings for every Link-Set
    - > Link Type
    - > Link Direction Reverse
  - > Review Summary
  - > Perform Link-Migration

requisis\_MiX V1.8.07-0-stable Links [DOORS -> DNG] - DOORS

Select Configuration Context and Link Modules | Map Link Sets | Summary

requisis\_MiX V1.8.07-0-stable

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expiry date: 31 Dec 2100

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Paste the URI of a DNG module to receive the configuration context:  

https://jazz702.requisis.com/m/resources/MD\_Q7mHQIMbEeuxyPcxbe50iA?oslc\_config.context=https%3A%2F%2Fjazz702.requisis.com%2Fm%2Fcm%2Fstream%2F\_B42g0IMbEeuxyPcxbe50iA

Load Config. Context

Configuration Component: GC01 | Screencast 2021-03-12-01

Configuration Context: Screencast 2021-03-12-01 Initial Stream(Stream)

Add all link modules you want to consider

+ Add Link Module

+ Add all Link Modules for a Specific Module

+ Add all Link Modules for Specific Modules

+ Add all Link Modules in Folder

| Link Module | DOORS Path                    | Default DNG Link Type |
|-------------|-------------------------------|-----------------------|
| DOORS Links | /requisis_MiX_1_5/DOORS Links | References            |
| Refines     | /requisis_MiX_1_5/Refines     | Link                  |

requisis\_MiX V1.8.07-0-stable Links [DOORS -> DNG] - DOORS

Select Configuration Context and Link Modules | Map Link Sets | Summary

Filter Options

Show links between All Sources and All Targets Show All ☒ Always show checked entries ☐ Show only entries with migrated modules

Each entry in the list below represents a DOORS link set (LS). Check all entries that should be migrated. A DNG link type must be selected for each entry to migrate.

| LS                                                           | Link Module | Source Module | Link Direction | Target Module | Last counted Links | DNG Link Type | Sync Dat |
|--------------------------------------------------------------|-------------|---------------|----------------|---------------|--------------------|---------------|----------|
| <input type="checkbox"/> <input checked="" type="checkbox"/> | DOORS Links | Modul 2       |                | Modul 3       |                    | Synonym       |          |
| <input type="checkbox"/> <input checked="" type="checkbox"/> | DOORS Links | Modul 3       |                | Modul 4       |                    | References    |          |
| <input type="checkbox"/> <input checked="" type="checkbox"/> | Refines     | Modul 2       |                | Modul 1       |                    | Link          |          |
| <input type="checkbox"/> <input checked="" type="checkbox"/> | Refines     | Modul 3       |                | Modul 1       |                    | Link          |          |
| <input type="checkbox"/> <input checked="" type="checkbox"/> | Refines     | Modul 4       |                | Modul 1       |                    | Link          |          |

Check / Uncheck all

Count Links in Modules

Determine migration status of Modules

5 / 5 entries

Link Status: ☒ not ready ☐ no DNG link type set ☒ ready

Module Status: ☐ not migrated ☒ configured ☒ migrated ☒ finished

Link Set Settings

☒ Reverse link direction

Set DNG link type for selection 

Synonym

Information for current selection above

Path Link Module: /requisis\_MiX\_1\_5/DOORS Links Link Status: ready

Path Source Module: /requisis\_MiX\_1\_5/Modul 2 Migration Status Source Module: migrated

Path Target Module: /requisis\_MiX\_1\_5/Modul 3 Migration Status Target Module: migrated

User Manual

Support

Summary

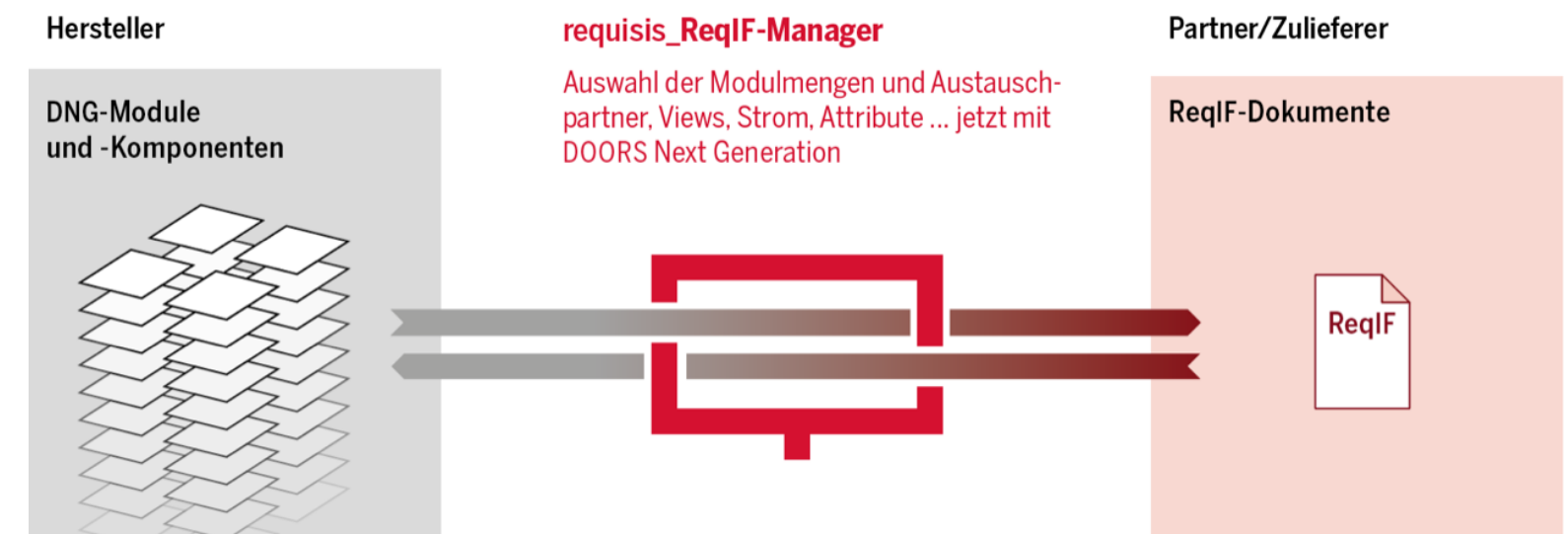
**requisis\_Toolbox**

**ReqIF-Interchange, ReqIF-Viewer, Module Compare**

# requisis\_Toolbox: ReqIF-Manager

## > Function

- > ReqIF Data Exchange
  - > Configure and orchestrate round-trips
  - > Reusable-Configurations
  - > Pre-, Postprocessing & Automation
  - > Overcoming DNG: Limitations
    - > Configurations over multiple components
    - > ReqIF-File Optimization for compatibility
- 
- ## > Special Function for Suppliers:
- > Mapping of Attributes to own Type System
  - > Reusable-Mapping-Rules
- 
- ## > Special Functions for Customers:
- > Manage Multiple Partners at the same time



# ReqIF-Manager DEMO

# requisis\_Toolbox: ReqIF-Manager: Mapping

- > Spec-Object Types to Artifact types
- > Attributes
- > Enumeration-Values
- > Select Direction
- > Save & Load Mapping Profiles

Mapping

You are about to map uploaded Import specification

Type Mapping

Attribute Mapping

Link Type Mapping

Attachment [8/8]

Heading [7/7]

Information [6/6]

Parameter [8/8]

Requirement [16/18]

Reload data

Copy Mapping

Advanced Mapping

Automap by name

Attributes in ReqIF File

Mapped DNG Attributes

Attributes in DNG: ☒ Show all available attributes

OEM\_1 Reason

STRING

↔

Customer Reason

STRING

🗑

OEM\_1 Status [6/6] >

ENUM

↔

Customer Status [6/6] >

ENUM

🗑

ReqIF.ForeignID

STRING

→

SourceID

STRING

🗑

ReqIF.Text

XHTML

↔

ReqIF.Text

XHTML

🗑

Supplier\_1 Comment ⓘ

STRING

↔

Company Comment

STRING

🗑

Supplier\_1 Status ⓘ [4/6] ▾

ENUM

↔

Company Status [4/6] ☒

ENUM

🗑

Found enum values in file

Mapped enum values

DNG Enum Values ☒ show used

agreed

changed requirement

deleted requirement

not agreed

agreed 🗑

not agreed 🗑

Ignore

agreed

not agreed

partly agreed

IGNORE

Ignore

Company Comment

Customer Reason

OriginID

ReqIF.ChapterName

ReqIF.Description

ReqIF.Name

ReqIF.Text

SourceID

Previous

Next

Save

# requisis\_Toolbox: Compare-Tool

## > Function

- > Compares Multiple Modules with another Version (Baseline, Stream, Changeset)
- > Exports to Excel

## > USPs

- > Excel-Export of multiple Modules including Pictures in one Excel File

Configuration for Compare

Please set the following configuration for compare.

Discard

Generate Compare Report

Compare Component

Drag and drop from DNG here.  
Test ReqIF Manager Customer Role | Goldene Spezifikation

Set URL

+

Reload

Old Version

BL Compare Tag und Workflow new [Baseline]

Browse

New Version

Goldene Spezifikation Initial Stream [Stream]

Browse

Compare View

Select view from defined views in New Version.  
No view / Primary text only

Browse

Modules for compare

Drag and drop from DNG here

| Module name             | Path | Old Version  | New Version  | Compareable  | Actions           |
|-------------------------|------|--------------|--------------|--------------|-------------------|
| Goldene Spezifikation   | /    | <div>✓</div> | <div>✓</div> | <div>✓</div> | <div>Remove</div> |
| Reuse Artefakte Modul A | /    | <div>✓</div> | <div>✓</div> | <div>✓</div> | <div>Remove</div> |
| Reuse Artefakte Modul B | /    | <div>✓</div> | <div>✓</div> | <div>✓</div> | <div>Remove</div> |
| Silberne Spezifikation2 | /    | <div>✓</div> | <div>✓</div> | <div>✓</div> | <div>Remove</div> |
| Stone                   | /    | <div>✓</div> | <div>✓</div> | <div>✓</div> | <div>Remove</div> |

| New Version [Goldene Spezifikation Initial Stream (Stream)] |                                                                                                                                                 | Old Version compared against New Version [BL Compare Tag und Workflow new |                    | Overview             |                  | Structure Change |                                                      |
|-------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|--------------------|----------------------|------------------|------------------|------------------------------------------------------|
| Identifier                                                  | Primary Text                                                                                                                                    | OriginID                                                                  | Identifier Compare | Primary Text Compare | OriginID Compare | Overview         | Structure Change                                     |
| 5980606                                                     | 1. Überschrift                                                                                                                                  |                                                                           |                    |                      |                  | Unchanged        |                                                      |
| 5980607                                                     | Aufzählung 1 Aufzählung 2 Aufzählung 3 Aufzählung 4 Aufzählung 5                                                                                |                                                                           |                    |                      |                  | Unchanged        |                                                      |
| 5980608                                                     | Das ist eine Anforderung.                                                                                                                       |                                                                           |                    |                      |                  | Unchanged        |                                                      |
| 6154470                                                     | 2. Änderung                                                                                                                                     |                                                                           |                    |                      |                  | Unchanged        |                                                      |
| 6154471                                                     | Link auf eine andere Application<br>https://jazz702.requisis.com/ccm/web/projects/Test%20Robert#action=com.ibm.team.workitem.viewWorkItem&id=93 |                                                                           |                    |                      |                  | Moved            | Parent: root -> 6154470<br>Previous: 6154470 -> none |

# requisis\_Toolbox: ReqIF Viewer

- > Function
  - > View ReqIF-Files in Browser
  - > Look and Feel like a Doors/DNG-Module
- > USPs
  - > Fast
  - > Look and Feel like a Doors/DNG-Module

requisis\_Toolbox 4.5.00.729-RC | ReqIF-Viewer

ReqIF data  
Selected file:  
Requirements.reqif

Selected specification:  
Goldene Spezifikation

Module structure

- 1 Goldene Spezifikat...
- 1.1 Wiederverwendung
- 1.2 Parameter Unters...
- 1.3 Tabellen
- 1.4 Bilder & Dateien
- 1.5 Textformatierung...
- 1.6 Sonderzeichen
- 2 Weitere Module ver...
- 2.1 Silberne Spezifi...
- 2.2 Bronze Spezifika...

ReqIF-Viewer

Type and press the enter key...

| Identifier                            | Spec-Object... | ReqIF.Text/ReqIF.ChapterName                                                                                                                   | Links                | ReqIF.Foreig... | ReqIF.Descri...                         |
|---------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|-----------------------------------------|
| _3ea896a6-297e-4ca8-adbb-a1f99372c042 | Heading        | 1 Goldene Spezifikation                                                                                                                        |                      | 179929          |                                         |
| _07a7a76c-05e1-4b42-980c-008ec12983fc | Heading        | 1.1 Wiederverwendung                                                                                                                           | <a href="#">Link</a> | 179940          | Header_änder<br>n                       |
| _8981584d-86ba-4ac6-97de-21450b333fb2 | Requirement    | Dieses Artefakt wird im Modul "Silberne Spezifikation" wiederverwendet.                                                                        |                      | 6328312         |                                         |
| _2f4f0cac-4986-4abf-b68e-cf31051049d8 | Requirement    | Dieses Artefakt wird in der "Goldenen Spezifikation" wiederverwendet.                                                                          |                      | 6328314         |                                         |
| _85d4fda9-b5b4-41f1-97df-97895b344bc4 | Requirement    | Dieses Artefakt wird in der "Goldenen Spezifikation" wiederverwendet.                                                                          |                      | 6328314         |                                         |
| _cd5518ed-fa9e-490f-be78-079c66b41f12 | Heading        | 1.2 Parameter Untersuchung                                                                                                                     |                      | 6328313         |                                         |
| _62d03d85-0995-4b5f-a69b-238e524800e3 | Parameter      | Das hier ist ein Parameter!                                                                                                                    |                      | 208894          |                                         |
| _c858dc2d-8c1b-40f5-a1c6-6eda0dca3733 | Requirement    | Hier wird das Artefakt <a href="#">208894</a> :<br><a href="#">Das hier ist ein Parameter!</a> eingebettet.<br><br>Das hier ist ein Parameter! | <a href="#">Link</a> | 179945          | Req_                                    |
| _591b7c0b-9797-435c-b33c-edd45e68775  | Requirement    | Requis Berlin                                                                                                                                  |                      | 759493          | Trennung [-----<br>-----] neue<br>Zeile |

## **DNG API Gateway**

**Access DNG Data using a documented API**

# DNG-API-Gateway: Key Features

## > RETRIEVE CONTENT

- > Artifacts from global and local streams
- > Module content from local and global streams
- > Support for large modules
- > Attributes & Links

## > MODIFY CONTENT

- > Read, write and modify module structures
- > Create, update and delete artifacts
- > Read and update binary artifacts
- > Add, move, delete Artifacts from the Module Structure
- > Create, Discard & Deliver Changesets
- > Create & Remove Links

## > INTERFACE

- > Json
- > Rest & CRUD (Create, Read, Update,Delete)

## > DOCUMENTATION

- > Documentation available as OpenAPI

# DNG Api Gateway

## > Function

- > Access Data of DNG using a defined API
- > Read, write & modify operations
- > Save time on reverse engineering DNG interfaces and use our documented interface instead
- > Stable interface, even if DNG version and interfaces change.

## > USPs

- > Speed and Server-Load optimized Access to DNG Data
- > Don't care about API-Changes of private IBM APIs
- > OpenAPI-Specification available
- > Develop optimized workflows through automations
- > Solution matured on real-world challenges.

# **requisis\_ORCA**

## **Ai Copilot for DOORS Next Generation**

A wide-angle photograph of Earth from space, showing the curvature of the planet and a bright horizon line. The surface is covered in white clouds and blue oceans. The sky above the horizon is a deep, dark blue.

# **requisis\_ORCA - AI Co-Pilot for DOORS Next (15 Min)**

# requisis\_ORCA

IBM Engineering Requirements Management DOORS Next (rm)

DEMO | Fahrtrichtungsanzeiger

Ursprünglicher Datenstrom - Fahrtrichtungsanzeiger

Nikolai Stein-Cieslak

Projekt-Dashboard

Artefakte

Überprüfungen

Berichte

Fahrtrichtungsanzeiger

6594533 Anforderungen Blinker

Erstellen

Eingabe, um Artefakte nach Text oder ID zu filtern

| ID      | Inhalt                                                                                                                                    |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 6594534 | 1 Allgemeine Anforderungen                                                                                                                |
| 6594535 | Die Blinkersteuerung soll die Betätigung von Fahrtrichtungsanzeigern ermöglichen, um Richtungsänderungen anzuzeigen.                      |
| 6594536 | Die Blinkersteuerung soll eine Blinkfrequenz von 1,5 Hz ± 0,5 Hz bei einer Einschaltdauer von ca. 50 % aufweisen.                         |
| 6594537 | Die Blinkersteuerung soll bei Ausfall einer Blinkerlampenquelle eine Fehlermeldung auslösen (z. B. Kontrollleuchte im Cockpit).           |
| 6594538 | 2 Lichttechnische Anforderungen                                                                                                           |
| 6594540 | Das Blinklicht soll gelb gemäß UNECE Regelung Nr. 6, Abschnitt 8, leuchten.                                                               |
| 6594541 | Die Lichtstärke soll für Kategorie 1 mindestens 175 cd und höchstens 1 000 cd betragen.                                                   |
| 6594542 | Für Kategorie 2b soll eine variable Lichtstärke zur Tag-/Nachtanpassung zulässig sein.                                                    |
| 6594543 | 3 Funktionale Anforderungen                                                                                                               |
| 6594545 | Bei sequen tiel em Blinken soll die Aktivierung und Synchronisation innerhalb von 200 ms abgeschlossen sein.                              |
| 6594546 | Die Blinkersteuerung soll den Blinker nach erfolgter Richtungsänderung automatisch abschalten (z. B. Rückstellung durch Lenkradbewegung). |
| 6594547 | Der Fahrer soll die Blinkfunktion jederzeit manuell abbrechen können (mittels Hebel in Neutralstellung).                                  |
| 6594548 | Nach Betätigung des Hebels soll das Blinken innerhalb von maximal 200 ms beginnen.                                                        |
| 6594549 | Die Blinkersteuerung soll optional „Komfortblinken“ (dreimaliges Blinken nach kurzem Antippen) unterstützen.                              |
| 6594550 | Die Blinkersteuerung soll rechte und linke Fahrzeugseite separat ansteuern.                                                               |
| 6594551 | Die Blinkersteuerung soll eine akustische Rückmeldung im Innenraum (Klicksignal) synchron zum Blinkzyklus erzeugen.                       |
| 6594544 | 4 Nicht-Funktionale Anforderungen                                                                                                         |
| 6594552 | Die Blinkersteuerung soll unabhängig von Vibrationen und Umweltbelastungen dauerhaft funktionieren.                                       |
| 6594559 | LED-Systeme soll bei Betriebsspannungen von 6,75 V, 13,5 V und 28,0 V geprüft werden.                                                     |
| 6594560 | LED-Systeme soll Farb- und Lichtstabilität über die gesamte Lebensdauer gewährleisten.                                                    |
| 6594553 | 5 Sicherheitsanforderungen                                                                                                                |

26 von 26 (100%) werden angezeigt

Mini-Dashboard

requisis\_ORCA - Requirements Co-Pilot

REQUISIS ORCA | ModuleAi | RAG Workspace | Settings

Instructions

If you select one or more artifacts, then the AI will only process those, otherwise the AI will process the whole module. Currently the query will use whole module as context. Note: If the amount of characters is too big for the AI, the content will be truncated.

Select the output language

Deutsch

Input Query for AI

Fass das Dokument zusammen

Send

AI Response

Das Dokument beschreibt die Anforderungen an eine Blinkersteuerung für Fahrzeuge. Es ist in mehrere Abschnitte unterteilt, die verschiedene Aspekte der Blinkersteuerung abdecken. Allgemeine Anforderungen umfassen die Betätigung von Fahrtrichtungsanzeigern, eine Blinkfrequenz von 1,5 Hz ± 0,5 Hz mit einer Einschaltdauer von etwa 50 % und die Auslösung einer Fehlermeldung bei Ausfall einer Blinkerlampenquelle. Lichttechnische Anforderungen spezifizieren, dass das Blinklicht gelb gemäß UNECE Regelung Nr. 6, Abschnitt 8, leuchten soll. Die Lichtstärke für Kategorie 1 soll mindestens 175 cd und höchstens 1 000 cd betragen. Für Kategorie 2b ist eine variable Lichtstärke zur

> Integrated as Widget in DOORS Next

> Example shows  
> Summary of a module

# requisis\_ORCA: Functions

## > Module AI

- > Free-Text-Prompting
- > Use-Cases
  - > Modifications of existing requirements
  - > Text generation based on existing requirements (summary)
  - > Create new artifacts (requirements, test cases...)

## > RAG-Workspace

- > Upload DNG Modules and Documents (PDF, Word, Powerpoint, ReqIF)
- > Chat with documents / ask questions about the document content
- > Find related text in documents / check requirements against documents
  - > Conflict detections
  - > AI assisted compare

# requisis\_ORCA: Translate Usecase

The screenshot displays the IBM Engineering Requirements Management (DOORS Next) interface. The main window shows a list of requirements under the heading 'Fahrtrichtungsanzeiger'. The requirements are categorized into sections: 1 Allgemeine Anforderungen, 2 Lichttechnische Anforderungen, 3 Funktionale Anforderungen, 4 Nicht-Funktionale Anforderungen, and 5 Sicherheitsanforderungen. Requirement 6594541 is selected, and its details are shown in the right-hand panel. The right-hand panel, titled 'requisis\_ORCA - Requirements Co-Pilot', shows the AI response for the selected requirement. The AI response is: 'For category 2b, a variable light intensity for day/night adaptation should be permissible.' Below the response, there are buttons for 'Undo' and 'Update artifact'. The interface also includes a search bar, a filter dropdown, and a status bar at the bottom indicating '26 von 26 (100%) werden angezeigt' and '1 ausgewählt (Auswahl für alle aufheben)'.

| ID      | Inhalt                                                                                                                                    |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 6594534 | 1 Allgemeine Anforderungen                                                                                                                |
| 6594535 | Die Blinkersteuerung soll die Betätigung von Fahrtrichtungsanzeigern ermöglichen, um Richtungsänderungen anzuzeigen.                      |
| 6594536 | Die Blinkersteuerung soll eine Blinkfrequenz von 1,5 Hz ± 0,5 Hz bei einer Einschaltdauer von ca. 50 % aufweisen.                         |
| 6594537 | Die Blinkersteuerung soll bei Ausfall einer Blinkerlampenquelle eine Fehlermeldung auslösen (z. B. Kontrollleuchte im Cockpit).           |
| 6594538 | 2 Lichttechnische Anforderungen                                                                                                           |
| 6594540 | Das Blinklicht soll gelb gemäß UNECE Regelung Nr. 6, Abschnitt 8, leuchten.                                                               |
| 6594541 | The light intensity should be at least 175 cd and at most 1,000 cd for category 1.                                                        |
| 6594542 | For category 2b, a variable light intensity for day/night adaptation should be permissible.                                               |
| 6594543 | 3 Funktionale Anforderungen                                                                                                               |
| 6594545 | Bei sequenziellem Blinken soll die Aktivierung und Synchronisation innerhalb von 200 ms abgeschlossen sein.                               |
| 6594546 | Die Blinkersteuerung soll den Blinker nach erfolgter Richtungsänderung automatisch abschalten (z. B. Rückstellung durch Lenkradbewegung). |
| 6594547 | Der Fahrer soll die Blinkfunktion jederzeit manuell abbrechen können (mittels Hebel in Neutralstellung).                                  |
| 6594548 | Nach Betätigung des Hebels soll das Blinken innerhalb von maximal 200 ms beginnen.                                                        |
| 6594549 | Die Blinkersteuerung soll optional „Komfortblinken“ (dreimaliges Blinken nach kurzem Antippen) unterstützen.                              |
| 6594550 | Die Blinkersteuerung soll rechte und linke Fahrzeugseite separat ansteuern.                                                               |
| 6594551 | Die Blinkersteuerung soll eine akustische Rückmeldung im Innenraum (Klicksignal) synchron zum Blinkzyklus erzeugen.                       |
| 6594544 | 4 Nicht-Funktionale Anforderungen                                                                                                         |
| 6594552 | Die Blinkersteuerung soll unabhängig von Vibrationen und Umweltbelastungen dauerhaft funktionieren.                                       |
| 6594559 | LED-Systeme soll bei Betriebsspannungen von 6,75 V, 13,5 V und 28,0 V geprüft werden.                                                     |
| 6594560 | LED-Systeme soll Farb- und Lichtstabilität über die gesamte Lebensdauer gewährleisten.                                                    |
| 6594553 | 5 Sicherheitsanforderungen                                                                                                                |

> Translate by using simple prompts like „translate into english“

> Results show up per artifact

> Update on Button-Press (incl. Undo)

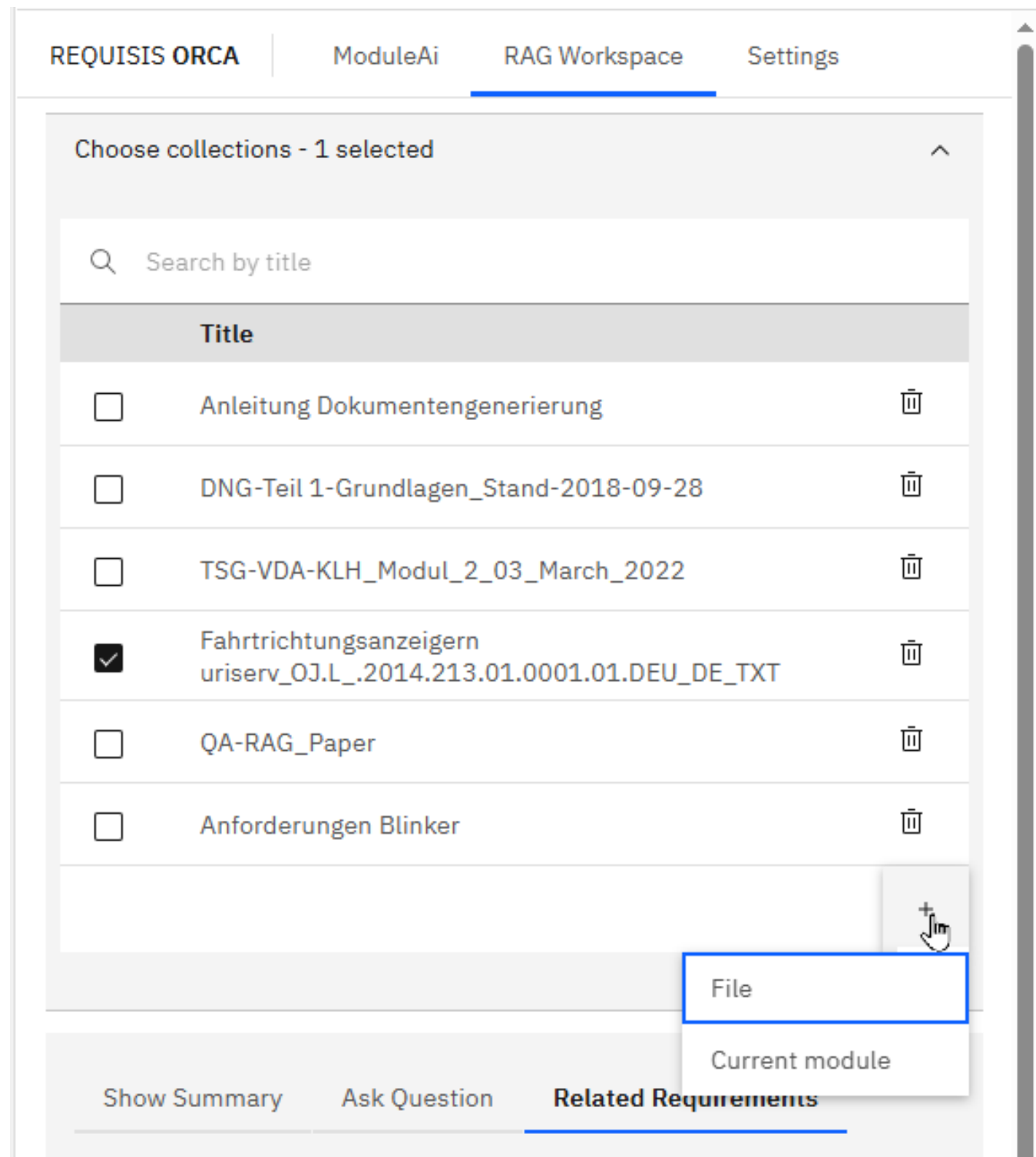
# requisis\_ORCA: Creation of artifacts Usecase

The screenshot displays the IBM Engineering Requirements Management DOORS Next (rm) interface. The main window shows a list of requirements under the heading 'Fahrtrichtungsanzeiger'. The requirements are organized into sections: 1 Allgemeine Anforderungen, 2 Lichttechnische Anforderungen, 3 Funktionale Anforderungen, 4 Nicht-Funktionale Anforderungen, and 5 Sicherheitsanforderungen. The 'Funktionale Anforderungen' section is currently selected, showing a list of requirements with checkboxes. A side panel titled 'requisis\_ORCA - Requirements Co-Pilot' is open, showing a 'Send' button and an 'AI Response' section. The AI response lists functional and safety requirements for a turn signal system.

| ID      | Inhalt                                                                                                                                    |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 6594534 | 1 Allgemeine Anforderungen                                                                                                                |
| 6594535 | Die Blinkersteuerung soll die Betätigung von Fahrtrichtungsanzeigern ermöglichen, um Richtungsänderungen anzuzeigen.                      |
| 6594536 | Die Blinkersteuerung soll eine Blinkfrequenz von 1,5 Hz ± 0,5 Hz bei einer Einschaltdauer von ca. 50 % aufweisen.                         |
| 6594537 | Die Blinkersteuerung soll bei Ausfall einer Blinkerlampenquelle eine Fehlermeldung auslösen (z. B. Kontrollleuchte im Cockpit).           |
| 6594538 | 2 Lichttechnische Anforderungen                                                                                                           |
| 6594540 | Das Blinklicht soll gelb gemäß UNECE Regelung Nr. 6, Abschnitt 8, leuchten.                                                               |
| 6594541 | The light intensity should be at least 175 cd and at most 1,000 cd for category 1.                                                        |
| 6594542 | For category 2b, a variable light intensity for day/night adaptation should be permissible.                                               |
| 6594543 | 3 Funktionale Anforderungen                                                                                                               |
| 6594545 | Bei sequenziellem Blinken soll die Aktivierung und Synchronisation innerhalb von 200 ms abgeschlossen sein.                               |
| 6594546 | Die Blinkersteuerung soll den Blinker nach erfolgter Richtungsänderung automatisch abschalten (z. B. Rückstellung durch Lenkradbewegung). |
| 6594547 | Der Fahrer soll die Blinkfunktion jederzeit manuell abbrechen können (mittels Hebel in Neutralstellung).                                  |
| 6594548 | Nach Betätigung des Hebels soll das Blinken innerhalb von maximal 200 ms beginnen.                                                        |
| 6594549 | Die Blinkersteuerung soll optional „Komfortblinken“ (dreimaliges Blinken nach kurzem Antippen) unterstützen.                              |
| 6594550 | Die Blinkersteuerung soll rechte und linke Fahrzeugseite separat ansteuern.                                                               |
| 6594551 | Die Blinkersteuerung soll eine akustische Rückmeldung im Innenraum (Klicksignal) synchron zum Blinkzyklus erzeugen.                       |
| 6594544 | 4 Nicht-Funktionale Anforderungen                                                                                                         |
| 6594552 | Die Blinkersteuerung soll unabhängig von Vibrationen und Umweltbelastungen dauerhaft funktionieren.                                       |
| 6594559 | LED-Systeme soll bei Betriebsspannungen von 6,75 V, 13,5 V und 28,0 V geprüft werden.                                                     |
| 6594560 | LED-Systeme soll Farb- und Lichtstabilität über die gesamte Lebensdauer gewährleisten.                                                    |
| 6594553 | 5 Sicherheitsanforderungen                                                                                                                |

- > Generate Artifacts by using simple prompts
  - > Additional requirements
  - > Test cases
- > Add the artifacts into same or other module by the press of a button

# RAG-Workspace



## > Der RAG-Workspace

- > Use Documents and other modules as knowledge base
- > Individual for every user
- > Upload a DNG module by a single press of a button

## > RAG usecases

- > Chat with documents / ask questions
- > Check requirements and find related text in documents

# RAG-Workspace: Related Requirements

**Requirement**

Bei LED-Lichtquellen sind alle Messungen bei 6,75 V, 13,5 V oder 28,0 V vorzunehmen, wobei der während der Einschaltdauer produzierte Lichtstromwert zu berichtigen ist. Der Korrekturfaktor ist das Verhältnis zwischen dem Bezugslichtstrom und dem Wert des Lichtstroms während der Einschaltdauer bei der angelegten Spannung.

Similarity

| Field        | Value                                                           |
|--------------|-----------------------------------------------------------------|
| CollectionId | C5b088923c17a4cd8b802807571346                                  |
| ContentId    | Fahrtrichtungsanzeigern<br>uriserv_OJ.L_.2014.213.01.0001.01.Df |
| Id           | 16523                                                           |
| OrderNo      | 133                                                             |
| Page         | 10/35                                                           |
| SourceFile   | Fahrtrichtungsanzeigern<br>uriserv_OJ.L_.2014.213.01.0001.01.Df |
| Type         | TEXT                                                            |

[Compare](#) [Conflict](#) [Open](#)

> Display of related test in other documents

> Metadata of source document

> Compare Function

> Conflict indicator

> Open the source document or module

# RAG-Workspace: AI Functions

- > Conflict detection between artifact and related text

## Conflicts

Close



The two requirements contradict each other in the specified voltage values for testing or measuring LED systems. The first requirement specifies testing at **6,75 V, 13,5 V** and **48,0 V**, while the second requirement specifies measurements at **6,75 V, 13,5 V** and **28,0 V**. These two sets of voltage values cannot be completely fulfilled at the same time.

- > Comparisson between artifact and related text
- > Display orderd by aspect or topic

## Detected differences



### Voltage Levels

**Original Paragraph:** Specifies voltage levels of 6.75 V, 13.5 V, and 48.0 V.

**Similar Artifact:** Specifies voltage levels of 6.75 V, 13.5 V, and 28.0 V.

### Measurement and Correction

**Original Paragraph:** Does not mention any specific measurements or corrections related to light output.

**Similar Artifact:** Mentions that measurements are to be taken and the light output value produced during the switch-on period is to be corrected. It also specifies a correction factor as the ratio between the reference light output and the light output value during the switch-on period at the applied voltage.

### Scope

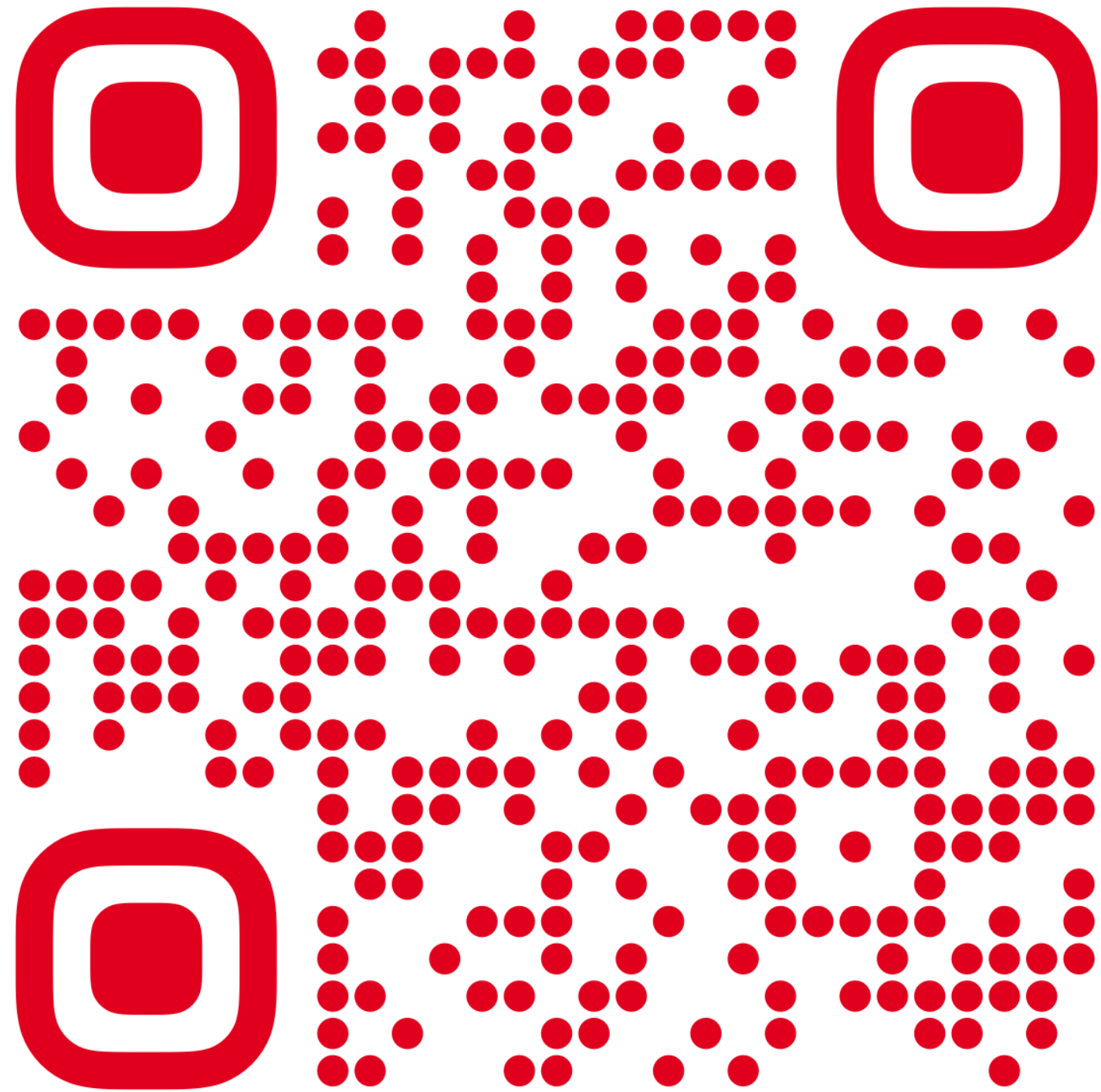
**Original Paragraph:** Refers to "LED-Systeme" (LED systems).

**Similar Artifact:** Refers to "LED-Lichtquellen" (LED light sources).

### Additional Details

**Original Paragraph:** Does not provide additional details beyond the voltage levels.

**Similar Artifact:** Includes details about the correction of light output values and the calculation of a correction factor.



**Thank you for your attention!**

**Book a Meeting now  
for deeper discussion**

**<https://hub.requisis.com/meetings/nikolai-stein>**