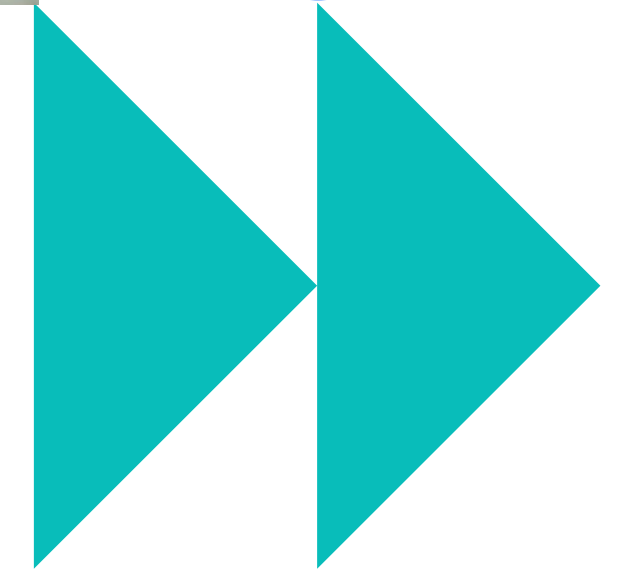
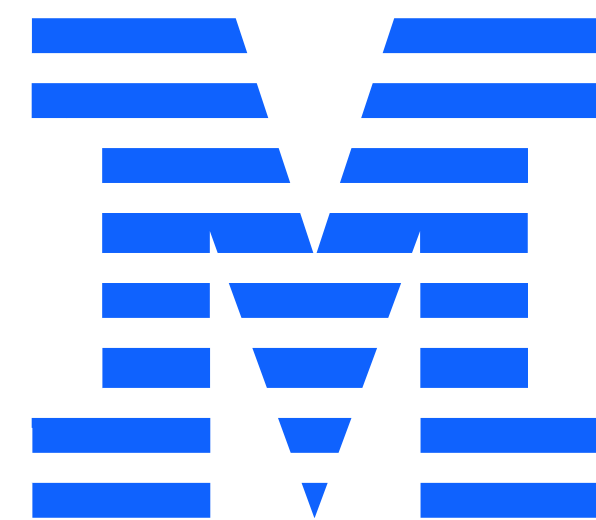
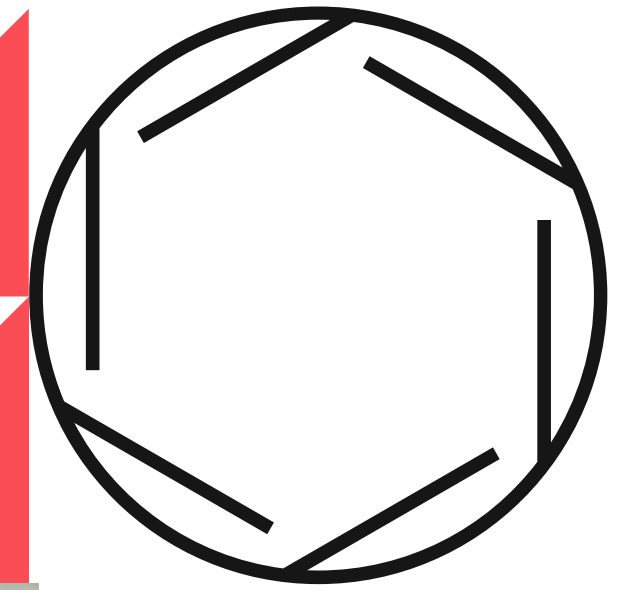
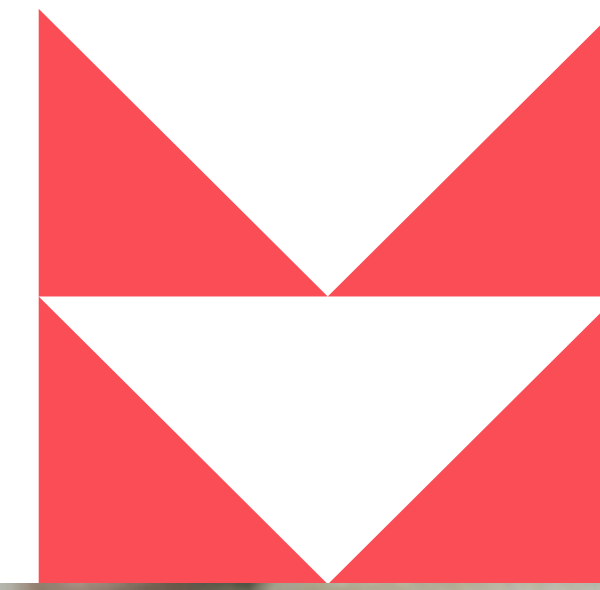


# Data Integration between watxonx , IBM Informix and Siemens journey into the Metaverse

18. April 2024, TechTalk Informix User Group

Mahran Meissner, Siemens AG

Henri Cujass, leolo IT



- 01 Siemens MetaVerse Journey
- 02 IT Architecture Requirements
- 03 Informix Data Engine
- 04 AI with WatsonX and Informix
- 05 UX with Axional Studio
- 06 Showcase: AR/VR with 3D Assets

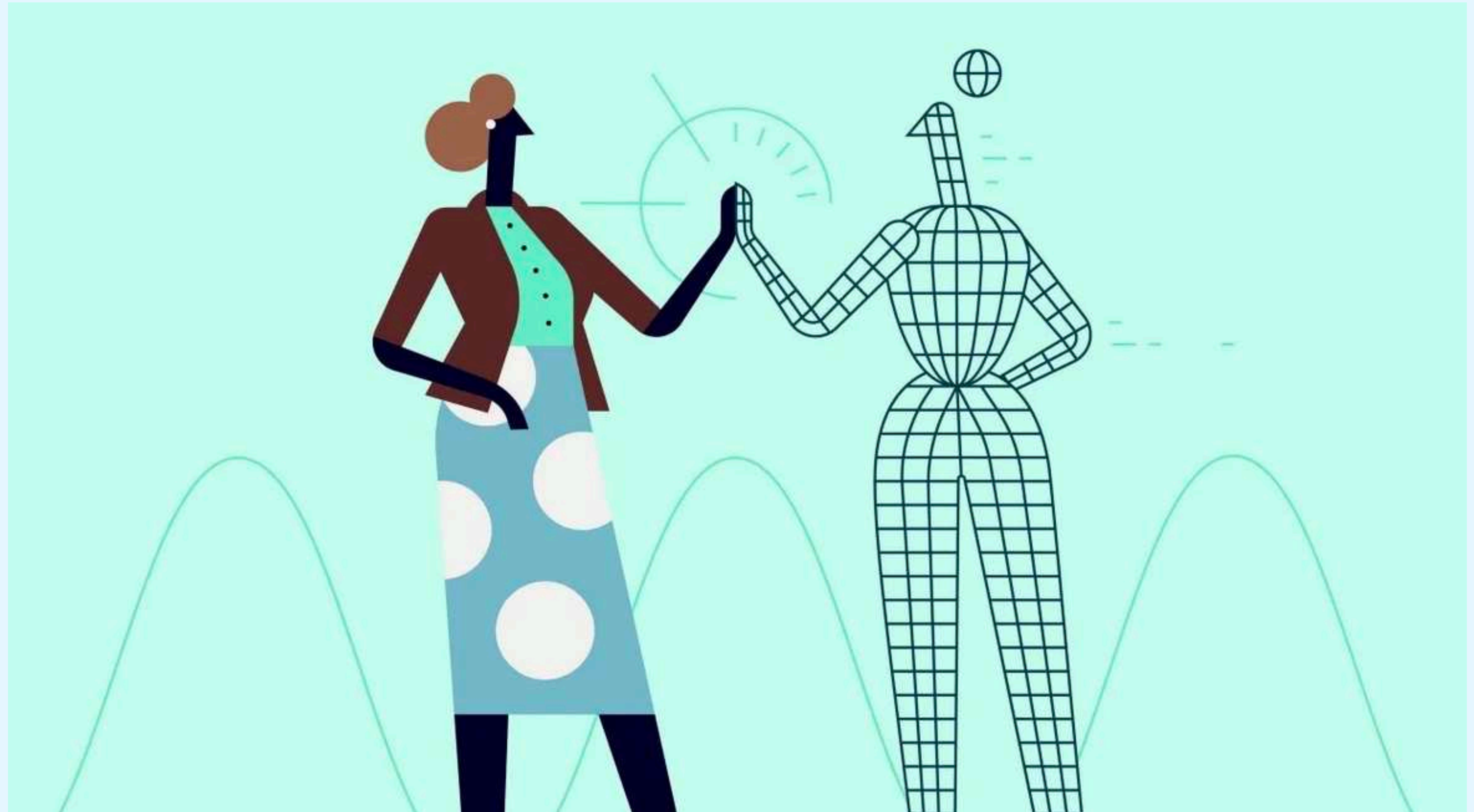
- 01 Siemens MetaVerse Journey
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- 05 UX with Axional Studio
- 06 Showcase: AR/VR with 3D Assets



# Siemens MetaVerse

Journey into the  
Industrial MetaVerse

Human and digital twins  
team up.





# Siemens MetaVerse

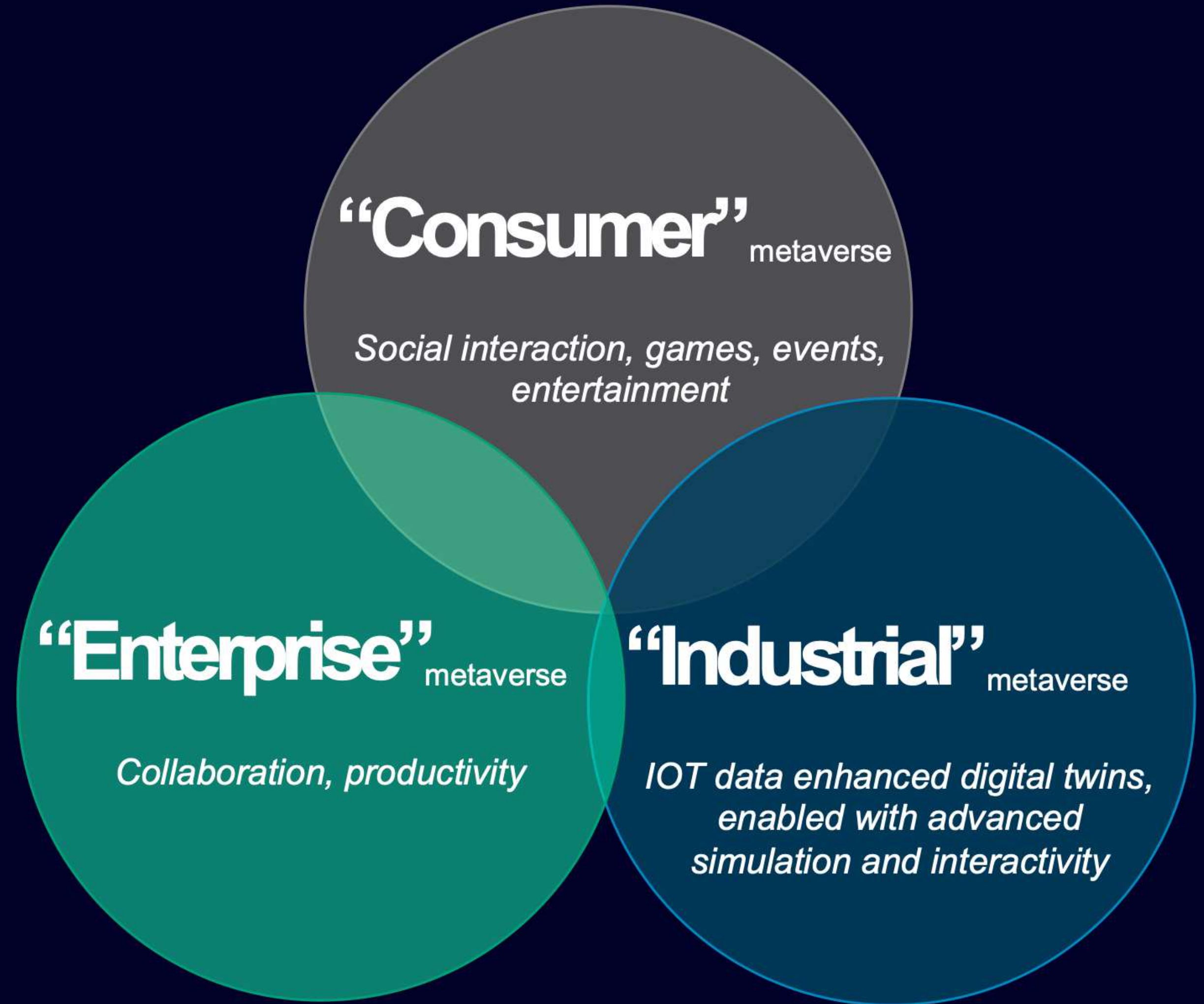
Consumer

Enterprise

Industrial

## Holistic view on Metaverse

Different perspectives on the metaverse hype



# Siemens MetaVerse

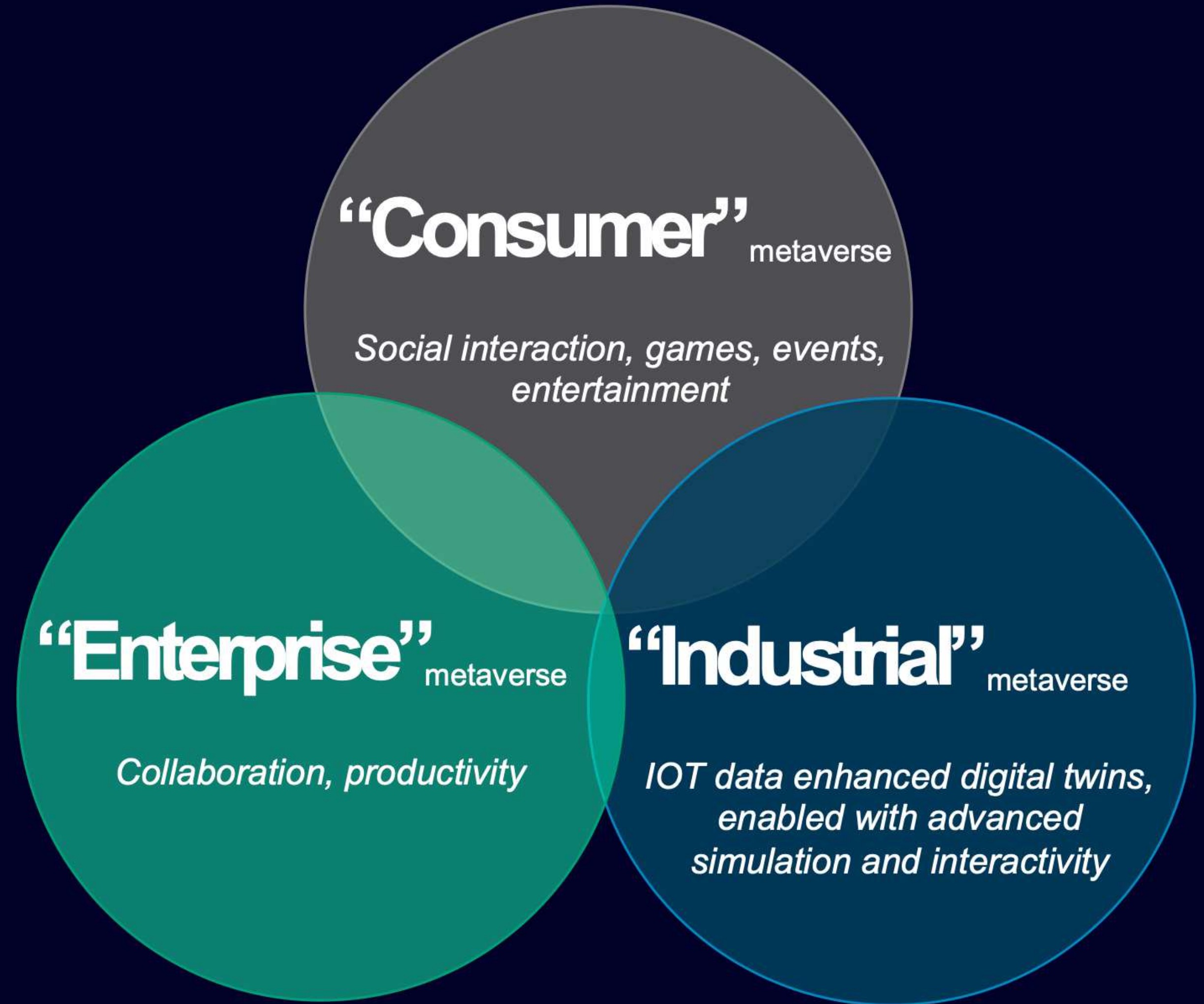
Consumer

Enterprise

Industrial

## Holistic view on Metaverse

Different perspectives on the metaverse hype







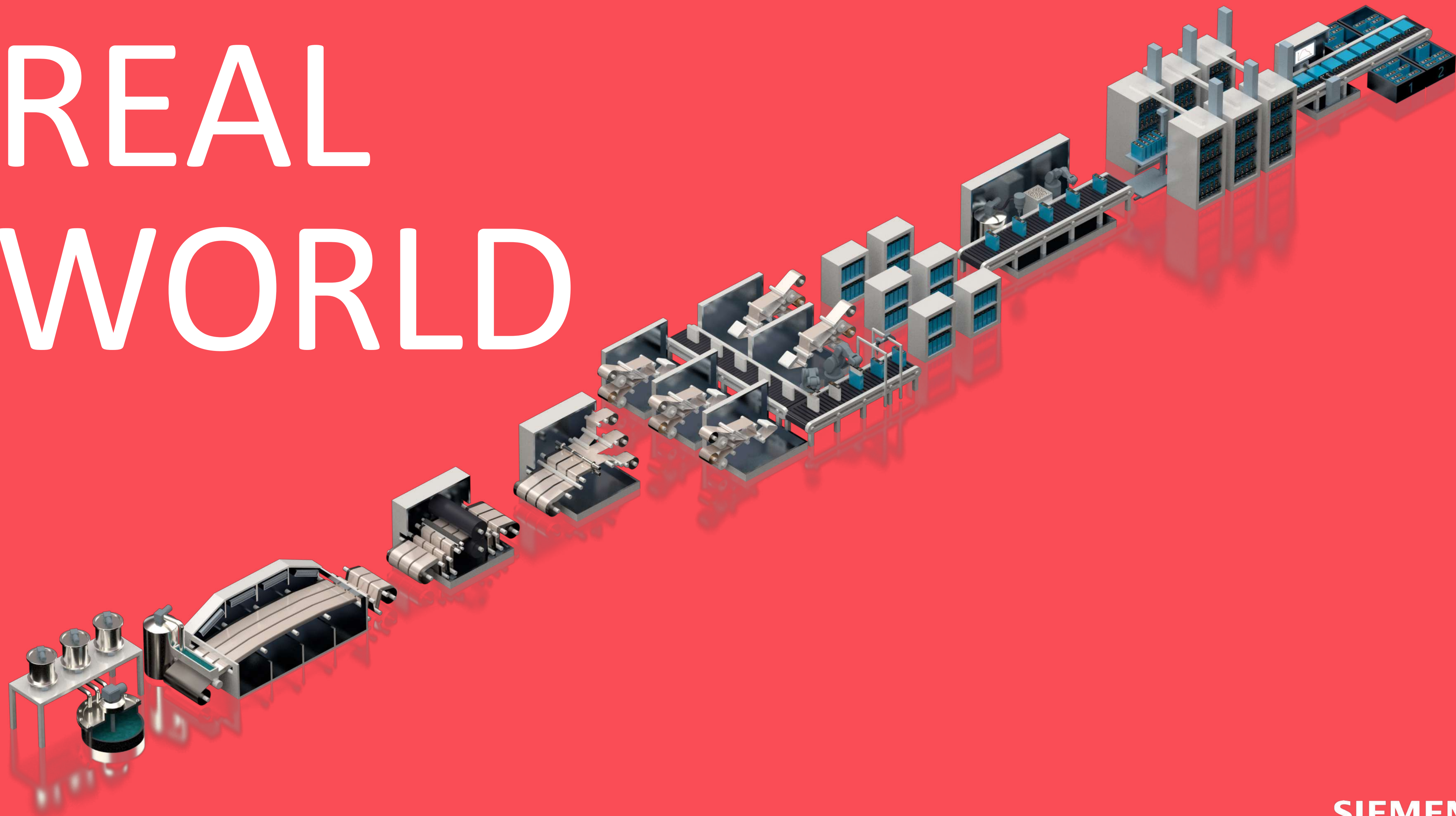
# INDUSTRIAL METAVERSE







# REAL WORLD



SIEMENS

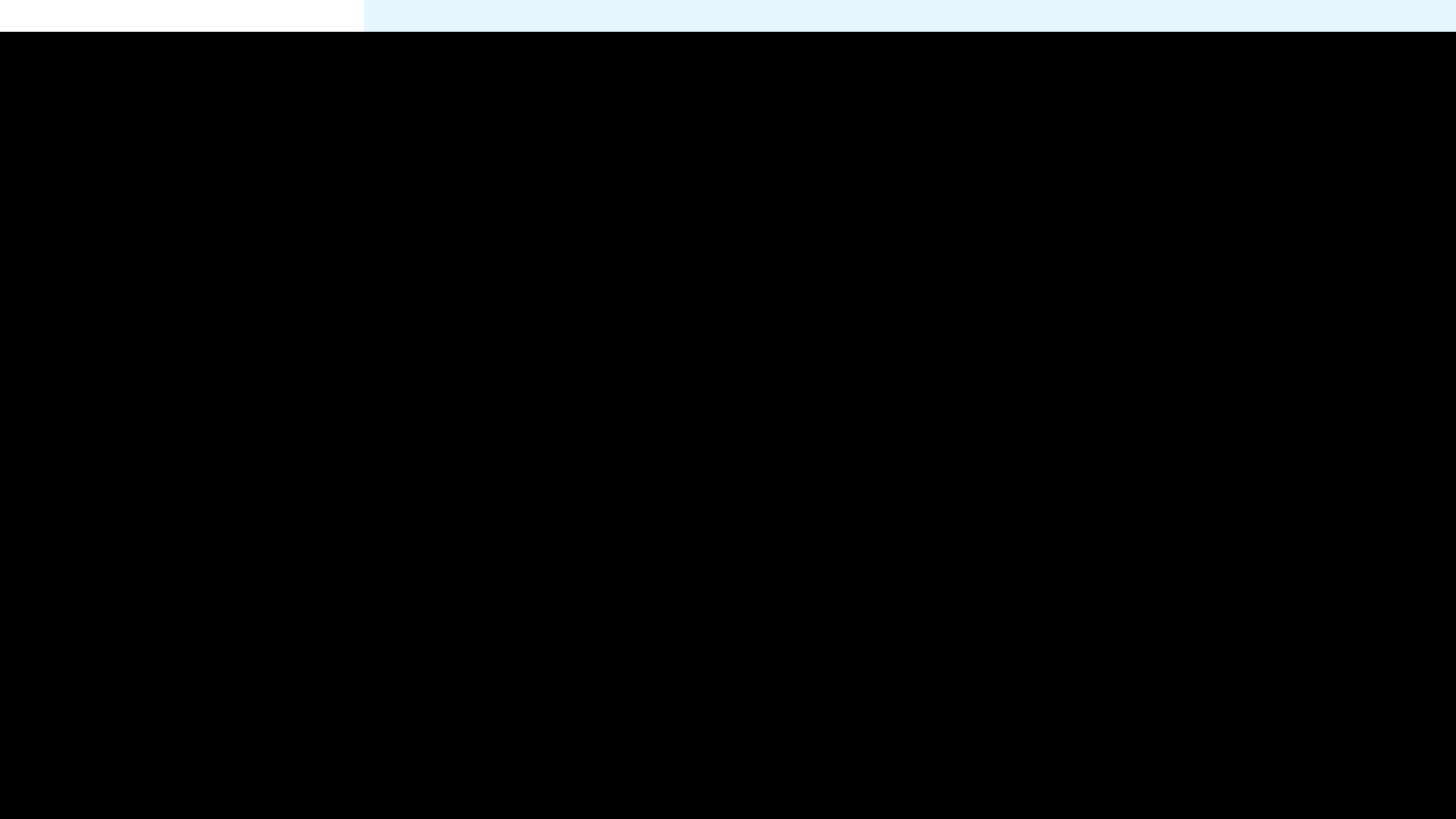
THE GAMECHANGER

Combining  
the digital and  
real worlds



SIEMENS





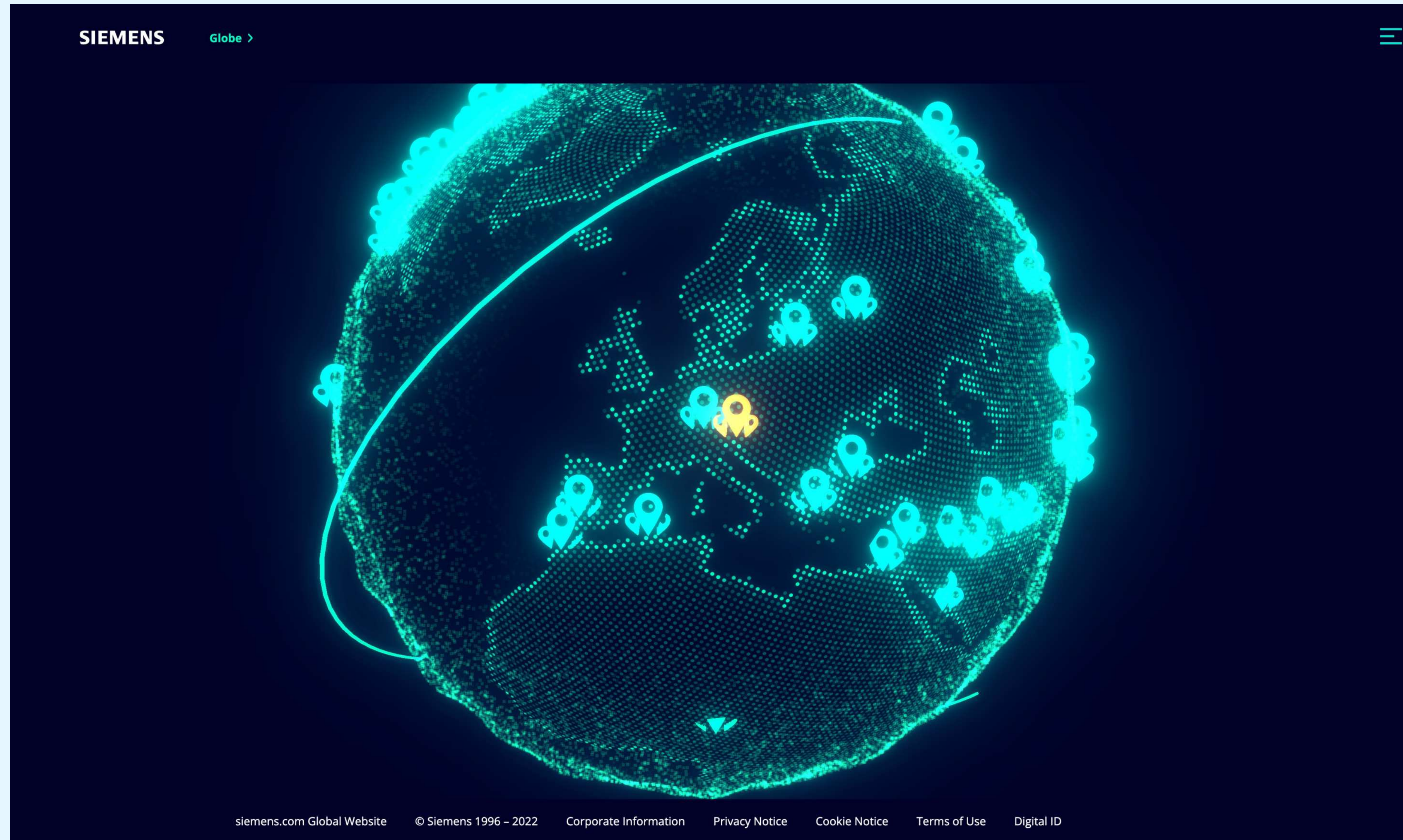


# Siemens IT MetaVerse

Enterprise MetaVerse

Its all about

Collaboration &  
Productivity





- 01 Siemens MetaVerse Journey
- 02 IT Architecture Requirements
- 03 Informix Data Engine
- 04 AI with WatsonX and Informix
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- 06 Showcase: AR/VR with 3D Assets

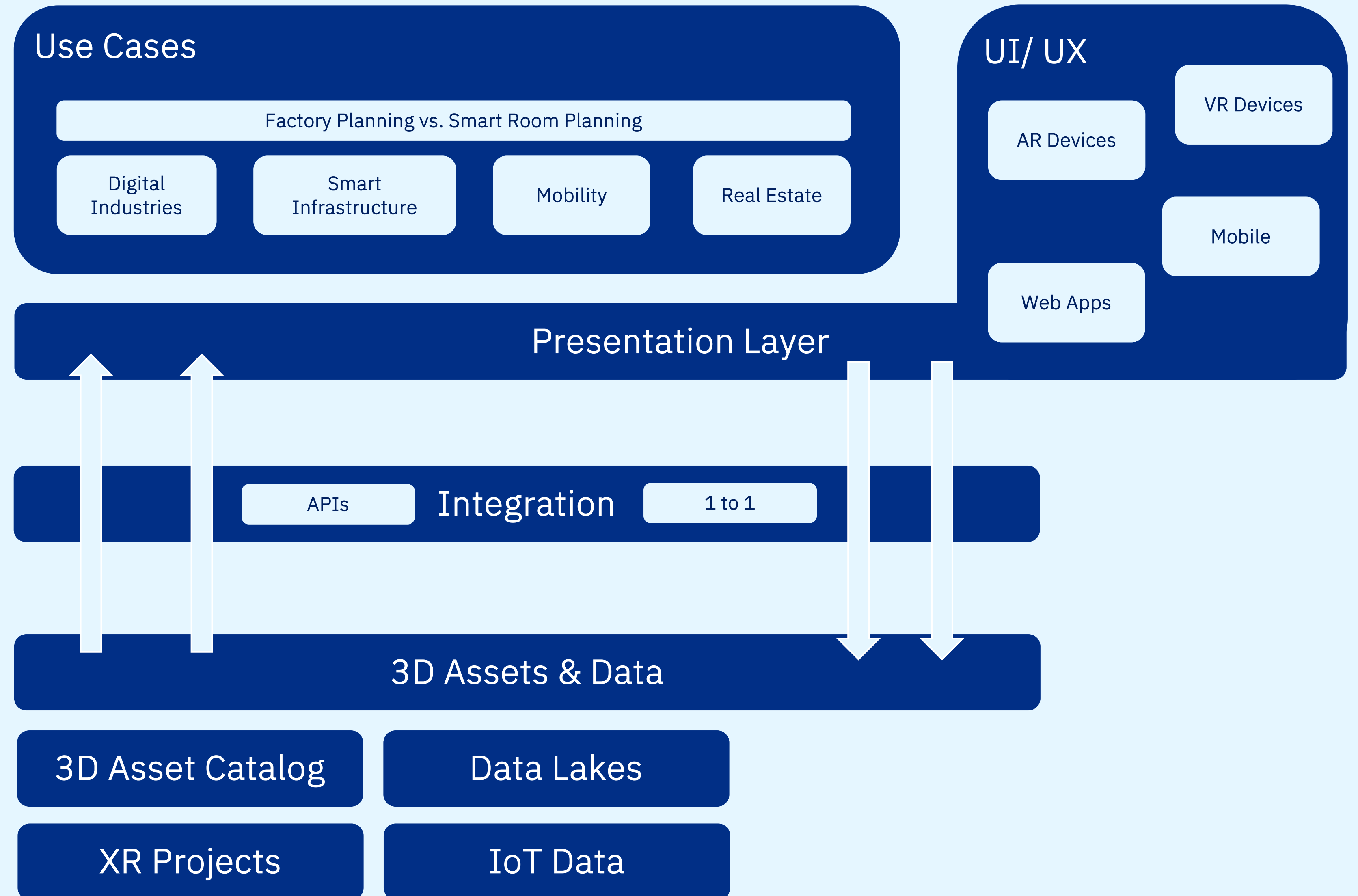


# Siemens IT MetaVerse

Enterprise MetaVerse

IT Architecture  
Requirements

Data Back-End  
UX Tools  
Hybrid Cloud





# Siemens IT MetaVerse

IT Architecture  
Requirements

Data Integration

Data Back-End  
UX Tools  
Hybrid Cloud

Understanding MetaVerse and Generative AI

## MetaVerse



The next generation of the Internet, characterized by interconnected virtual worlds. Offers potential for immersive digital experiences, new forms of social interaction, and e-commerce.

## Generative AI



A form of AI capable of creating new content such as text, images, or music. It learns patterns from data to generate novel outputs.



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# Back-End Requirements for Enterprise MetaVerse

## 100% available

User **don't accept** downtimes anymore.

## Real-Time answers

Users are now used to receiving all information in **milliseconds**.

## All kind of Data

The technical data formats are irrelevant for users. They simply want to save, read and see **everything**.

# IBM Informix for Enterprise MetaVerse

100% available

User don't accept downtimes anymore.

**Informix**<sup>®</sup>

All cluster concepts – HDR, RSS, SDS, CDC, ER.

All platforms and cloud providers.

Highest security standards.

# IBM Informix for Enterprise MetaVerse

## Real-Time answers

Users are now used to receiving all information in [milliseconds](#).

The Informix logo features the word "Informix" in a bold, sans-serif font. The "i" is red, and the "x" is blue with a stylized, multi-lined effect. A registered trademark symbol (®) is located to the upper right of the "x".

Extreme [scalable](#).

Extreme sophisticated query optimization.

[Leads](#) all benchmark.



# IBM Informix for Enterprise MetaVerse

## All kind of Data

The technical data formats are irrelevant for users. They simply want to save, read and see [everything](#).



[Unchained](#) limits for data size and data types from V 15.

Long experience with real time Sensor Data and [Timeseries](#) management.

Open interface for unstructured data.

Full functional high speed [binary](#) data and [large](#) text management.



100%

Informix perfectly covers all known technical requirements as an Enterprise MetaVerse Database Engine. And Generative AI.



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# Informix Analytics

IBM Cognos

Analytics with Informix as Data Source

## Create data server connection

Type  
 Connection  
 Commands

Name  
demo\_leolo

Description (optional)  
Demo TechXchange Barcelona

Connection type  
IBM Informix Dynamic Server

The screenshot displays the IBM Cognos Analytics interface for a 'Retail Dashboard TF'. The dashboard includes several key performance indicators (KPIs) and visualizations:

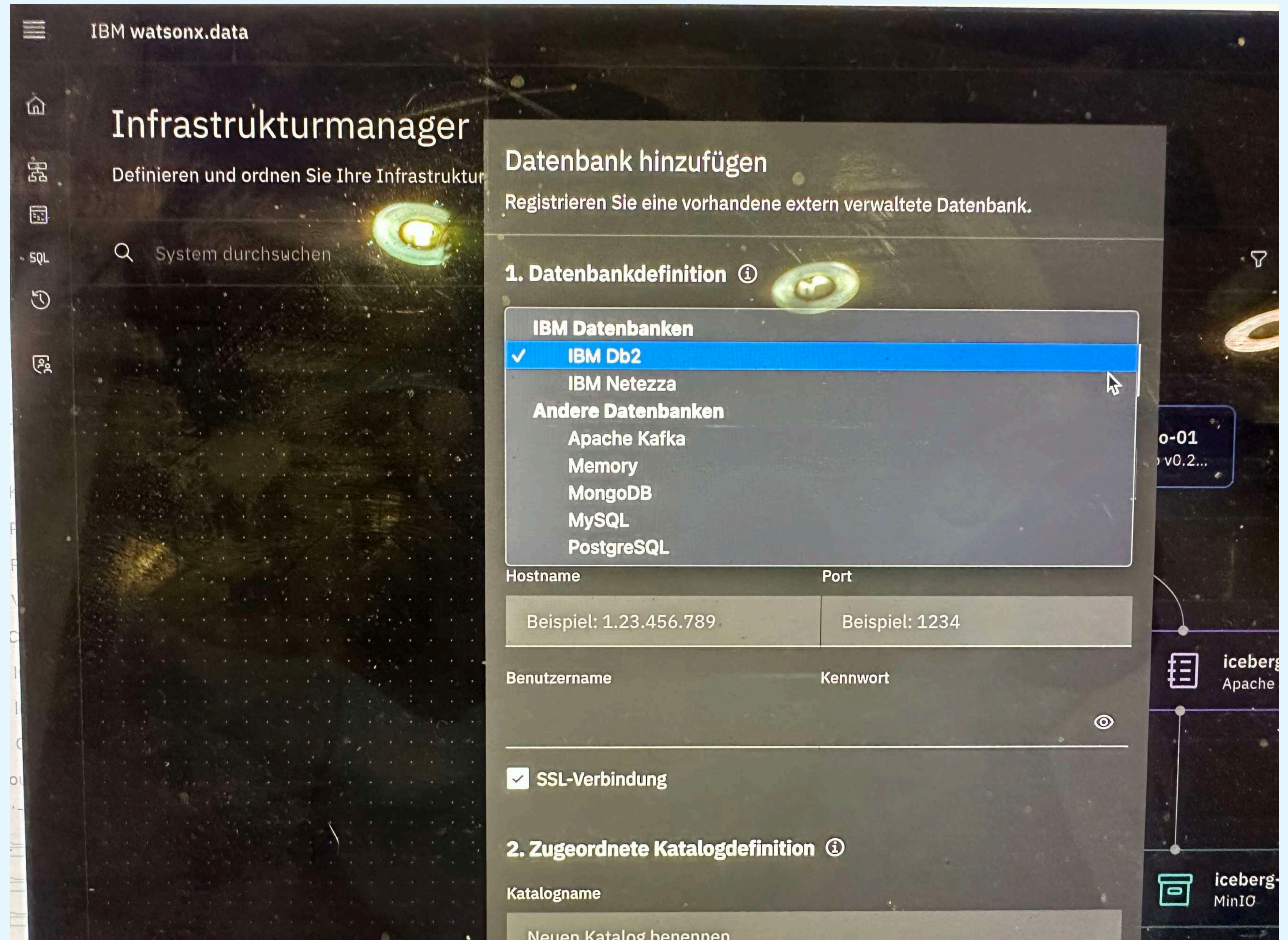
- KPI Overview:** Shows a revenue of 1.12B, which is 4.66% below the planned revenue of 1.18B. Unit sales are 19,649,918.
- Top 5 Products - Revenue:** A horizontal stacked bar chart showing revenue by product and channel (E-mail, Fax, Mail, Sales visit, Special, Telephone, Web).
- Revenue by Loyalty Status:** A bar chart comparing revenue for 'Bronze' and 'Elite' loyalty members across different product categories.
- Revenue by Country Regions:** A world map highlighting revenue distribution across various geographical regions.
- Revenue - Current Year vs. Previous Year:** A line chart comparing current and prior year revenue for January, February, and March.
- AI Assistant:** A chat window on the right side of the dashboard. It has been asked, "What are the top 5 products by revenue?" and has provided the following insights:
  - Product number 11110 has the highest values of both Revenue and Quantity.
  - Revenue is unusually high when Product number is 11110.
  - Over all product numbers, the sum of Revenue is nearly 628 million.
  - Revenue ranges from nearly 95 million, when Product number is 102110, to over 168 million, when Product number is 11110.



# watsonx.data

Informix as Data Source  
Engine **not**  
implemented in x.data?

Maybe workaround via  
Presto Layer





# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

Create an Informix Data  
Asset.

1. connect data source
2. select IBM Informix

The image shows two overlapping screenshots of the IBM watsonx.ai user interface. The top screenshot displays the 'Was möchten Sie tun?' (What do you want to do?) screen, which offers three main options under 'Daten vorbereiten' (Prepare data): 'Daten vorbereiten und visualisieren' (Prepare and visualize data), 'Synthetische Tabellendaten generieren' (Generate synthetic table data), and 'Verbindung zu einer Datenquelle herstellen' (Create connection to a data source). The bottom screenshot shows the 'Verbindung zu einer Datenquelle herstellen' (Create connection to a data source) screen. It features a search bar for connectors and a list of available providers. The 'IBM Informix' connector is highlighted in the list. On the right side, a 'Ausgewählter Connector' (Selected Connector) panel provides details about IBM Informix, including its description and compatible services like DataStage, Kataloge, and Watson Query.



# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

Create an Informix Data  
Asset.

3. create connection
4. test connection

IBM watsonx Upgrade durchführen Henri Cujass's ... Frankfurt HC

Projekte / AutoAI Test 1

### Verbindung zu Datenquelle herstellen: IBM Informix

Definieren Sie die Details, um ein Verbindungsasset zu erstellen.

[Verbindung testen](#)

- Verbindungsübersicht
- Verbindungsdetails
- Berechnungsnachweise
- Zertifikate
- Private Konnektivität

#### Verbindungsübersicht [Mehr anzeigen](#)

Name

Beschreibung

#### Verbindungsdetails

Server (erforderlich) ⓘ

Datenbank (erforderlich) ⓘ

Hostname oder IP-Adresse (erforderlich) ⓘ

Port (erforderlich) ⓘ

Datenbank-Locale ⓘ

[Abbrechen](#) [Zurück](#) [Erstellen](#)

# watsonx.ai

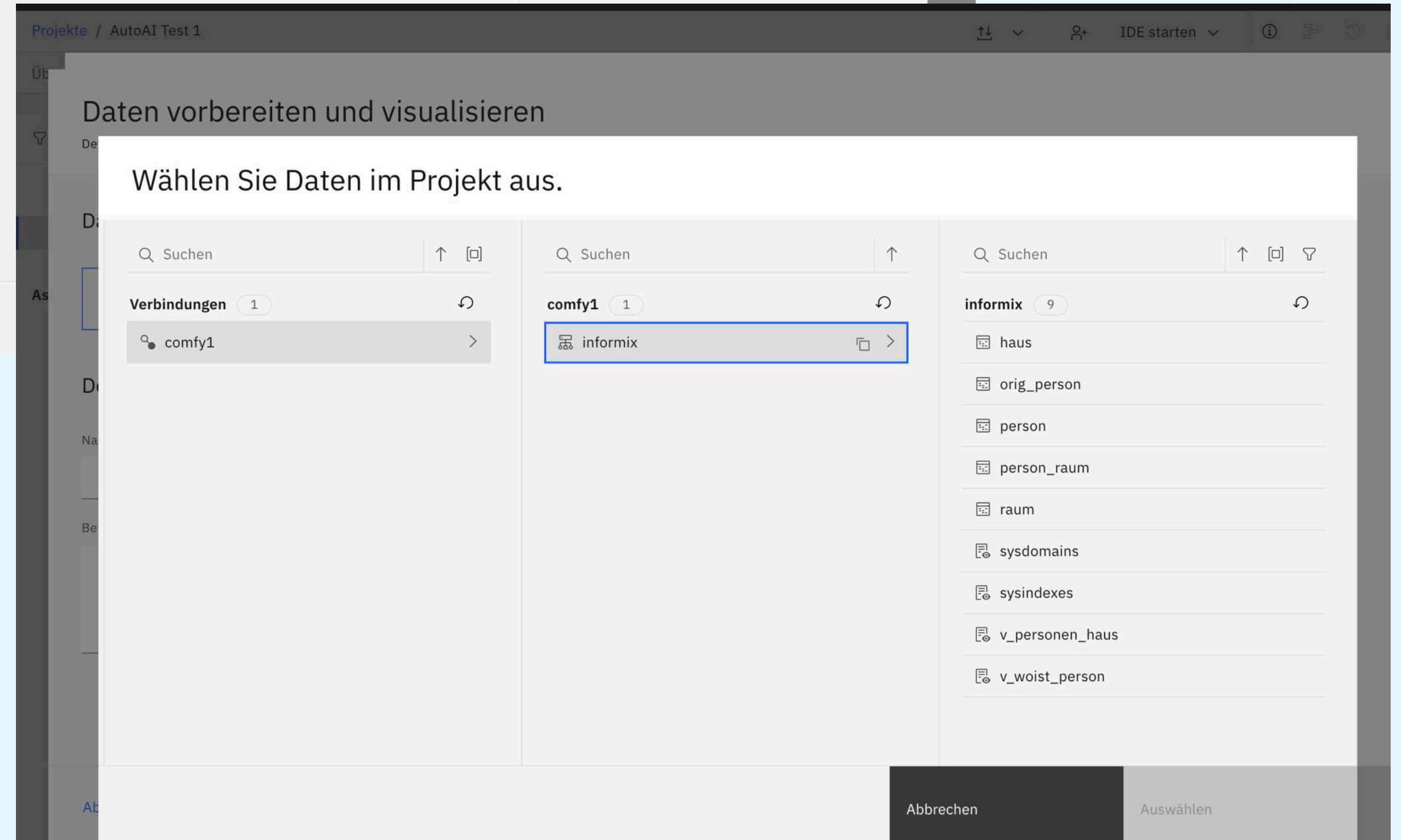
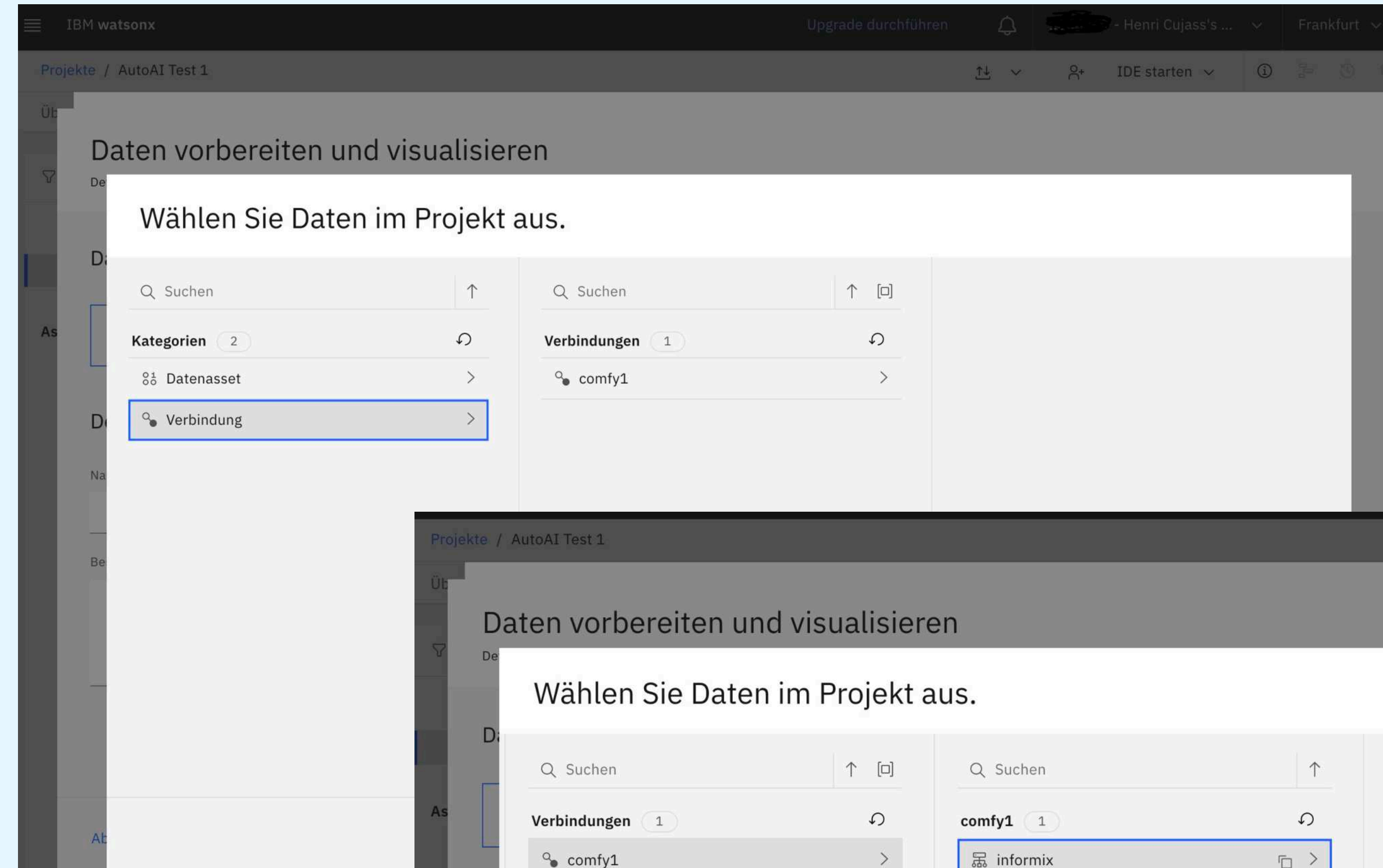
Informix as Data Source for watsonx.ai functions.

Create an Informix Data Asset.

5. use the conn asset

6. Select the table/view

\*Comfy/ Enlighted a workspace experience app





# watsonx.ai

Informix as Data Source for watsonx.ai functions.

Create an Informix Data Asset.

7. Name this Informix table/view

8. load the data to use for x.ai functionality

Wählen Sie Daten im Projekt aus.

**comfy1** 1

informix

**informix** 9

- haus
- orig\_person
- person
- person\_raum
- raum
- sysdomains
- sysindexes
- v\_personen\_haus**
- v\_woist\_person

**Ausgewählte Assets** 1 / 1

Alle Assetdetails müssen vor der endgültigen Auswahl geladen werden.

**v\_personen\_haus** ✓

Typ  
Tabelle (Ansicht)

Pfad  
/informix/v\_personen\_haus

Felder (2)

Feld	Typ
standort	varchar
name	varchar

Verbindungsname  
comfy1

Verbindungseigner

Projekte / AutoAI Test 1 / Data Refinery

Schritte (0)

Datenquelle  
comfy1/informix/v\_personen\_haus

**Daten** Profil Visualisierungen

	standort	name
	String	String
1	Neuperlach Haus 48	Mahran
2	Neuperlach Haus 48	Henri
3	Neuperlach Haus 48	Uwe
4	Neuperlach Haus 48	Peter
5	Neuperlach Haus 48	Jozsef
6	Wittenbergplatz Haus 10	Eva
7	Erlangen Haupthaus	Vera
8	Paderborn Nixdorf	Sabine

**Informationen zu diesem Asset**

**Name**  
v-p-h-1  
Data Refinery-Ablauf

**Beschreibung**  
Welchen Zweck hat dieser Data Refinery-Ablauf?

**Assetdetails**  
Schritte: 0

**Zugehörige Assets**

- Quelle: comfy1/informix/v\_personen...
- Ziel: comfy1\_informix\_v\_personen\_...

Letzte Änderung

# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

Data Analytics and  
Visualisation of Informix  
Data Asset

Person-Location  
Relationship graph

The screenshot displays the IBM watsonx Data Refinery interface. The top navigation bar includes the IBM watsonx logo, an 'Upgrade durchführen' button, a user profile for 'Henri Cujass's ...', and the location 'Frankfurt'. The breadcrumb trail shows 'Projekte / AutoAI Test 1 / v\_personen\_haus / Data Refinery'. The main interface is divided into several sections:

- Schritte (0):** A sidebar on the left showing the data source 'Datenquelle v\_personen\_haus'.
- Visualisierungen:** The central workspace where a 'BEZIEHUNG-DIAGRAMM' (Relationship Diagram) is being configured. The 'DIAGRAMMTYP' dropdown is set to 'Beziehung'. The visualization shows a central blue node connected to several smaller purple nodes by curved lines.
- Spalten\*:** A list of columns including 'name' and 'standort'.
- Liniestil:** Options for 'Kurve' (selected) and 'Gerade'.
- Beschriftungsschwellenwert:** A slider set to 20.
- Legendausrichtung:** Options for 'Horizontal', 'Vertikal' (selected), and 'Vertikal unten'.
- Primärer Titel, Untertitel, Fußnote:** Fields for adding titles and footnotes.

On the right side, the 'Informationen zu diesem Asset' panel provides details for the asset 'v\_personen\_haus\_flow Data Refinery-Ablauf', including its name, description, and asset details.

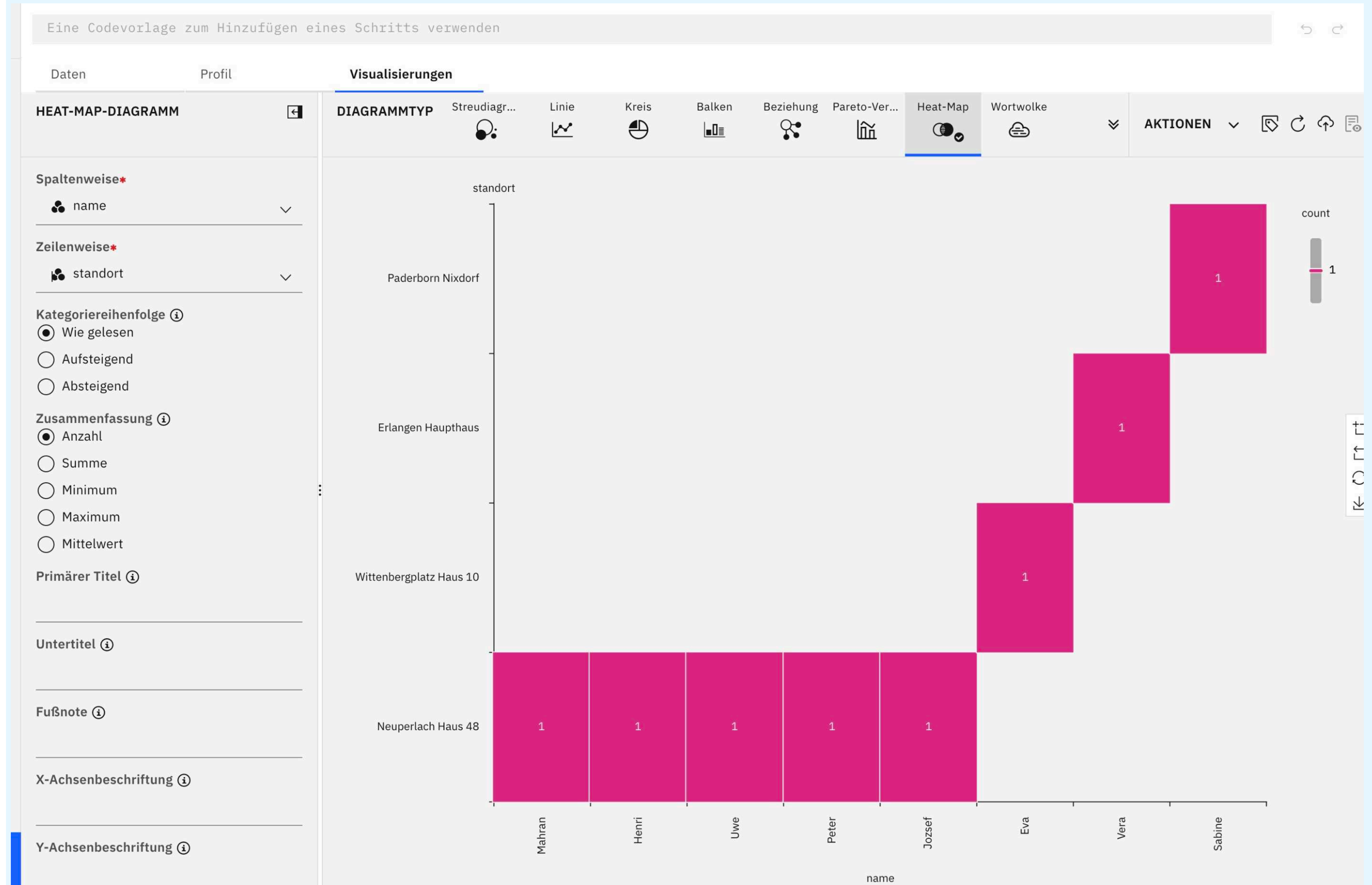


# watsonx.ai

Informix as Data Source for watsonx.ai functions.

Data Analytics and Visualisation of Informix Data Asset

Person-Location Heat-Map



# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

Example:  
Jupyter Notebook for AI  
model training and Data  
Science Processing with  
Python

IBM watsonx

2613364 - itz-marketsaas-... Dallas MB

Projects / AI for Planning Analytics / Informix Demo

File Edit View Insert Cell Kernel Help

Not Trusted | Python 3.10

Memory: 195.8 MB / 8 GB

In [ ]:

Read data

Generate a code snippet to load data from a data asset or connection into your notebook.

Select data from project

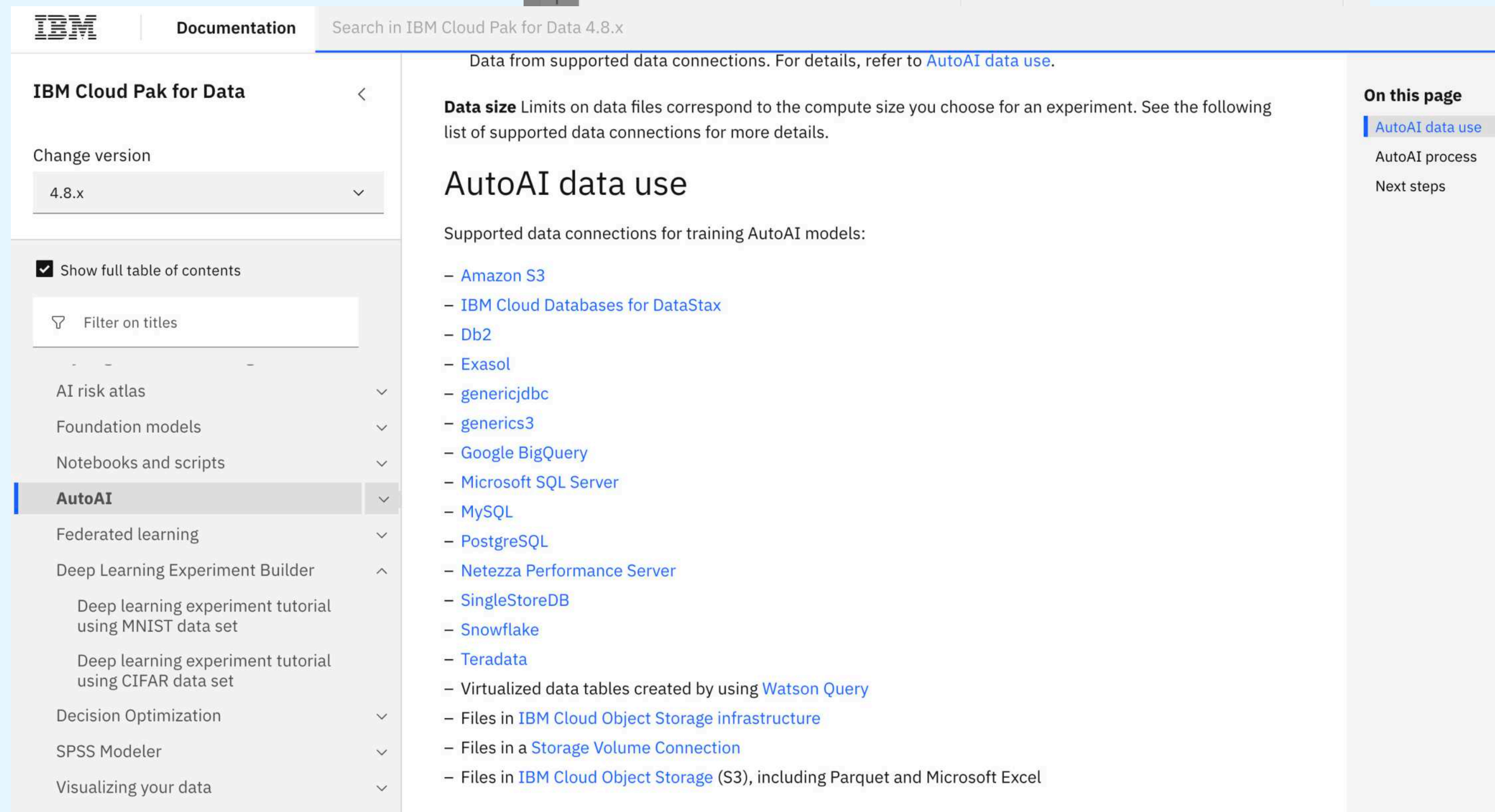
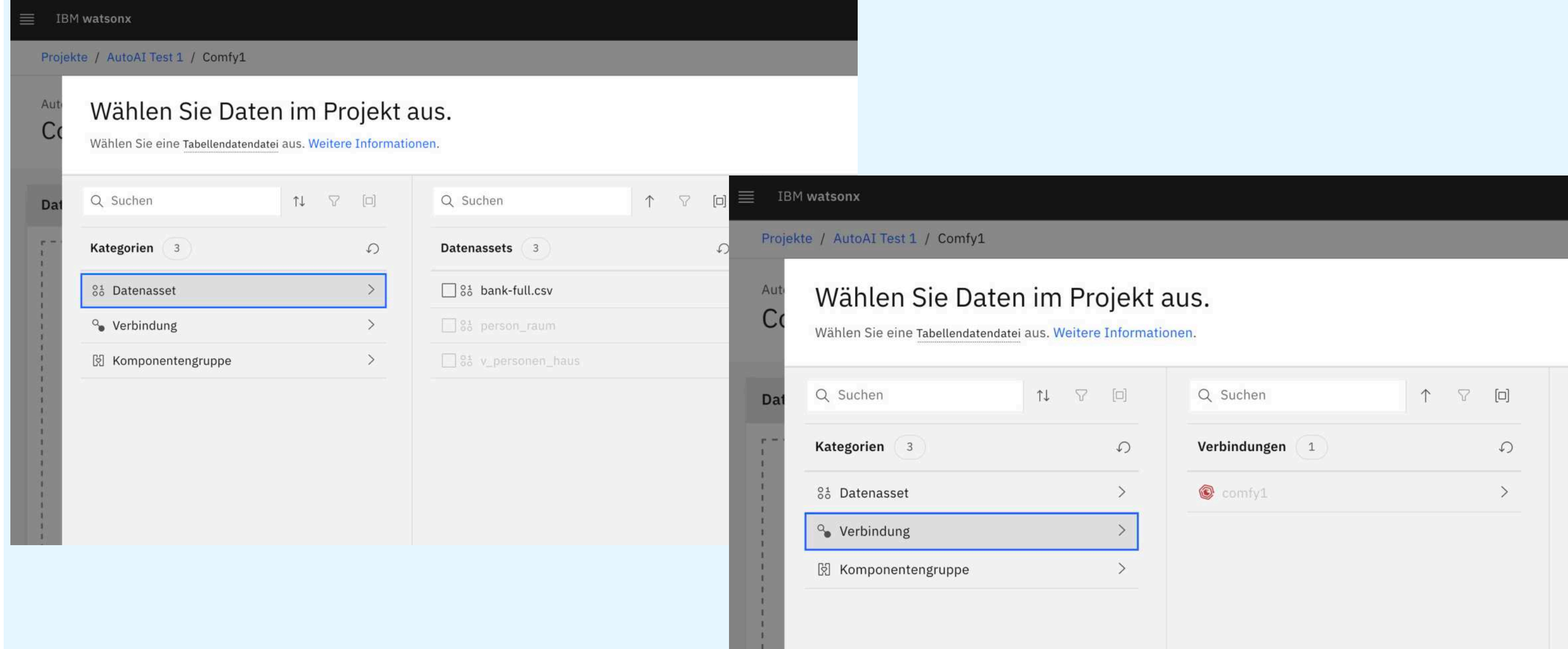


# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

No native AutoAI  
Informix data  
connection available.

Our Request to R&D!



# watsonx.ai

Informix as Data Source for watsonx.ai functions.

AutoAI Model creation with csv dataset.(workaround Informix->.csv data subset for AutoAI pipeline creation.

Projekte / AutoAI Test 1 / v\_person\_haus.csv / Data Refinery

Schritte (0) ×

Eine Codevorlage zum Hinzufügen eines Schritts verwenden


	Daten	Profil	Visualisierungen
	<b>standort</b> String	<b>name</b> String	
1	Neuperlach Haus 48	Mahran	
2	Neuperlach Haus 48	Henri	
3	Neuperlach Haus 48	Uwe	
4	Neuperlach Haus 48	Peter	
5	Neuperlach Haus 48	Jozsef	
6	Wittenbergplatz Ha...	Eva	
7	Erlangen Haupthaus	Vera	
8	Paderborn Nixdorf	Sabine	
9	Wittenbergplatz Ha...	Louisa	
10	Erlangen Haupthaus	Mario	
11	Paderborn Nixdorf	Katrin	

Projekte / AutoAI Test 1 / pers-house-model

Experimentzusamm... Pipelinevergleich

★ Rangordnung nach: Genauigkeit (Optimiert) | Kreuzvalidierungsscore

Beziehungsübersicht ⓘ  
Vorhersagespalte: standort;name



Fortschrittsübersicht  
Ansicht tauschen ↺

Anstehend  
V\_PERSON\_HAUS2.CSV  
Das AutoAI-Experiment wird gestartet.  
Abgelaufene Zeit: 1 Sekunden

Protokoll anzeigen Code speichern

Pipelinebestenliste ▾

Rang	↑	Name	Algorithmus	Genauigkeit (Optimiert) Kreuzvalidierung	Erweiterungen	Erstellungszeit



# watsonx.ai

Informix as Data Source for watsonx.ai functions.

AutoAI Model creation with csv dataset. (workaround Informix->.csv data subset for AutoAI pipeline creation.

Projekte / AutoAI Test 1 / person-day

Experimentzusamm... Pipelinevergleich

★ Rangordnung nach: Genauigkeit (Optimiert) | Kreuzvalidierungsscore

Beziehungsübersicht ⓘ  
Vorhersagespalte: standort

MERKMALSTRANSFORMER  
PIPELINES  
BESTE ALGORITHMEN  
v\_person\_haus-3.c...

Fortschrittsübersicht  
Ansicht tauschen ↺

Experiment abgeschlossen ✓  
8 PIPELINES GENERIERT  
8 Pipelines aus algorithmen generiert. Weitere Details finden Sie in der Pipelinebestenliste unten.  
Abgelaufene Zeit: 2 Minuten

Protokoll anzeigen Code speichern

Pipelinebestenliste ⌵

	Rang	↑	Name	Algorithmus	Genauigkeit (Optimiert) Kreuzvalidierung	Erweiterungen	Erstellungszeit
★	1		Pipeline 8	● Klassifikator für Snap-Entscheidungsbaum	0.718	HPO-1 FE HPO-2	00:00:20
	2		Pipeline 7	● Klassifikator für Snap-Entscheidungsbaum	0.718	HPO-1 FE	00:00:18
	3		Pipeline 4	● XGB-Klassifikator	0.690	HPO-1 FE HPO-2	00:00:43
	4		Pipeline 3	● XGB-Klassifikator	0.690	HPO-1 FE	00:00:27
	5		Pipeline 6	● Klassifikator für Snap-Entscheidungsbaum	0.661	HPO-1	00:00:01
	6		Pipeline 2	● XGB-Klassifikator	0.631	HPO-1	00:00:06
	7		Pipeline 1	● XGB-Klassifikator	0.631	Keine	00:00:01



# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

AutoAI Model  
ready for use.

E.g., for the Enterprise  
MetaVerse

The screenshot displays the IBM Watsonx AI console interface. At the top, the breadcrumb navigation shows 'Bereitstellungen / Test-Location-Prediction'. Below this, there are tabs for 'Übersicht', 'Assets', 'Bereitstellungen', 'Jobs', and 'Verwalten', with 'Assets' currently selected. A notification banner at the top right states: 'Benachrichtigungen' with a green checkmark and the text 'Onlinebereitstellung bereit. Die Onlinebereitstellung loc-pers-day im Bereich Test-Location-Prediction ist jetzt bereit, Anforderungen zu akzeptieren. Heute 11:38'. Below the notification, there are buttons for 'Löschen' and 'Abbrechen'. The main content area is divided into two sections: '1 Asset ausgewählt' and 'Modelle'. The '1 Asset ausgewählt' section shows 'Alle Assets' with a count of 1 and 'Assettypen' with 'Modelle' selected and a count of 1. The 'Modelle' section contains a table with the following data:

<input checked="" type="checkbox"/>	Name	Typ	Softwarespezifikation	Letzte Änderung
<input checked="" type="checkbox"/>	location-for-person-on-a-day Modell	wml- hybrid_0.1	hybrid_0.1	vor 3 Minuten Henri Cujass (Sie)

# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

AI Model  
ready for use by API

Bereitstellungen / Test-Location-Prediction / location-for-person-on-a-day /

loc-pers-day ✔ Bereitgestellt Online

**API-Referenz** Testen

### Direkte Verbindung

Privater Endpunkt  Bereitstellungsnamen anzeigen  Bereitstellungs-ID anzeigen Bearer <token> ⓘ

`https://private.eu-de.ml.cloud.ibm.com/ml/v4/deployments/loc_pers_day/predictions?version=2021-05-01`

Öffentlicher Endpunkt

`https://eu-de.ml.cloud.ibm.com/ml/v4/deployments/loc_pers_day/predictions?version=2021-05-01`

[Weitere Informationen](#) zum Abfrageparameter der Version 2021-05-01

### Codeausschnitte

cURL	Java	JavaScript	Python	Scala
------	------	------------	--------	-------

```
# NOTE: you must set $API_KEY below using information retrieved from your IBM Cloud account (https://eu-de.dataplatform.cloud.ibm.com/docs/content/wsj/analyze-data/ml-authentication. 
curl --insecure -X POST --header "Content-Type: application/x-www-form-urlencoded" --header "Accept: \
application/json" --data-urlencode "grant_type=urn:ibm:params:oauth:grant-type:apikey" \
--data-urlencode "apikey=$API_KEY" "https://iam.cloud.ibm.com/identity/token"

# the above CURL request will return an auth token that you will use as $IAM_TOKEN in the scoring request below
# TODO: manually define and pass values to be scored below
curl -X POST --header "Content-Type: application/json" --header "Accept: application/json" --header "Authorization: \
Bearer $IAM_TOKEN" -d '{"input_data": [{"fields": [$ARRAY_OF_INPUT_FIELDS], "values": [$ARRAY_OF_VALUES_TO_BE_SCORED, \
$ANOTHER_ARRAY_OF_VALUES_TO_BE_SCORED]}]}' "https://private.eu-de.ml.cloud.ibm.com/ml/v4/deployments/loc_pers_day/predictions?version=2021-05-01"
```

# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

AI Model  
ready for first tests.

The screenshot shows the IBM Watsonx AI interface for the 'loc-pers-day' model. The model is in a 'Bereitgestellt' (Ready) state and is 'Online'. The 'Testen' (Test) tab is active. Under 'Eingabedaten eingeben' (Enter input data), the 'Text' format is selected. A table for input data is shown with two columns: 'name (other)' and 'day (other)'. The first row contains 'Henri' and 'Mo'. Below the table, there are options to download a CSV template, search for local files, or search in the current area. A status bar at the bottom indicates '1 Zeile, 2 Spalten' (1 row, 2 columns).

	name (other)	day (other)
1	Henri	Mo
2		
3		
4		
5		
6		
7		
8		
9		
10		

The screenshot shows the 'Vorhersageergebnisse' (Prediction Results) for the 'loc-pers-day' model. The prediction type is 'Klassifikation mit mehreren Klassen' (Classification with multiple classes). The prediction rate is 100%. The prediction format is set to 'Tabellenansicht' (Table view). The results are displayed in a table with columns: 'Prognose' (Prediction), 'Zuverlässigkeit' (Reliability), 'name', and 'day'. The first row shows a prediction of 'Neuperlach Haus 48' with a reliability of 50% for the input 'Henri' on 'Mo'. A bar chart below the table shows the distribution of confidence levels, with a single bar at 100% for the prediction 'Neuperlach Haus 48'. A status bar at the bottom indicates '1 Zeile' (1 row).

	Prognose	Zuverlässigkeit	name	day
1	Neuperlach Haus 48	50%	Henri	Mo
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				



# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

AI Model  
ready for second tests.

Bereitstellungen / Test-Location-Prediction / location-for-person-on-a-day /

loc-pers-day ✓ Bereitgestellt Online

API-Referenz **Testen**

Eingabedaten eingeben

**Text** JSON

Geben Sie Daten manuell ein oder verwenden Sie eine CSV-Datei, um das Arbeitsblatt zu füllen. Die maximale Dateigröße beträgt 50 MB.

[CSV-Vorlage herunterladen](#) [Lokale Dateien durchsuchen](#) [Im Bereich suchen](#) [Alle löschen](#)

	name (other)	day (other)
1	Louisa	So
2	Katrin	Mo
3	Mahran	Sa
4	Henri	So
5		
6		
7		
8		
9		

4 Zeilen, 2 Spalten

Vorhersagen|

# watsonx.ai

Informix as Data Source  
for watsonx.ai functions.

AI Model  
ready for second tests.


Bereitstellungen / Test-Location-Prediction / location-for-person-on-a-day /

## Vorhersageergebnisse

Vorhersagetyp  
**Klassifikation mit mehreren Klassen**

Anzeigeformat für Vorhersageergebnisse  
 Tabellenansicht  JSON-Ansicht  Eingabedaten anzeigen

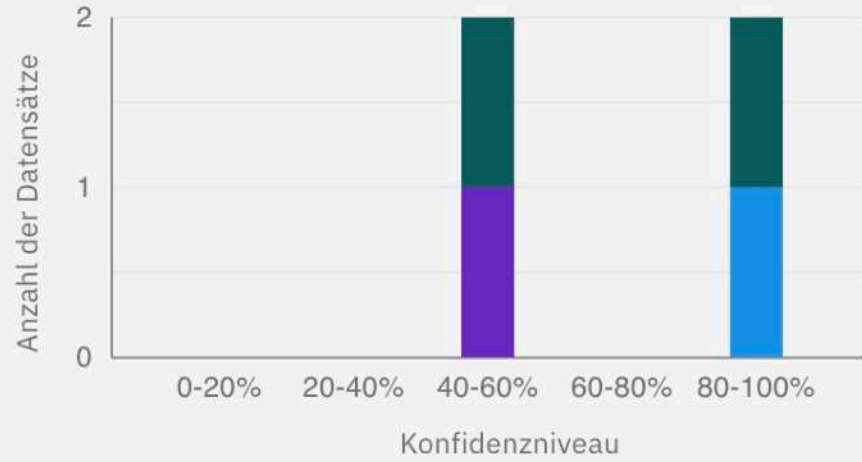
Vorhersageprozensatz



4  
Aufzeichnungen

Wittenberg... Haus 10 Paderborn Nixdorf Neuperlach Haus 48

Verteilung des Konfidenzniveaus



Anzahl der Datensätze

Konfidenzniveau

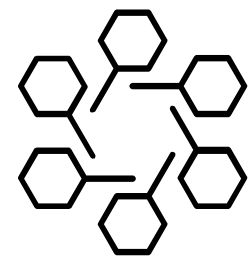
Wittenberg... Haus 10 Paderborn Nixdorf Neuperlach Haus 48

	Prognose	Zuverlässigkeit	name	day
1	Wittenbergplatz Haus 10	60%	Louisa	So
2	Paderborn Nixdorf	100%	Katrin	Mo
3	Neuperlach Haus 48	100%	Mahran	Sa
4	Neuperlach Haus 48	50%	Henri	So
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

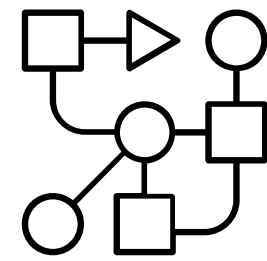
JSON-Datei herunterladen

# AI with watsonx and Informix

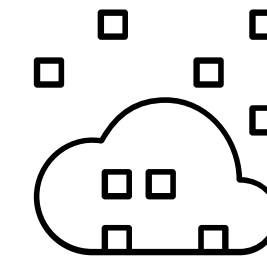
## Test results and conclusion.



Good handling for  
Data and AI scientists  
AutoAI model creation und  
training with [Informix Data](#) (native  
with Jupyter Python Notebook)



Data Analytics and Visualization  
with data from  
[native Informix](#) data sources.  
Enterprise MetaVerse.

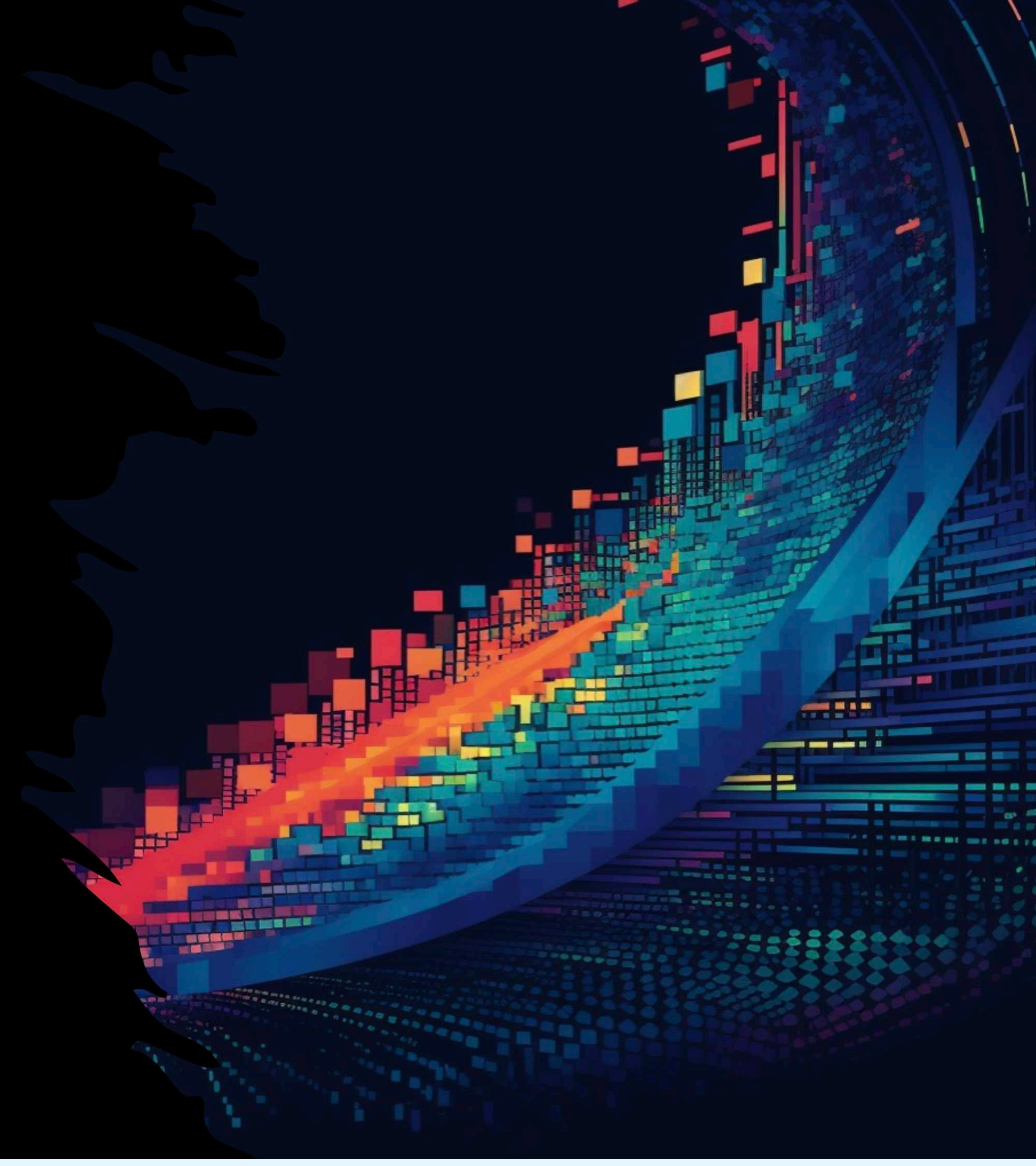


[Request](#) to IBM R&D to include  
Informix as x.data Engine and to  
make it Informix native usable for  
AutoAI model pipeline creation  
and test.



- 01 Siemens MetaVerse Journey
- 02 IT Architecture Requirements
- 03 Informix Data Engine
- 04 AI with WatsonX and Informix
- 05 UX with Axional Studio
- 06 Showcase: AR/VR with 3D Assets

**The programming  
language of the  
future?**





# The Role of APIs in the MetaVerse and Generative AI

## APIs in the MetaVerse



APIs connect different virtual worlds, enable transactions, and facilitate shared experiences, making them the backbone of Metaverse's interoperability.

## APIs and Generative AI



APIs allow systems to utilize Generative AI capabilities, such as OpenAI's GPT-3 for text generation.

## Future Implications



The combination of Metaverse, Generative AI, and APIs foretells a future where physical and digital worlds blur, and AI creates personalized, immersive experiences.



# UX with Deister Axional Studio

LowCode UX Design and Application Creation.

Full Data Modelling.

AI API +200 more modules.

4-tier Architecture.

On prime and on cloud.

Top UI speed.





# UX with Deister Axional Studio

Test Use Case:

LLM request to scientific-american

Result Object delivery from Informix

**scientific-american**  
Contains all scientific american issues from 1900

99.95% Documents Indexed | 2124 Files | 24GB Size

scientific-american

Thread

Chat | Files | Tasks

What recent discoveries have we made about how the brain works? How do our brains process and store memories? 19:41

**StudioBot**

Recent studies have provided insights into the neural underpinnings of working memory, which is a crucial function of the mind. Experiments using magnetic resonance imaging (MRI) have allowed researchers to map oxygen consumption in the brain, which correlates with heightened neural activity, to understand which parts of the brain are most active during tasks such as face recognition.

Furthermore, the hippocampus has been identified as a temporary repository for long-term memory. It processes newly learned information for a period of weeks to months before transferring it to the cerebral cortex for more permanent storage. The prefrontal cortex then expresses the memory stored at these cortical sites through working memory.

Long-term potentiation (LTP) has been observed in neurons in the hippocampus, indicating that these neurons have plastic capabilities required for learning. LTP involves an increase in synaptic strength that can last for extended periods, and it is believed to be associated with learning and memory.

These discoveries, among others, are helping to unravel the complex processes by which the brain stores and retrieves memories, although much remains to be understood about the intricate workings of the human brain.

Sources:

- [1997-08-01-0.pdf \(p. 59\)](#)
- [1992-09-01-0.pdf \(p. 88\)](#)
- [1969-01-01-0.pdf \(p. 75\)](#)
- [1987-06-01-0.pdf \(p. 94\)](#)

19:42



# Agenda

- 01 Siemens MetaVerse Journey
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- 06 Showcase: AR/VR with 3D Assets



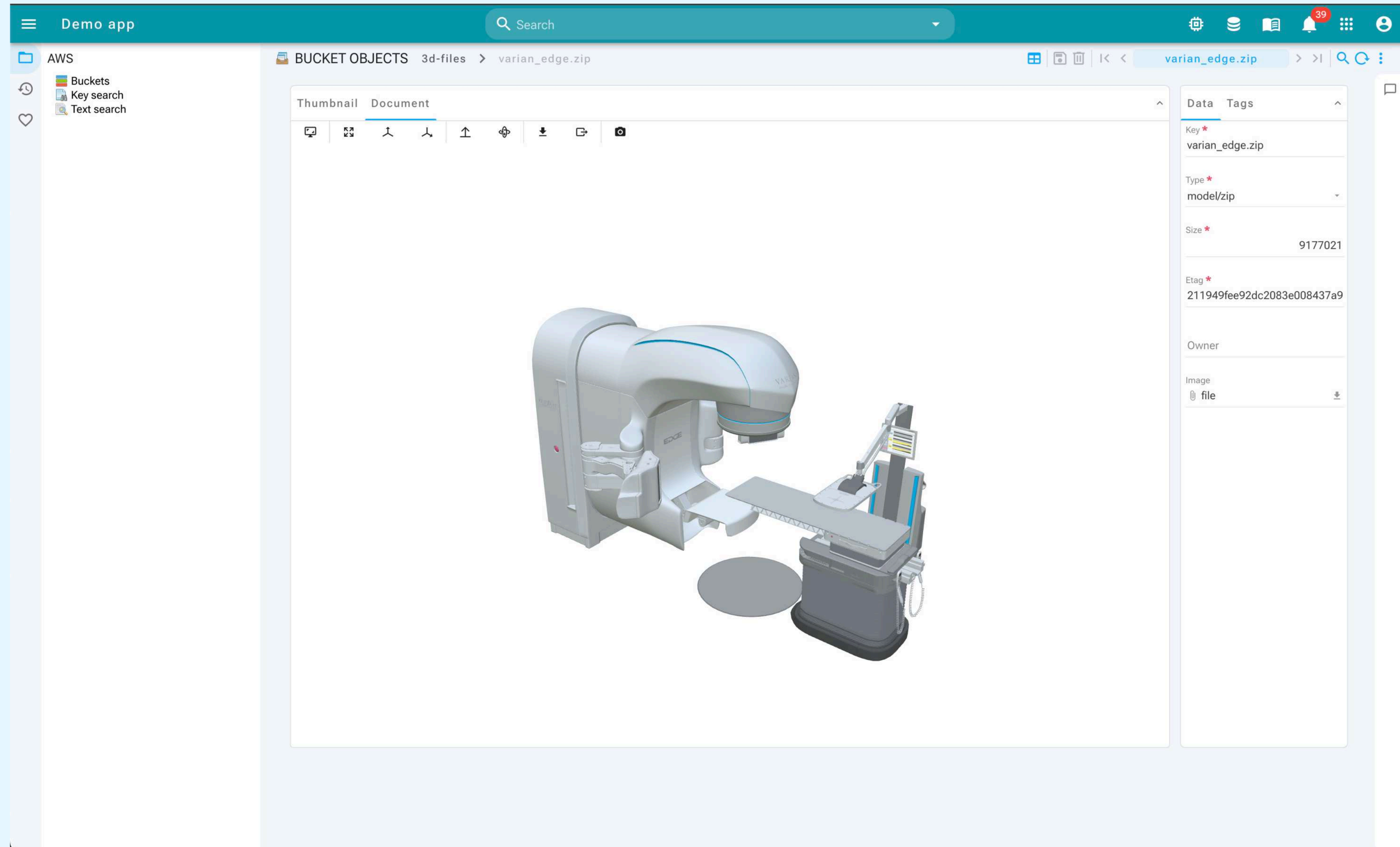
# Deister Axional Studio

Siemens MVP:

Object Management  
AWS S3 / Informix

Searching by Key

AI API



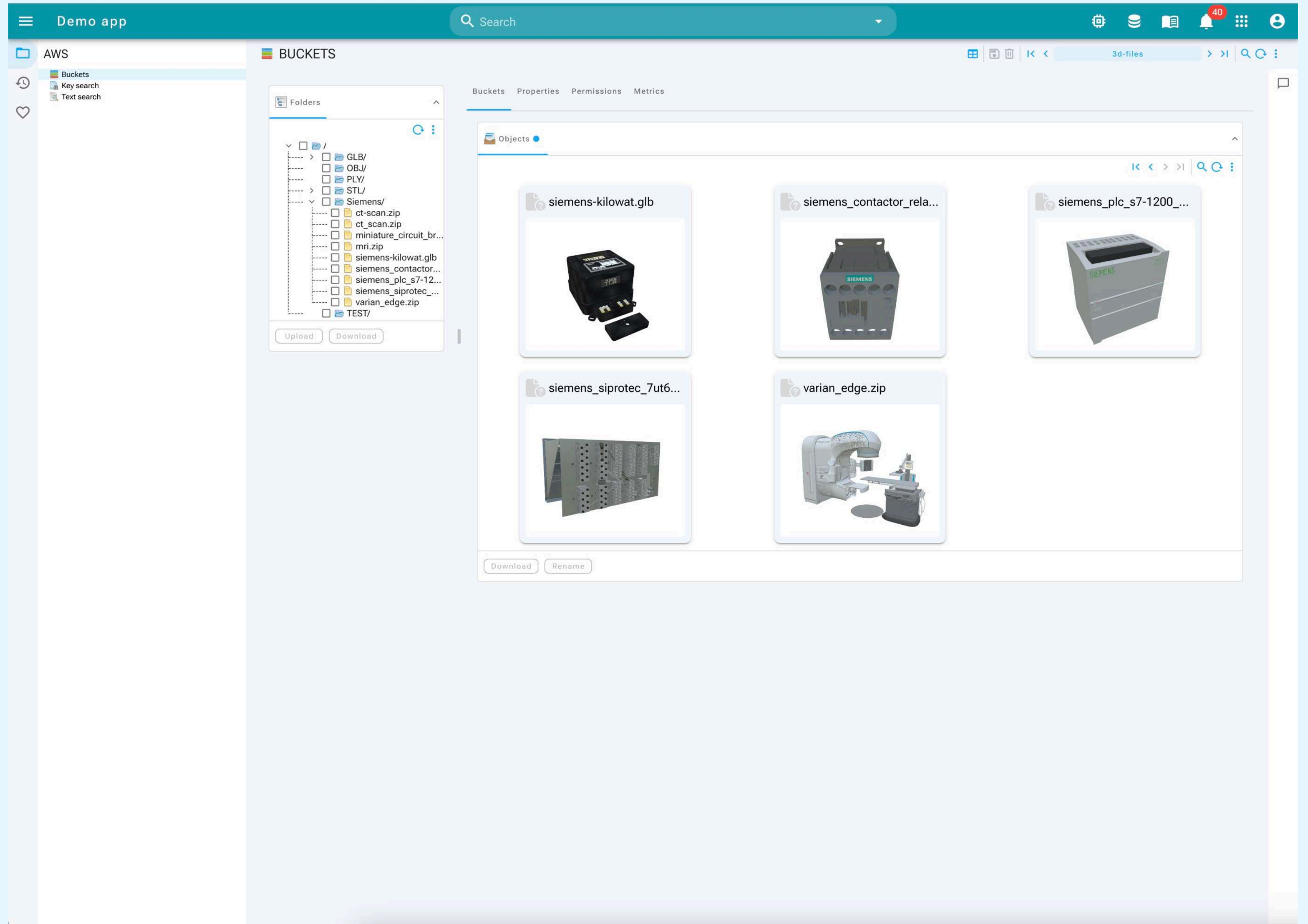
# Deister Axional Studio

Siemens MVP:

Object Management  
AWS S3 / Informix

Searching by Key

AI API





# Deister Axional Studio

Siemens MVP:

Object Management  
AWS S3 / Informix

Searching by Key

AI LLM request

The screenshot displays the Deister Axional Studio interface. At the top, there is a teal header with the 'Deister' logo, a search bar, and several utility icons. Below the header, the main content area is divided into several sections:

- Left Sidebar:** Contains navigation options for 'AWS', 'Buckets', 'Key search', and 'Text search'. A 'Folders' panel shows a tree view of document categories like 'Facility Desig...', 'Laboratory Di...', 'Medical Imag...', 'Simotics Elec...', 'Electrical-Ser...', 'Operator\_Ma...', 'SIMOCRANE\_...', 'high-speed-tr...', 'siemens-mob...', and 'syngo.MI\_Ge...'. It includes 'Upload file' and 'Dow' buttons.
- Top Panel:** Shows the current bucket 'siemens-documents' with '100.00%' Documents Indexed, '31 Files', and '217MB Size'.
- Objects Grid:** A grid of document thumbnails with titles such as 'Electrical-Services-Flyer...', 'Operator\_Manual\_-\_MU...', 'SIMOCRANE\_Energy\_St...', 'high-speed-train-velaro-...', 'siemens-mobility-velaro...', 'syngo.MI\_General\_Oper...', 'ARTIS\_iono\_Biplane\_C...', 'ARTIS\_iono\_Biplane\_C...', and 'ARTIS\_iono\_floor\_CSP...'. Each thumbnail includes a PDF icon, a title, and a small image or graphic.
- Right Panel:** A chat window titled 'Thread' with tabs for 'Chat', 'Files', and 'Tasks'. It shows a conversation with 'StudioBot'. The chat history includes a question about licensing for log4cplus source files and a response from StudioBot listing sources like 'syngo.MI\_General\_Operator\_Manual\_VB80\_SAPEDM\_MI-APP-GNM.621.01.03.02 - Online\_R5 .pdf (p.171)'. A follow-up question asks about contraindications for the MULTIX Impact E system, and StudioBot responds that there are no known side effects.



# Deister Axional Studio

Siemens MVP:

Object Management  
AWS S3 / Informix

Searching by Key

Enterprise MetaVerse

The screenshot displays the Deister Axional Studio interface. At the top, there is a teal header with the 'Deister' logo, a search bar, and several utility icons. Below the header, the main content area is divided into several sections:

- Navigation:** On the left, there are 'AWS' and 'BUCKETS' tabs. Under 'AWS', there are options for 'Buckets', 'Key search', and 'Text search'. A 'Folders' panel shows a tree view of document categories like 'Facility Desig...', 'Laboratory Di...', 'Medical Imag...', 'Simotics Elec...', 'Electrical-Ser...', 'Operator\_Ma...', 'SIMOCRANE\_...', 'high-speed-tr...', 'siemens-mob...', and 'syngo.MI\_Ge...'. There are 'Upload file' and 'Dow' buttons at the bottom of this panel.
- Document Summary:** A central summary card for 'siemens-documents' shows 'Siemens manuals', '100.00% Documents Indexed', '31 Files', and '217MB Size'.
- Object Grid:** A grid of document thumbnails is displayed, including:
  - 'Electrical-Services-Flyer...' with the text 'Comprehensive life cycle solutions for power distribution equipment'.
  - 'Operator\_Manual\_-\_MU...' with the text 'MULTIX Impact E'.
  - 'SIMOCRANE\_Energy\_St...' with the text 'SIMOCRANE'.
  - 'high-speed-train-velaro-...' with the text 'Velaro D (Class 407) High-Speed Trainset'.
  - 'siemens-mobility-velaro...' with the text 'High Speed Trainset Velaro E for Spanish National Railways RENFE'.
  - 'syngo.MI\_General\_Oper...' with the text 'syngo.via Operator Manual - syngo.MI General VB80'.
  - 'ARTIS\_iono\_Biplane\_C...' with the text 'ARTIS icono Biplane Basic Planning Information'.
  - 'ARTIS\_iono\_Biplane\_C...' with the text 'ARTIS icono Biplane Basic Planning Information'.
  - 'ARTIS\_iono\_floor\_CSP...' with the text 'ARTIS icono floor Basic Planning Information'.
- Chat Interface:** On the right, a 'Thread' chat window is open. It shows a conversation with 'StudioBot'. The chat includes a question about licensing for 'log4cplus' source files and a response from StudioBot providing license information and sources. A second question asks about contraindications for the 'MULTIX Impact E' system.





Jean-Georges Perrin

# Helpful Links

<https://db2-dte-poc.github.io/wxddemo/wxd-reference-techzone/>

<https://techzone.ibm.com>

<https://www.ibm.com/cloud/free>

<https://partnerportal.ibm.com/s/cloud-credits>

<https://dsce.ibm.com/watsonx>

Step in watsonx demo/test

IBM Techzone landing page

30 days 200 US\$ credit

Gold Partner Cloud Credit requests

[IBM Digital Self-Serve Co-Create Experience](#)



# Thank You

**SIEMENS**

+ leolo<sup>IT</sup>

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+49 170 4000 004



[leolo.com/mastermind](https://leolo.com/mastermind)

# LEOLO MASTERMIND CONFERENCE 2024

JUNE 3-6, INTERALPEN HOTEL, TYROLIA

