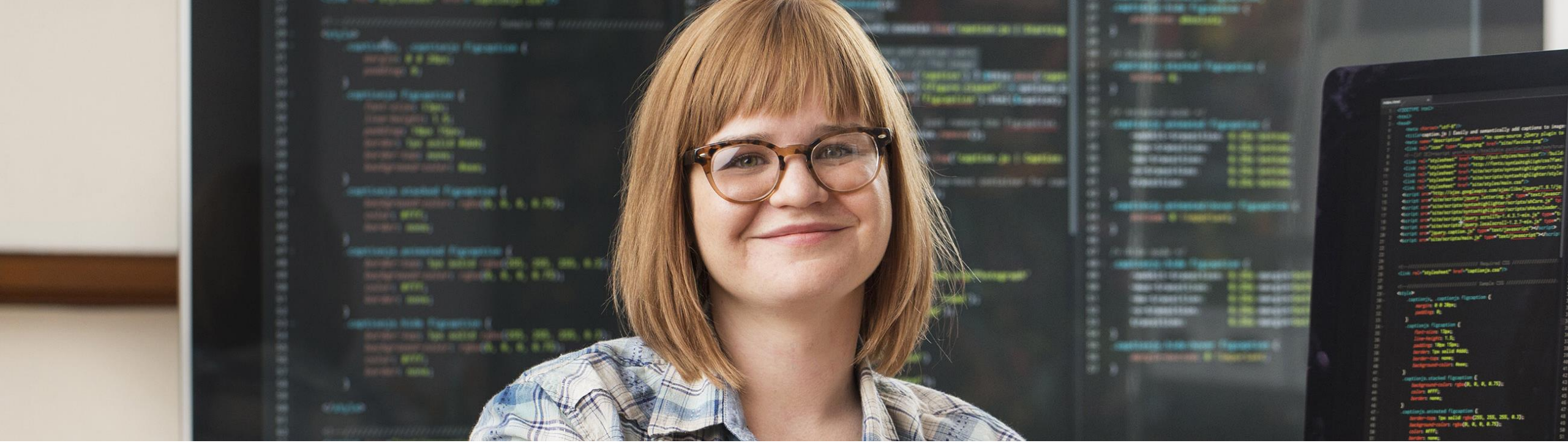

Modeling External and SAP HANA Data in SAP Data Warehouse Cloud

Session ID: DA262

Hannes Keil, SAP

November 2022

PUBLIC

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Agenda

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What is this exercise about?

02

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Your Space

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What is this exercise about?

The Business Scenario

MyCompany provides fleet management services for large enterprise customers. They are organizing the procurement of cars from multiple manufacturers for their customers. They would like to understand where there is potential for additional car sales with their existing customer base. Their goal is to achieve a 20% market share.

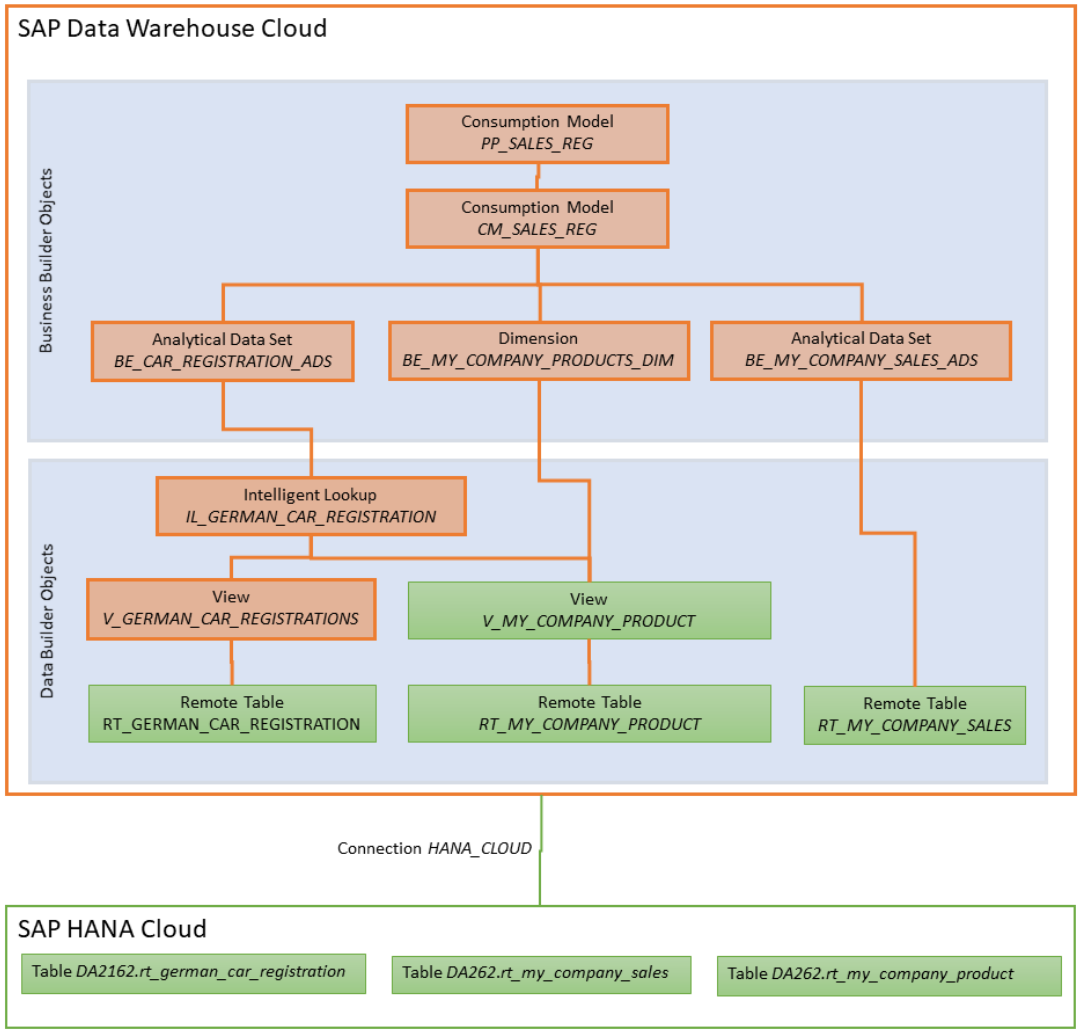
Question to answer: Which brand has a market share lower than 20%?

The exercises start from an empty DWC Guided Experience system and guide you to build the complete end-to-end scenario from the bottom up. The graphic below gives the complete overview on the object model.

Learning focus

- Data Marketplace (Not part of the exercise)
- Intelligent Lookup
- Multi fact model

The Data Model



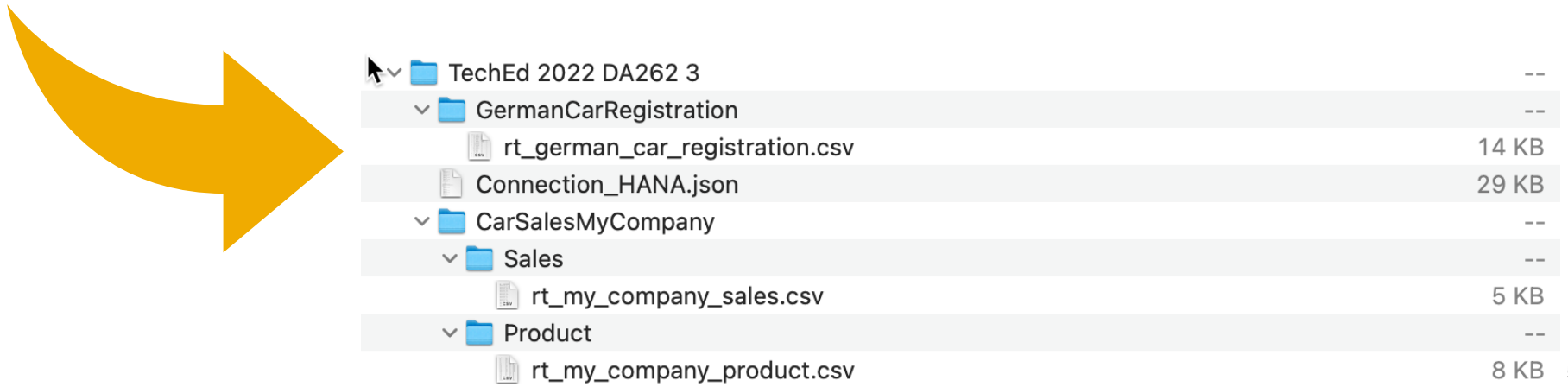
Where to find the script & data files?

The GitHub Repository is located: https://github.com/SAP-samples/teched2022-DA262

👉 Download the ZIP File

Pre-Requisites

- Google Chrome
- Access to this GitHub repository
- Access to a Guided Experience system of SAP Data Warehouse Cloud tenant (if you don't have one yet, please follow the instructions of exercise 0)
- This ressource archive will be required in exercise 1



The exercises (0)

In Exercise 0, users lay hands on an empty **DWC Guided Experience** system. This means that they apply for their own space in a centrally-provided SAP Data Warehouse Cloud tenant. Users receive access to a single space that is initially empty. Connections to backend systems of type HANA Cloud, S/4 HANA Cloud and Google Cloud Platform are provided, but only the HANA Cloud system is relevant in the context of the exercise. In the **HANA Cloud** system, a schema *DA262* is prepared in which the three tables relevant to this exercise are provided, namely the tables *rt_german_car_registration*, *rt_my_company_sales* and *rt_my_company_product*.

Exercises

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  - Exercise 1.2 - Create Snapshot and inspect data
- Exercise 2 - Map external car registration data to internal product master data
  - Exercise 2.1 - Wrap Remote Table with Car Registration Data in Graphical View and Add Keys
  - Exercise 2.2 - Create an Intelligent Lookup between Car Registration View and Product Master
- Exercise 3 - Preparing Analytic Data Consumption via the Business Layer
  - Exercise 3.1 - Create a Dimension for Product
  - Exercise 3.2 - Create Analytical DataSet for My Company Sales
  - Exercise 3.3 - Create Analytical Dataset for Car Registration Data
  - Exercise 3.4 - Create Multifact Consumption Model that brings together the numbers for car registrations and internal sales
  - Exercise 3.5 - Add key figures
- Exercise 4 - Create an SAC Story (optional)
  - Excercise 4.1 - Show Sales Data in SAC
  - Excercise 4.2 - Show Marketshare in SAC

Public

The exercises (1)

In **Exercise 1,** users import these **HANA Cloud tables** as "**remote tables**" by uploading the respective DWC metadata for them. Also views building on the sales & product tables are provided. Import happens by virtue of a dedicated CSN file (aka: DWC repository metadata file) that contains the relevant metadata for all objects in green in the graphic above. The tables and their data are residing in SAP HANA Cloud and can be accessed in a **federated** manner, but we are taking a data snapshot of them in order to showcase this part of the DWC feature set also.

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The exercises (2)

In **Exercise 2**, users **combine the external dataset** for car registrations with the internal master data on manufacturers. Since the car model & car brand names used externally (like e.g. Volkswagen VW) and internally (Volkswagen) are different, we cannot report the car registration data **along** our existing product master dimension. In order to heal this fact, we are using a dedicated DWC operator, the **Intelligent Lookup** (cp. e.g. also this blog) that bridges this problem by cleverly building up a **match table** that defines which products used in the car registration data set match to which product in the product master data set. Some preparatory work need to happen upfront in a view to make this work..

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The exercises (3)

In **Exercise 3**, the Data Builder entities created in Exercise 2 are brought together in an analytical model that SAC uses for reporting. To this end, the participating objects need to be wrapped into entities of the **Business Layer**. The fact sources for car registrations and internal sales are wrapped in so-called **Business Layer Analytical Datasets**. The internal product master data is wrapped in a Bare wrapped in a Business Layer Dimension. Additionally, an association between the fact sources and the product dimension is created. This will later be leveraged as a "**shared dimension**" between the car registration numbers and the sales numbers in a "**multi-fact model**".
Once these Business Layer entities are defined, users can continue and create a Consumption Model (SAP Help).
Finally, we model the key figures for internal sales, overall car registration and thus market share (as internal sales divided by overall registrations). To finally expose our developments to SAC, we require a perspective - we simply generate one while previewing the data in our model.

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The exercises (4)

Finally in **Exercise 4,** we leverage the just-created perspective in an **SAP Anayltics Cloud** story. We simply create a new story, connect it to the DWC data model (i.e. the perspective) and then create the required charts & tables.

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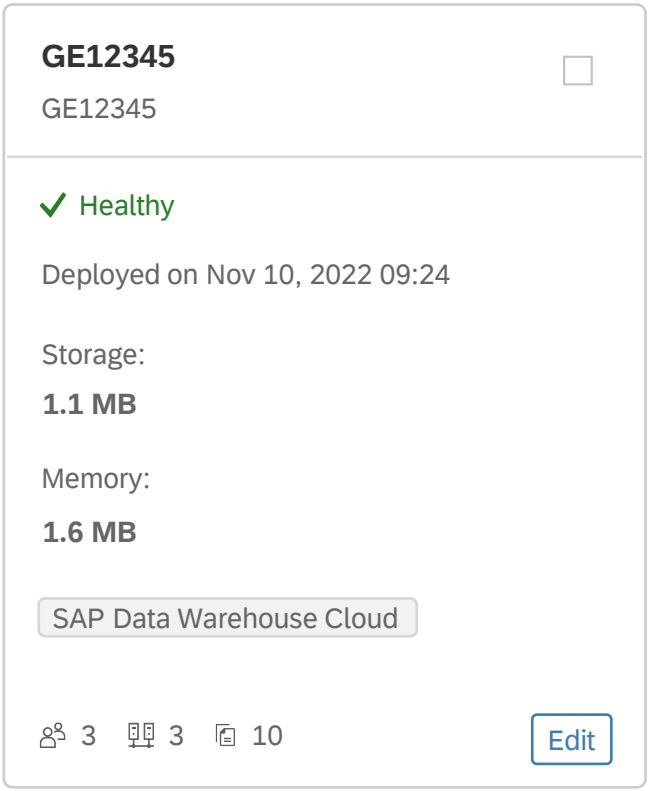
Your Space GE12345 or SP14658Uxxx

When using a guided experience trial system for this hands-on training, a predefined Space is already there for you named: **GE12345**

The number will be different for everyone!

If you use the provided user, the space has the same name as your user

In case you use your own system, we recommend you use a new empty Space.



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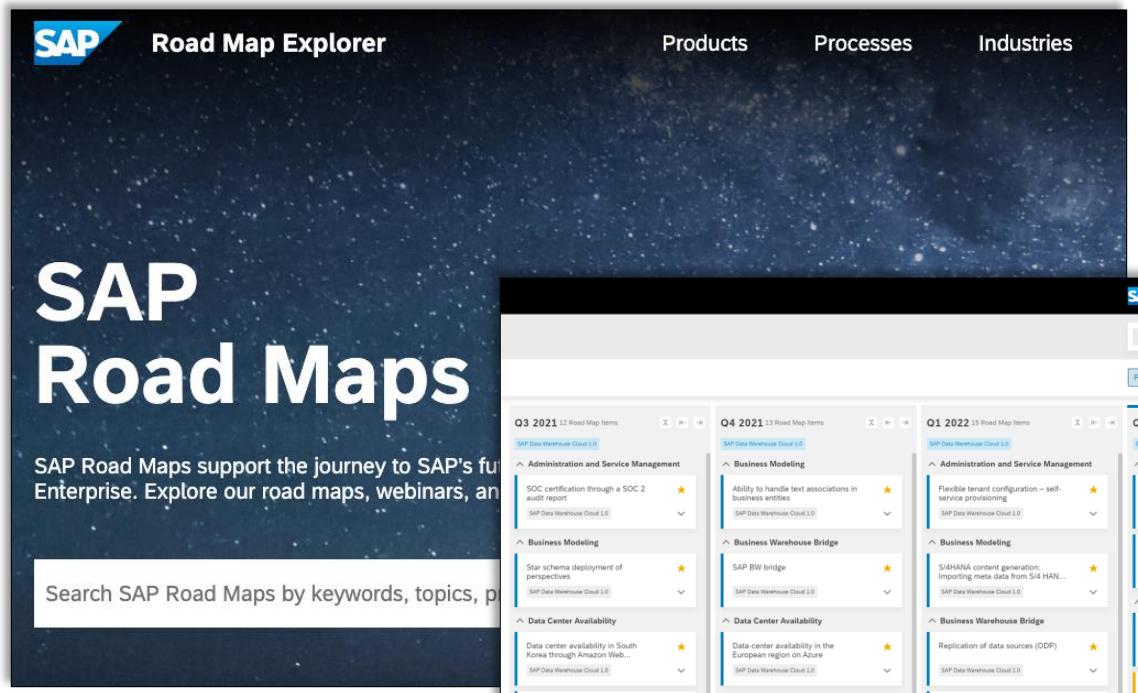
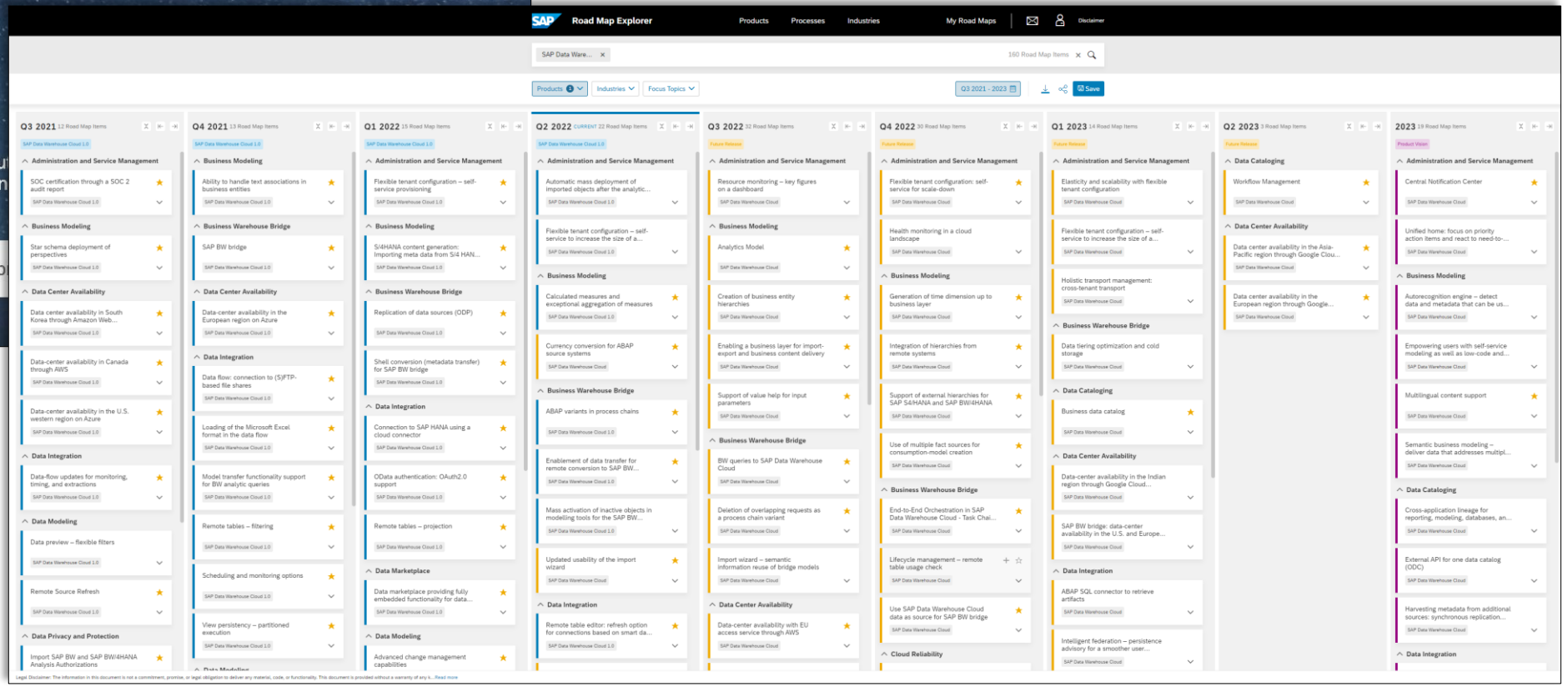
1. Pearson VUE's Latest "Value of IT Certification" Study Highlights Benefits of IT Certification in Challenging Times," Pearson Education Inc., May 25, 2021.
2. Chuck Cooper, Why Get IT Certified? The Value of IT Certification: An IT Certification White Paper, IT Certification Council, March 2021.

SAP Data Warehouse Cloud. SAP Road Map Explorer





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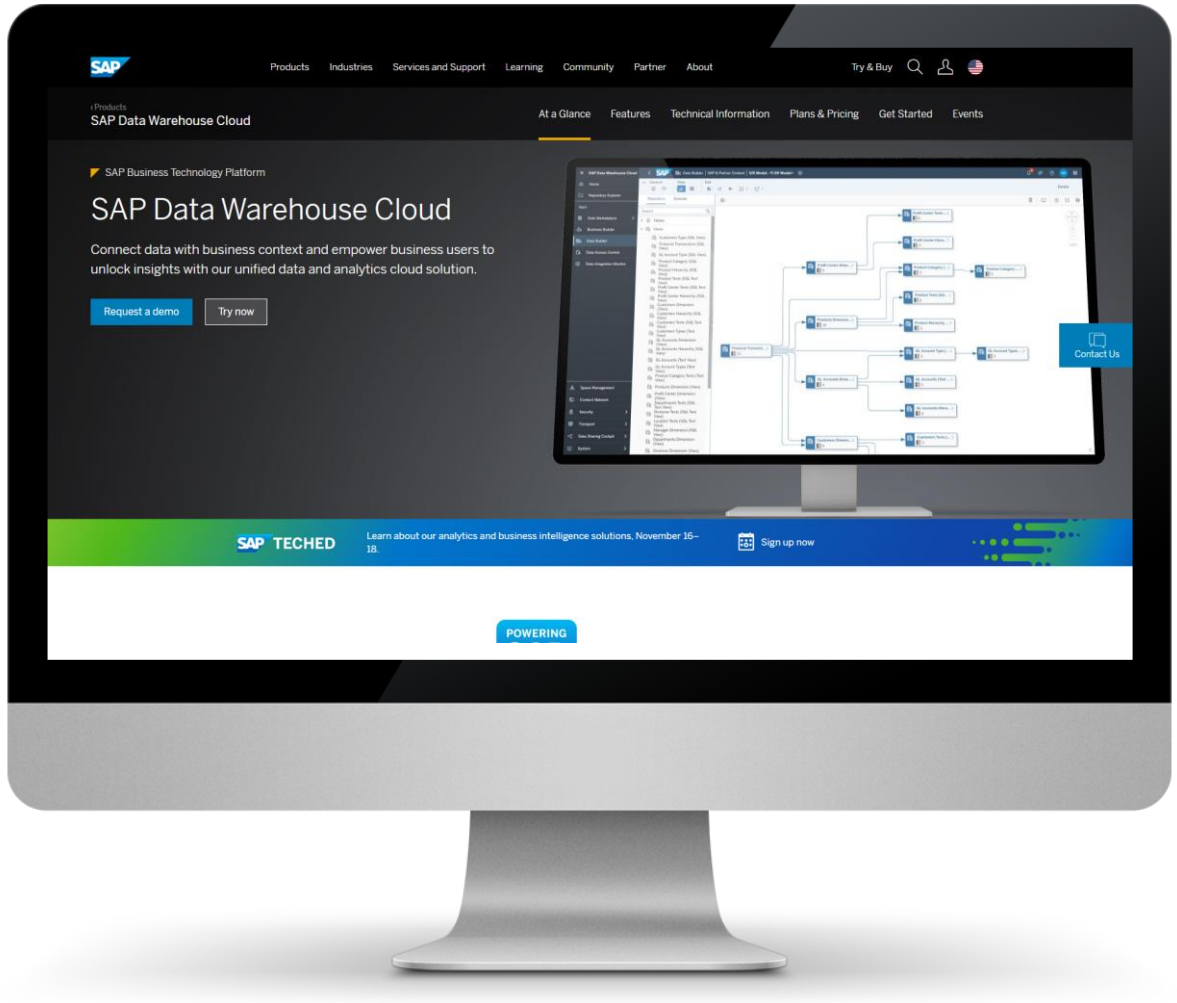

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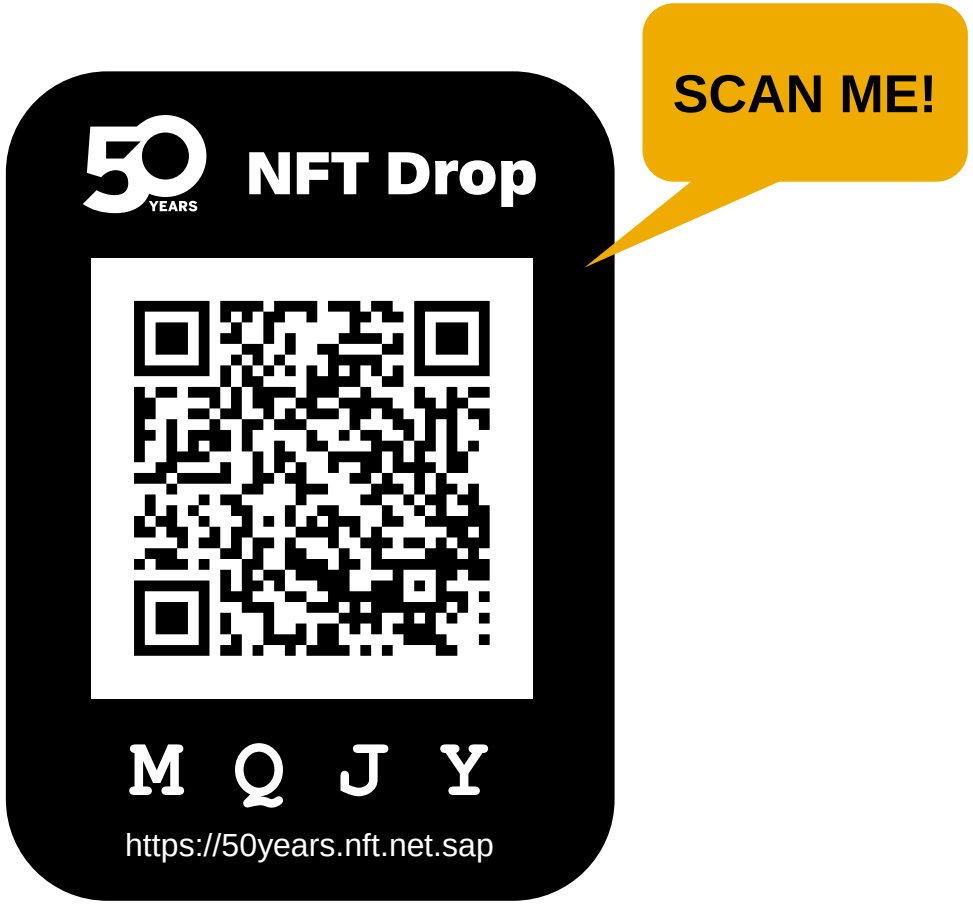

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Thank you.

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