



# Implementation & Data Science Service for **SAP Unified Demand Forecast**

*Delivered by the SAP Retail Data Science CoE*

PUBLIC

# Data Science Services for UDF

The services can be offered for different types of engagement models (SAP, Customer or Partner led projects)

Discover  
Explore



## #1 UDF Proof of Quality Service

- What forecast quality can be achieved with your data?
- Prepare implementation and get start parameter setting
- Get early insights and knowledge about UDF

Realize



## #2 Readiness Check Service

- Checks on customer`s system – messages – table size
- Data quality – Configuration - Forecast accuracy
- Data Science handover session



## #3 Calendar Event Model Service

- Setup of a suitable forecast model for seasonal effects like Christmas, Easter, Black Friday, ....



## Data Integration and UDF activation

- 5 step approach to UDF activation
- DRFout and time series initialization
- Expert guidance



## #4 Promotion and DIF Model Service

- How to achieve optimal promotional forecasts

Realize  
Run & Optimize



## #5 Advanced Modelling Service

- Activation and modelling of advanced features (e.g. model on aggregate, priors, ...)
- Optimization of specific categories
- Data Science handover workshop



## #6 Weather Add On & Integration

- Improve forecast accuracy with weather data
- Integration of a weather data provider and modelling of weather variables

# #1 Unified Demand Forecast Proof of Quality

*Get insights into how the Unified Demand Forecast runs with your data and the **forecast quality** you can achieve.*

*SAP Retail Data Scientists calculate demand forecasts based on your data with Unified Demand Forecast as part of SAP Customer Activity Repository. Key features can be shown directly with your data. This provides you a solid preparation of the implementation as well as understanding of the forecasting capabilities in SAP CAR.*



## Your Benefits

- Discover the Unified Demand Forecast **benefits before implementation**
- Gain valuable **insight into your data quality** and readiness
- You will receive **forecast data** and first insights how UDF works with your data
- Get **UDF parameter recommendation** for your implementation project
- Get a solid basis for the **decision process** and learn how forecast capabilities meet your **business scenarios**

## Questions to answer with the Proof of Quality

- What forecast components drive my forecast most?
- What do I have to consider regarding the data integration and quality?
- Which holidays have an influence on my sales figures?
- How effective are my promotions?

*“The UDF Proof of Quality helped us a lot. We now have **a clear understanding of what data we need** and what **business benefits our business will achieve with UDF**. Many thanks to the amazing discussions with SAP’s retail data science experts! This has given us **a very good understanding of UDF**.”*

Clare Mulliner, Program Manager at Pick n Pay



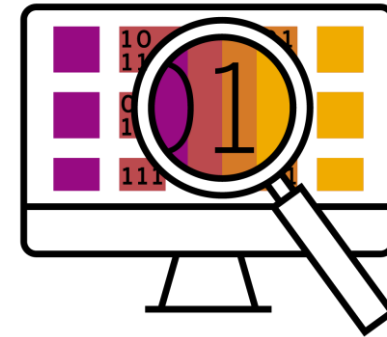
## #2 Readiness Check Service

*You or a System Integrator integrated CAR into your landscape. Data replication framework runs already as well as historical data is in the system and prepared for UDF.*

*Now it is the right time to book this service and get ready for the next step. SAP Retail Data Scientists will check your system status. You will get **a detailed report about our findings** to proceed successful into the next project phase.*

### We will check

- The configuration of Preprocessing, Modelling and Forecasting
- Data quality and data consistency in Demand Data Foundation (DDF) with focus on UDF requirements (*master data, hierarchies, sales history and prices, offers, ...*)
- Current Model and Forecast accuracy compared to sales – *holdout scenario*
- Detailed check of example products and locations
- System messages and table sizes



“The retail data science team from the SAP Digital Business Services organization **combines industry and technology expertise** in a unique way. It helped us tremendously to analyze and implement our forecasting and machine learning requirements.

**Tim Sutor**, Head of Merchandise Processes POS (IT), Coop Genossenschaft



## #3 UDF Calendar Event Model Service

- SAP Retail Data Scientists analyze the historical sales of usually 2 locations/stores (*maximum 20.000 products per store, one channel*).
- The experts identify when sales is affected by public holidays like Christmas and suggest how they should be parametrized in UDF.
- The analysis is carried out on the premises of SAP.
- The results are presented and communicated in a remote meeting. Result is a document which includes a proposal for the parametrization of calendar events in UDF.

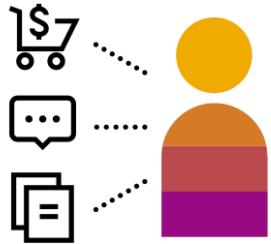


### Your Benefits

- The modeling of location DIFs, like Christmas or Easter is **essential for a high quality forecast**
- Increased **acceptance of the forecasts** will support the change management in your company
- Achieve your **business targets** with a sophisticated forecast model

## #4 UDF Promotion and DIF Model Service

Improve the forecast accuracy and robustness with an optimized *modelling of your promotion DIFs*.



SAP Retail Data Scientists evaluate the characteristics of your product Demand Influencing Factors (DIFs) such as promotions and advertising campaigns. They check and evaluate the effectiveness and stability of the forecasting model. This provides you a solid basis in the decision process for customizing SAP UDF.



### Your Benefits

- Get insight in the **characteristics of your DIFs** from a forecasting point-of-view
- Achieve your **business target** with a robust forecast model
- Get access to the experience of our **specialized Retail Data Scientists**
- Get **actionable information** to optimize DIFs and forecasting model
- Gain potential **performance improvements** with an optimized DIF modelling

### Questions to answer with the Product DIF Analysis

- What advertising activities shall be transferred in a DIF?
- Do I have the right number of DIFs and are they defined correctly?
- Are there opportunities for improvement of forecast accuracy and robustness?
- Are there reasonable DIF grouping possibilities?

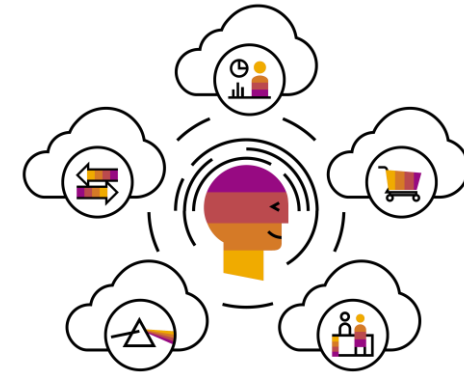
## #5 Advanced Modelling Service

Your team has introduced UDF successfully and gained basic experience. Now you are ready to go one step further. You know *specific challenges of your business* and you want to *improve continuously*.

Within the services your team defines together with our UDF Data Science experts the step by step plan based on the business challenges. The content and scope are not predefined.

### Your benefits

- **Improve the forecast accuracy** by using more advanced functions and modelling techniques of UDF.
- Map specific processes to your forecast model. Discuss with our UDF Data Science experts what is possible and **how to solve specific business challenges**.
- You know the benefits of forecasting for your business and **want to continuously improve** to be a leader in the field.
- Get an upgrade for your team`s knowledge from our specialized **UDF Retail Data Scientists**.



### Typical topics to work on

- Activate model on aggregate (e.g. payday or other effects)
- Hierarchical Priors configuration
- Modelling of weather data in UDF
- Questions on specific categories and/or configuration parameters
- Data Science handover workshop
- ....

# #6 Weather Add-On and Integration Service

The weather has a big influence on our shopping behavior

*What we buy and when we go shopping*



Weather data can give valuable additional information to a

*demand forecast algorithm*



An improved forecast accuracy leads to **higher margins and customer satisfaction** due to

*increased availability, higher automation and reduced waste*



## Our Service offering



### Weather transform - Science engine

Transform raw weather data into meaningful information for sales demand explanation.

A flexible and configurable rule engine allows experts and data scientists to model different weather effects.



### Weather Model

Assign weather to weather sensitive products.

Our Data Scientists will evaluate and design the appropriate weather model for your business. Benefit from our experience and empower your team.



### UDF integration

Integrate weather data so that UDF can improve the overall forecast model. Make use of standard UDF features and functions that users have an integrated view on all data via the UDF UIs.



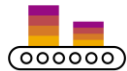
# SAP Center of Excellence – Retail Data Science



**FOCUSED** - on retail forecasting and replenishment



**EXPERIENCED** – since more than 20 years with global retail customers



**STANDARDIZED** – optimization services and best practices



**UNIQUE** - high retail industry and machine learning expertise

## Are you interested?

Please contact us for more information

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