SAP F&R Today and Tomorrow

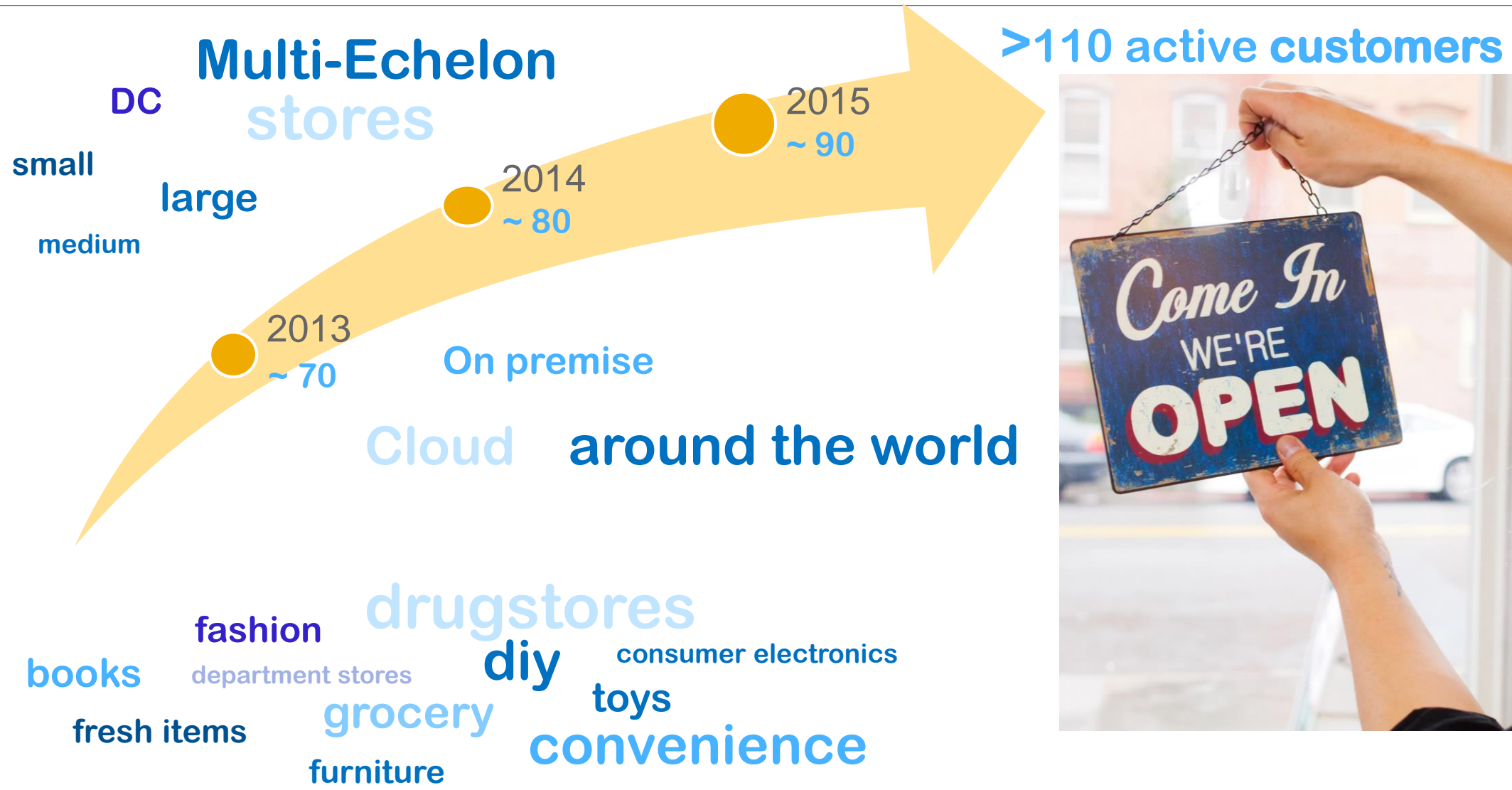Uwe Zachmann, SAP
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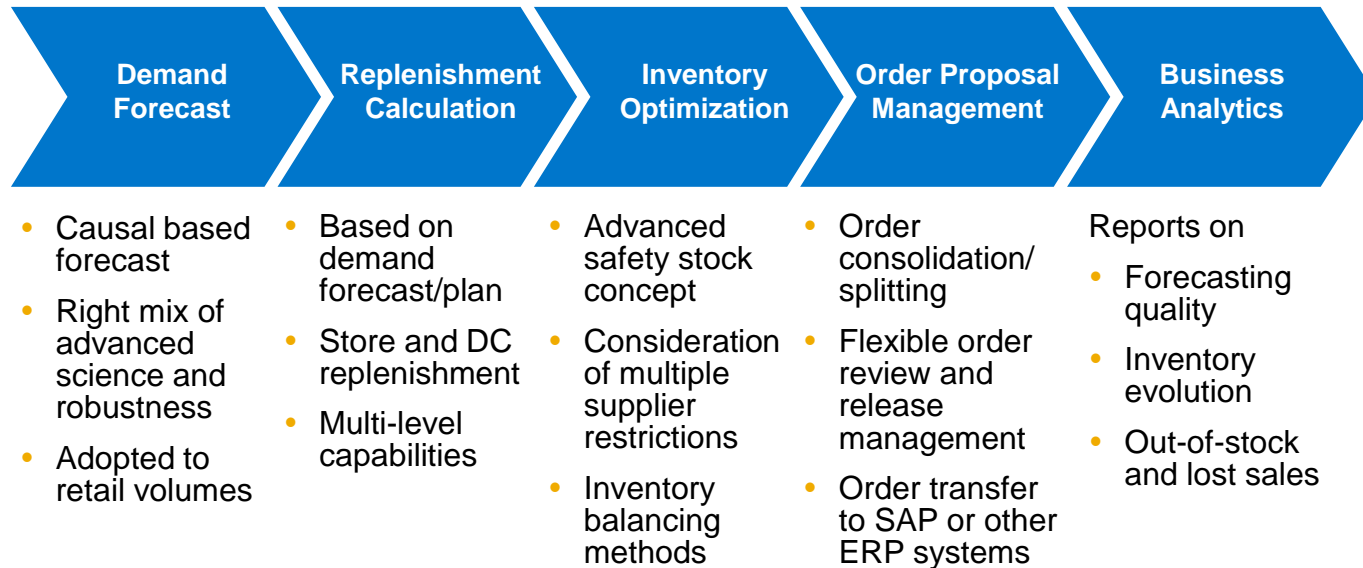
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SAP F&R Customers: A Growing Community

Multi-Echelon

DC

stores

small

large

medium

2015
~ 90

2014
~ 80

2013
~ 70

On premise

>110 active customers

Cloud   around the world

drugstores

fashion

diy

consumer electronics

books

department stores

toys

fresh items

grocery

convenience

furniture

SAP Forecasting and Replenishment Today

SAP F&R 5.2 on SAP HANA

Demand Forecast	Replenishment Calculation	Inventory Optimization	Order Proposal Management	Business Analytics

- Causal based forecast
- Right mix of advanced science and robustness
- Adopted to retail volumes

- Based on demand forecast/plan
- Store and DC replenishment
- Multi-level capabilities

- Advanced safety stock concept
- Consideration of multiple supplier restrictions
- Inventory balancing methods

- Order consolidation/splitting
- Flexible order review and release management
- Order transfer to SAP or other ERP systems

Reports on
- Forecasting quality
- Inventory evolution
- Out-of-stock and lost sales

Recent Innovations

- SAP F&R available for SAP HANA

- SAP CAR inventory view for SAP F&R relevant stock

- Fresh product forecasting add-on - Forecasting and automated replenishment of products such as vegetables and fruits, meat, fish or convenience food

- Offline order proposal review integration (in conjunction with SAP ERP and GK)

SAP Forecasting and Replenishment for Retail
Fresh product forecasting add-on (Repeatable Customer Solution)

Recent Innovation

With **SAP Forecasting & Replenishment** retailers can create automated order proposals for a wide range of goods. However, in product categories with ultra-fresh products (shelf life of a couple of days) special requirements have to be met.

The **new Repeatable Customer Solution Fresh product forecasting** add-on covers the forecasting and the automated replenishment of ultra-fresh products such as vegetables and fruits, meat, fish or convenience food.
SAP F&R is required as prerequisite.

By using the solution customers can **reduce waste** and **increase the availability** of fresh products in stores.

The solution provides:
A special fresh forecast
- Increased accuracy and reactivity of forecasts to reduce write-offs, especially suited for products with short sales periods or products which have a strong intra-weekly sales patterns and trends

An improved replenishment quality by
- Estimation of future waste based on shelf life and shrinkage and its consideration in the requirement calculation
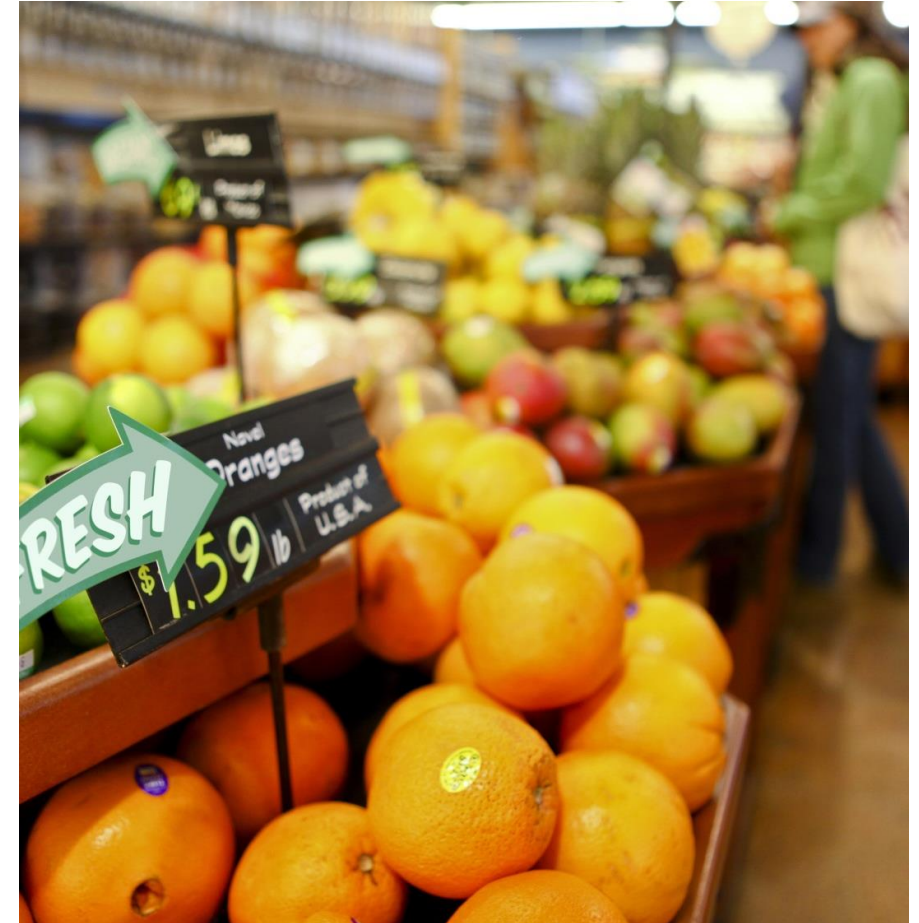
Planned Innovation SAP F&R: Offline review (GK)

Interface between SAP F&R and SAP Offline Mobile Store by GK

- Order proposals from SAP F&R can be reviewed on mobile store solutions

- Integration between SAP F&R, SAP ERP and SAP Offline Mobile Store by GK (or other store solutions) including the possibility to work exception-driven when reviewing order proposals in GK

- Efficient distribution for time-critical processes by event-driven processing of stores

Key benefits

- SAP ERP is the controlling instance and is holding the order proposals/store orders

- SAP ERP data is enriched by SAP F&R Exceptions

- Fast and standard interfaces / API's between SAP F&R, SAP ERP and SAP Store Solutions by GK or other store subsystems

What happens with SAP F&R?

SAP F&R remains the key part for SAP Retail Replenishment.
Its value is proven and provides fast return on investment.

Fresh Product Add-On
SAP F&R
SAP F&R available on SAP HANA

Continuous investment into the solution e.g. Fresh Product Forecasting, co-innovation areas like operational reporting and SAP Fiori based order review

Standard Maintenance with delivery of Support Packages for more than 9 years*

*SAP F&R is part of the SAP Business Suite. Currently confirmed maintenance for SAP F&R 5.2 is 2025 with the exception of the Java based Store UI (Replenishment Workbench for Stores), which remains on 2020.

What happens with SAP F&R?

- SAP F&R remains the key part for SAP Retail Replenishment.
  Its value is proven and provides fast return on investment.

- Unified Demand Forecast UDF will drive a breakthrough in predictive capabilities and demand integration.

- The Replenishment part is stable and will be enhanced with incremental improvements in a co-innovation mode.
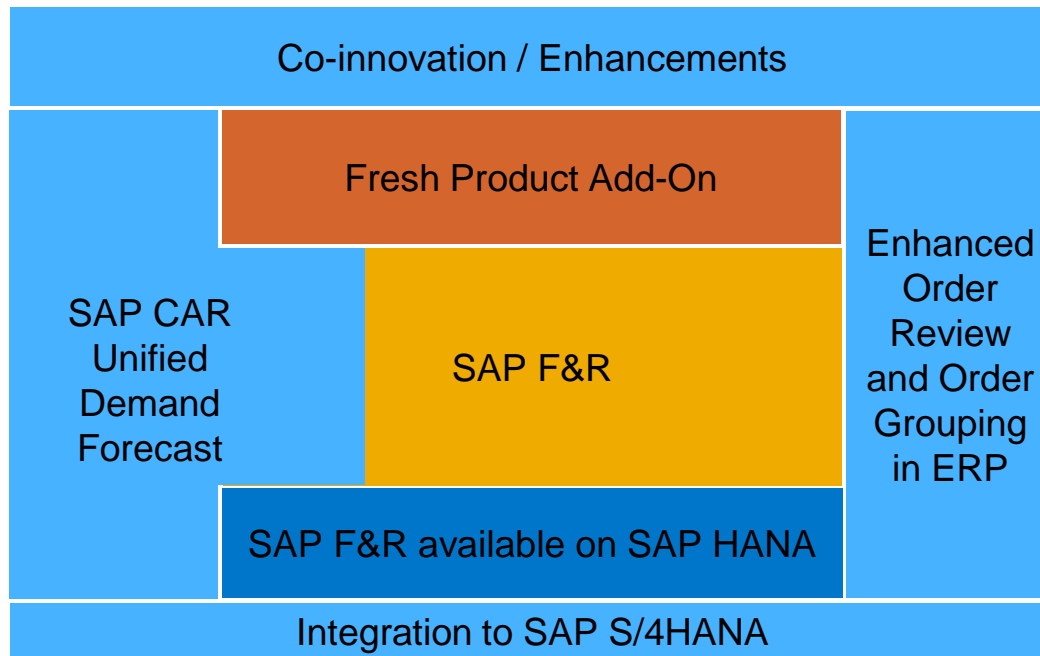
Co-innovation / Enhancements

Fresh Product Add-On

SAP CAR Unified Demand Forecast

SAP F&R

Enhanced Order Review and Order Grouping in ERP

SAP F&R available on SAP HANA

Integration to SAP S/4HANA

Continuous investment into the solution e.g. Fresh Product Forecasting, co-innovation areas like operational reporting and SAP Fiori based order review

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Innovation Example: SAP Fiori based store order review

Store order app for store associate

- Simple UI for store employees
- Enable store associates to review and update order proposals primarily on a mobile handheld device
- Display relevant order proposal information (in ERP)
- Provide explanations (e.g. exceptions)
- Offer the ability to accept or to apply changes
- Integration in overall SAP ERP Retail Fiori store concept, based on existing order products app

SAP Unified Demand Forecast (UDF)

SAP Unified Demand Forecast (UDF) is the new generation of forecasting for SAP Retail.

UDF combines strengths of various forecasting methods to supply predictive information to all Retail applications. This includes Promotion Management for Retail, Assortment Planning, and all future consuming applications on the **SAP Customer Activity Repository.**

SAP HANA gives the appropriate technology base to run ad-hoc simulations with in-memory performance.
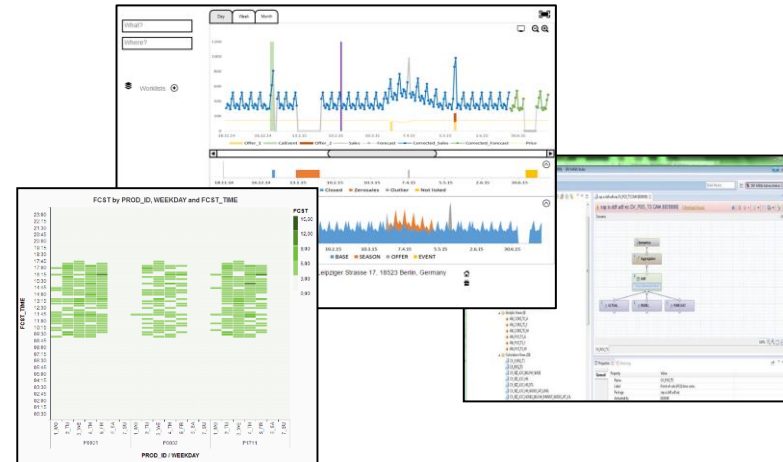
Calculates the **impact of historical factors** that influence demand like promotions, calendar events, seasonality or price elasticity, then uses **Bayesian statistics** to fill in the gaps of knowledge of what happened in the past.

Can provide special forecasts for short life cycle products (ramp up and ramp down)

Supports **what-if forecasting** capabilities to compare multiple scenarios, or **production forecasting** capabilities for ongoing/analytic access
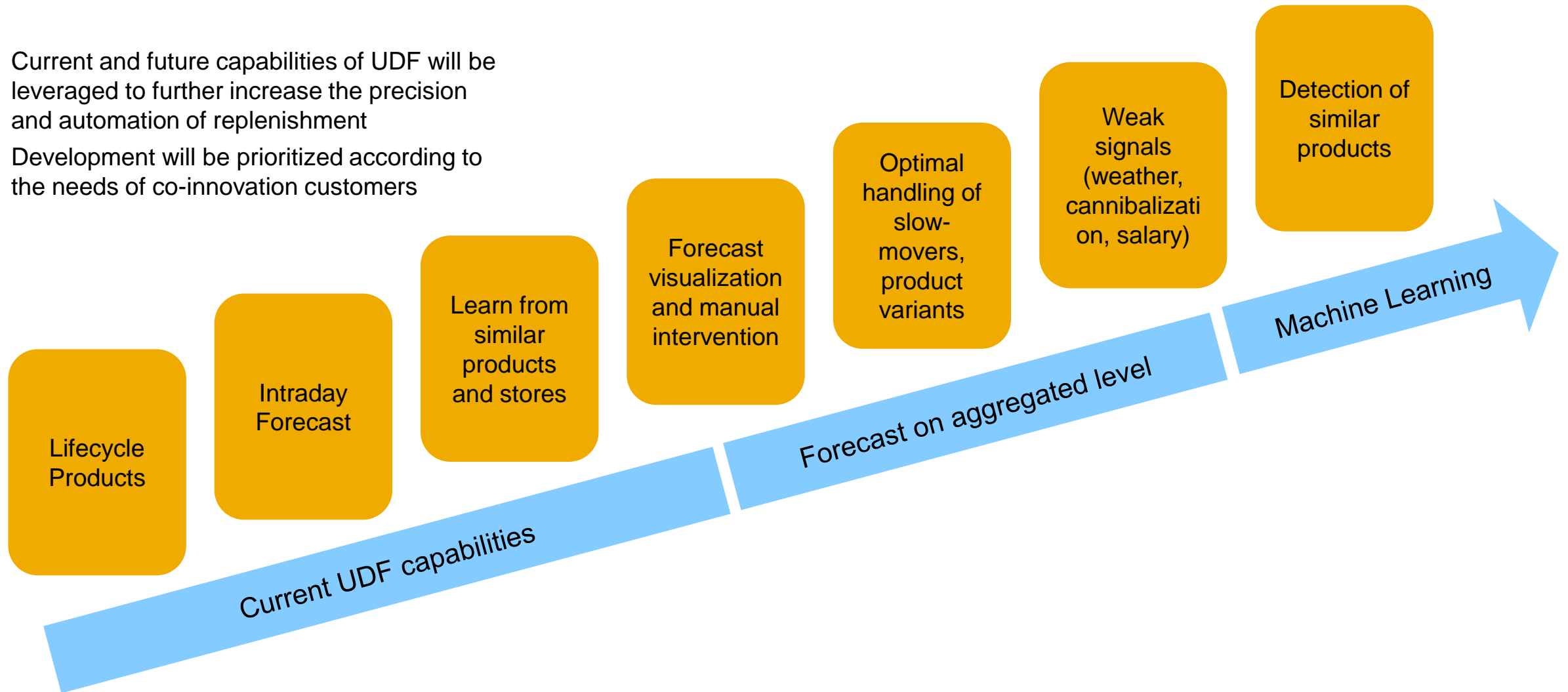
Visualization tools available and further are planned

Why it makes sense to integrate SAP F&R with UDF

Usage of a consistent forecast across Retail processes

True-day forecast with additive and multiplicative models

Improved model with Hierarchical Prior concept

Better support of new listings and lifecycle products

Strategic product in Retail - Strong roadmap

UDF Integration – Roadmap for Replenishment Enhancements

- Current and future capabilities of UDF will be leveraged to further increase the precision and automation of replenishment
- Development will be prioritized according to the needs of co-innovation customers

Lifecycle Products

Intraday Forecast

Learn from similar products and stores

Forecast visualization and manual intervention

Optimal handling of slow-movers, product variants

Weak signals (weather, cannibalization, salary)

Detection of similar products

Current UDF capabilities

Forecast on aggregated level

Machine Learning

Unified Demand Forecast across Retail Planning – Outlook / Vision

Assortment Planner needs forecast to select the best options for the option plan based on financial KPIs

Promotion Planner wants to optimize promotion attributes and promotion periods based on financial KPIs

Demand Planner needs forecast as base for the creation of a demand plan

Allocation .Planner needs forecast/demand plan as base for the inital allocation strategy and the in season fill in scenario.

Replenishment Planner needs quantile forecast/ demand plan for demand/target periods as base for order quantity calculation.

What If Calls:
Validity Period
Option
Store cluster
Horizon: 6-12 m

What If Calls:
Promotion Period
Product Group
Store Cluster
Horizon: 1-3 m

Production:
Day/Week
Product
Location
Horizon: 1-3 m

Demand Plan:
Week
Product
Location
Horizon: 1-3 m

Demand Plan :
Day
Product
Location
Horizon: 1 month

Unified Demand Forecast

Data sources

POS data | Syndicated .data | Sales Orders | Shipments

Thank you

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