How Eastman Chemical Deployed SAP Business Planning and Consolidation Optimized for SAP S/4 HANA Finance

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Tony Guetersloh – TruQua

Session ID: 4874

IN THIS SESSION

- Walk through Eastman Chemical's recent planning initiative to replace their legacy SAP Business Planning and Consolidation 7.5 for the Microsoft Platform with SAP Business Planning and Consolidation optimized for the SAP S/4HANA Finance

SPEAKERS

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EASTMAN COMPANY OVERVIEW

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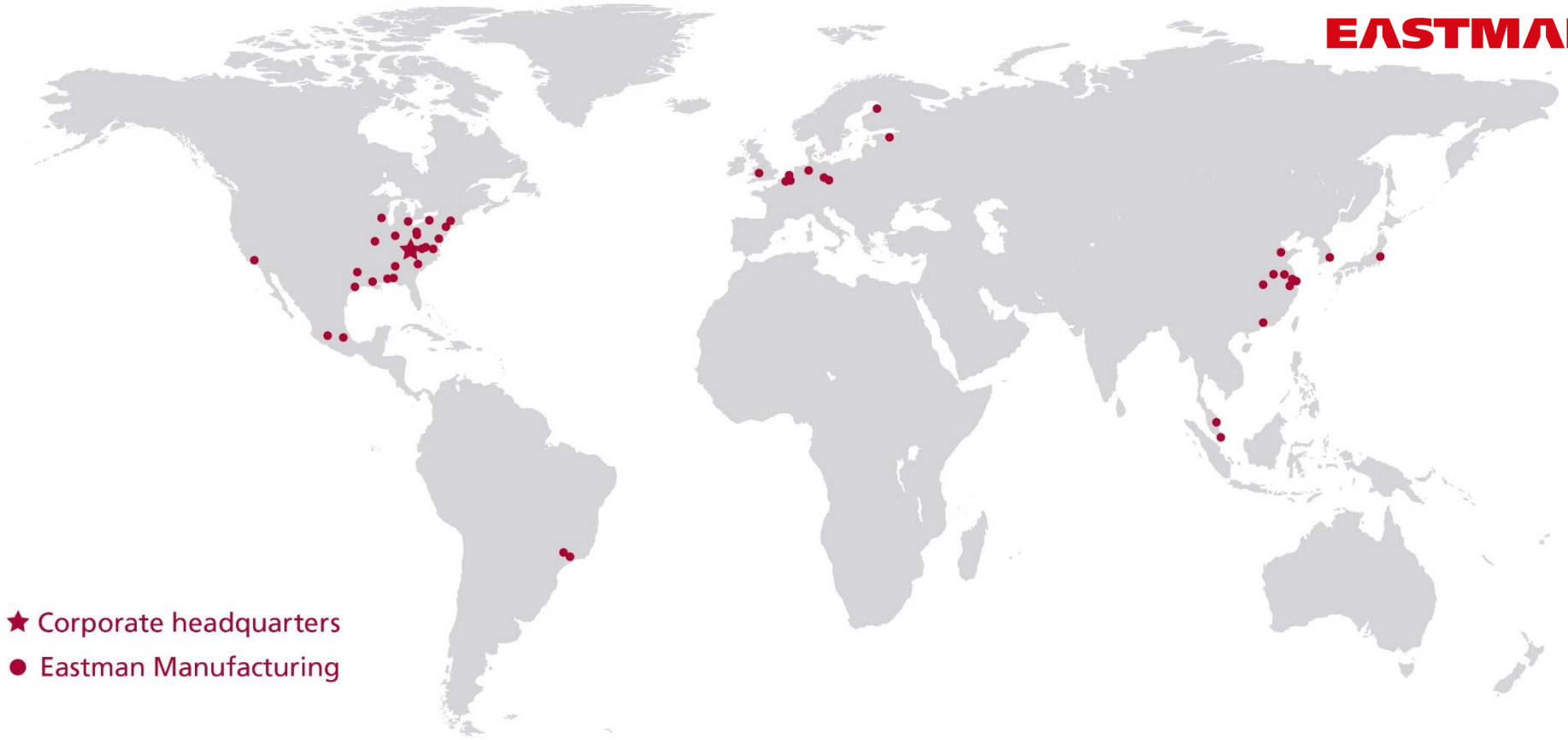
- A global specialty chemical company headquartered in Kingsport, Tennessee
- Approximately 15,000 employees and 50 manufacturing sites around the globe
- Serving customers in approximately 100 countries
- A company dedicated to environmental stewardship, social responsibility and economic growth
- 2015 ENERGY STAR® Partner of the Year Sustained Excellence
- 2015 Ethisphere's World's Most Ethical ® Companies
- 2016 Glassdoor Employees' Choice Best Places to Work (# 11)
- 2015 revenue of $9.6 billion

MANUFACTURING LOCATIONS

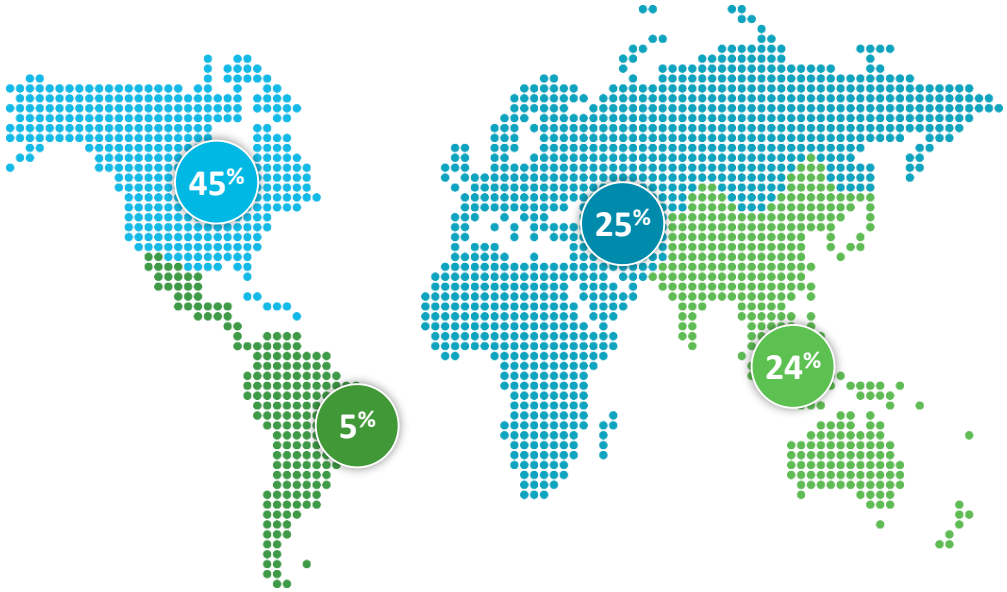


Anniston, AL
Antwerp, Belgium
Canoga Park, CA
Chestertown, MD
Columbia, SC
Dresden, Germany
Fengxian, China
Fieldale, VA
Franklin, VA
Ghent, Belgium
Hefei, China
Indianapolis, IN
Itupeva, Brazil
Jefferson, PA
Jurong Island, Singapore
Kashima, Japan
★ **Kingsport, TN**
Kohtla-Järve, Estonia
Kuantan, Malaysia
Lemoyne, AL
Leuna, Germany
Linden, NJ
Longview, TX
Martinsville, VA
Middelburg, The Netherlands
Monongahela, PA
Nanjing, China
Newport, Wales
Nienburg, Germany
Oulu, Finland
Pace, Florida
Santo Toribio, Mexico
São Paulo Mauá, Brazil
Sauget, IL
Shenzhen, China
Springfield, MA
St Gabriel, Louisiana
Sun Prairie, WI
Suzhou, China
Texas City, TX
Trenton, MI
Ulsan, Korea
Uruapan, Mexico
Watertown, NY
Wuhan, China
Yixing City, China
Zibo, China

END-MARKET AND GEOGRAPHIC DIVERSITY CONTRIBUTE TO GROWTH

2015 Sales Revenue

19%	Transportation
14%	Building & Construction
14%	Consumables
12%	Tobacco
8%	Personal Care/Health & Wellness
8%	Industrial Chemicals & Processing
7%	Durable Goods
6%	Food, Feed & Agriculture
6%	Other
4%	Energy, Fuels & Water
3%	Electronics



EASTMAN/SAP HISTORY

- 1991 – Kickoff SAP R/2 Project
- 1994-1995 – Completed R/2 Implementation
- 1998 – Began R/2 -> R/3 Project
- 1999 – R/3 Go Live
- 1999 – Began APO (SCM) Project
- 2006 – ERP2004 Upgrade, Began CRM Project
- 2009 – ERP 6.0 Unicode Upgrade
- 2010 – CRM 7.0 & SCM 7.0 Upgrade, ERP EnhP 4, NW CE
- 2012 – 2015 Integrated Several Acquisitions in one central SAP ERP system

SAP LANDSCAPE

DELIVERY

Publish & Subscribe

Search

Collaboration

Microsoft SharePoint

SAP NW Portal

Content Management

Workflow & Alerting

Analytics and Performance Management

Reports

Dashboards and Scorecards

Application Composition

Visual Studio

SAP Web Dynpro Visual Composer

SharePoint Designer

Business Intelligence

Microsoft BI

Cognos

SAP - BI

Eastman Information Warehouse

SAP - BW

Process Integration

Microsoft BizTalk

Web Methods

SAP NW CE

SAP ERP

SAP CRM

SAP SCM

vendavo

SmartOps

OSIsoft

Others

PROJECT DESCRIPTION

- Eastman Chemical is deploying a new integrated business planning solution in order to:
  - Upgrade the current BPC 7.5 MS financial planning solution (ALPS) to a new integrated and future-proof solution
  - Deliver better visibility and reporting across the enterprise for pricing, costing, and additional forecast drivers
  - Increase accuracy and efficiency of financial planning
  - Provide real-time information and eliminate/reduce batch processing and lengthy data loads

PROJECT GOALS

Goal 1: Create a Boardroom of the Future

Goal 2: Reduce total costs for Eastman as a whole

- Have visibility of all businesses, while maintaining the individual competencies of each.

Goal 3: Have appropriate planning, control and reporting systems in place

High level buy-in was easier, since SAP HANA S/4 is the next-generation business suite designed to embrace and capitalize on today's digital economy and supports corporate strategy.

BUSINESS DRIVERS

- Streamline and align business processes
  - S&OP with Financial Planning
- Provide critical missing capabilities in planning and reporting, such as pricing along business and industry hierarchies
- Increase efficiency and reduce cycle time for forecasting and IBP processes
- Allow better visibility to detailed information, leading to better decision making
- Eliminate unnecessary interfaces
- Increase forecast accuracy

TECHNICAL DRIVERS

- New SAP technologies allow for technical paradigm shift away from traditional solution design
  - HANA in-memory database
    - Super-fast performance over large volumes of data
    - View-based modeling eliminates data loads and redundant storage
  - SLT Data Replication
    - Replicates data from one system to another keeping them in sync in real-time, eliminating need for batch loads
    - Allow for controlled late quantity changes
  - Improved and Consolidated Front-End Tool – SAP Analysis for Office
    - Excel embedded tool that allows for reporting, analytics, planning and query design in single tool
  - S/4 HANA Finance
    - Next generation of ERP software from SAP, optimized for analytics, reconciliation, and integrated planning
    - Future roadmap for Eastman – 2016+
- Technical maintenance and support for SAP BPC (MS) 7.5 goes away in 2016

BUSINESS REQUIREMENTS

Current

- Utilize S&OP based forecast volumes
- Facilitate simple, strategic and efficient price forecasting
- Generate a viable understandable forecast cost of goods
- Address the complete the P&L forecast
- Easily facilitate comparison of multiple scenarios including actuals
- Provide meaningful data analysis
- Better integration master data and transactional data from SAP ERP
- Seamlessly integrate currencies consistently across all P&L forecast items.
- Facilitate the use of appropriate UOM

Future

- Easily accommodate and model structure changes
- Extend existing data into different and future scenarios
- Integrate consumption factor based cost modeling into the P&L
- Accommodate initiative planning and reporting process
- Provide for restating plans back to the operational system
- Integrate Forecasting, ABP, CSM, Balance Sheet, and Cash Flow

The most critical requirements for an upgrade of the Price Forecasting system.

INPUTS

RAW MATERIALS

- Provide up-to-date product replacement costs using latest RM prices in WD1/2 when pricing opens.
- Provide ways to easily visualize change in forecasts when inputing price forecast (internal + external).
- Provide a way to visualize raw material usage factor per product, and to use this factor for price suggestion.

STRUCTURE

VIEWS / VISIBILITY

- Ability to save personal views (customize view/template).
- Tool with visibility of Value Add.
- Tool that keeps the track of previous entered prices/margins in order to avoid retyping same prices every cycle.

FILTERING CAPABILITIES

- Maximize options in terms of customers with the ability to group those who have identical prices (e.g. same market segment) and then input prices only one time.
- Maximize filter options for entering price forecast (e.g. avoid going to different BUs to enter prices for the same product, when structural changes occur, etc.).
- Facilitate input and analysis of the longer term forecast and to have the ability to forecast different periods of time using different criteria (forecasting short term is different from long term).

MAINTAIN

- Maintain data granularity in ALPS.
- Maintain critical features of current system (Phase 1+2)

INPUTS

- Minimize impact of currency on price forecast at the customer/product level.
- Ability to forecast price in invoice level.
- Pricing Manager can input delta in price by reason codes:
  1) Correction
  2) Market facts (Supply/Demand).

PRODUCTIVITY

SPEED

- Maximize ease of use (design that is intuitive for the user) with minimal number of steps.
- Improve system performance (process time).

Vote Legend

1st 2nd 3rd

Cause → Effect

OUTPUTS

REPORTS

- Run/visualize management reports with flexible options to sort upon, which include changes, comparables, trends, VA, revenue, margins, EFO, etc. (text, graphs and charts).
- System captures data, prepares actual and forecast waterfalls to provide price changes due to:
  - RM/formula
  - Exchange rate
  - Mix/New business
  - Supply/Demand.

PRODUCTIVITY / ACCURACY

AUTOMATION

- Automated tool that calculates and suggests a price for certain products in terms of pre-selected factors (e.g. RM move w/ capability to inform % of influence in that product, formula prices that can be calculated using int./ext. RM prices, etc.).
- System does the calculation taking deductions out (e.g. sales incentive, rebates, etc.).
- Automated and intelligent tool (e.g. suggests a price based on stat calculation, market information, key triggers/drivers, historical prices, etc.).
- Provide what-if capabilities during price forecasting to predict impact of changes from previous forecast cycle.

EXCEPTION BASED

- Tool that provides a high level overview which directs user to the most impactful price forecast to update and also summarizes completed forecast by biggest needle movers.
- Automated tool that identifies issues/discrepancies based on data (e.g. flag the outliers, differences at turn of year, new products, substantial changes, where there is no price but new volume added in this cycle, etc.).

- Covered in phase I
- Progress in phase I
- After phase 1 – some progress
- Not happening

CHALLENGES

- Preparing to make the move to SAP S/4HANA in the future
- Multiple Data Warehouses (historical baggage)
    - Microsoft BI: Main data warehouse
    - Eastman Legacy data warehouses
    - SAP BW (a few applications)
- ERP functionality that is less standardized because of divestitures and acquisitions leading to a disconnect between systems, like CRM, SCM (APO), ERP and our Data Warehouses
- SAP BPC 7.5 based upon Microsoft
    - Reaching system limitations
    - Reaching functionality limitations based upon proposed roadmap
        - First phase moving away from account based approach in BPC 7.5 to a more supply chain financial driven solution to align better with our S&OP initiative.

SOLUTION

- Integrated Business Planning project was based upon Embedded BPC solution in SAP BW on SAP HANA SIDECAR in the CLOUD

- Create “integrated” system crossing several systems, processes and technologies aligning corporate S&OP and financial process
  - 24 month rolling forecast from S&OP used to create a financial profit and loss picture for monthly forecast as well as annual business planning process
  - Cost based CO-PA data provides detailed P&L value fields with allocations
  - Actual and Planned product cost data complements P&L to provide more accurate COGS and Manufacturing Margin to be used for pricing and analytics

SOLUTION (CONT.)

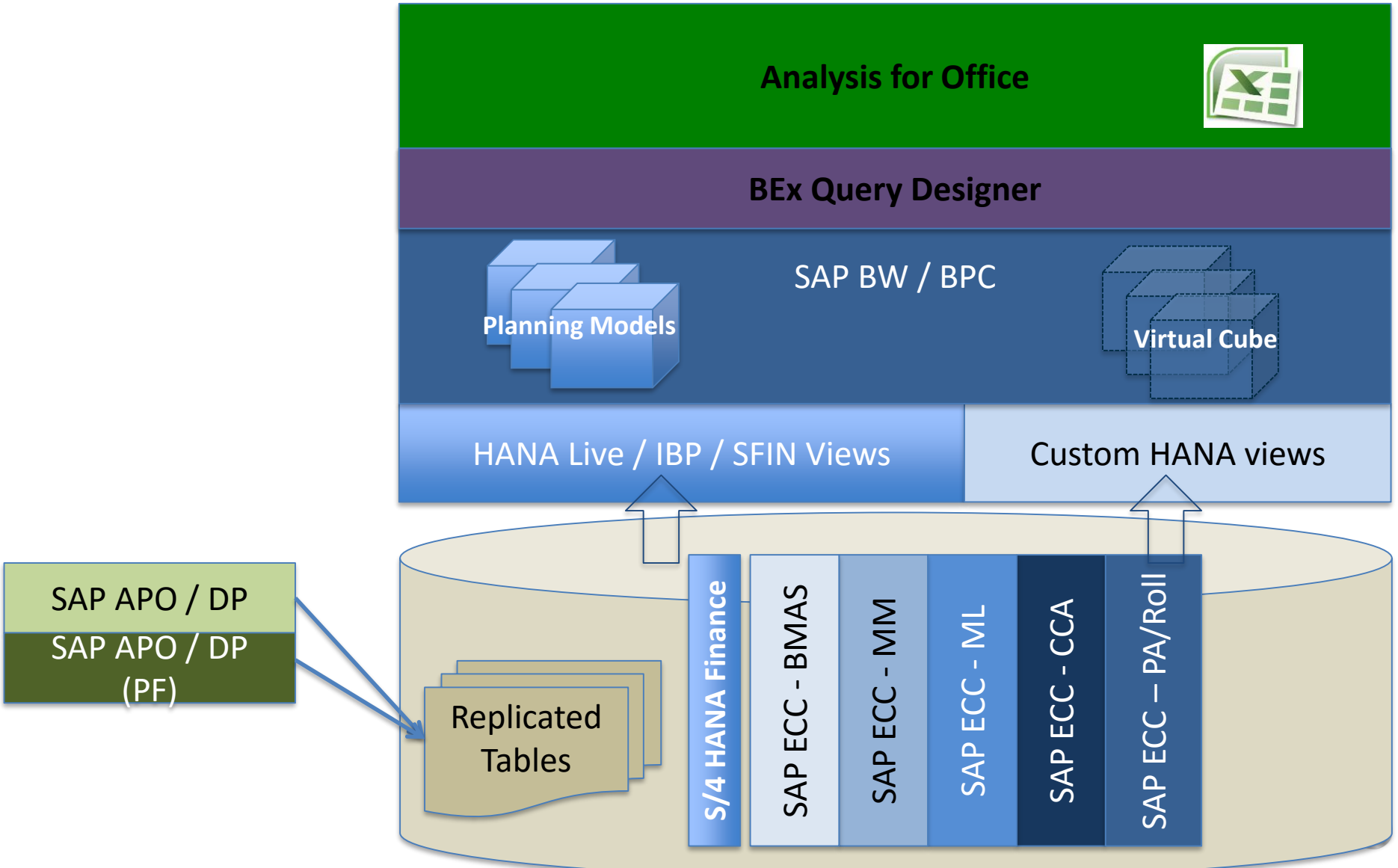
- Data from various sources replicated into HANA through SLT:
  - Produces table structures similar to SAP S/4 on HANA, making transition easier from sidecar to SAP S/4
  - ERP into HANA. Provides real time visibility to ERP data
  - Access to Live-Cache Planning data from APO, are stored in HANA
  - Access to Eastman's NON-SAP data marts are stored in HANA

- HANA views and analytic content build on top of replicated tables
  - HANA Live leveraged for initial master data and transaction views
  - Custom calculation view, stored procedures and table functions developed to meet Eastman's business requirements

SOLUTION (CONT.)

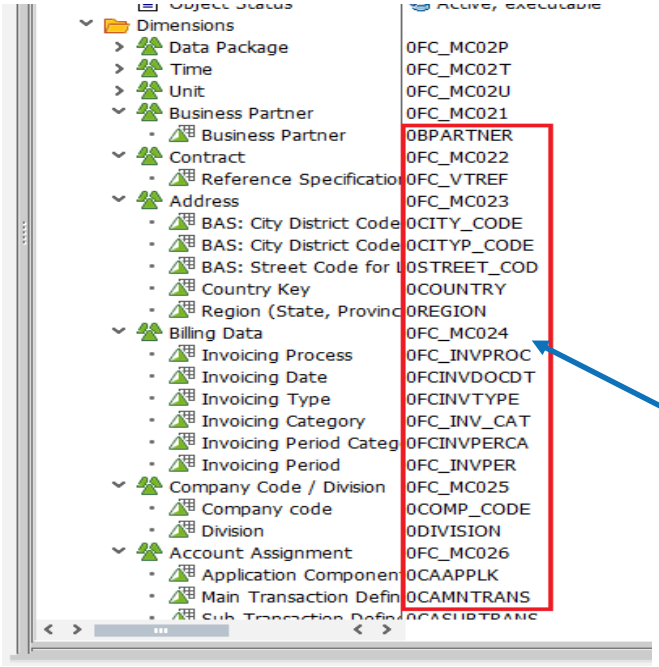
- Embedded BPC solution in SAP BW:
  - BW info objects access master data from HANA views, giving real-time visibility and date based derivations
  - BW virtual providers read transaction data from HANA views giving real-time reporting and analytics and eliminating the need for ETL and data storage in BW
- SAP BW-IP (Integrated Planning) and PAK (Planning Application Kit) on top of HANA used for planning capabilities
  - Use of the proven planning functionality that BW has to offer, in conjunction with the strength and functionality of HANA
- We have gone through several SAP implementations, and realize the need for a strong implementation partner.
  - Proven track record:
    - Strong BW skills and familiar with SAP HANA on sidecar
    - Strong “integrated” business knowledge
    - Strong skills integrating different systems into one SAP HANA solution.
  - Close alignment with SAP and in particular SAP Germany
    - If problems occur we need fast resolution
  - Active involvement from start to finish

SOLUTION ARCHITECTURE

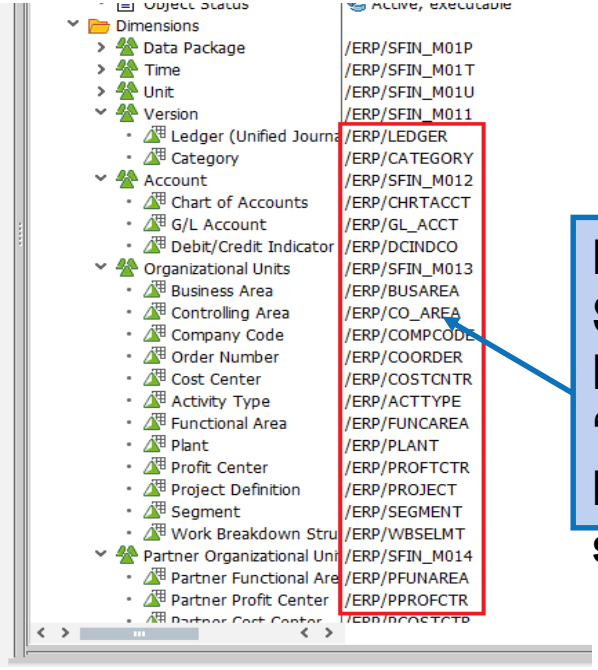


DESIGNING FOR SAP S/4HANA

- The InfoObject structure is entirely different in BPC embedded on SAP S/4HANA Finance
  - No longer uses the traditional “0” namespace for standard delivered SAP InfoObjects
  - All delivered InfoObjects now belong to the “/ERP/” namespace
  - Current InfoObjects within existing BW and BPC embedded environments (i.e., 0CUSTOMER, 0COSTCOMP, and 0GL_ACCOUNT) no longer used in SAP S/4HANA Finance BPC models



Traditional BW “0” InfoObjects



New SAP S4/HANA BPC “/ERP/” InfoObjects

BRINGING IN THE S/4HANA FINANCE INFOOBJECTS TODAY

- SAP recently released SAP Note 2243472 which contains all of the /ERP/ InfoObjects to import into existing systems
- This note enables current BPC embedded environments to leverage new InfoObjects before migrating to SAP S/4HANA Finance
  - Prepares systems for future migration
  - Future proofs any current models to avoid redesign and simplify redeployment on SAP S/4HANA Finance
- /ERP/ InfoObjects delivered in the SAP Note have default setting to read master data from standard master data tables
  - Possible to customize them to read from HANA views, similar to how objects are configured in SAP S/4HANA Finance
  - No HANA views or HANA content included in note

PLANNING MODELS DELIVERED IN PHASE 1

- **Forecast Quantity, Revenue, and Cost Reporting**
  - APO consensus demand quantity & revenue
    - Average price / KG from APO
  - Cost estimates from ERP
  - BMAS Business and Industry hierarchies derived based on user-provided validity date
  - Currency and UoM conversions performed in real-time
- **P&L Planning and Actuals**
  - PA allocated data from EIW (eventually to come from ERP PA)
  - Ability to disaggregate high level adjustments
- **Pricing**
  - Improved pricing analytics including 3-month avg, 12-month avg, and competitive prices
  - Ability to perform price planning and pricing adjustments
- **Cost Planning**
  - Product costing from ERP

FUTURE OUTLOOK

- Cost allocations for S&E currently performed in Eastman's data warehouse
- System captures data, prepares actual and forecast waterfalls to provide price changes due to: RM/formula, exchange rate, mix/new business, and supply/demand
- Extend existing data into different and future scenarios
- Utilize fixed and variable concepts, allocations, disaggregation
- Integrate consumption factor based cost modeling into the P&L
- Material cost modeling, cost center/cost element or project/cost element modeling – similar to an ROA modeling process
- Accommodate initiative planning and reporting process
- Provide for restating plans back to the operational system
- Integrate Forecasting, ABP, SQ, Balance Sheet, and Cash Flow

ISSUES AND CHALLENGES

- Multiple new tools and technologies involved in the solution
  - Learning curve and staffing of project team
  - Lack of documentation and on-line resources when adding custom functionality
  - Bugs and product defects occasionally encountered
    - SAP quick to resolve tickets, and direct communication with SAP developer
    - Project team able to create work around for minor issues
- Integration across tools not as seamless when building custom functionality
  - Field lengths of BW objects and HANA views must be identical or else NULL value errors
  - Master data look-ups in BW transformations not possible with master data based on HANA views
- Difficult to determine optimal place in technology stack to create various functions such as UOM and Currency Conversion

3 KEY LEARNING POINTS

- Multiple skills required across various SAP technical areas to ensure successful development of solution:
  - SAP Basis – HANA, BW, SLT, BPC
  - Security - HANA, BW, BPC
  - Business Process Architect
  - Data Model Developer – HANA, ABAP, BW, BPC
  - HANA SQL Developer
- Too much flexibility can be detrimental to solution design
  - Determine appropriate level of flexibility early on
- Adopt iterative design approach that allows for evolution as you discover more about your data

RETURN ON INVESTMENT

- S&OP and financial planning aligned for true Integrated Business Planning process
- New capabilities to allow pricing and reporting along business and industry hierarchies
- Manual and Batch interfaces reduced or eliminated
- Reduced cycle time and increased efficiency for forecasting and IBP processes
- Better visibility to detailed information leading to better and faster decision making
- Improved forecast accuracy
- System prepared for future migration to S/4 HANA to align with SAP roadmap

BEST PRACTICES

- Iterate and fail fast
- Code push down to HANA layer
- Use production like data to validate response and discover data as solution is built
- Have fire fighter account for security
- Short communication lines and involvement between teams
- Do NOT over complicate standards
- Choose the right partner who can bring the right mix of skills and has an outstanding relationship with SAP
- Allow time in project timeline for prototyping (before project kicks off)

QUESTIONS AND CLOSING

Thank you!

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