

Insights Talk

Albemarle Corporation

Learn how Albemarle Corporation transformed its supply chain with SAP Integrated Business Planning

July 12



SPEAKERS



Eric C. Stratmann

Senior Director, Supply Chain
Albemarle Corporation

- Currently leading a global Supply Chain transformation project to implement a new standard of S&OP process and tool
- Began career at Albemarle in 1979, and held various key positions as Global Purchasing Director and Director, IT
- Over 20 years' experience in Supply Chain Management

AGENDA

- Ø *Introduction: Albemarle Corporation*
- Ø *Introduction: Intrigo systems Inc.*
- Ø *What were we trying to accomplish?*
- Ø *Supply Chain Transformation: Key focus areas*
- Ø *Why IBP?*
- Ø *Where are we Today?*
- Ø *How did we get data In/Out of IBP?*
- Ø *Key changes to the S&OP Process (New Vs Old)*
- Ø *New SCT Metrics & Forecast Accuracy*
- Ø *Lessons Learned*
- Ø *Q&A Session*

Introduction: Albemarle Corporation



Albemarle Corporation - \$4B Specialty Chemical Company

Refining Solutions



FCC for Resid and Max Propylene

FCC for VGO

Hydroprocessing

Isomerization

Alkylation

Chemical Catalysts

Lithium and Advanced Materials



Li Metals (Batt)

Li Foils, Components

Li Salts (Batt)

Curatives

Organometallics

Polymer Catalysts and Components

Bromine Specialties



Fire Safety Solutions

Oilfield Products

Mercury Control

Water Treatment

Fine Chemistry Services



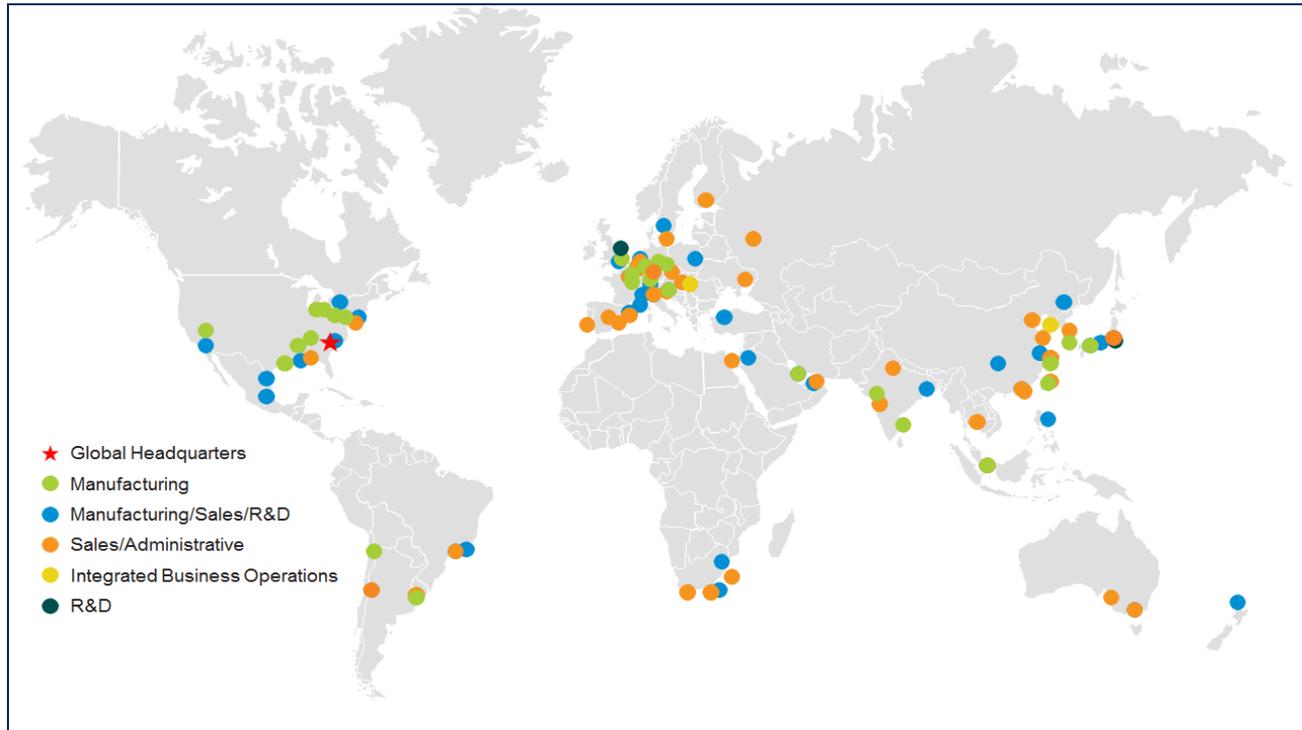
Growing APIs

Intermediates for Pharma/Ag Innovators

Customer-focused During Entire Product Lifecycle

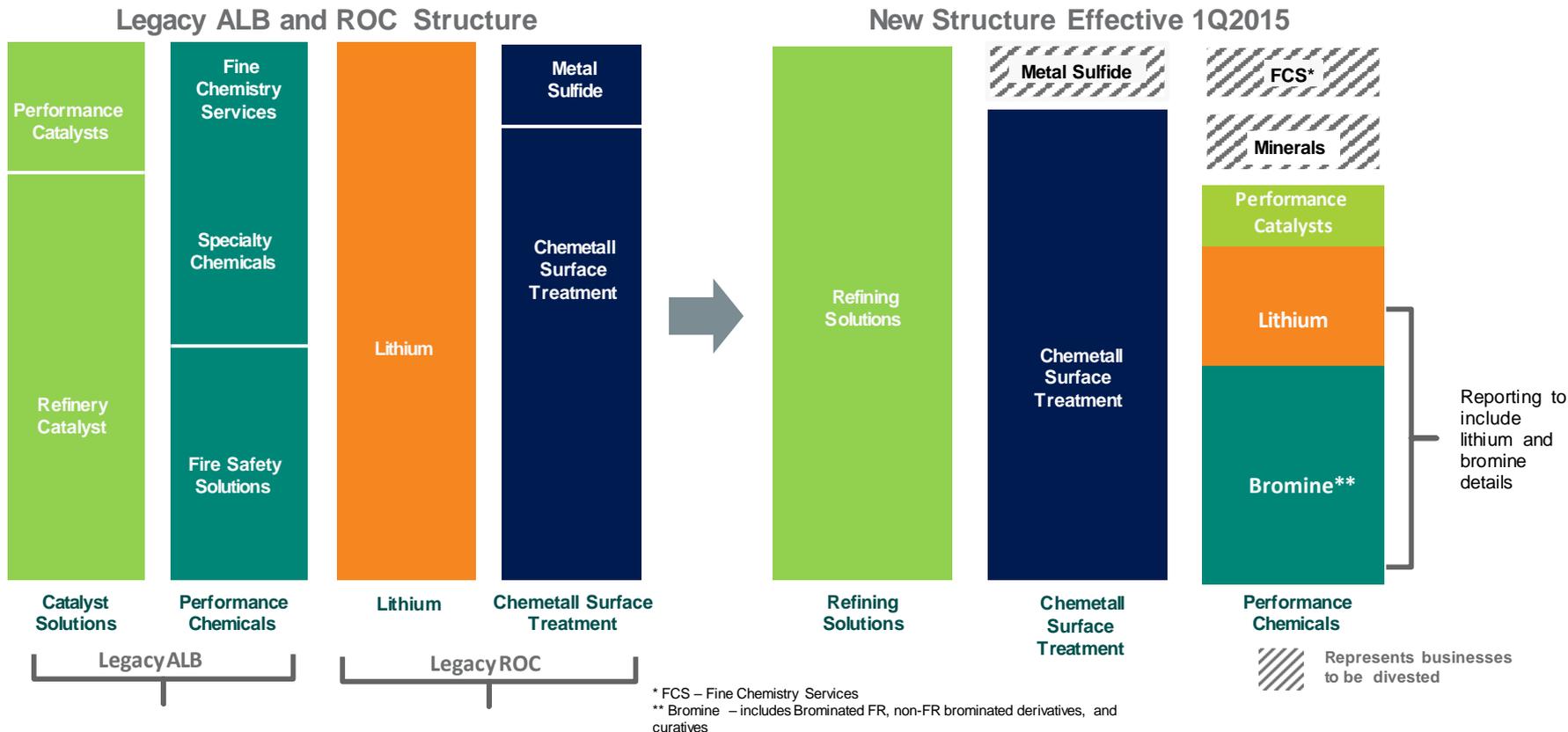
Innovative Chemistry for New Markets

Albemarle's Global Footprint is a Competitive Advantage



Albemarle employs approximately 6,900 people and serves customers in approximately 100 countries.

New Organizational Structure - Path To Achieving Excellence

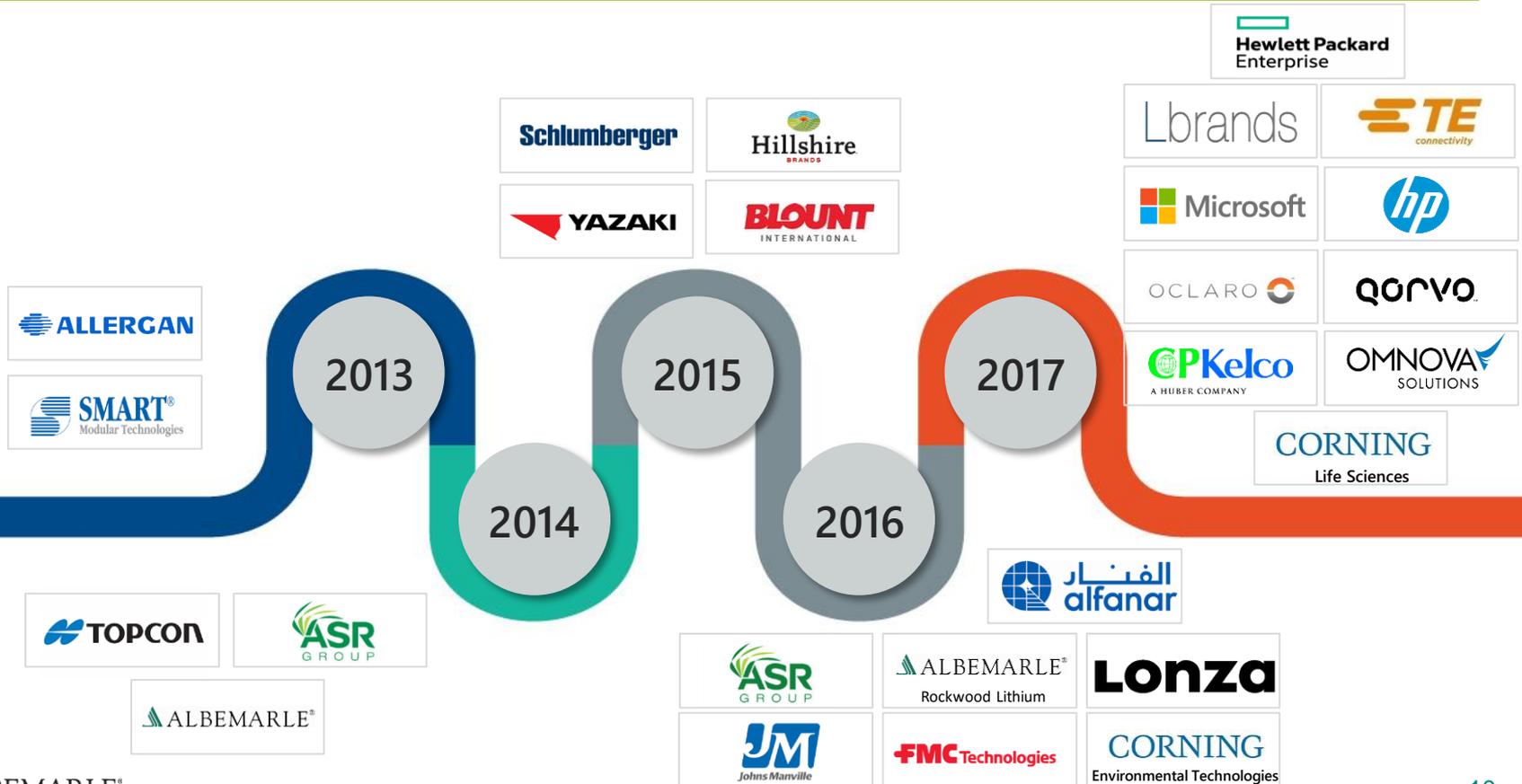


Introduction: Intrigo Systems

Intrigo Systems: Black Belts in Enterprise Solutions



Why We Chose Intrigo - An Outstanding Track Record Delivering on a Global Scale



Supply Chain Transformation

Key Focus Areas

Supply Chain Transformation Project - Goals and Accomplishments



**Network & Inventory
Strategy**



**S&OP Process
& Tools**



**Customer &
Vendor Terms**



**Enhanced Sales
Forecasting**



**Manufacturing
Planning**

- Ø Reduce working capital by \$100MM in 2014
- Ø Enhance and greater visibility for sales and business forecasting
- Ø Develop and implement global S&OP process
- Ø Tighter integration between S&OP and manufacturing planning

Supply Chain Transformation Project - Key Focus Areas



Enhanced Sales Forecasting

- § Forecast accuracy metrics at the sales rep level
- § Speed up cycle to get volume to manufacturing sooner
- § Sales, business and consensus demand forecasts separated



S&OP Process & Tools

- § Single, global tool – No more spreadsheets
- § Common process, reports / dashboard for S&OP
- § Earlier forecast lock; more time for manufacturing planning



Manufacturing Planning

- § Single version of the truth – SAP
- § Tighter integration between S&OP, forecast and production execution
- § Improved Metrics on produce to plan

Integrated Business Planning

Why SAP IBP?



Why Integrated Business Planning? - Business Imperative for IBP at Albemarle

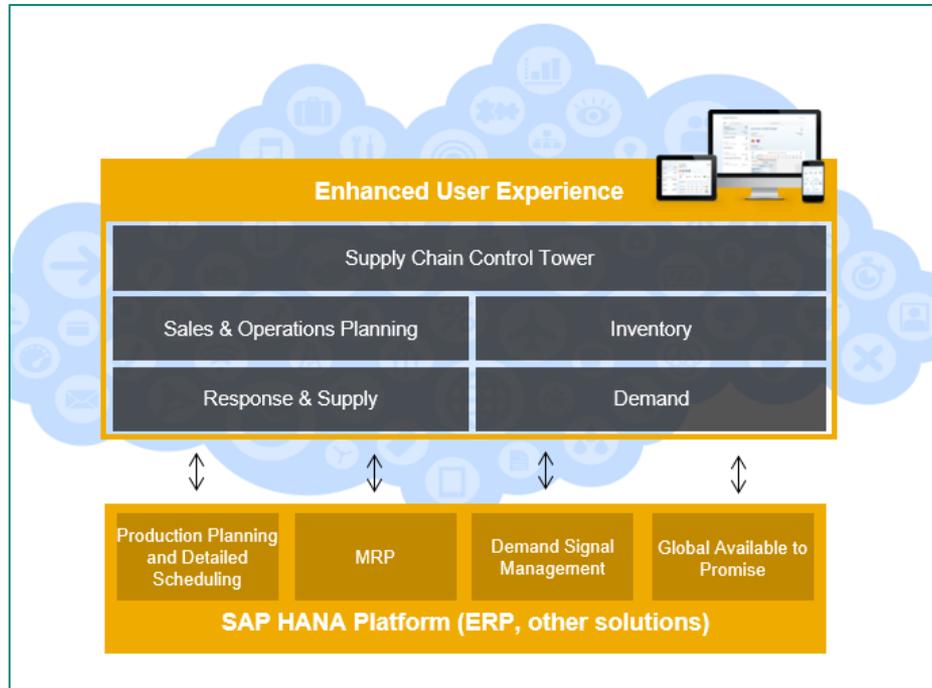
Looked at SAP IBP (formerly SAP S&OP) and 2 Other Packages in Early 2014

IBP Selected for Following Strengths:

- Ø Best integration with SAP and BI existing environments
- Ø SAP HANA seen as future platform for Albemarle SAP environments
- Ø SAP IBP on HANA recognized as strategic, future platform for SAP Supply Chain
- Ø Seamless interfaces from SFDC and back into SAP
- Ø Excel interface for business and sales
- Ø Easy to use and already preferred by the user community
- Ø Sales forecast accuracy at sales rep level
- Ø Web UI capabilities to standardize on single, S&OP meeting look and feel
- Ø Seamless integration for MRP/MPS goals for the SCT project
- Ø Enhanced RCCP functionality to better predict and manage inventory



Integrated Business Planning



© Source: SAP IBP Solution Presentation

Enhanced User Experience

Introduce state-of-the-art user experience with communication capabilities (SAP JAM) and MS Excel Spreadsheets

Built on SAP HANA

Demand Networks require real-time monitoring and a focus on short-term planning

One Harmonized Data Model

Avoid any latency due to integration efforts and leverage the SAP ERP data model

New Planning Algorithms

Leverage predictive analytics (e.g. demand sensing) algorithm in combination with optimization

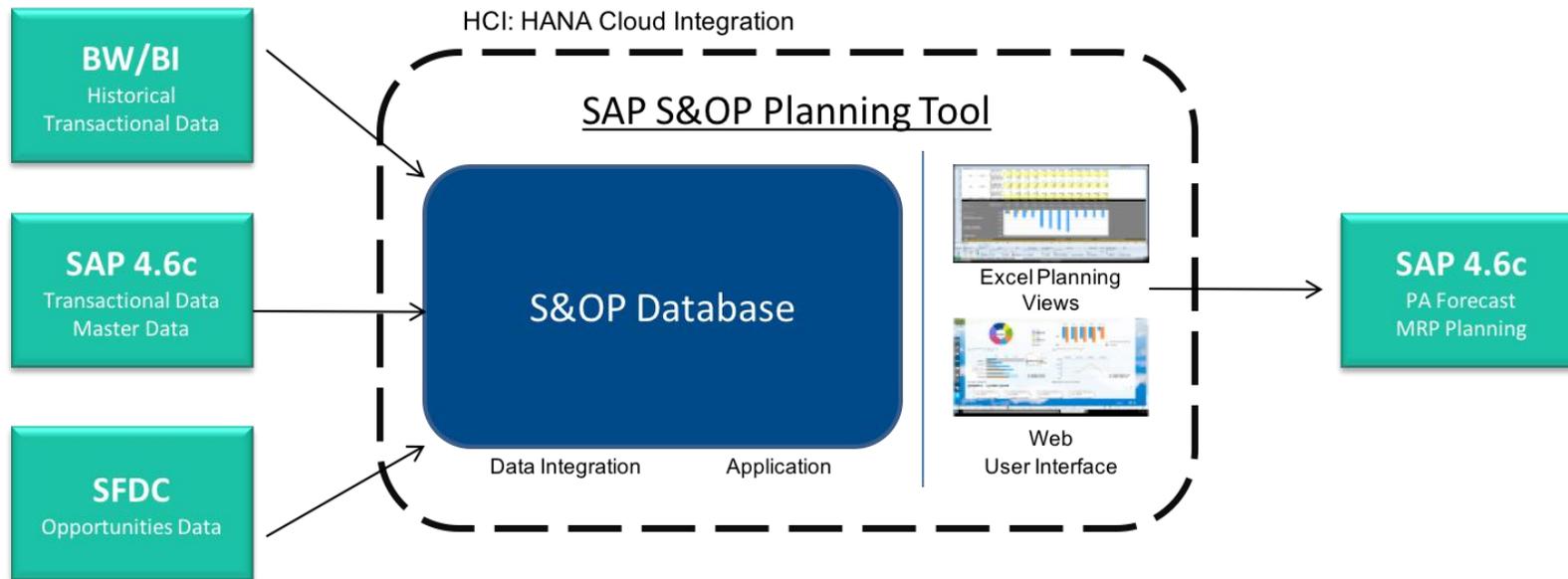
Cloud First Approach

The solutions will be provided in the SAP Cloud but also be made available on-premise

Where We Started

| | Div 1 | Div 2 | Div 3 | Div 4 | Div 5 |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Master Data Cleanup | ✓ | ✓ | ✓ | ✓ | ✓ |
| Users Trained | 70 S&B; 1 Planner; 1 Fin | 50 S&B; 2 Planner; 1 Fin | 80 S&B; 1 Planner; 1 Fin | 50 S&B; 1 Planner; 1 Fin | 50 S&B; 1 Planner; 1 Fin |
| Sales and Business Forecasting with F.A. | ✓ | ✓ | ✓ | ✓ | ✓ |
| Demand Planning in IBP | ✓ | ✓ | ✓ | ✓ | ✓ |
| RCCP in IBP | ✓ | ✓ | ✓ | ✓ | ✓ |
| IBP and SAP Volumes in Sync | ✓ | ✓ | ✓ | ✓ | ✓ |
| IBP and SAP Forecast Prices in Sync | ✓ | ✓ | ✓ | ✓ | ✓ |
| Progress towards retiring XLS | 100% | 90% | 100% | 75% | 50% |

Data Flow - How did we get data in/out of SAP IBP?



Key Changes To S&OP Process - Moving to a new improved platform

| Key Areas | New Process | Old Process |
|--------------------|--|---|
| Technology | SAP IBP tool on Hana | Fragmented Excel Spreadsheets |
| Master Data | Automated into tool from SAP | Manually maintained in spreadsheets by each planner |
| Sales Involvement | Consistent Demand input from sales | Fragmented across businesses |
| Demand Consensus | Process to review all demand signals and historical accuracy | Not executed by all businesses |
| Metrics | Centrally Defined and maintained in tool | Managed by each planner/business |
| Meeting Cadence | Consistent meeting timing, attendees, inputs/outputs | Varies by planner/business |
| Alignment with MRP | New tool emulates MRP so S&OP and MRP are 'speaking the same language' | Spreadsheets sometimes out of synch with MRP |

Customer Master Cleanup

| | | Div 1 | Div 2 | Div 3 |
|--------------------------|--------------------|---------------|-------|-------------|
| Sold To | Reviewed | 593 | 825 | 1,581 |
| | De-activated | 75 | 48 | TBD |
| Ship To | Reviewed | 478 | 981 | 1,495 |
| | De-activated | 30 | 70 | TBD |
| | | C2 & C3 | | PCS |
| Customer Group Keys | Reviewed / Updated | 1,295 / 75 | | 1,581 / TBD |
| Incorrect Links | Reviewed / Updated | 19,369 / 1944 | | 9,875 / TBD |
| Sales People Assignments | Reviewed / Updated | ,7459 / 1334 | | 3,076 / TBD |

Material Master Cleanup

| | | Div1 | Div2 | Div3 |
|--------------------------|--------------------|-------|-------|---------------------|
| SKU:Plant | Reviewed | 1,774 | 2,505 | 2,397 |
| | De-activated | 349 | 919 | 1,394 (proposed) |
| | | | | |
| Work Center: Routings | Reviewed & Updated | 724 | 912 | TBD |
| | | | | |
| Planned Delivery Time | Reviewed & Updated | 395 | 552 | TBD |

Supply Chain Transformation - New Metrics

Customer Terms

- AR average payment terms
- AP average PO payment terms
- % past due trend

Manufacturing Planning

- Produce to plan
- Changes within time fence

S&OP Process

- Forecast accuracy and bias
- Inventory turns

Inventory

- Slow moving / out of spec FGs
- Raw materials

Other

- First time fill rate
- Master data management
- Network statistics/ savings

Forecast Accuracy

| SAP Sales and Operation Planning | | Jun '15 | | |
|----------------------------------|-----------|----------|-----------|----------------------------|
| Sales Rep (Sales Group) | M-2 Sales | Fcst Qty | Order Qty | Sales Forecast Accuracy PC |
| A | | 14,000 | 4,000 | 29% |
| B | | 81,000 | 50,690 | 63% |
| C | | 282,000 | 299,000 | 94% |
| D | | 53,000 | 61,150 | 85% |
| E | | 291,000 | 334,165 | 85% |
| F | | 410,000 | 536,000 | 69% |
| G | | 43,400 | 89,000 | 0% |
| H | | 77,100 | 89,816 | 84% |
| I | | 238,000 | 274,650 | 85% |
| J | | 326,000 | 236,600 | 73% |
| K | | 29,000 | 48,990 | 31% |
| L | | 64,000 | 32,000 | 50% |
| M | | 643,000 | 770,292 | 80% |
| N | | 316,800 | 422,063 | 67% |
| O | | 472,000 | 879,401 | 14% |
| P | | 115,000 | 220,248 | 8% |
| Q | | 200,000 | 163,296 | 82% |
| R | | 172,000 | 110,000 | 64% |
| S | | 10,000 | 37,464 | 0% |
| T | | 131,000 | 15,000 | 11% |

- Reported monthly to ALB execs at sales rep level
- 30% of annual salary incentive is at risk for F.A.

Additional Benefits of Moving to SAP IBP for Sales & Operations

- **One Planning area to view all demand & Supply Elements**
 - Customer/Consensus Demand, Supply, Inventory, Intermediates, Raw Materials, Capacity Plan – ***One Data Model***
- **Volume Planning**
 - Allow planning for Finish Goods, Intermediates and raw materials, which are used in more than one plant location
 - Keeps track of by-products/Co-products/recycle streams
 - Ability to plan in Supply Networks
- **Capacity Planning**
 - Ability to plan Campaign for Multiple products at one Asset
 - Ability to plan single product across multiple assets (By Quota or Units) to Maximize capacity utilization
 - Capacity Data consumed at lowest level from SAP Execution systems
 - Ability to model capacity at DC or MFG locations
- **Inventory Planning**
 - Based on Days of Coverage or unit target qty at FG, Intermediate and Raw Material Level
 - Global look at inventories at various levels supply chain nodes (Including In transit)

Key Learnings

Lessons Learned

- Ø Master data cleanup took 3X times manpower and time estimate
- Ø New SAP IBP technology added delays; but big improvements of late
- Ø Excel interface - easy to train and quickly accepted by Sales and Business
- Ø Achieved higher than expected inventory reductions
- Ø Sales forecast accuracy metric a “Game Changer” in improving forecasts

Future Plans

- Ø Project approved to integrate Lithium businesses into SAP IBP system
- Ø Begun master data “due diligence” in Lithium SAP ECC system
- Ø Already identified lots of process changes needed in Lithium, most notably, in planning fields in the Material Master
- Ø Contracted with Intrigo to be our implementation partner
- Ø Targeted completion of December 31st adding 75+ Lithium Sales, Business, Supply Chain, Finance and Manufacturing users to SAP IBP System

THANK YOU

