Americas' SAP Users' Group

Maximizing the SAP investment through adoption of good manufacturing processes

Kimberley Reid, Vice President, Hitachi Consulting
Pam Nicholson, Sr. Food Technologist, Morgan Foods

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About the Speakers

Pam Nicholson

- Sr. Food Technologist, Morgan Foods Inc.
- Food scientist responsible for product development and commercialization in canned food manufacturing. Responsible for master data, master recipes & inspection plans for semi-finished goods.
- Hobbies include flower gardening, bluegrass music and spending time with my three young kids.

Kimberley Reid

- Vice President, Hitachi Consulting
- Experienced in SAP system implementations with a primary focus on pre-sales scoping and planning, business case development, software selection, project management and execution, detailed business process design, SAP system configuration and testing, SAP user training, and post Go-Live support plan development
- Hobbies include long distance running and voice acting for animation, video games, and commercials

Key Outcomes/Objectives

1. Learn how to rapidly prototype new capabilities to gain stakeholder consensus
2. Gain insights into effective cutover planning to avoid business disruption while transitioning to a new model in a “live” system
3. Review key considerations for the end user experience to assess options for enhancements
4. Learn how SAP S/4HANA migration planning can influence ECC solution changes and timing

Agenda

- Background
- Getting back to standard functionality and capabilities
  - Challenges and Pain points of the existing model
  - Prototyping the new model
  - Gaining buy-in for the new integrated business processes
- Executing the testing process
- Building the new data model in Production
  - Business Cutover Planning
- Lessons Learned
- Key Takeaways

Morgan Foods Inc.

- Focus on private label products
- Increased emphasis on research and development
- Heavy investments in the tools necessary to consistently produce high-quality products
- Manufacturing operations are divided into two areas:
  - **Processing**
    - For preparing the soups, sauces, broths, gravies, beans, etc. in the unlabeled canned product
  - **Labeling**
    - To create the Finished product that is sold to customers
- The business is growing and Morgan wanted to improve how they used SAP to support Manufacturing for Processing operations

Project Background

Goal: Implement SAP solution changes that will address current business process challenges and remove barriers to efficient operations

Key Objectives:

- Improve the use of current SAP functionality to support manufacturing, quality management, and supply chain processes
- Prepare a detailed solution design and implement more effective ways to drive value from the existing SAP solution investment in the manufacturing, supply chain, and quality management process areas
- Through working sessions, explore unused SAP functionality within the current software version that will improve end user effectiveness and help to drive more timely insight for making business decisions
- Provide knowledge transfer to Morgan Foods IT support staff to explore alternate configuration and master data settings in the existing SAP Production Supply area model

Getting back to standard

- Challenges and Pain Points driving the need to change

Area	Challenge/Pain Point	Impact
Material Master	Material master settings are not correct to support accurate MRP processes	Material master values and settings are not aligned to support the process order planning and execution process
Resources	Resources have changed over time and many resources are no longer valid, though still part of existing master recipes structures	Incorrect data drives inaccurate MRP results, encourages workaround processes, and makes it difficult to train new employees
Bill of Material	Not scalable to support current operations	The end to end processes were all designed around an inefficient model that is not considered best practice.
Master Recipe	Does not support SAP generated batch sheets for operator use at process order release	All batch sheets were created and managed externally in Word

Getting back to standard

- Challenges and Pain Points driving the need to change

Area	Challenge/Pain Point	Impact
PP/WM integration	Production supply areas (PSA's) are outdated for current operations	Too many PSA's and inefficiency in Shop Floor operations
Inventory Management	Material return processes are delayed resulting in a loss of accuracy and visibility of inventory	Certain blended materials may expire before use due to lack of visibility
Quality Management	Inability to align in process test results with process orders	Limits the ability to closely analyze operational performance and identify trends to drive continuous improvement on the Shop Floor.

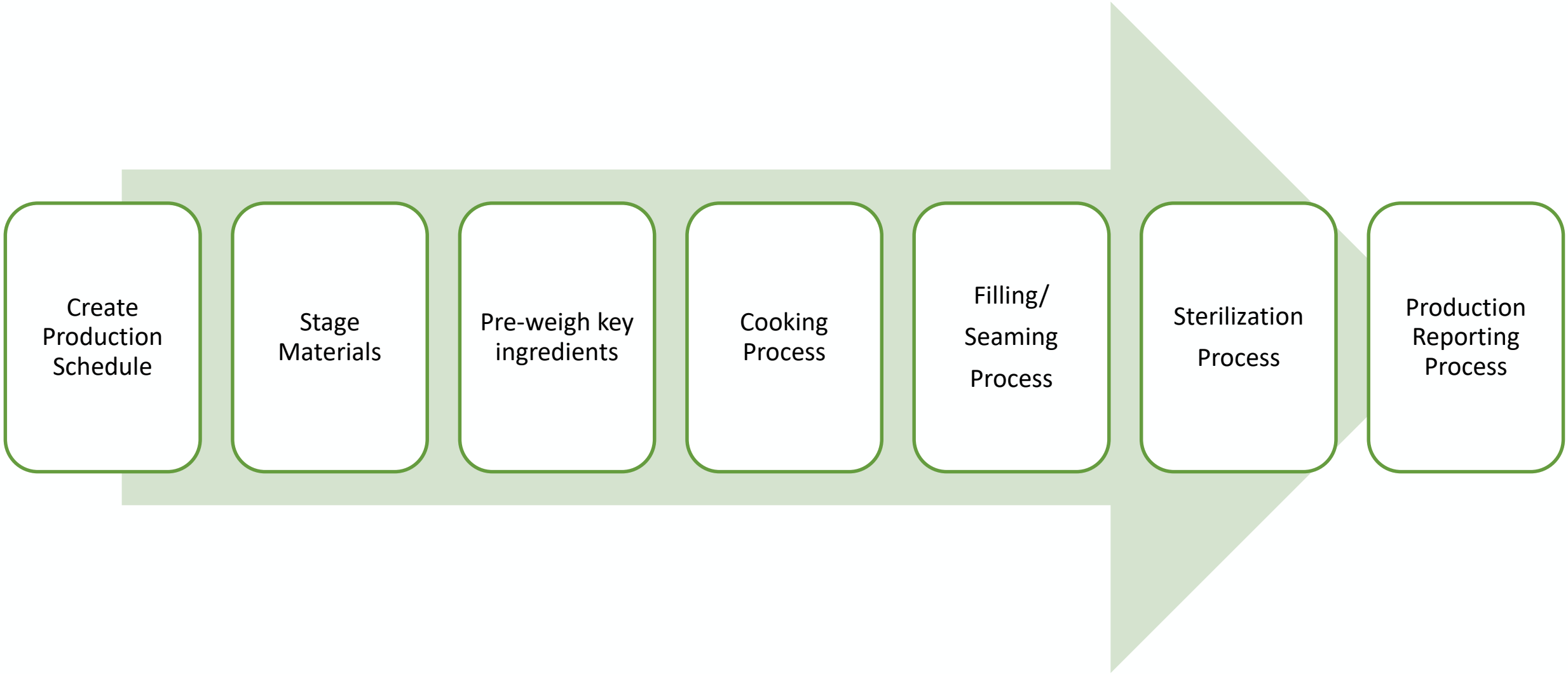
Getting back to standard

- The “Basics”
  - Process Manufacturers typically use the following features and functions
    - Batch management
    - Master Recipes
    - Production Versions
    - Integrated Quality Management Processes
    - Integrated Warehouse Management for material staging
    - System generated batch sheets or Process instruction sheets

Getting back to standard

- Prototyping the New Model
  - Used Sandbox to hold Working sessions to educate key stakeholders on standard capabilities
    - Sandbox was a recent copy of the Production system
    - Great way to test key changes and assumptions without introducing configuration transports into the development system too early
  - Defined new data models to show how specific changes could influence operations
  - Gained agreement on key changes to adopt into the new data model

Manufacturing Process Overview



Getting Back to Standard

- Features and Functions Prototyped

Resource Functionality	Standard Text	Phantom Assemblies	BOM Functionality	Process Order Changes	User cockpit
• Resource Network • Resource Classification	• At Operation and Phase level to support the integrated batch sheet	• To facilitate easier return to warehouse operations for pre-weighed items that are not pre-mixed	• Lead time offset to support Thaw schedule • BOM text to support the integrated batch sheet	• Phase level confirmations • Integrated Batch Sheet	• Supports simplified transaction processing on the shop floor • Focused on a low cost option due to future plans with S/4HANA and Fiori

Executing the Testing Process to Validate the Solution Changes

Unit testing	• Validated individual processes in production, quality, inventory management, and warehouse management
Integration Testing	• Tested the new data model and business processes end to end
Regression Testing	• Confirmed that existing functionality had not been impacted by the new model

Building the New Data Model in Production

- Defined a new set of dependent master data vs. modifying the existing Master Recipes
  - Allowed for a cleaner Cutover Process
- Determined timing for the data freeze
- Executed the sequenced data load and validation process
- Prepared for the Cutover weekend transition

Definition of a Data Freeze

- The following master data objects were considered in scope for the freeze

No.	Data Description	Data Owner
1	Semi-finished materials	<Resource name>
2	Raw materials used in Semi-finished material BOMs	<Resource name>
3	Cans and Lids	<Resource name>
4	Master Recipes	<Resource name>
5	BOMs	<Resource name>
6	Production versions	<Resource name>
7	Resources	<Resource name>

Master Data Validation Process

Validation Window: x date to y date

Data validation resources were given guidance on how to confirm data accuracy

Business resources reviewed key field values to simplify validation

All issues were communicated back to Data Owners

Master Data Validation Checks by Object

No.	Data Description	What Should I Check?	Data Validator Name
1	Materials	Verify MRP settings	<Resource Names>
2	BOMs	Spot check BOM text, quantities, materials, units of measure	<Resource Names>
3	Master Recipes	Resource assignments, text assignments, classification data, quality data, resource network assignments	<Resource Names>
4	Production Versions	Verify that they exist and that descriptions are feasible	<Resource Names>
5	Cost Estimates	Cost estimate accuracy based on BOMs, Master recipe, Resources, and Production versions	<Resource Names>
6	Quality Inspection plans	Verify tests and upper/lower value settings	<Resource Names>

Key Benefits

What Changed?	Benefits
Batch Sheets are now generated from SAP	• Allows changes to batch sheets to be more closely tied to the Master Recipe
In-process quality test results can be tracked closer to the actual process order results	• Eliminates re-keying data captured on paper first • Helps with inspection data trend analysis to drive process improvements
Ability to consume raw materials earlier in the manufacturing process	• Helps with more real time inventory consumption data to drive better materials planning
Key blended ingredients are now visible in inventory	• Supports better inventory management practices for blended ingredients that are not used as planned
Simplified product return processes when material is staged	• Supports better inventory management practices
Reduction in PSA locations and Resources	• Simplified WM staging process; easier to train new resources
Greater standardization in how Master Recipes, BOMs, and Production Versions are defined	• Consistent framework for defining Master Recipes • Scalable BOM for varying lot sizes • Ability to shift certain data from separate Excel sheets to SAP

Lessons Learned

Effective leadership is key to “listen well” and “support change”	• Organizational Change management activities have to be factored into the effort and are essential to drive change
Adopting standard processes is not always easy	• Can be perceived as extra work if not viewed from a more holistic end to end process perspective
Warehouse Operational Efficiency Matters	• Simplifying warehouse management operations yielded significant benefits
Start the Data migration effort early	• Data migration planning and execution required a dedicated team to complete the full model overhaul
Shop floor tablets received mixed reviews	• Introducing tools on the Shop Floor may require extra training depending on the operator computer skills and experience level
Less is More	• Recognize that some changes to the solution were not “flashy”; but more “functional” in nature and essential to integrate effectively with downstream processes
Shifting more and more from disparate Excel sheets is key	• Using SAP to capture critical operational data supports an integrated planning process

Key Takeaways

- SAP is one of the best tools for Process Manufacturing Companies
  - Due to capabilities that natively align with Good Manufacturing Processes
- Awareness of standard functional capabilities is sometimes limited
  - Depending on how the solution was implemented and how it has been supported post Go-Live
- Using standard capabilities and minimizing custom enhancements makes it easier to transition to S/4HANA
  - Fewer RICEWF objects to remediate
  - Quicker start on end to end regression testing
- Education and training on SAP features and functions is key to maximizing the value achieved from the investment in this solution

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