

# Delivering Best in Class Service through Supply Chain Excellence

**Karolina Mallahan**

Vice President, Supply Chain  
Smithfield Foods

**velocity**  
CONNECT + ACCELERATE + INNOVATE



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# SUPPLY CHAIN

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# Smithfield<sup>®</sup>

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## WHO IS SMITHFIELD?

# OUR GLOBAL OPERATIONS

Worldwide Commitment to "Good food. Responsibly.®"



# BENEFITING FROM VERTICAL INTEGRATION

Vertically integrated platform provides an *unparalleled level of traceability & food safety.*



1 HOG PRODUCTION



2 FRESH PORK



3 PACKAGED MEATS



4 CUSTOMERS & CONSUMERS



# OUR CORE BRANDS

# OUR CUSTOMERS

The Who's Who of Major Retailers, Foodservice and Restaurants

## RETAILERS



## FOODSERVICE



## RESTAURANTS



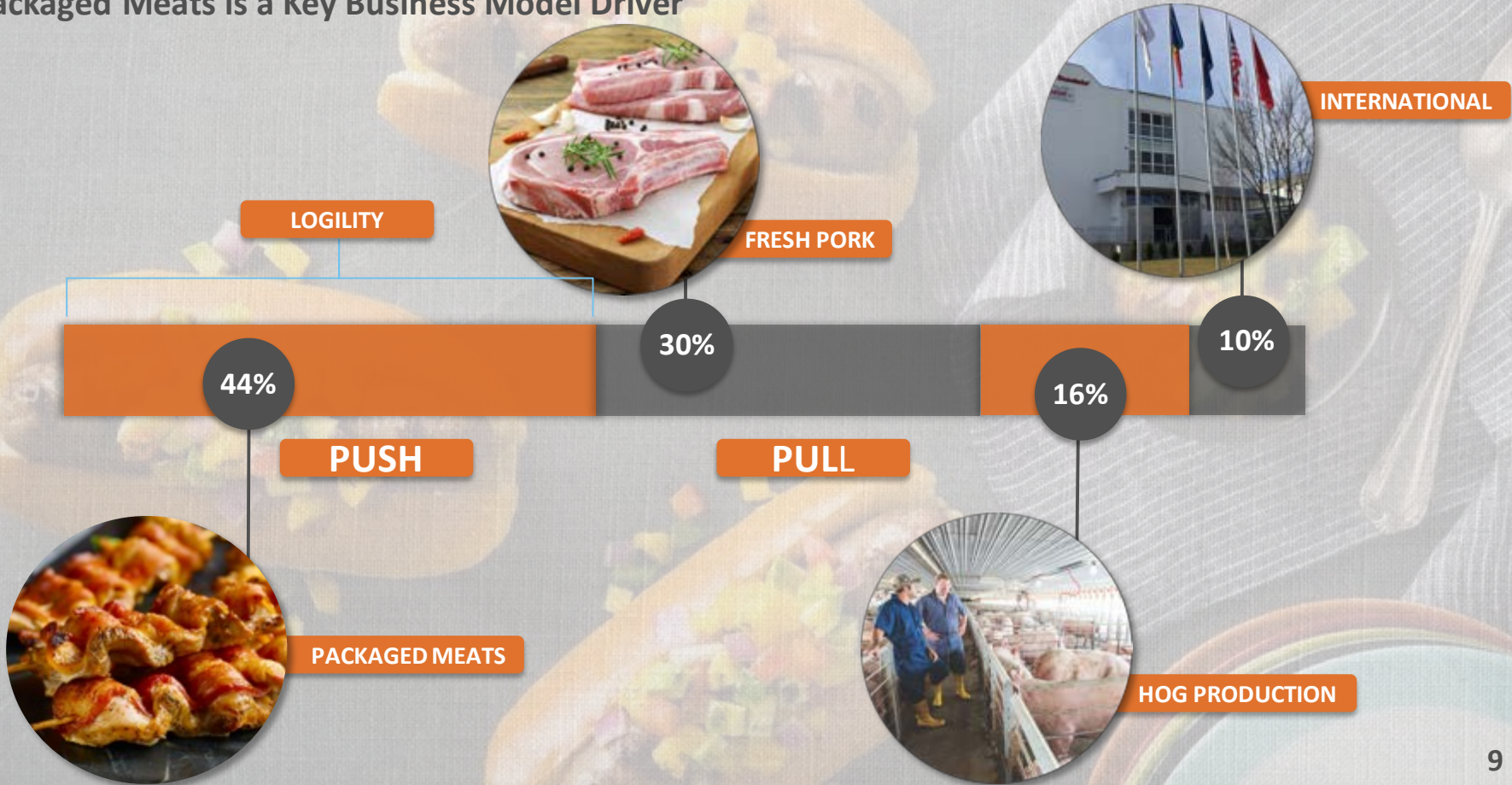
# U.S. OPERATIONS





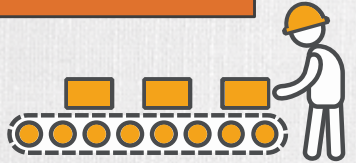
# FOUR BUSINESS SEGMENTS

Packaged Meats is a Key Business Model Driver



# SUPPLY CHAIN FACT SHEET

## PRODUCTION



**320** DIFFERENT  
PRODUCTION LINES

## CUSTOMERS



**1,500**  
CUSTOMERS

## TRANSPORTATION



**15b** ANNUAL  
POUNDS  
SHIPPED

**175mm**  
ANNUAL MILES TRAVELED

**320k** TRUCKS  
TRAVELLING



**28,300**  
SHIP TO  
LOCATIONS

## DISTRIBUTION



**6**  
DISTRIBUTION  
CENTERS



**110**  
COLD STORAGE

# PACKAGED MEATS

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Sales & BM forecast  
Promotions



Demand Planning  
3 month forecast



Supply Planning  
1 Week production  
Schedule 2 weeks out



Plant Scheduling  
Spread week's  
schedule to days



Packaging  
Replenishment  
Min-Max Inventory



Meat Inbound



Production



Plant attached  
Distribution



Transportation



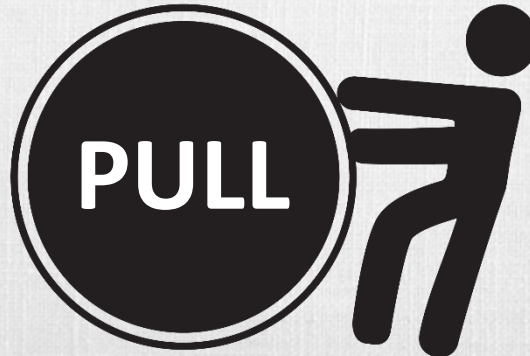
Mixing Centers



Customers



Cold  
Storage

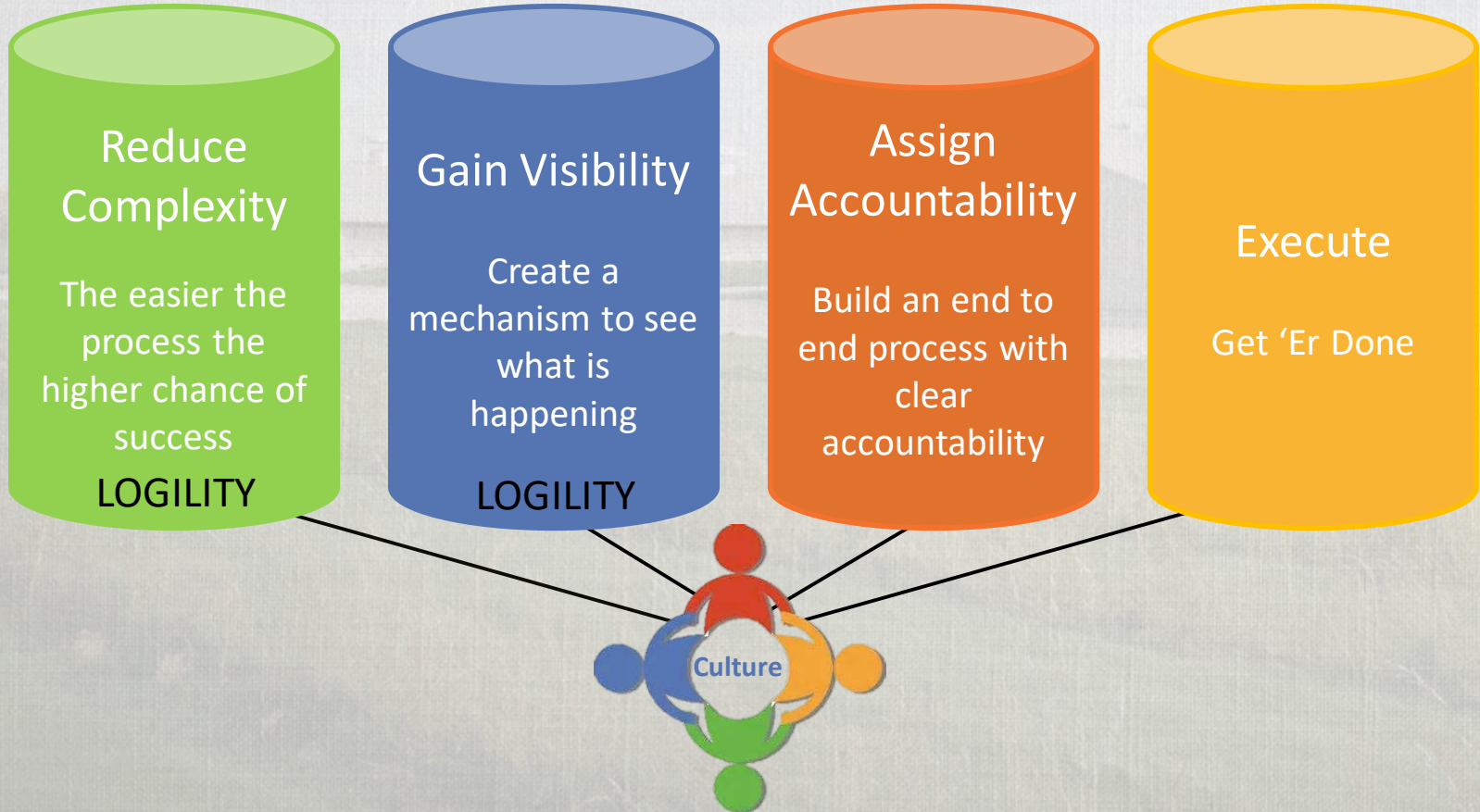


# SMITHFIELD COMPLEXITY

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*Good food. Responsibly.®*



# CORE SUPPLY CHAIN PILLARS



# REDUCE COMPLEXITY

## Reduce Complexity

The easier the process  
the higher chance of  
success



DC Consolidation



Manufacturing Simplification



Production Location Optimization



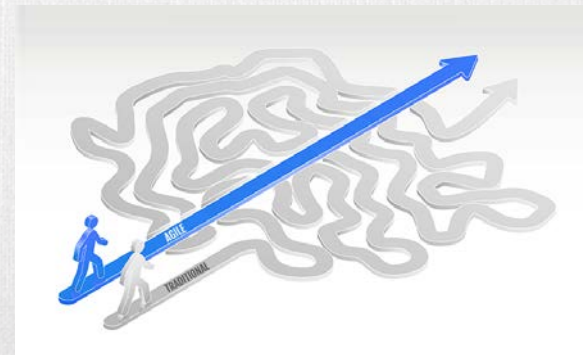
Logility Upgrade & MP Implementation



SKU Rationalization

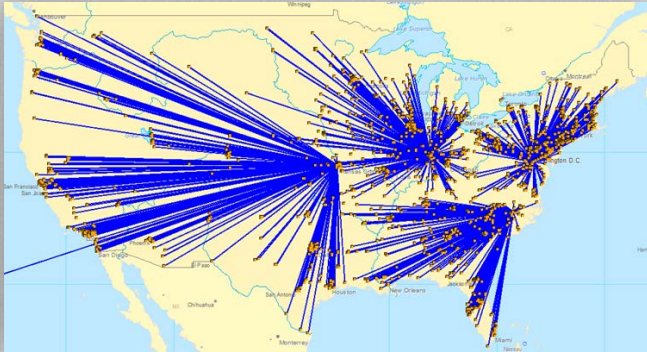
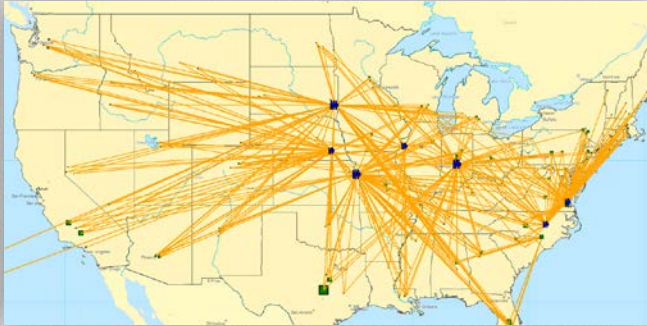


Seasonal Planning



# PACKAGED DISTRIBUTION

## MIXING CENTER CURRENT AND FUTURE STATE



### HEADLINES

**\$40mm**  
in savings  
anticipated

**Lane velocity**  
increases  
significantly

**Significant reduction**  
in outside storage utilization  
– requires right sizing our  
mixing centers

### LANE VELOCITY & MILEAGE REDUCTION

**Increase in average lbs**  
per week per lane from  
104,000lbs to 192,000lbs  
(85% improvement)

**Decrease in average**  
**haul length**  
To customer from 650  
miles to 390 miles  
(40% reduction)

### RISK OPPORTUNITIES

Requires SKU  
consolidation /  
rationalization

Elimination  
of outside  
storage

Lane velocity  
impact on  
carrier rates

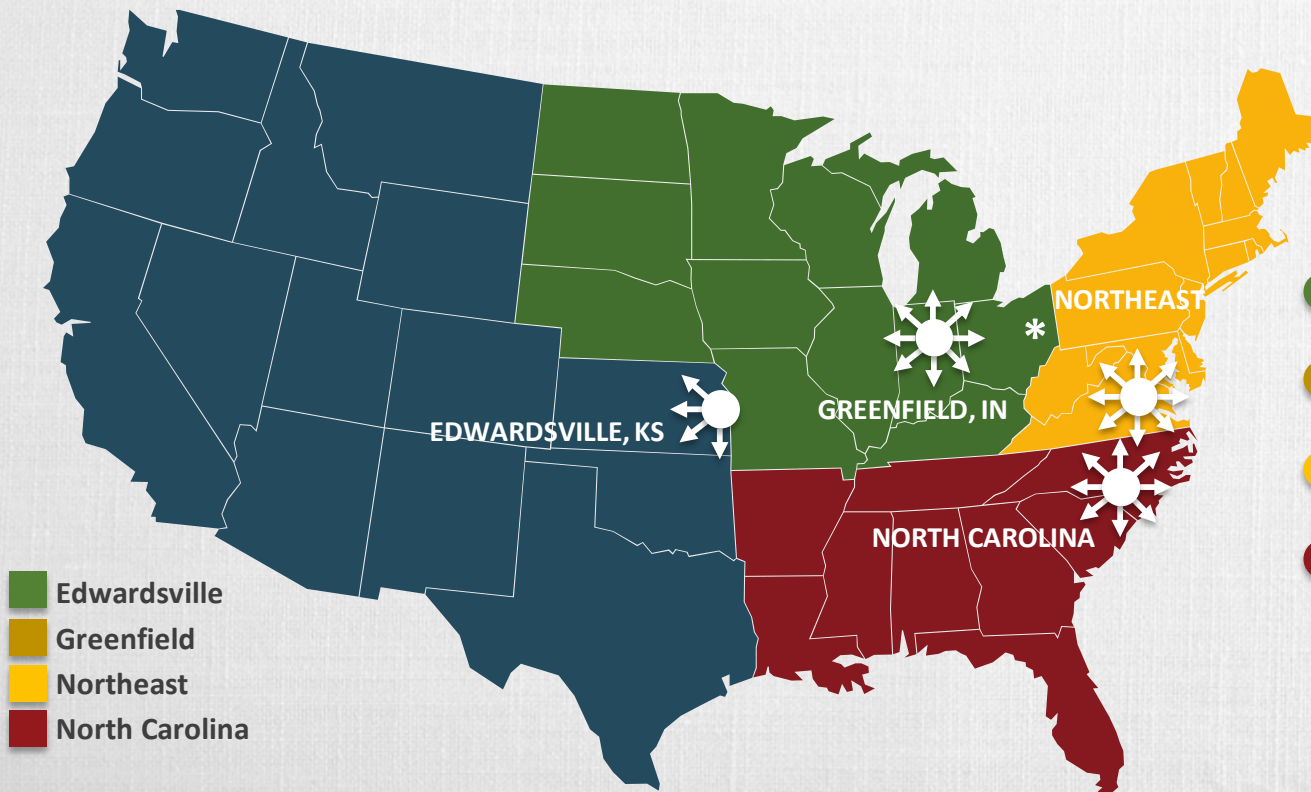
Indirect lane  
velocity impact  
on trailer  
utilization

# STATE ALIGNMENT

## BY DC AFTER FINAL PHASE

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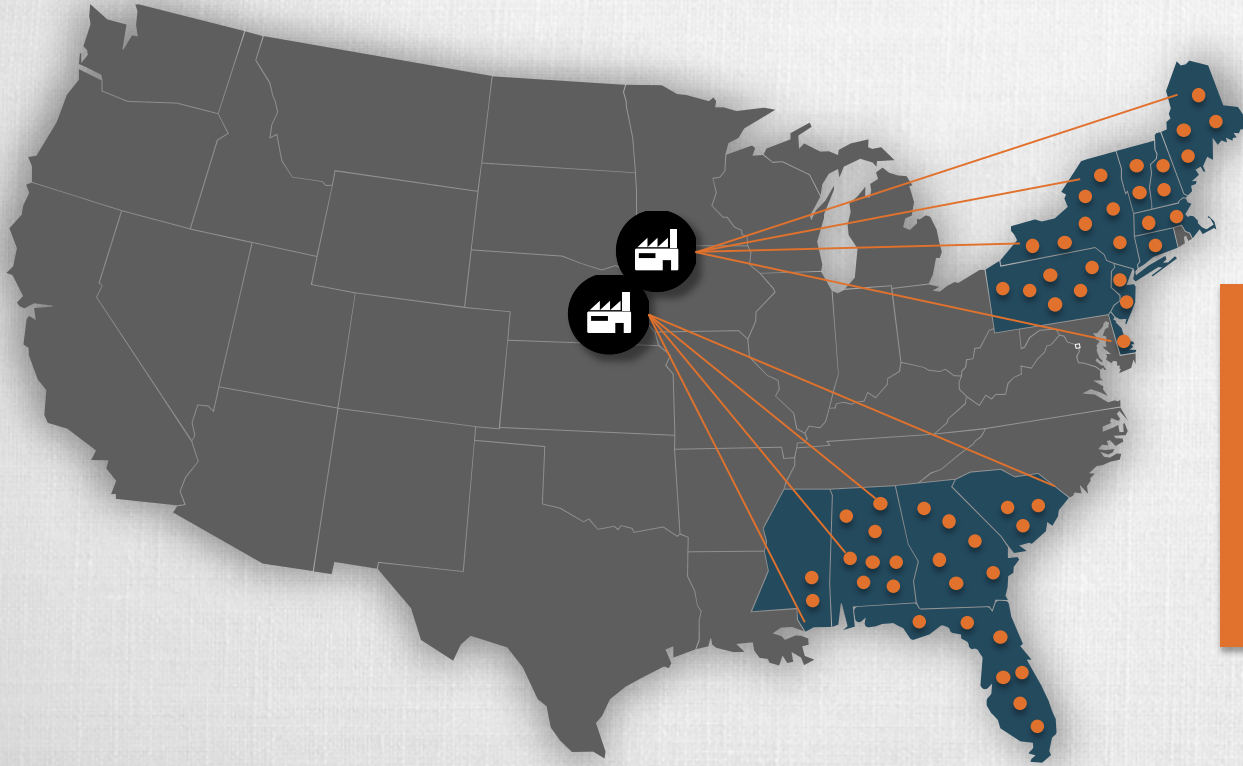
5,428 Ship To's

DC	Final Phase MM LBS
Edwardsville	625
Greenfield	648
Northeast	448
North Carolina	593
Total	2,314

\*Ohio is split between Greenfield and Northeast based on 3 digit zip code



# PRODUCTION LOCATION OPTIMIZATION



We will relocate our production closer to the customers within our existing capacity

Many products are produced at plants, which do not represent the most geographically cost effective locations

The goal is to produce products as close to the customer as possible

# EXAMPLE: Publix.

## PUBLIX TRANSPORTATION CHANGE LAKELAND, FL

### CURRENT

Shipments **two** times a week from **three** locations.



### FUTURE

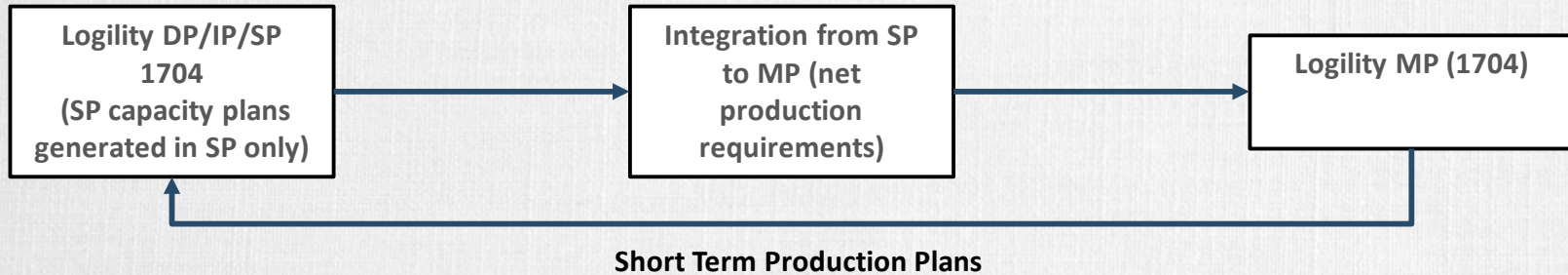
Shipments **six** times a week from **one** location.



We will increase delivery frequency from the closest DC providing increased flexibility and reduce recovery time for our customers.

- Solution for capacity planning, detailed scheduling, network management.
- **Constraint based planning** (fixed horizon, production constraints, capacity constraints, etc)
- **In-memory planning**
  - On demand planning runs (same day)
- Provides **visibility** of entire manufacturing process (MS excel output or Gantt chart)
- Automation of Deployment
- Combination of standard and custom interface
  - Custom includes SAP firm orders and weekly data clean up
- Exception managed business.

# INTERFACE FLOWS – BUSINESS VIEW



## SP Plan Reflects:

- Multi-sourcing
- Inventory settings at all locations
- Storage Capacity
- Rough-cut capacity plans
- Aggregate DRP and Cap Plan views

## MP Allows:

- Dynamic what-if capability
- Manual changes
- Forecast versus plan visibility
- WebView KPI's and Alerts
- More detailed capacity solve (where needed)

# GAIN VISIBILITY

## Gain Visibility

Create a  
mechanism to see  
what is happening



Logility SP – Rough Cut Capacity



Logility Network Modeling



Logility Manufacture Planning



Automation



Digital Supply Chain representation



# PLANNING AND DEPLOYMENT NETWORK MODELING

## Technology

### Logility

- Complete Supply Chain Design and Implementation
- Supply Planning module and MP alignment and RECONCILIATION
- Analytical mathematical programming algorithms to optimize end-to-end network

## Process

- Supply Planning – Use one tool to evaluate the network, inventory, and capacity optimization. Enable end-to-end supply chain network modeling
- Data strategy – Have one source of truth across supply chain organization
- Infrastructure strategy – Run applications over the cloud and virtual machines to enhance modeling collaboration

## People

- Built in-house expertise in Network modeling to provide best-in-class supply chain strategy using Logility Tools
  - Leverage Logility Training
- Strong Data driven Analytics group that:
  - Facilitates rapid-response decision making
  - Provides supply chain data visualization & optimization



Navigation bar with tabs: Home, Demand, Inventory, Supply, Orders, Capacity, Analytics, Workflow, Reports, Configuration, Master Data, Administration, Tools.

My Favorites: Home, Scenario Arrays, Global Supply, Production Conversion, Unresolved Demands, Load Optimization, Inventory Plan, Constrained Plan Detail, Storage Capacity, Production Capacity, Cluster Maintenance, Definition, Network Map, Global Forecasts.

**Fcst Change >25% - LVSDB\_LPRD**

● Critical 1,185

**Storage Cap >90% - LVSDB\_LPRD**

● Critical 428

● Warning 33

● Information 75

Total 536

**Inventory >50 DOH - LVSDB\_LPRD**

● Critical 1,026

**Inventory < 13 DOH - LVSDB\_LPRD**

● Critical 3,682

**Production Utilization KPI - Default**

KPI Data Source	KPI Name	KPI Value	KPI Date
LVSDB_LPRD	CAP-1231-1231-BCN RTE-BITS	99.85	2/20/2019
LVSDB_LPRD	CAP-1232-1232-SF HD BEEF ALLIANT	0	2/20/2019

**Zstatus Change - LVSDB\_LPRD**

● Critical 855

**Unresolved Demands - LVSDB\_LPRD**

● Critical 4,138

**Production Cap >90% - LVSDB\_LPRD**

● Critical 834

**RMS Alert - LVSDB\_LPRD**

● Critical 2,692

# CAPACITY PLAN

- Splitting out planned production by source - SAP, MP, or SP

Time Period Unit	2018041	2018042	2018043	2018044	2018045	2018046	2018047	2018048	2018049	2018050	2018051	2018052	2018053	2019001	2019002	2019003	2019004	2019005	2019006	2019007	2019008
(Proj) On Hand - Pounds	0	0	0	1482982	950513	1272821	1248820	1153062	1208039	1340565	1368345	1555861	0	1481938	1488803	1429391	1421617	1483356	1544012	1501158	1330301
Demand - Pounds	0	0	0	603825	480281	658710	665960	513700	440746	511028	477876	483880	0	476106	461501	427887	501104	461200	435107	586457	463747
SAP Firm Production - Pounds	0	0	0	126424	723607	219230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MP Plnd Production - Pounds	0	0	0	0	0	427829	703216	577938	562178	538468	692526	436691	0	514919	422727	449173	596825	556270	427196	0	0
SP Plnd Production - Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	451627
Days of Supply	0	0	0	32	29	32	42	33	41	41	44	48	0	43	46	48	42	48	49	38	44
Work Days	0	0	0	6	6	6	4	6	6	6	6	4	0	5	6	6	6	6	6	6	6
Avail Cap Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260148	225637
(Proj) On Hand - Pounds	0	0	0	591292	411864	508321	490248	485539	481864	476030	475135	583138	0	585981	552324	486021	539769	538065	582150	571728	528700
Demand - Pounds	0	0	0	229047	171397	196913	130581	183675	143835	134897	127997	147159	0	185567	164303	126253	153704	135916	176422	181029	139226
SAP Firm Production - Pounds	0	0	0	41501	261502	56000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MP Plnd Production - Pounds	0	0	0	0	0	112000	480597	211504	168063	176126	274704	188165	0	190344	127883	208623	195925	223385	209565	0	0
SP Plnd Production - Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182285	159663
Days of Supply	0	0	0	18	17	18	26	19	23	25	26	28	0	22	24	27	25	28	23	22	27
Work Days	0	0	0	6	6	6	4	6	6	6	6	4	0	5	6	6	6	6	6	6	6
Avail Cap Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	131919	149132
(Proj) On Hand - Pounds	0	0	0	891690	538668	719500	758572	667524	726175	864535	893210	972723	0	895957	936479	943369	881848	945290	961863	929430	801601
Demand - Pounds	0	0	0	464788	308884	361798	335380	330034	296411	376131	349879	336721	0	293449	297198	311634	347489	325483	258680	405423	324521
SAP Firm Production - Pounds	0	0	0	84923	462105	163230	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MP Plnd Production - Pounds	0	0	0	0	0	315829	222619	366435	394114	362342	417822	248526	0	324575	294844	240550	400900	332885	217631	0	0
SP Plnd Production - Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	269342	353046
Days of Supply	0	0	0	13	12	14	16	14	17	16	18	20	0	21	22	21	18	20	26	16	17
Work Days	0	0	0	6	6	6	4	6	6	6	6	4	0	5	6	6	6	6	6	6	6
Avail Cap Pounds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	128229	76504

- Adding levels of aggregation across plants
- Maintainable by business in ZLGMaint

- Adding available (unused) capacity in pounds



# ASSIGN ACCOUNTABILITY

## Assign Accountability

Build an end to end  
process with clear  
accountability



Value Stream Mapping



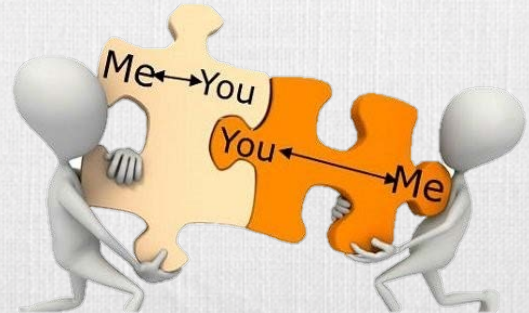
S&OP Process



Establish Metrics and Governance



Packaged to Fresh Plant Scheduling



# APPROACH

## Value Stream Mapping

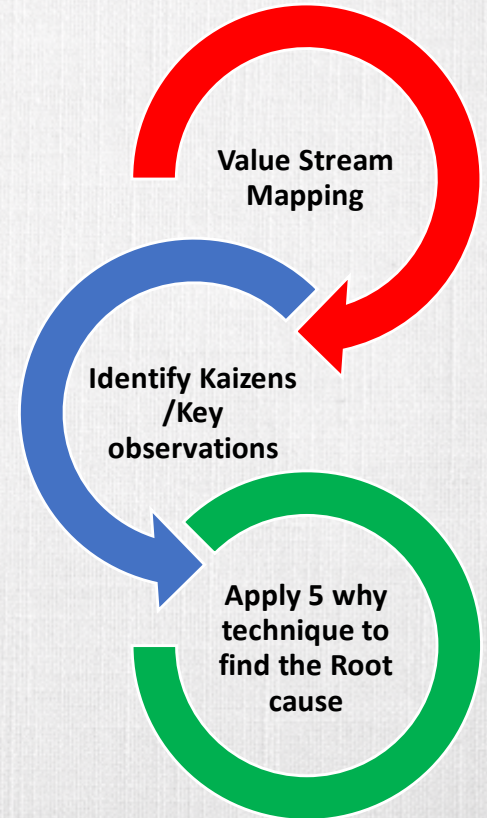
- Detailed step-by-step process narrative of current-state
- Identify pain points, variations, process time & waste
- Note KPIs, metrics and reporting and capture roles & responsibilities

## Key Observations

- Apply root cause analysis (RCA) to pain points, variations and waste
- Create future state map of desired state (where applicable)
- Projects/initiatives (include impact/effort) to achieve desired state

## Implementation

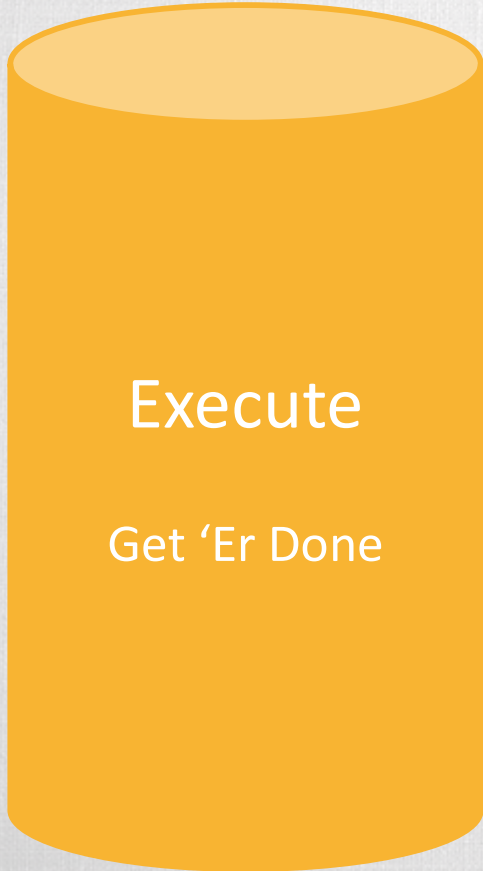
- Assign project resource(s)
- Clearly define roles & responsibilities, handoffs and communication
- Create metrics, KPIs and reporting that supports the desired outcome across the entire process (end-to-end)



# ACCOUNTABILITY TO CHANGE

- Technology change = process change
  - Documenting process flow
  - Must be open to new process
- **Standardization** is critical for uniform reporting
- Invest in Talent, Subject Matter Experts (SMEs) play key role in training and educating users on set up and maintenance
- Exception planning
- Trust data, be open to alternate recommendation – more than one method of planning exists

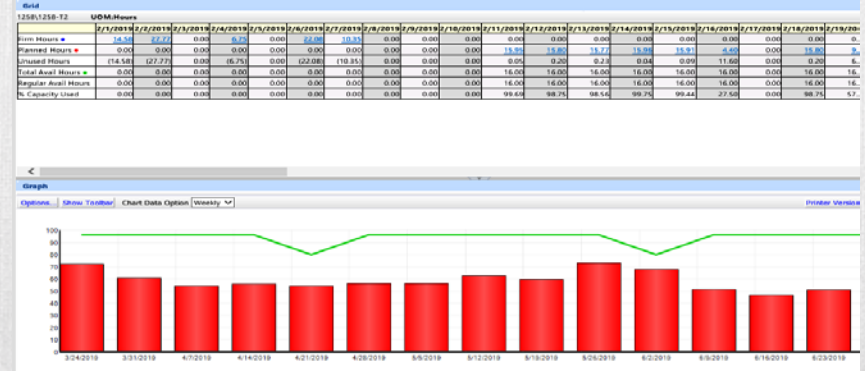
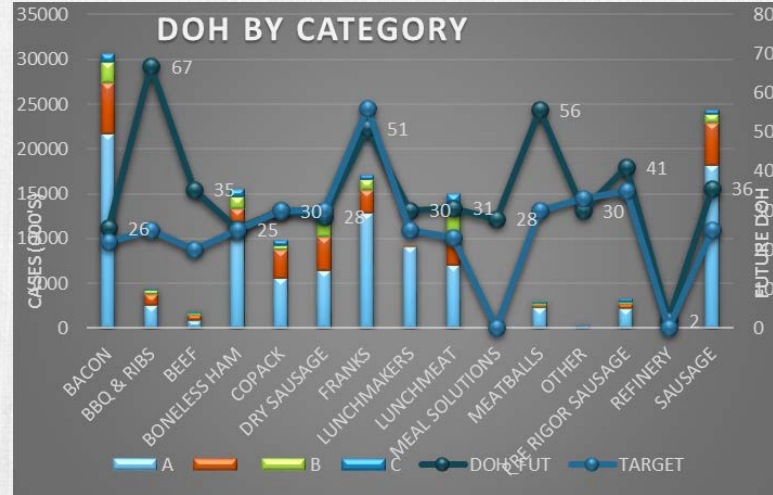
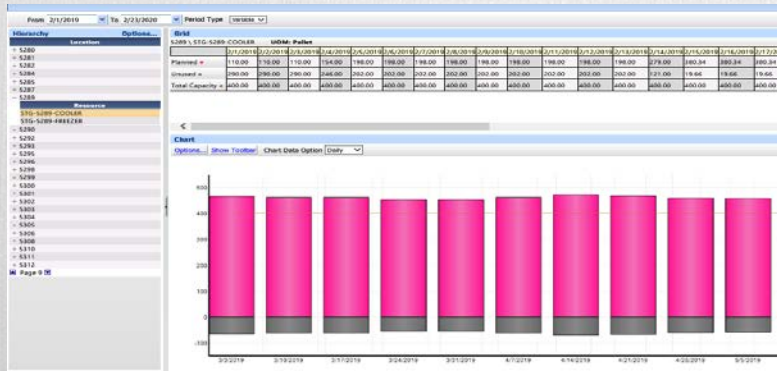
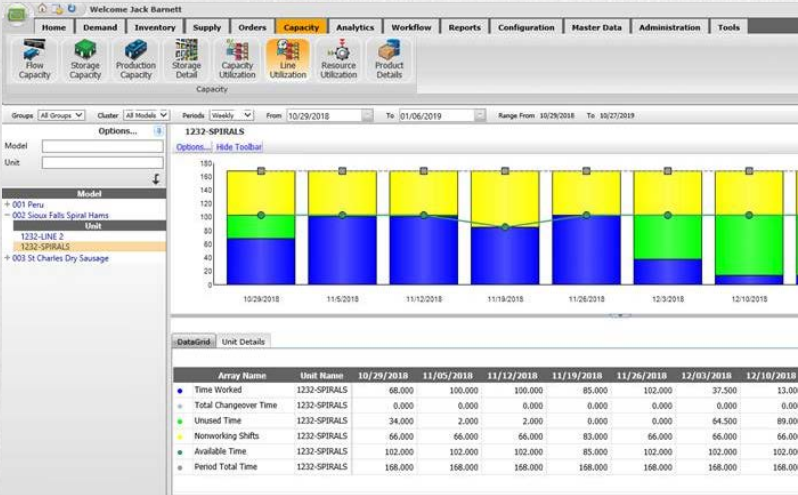
# EXECUTE



- ✓ Cadence
- ✓ Supply Chain Symphony
- ✓ Scorecards
- ✓ Policies
- ✓ Results NOT Effort
- ✓ Happy People



# EXECUTION





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## **OUR MISSION**

**“ONE SMITHFIELD” SUPPLY CHAIN  
WILL DELIVER BEST IN CLASS  
CUSTOMER SERVICE AT LOWEST  
TOTAL DELIVERED COST**



QUESTIONS?

THANK YOU

Karolina Mallahan  
kmallahan@Smithfield.com