Americas' SAP Users' Group

SAP EWM Case Study: Avoid lift and shift Accelerate transformation through an integrated lens

Tracie Longpre, Applied Industrial Technologies
Ron Grove, EY
Chris Gregory, EY

Session ID # 82380

Agenda

- ✓ About the speakers
- ✓ Applied Industrial Technologies overview
- ✓ Building the business case for SAP EWM
  - Software evaluation, business benefits, ROI
- ✓ Avoid “lift and shift”— Focus on supply chain operating pillars
- ✓ Warehouse operational improvement assessment – key findings
- ✓ Deployment plan/agile approach
- ✓ Lessons learned
- ✓ Q&A

About the speakers:

Tracie Longpre

Vice President, Supply Chain
Applied Industrial Technologies

1992 — UMASS — BBA Operations Mgt

1994 — CALDOR — Retail

1999 — CONNECTICUT HUSKIES — MBA

2007 — Supply Chain; 2 SAP Projects; Procurement

2014 — AkzoNobel, ICI, PPG

Sara Lee — Sales

L'ORÉAL PARIS — Finance

Playtex — Finance

Combe — Supply Chain

APPLIED Industrial Technologies®

Dom (16) Mia (10) Coco (5)

asug

About the speakers - EY

Chris Gregory
EY
SAP Digital Supply Chain Leader

Chris has more than 25 years of combined supply chain, distribution and logistics advisory experience across a wide variety of industries and clients. He has spent the last 15 years focused on SAP supply chain execution and planning, logistics, transportation and enterprise mobility. His experience spans consulting practice management, business development and client delivery. Prior to joining consulting, Chris spent nine years with a wholesale distributor in the media and entertainment industry.

Mobile: +1 215 630 4213 | Christopher.gregory@ey.com
Philadelphia

Ron Grove
EY
Digital Logistics & Fulfilment Leader

Ron is focused on enabling high performance logistics operations and has over 20 years of focused consulting experience working across a broad array of industries. Ron has vast experience in Distribution Center (DC) design, warehouse process optimization, material handling equipment layout, design and specification, as well as strategic slotting, engineered labor standards and various labor management software solutions. He also has experience in the procurement and implementation of material handling equipment and technologies.

Mobile: +1 773 230 6349 | ron.grove@ey.com
Chicago

ASUG

Key outcomes/objectives

1. Hear how Applied® leveraged a combination of business, IT and strategic factors to build a business case for SAP Extended Warehouse Management (EWM)
2. Learn how Applied® avoided a “lift and shift” approach to deploy a step change transformation across their supply chain
3. Understand key lessons learned and how organizations can optimize their operations

Applied Industrial Technologies overview

APPLIED Industrial Technologies®

A leading **value-added** distributor of **bearings**, **power transmission** products, engineered **fluid power** components and systems, specialty **flow control solutions** and **other industrial supplies** serving customers in **virtually every industry**.

95+ years of expertise … **and growing**

6,600+ associates … **more than half are customer-facing**

600+ locations … **24/7 service**

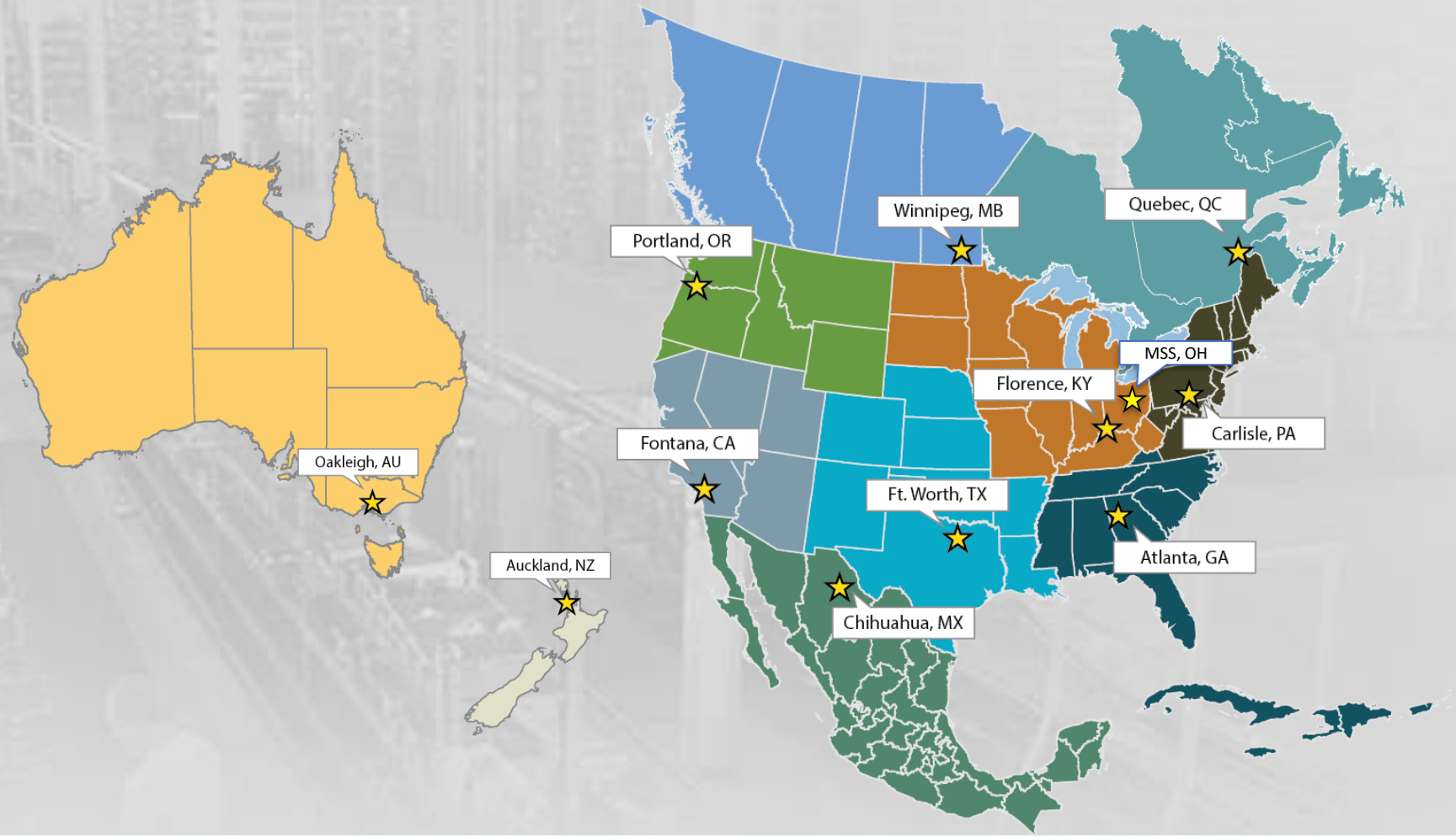
6.5m+ SKUs

ASUG

Current Applied® supply chain network

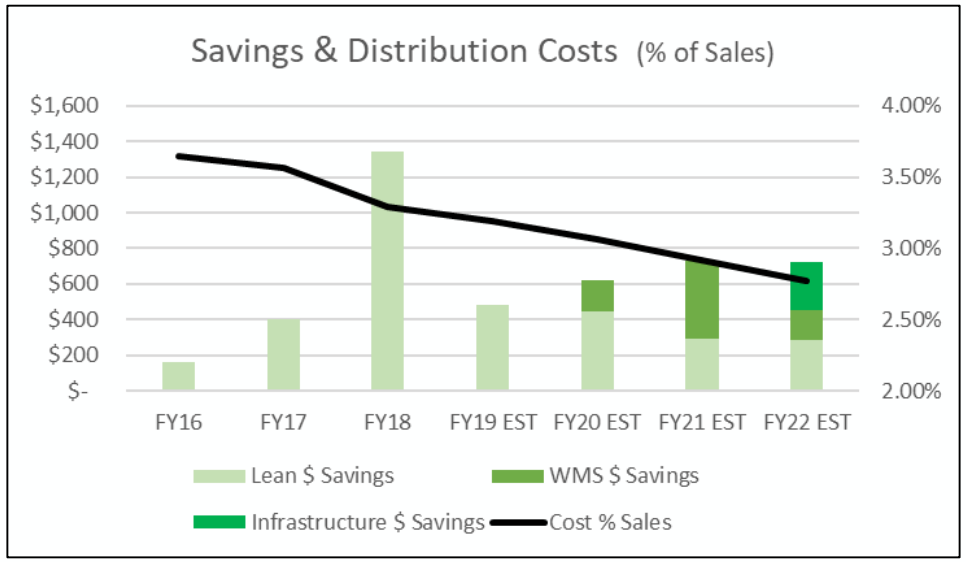
7 US-based DCs in scope for EWM

- 6 on legacy WMS
- 1 DC completely manual processes (MSS)
- Average DC Size 110,000 sq ft w/ 35K SKUs and $17m in inventory



Building the business case for SAP EWM

- ✓ Six distribution centers operating a 20+ year old legacy WMS solution
  - Highly customized and very expensive to modify
- ✓ Current WMS lacks advanced functionality
  - No Labor management, cross-docking, slotting
- ✓ One paper-based DC with current distribution cost as a percent to sales is greater than 10%
  - The goal is to lower distribution cost to less than 2.5% cost of sales



The net result of these combined factors identified a business case with significant annual savings

ASUG

Building the business case – WMS software evaluation

Core capability	Wt
Tool sophistication/ease of use	2
Inbound receiving	2
Cross-docking	2
Quality inspection process	2
Put-away management	2
Returns processing	2
Slotting capabilities	4
Labor management standard	4
Cycle counting	2
Interleaving standard	4

Cost implementation	Wt
Cost for software implementation and on-going maintenance is competitive	10
Payments are milestone/ delivery-based	5
Implementation ease (time and complexity)	5
Subtotal	**20**

Core capability	Wt
Kitting standard	2
Picking/Wave management	2
Replenishment	2
Packing/shipping	2
Reporting – dashboards, KPI centric, many standard offerings	5
Ship manifest integration	4
UOM Management	2
Seamless /touch-free SAP integration	5
Customization required	4
Subtotal	**54**

Technical	Wt
Seamless/touch-free SAP integration	5
Ship manifest integration	5
Infrastructure	5
Batch processing	4
Backorder processing	4
Hardware for users at DC	3
Additional	12
Subtotal	**38**

Vendor	Wt
Years in business	0.5
No significant cautions in Dunn and Bradstreet Report or financial statement notes	0.5
Consistent financial position over last three years	0.5
Equity/Asset at least 30%; equity /debt at least 50%	0.5
Percentage of $ allocated to R&D for product	0.5
Reference sites provided	0.5
Guaranteed response time (e.g., customer representative responds with either fix or action plan) within <24 hours	0.5
Additional	9.5
Subtotal	**13**

SAP EWM selected based on:

- **Technical integration**
- **Cost**
- **Functionality**
- **Strength in company**

Recommendation: Spend time to identify key selection criteria – objectively score card results

Building the business case – SAP EWM benefits

Benefit	Current WMS situation	SAP EWM
Labor management	✓ Labor management solution is a separate module. Requires new software license purchase and high integration costs.	✓ 10 – 15% productivity improvement with individual employee tracking ✓ Fosters proactive coaching/mentoring environment; improves employee satisfaction
Cross docking	✓ Systemic capability does not exist ✓ Off-line manual process	✓ Systemic movement of inbound freight to proper shipping lanes - DC to DC; DC to SCs ✓ Receiving efficiencies
Robust reporting	✓ Basic Access database ✓ Reporting with silo ownership	✓ Standard network reporting, cockpits and exception reporting ✓ Empowered DC management
Flexible UOMs	✓ Only one UOM (EA) is available today ✓ Tribal knowledge used to determine pick UOM	✓ Expand limit of one UOM (EA) to various UOMs ✓ Improve picking accuracy with UOM picking differentiation – 1 EA means 1 EA or 1 EA means 1 CS

Building the business case - Labor management drives productivity and costs savings

Labor management program savings can be significant

Management Tools	Performance Goal	Performance vs. Standard*		
		Poor Mgmt.	Avg Mgmt.	Good Mgmt.
None	Limited or none	40%	60%	70%
Basic Reporting	Historical rates	60%	70%	80%
Labor Reporting	Reasonable expectancies	70%	80%	90%
Labor Management System (LMS)	Engineered standards	85%	95%	105%
	Engineered standards and incentives	90%	110%	125%

*Engineered standard at 100% performance baseline

(Sample)

On average, labor represents 65% of annual distribution center costs. An integrated labor management program can drive significant opportunities to reduce costs and optimize performance.

ASUG

Building the business case – SAP EWM benefits

Benefit	Current situation	SAP EWM
Slotting optimization	✓ Systemic capability does not exist ✓ Off-line manual process	✓ Verify ideal placement/storage of parts in the DC ✓ Drive efficiency in picking and receiving
Quality audit/ lot control	✓ Limited lot control/formal quality inspection functionality	✓ Enable part inspections and part lot control functionality ✓ Support technical customer requirements or federal regulations
DC redesign support	✓ Limited in ability to integrate with newer technology	✓ Expanded functional capabilities to enable operational maturity ✓ Integral machine control capabilities and ability to support integration with new warehouse control systems and other technology, such as native SAP connectivity through MFS
Ship manifest interface	✓ No standard linkage to outside manifest system ✓ Estimated $500K customization cost to interface	✓ Move to one uniform manifest system ✓ Avoid current state implementation costs with standard linkages ✓ Eliminate dual maintenance and support

Building the business case – SAP EWM benefits

Benefit	Current situation	SAP EWM
Cartonization	✓ Systemic capability does not exist	✓ Pick directly into right-sized shipping cartons ✓ Eliminate double handling
Kitting	✓ Systemic capability does not exist	✓ Build part kits from open stock (standard or customer specified)
Advanced task interleaving	✓ Limited task interleaving capability	✓ More sophisticated interleaving ✓ Assign multiple roles while traveling in the warehouse (i.e. pick and put-a-way) driving efficiency and improved cycle time

Building the business case – SAP EWM benefits

SAP landscape	✓ Leverage overall SAP landscape – end-to-end digital supply chain
Real-time integration	✓ Enable real-time integration and access to SAP ✓ Reduce order processing down-time due to integration gaps
Reduction in interface support	✓ Reduction in interface development, support and ongoing maintenance
Enterprise visibility	✓ Drive enterprise visibility of inventory, activities and metrics
Upgrade costs	✓ Reduce costs for enhancements and upgrades by eliminating reliance on third parties ✓ Lower upgrade cost by leveraging internal system support
Vendor viability	✓ Long-term vendor viability and support. Current WMS solution is no longer offered in the market

ASUG

Building the business case – SAP EWM benefits vs. paper-based manual environment

Basic WMS functionality delivered	
System-guided strategies	✓ Optimize the routing in areas such as put-away, replenishment and pick paths
Resource visibility	✓ Resource and manpower planning and management
Space optimization	✓ Multiple bin support to optimize warehouse space and productivity
Better controls	✓ Reduce the possibility of lost product and write-offs
RF directed work	✓ Real-time transactions to match the physical process; timely visibility for allocation, purchasing, warehouse operations and customer service

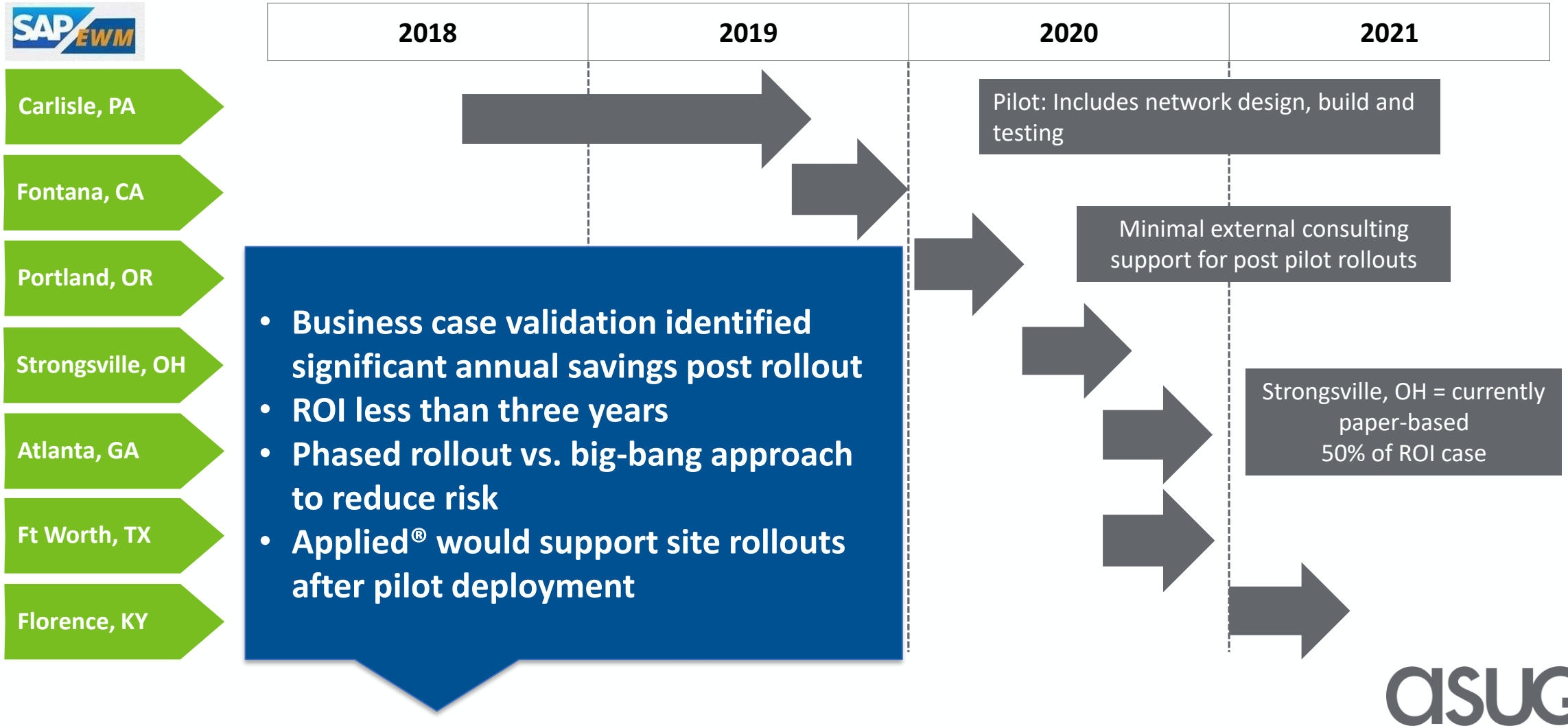
Key benefits

- ✓ Productivity
- ✓ Space utilization
- ✓ Cycle time
- ✓ Throughput
- ✓ Accuracy

Optimizing the paper-based DC drove 50% of annual savings/ROI

ASUG

Building the business case – ROI validation



ASUG

SAP EWM project charter

- ✓ The pilot phase deployment plan and approach assumes an enterprise-wide EWM solution template design for all seven in-scope sites, with input and feedback from stakeholders across Applied® supply chain
- ✓ Deploy a stable, fully tested EWM solution for the pilot site, with fully trained users (including IT staff) and minimal business disruption
- ✓ **Leverage leading practices and standard EWM functionality to achieve results with minimal solution customizations and enhancements**
- ✓ Leverage lessons learned from the pilot site rollout for additional site rollouts with minimal additional support

SAP EWM consulting partner evaluation

	EY	Other	
Timeline			EY recommended a longer timeline, partially to de-risk the engagement, but also incorporated additional knowledge transfer, training and hyper-care support for increased Applied® self-sufficiency for future site rollouts.
Cost			Minimal price differential
Company stability			✓ EY had acquired the leading SAP EWM partners in North America and EMEA ✓ EY has established track record in SAP EWM deployments ✓ Stable leadership team and strong financial foundation
Experience			✓ EY has been involved with EWM since solution inception in 2005 ✓ Supported hundreds of EWM deployments globally ✓ Global breadth and depth of EWM practice ✓ SAP EWM integration with SAP S/4
Capabilities			Warehouse Operational Improvement Program, integrated supply chain lens, significant number and variety of client experiences and overall capabilities

EY was selected due to these primary factors – more experience, stronger embedded learning and support and less risk.

ASUG

Avoid “lift and shift” – focus on key supply chain pillars

Cost and quality

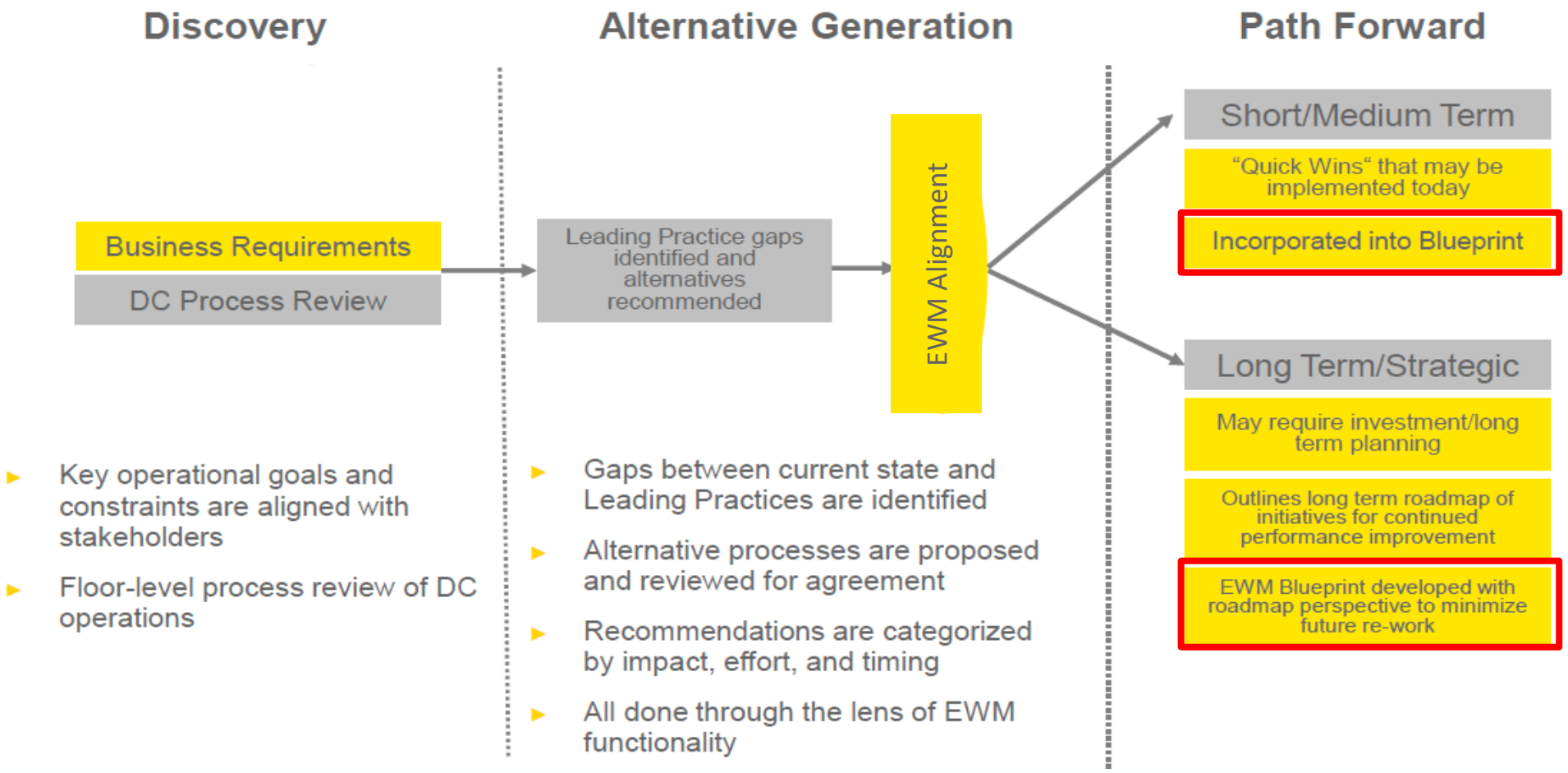
People	Process	Environment	Technology
✓ Labor scheduling and planning ✓ Labor visibility ✓ Accountability ✓ HR and safety policies	✓ Floor level activities ✓ Work planning and release ✓ Supporting activities (i.e., inventory control)	✓ Facility layout ✓ Material handling equipment ✓ Adjacencies and flow	✓ Functionality to enable future processes ✓ Administration requirements and support

High performing operation

Leverage best practices first … SAP EWM helps synchronize the pillars

ASUG

Warehouse operational improvement program



An SAP EWM implementation should be viewed through the lens of best practices to achieve better results.

ASUG

WOIP key findings and recommendations

Carlisle – 100 findings

Impact	Low	Med	High
High	13	17	8
Med	18	18	7
Low	10	9	

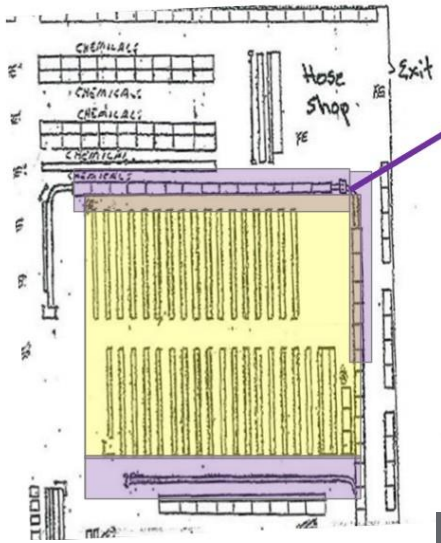
Effort

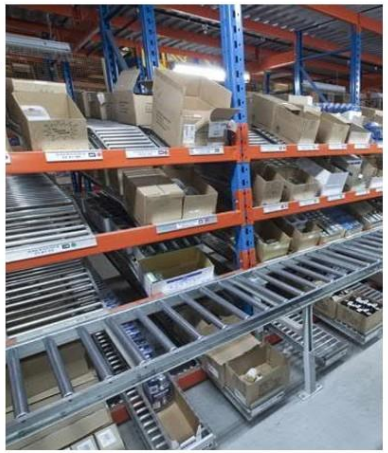
Strongsville – 100 findings

Impact	Low	Med	High
High	14	12	10
Med	15	18	11
Low	12	7	1

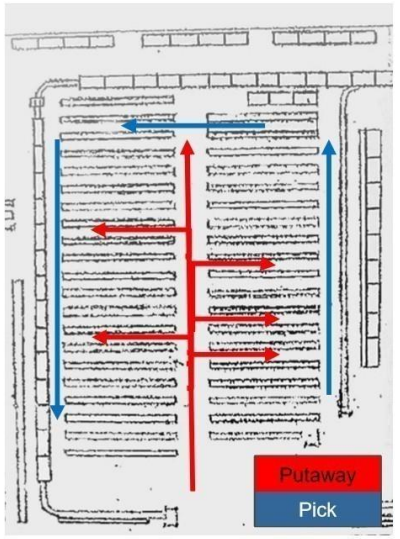
Effort

200 opportunities identified across safety, quality, productivity, and cost savings





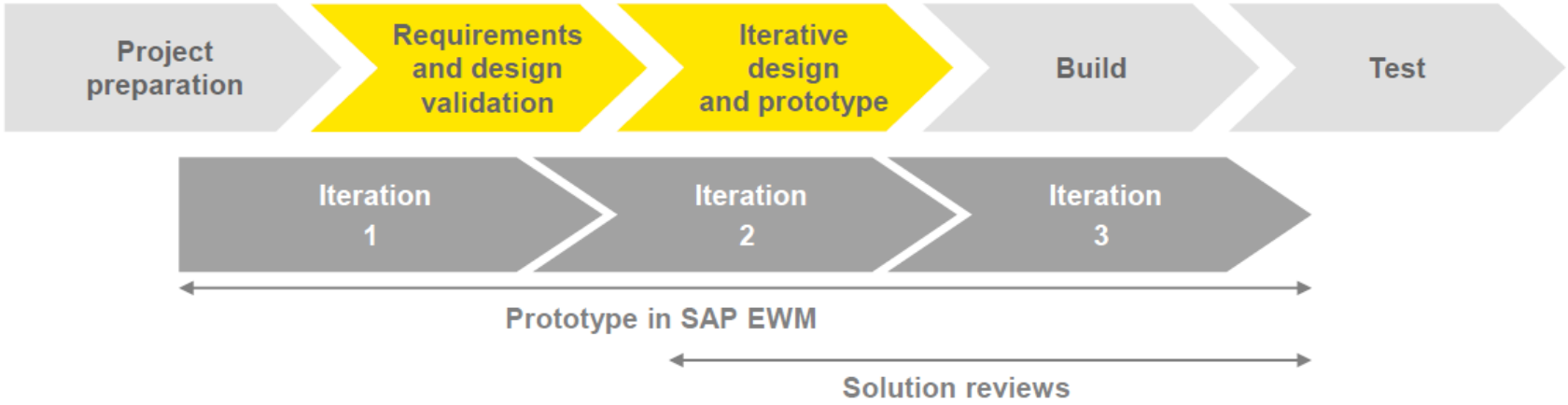
- ✓ Change pick and put-away path
- ✓ Add case flow rack around perimeter
- ✓ Carts to support multiple lines per bin/carton
- ✓ Batch pick waves by SC



Example: + >25% productivity

Hybrid agile implementation approach

SAP EWM is a user-driven tool – the implementation requires a more iterative and collaborative design approach to gain greater user acceptance.

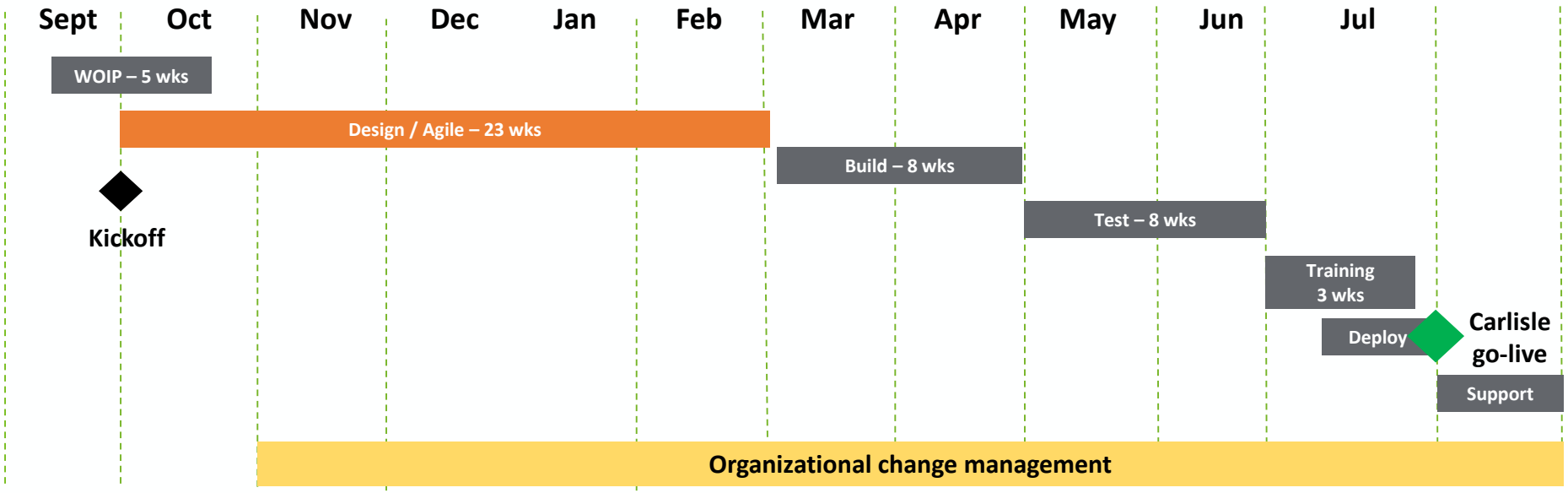


Start smart, scale fast, adapt and improve… quicker validation leads to reduced risk

- **Iterative design and prototype enables:**
  - Quick solution design and configuration in iterations to allow for user feedback– i.e. "Fail Fast"
  - Review of the solution before it is fully developed
  - Heavy user participation and user ownership of the solution design and development
  - Productive final development (avoid redesign of the configuration and models)
  - Effective testing and knowledge transfer

ASUG

Pilot site deployment plan – 10-month timeline



Scope

- ✓ EWM to ECC integration
- ✓ Master data
- ✓ Standard inbound processing
- ✓ Receiving
- ✓ Overages/shorts/ damages
- ✓ Unloading/staging
- ✓ Inbound labeling
- ✓ Put-away strategies
- ✓ Returns
- ✓ Cross-docking
- ✓ Standard outbound processing
- ✓ Delivery creation
- ✓ Wave management
- ✓ Picking/picking strategies
- ✓ Packing/ repacking
- ✓ Staging/loading
- ✓ Shipping
- ✓ Outbound labeling
- ✓ Transportation units
- ✓ Interleaving
- ✓ Process-oriented storage
- ✓ Exception processing
- ✓ Inventory management processing
- ✓ Bin to bin
- ✓ Block/unblock
- ✓ Internal transfers/ scrapping
- ✓ Inventory counting
- ✓ Labor management
- ✓ Serial number management
- ✓ Trans-ships/ Speed-pack
- ✓ Standard replenishment
- ✓ Batch management
- ✓ RF processing
- ✓ Physical inventory/ cycle count
- ✓ Slotting and rearrangement
- ✓ Queue and resource management
- ✓ Batch management

Dedicate key resources and combine with strong program governance

Project steering committee

- ✓ Executive sponsor – VP supply chain
- ✓ President & CEO
- ✓ Chief financial officer
- ✓ VP Information technology
- ✓ VP Operational excellence
- ✓ Program director
- ✓ EY Engagement partner

Project Management Office (PMO)

- ✓ Program director: 100% dedicated
- ✓ Fulfillment/reporting workstream lead: 100%
- ✓ Data management lead: 100%
- ✓ Training lead: 50%
- ✓ Technical lead: 50%
- ✓ Logistics lead: 25% (ship manifest system)
- ✓ IT project manager: 5%
- ✓ EY Engagement manager: 100%

Monthly meetings

- Go/no-go decisions
- Resolution on critical risks and issues
- Resolve escalated project and business decisions
- Scope change approval
- Ratify critical process changes
- Budgetary review

Bi-weekly meetings

- Ensure project deliverables
- Manage risks and issues
- Resource planning and allocation
- Process and functionality decisions
- Workstream alignment
- Project tracking and reporting

Balanced project team across business and IT – Engage subject matter resources and Power Users early and often

Workstreams

CA DC

OH DC

OR DC

GA DC

KY DC

PA DC

TX DC

Fulfillment and reporting

- ✓ Receiving
- ✓ Picking
- ✓ Shipping
- ✓ Inventory Control
- ✓ Reporting

DC applied Subject Matter Experts (SME) as needed
Approximately four-six weeks per SME

3 Applied Developers 100% Dedicated

Technical

- ✓ BASIS
- ✓ Security
- ✓ Infrastructure
- ✓ ABAP Dev
- ✓ RICEFW Doc
- ✓ Testing
- ✓ Deployment
- ✓ MM

Data Management

Purchasing

Logistics

Training

Power Users (PU)

Supports testing, training, change mgt, and go-live

- ✓ 2 Associates from each DC
- ✓ Estimate two-four weeks travel per Power User (PU)
- ✓ All PU at first go-live DC
- ✓ 2nd DC go-live
  - 2 PUs from 1st go-live
  - 2 from current
  - 2 from 3rd go-live site

ASUG

Key lessons learned

- ✓ Recognize key areas of operational improvement and where SAP EWM can be leveraged (including new functionality)
- ✓ Have courage to challenge traditional ways of working
- ✓ Focus on the four key operational supply chain pillars (people, process, environment, technology) and synchronize them for a high-performing supply chain
- ✓ For deployment: Start smart, scale fast, adapt and improve
- ✓ Dedicate strong key resources and combine with strong governance
- ✓ Engage SMEs and Power Users early and often

Take the session survey

We want to hear from you! Be sure to complete the session evaluation on the SAPPHIRE NOW and ASUG Annual Conference mobile app.

ASUG

Presentation material

Access the slides from 2019 ASUG Annual Conference here:

http://info.asug.com/2019-ac-slides

Q&A

For questions after this session, contact us at:

Tracie Longpre [tlongpre@applied.com]
Chris Gregory [Christopher.gregory@ey.com]
Ron Grove [Ron.Grove@ey.com]

Let’s be social.

Stay connected. Share your SAP experiences anytime, anywhere.

Join the ASUG conversation on social media: **@ASUG365 #ASUG**

ASUG