



Enabling LEAN on SAP®

Our Lean Roadmap Services



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Goals

LEAN practitioners know that LEAN is a journey and not a destination. The goal of our LEAN roadmap services is to create possible pathways and assist you travel on your LEAN journey in line with your business.

Our roadmap services address the following key objectives:

- a. Develop a business case on how LEAN can improve your financial performance and shareholder value.
- b. Understand state of current LEAN initiatives in your organization and identify points of operational value.
- c. Develop a roadmap for enabling LEAN processes on SAP® and provide a phased approach and possible options for implementation.
- d. Identify opportunities with your current SAP® footprint to support your current LEAN initiatives and prepare you for transitioning into future state LEAN processes using LEAN SAP® solutions.

Our approach – five simple steps

Our five step approach starts with high level analysis of your financial statements and ends with the lowest level detailed solution architecture and implementation plan. All along the way, we ensure that you are organizationally ready to embark on your exciting LEAN journey.

Step 1: Start with an eye on your share holder value

We start with reviewing your financial statements. We benchmark some key figures with your peers and determine best practice in your industry.

One such analysis is cash conversion cycle, where we assess how fast your cash is flowing through your business.

Figure 1 represents one such output of this step.

We assess three distinct areas of opportunities:

- a. Inventory conversion period – How efficient are your manufacturing facilities?
- b. Payables deferral period – How well do you manage your supplier relationships?
- c. Receivables collection period – How satisfied are your customers?

Your current SAP® enterprise solution already has sufficient analytical tools to analyze opportunities in all the above three areas.



All values in \$M

Cash conversion cycle – peers comparison

Companies	Your Company			Your Peer Company - 1			Your Peer Company - 2		
Year	2008	2007	2006	2008	2007	2006	2008	2007	2006
Revenue	3369	2779	2421	13515	12299	11292	6000	5405	4871
Cost of goods sold	994	769	621	3446	3168	2815	1865	1849	1714
Inventories	837	619	610	1218	1215	1177	796	678	563
Payables	749	646	666	2381	2054	1969	1316	1337	1201
Receivables	898	680	652	3960	3142	2625	1565	1324	1153
Payables Deferral Period									
Payables	749	646	666	2381	2054	1969	1316	1337	1201
Revenue	3369	2779	2421	13515	12299	11292	6000	5405	4871
Revenue / 365	9.23	7.61	6.63	37.03	33.70	30.94	16.44	14.81	13.35
Payables / COGS per day	81.15	84.85	100.41	64.30	60.96	63.65	80.06	90.29	89.99
Cash Conversion Cycle									
Inventory / COGS per day	307.35	293.80	358.53	135.58	139.99	152.61	155.79	133.84	119.89
Receivables / Sales per day	97.29	89.31	98.30	106.95	93.25	84.85	95.20	89.41	86.40
Payables / COGS per day	81.15	84.85	100.41	64.30	60.96	63.65	80.06	90.29	89.99
Cash Conversion Cycle	323.49	298.27	356.42	178.22	172.27	173.82	170.93	132.96	116.30

With reducing product life cycles and increasing customizations, it makes no sense to carry inventories. Volume discounts are strategies of the past.

Ranjan Choudhary, COO.

Figure – 1: Cash Conversion Cycle – An example

Step 2: Dive into key operational metrics at business unit level

Dead stock, Inventory levels, Inventory turns, and Slow moving materials are a few metrics that we evaluate at business unit level to assess inventory conversion inefficiencies. We have similar list of metrics to assess opportunities with receivables collection and payables deferral processes. We slice and dice the list using dynamic ABC classification to help you focus on high valued problematic products, parts, distribution centers, customers, and vendors.

Figure 3 represents one such output of this

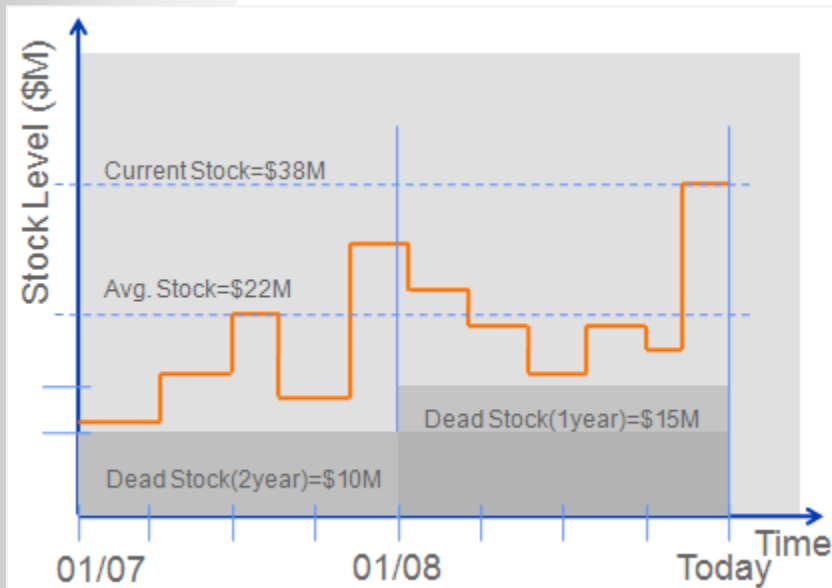
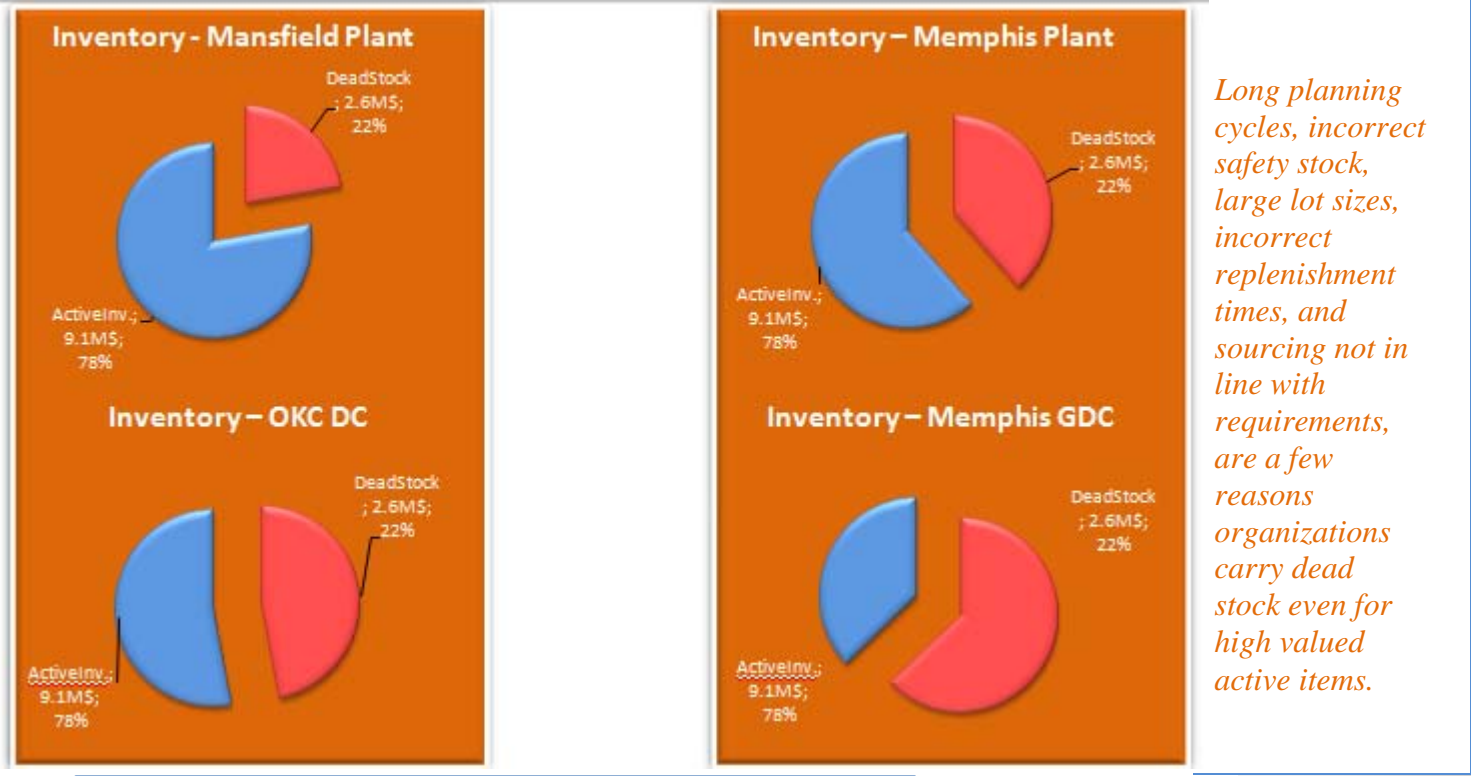


Figure – 2: Dead Stock – The inventory you didn't need

Dead stock on SAP (based on last one year)



Long planning cycles, incorrect safety stock, large lot sizes, incorrect replenishment times, and sourcing not in line with requirements, are a few reasons organizations carry dead stock even for high valued active items.

Figure – 3: Dead Stock at various plants and distribution centers– an example

Step 3: Assess current state of your LEAN initiatives



In our experience, there is a typical maturity path toward the successful implementation of lean manufacturing. Most companies start off with a good deal of training, followed by the introduction of pilot lean cells or processes. Once the pilots are working well, these processes are rolled out across the plant and into other areas of the business. Over time, the company learns to apply lean thinking to every aspect of its business as it matures into a LEAN enterprise.

We call such a progression as LEAN maturity path.

Figure 4 represents a typical lean maturity path and organizational behavior in different stages of the journey.

LEAN maturity path – different stages

Stage cellular	LEAN Manufacturing	LEAN Accounting	SAP® Application
LEAN Pilots	<ol style="list-style-type: none"> 1. Successful LEAN cells in place 2. Extensive training in LEAN principles 3. Flow, Pull, KANBAN 4. Quick change-over & SMED 5. Standardized work 6. Quality at source and self inspection 	<ol style="list-style-type: none"> 1. LEAN performance measurements in production cells (day by the hour, first time through, OEE) 2. Major value streams indentified 3. Primary drivers of cost and performance identified 4. Variance reporting & other traditional performance measurements only used for financial reporting 	<ol style="list-style-type: none"> 1. SAP® ECC 2. SAP® LPO 3. SAP® MII
Managing by Value Streams	<ol style="list-style-type: none"> 1. Widespread cellular manufacturing process across the plant with standardized work and single piece flow 2. Extensive use of visual system 3. Continuous improvement teams trained and established 4. Initial supplier certification program and KANBAN pull for some suppliers 5. Manufacturing managed by value stream 6. WIP & FP inventories relatively low and consistent; Process under control 	<ol style="list-style-type: none"> 1. Performance measurement at the value stream level (dock-to-dock, WIP-to-SWIP) 2. Value stream performance improvement drives continuous improvement 3. Value stream direct cost accounting replaces standard costing 4. Features & characteristics used to determine product costs 5. Financial planning integrated with Sales & Operations Planning 6. Extended use of value stream cost analysis to understand the cost & value 	<ol style="list-style-type: none"> 1. SAP® ECC 2. SAP® LPO 3. SAP® MII 4. SAP® BO Profitability & Cost Management 5. SAP® APO/DP 6. SAP® SNC/ SRM 7. SAP® <u>Visiprise</u> MES

LEAN maturity path helps determine organizational readiness.

Organizational readiness in turn influences implementation strategy.

An honest assessment determines success or failure of the implementation.

Figure – 4: LEAN maturity path – state of your current LEAN initiatives
 (Source: Brian Maskell and Bruce Baggaley, Practical Lean Accounting, Productivity Press (enhanced to suit the context))

Step 4: Architect a final state LEAN solution on SAP®

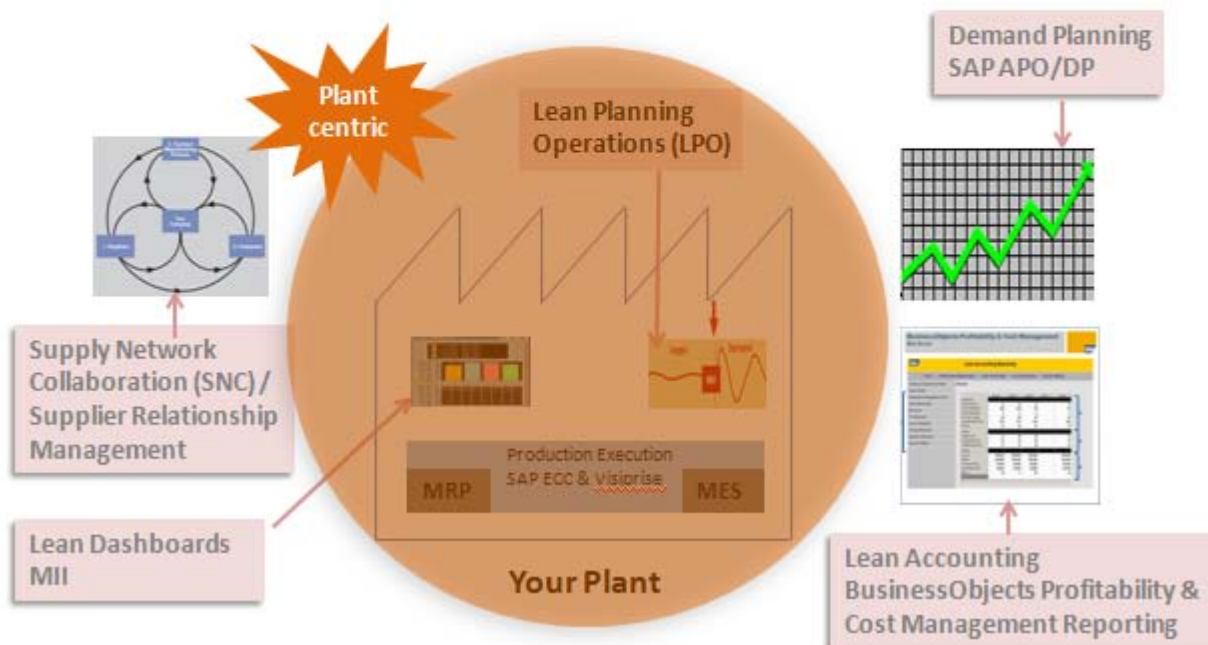
At this stage we have ample information about your organization, financial key figures, operational objectives and current SAP footprint. We would use these inputs to develop a complete solution architecture using SAP®’s suite of LEAN solutions.

A few typical challenges that influence the solution architecture and implementation roadmap are given below:

1. Poor forecast accuracy and its impact on performance is a common concern for most organizations.
2. Can low volume products be managed using pull? Scheduling product mix consisting of “runners”, “repeaters”, and “rogues” posed challenges to most organizations.

3. Though the plants resemble simple repetitive manufacturing environment, discrete production orders are often used to initiate production and record usages, operation times and output. Most transactions at work order level seldom serve any purpose.
4. Material shortages are often determined at the work order level at the time of release. This is often too late. Can one determine shortages more proactively?
5. Manual spreadsheets are used to calculate and monitor KANBAN sizes for parts that are on pull. Such means pose major challenges when the number of parts runs in thousands in the final state.
6. Key LEAN metrics such as EPEI, WIP-to-SWIP, Dock-to-Dock and available capacity at value stream level are yet to be developed.

Solution components



Just like your LEAN business processes, you should start your implementation with your shop floor. Unless the solution meets the local visual requirements of the plant, it cannot meet global demand.

Figure – 5: SAP® LEAN solution – typical list of components

7. Need to implement “best practice” for “available to promise (ATP)” and material allocation to customers. During periods of scarce supply, there is no structured process to ensure that the most strategic customers are maintained at a high level of service
8. Need to implement “best practice” for sourcing materials that are managed using push (MRP) during the transition to LEAN. Process to set up, review and control MRP parameters that drive sourcing in push environment, needs to be streamlined.
9. There is a general perception that SAP® complicates life on the shop floor.
10. The key performance metrics reported by SAP® arrive too late to be used for any corrective action.

Figure 5 represents solution components of typical solution architecture for our customers.

Step 5: Develop an implementation roadmap

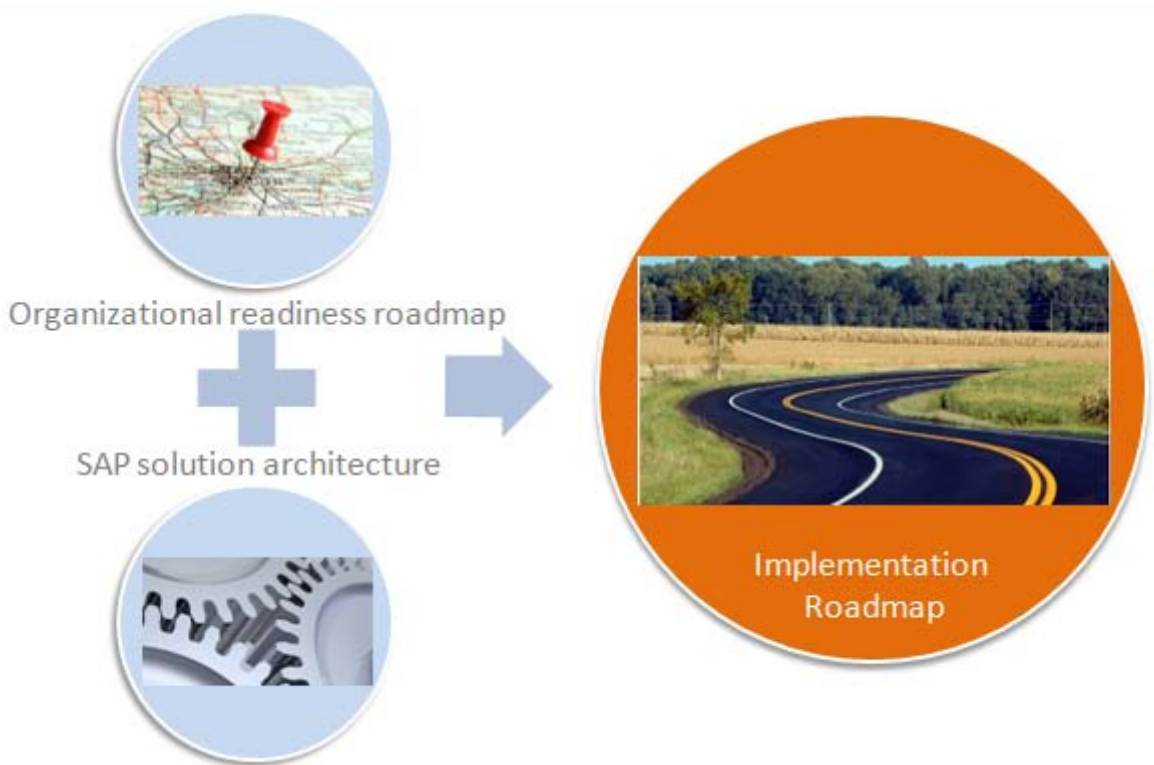
With a good understanding of current state of LEAN initiatives, organizational readiness, and identified SAP® solution components, we are now ready to develop an implementation road map for your organization.

We propose a few options before you choose the right one.

Figure 7 represents two such options for implementing SAP® LPO.

We also identify opportunities with your existing SAP® solutions and layout specific action plan to support your current LEAN initiatives.

Implementation roadmap



Our SAP® inSync, a proven methodology, ensures that you have considered your current state of LEAN initiatives and your current SAP® landscape before arriving at a solution that works for you...today and tomorrow.

Figure – 6: Arriving at implementation roadmap

Implementation options using SAP® LPO

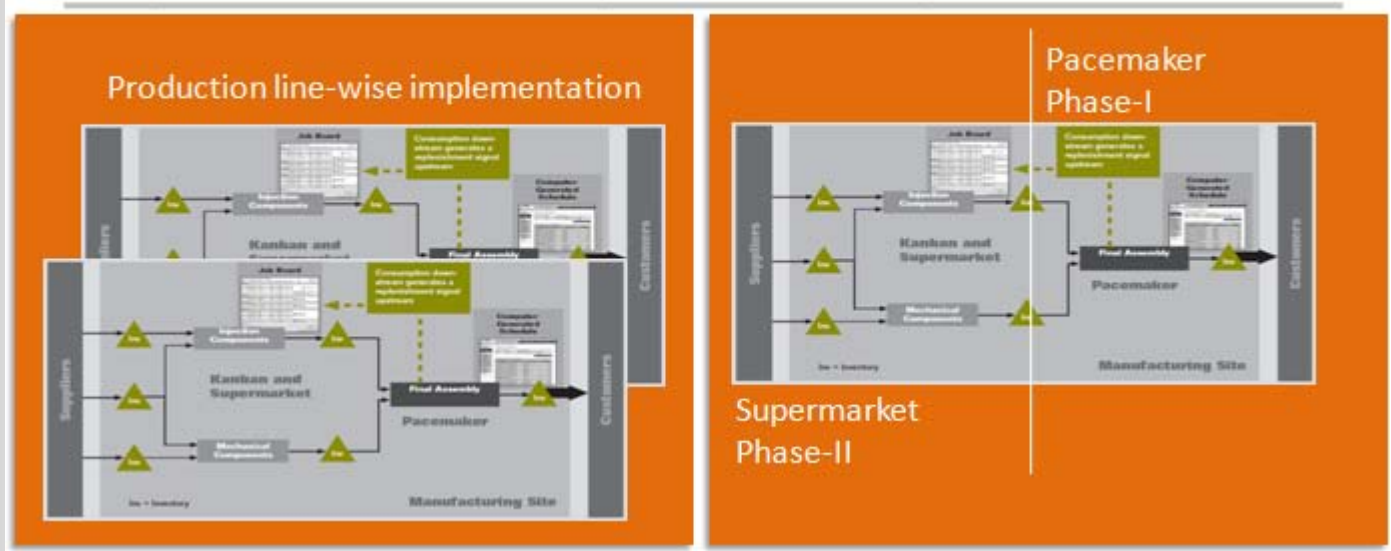


Figure – 7: Implementation options – Horizontal and Vertical scenarios

Next steps

You don't have to implement all the components of SAP® LEAN solution at the same time. You don't have to put all your product lines on SAP® LEAN solution at the same time. A well planned vertical or horizontal incremental approach can make your implementation smooth and successful.

From LEAN business strategy to its implementation on SAP®, Lean Axis combines LEAN industry experience with SAP® implementation expertise to create solutions that bring real, tangible business value. We strive to increase business velocity, staying ahead of our client's needs with innovative solutions that deliver a rapid return on investment.

Lean Axis welcomes the opportunity to talk to you more about how we can help you to be more successful with your LEAN initiatives on SAP®. Please contact us at info@LeanXis.com or call us at 408-802-1636.

