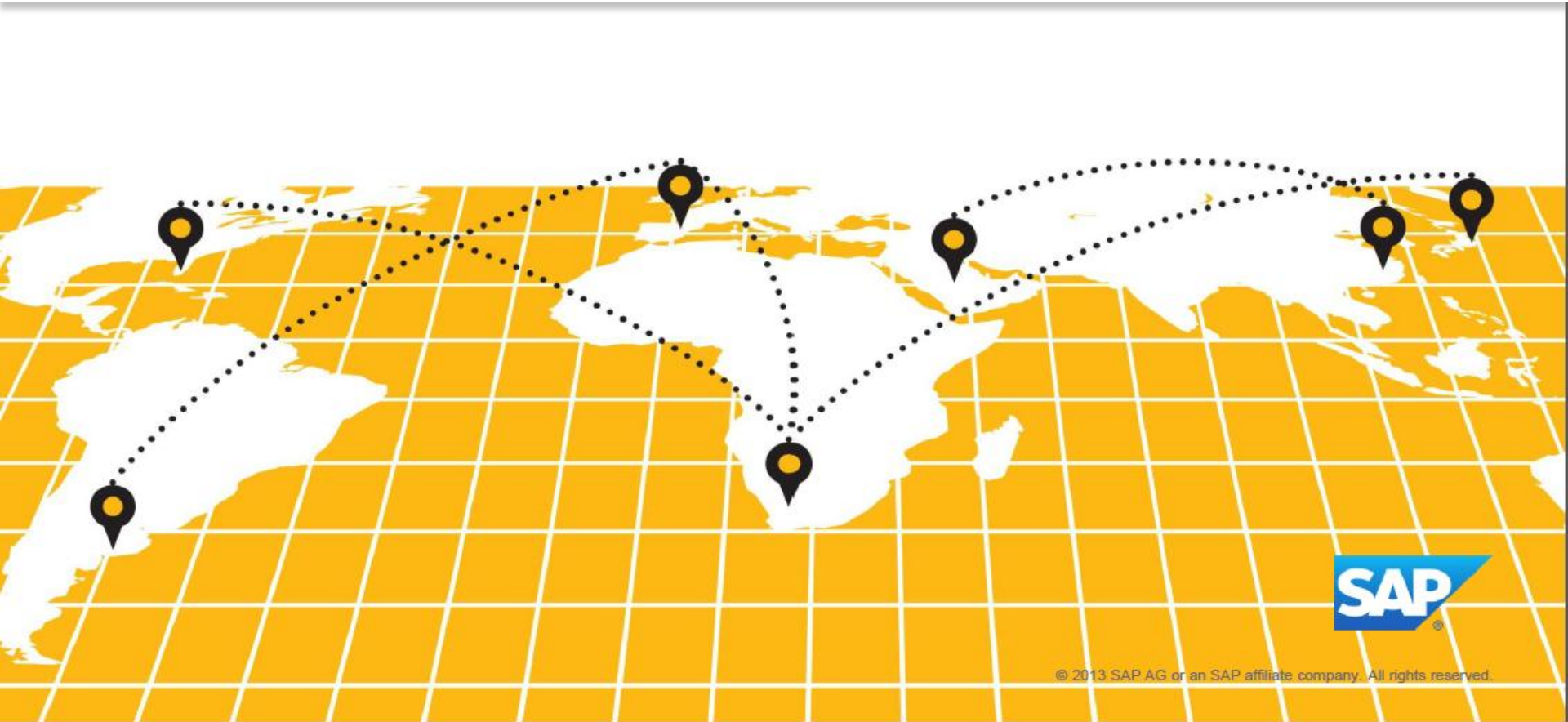


Enterprise Inventory and Service Level Optimization

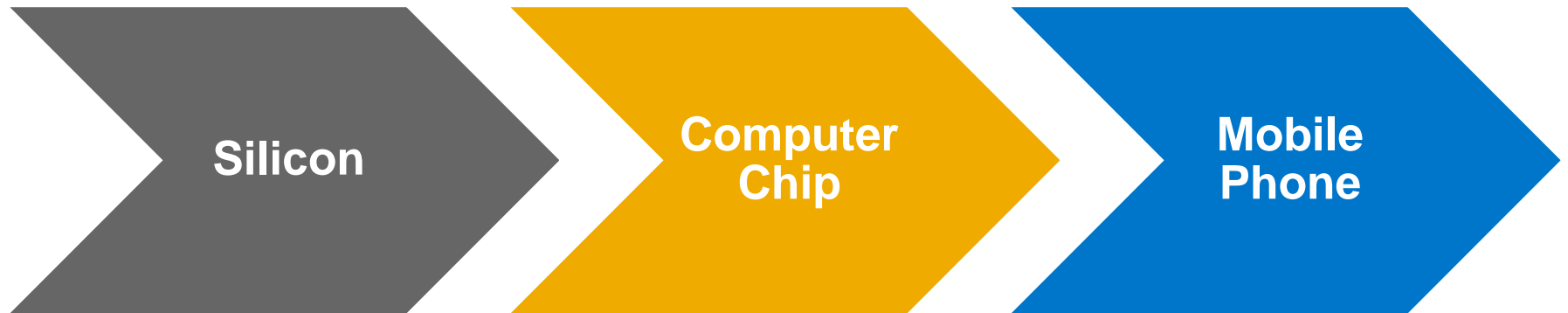
Introduction: SAP EIS



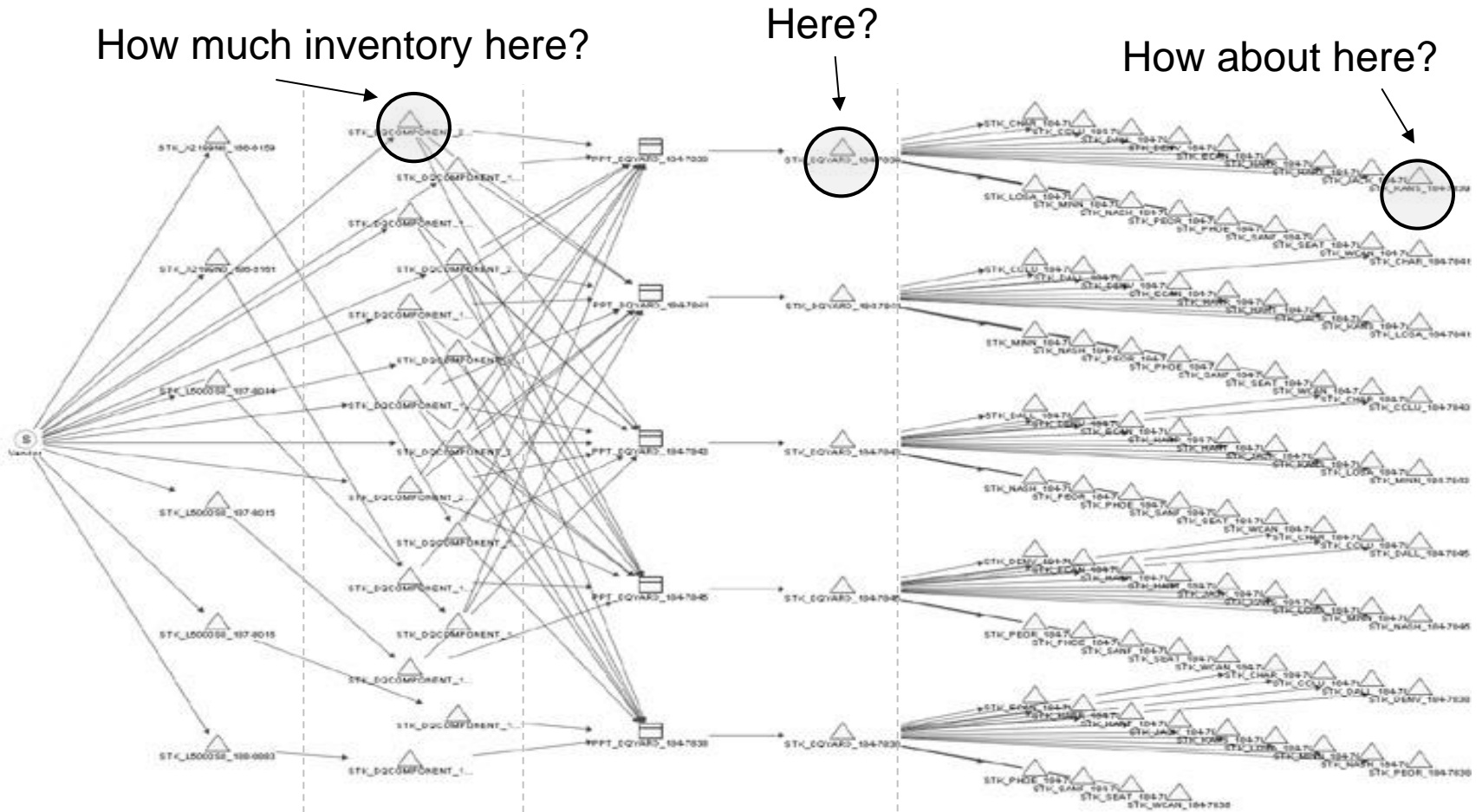
Executive Summary

- Your supply chain is complex, and that complexity can hurt you
- Most planning systems oversimplify complexity and ignore uncertainty
- SAP is supply chain planning that right sizes inventory and captures more sales for global enterprises
- SAP is an end-to-end supply chain partner that drives significant value across industries

Instead of this...



Inventory at each node can and should impact inventory decisions at other nodes



Supply chain complexity has exploded and is now the price of admission in today's global market

However, the unforgiving arithmetic is the same

Customer Pressures

- Too little inventory frustrates customers

Financial Pressures

- Too much inventory frustrates finance

Internal Pressures

- Right item in the wrong place frustrates everyone



**Executives who master their supply chain complexity will prosper...
Those who don't will fail**

Even for one site...

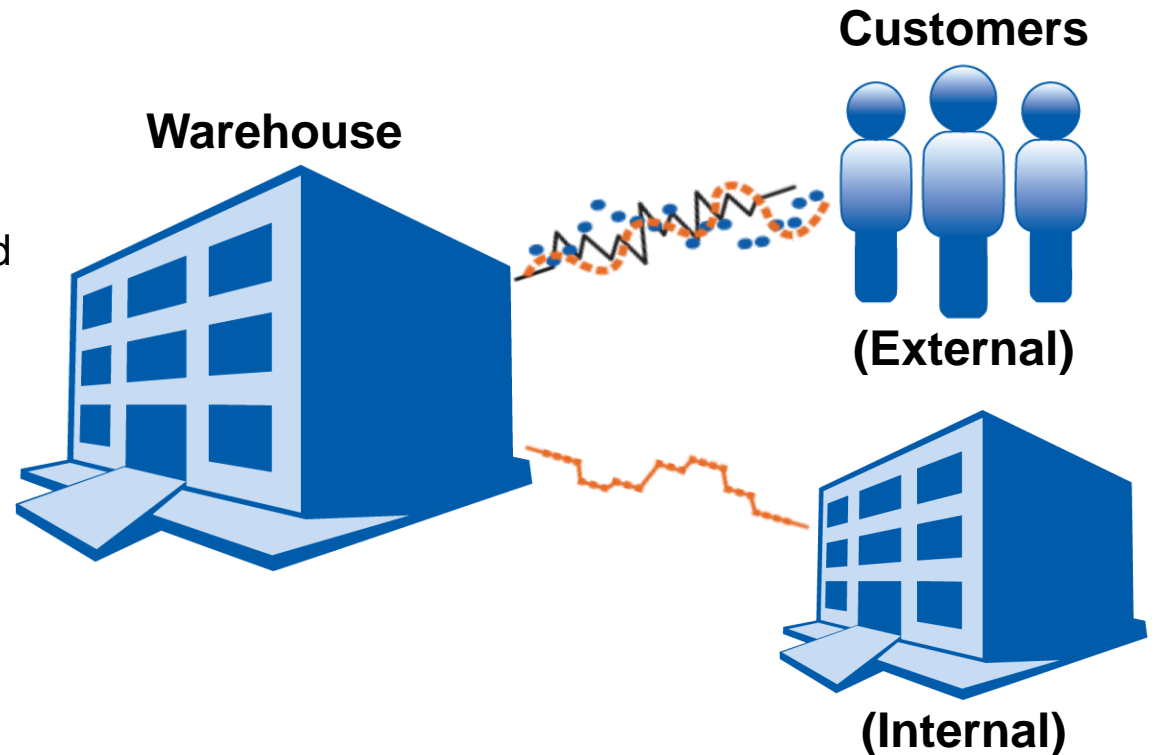
Warehouse



...things rarely go exactly as expected on the demand side

Demand Factors

- Simultaneous internal and external demand
- Forecast error
- Seasonal, time-varying demand
- Multiple service levels and inventory thresholds
- Intermittent demand
- Over- and under- forecasting
- Outliers
- Multiple forecast lags
- Consideration of recent forecast process changes

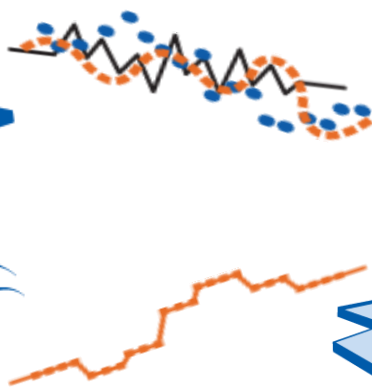


...nor do things go exactly as expected on the supply side

Suppliers



Warehouse



Supply Factors

- Batch size requirements
- Lead time uncertainty
- Schedule attainment
- Reliability
- Supply quantity limitations
- Storage Quantity Limitations
- Time-varying Bills of Material
- Frozen forecast windows
- Multiple supply sources
- Seasonal supply sources

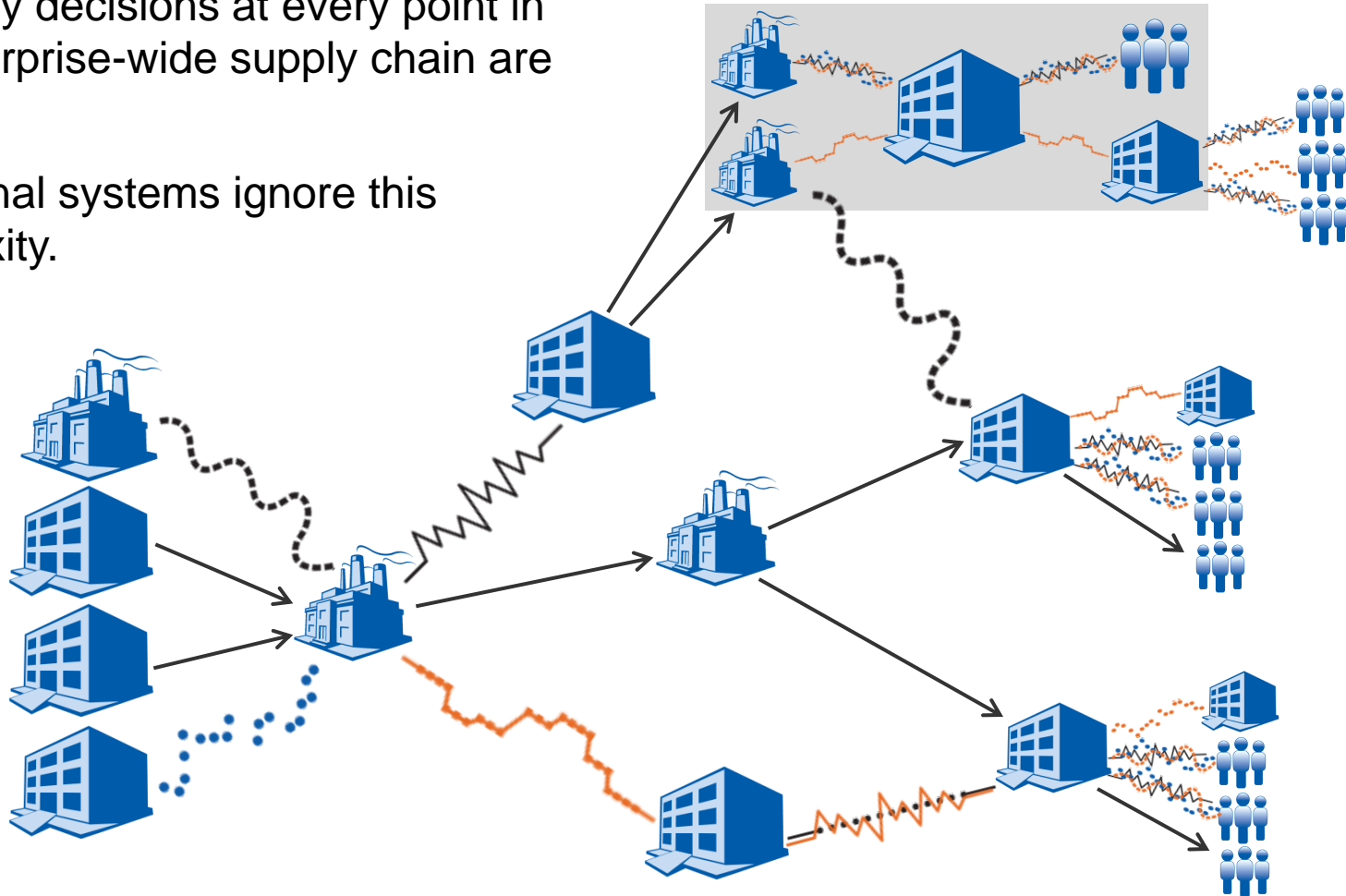
Now take all those uncertainties...



...and multiply!

Inventory decisions at every point in the enterprise-wide supply chain are linked.

Traditional systems ignore this complexity.



...and multiply! ... So what?

Inventory decisions at every point in the

ERP and APS systems (APO) handle difficult “Deterministic” math:

If XX Demand, then YY supply, run through the BOM, costed appropriately, production planned, items shipped, sold, invoiced, financials run, and HR handled...

(Chances are, you already know what ERP systems do!)

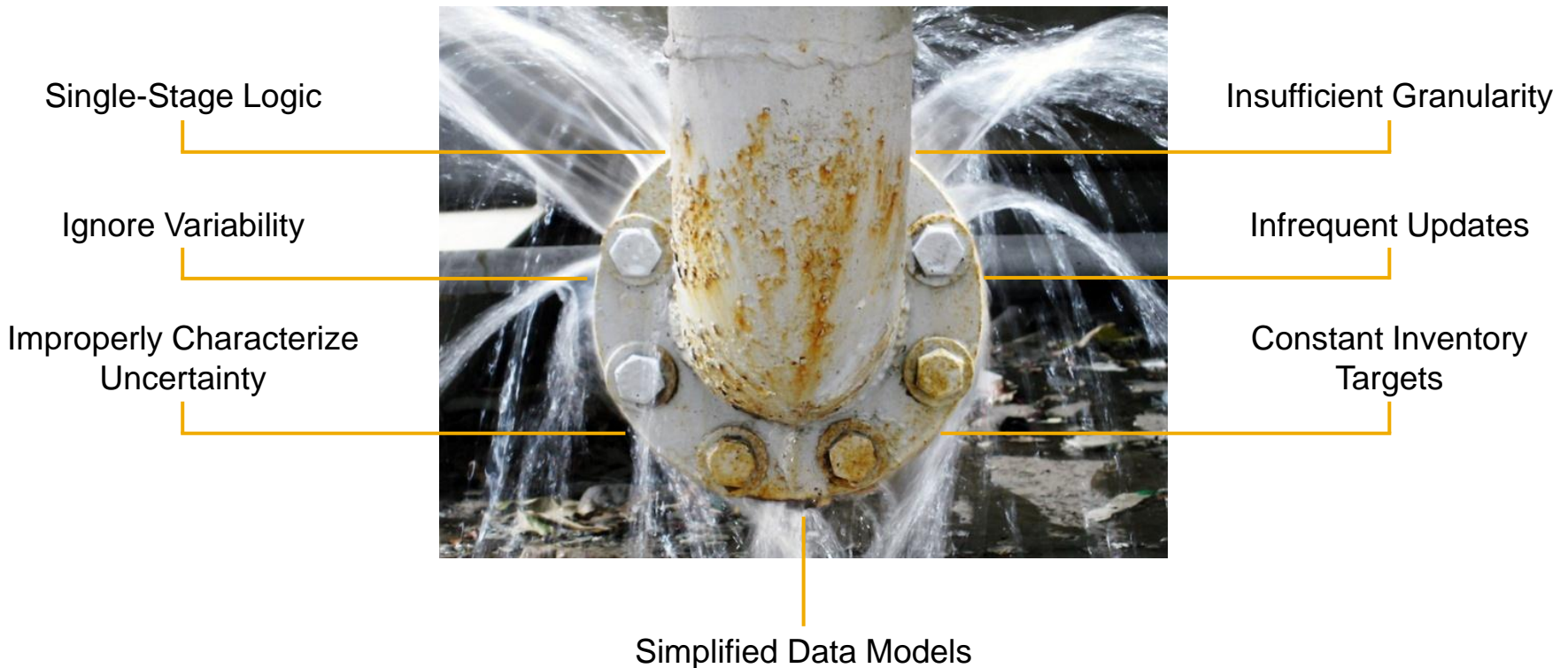
SAP EIS handles “previously impossible” Stochastic Multi Stage Optimization:

- Quantifies and Analyzes **Risk, Variability, and Uncertainty** (stochastic)
- Considers **Customer Service Levels** and **Profit Objectives** (enterprise scale)
- Optimize **Service Levels** and **Inventory Targets** across the supply chain (multi stage)

All at the item-location-time period level of granularity, linked to ERP/APS systems, while providing Management level, roll-up Analytics for root-cause improvements

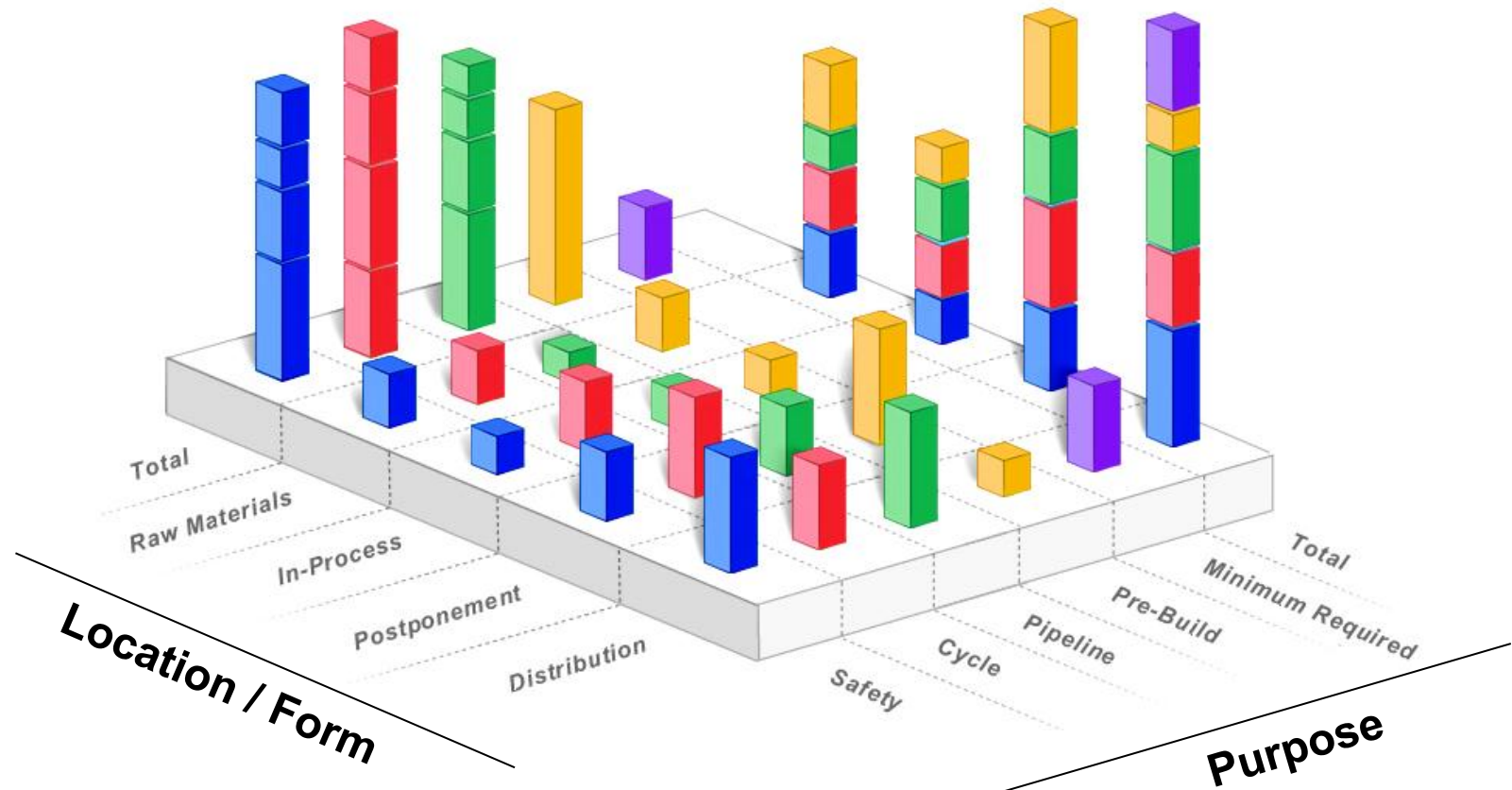
Oversimplified planning wastes resources and puts your business at risk

Oversimplified Supply Chain Planning



If supply chain complexity and uncertainty are not addressed, your business will over-buffer inventories and miss sales

Dynamically link current and future inventory targets to service level goals with Multistage Inventory Planning & Optimization



Seven Muda, or “Seven Deadly Sins in Lean”

1. Defects / Quality
2. Transportation
3. Motion
4. Waiting
5. Overproduction
6. Over Processing
7. Inventory

Seven Muda, or “Seven Deadly Sins in Lean”

1. Defects / Quality

2. Transportation

3. Motion

4. Waiting

5. Overproduction

6. Over Processing

7. Inventory

-
- Strategic Decisions
 - Tactical Choices
 - Risk and Uncertainty

Enterprise Inventory Optimization

- *Inventory* is the consequence of many different strategic and tactical choices across the organization
- *Inventory optimization* is the science of making these choices more rational, more profitable, and automatic
- *Enterprise inventory optimization* is the encapsulation of these algorithms into software that integrates into planning systems and handles large-scale, complex supply chains

Supply Chain Management Levels

1. The *Strategic* level defines the system, and includes Product, Sourcing decisions, Service Level Agreements, Network Design (topology), ES&OP
2. *Tactical* processes, include Service Level Agreements, replenishment parameters, **inventory targets**, production targets, S&OP, RCCP, ATP
3. *Operational (transactional)* processes include Ordering, Order Fulfillment, Building and Dispatching, Expediting

Inventory Optimization

Inventory Optimization is the science of calculating inventory targets to

- meet desired service goals
- at lowest inventory cost possible
- across the entire supply chain

Inventory Optimization is an essential step in Supply Chain Planning

- Targets are calculated at the item-location-period granularity
- Inventory targets fill the gap between planning and execution by providing planning parameters for APS systems

SAP EIS delivers tangible, near-term, sustainable value

Improve Customer Service Levels

- 5-10% increase in order fill rates and on time delivery
- 30-50% reduction in out of stocks and order lead time variability

Reduced Inventory & Working Capital

- 15-30% reduction in inventory and working capital
- 20-40% reduction in inventory carrying and obsolescence costs

Improve Planner Productivity

- 20-30% reduction in time used in expediting
- 10-20% reduction time spent on manual inventory planning processes

Reduced Production & Distribution Costs

- 10-20% reduction in PPE and depreciation due to excess storage facilities





Thank you

© 2014 SAP AG or an SAP affiliate company. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or for any purpose without the express permission of SAP AG or an SAP affiliate company.

SAP and other SAP products and services mentioned herein as well as their respective logos are trademarks or registered trademarks of SAP AG (or an SAP affiliate company) in Germany and other countries. Please see <http://global12.sap.com/corporate-en/legal/copyright/index.epx> for additional trademark information and notices.

Some software products marketed by SAP AG and its distributors contain proprietary software components of other software vendors.

National product specifications may vary.

These materials are provided by SAP AG or an SAP affiliate company for informational purposes only, without representation or warranty of any kind, and SAP AG or its affiliated companies shall not be liable for errors or omissions with respect to the materials. The only warranties for SAP AG or SAP affiliate company products and services are those that are set forth in the express warranty statements accompanying such products and services, if any. Nothing herein should be construed as constituting an additional warranty.

In particular, SAP AG or its affiliated companies have no obligation to pursue any course of business outlined in this document or any related presentation, or to develop or release any functionality mentioned therein. This document, or any related presentation, and SAP AG's or its affiliated companies' strategy and possible future developments, products, and/or platform directions and functionality are all subject to change and may be changed by SAP AG or its affiliated companies at any time for any reason without notice. The information in this document is not a commitment, promise, or legal obligation to deliver any material, code, or functionality. All forward-looking statements are subject to various risks and uncertainties that could cause actual results to differ materially from expectations. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of their dates, and they should not be relied upon in making purchasing decisions.