



***Building the Foundation
for Future of Supply
Chain of BioPharma***

November 8, 2011

What we'll cover.....

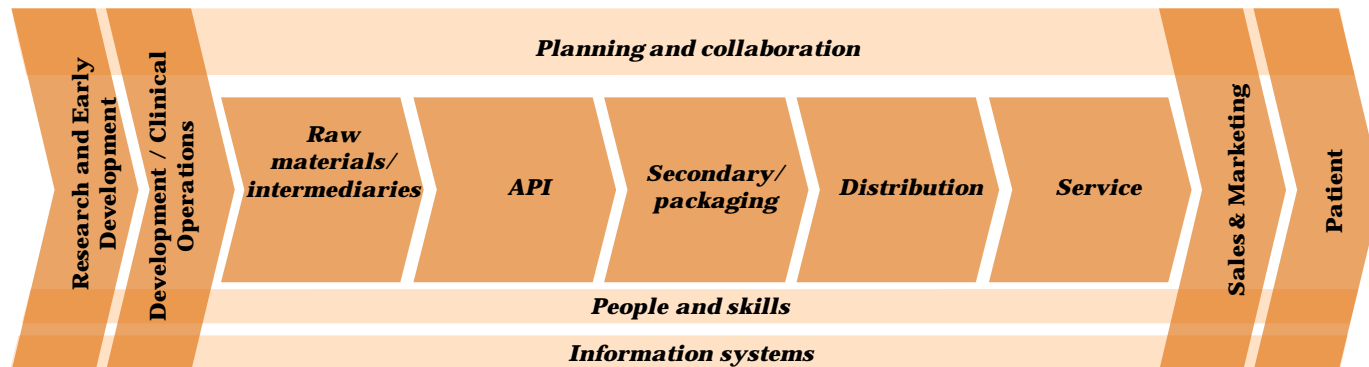
- ❑ The current state of Supply Chain in Biopharmaceutical industry
- ❑ What is driving the new stage of transformation
- ❑ Why are this Conference's topics so relevant
- ❑ Balancing multiple dimensions of the business
- ❑ The integrated Supply Chain Operating Model
- ❑ Conclusion

While long in coming, supply chain foundations are being established by most companies in our industry....

The transformation of Supply Chain has begun over the past decade

- Two recessions and the resulting focus on cost
- Movement of supply chain professionals from high-tech to biopharma industry
- Rationalization of larger manufacturing networks as a result of acquisitions and other operating changes
- Highly motivated CROs/CMOs ready to do what companies not willing or able to do

Supply Chain Operations

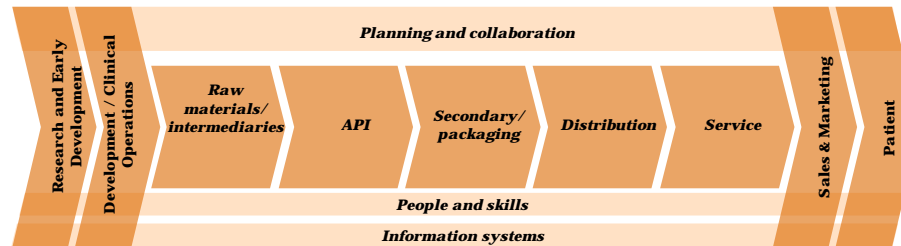


...But this only the beginning, as the new environment and internal changes are forcing the next phase

Environmental / External Changes

- New competition from biosimilars*
- Focus on disease + outcome (not just a specific molecule)*
- New Healthcare models*
- Aging population in developed countries*
- Reimbursement and regulatory changes*
- Expectations from health authorities*

Supply Chain Operations



Internal Business Drivers

Top-line expectations:

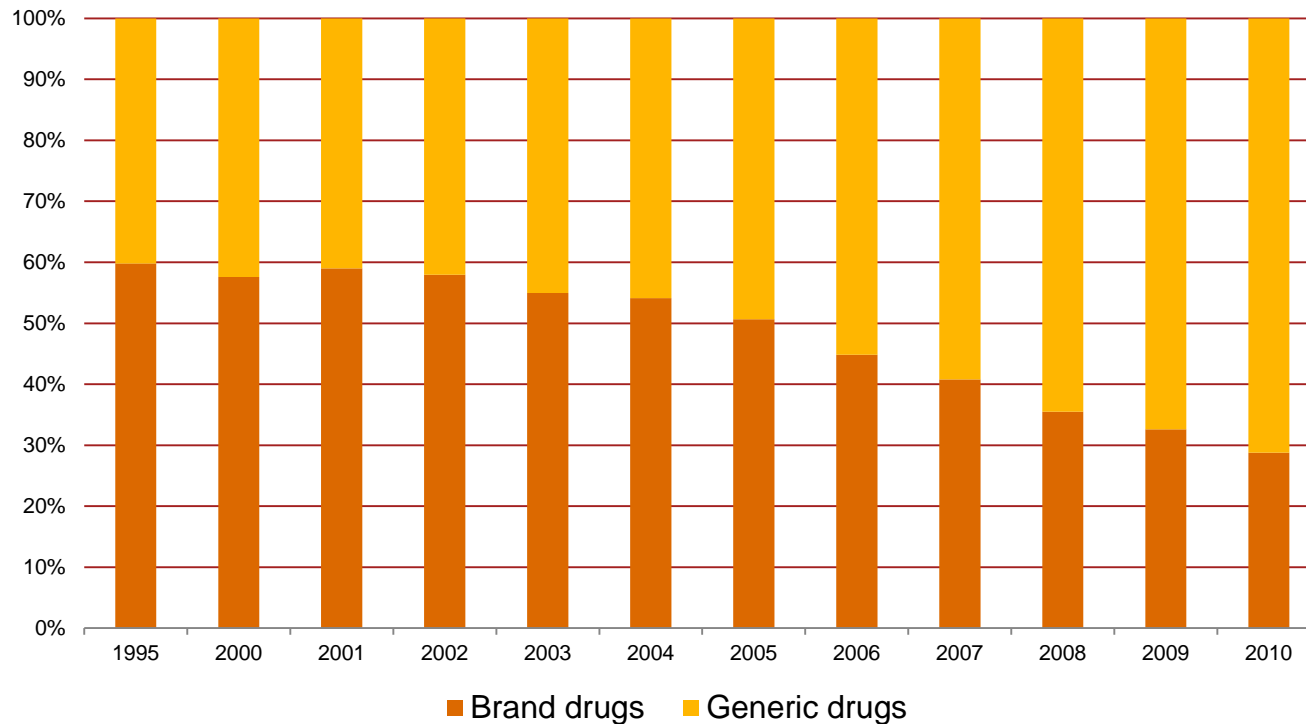
- Emerging markets*
- Scalability; flexibility*
- Product assurance / business continuity*
- Customer service / AE management*

EBITDA expectations

- Total supply chain cost, not only COGS*
- Quality*
- M&A integration*
- New products / processes*

Example of Environmental Change: Retail Prescription Drug Sales (1995 – 2010)

Implication: transition to generic products means lower profit margins, higher SKU's, more varied volumes and patient population



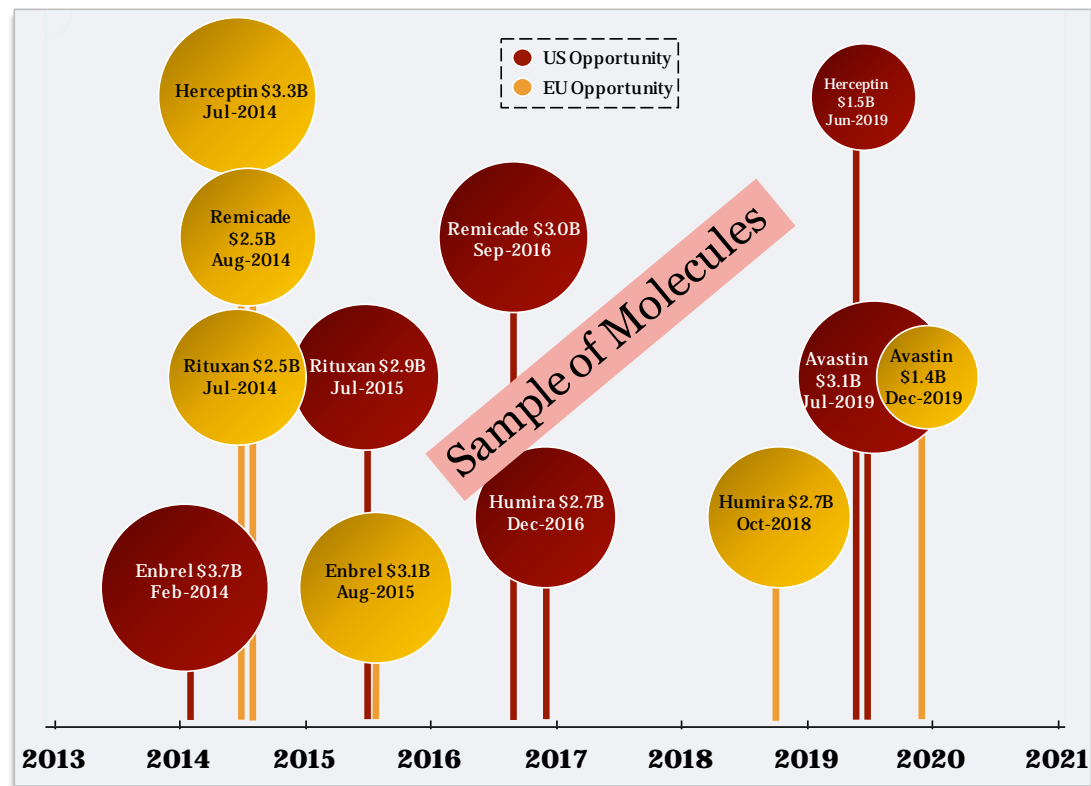
Source: http://www.census.gov/compendia/statab/cats/health_nutrition/health_expenditures.html

Example of Environment Change: Biosimilar Markets

Implication: supply chain as both, a shield for branded products and a weapon for new entrants who'll compete on lower cost

Timeline for competing for complex Biologics markets

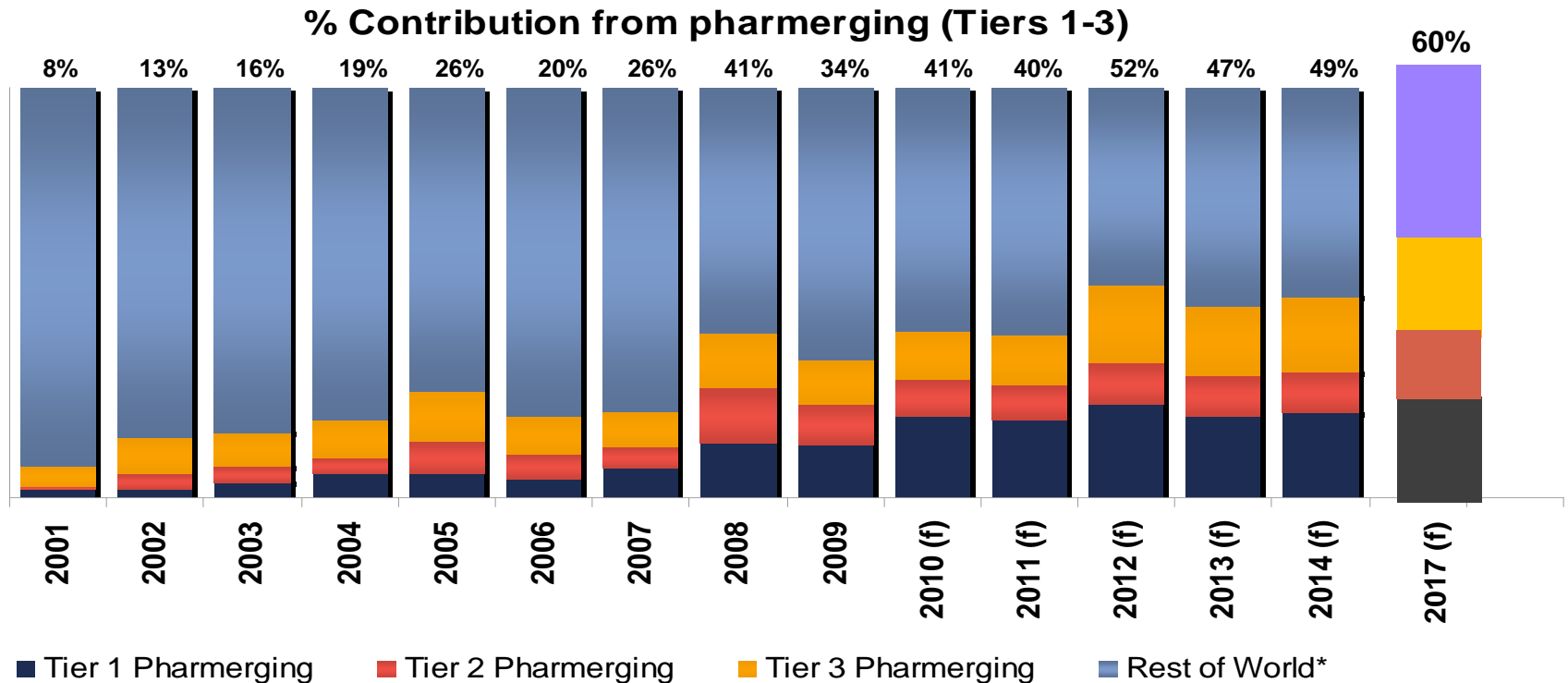
Bubble size is proportional to 2010 sales of originator



Source: *Decision Resources July 2010*

Example of Internal Drivers: Emerging Markets

Emerging Markets' Contribution to Global industry Could Reach 60% in 2017



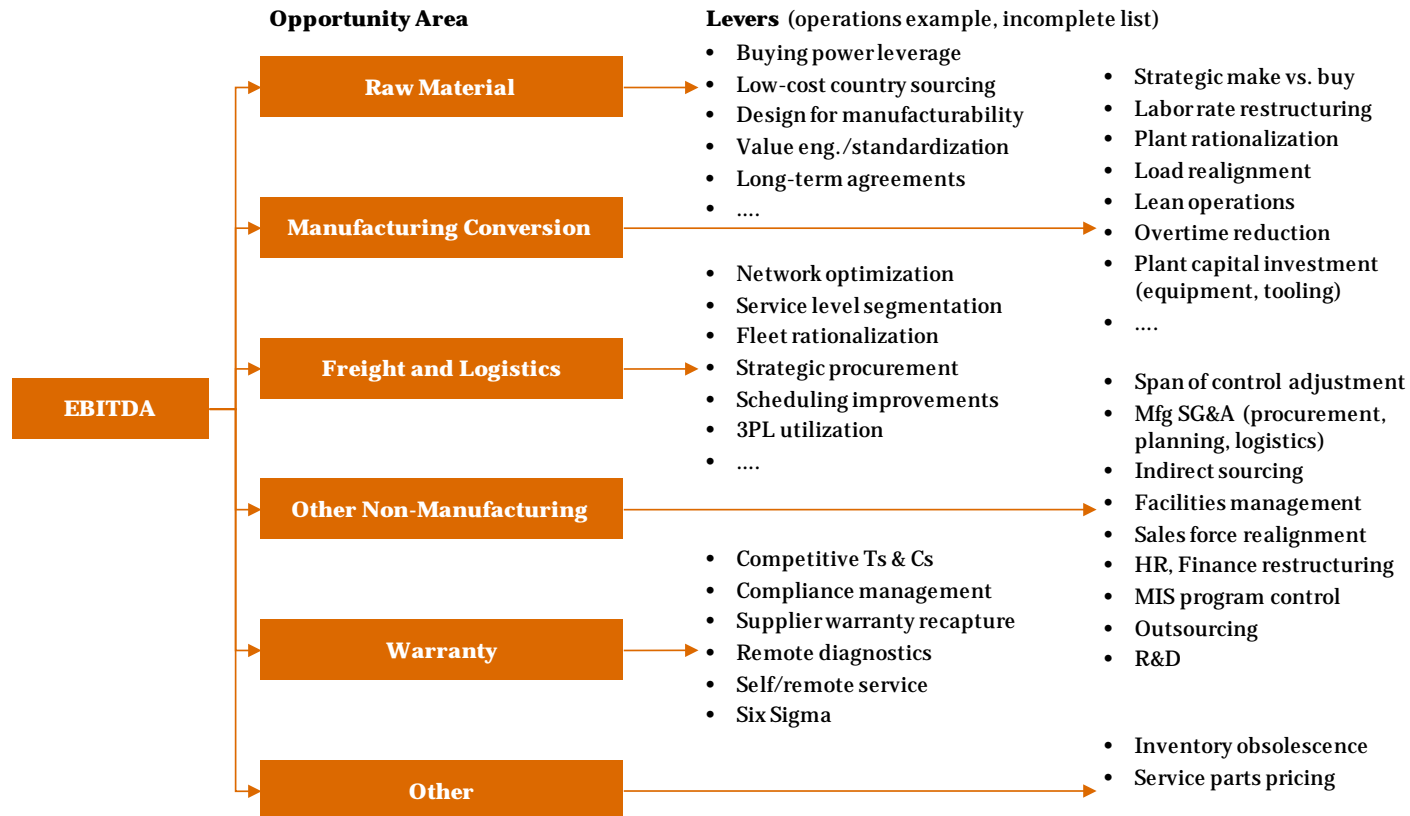
Tier 1 (China); Tier 2 (Brazil, Russia, India);

Tier 3 (Venezuela, Poland, Argentina, Turkey, Mexico, Vietnam, S.Africa, Thailand, Indonesia, Romania, Egypt, Pakistan, Ukraine).

ROW*: includes mature markets and other non-pharmerging markets.

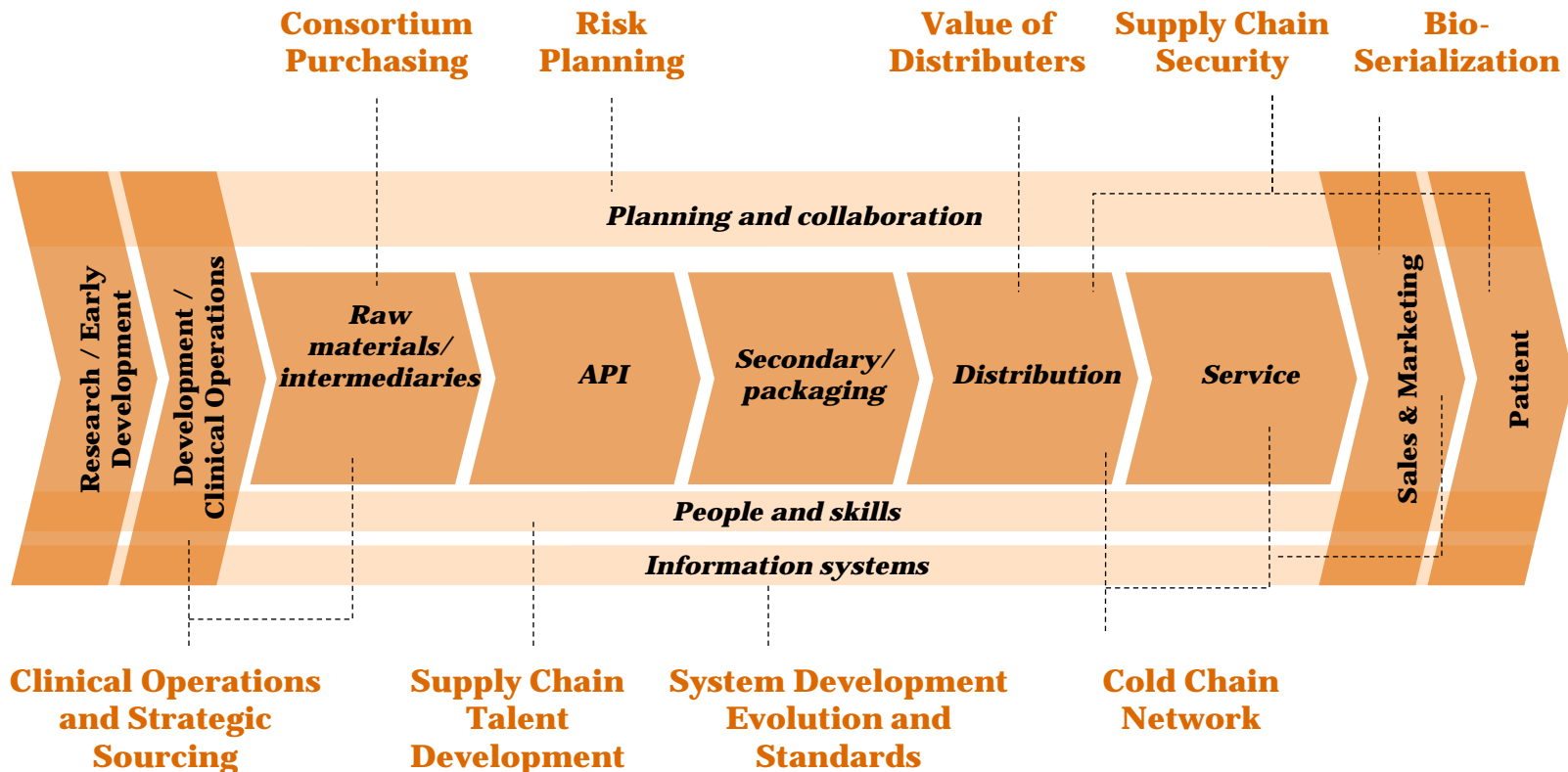
Example of Internal Business Drivers: Direct Line of Site

Implication: with the increasing attention to supply chain comes the natural scrutiny of its performance and link to P&L



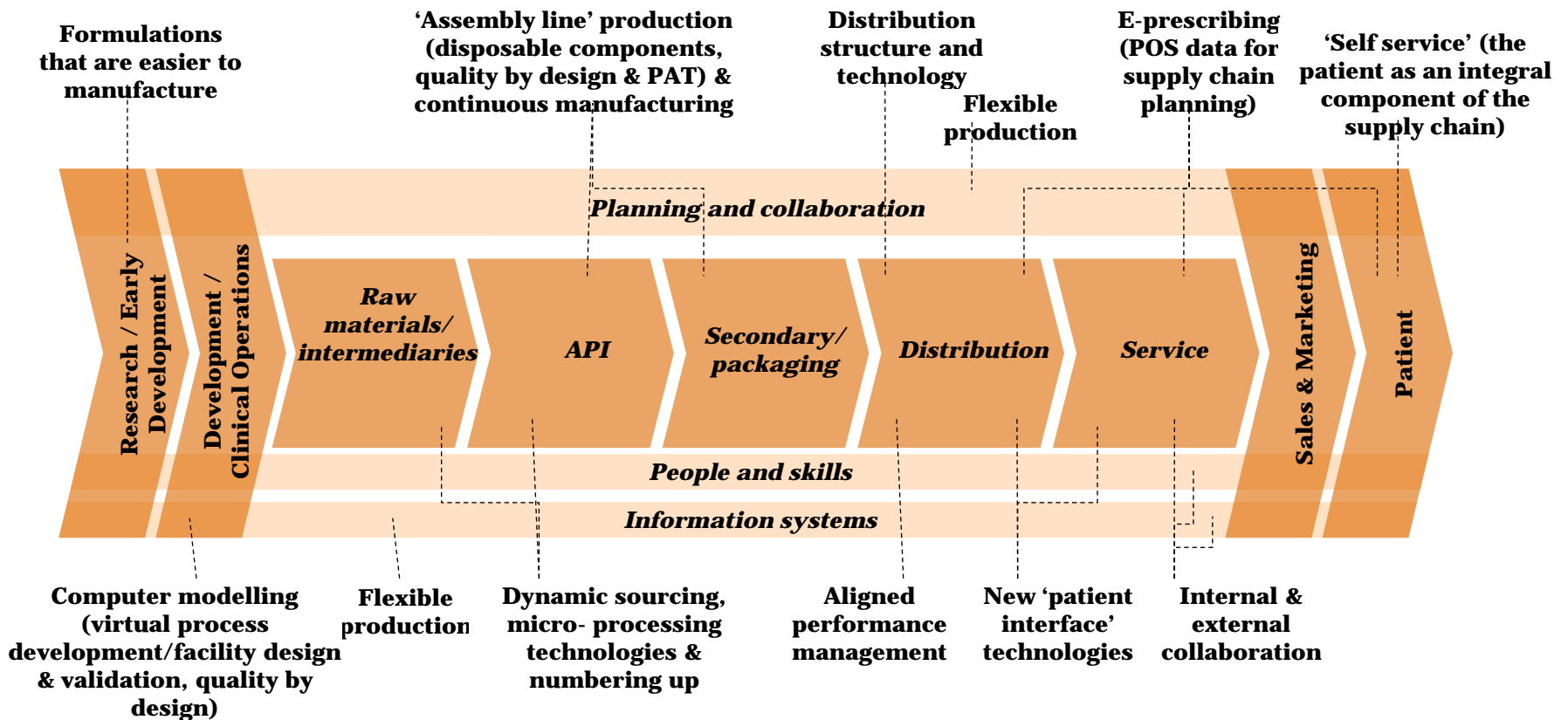
These drivers have direct impact to Supply Chain of the future that our profession must address

Some of the specific topics we will address during Day 2 of the conference....



These drivers have direct impact to Supply Chain of the future that our profession must address (cont.)

Yet we have to keep in mind that we are at the beginning –other key opportunity abound to make Supply Chain a strategic asset to your company



These various, and seemingly conflicting, changes must be orchestrated to achieve business balance

The Imperative is to Balance Risk, Cost and Customer Expectations

- Is the supply chain (SC) **resilient** to major disruptions or has it become too brittle?
- Are the products **compliant** with the evolving, global cGMPs?
- Is the SC **safe and secure** to prevent theft and counterfeiting?

Minimize Operational Risk

Low

“Maximize the area under the curve”

Minimize Total Lifecycle Costs

Low

High

Meet Customer Expectations

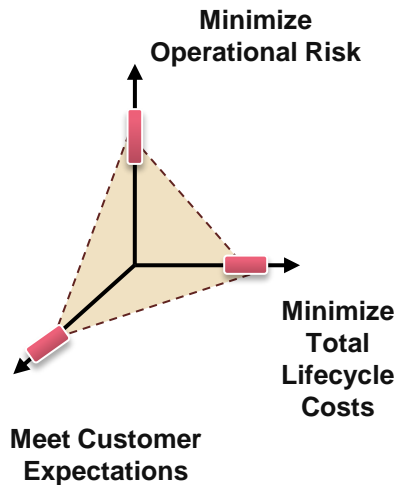
- Does the SC provide a **competitive advantage** and help drive revenue growth, especially in emerging markets?
- Is the SC **customized** and segmented to meet the changing customer needs?
- Is the SC meeting its **social responsibilities** (Green, etc.)?

- Are the **cash outflows** minimized over the life cycle of the product (Launch Costs, COGS, PP&E, taxes, etc.)?
- What would it cost a **generics company** to produce the product and can you match that?
- Is the E2E SC **lean, synchronized and transparent** and are the E2E cycle times minimized, including NPI?

How to achieve this balance and manage the transformation?

Achieving the Right Balance Requires....

...a Scalable Supply Chain Operating Model



- **Network Strategy** – Where to locate, in-source vs. outsource
- **Organization and Governance** – Structure, Capabilities, RACI, decision-making process
- **Technologies** – Manufacturing technologies to develop
- **Standards** – Regulatory requirements, compliance needs, quality systems
- **Processes and Metrics** - Integrated, efficient end-to-end processes across life-cycle and metrics to support the strategy
- **Information systems** – Gaining advantage through operational efficiency and visibility

Conclusion

- ❑ Let's give ourselves some credit! Much has changed – for good – in the past decade
- ❑ The speed and sheer volume of external and internal drivers is forcing the new wave of supply chain transformation
- ❑ The topics and changes addressed by this conference, as well as select others, are critical components of this transformation
- ❑ Look at these changes as a part of the overall Supply Chain Operating Model that must balance Risk, Cost, and Service

Thank you!

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