



PROMAT® 2015

McCormick Place South | Chicago

March 23-26, 2015

promatshow.com

Sponsored by:

 **Manhattan**
Associates®

Presented by:

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Director, Product Management

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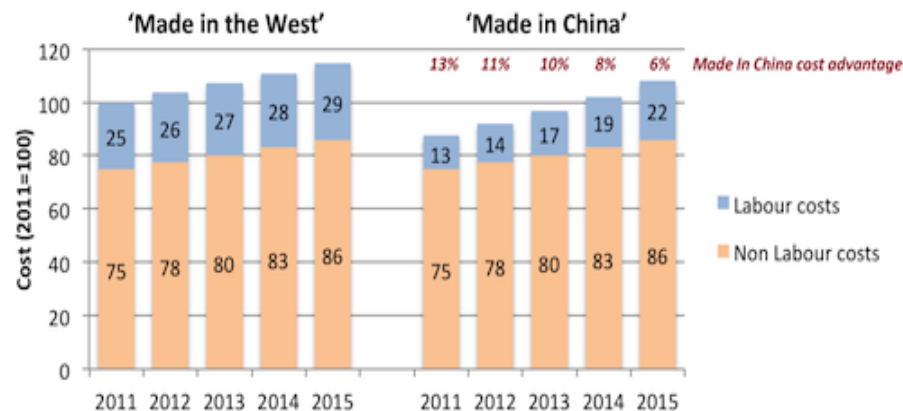
Macro Economics: China's Offshore Advantage?

By around 2015 – when higher U.S. worker productivity, supply chain and logistical advantages, and other factors are taken fully into account – it may start to be more economical to manufacture many goods in the U.S.

An American manufacturing renaissance could result.

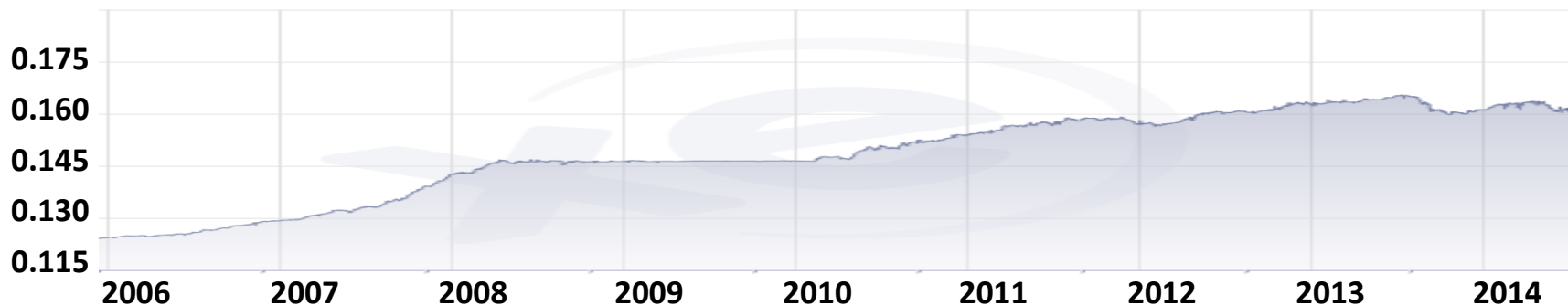
BCG Group 3/22/12

Cost of manufacturing - China vs 'the West'



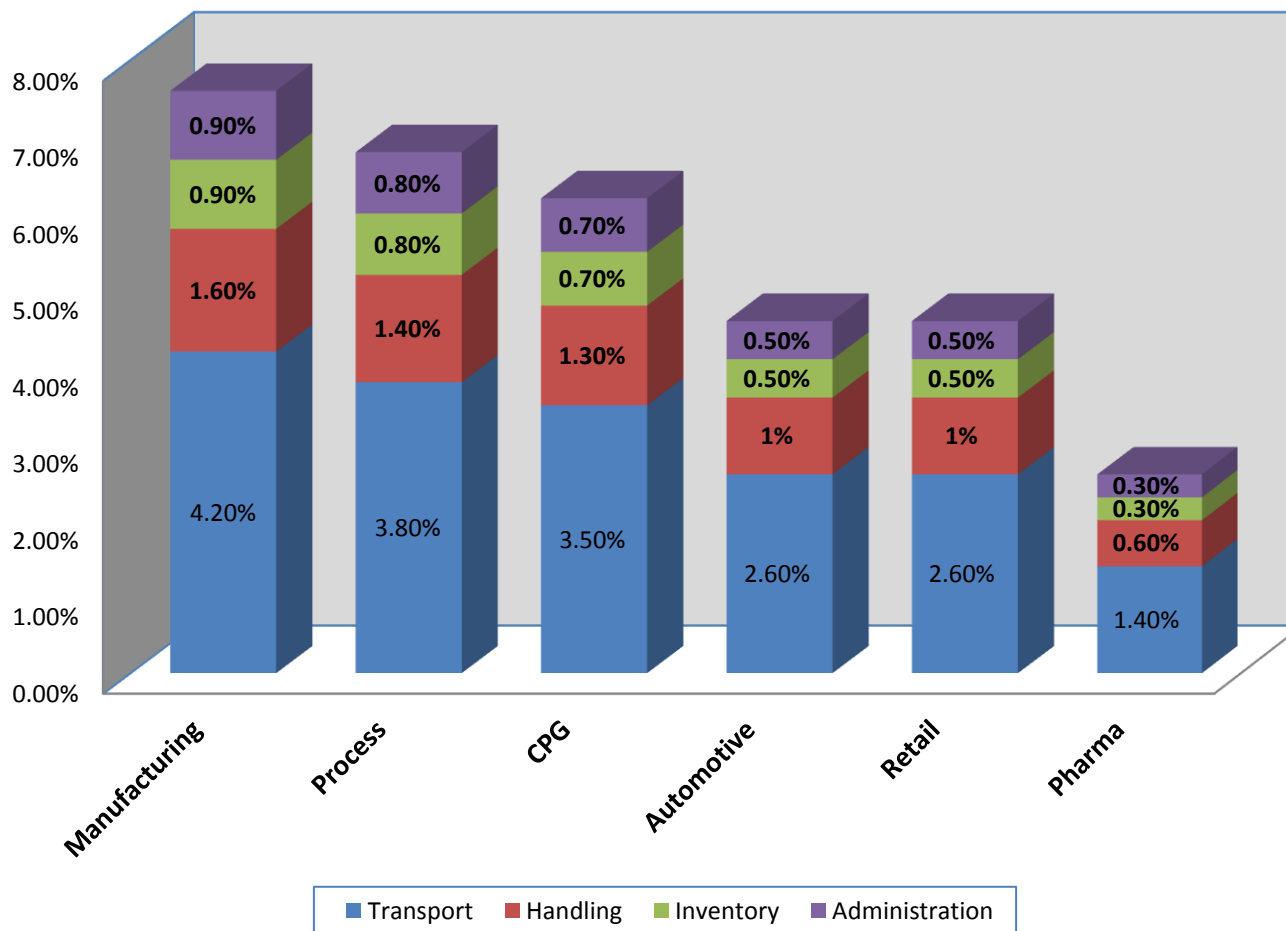
<http://richardblundell.net>

Currency Chart (CNY vs. USD)





Cost of Logistics by Industry (as percentage of Revenue)



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Near-shoring: Manufacturing in North America



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THE INDUSTRY THAT MAKES SUPPLY CHAINS WORK™



Case Study: GE's Appliance Park in Louisville

\$800M program to re-establish US manufacturing

- Feb 2012 – Water heaters
- March 2012 – High tech refrigerators
- 2013 – Stainless-steel dishwasher

GE GeoSpring Water Heater

	Made in China	Made in the USA
Retail Price	\$1599	
Time to market	4 weeks	

I don't do that because I run a charity. I do that because I think we can do it here and make more money.

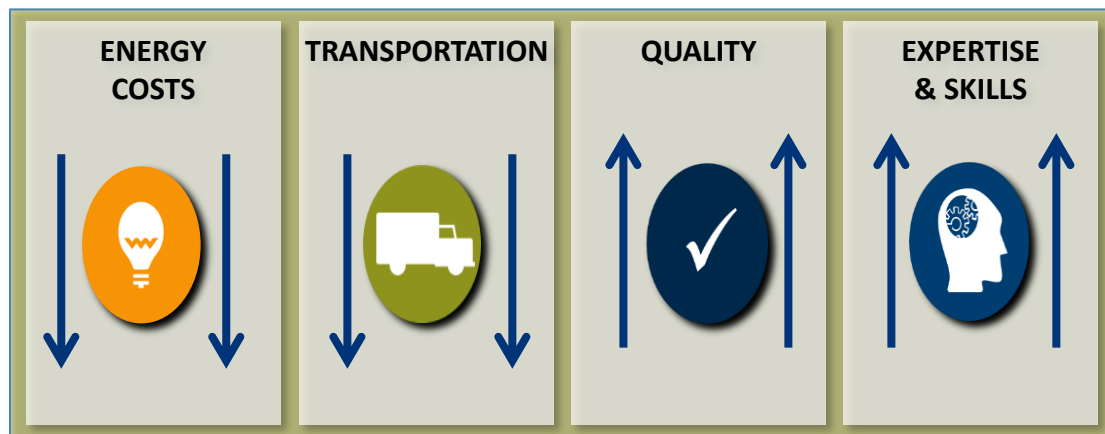
*Jeff Immelt,
CEO of GE, on re-shoring decision*

Forbes 12/07/12



Additional Near-shoring Benefits

- Lower duties than Asia-based manufacturing
 - NAFTA
 - Mexico: free trade agreements with 44 other countries
- Significantly lower energy costs due to U.S. natural gas supplies
- Industry expertise
 - 89 of top 100 auto parts makers run at least some production in Mexico
- Shorter transportation
 - Faster speed to market
 - Just in time components
 - Lower transportation costs
- Ability to better monitor quality
- Highly skilled workforce



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ALIGN PRODUCTION WITH DISTRIBUTION

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Supply Chain as Mission Critical

Failing to link manufacturing with supply chain will lead to a disjointed approach to business performance,



serving only to perpetuate the existence of a great divide in many companies

- Gartner



Common Manufacturing Challenges

- Increasing complexity in distribution:
 - Need to package and ship store-ready assortments.
 - SKU proliferation caused by a new, more dynamic customer
 - Direct-to-consumer fulfillment requirements.
- Line down-time:
 - Ensure raw materials availability for critical finished goods
 - Reduce need for carrying excess inventory
- Siloed ownership
 - Causes gaps between raw materials procurement, manufacturing, and distribution
 - Every hand-off is a potential fumble!

**DISTRIBUTION COMPLEXITY
LINE DOWN-TIME
SILOED OWNERSHIP**



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Align Production with Distribution



Compress cycle times



Reduce costs



Meet customer demand



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How to Solve These Problems

Compress cycle times

Applying Lean concepts to processes supply chain-wide

Reduce costs

IT consolidation

Single system for inventory management

Efficiencies in labor, space and transportation.

Meet customer demand

Enable flexibility to expand existing and new channels, driving new sources of revenue

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Management of raw materials from receipt to consumption

Collaboration with suppliers and reduce risk of delays in shipments

Execute work orders and build finished goods without loss of visibility across processes

JIT movements of raw materials to production lines

JIT fluid loading upon completion of work orders

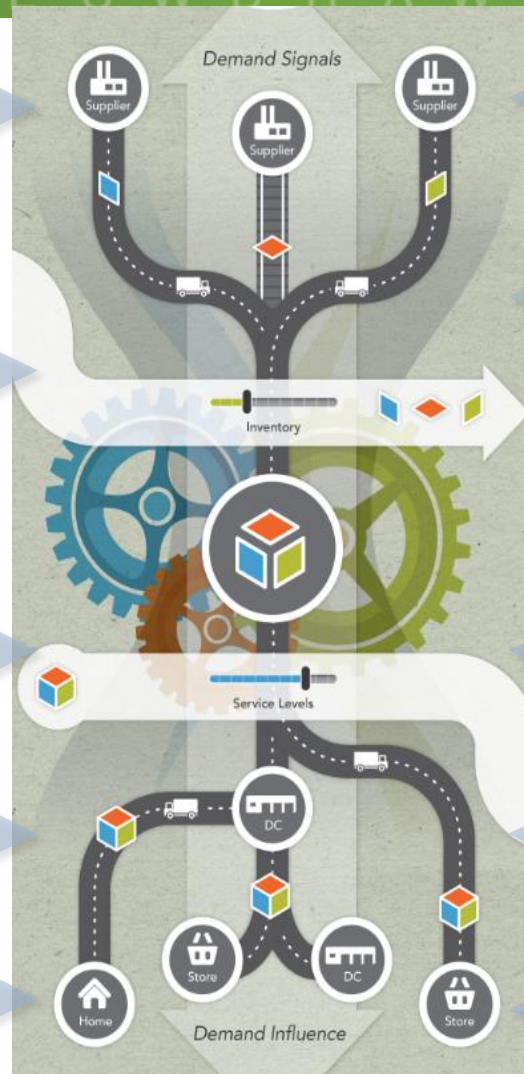
JIT outbound fulfillment triggered by trailer arrival

Maximized trailer cube due to consolidated shipments

Optimal resource selection due to visibility of yard assets

Changing buying patterns by the consumer impact manufacturers and can result in the need for additional channels

Comply with customer shipping and labeling requirements



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Leading manufacturers

rely on supply chain software solutions
to help them align processes and turn
their supply chain into a competitive
advantage



Integrated Yard

- “Most vertically integrated bottling company in the industry”
- Manufactures all components of the bottle and cap along with managing bottling process
- Complexity in managing multiple bottle sizes distributed under Niagara brand or private label (big box retailers, club stores, etc.)
- 6 sites across U.S.

Challenges

- Yard congestion and trailer backup
- Detention charges
- Commoditized product line required differentiated approach

Solution

- **Warehouse Management and Yard Management**
- Trailer arrival in yard triggers all outbound activity
- Integration with AGVs

Benefits

- Trailers directed to best dock based on contents and inventory location
- JIT fluid loading process
- Quicker yard turn leading to more efficient and cost-effective yard utilization





JIT Processes

- Largest manufacturer and supplier of store brand diapers in North America
- Ships 2.5M units/day
- Network includes 3 regional manufacturing and distribution facilities

Challenges

- No raw material consumption visibility
- Tight space constraints in production area (especially pre-production)
- Little / no traceability from finished goods to original raw material lot
- Weak WMS capabilities in legacy system

Solution

- **Warehouse Management**
- Heavy users of work order module
- Over-allocation to account for scrap
- Processes incorporate Lean concepts and facilitate JIT processing

Benefits

- JIT raw materials replenishment to lines
- JIT finished goods putaway
- Flexible UOM tracking of raw materials and finished goods
- Visibility across entire process





Network Re-Design

- HVAC manufacturer of commercial and residential products
- Sells through a network of 6,000 independent dealers
- Service Experts run 130 company-owned service centers

Business Challenges

- Redesign of distribution network, from national to regional hub-and-spoke model
- Growth plans required improved profitability

Manhattan Solution

- **Warehouse Management, Transportation Management**
- Integrated model allows the warehouse to build shipments optimized by their TMS
- Delivery consolidation for improved trailer utilization

Benefits

- 50% increase in productivity
- Shipping accuracy increased from 98% to 99.97%
- Inventory accuracy increased from 97.53% to 99.53%
- Customer cycle times reduced
- Emergency orders now able to be serviced in minutes vs days



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MIND THE GAP

Supply chain software + Lean processes + Flexibility

Leads to

Differentiating Alignment of Production and
Distribution

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