

Logistics Impact on Industrial Development – Update 2015

Prepared By:

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IMS Worldwide, Inc.

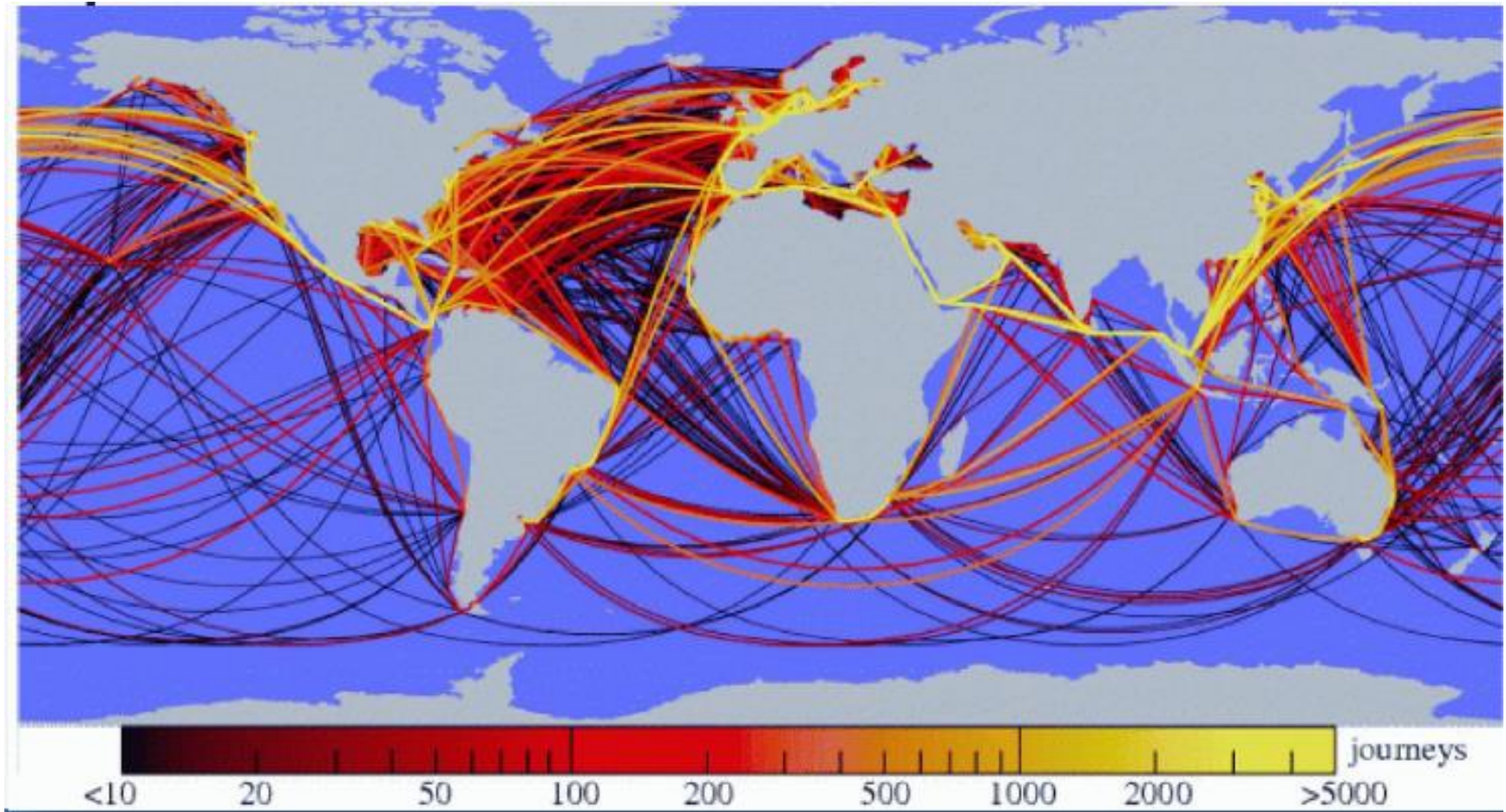


Today's Agenda

- All of you already know how Logistics Impacts Industrial Real Estate!
- This is the 2015 Refresher.
- What happened in 2014 to set us up for 2015?
 - Imports and Exports, Unions vs. Management, BIG SHIPS
 - E-Commerce, The Next Cycle
 - Re-shoring and manufacturing in North America – Continuing in Basic Robust, Manufacturing: Steel, Chemicals, Plastics, Autos, others

Imports and Exports

Global Shipping Trade Routes



2014: West Coast – East Coast Ports

- USWC port shutdown and congestion impacted the entire U.S. port system during 2014 all the way to the first quarter of 2015.
- By the end of May, the throughput of USWC ports will be back to normal.
- USWC ports reported a dismal 10–35% decline in TEU volumes during January and February of 2015 (compared to 2014 volumes). However, March numbers are reflecting the shift back to the USWC ports:
 - Port of LA reported a 17.27% TEU growth in March vs. March 2014
 - Port of LB reported a 32% TEU growth in March vs. March 2014
 - Port of Oakland reported a 8.1% growth in March vs. March 2014

2014: West Coast – East Coast Ports

- Pricing during the 2014-15 Labor unrest increased by over 100% for East Coast All Water Routes:
- But in just 60 days, the pricing has adjusted back to reflect more typical carrier rates:
 - USEC
 - January 2015 – \$4,498
 - May 2015– \$2,750
 - USWC
 - January 2015 – \$2,058
 - May 2015 – \$1,650



This is the NEW Problem

- Dockworkers, Truckers, Terminal Operators, Chassis Pools, Ports, Shippers - All of these are not ready for the Logistics Challenges of the Larger Ships
- BIG SHIPS =
 - Longer unload/load times
 - More containers on the Terminal at once
 - Twice the need for chassis, trucks, rail cars, etc., to move the containers off the docks
 - Nobody had a CLUE how this was going to work, and when added to the labor slow-downs it resulted in chaos on the West Coast!

Large Ships Impact on US Ports 2015-2020

- Bigger Ships mean less vessel – port calls per rotation
- Less vessel calls mean less Ports visited by the Major Carriers
- Ports must have 3 essential components to handle large ships:
 - Water Depth
 - Terminal Equipment Matching Ship
 - Off-Site Rail and Road enhancements.
- EC Winners: NYNJ, Charleston, Miami, Savannah
- EC Losers: Jacksonville
- WC Winners: LA/LB, Canadian Ports, Oakland (exports), Mexican Ports
- WC Losers: Portland
- WC Neutral: Seattle/Tacoma --with new joint agreement!



THE PANAMA CANAL PROBLEM!



Artist's Rendering—New Panama Canal Design 2011



GAME CHANGER POTENTIAL

Panama Canal Update: April 2015

Key Milestone with Installation of Final Gate

- The Panama Canal Authority (ACP) announced in April a key milestone: The installation of the sixteenth and final gate for the new locks on the Pacific side of the Canal (April 13th)
- ACP reports that “the Expansion is 85% complete”
- The installation process began at 12:00 PM (Panama Time) on the south end of the Canal’s Pacific locks, which connect directly to the ocean.
 - The final gate is one of the heaviest and weighs 4,232 tons, or roughly 8.5 million pounds.
 - It measures 57.6 meters wide by 10 meters long and 33 meters high.
- The installation of all eight gates on the Atlantic side of the Panama Canal was completed earlier this year on April 1.

New Panama Canal Locks



CURRENT VIEW OF NEW LOCKS – APRIL 2015







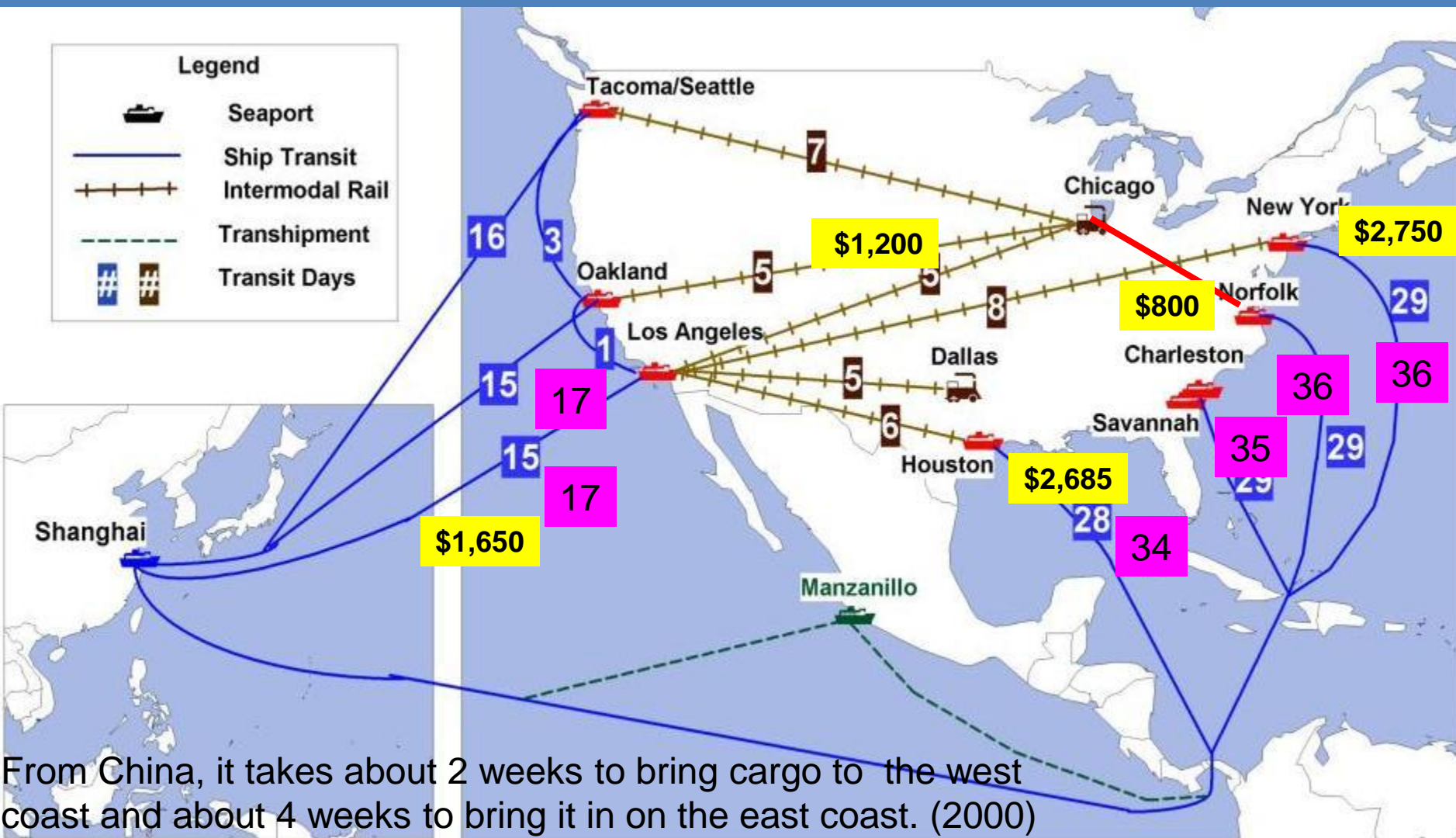
Shanghai to North American Ports: Slow Steaming Effects –2000 & 2015

Pricing as of January 5, 2015



Shanghai to North American Ports: Slow Steaming Effects –2000 & 2015

Pricing as of May 2015



E-Commerce: Driving New Industrial!

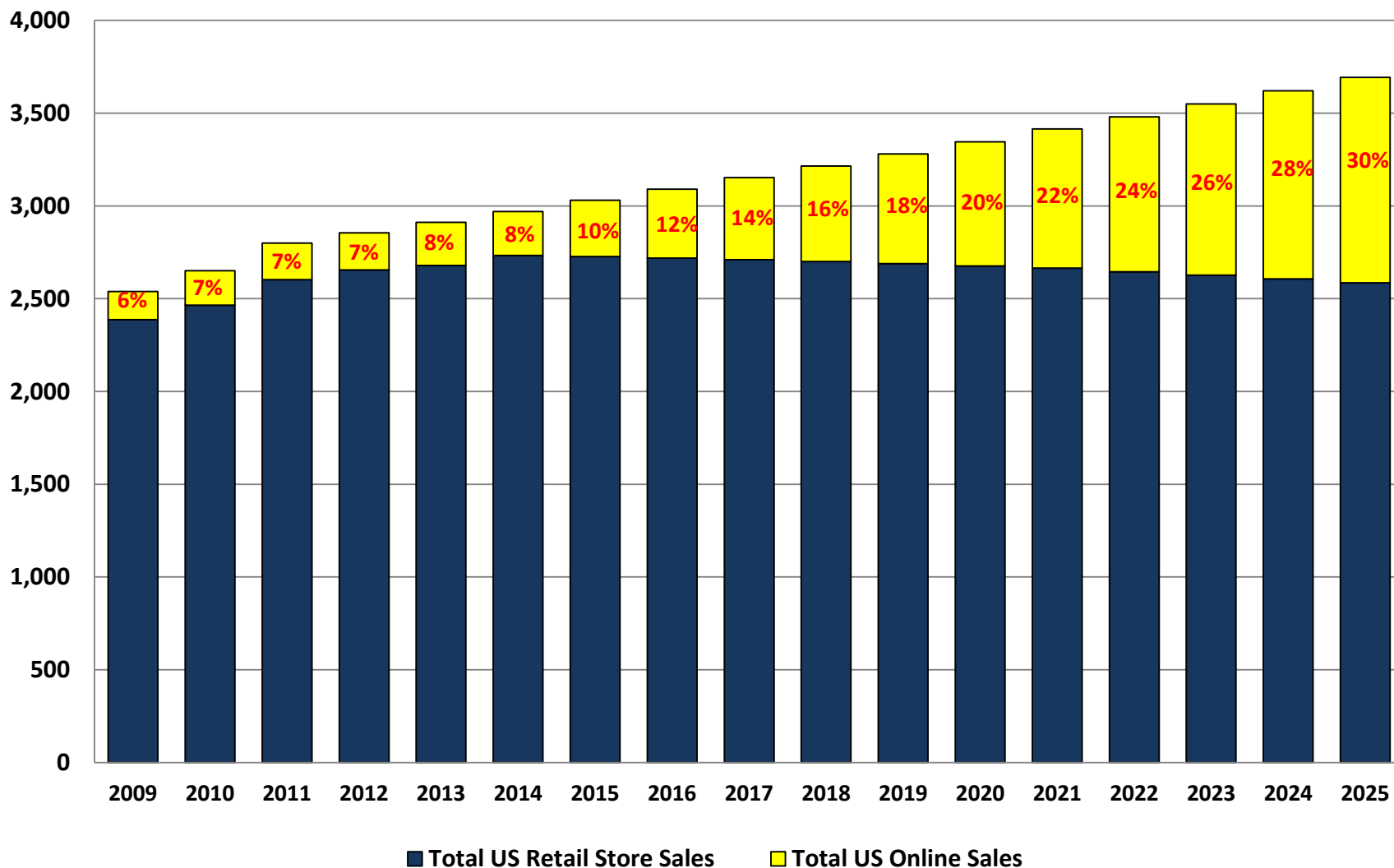
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Foreign Trade Zone, Logistics and Supply Chain Consulting



Projected Online U.S. Retail Sales as a Portion of Total US Retail Sales 2009-2025

In Billions of \$



E-Commerce Impact on Industrial

- *“**60 tenants** are currently seeking big box warehouses of one million square feet or more nationwide” JLL, January 8, 2015*
- The E-Commerce generation of industrial is **up to 5 times more labor intensive** than traditional retail/distribution: more parking, mezzanine build-outs and increased automation are some of the features difficult to retrofit to older buildings, but many can be converted. (Area Development Magazine, 2013)
- ***Alibaba**-in 2013, their T-mall shopping network reached \$240 billion-that is triple the size of eBay and twice the size of Amazon*
- ***Alipay** the online payment system handled more than three times the amount of mobile payments processed by PayPal. (WSJ, May 15, 2014)*

Ben Conwell, former Real Estate Director, Amazon.com

The historical Amazon model:

- 30 MSF of FC space absorbed since 2011
- Over 23 MSF of new “Aircraft Carrier” build-to-suit facilities, equal to and greater than 1 MSF per box
- Long term leases
- Move to 40’ clear
- Huge capital investment – by all parties
- Max out the cube through innovative technology
- The Amazon Calculus defined (limited) where these could go
- tax, labor, infrastructure, transportation, incentives etc.
- Build a Two Day network to support regional growth
- THIS was what spurred the last 4 years of Growth!

Ben Conwell, former Real Estate Director, Amazon.com

Next Phase for Amazon and the “BIGS”

Mid-sized DC/FCs seeking to locate inside the “ring of faster gratification” or SAME DAY DELIVERY

- For Amazon:
- 300k – 500k square foot facilities
- Marginally better inventory picture
- Better chance of existing product being closer to optimally configured/viable, yet substantial new product will be needed
- Non-Amazon:
 - Increasing reliance on 3PLs and delivery companies to figure out the last mile execution
 - Supporting smaller closer-in FCs with existing/future larger facilities >1 day away

Ben Conwell, former Real Estate Director, Amazon.com

Medium to large sortation centers within major urban centers to accelerate delivery and mitigate risks

- Amazon
 - Biggest operations bet of 2014 – mitigate risks of delivery providers' potential disruption: avoid 2013
 - 18 SCs online by peak carefully located to optimize impact
 - AN SC IS THE SHIPPING BAY TAKEN OUT OF THE 40 FT BOX AND SEGREGATED
 - 150k to almost 600k square feet
 - Enabled Sunday delivery with USPS, and more
 - Better control their own destiny
 - Volumes through the network year 1 were mind-blowing
 - The Model Worked!
- Non-Amazon
 - Further enhancement of 3PLs' and carriers' sortation networks
 - Not just investment within the existing footprint: better AND bigger

What are and where will we see the biggest drivers in e-commerce real estate expansion in 2015 and 2016?

- A: Huge big boxes landing well outside major metropolitan areas, i.e. *(The 2-Day proposition)*
- B: Mid-sized DC/FCs seeking to locate inside the “ring of faster gratification” *(the Next Day proposition)*
- C: Medium to large **sortation centers** (THIS IS THE SHIPPING BAY) within major urban centers to accelerate delivery and mitigate risks? *(the Hire it Out or Vertically Integrate proposition)*
- D: Small depots on every corner where the last mile really begins? *(the near Next Hour or Manhattan proposition)*

Re-Shoring & US-NA Manufacturing

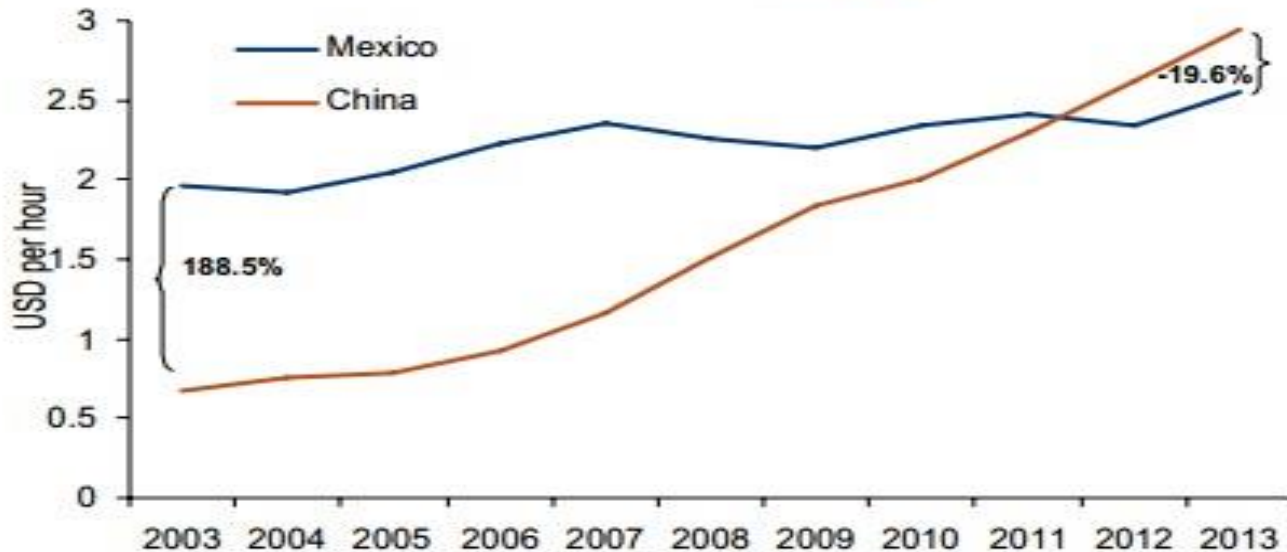
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Wage Comparison Mexico to China

Chart 1: Mexico has overturned China's hourly wages



Source: BofA Merrill Lynch Global Research, Banxico, INEGI, International Labor Organization, China NBS
Own estimates for China since 2009 and for Mexico in 2013

According to studies performed by HSBC Global Research:

- Given growing exports, HSBC expects Mexico to displace China as the top U.S. trading partner **by 2018**.
- Mexico's fully loaded manufacturing salaries registered US\$2.10 per hour in 2011 up from US\$1.72 in 2001, a 19% increase. In contrast, China had an average wage at US\$1.63 in 2011 from US\$0.35 in 2001. The increase has been almost fourfold.

Foreign Direct Investment (FDI) in Mexico

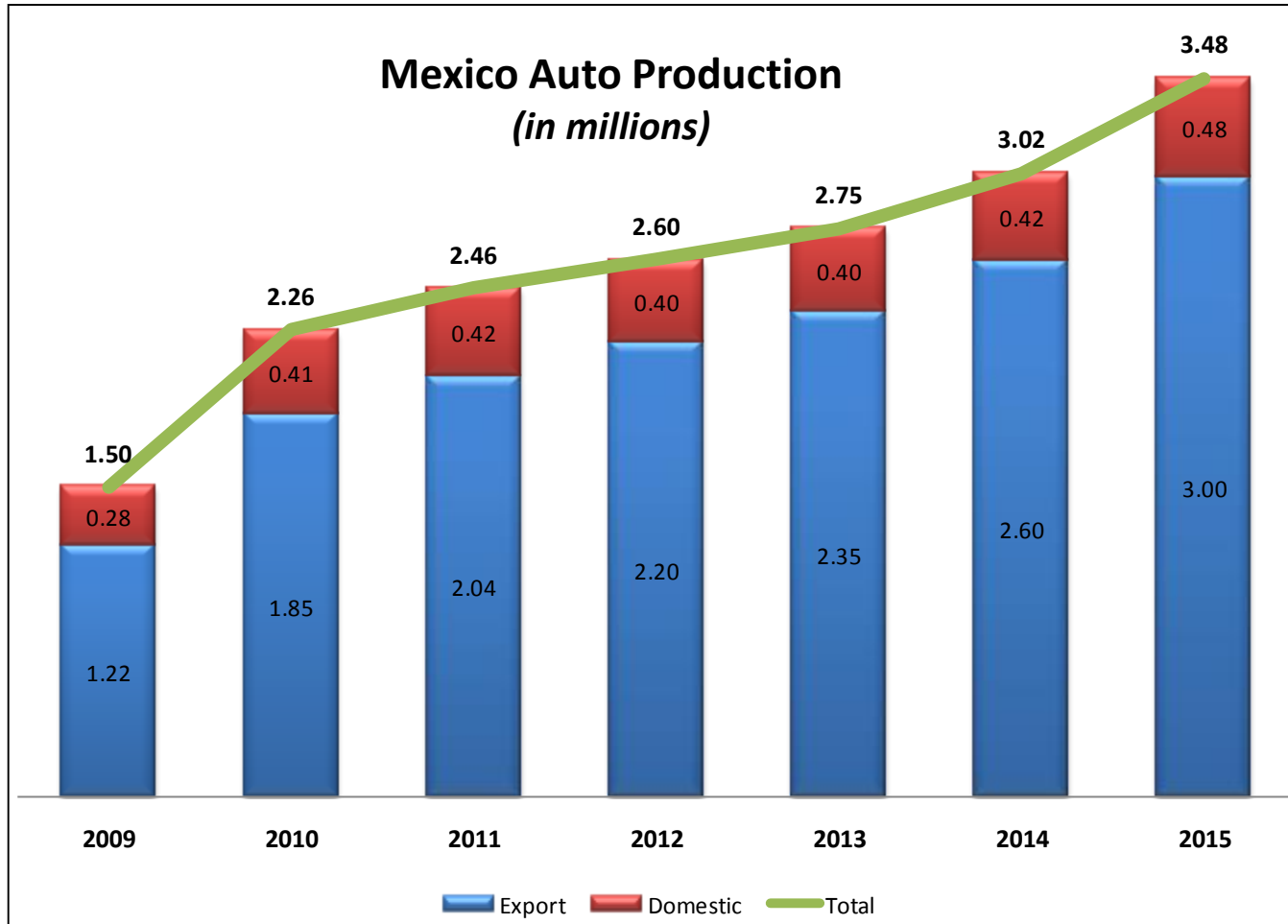
- Foreign Direct Investments in Mexico in 2011 reached **approximately \$19.5 billion dollars**:
 - New Investments: \$8 B*
 - Reinvestments: \$7.4 B*
 - Exchange of Investment: \$3.8 B*
- From 2007 to 2011, FDI in Mexico has totaled more than \$113 billion dollars**
- 2011 Investments focus on:
Manufacturing, Finance, Retail, Aerospace, Automotive, Appliances & Wind Energy

2011 Major FDI Projects



SOURCE: ProMexico and Secretaria de Economia de Mexico

By 2015, Mexico's Auto Production Will Increase by 1 Million Units



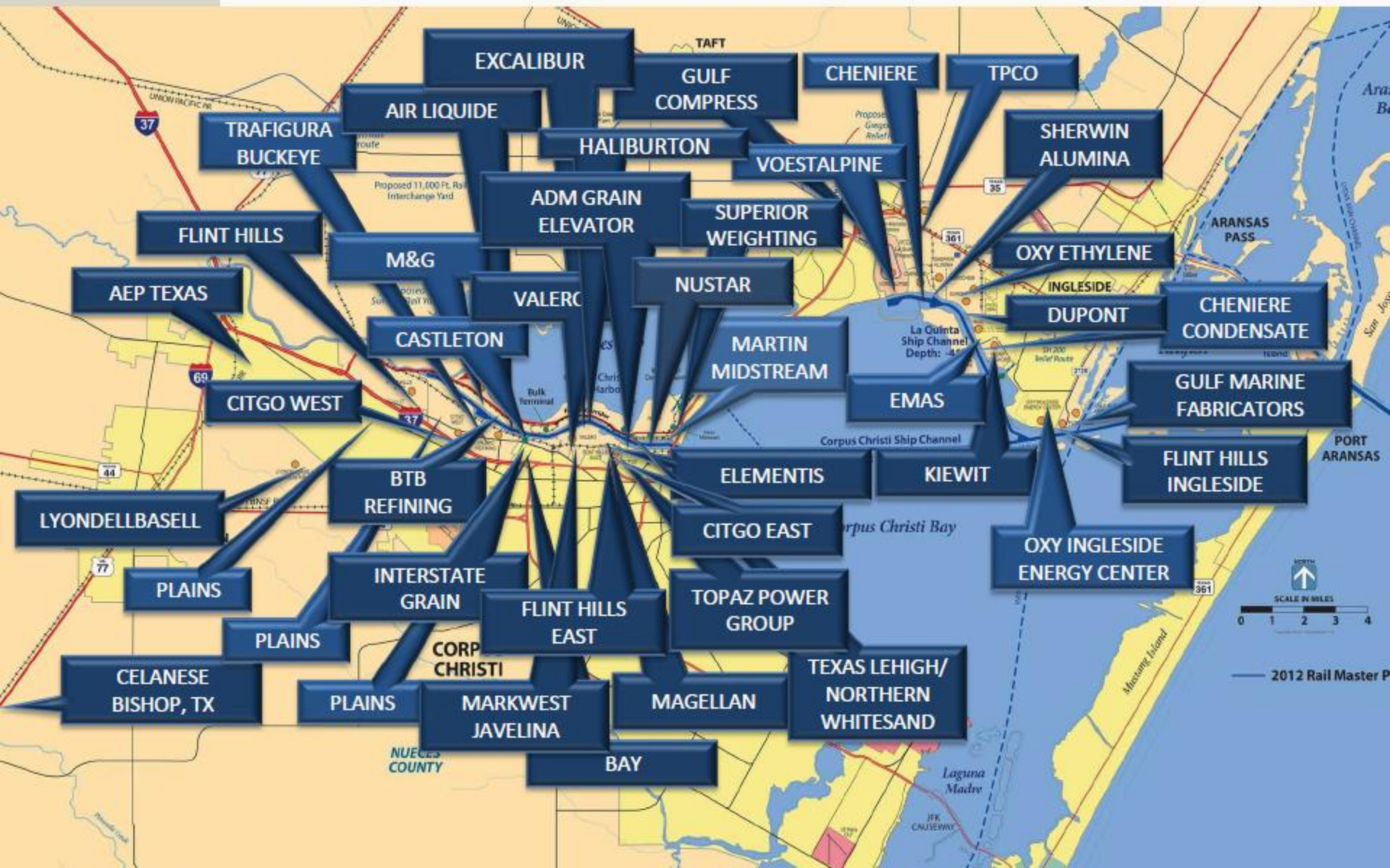
*Forecast 2011-2015, from WWL analysis and latest Global Insight projections.

SOURCE: Wallenius & Wilhelmsen Logistics



GLOBAL DIVERSITY

\$35 Billion New Investment



Shale, Resin and Plastics - 2015

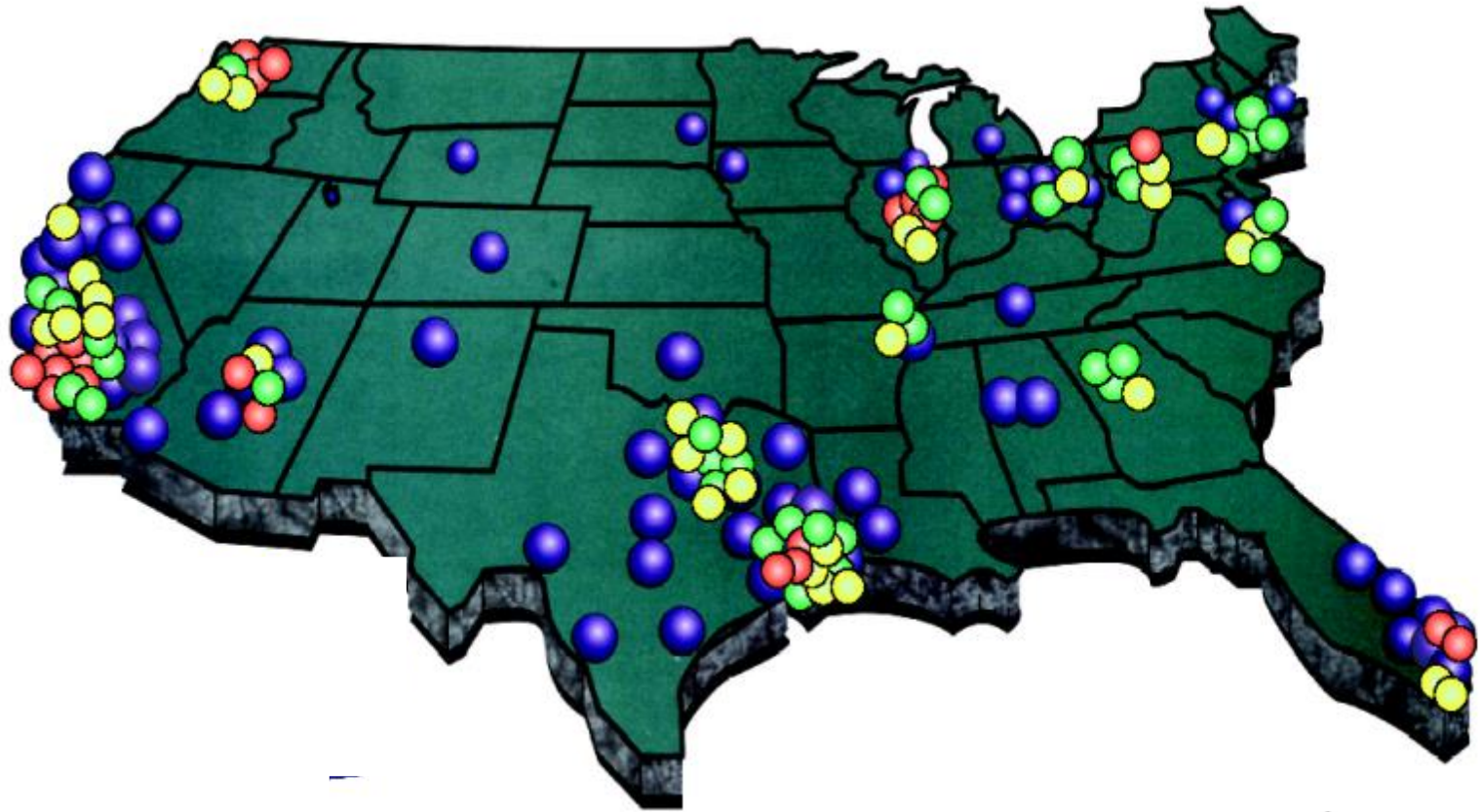
- 225 new Plants or expansions in petrochemical processing – 75% in the Gulf Coast
- Cumulative capital investments totaling \$138.0 billion in the United States
- By 2020, the cumulative impact will boost real GDP by 2.0% to 3.3%
- Creating from 2.7 million to as high as 3.6 million new jobs
- 62% of this investment is foreign direct investment
- 22 Billion pounds of PP/PE new production coming by 2020

Source: American Chemistry Council

How Much Resin?

- 22 Billion Lbs/Yr MORE than we produce today of just Poly Ethylene
- 30% will be Exported- SO- Just for Exports....
- That is 107,300 more Resin rail cars
- That is 23,800 more SIT storage spaces in Greater Harris County
- That is 400,000 more container loads/year
- Packaged in 40 Million SF more warehouses

IMSW Overview of 300+ National FTZ and Strategic Development Projects 1977-2015





Leaders in FTZ Consulting, E-Commerce, Logistics

*FJ Spencer, Founder
International Management Services*



*Curtis D. Spencer, President
IMS Worldwide, Inc.*

Mr. F.J. Spencer was the Founder of IMS Worldwide, Inc. (IMSW), which started in 1967.

Mr. F.J. Spencer earned 3 Petrochemical and Masters Degrees which led to his Patent for the Manufacturing of Plastics Resins. That Patent is still used today in modern Plastics Manufacturing Today.

Mr. Spencer was a featured speaker, and had command of 9 Languages.

Mr. Spencer grew the IMS companies as he created new types of FTZs across the USA and Internationally. He paved the way for the first:

- US Mainland Refineries in FTZs
- Private Land-Owners in FTZs
- Multi-Site FTZs
- First Automated FTZ which became the beta-test site for Customs re-write of their FTZ regulations.

Mr. Curtis D. Spencer is the President of IMS Worldwide, Inc., covering:

- Logistics and intermodal shipping trends, ports, inland ports and rail-served logistics centers,
- The development and utilization of Foreign-Trade Zones

Mr. Spencer is featured as a speaker at more than 55 national conferences and workshops each year, and has been published in ***The Journal of Commerce, Pacific Shipper, Inbound Logistics*** and a Keynote Speaker for : IWLA, RILA, JOC (TPM & Inland Ports Logistics), ULI, NAIOP, SIOR, AAEL, NAFTAZ, AAAE, IEDC, CSCMP, WERC and ICSC.

IMS Worldwide is the leading consulting firm for developers and real estate trusts who seek his guidance as it relates to property value, port efficiencies and site selection differentiators.

Thank You!



QUESTIONS?



MAY 14 2015

Drivers of Global Growth

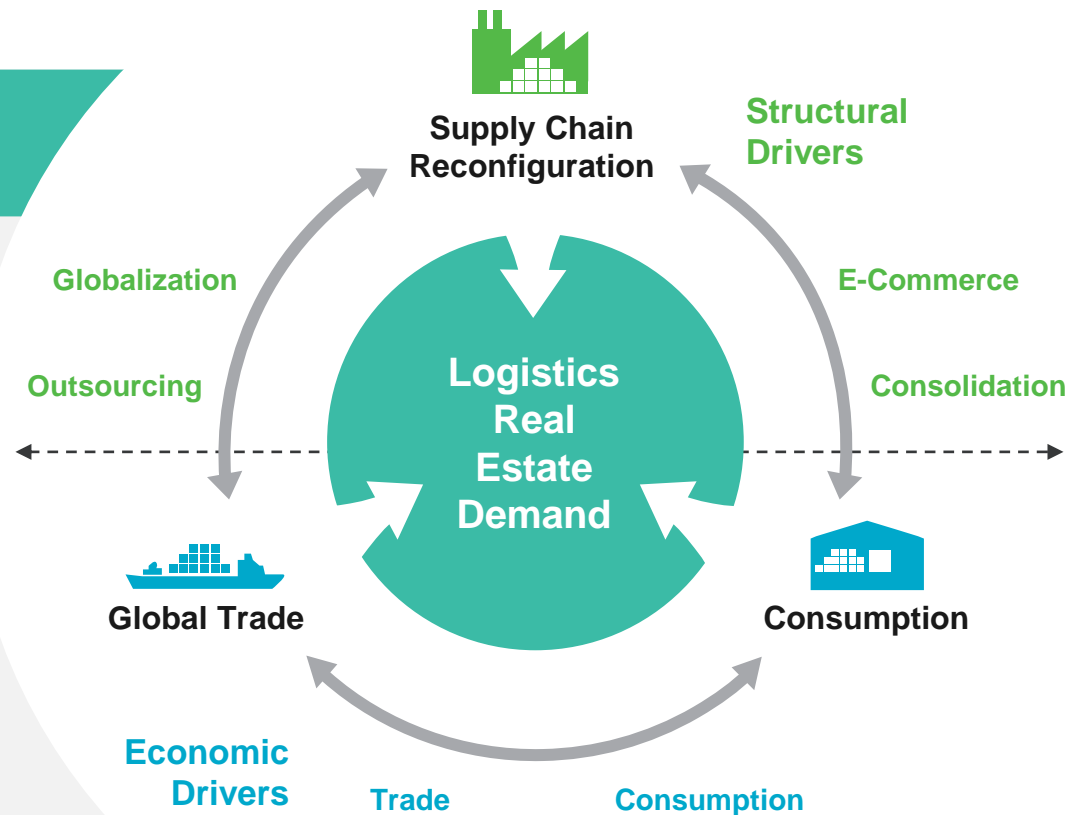


JEREMY GILES President, Central Region

What drives demand for logistics real estate?

Logistics real estate has structural and cyclical drivers

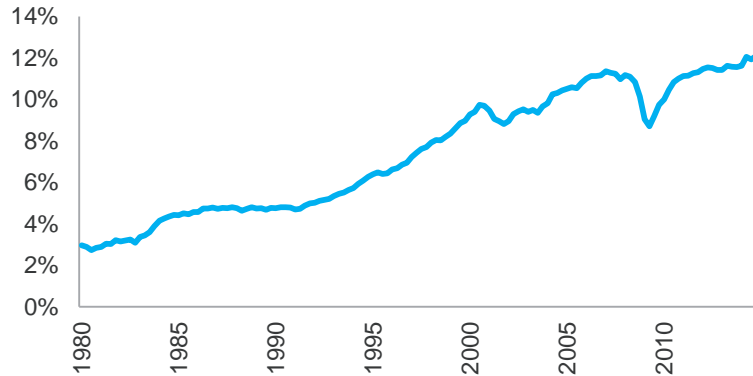
- **Structural drivers**, such as the reconfiguration of supply chains, create steady demand as customers upgrade to institutional-grade facilities, even during times of economic weakness
- **Cyclical drivers**, such as global trade and consumption, create new requirements and a growth-oriented environment



Macro & Mega Trends Driving Logistics

Globalization

Trade to continue growing at a multiple of GDP

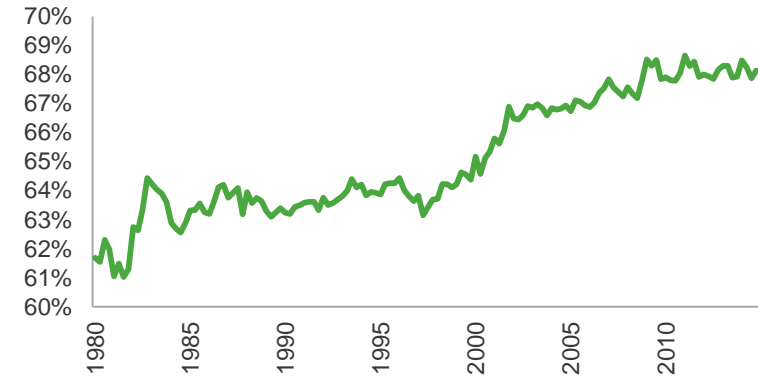


Trade as a % of economic activity, U.S.

Source: U.S. Bureau of Economic Analysis, Prologis Research

Consumption

Affluence in emerging markets drives sizable consumer classes, requiring new facilities

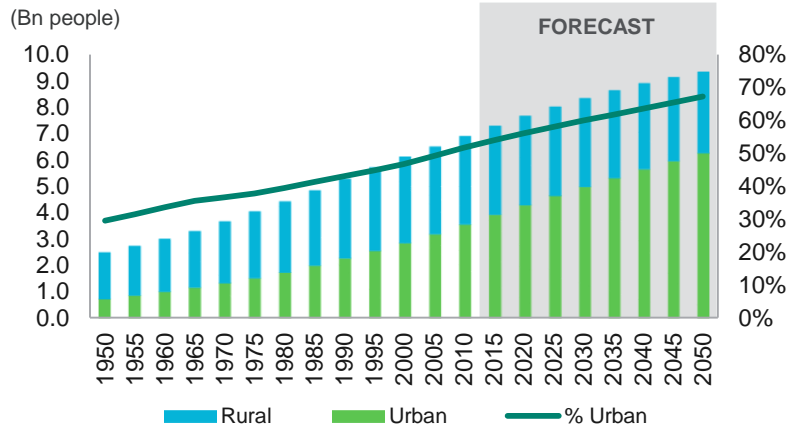


Consumption as a % of economic activity, U.S.

Source: U.S. Bureau of Economic Analysis, Prologis Research

Urbanization

Customers locating within/adjacent to population centers; higher barriers to entry

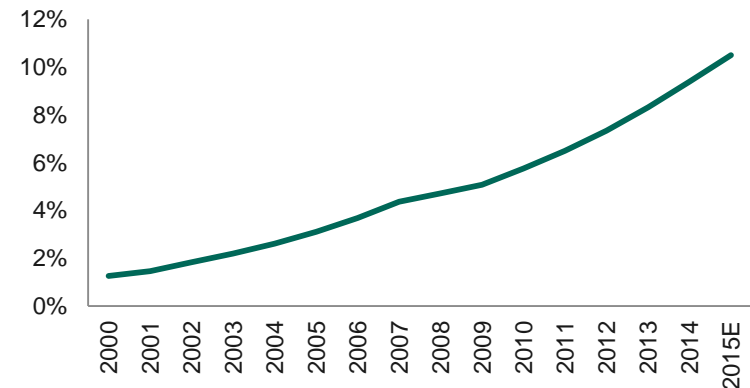


Growth in urban as a % of total World population

Source: United Nations

Shifting Retail Formats

Omni-channel and e-commerce emphasize sophisticated supply chains



E-commerce as a % of store-based retail, U.S.

Source: Goldman Sachs

Intensive Users of Logistics Facilities

- E-commerce customers need more logistics space for a given level of retail sales than comparable brick-and-mortar only retailers
- Space-intensive e-commerce needs include:
 - Higher product variety
 - Greater inventory levels
 - Individual B2C shipping
 - Reverse logistics (returns processing)
- More than 10% new leasing is driven by e-commerce today, up from less than 5% three years ago
- E-commerce is raising the growth rate of the logistics industry

How Much Real Estate Does a \$1B Retailer Need?

Brick and Mortar Real Estate

Footprint: 2.8 MSF

Retail: 2,500,000 SF



Logistics: 325,000 SF

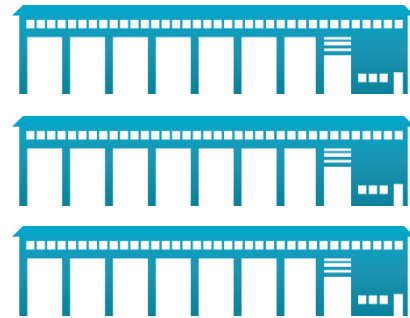


E-Commerce Real Estate

Footprint: 1.0 MSF

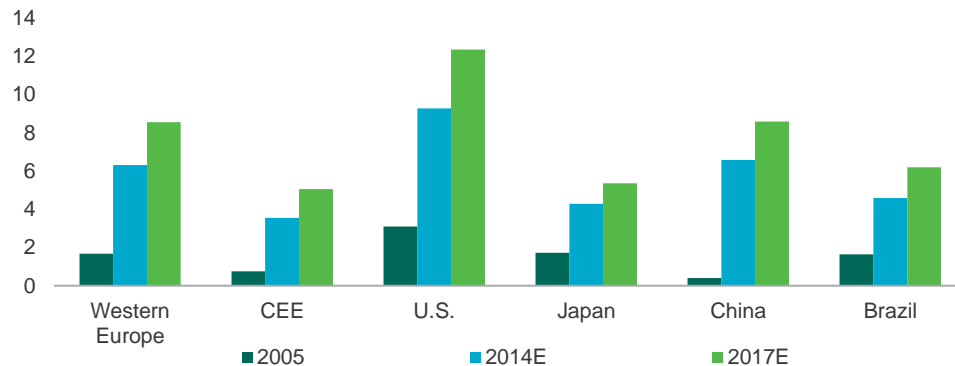
~~Retail: 0 SF~~

Logistics: 1,000,000 SF



E-commerce Share by Region

(% of store-based retail)

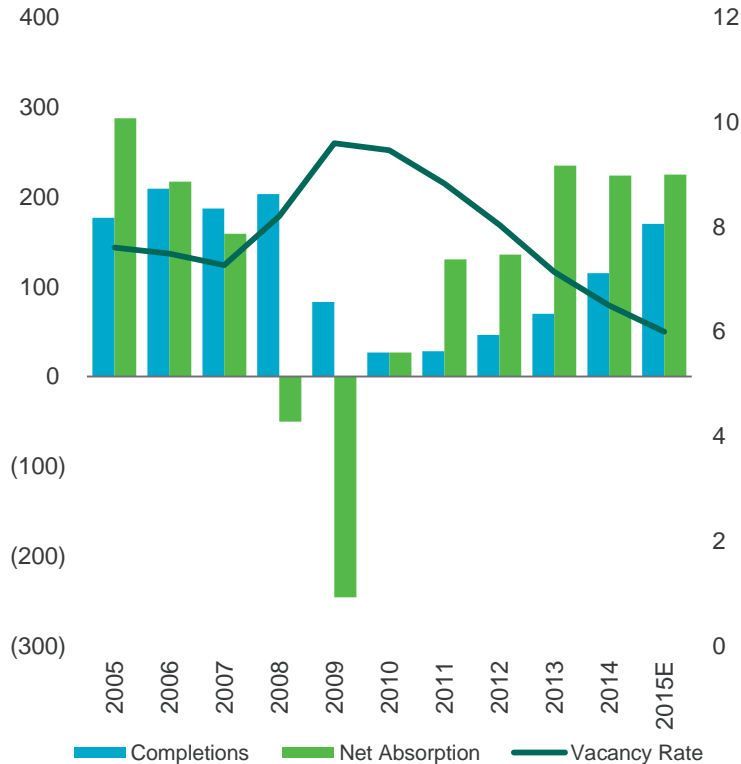


U.S. Logistics Real Estate Fundamentals

Logistics Market Fundamentals, U.S.

(sf, in millions)

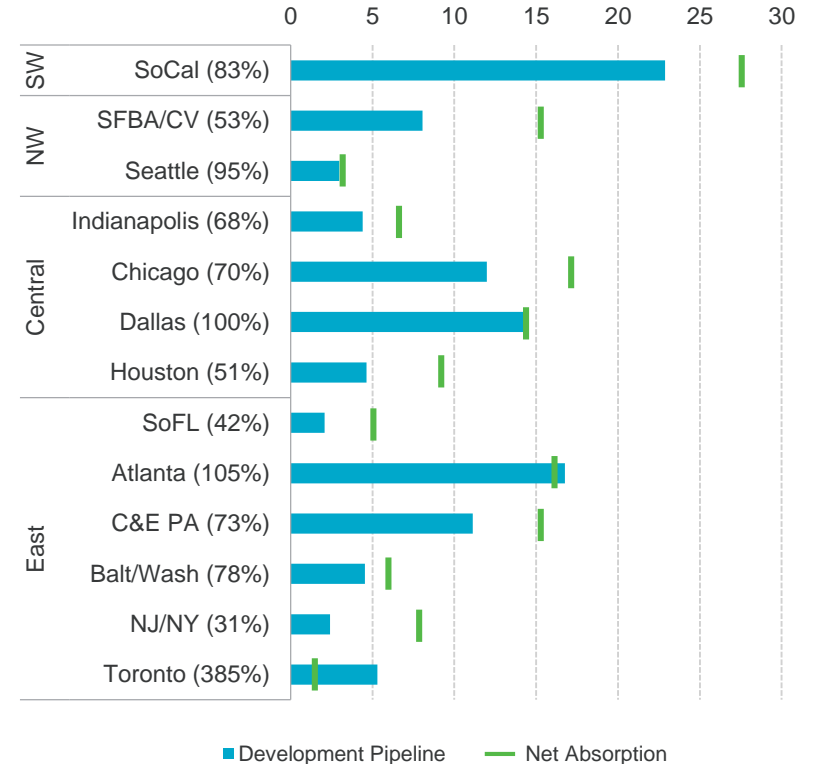
(vacancy rate, %)



Source: CBRE (historical), Prologis Research (forecast)

Supply Pipeline vs. Demand by Market

(sf in millions and %⁽¹⁾)



Source: CBRE, JLL, Cushman & Wakefield, Colliers, Prologis Research

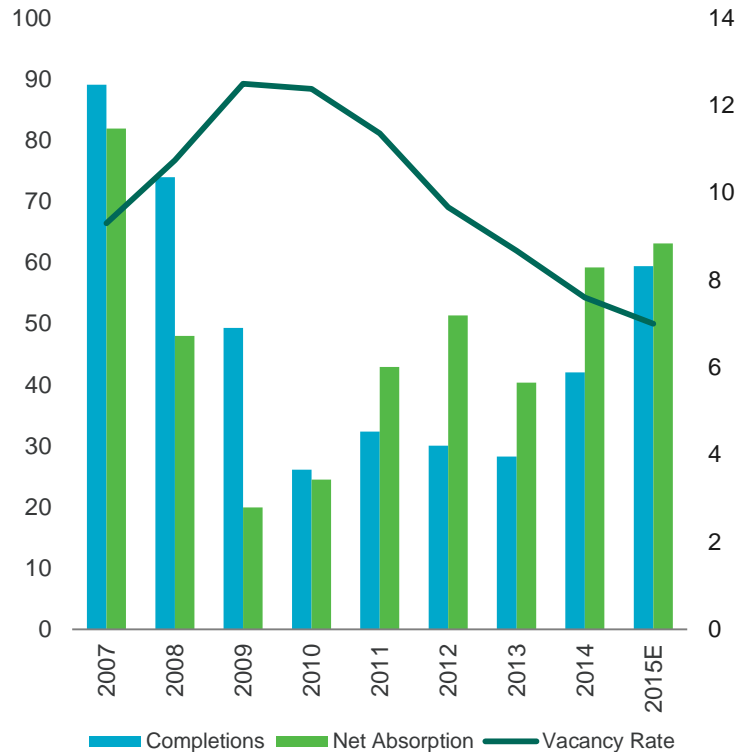
1. The percentages within the axis labels are market-level development pipeline as a proportion of trailing net absorption

Europe Logistics Real Estate Fundamentals

Logistics Market Fundamentals, Europe

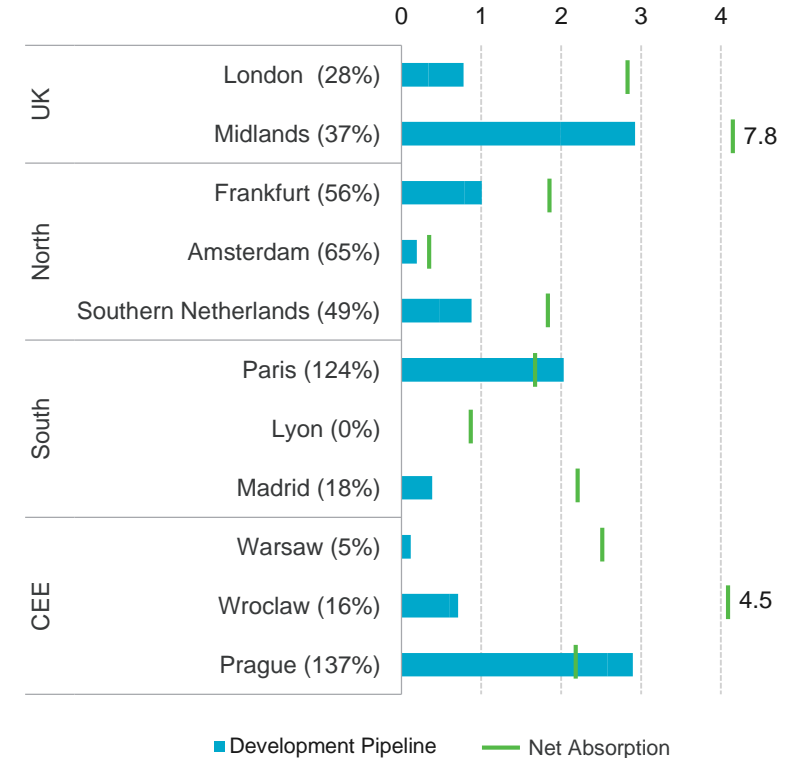
(sf, in millions)

(vacancy rate, %)



Supply Pipeline vs. Demand by Market

(sf, in millions and %⁽¹⁾)


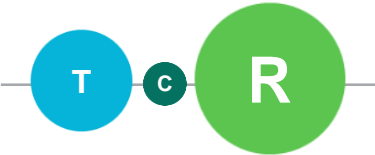
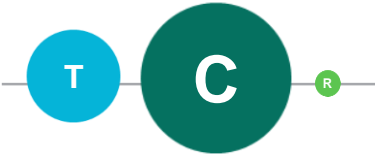


Source: CBRE, JLL, DTZ, Gerald Eve, Prologis Research
Note: Based on 48 largest European logistics markets

Source: CBRE, JLL, DTZ, Gerald Eve, Prologis Research.

1. The percentages within the axis labels are market-level development pipeline as a proportion of trailing net absorption

Logistics Real Estate Demand Drivers by Region

	Demand Drivers	Economy	Supply Chain
U.S., Canada		Mature	Developed
Japan, Europe		Mature	Underdeveloped
China, Brazil, Mexico		Emerging	Underdeveloped



Global Trade

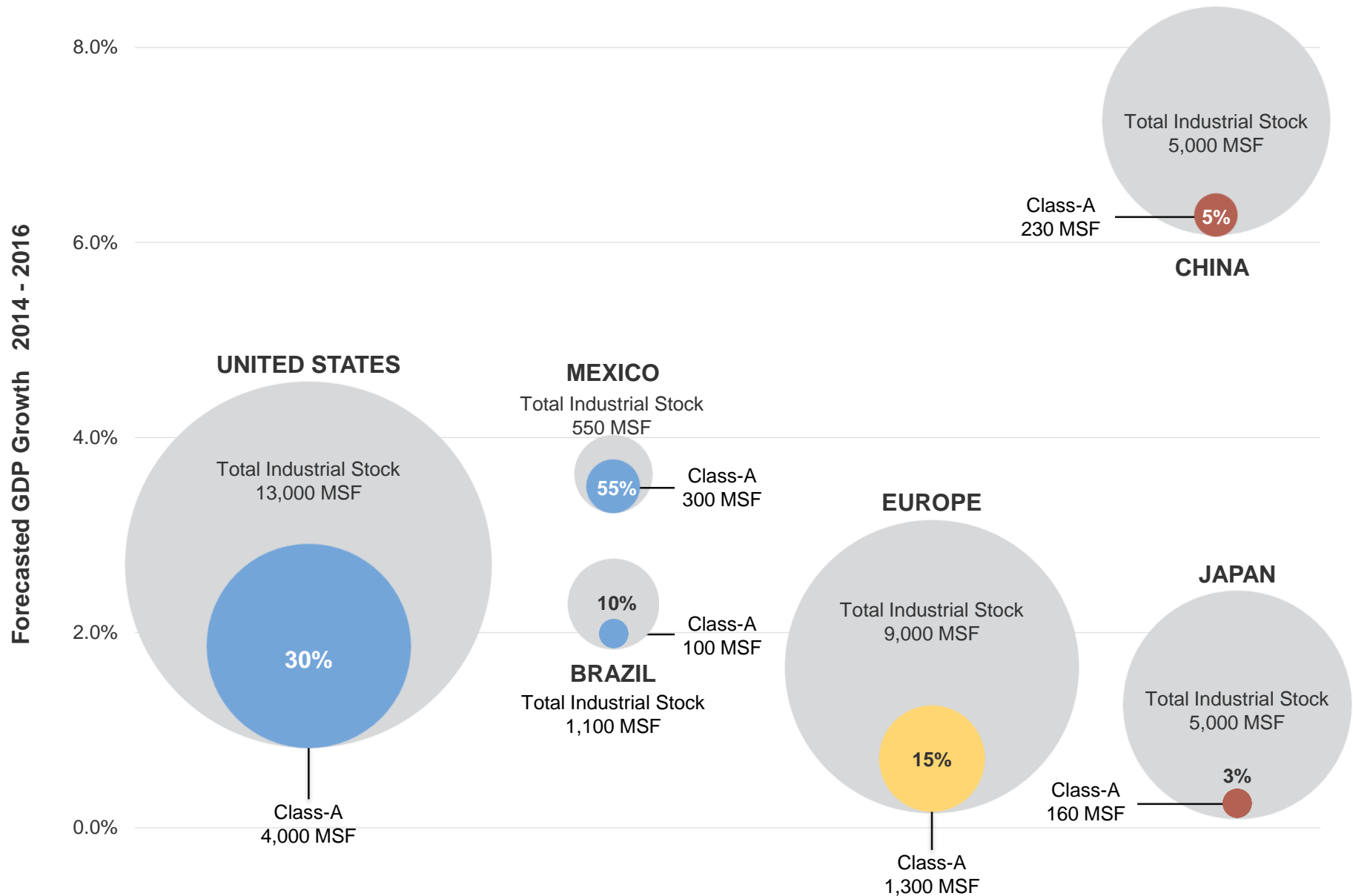


Consumption

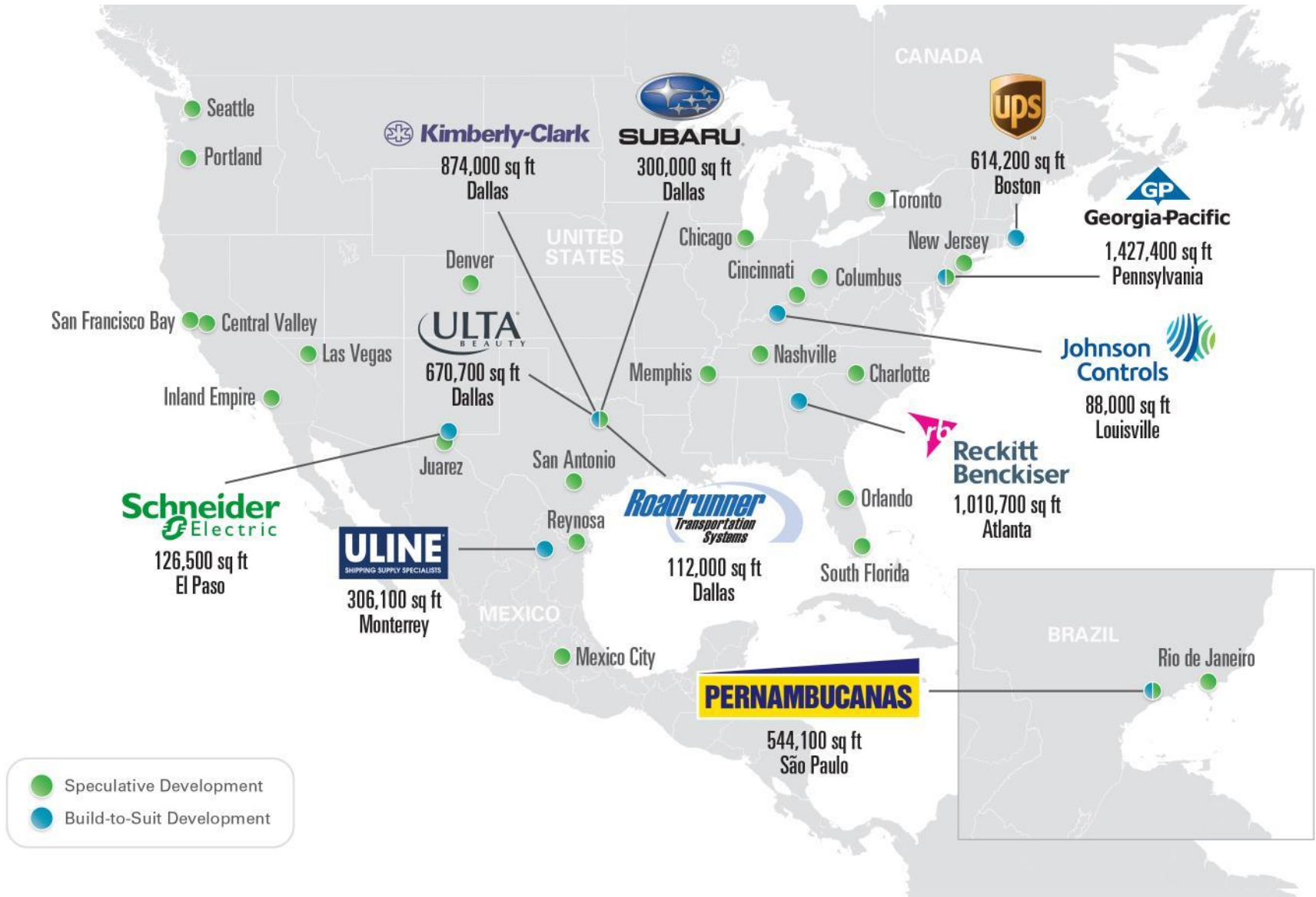


Reconfiguration

Infiltration of Class-A Stock



Current 2015 Development Underway





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