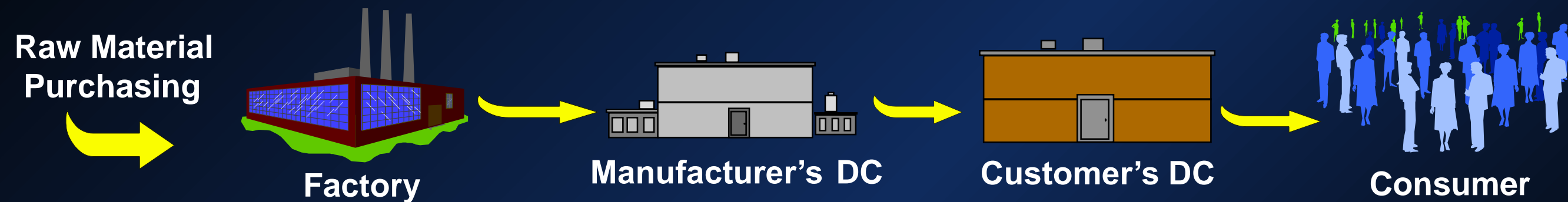


# *Council of Supply Chain Management Professionals*

*October 9, 2018*



## *HPCLC FALL 2018 CONFERENCE*

**Rick D. Blasgen**  
**President & CEO**  
**CSCMP**

# *A Professional Association Evolution and Relevancy*

SCOPE, SCALE, IMPACT

2004



*Council of Supply Chain Management Professionals*

1985



*Council of Logistics Management*

1963



*National Council of Physical Distribution Management*

# ***CSCMP – What You can Experience!***

**EDUCATION**

**CAREER  
RESOURCES**

**CONNECTIONS**

**NETWORKING**

**RESEARCH**

CSCMP'S ANNUAL  
**STATE OF LOGISTICS REPORT**

AUTHORED BY *ATKearney*

PRESENTED BY



Rental | Leasing | Logistics



State of Logistics Report 2018

# CSCMP Steep Grade Ahead

June 19, 2018

US freight transportation system is a vast, complex network of almost **seven million miles** of highways and local roads, railways, navigable waterways, and pipelines.



# Underinvestment in the Freight System

To compete in the



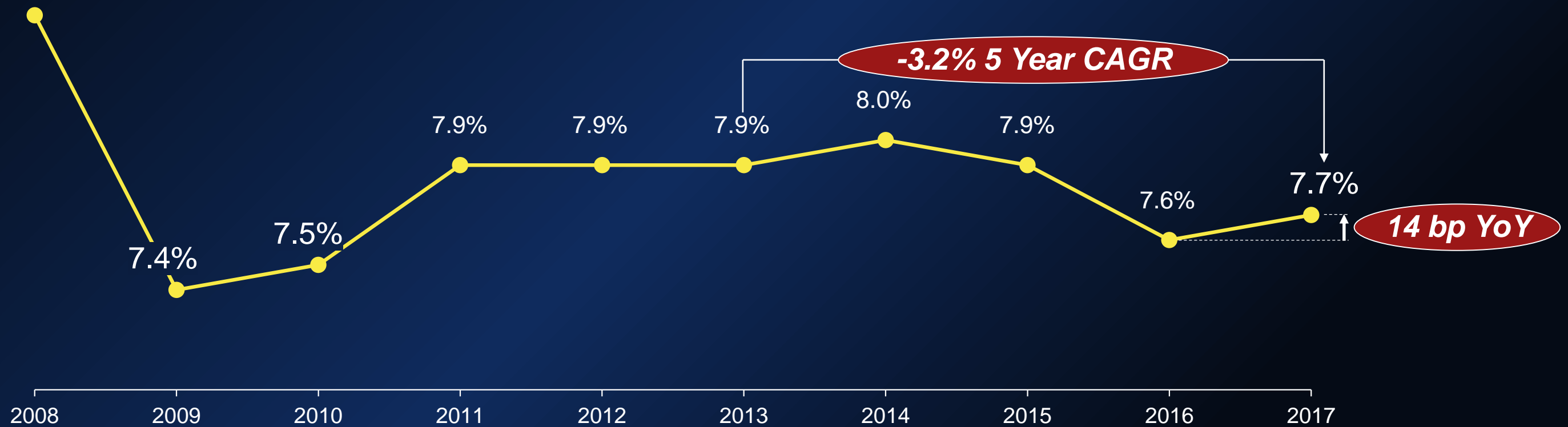


# US Business Logistics Costs (USBLC) increased by 6.2% to ~ \$1.5 trillion

## USBLC as percent of nominal GDP

\$ billion

% of nominal GDP



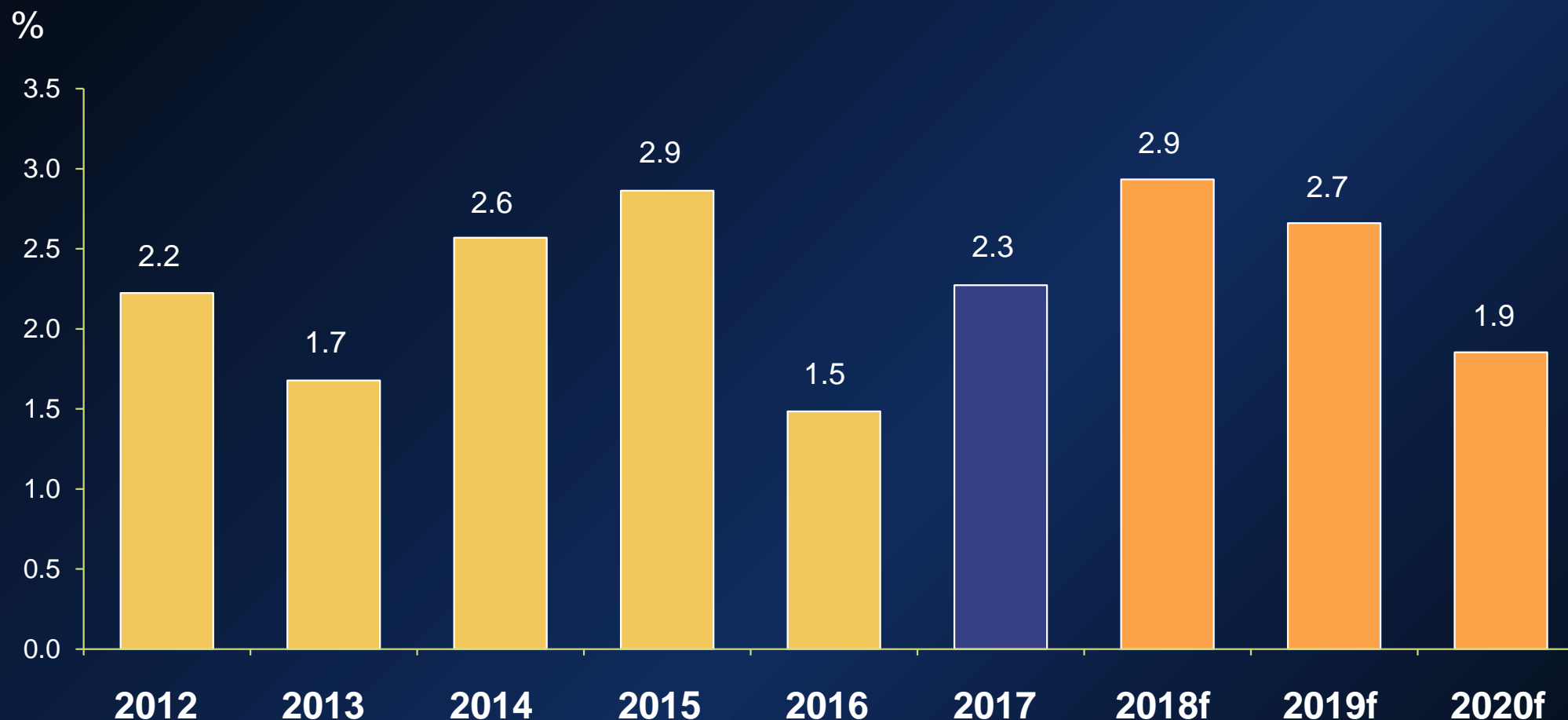
Note 2016 number has been revised up by 10 basis points



# Macroeconomics: Robust in near term

## US economic growth rates to hover around 2.5%

Real US GDP growth



- At 3.2% the global economy continued to register modest growth, while the US economy grew by 2.3 % in 2017
- Consumer spending, the main driver of logistics activity, grew 4.5% in 2017
- Consumer confidence hit a 5 year high in late 2017 and remained elevated
- Oil prices hovered around \$50 per barrel in 2017
- Fed monetary policy will seek to balance growth and inflation risk



# After 3 years of stability, inventory levels increase 3.9% to ~\$2.6 trillion

## Total US private inventories

\$ billion



Note: Total US private inventories includes manufacturing, retail, and wholesale and represents stock or goods available for sale. Annual numbers are the yearly average.  
Source: Bureau of Economic Analysis

# Highways...



- *8,420,589 lane miles, 46,630 Interstate highway miles*
- *3,014,116 million vehicle miles traveled (VMT)*
- *599,766 road bridges*

# *Transit...*



- *7,700 public transit agencies*
- *53,353 million passenger miles on public transit*



# Motor carriers: Truck tonnage up 4.2%, with acceleration in back-half of the year

## Truck Tonnage Index

Seasonally adjusted monthly values (2015 [index year]= 100)





# In 2017 dry van spot market rates leapt 30%

Dry van spot market rates by week



- Prices soared in 2017: spot market (up to 30%) and contract rates (up to 15%)
- Carriers largely responded by purging their least profitable customers and ordering record numbers of new assets
- Variety of tactics deployed to soften the blow: researching dedicated models, operational improvements and freight efficiency initiatives
- Load-truck ratio peaked in 2017, as manufacturing activity peaked

Note: Includes fuel.  
Source: Truckstop.com

***Emerging (Emerged?)  
Supply Chain Trend***

**Collaboration**

# *Emerging (Emerged?) Supply Chain Trend*

**Collaboration** – “To cooperate with an enemy that has invaded your country”







# *Commuter Rail*



- *599 million rail miles traveled*

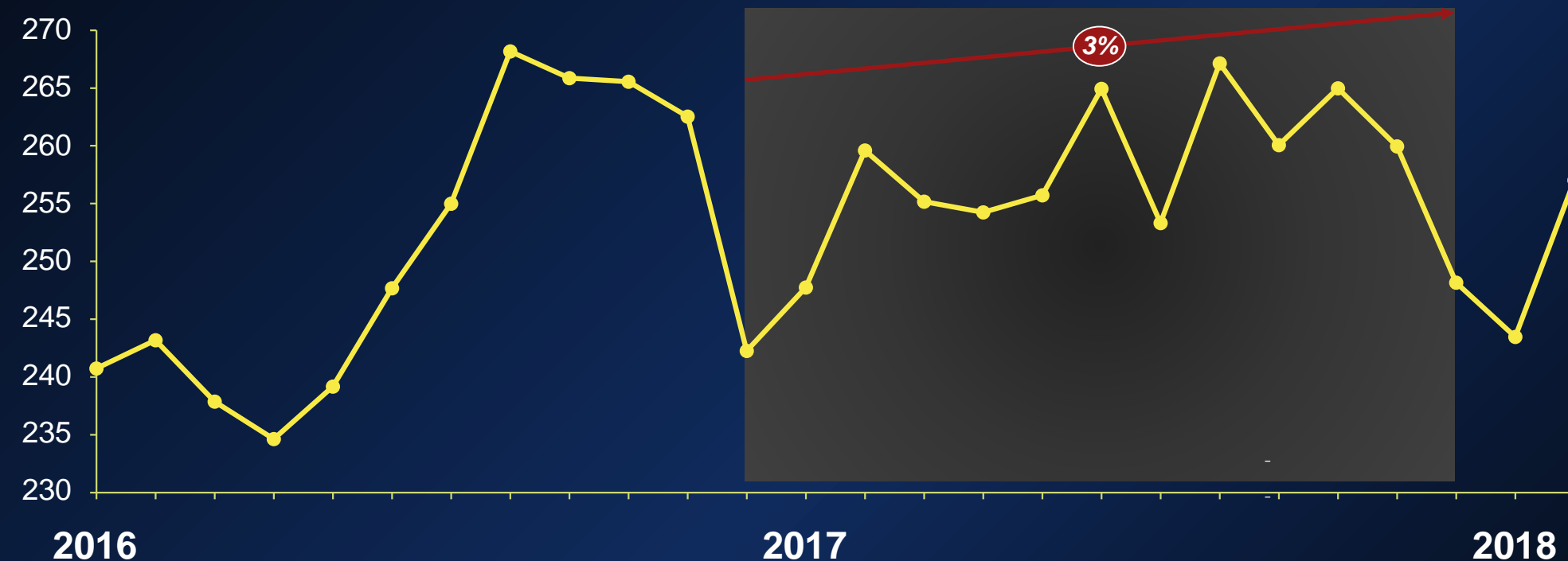


# Rail: In 2017 carloads rose 3% to 3.1 million

**For the first half of 2017, carloads trended higher than 2016; 2018 is following a similar trend**

**US Class I rail traffic**

Thousand carloads



- Much of the gain was on strong demand for intermodal
- Operating ratios continued to decline as railroads cut headcount, optimized asset utilization and rolling stock inventory, and increased train speeds and lengths
- Coal shipments for domestic utilities stabilized after years of considerable declines
- Increased demand and precision railroading triggered a rise in complaints

# *Air...*



- *5,202 public use airports*

# Airfreight: Need for speed drove volumes and prices up

**Drewry East-West Average rate**  
\$ per kilo



- Air freight volumes rose 9% in 2017 due to surging demand for ultra-fast shipments while the prices rose 4%
- The increases came mostly in Q4
- IATA forecasts 4.9% growth between 2018-2022
- Although we expect the pace of modernization and digitization to accelerate, we don't foresee short-term digital disruption

Note: Index shows average of all-in airfreight buy rates paid by forwarders to airlines for standard deferred airport-to-airport airfreight services.  
Source: Drewry's Sea & Air Shipper Insight

# *Water...*



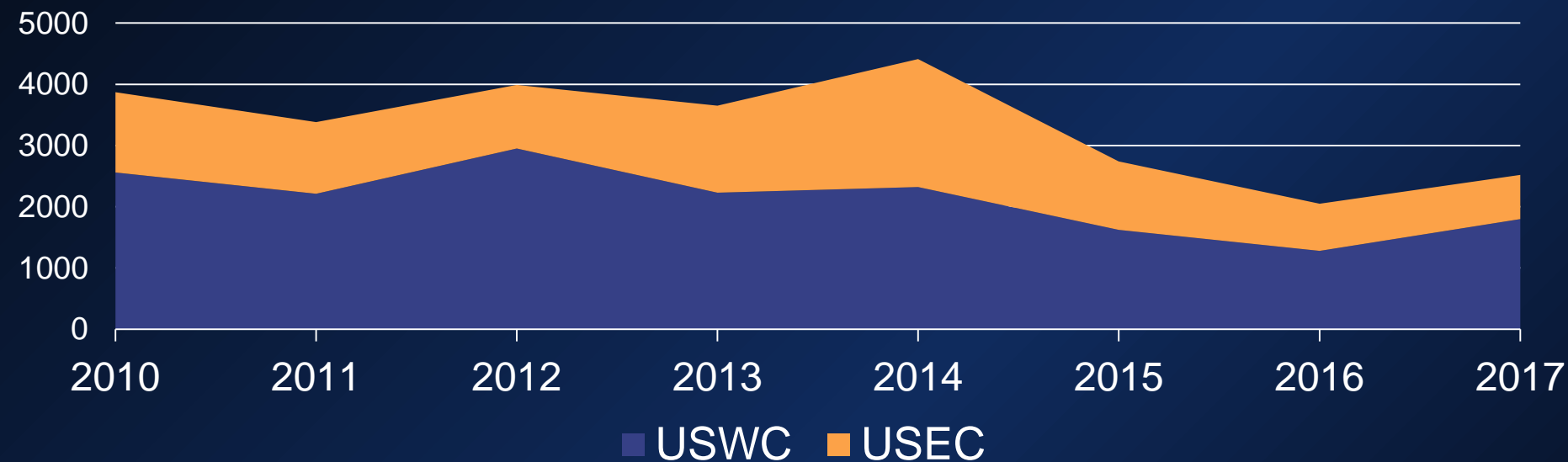
- *360 commercial sea and river ports*
- *9,627 miles of inland waterways*



# Water and ports: a stormy year

## The spread between East and West Coast rates has been declining

\$1,000 per FEU (Forty Foot Equivalent Unit)



- East and Gulf Coast ports' volume growth of 7.9% outstripped a 1.3% rise on the West Coast
- Shippers took advantage of lax pricing discipline to negotiate 2018 contracts at or below last year's rates
- Over 2018, fundamentals are expected to be more or less balanced with rising fuel prices increasing costs for shippers
- Ultimately, capacity and pricing discipline will determine whether carriers or shippers benefit more from the strong global economy

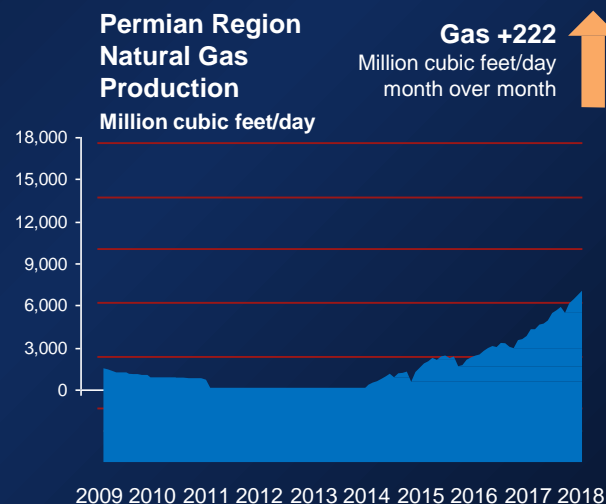
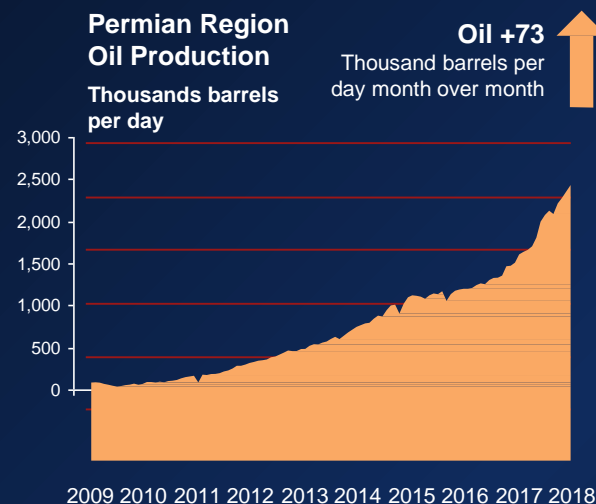
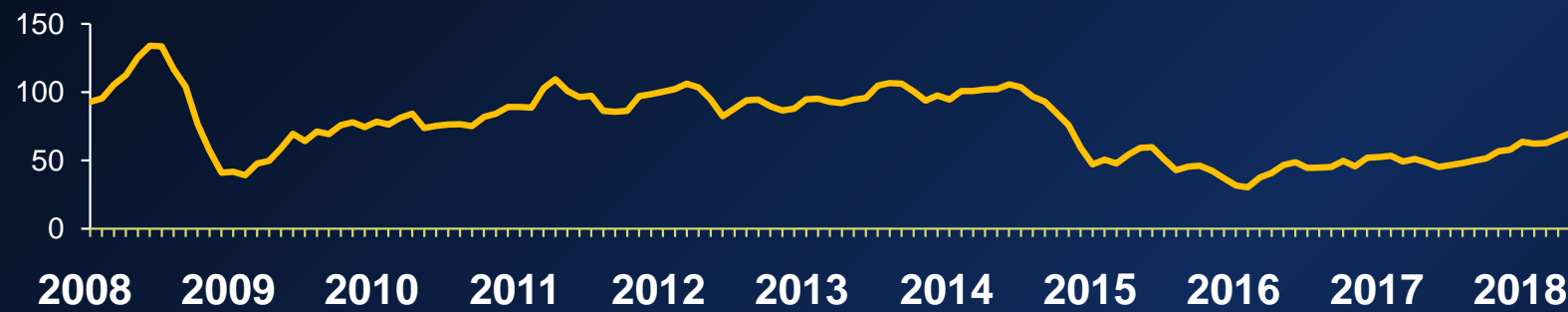


# Pipeline: Capacity shortages attract new players

WTI crude prices started increasing in 2017, a continued trend into 2018

## WTI crude prices

\$ per barrel, constant 2017



- Strong demand and capacity shortages attracted new capital
- Private equity firms are among the leading investors in new infrastructure projects
- The Permian Region accounted for more than 80% of production increases in 2017

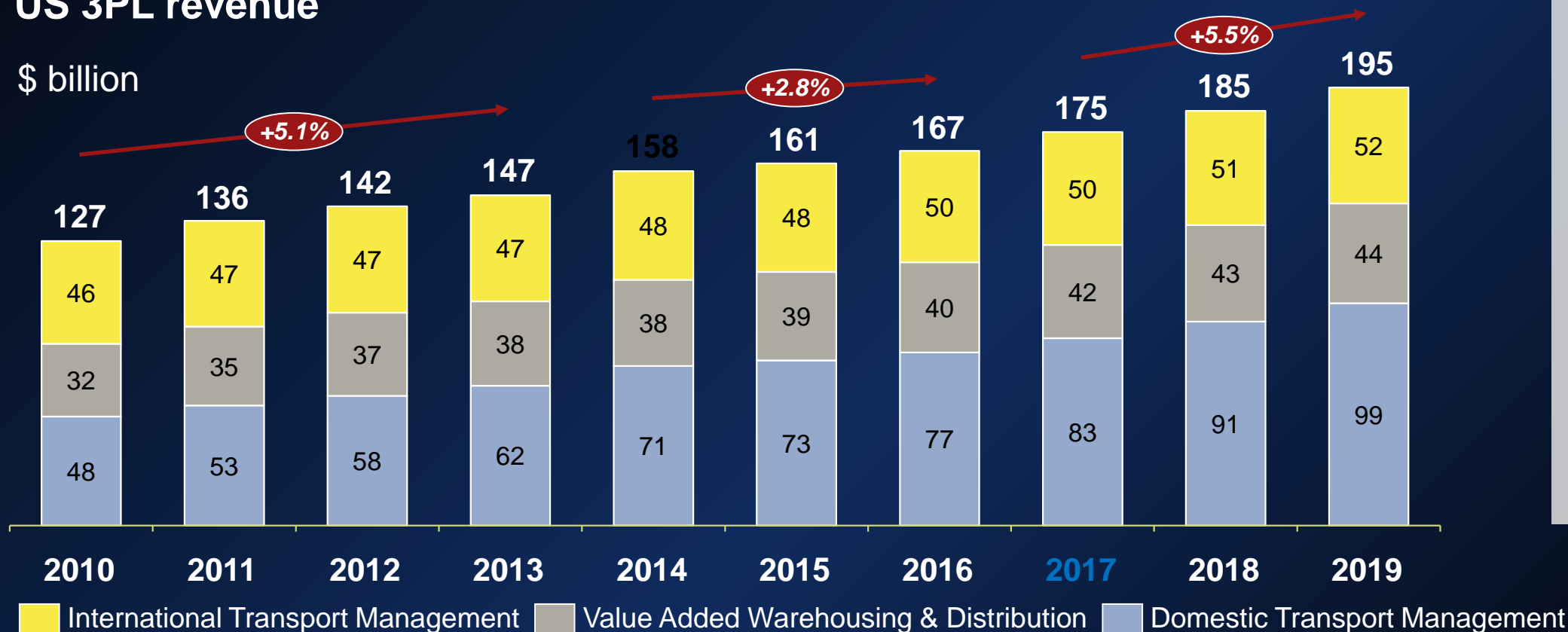


# Third-party logistics: Capacity pressures intensify

The US 3PL is poised for 5.5% growth after 2016  
acquisitions

## US 3PL revenue

\$ billion



- Market is expected to grow 5.5% between 2017-19
- Shipper-3PL interactions continue to focus on short term cost-cutting, while mutual mistrust prevents them from forging long-term strategic partnerships
- Technologies underpinning the Fourth Industrial Revolution hold the key to enable such partnerships

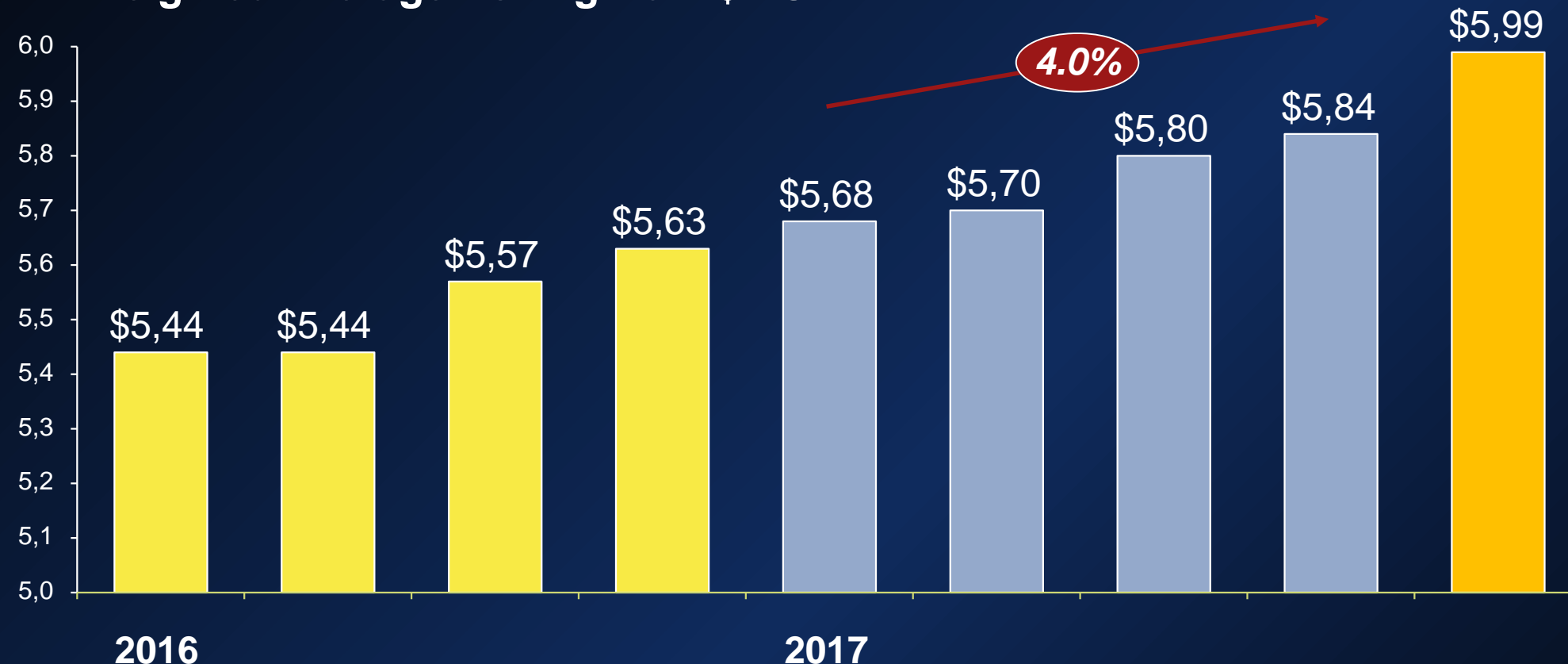
Note: 3PL is third-party logistics provider.  
Source: Armstrong & Associates



# Warehousing: innovate or die

Rental rates rose 4% in 2017 and increases accelerated in 2018

Weighted Average Asking Rent \$ PSF



- Rents rose 4% nationally, with West 6.1%, Midwest 4.4%, South 4.1%, Northeast 2.6%
- Pop-up warehouses are back by popular demand
- Warehouse efficiency becomes paramount for companies striving to meet ever-shrinking e-commerce delivery lead times
- Autonomous mobile robots (AMRs) are popular again, to address rising pressure to improve worker productivity
- Robotic-centric solutions are easier to set up and use; and are faster, smarter, cheaper
- Space availability tumbled to a historic low of 7.3 percent in the first quarter of 2018



Tablet/Mobile



Web Site



Brick and Mortar Stores



Catalogs



Call Center



Flash Sales

# Order from Anywhere



Customer

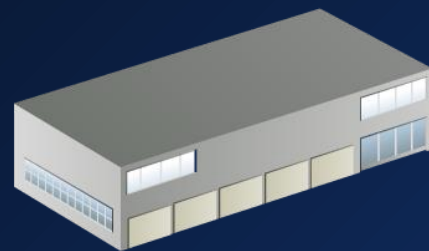
# Fulfill from Anywhere



Retail DC(s)



Kiosk



eCommerce DC(s)



Outlet Locations



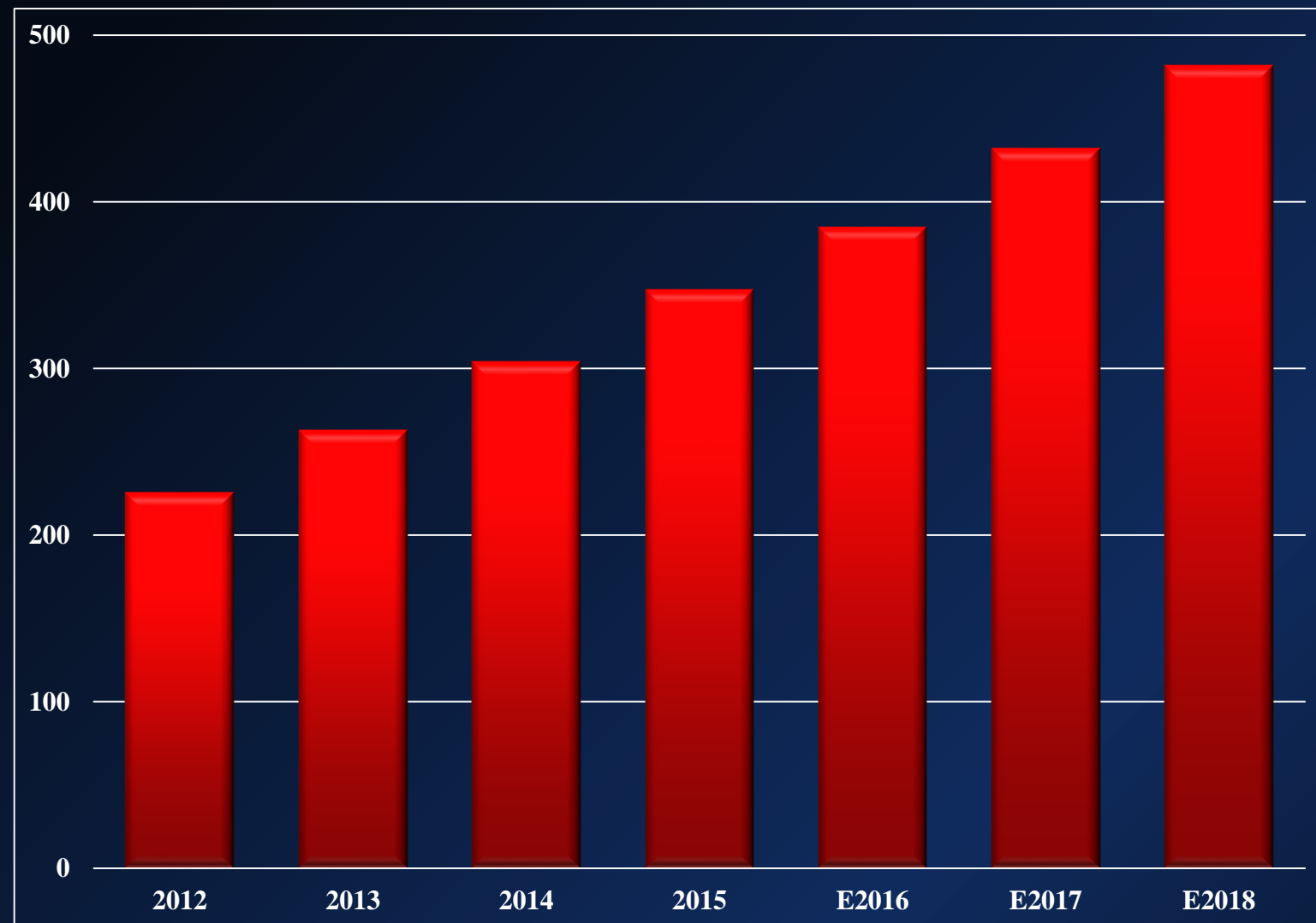
Brick and Mortar Stores



Pop-Up Stores

**eCommerce is an estimated \$450 B market, forecasted to grow at least 15% per year over the next three years**

US eCommerce Sales by Year (\$B)

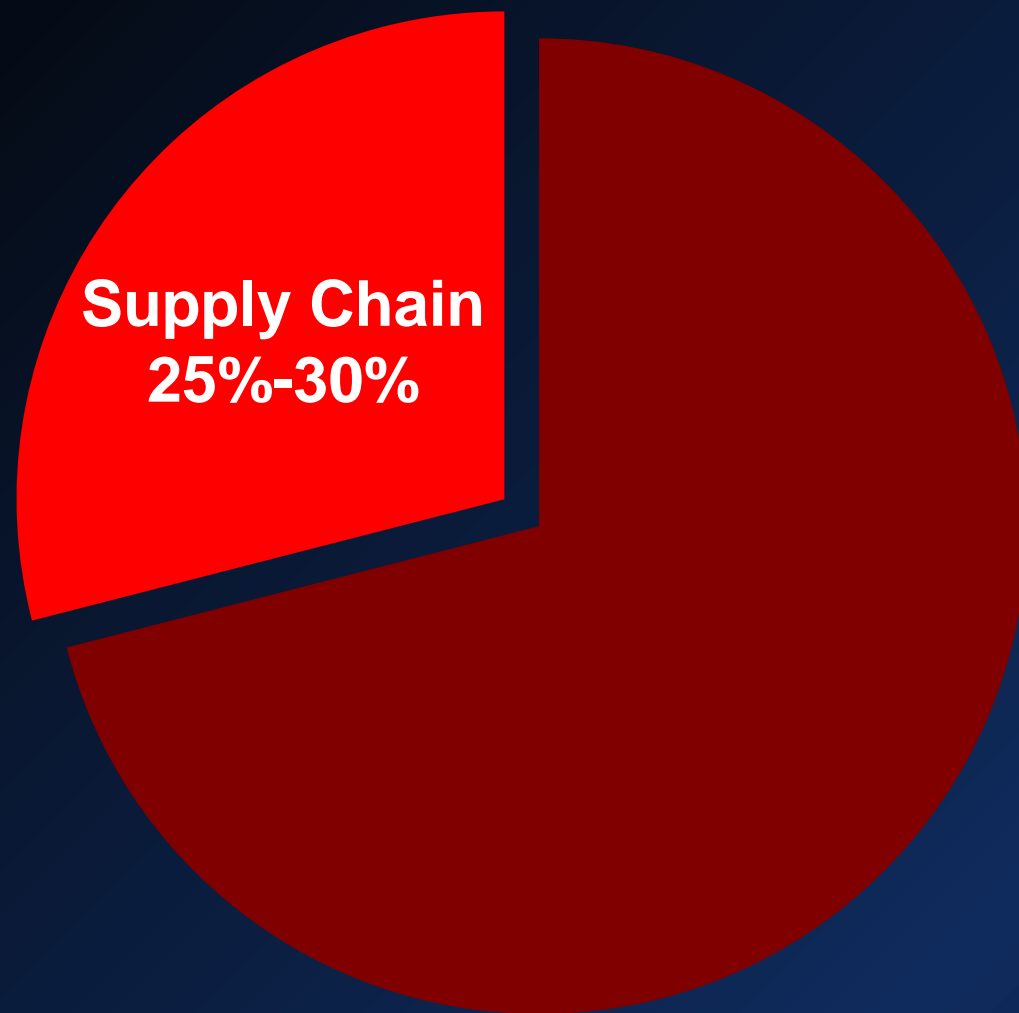


Source: Internet Retailer; US Census Bureau; Statista

- Growth is accelerating:
  - 2017 15.6%
  - 2016 14.9%
  - 2015 14.0%
- eCommerce sales accounted for about 8.4% of total 2017 retail sales
- Amazon has about 44% of the market

# Supply chain costs are an estimated 25% to 30% of the total eCommerce sales

Est. 2016 US eCommerce Sales Cost  
Buildup Total \$440 B



Est. eCommerce Supply Chain Cost

Category	% Sales	Spend (\$B)
Inbound	4-6%	\$17-\$26
Fulfillment	5%	\$22
Inventory	6%	\$26
Outbound	6%-9%	\$26-\$40
Returns	4.5%	\$20
<b>TOTAL Supply Chain</b>	<b>25.5% - 30.5%</b>	<b>\$112 - \$134</b>

- Assumes a well run supply chain
- If sub-optimal, costs escalate – fast!

Source: US Census Bureau; TandLA experience and model estimates

***Thanksgiving Day  
Black Friday  
Cyber Monday  
Shatters Records***

**Thanksgiving Day - \$2.87B**

**Black Friday - \$5.03B**

**Cyber Monday - \$6.6B, up 17%**

**Mobile Revenue:**

- surpassed \$2B for first time
- set a new record representing 47.4 percent of visits
- 33% of revenue

***If you've ever ordered anything from Amazon, you will be interested in this...***



**742 active facilities with more than 194m SF of distribution space.**

# Continuous Disruption & Innovation

Market Value as of Today

\$901B

\$367B



amazon<sup>®</sup>



# Emerging E-Commerce Trends

CURRENT

Mega E-Commerce Facility



FUTURE-LAST MILE

Multiple Locations Strategically Located.



# *Striking the right balance*



# Last Mile – Fast, Free and Flexible

Dominant last mile delivery model has yet to emerge

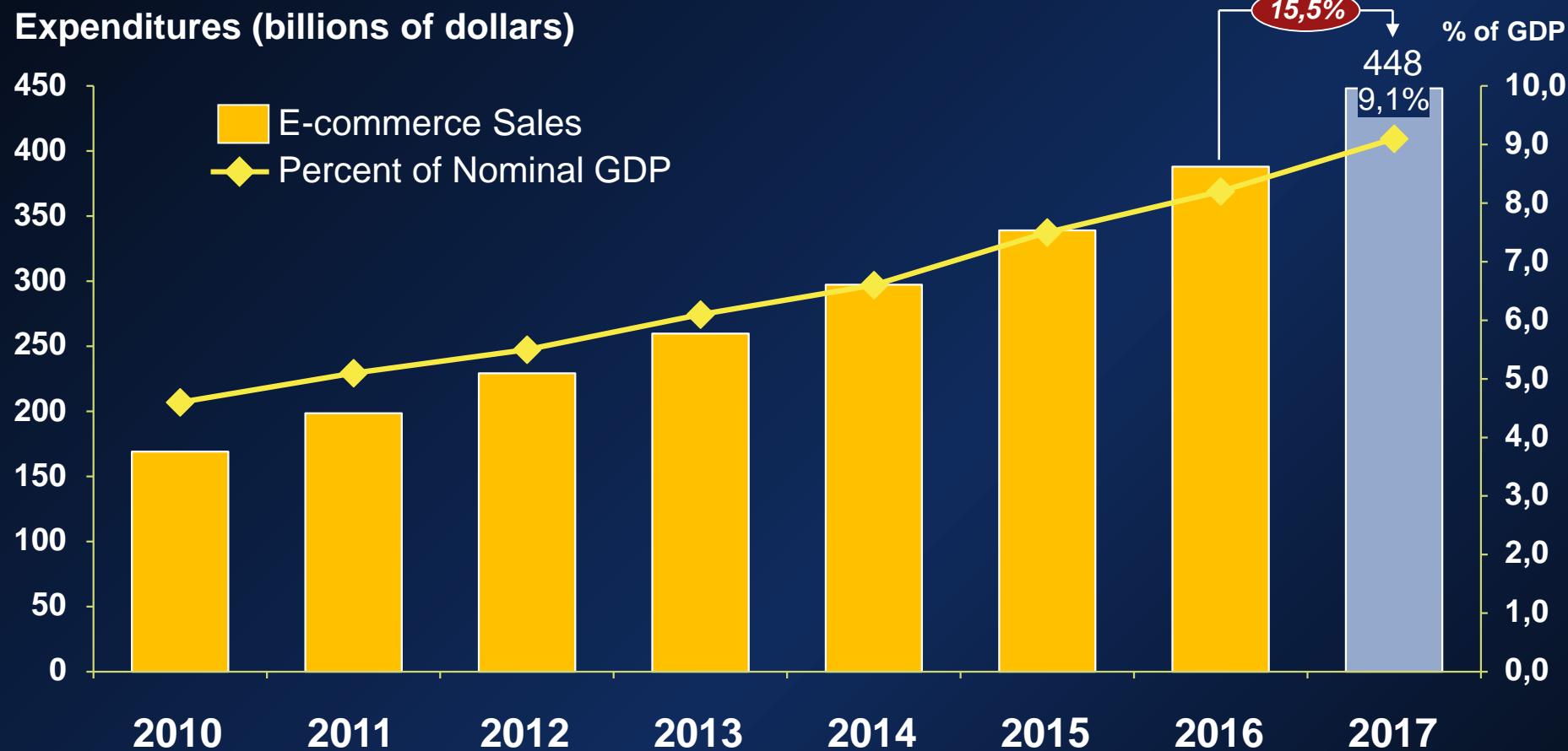
- UPS/FedEx/USPS
- Uber/Lyft/Amazon Flex
- Lockers
- Trunk
- Corner store
- Drones
- Autonomous delivery vehicles





# Parcel: e-commerce growth drives growth

**E-commerce grew 15.5% to reach \$448.3 billion, 9.1% of GDP**



- Parcel expenditures rose 7% to almost \$100 billion in 2017
- Rising volumes and customer expectations force a capital-intensive “re-think” of last mile supply chain
- Carriers have room to raise prices while markets are figuring out who will bear investment burdens
- Same day/shorter expectation will continue to grow
- Parcel cost headwinds may impede e-commerce strategies, particularly in cost-sensitive segments



# Increased Global Economic Competition



# Trends and Outlook: Shifting currents

## Rising demand and tight capacity put carriers back in the driver's seat

### Innovation Grid: a Ten-Year Outlook



- Projections of a healthy growing economy, tight capacity and e-commerce expansion promise a steep grade
- Artificial Intelligence, Autonomous Mobile Robots and “Uberization” of Freight are expected to have the most disruptive impact in the near term
- Crumbling infrastructure will exacerbate logistics efficiency until serious investments are made
- Looming threat of global trade wars casts of fog of uncertainty

Note: IoT is Internet of Things. UAV is Unmanned Aerial Vehicle. OTA is Over-The-Air.  
Source: A.T. Kearney Analysis

# The Advisory Committee on Supply Chain Competitiveness

The ACSCC started with 2 questions...

How do freight and infrastructure policies affect the competitiveness of U.S. businesses?

What should the Federal Government do to improve these policies

**The Committee represents the first time that America's businesses and the Federal Government came together in a whole-of-government way to identify the biggest issues that impact our supply chain competitiveness – and come up with solutions.**

# US State of Logistics

Logistics Costs	\$1.494 t
% of GDP	7.7%
Trans Costs	\$965 b
Inv. Carrying	\$428 b

Transportation = 65% of total logistics spend!



## Since 2006....

Logistics Costs have risen 20%

Average annual increase = \$25b

2017 increase was \$87b

## Also.....

As a % of GDP, Logistics expense went from 8.5% to 7.7%, a reduction of 9.4%.

Since 1990, the reduction is 30%!

# ***Global Comparison of Logistics Expenditures***

## **Economy**

Higher Output--GDP  
Better use of resources  
Multi-use Infrastructure

## **Businesses**

Market Access  
Market Integration  
Cost Efficiency

## **Consumers**

More Goods and Services  
Wider Availability  
Lower Prices/Income

**U.S.**

**7.7% GDP**

*Asia 17% GDP*

*China 18% GDP*

*Europe 13% GDP*

*India 13% GDP*

*Japan 11% GDP*

*Mexico 14% GDP*

# What keeps the CEO up at night?

## Shareholder Value



Revenue

Cash Flow

Profitability

Market Share

3G?

# ***When Supply Chains Work Well***

**Wal-Mart's supply chain management success is improving productivity in the United States:**

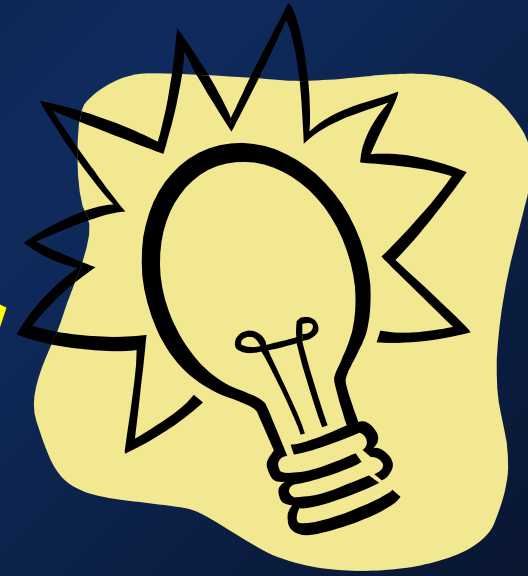
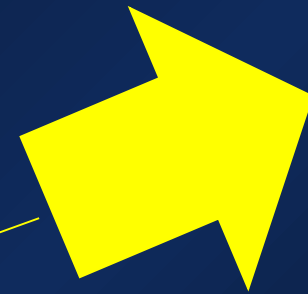
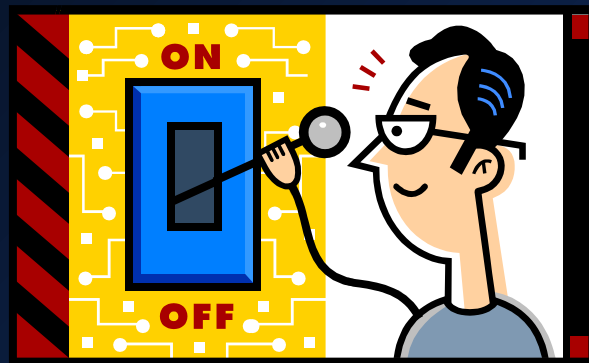
The effects of the company's supply chain innovations on the retail industry led to a 3.1 percent decline in overall consumer prices.

Consumers spent \$263 billion LESS than they would have if Wal-Mart were not around! That translates to \$895 per person, or \$2,329 per household.

# *When Supply Chains Don't Work So Well*



# *Transparency!*



# ***SCM Has Strategic Profit Impact***

A study by Georgia Tech showed that a company's stock price drops 8% when the company experiences a glitch in its supply chain.

A study at Miami University showed that when a company adopts a new supply chain innovation the company's stock price increases.

A study by Bain & Company showed that companies employing sophisticated supply chain methods enjoyed 12 times greater profit than companies with unsophisticated methods.

**Wall Street: New found respect for SCM. In one SCM MBA program in the US, 21/32 grads received job offers from Investment Banking firms because of the importance of SCM to their clients.**



Decisions

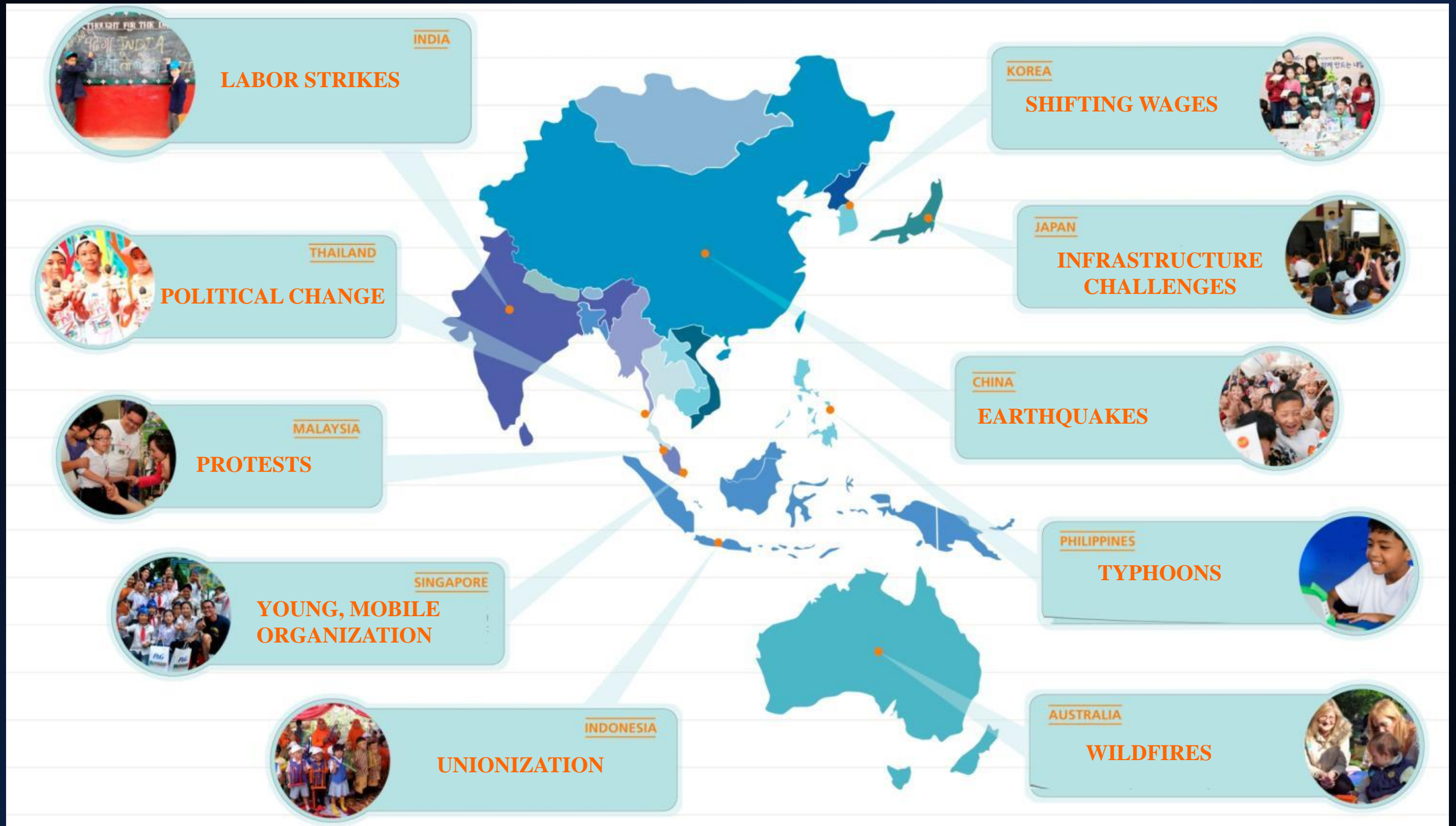


Different  
Decisions?

# ***Why is Risk Management important?***

- Asia is 4X more likely to be affected by natural disasters than Africa, 25X more likely than Europe or North America
- 7 major cities classified as extreme risk are all in Asia
- Floods have become 3X more frequent in the past 30 years
- 152 Million people in Asia are vulnerable to natural disasters every year!

# Challenge as a Way of Life



# *Admin impacts?*

- More production in the USA
- Energy self-sufficiency
- Rationalized tax code
- Trade – New “Nafta”
- Fewer superfluous regulations
- Tariffs?
- Revitalized military



# Key Workforce Challenges



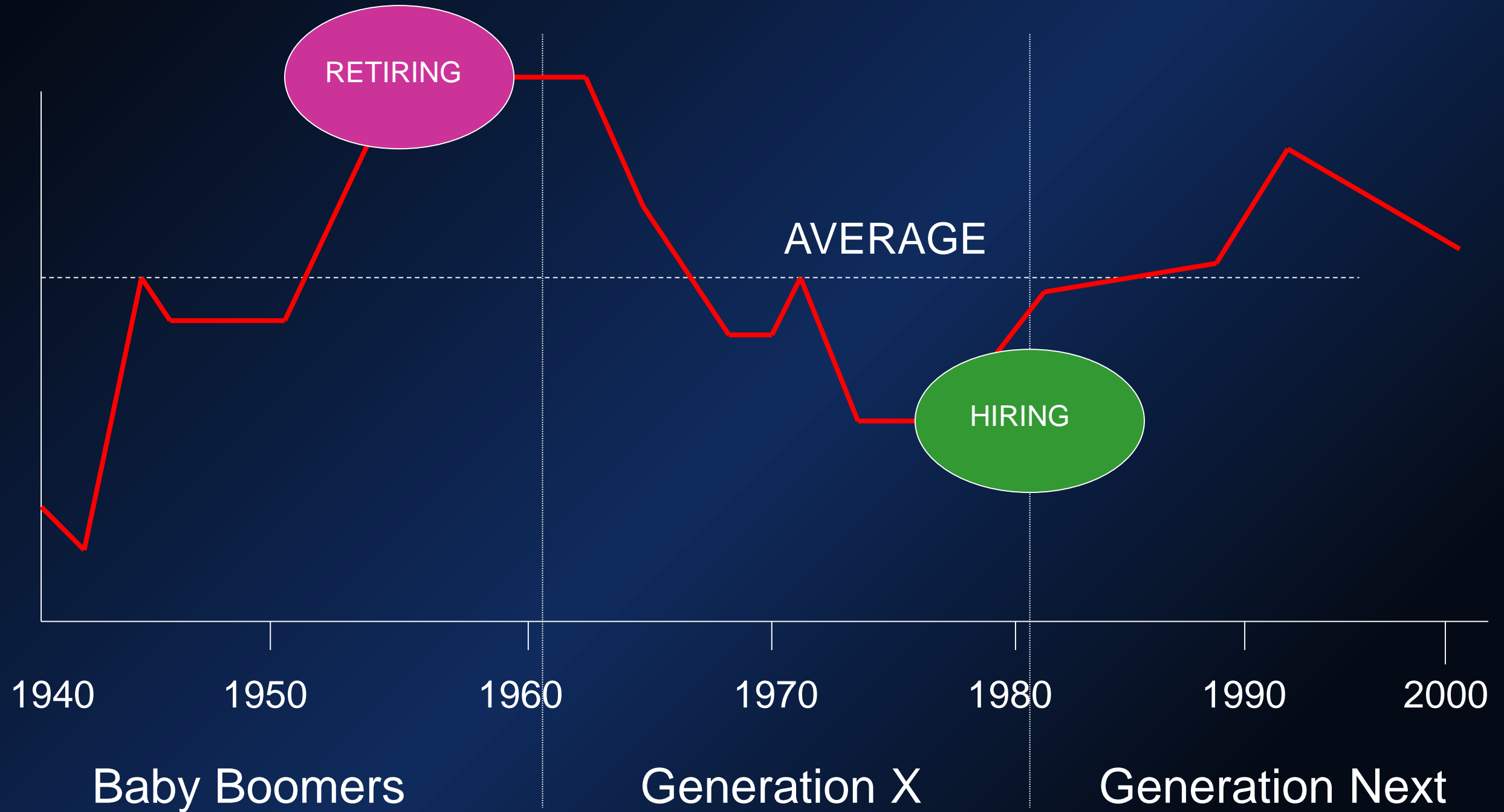
# *Transportation Workforce Getting to 2022*

- USDOT provides over \$51 billion annually in surface transportation funding.
  - \$1 billion in infrastructure investment creates 13,000 jobs.
- Transportation sector employers (air, transit, highway, maritime, rail, trucking) will need to hire **4.6 million workers** through 2022.
  - Add 417,000 due to industry growth
  - Hire 4.2 million workers to fill vacancies created by separations (retirement, transfer, etc.)
    - **Approximately 2 million** of the vacancies are in trucking.

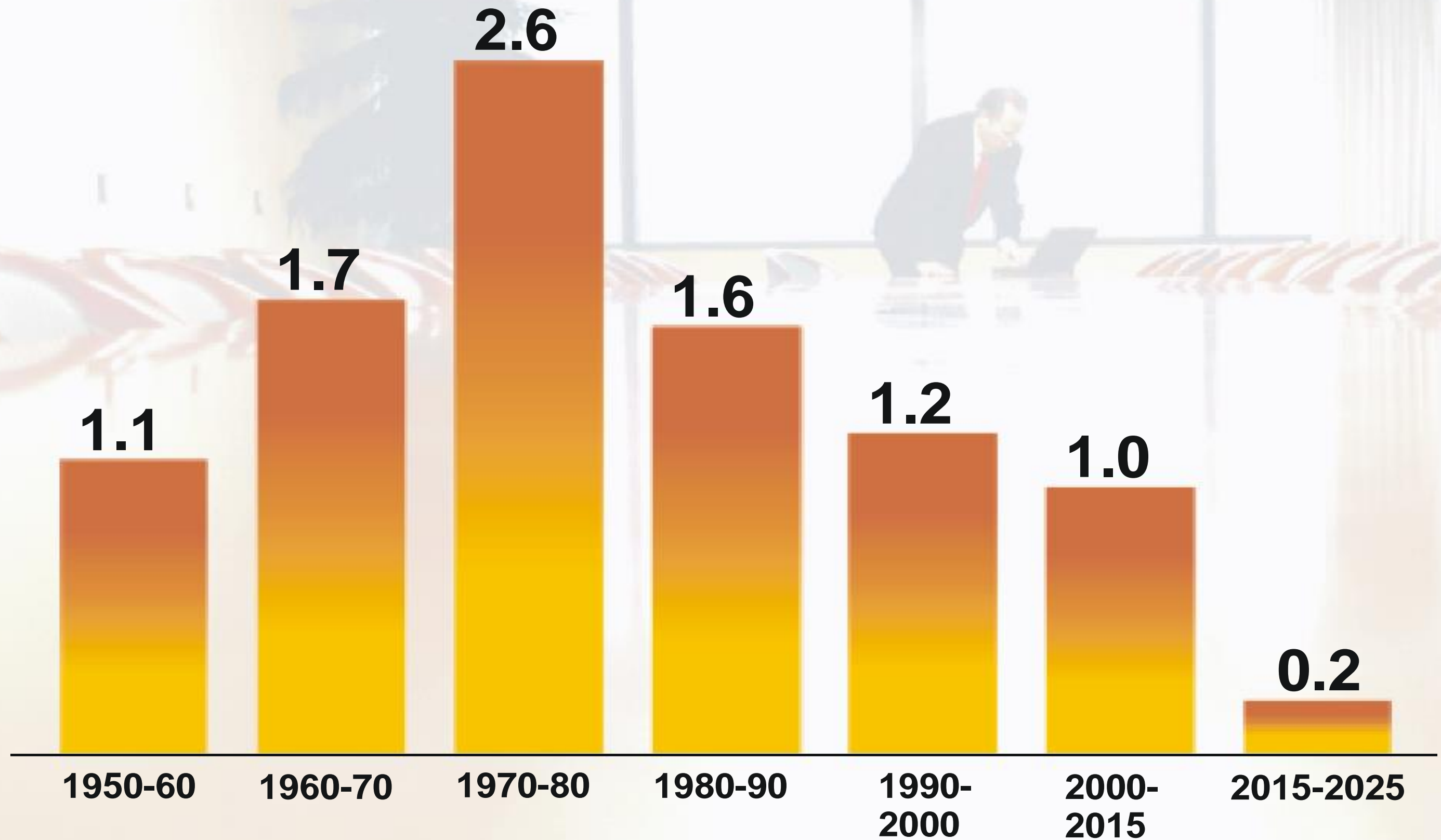
# *Key Workforce Challenges*

- ✓ 40-50% of the transportation workforce will retire in the next 10 years
- ✓ Fewer people are going into key transportation fields
- ✓ Competition for workers from other industries
- ✓ Challenge of reaching women and minorities

# *U.S. Birth Rates*



# Annual rates of labor force growth, 1950-2025



SOURCE: Bureau of Labor Statistics. Rates in percent.

**Projected**

# ***“The Perfect Storm”***



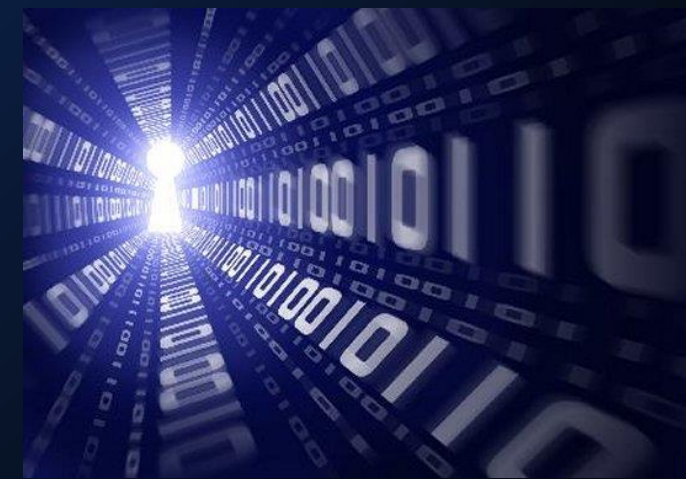
# *Distribution Automation*



# ***What skills will be required for success?***



## **Art or Science?**

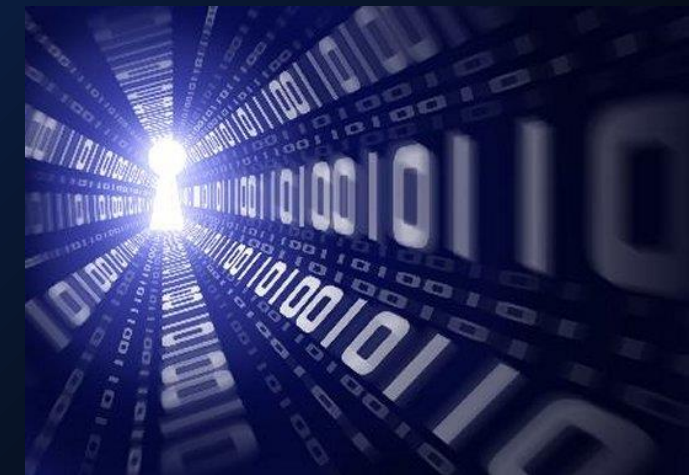


# *What are the skill development needs of companies today?*

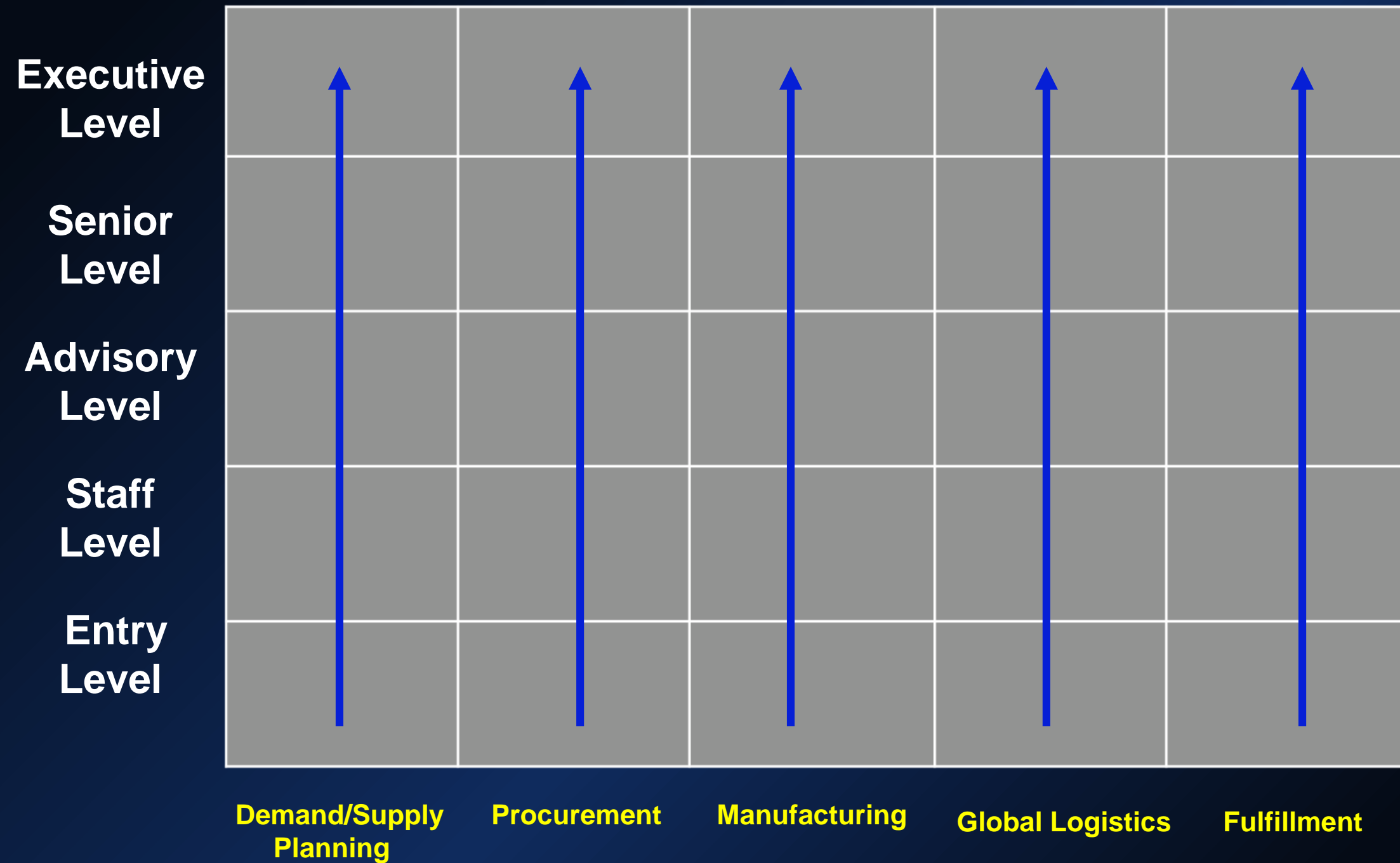


- Leadership
- Collaboration
- Communication
- Teamwork
- Multi-cultural perspective
- Relationship management
- Creativity & Innovation

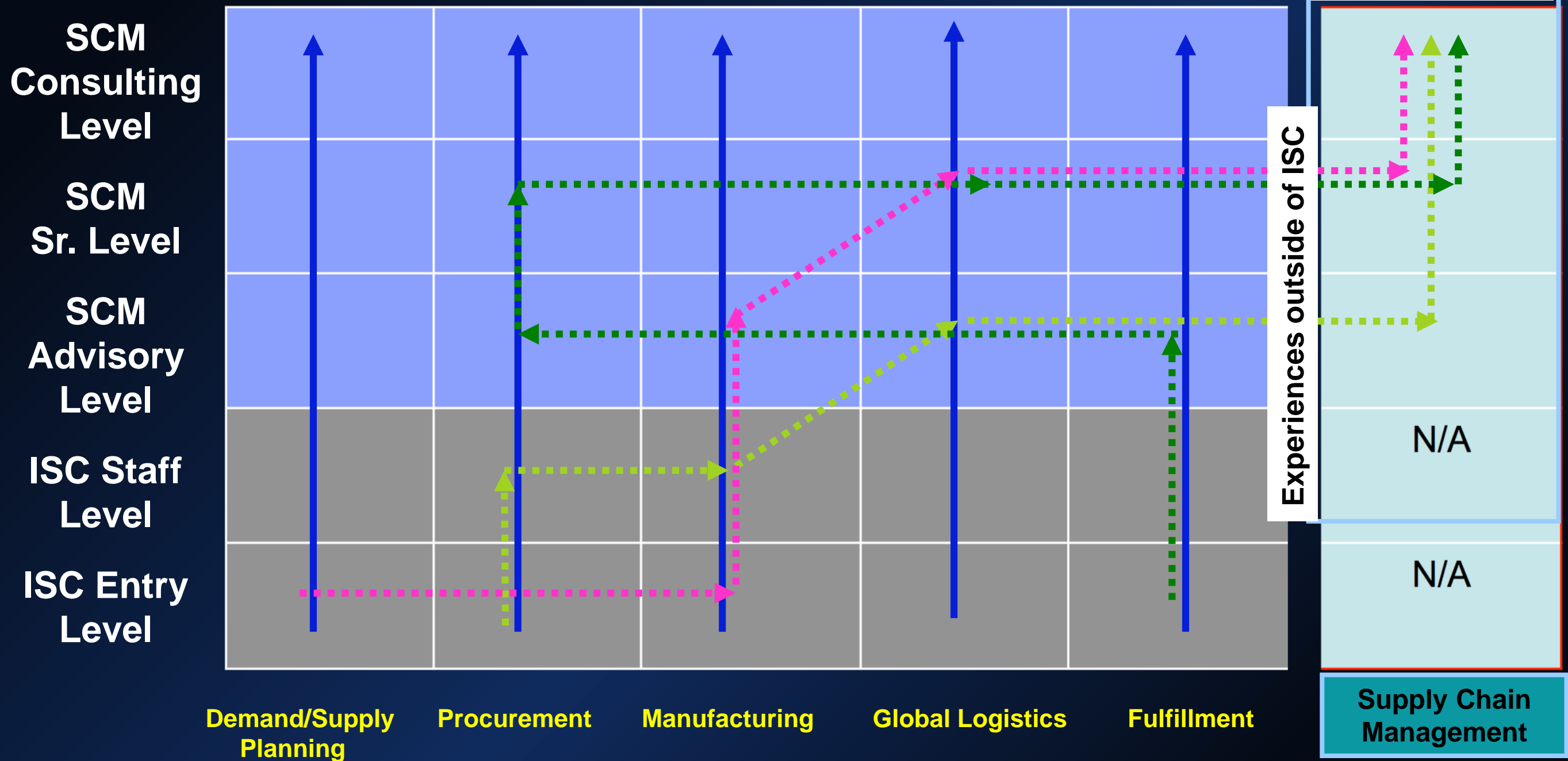
- Forecasting and planning
- Project management
- Problem solving
- Modeling
- Data analytics
- Technology



# Traditional Supply Chain Functional Career Path

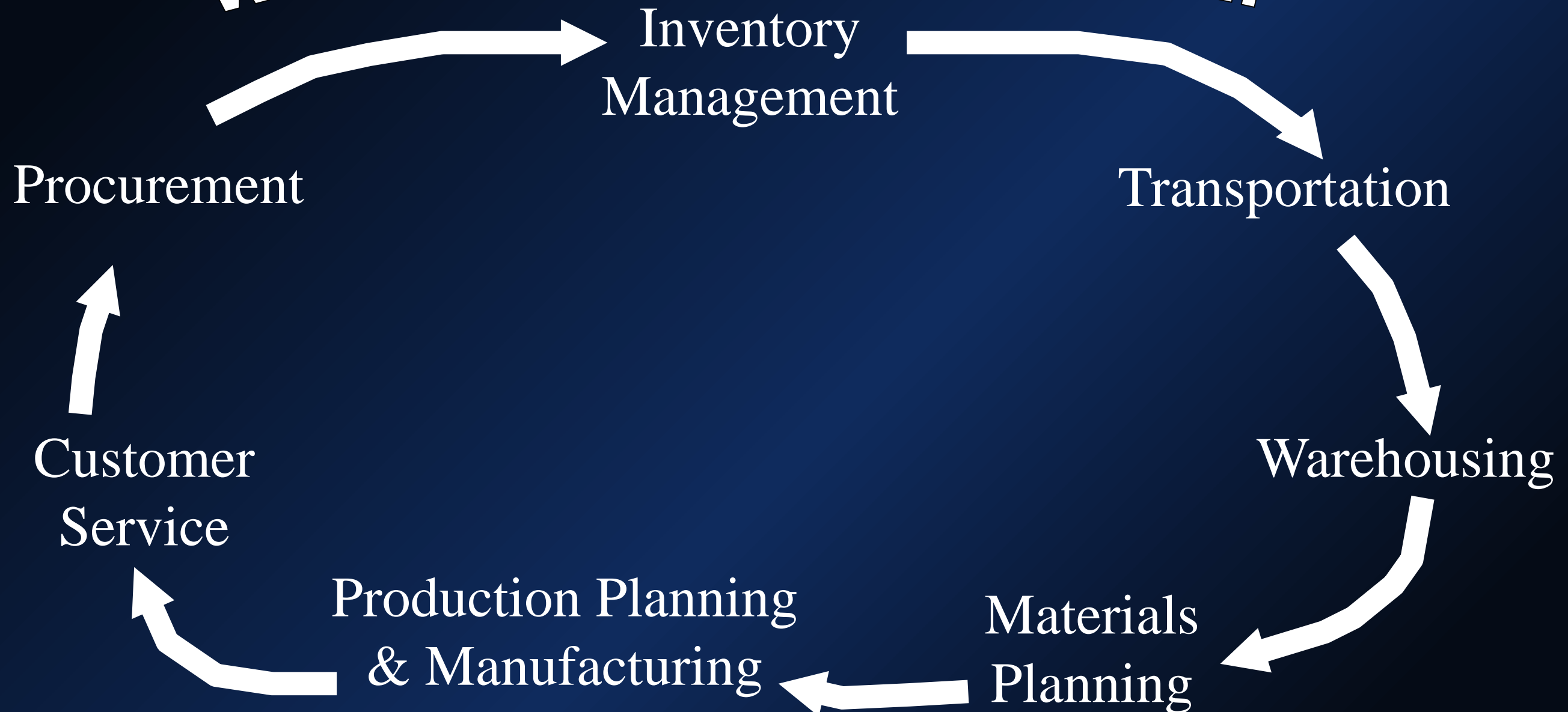


# Leading Edge SCM Career Path



# *The Future of Supply Chain Professionals*

**Work within the Supply Chain**



**Proficient competencies**

- Technical
- Managerial
- Leadership

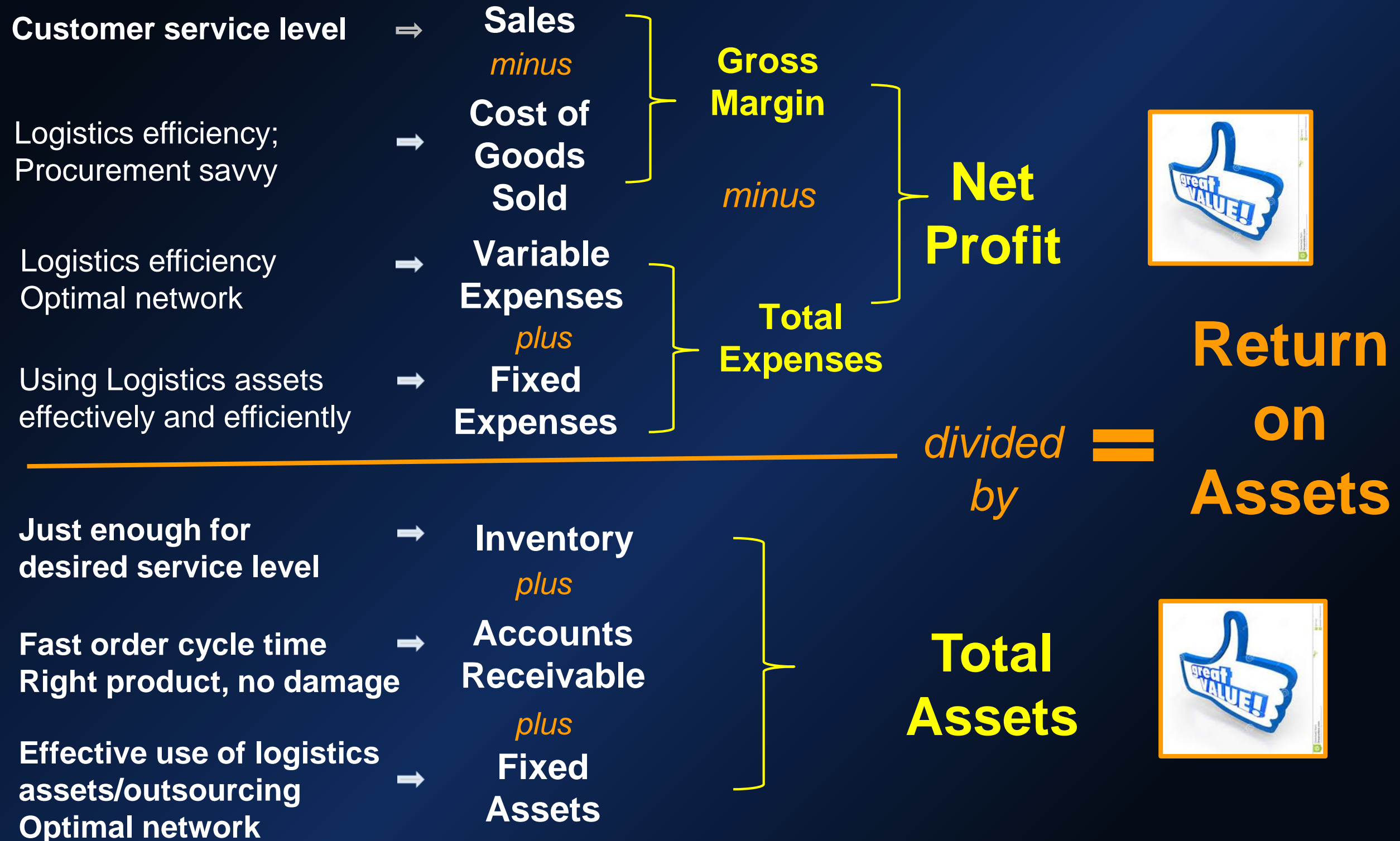
**Must have excellent interpersonal skills**

**Ability to sustain collaborative relationships**

Top management is interested  
in what we do!

But we must communicate  
more effectively.

# Financial Dimensions of SCM



***What wild and crazy things are going to happen in supply chain management?***

# ***Blockchain***



# ***Blockchain***

**A blockchain is a distributed ledger that:**

- Creates a transparent and indelible trail of each transaction.
- Is (supposedly) free of hackers and of so-called trusted third parties such as lawyers, bankers, and other intermediaries who've historically filled overseer's roles.
- In its simplest form, parties within an extended supply chain add "blocks" of information to the broader chain.
- Data is current and updated, shared directly between users, who are connected only to other users.

# ***Blockchain***

- The blocks could identify as much information as the stakeholders deem necessary for the transaction to progress and be consummated.
- Cheating would be virtually impossible, because each step in a transaction, would be witnessed by everyone in the chain.
- All items are preserved permanently.
- If a blockchain network connects several companies, each is obligated to provide strong security. If one does not, all are endangered.

***Delivered right to your front door!!***



***“Chipotle and Alphabet Plan Drone Delivery of Burritos at the Virginia Tech campus”***

# CSCMP's EDGE 2018 – Just last week!

Nashville | September 28 – October 3, 2018



**3000+**

SCM professionals  
under one roof

**120+**

Hours educational  
content

**25+**

Hours dedicated  
networking



**REGISTER TODAY**  
[cscmpedge.org](http://cscmpedge.org)



# ***Floating warehouses?***



***“Amazon wants to create an “airborne fulfillment center” (AFC) to hover at altitudes of around 45,000 feet and spit out delivery drones with customers’ orders.”***

# ***Driverless Vehicles?***





***Recent News from our 2018 CSCMP EDGE Conference:***

***Three CEO's: "We think electric vehicles are more likely to be utilized than autonomous vehicles in the near term".***

# *Truck Platooning*



# Opening General Session Panel Speakers

## Monday, October 1, 2018



### **Joanne Wright**

*Vice President, Enterprise Operations and Services  
IBM*

Responsible for the strategy, execution and business results for IBM's manufacturing, fulfillment and Client Solutions across more than 170 countries.



### **David Bozeman**

*Vice President, Amazon Transportation Services  
Amazon.com*

Dave is the global leader of Amazon's Air, Sort Center, Line Haul and Postal Partnership operations network across North America, Europe and other developing regions.

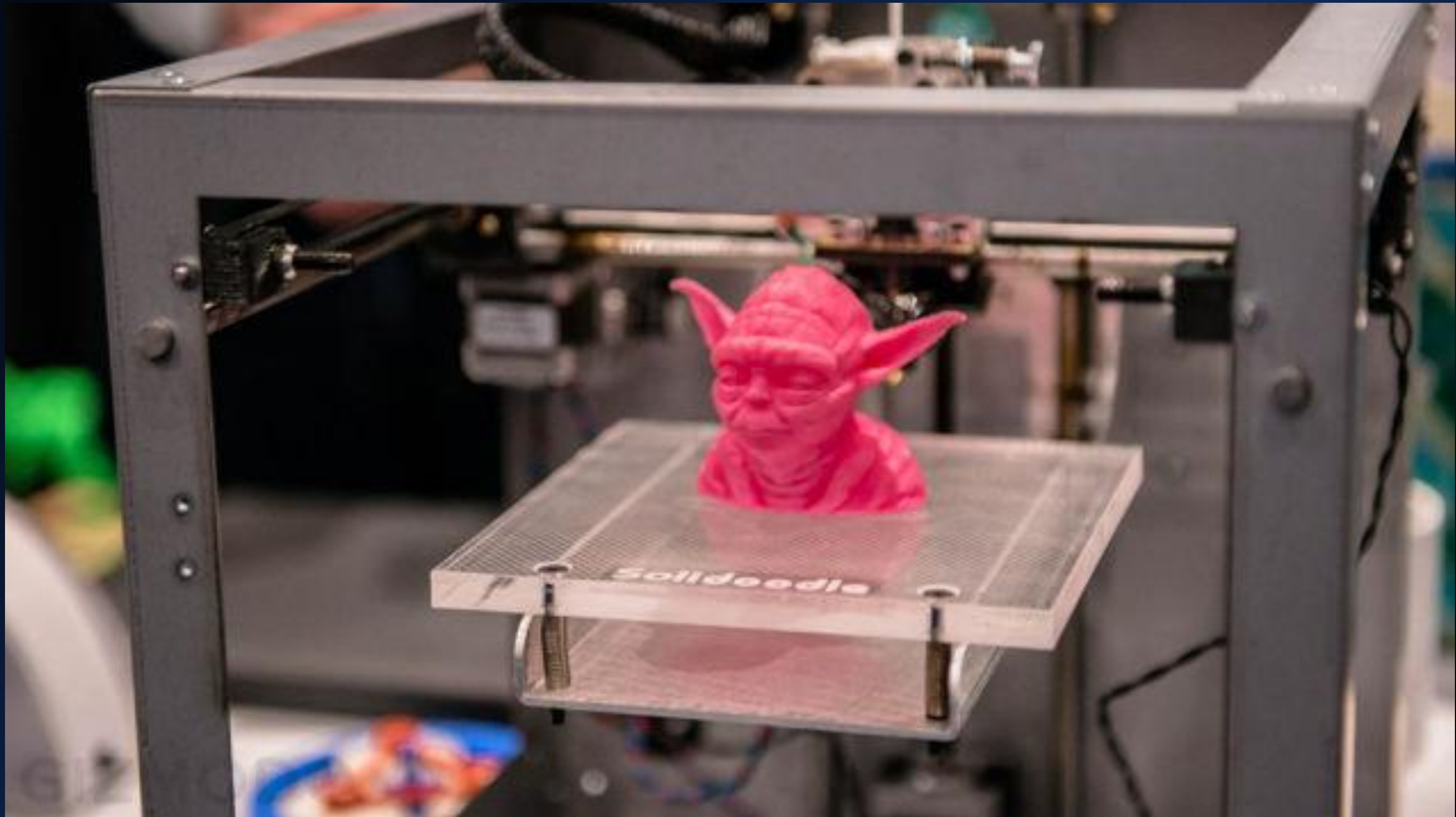


### **Mike Brewer**

*Vice President, Global Sourcing and Manufacturing  
Nike*

Mike leads Nike's Global Supply Chain function. Mike and his team are critical to Nike's ability to respond to the needs of its global customers.

# ***3-D Printing***



# *Virtual Reality*





# ***Artificial Intelligence?***

***Elon Musk says “humans must become cyborgs to stay relevant.”***

***If humans want to continue to add value to the economy, they must augment their capabilities through a “merger of biological intelligence and machine intelligence”. If we fail to do this, we’ll risk becoming “house cats” to artificial intelligence.***

***Mark Cuban: Robots will ‘cause unemployment and we need to prepare for it’***

# ***SCM Conducts a Symphony***

## ***We matter!***



# ***CSCMP's Evolving Role***

- **Goal**
  - ✓ Connect, Educate and Develop the world's Supply Chain Professionals!
  - ✓ Supply Chain Concierge Service
  - ✓ Join the Community – visit [CSCMP.org](http://CSCMP.org)!

# *Summary*

- The discipline is a corporate necessity, yet can be a growth vehicle – a revenue generating engine.
- We improve the financial position of companies and economies.
- Our stature and credibility is increasing.
- Supply chain professionals need to develop cross functional skills and a global mindset to maximize opportunities in the world.
- SCM is growing, and you are in a terrific position!

“If people are committed to maintaining yesterday, they are not available to create tomorrow”

Peter Drucker



**Sometimes,  
we have to  
learn to forget**

***Innovation!***  
***Be Creative in your Response to  
Supply Chain Problems***



# Our Challenge.....

It will not be easy, but . . .

It can happen.



***Thank you!***