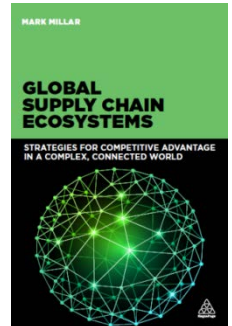


# Pharma Supply Chain

## – trends and developments



# Mark Millar MBA, FCILT, FCIM, FHKLA, GAICD, SCOR-P

## Speaker, Moderator, Advisor, Author

**Mark Millar** leverages over 30 years global business experience to provide value for clients with informed and independent perspectives on their supply chain strategies in Asia.

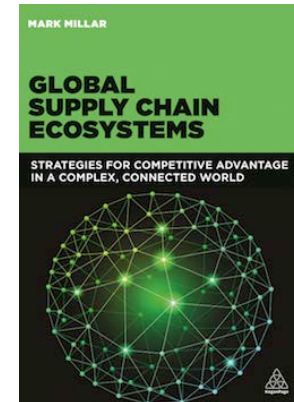
Acknowledged as an engaging presenter who delivers a memorable impact, Mark has completed more than 450 speaking engagements at corporate events, client functions and industry conferences across 28 countries.

A Visiting Lecturer at Hong Kong Polytechnic University, Mark is recognised in the *'China Supply Chain Top 20'*, as one of *'Asia's Top 50 Influencers in Supply Chain and Logistics'* and in the 2017 USA listing of *'Top Pros-to-Know in Supply Chain'*.

Mark's book "[Global Supply Chain Ecosystems](#) strategies for competitive advantage in a complex, connected world" was commissioned by leading business publisher [Kogan Page](#) of London.



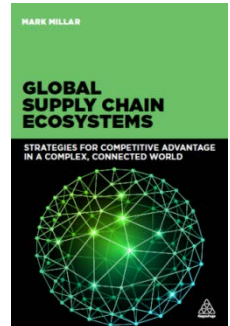
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*Roadmap:*

# Pharma Supply Chain: trends & developments

1. Market Overview & Sector Trends
2. Pharma Supply Chain Profile
3. Logistics Developments



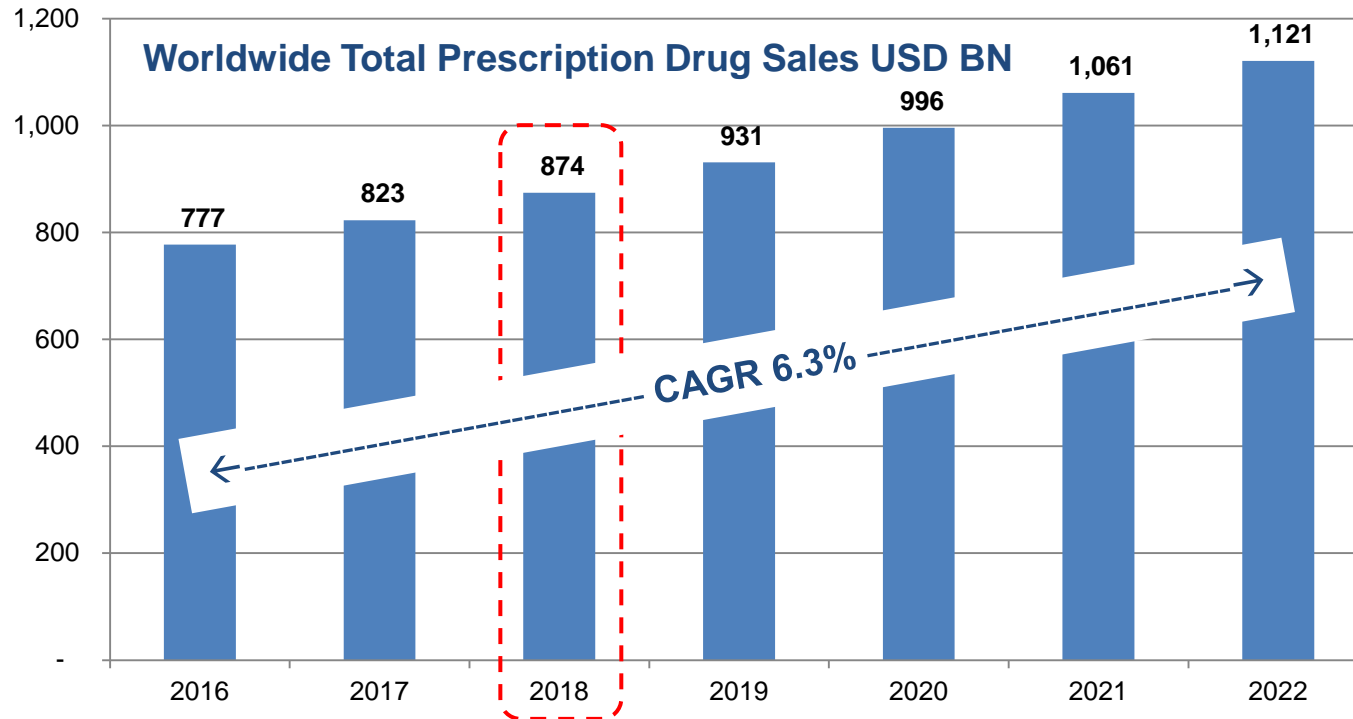
# Pharma Supply Chain: trends & developments

## Market Overview

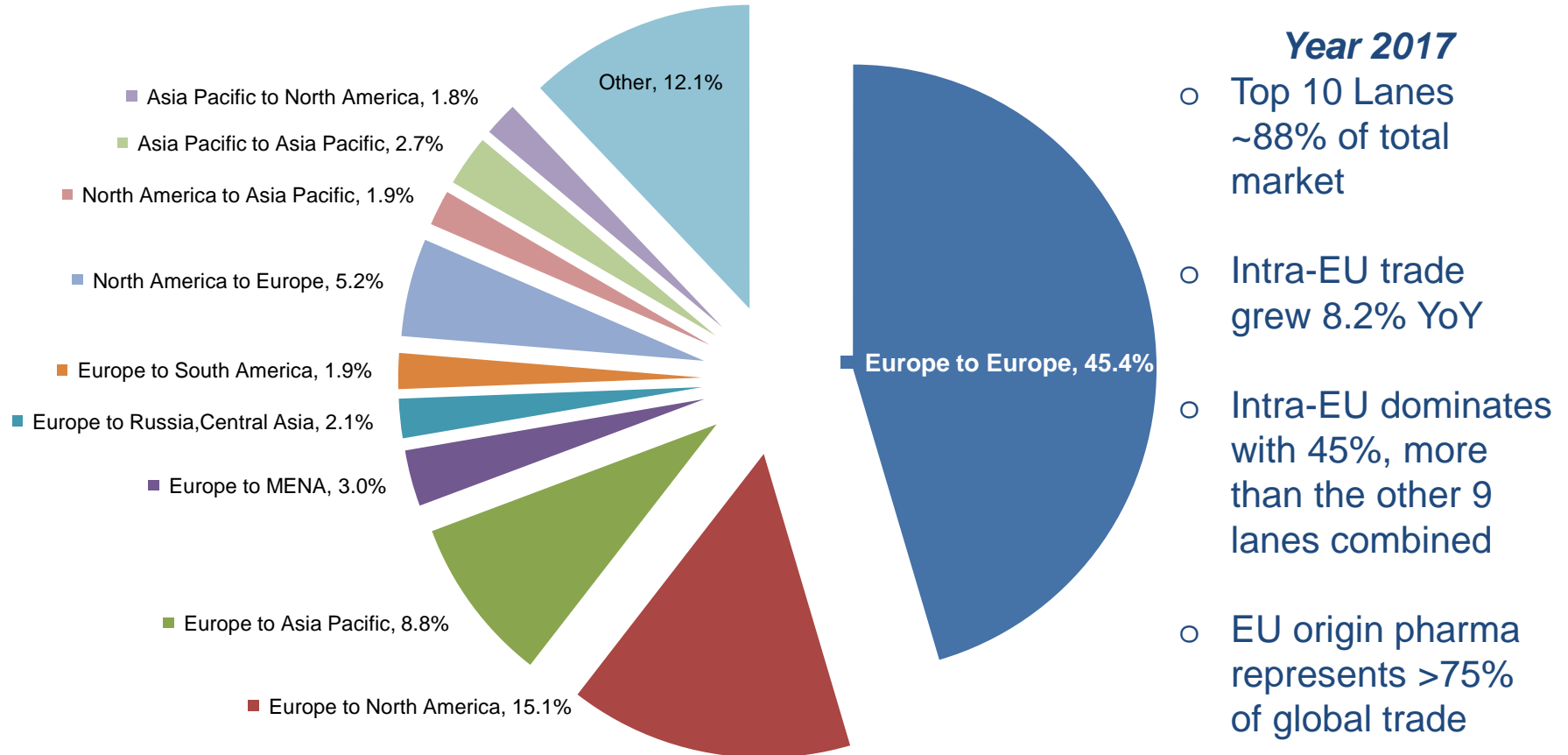


# Pharma Market – Huge, Global & Growing

Worldwide prescription drug sales forecasted to grow at 6.3% per year (CAGR), through to 2022 when it will reach USD 1.12 trillion



# Pharma Market - Top 10 Trade Lanes by Value



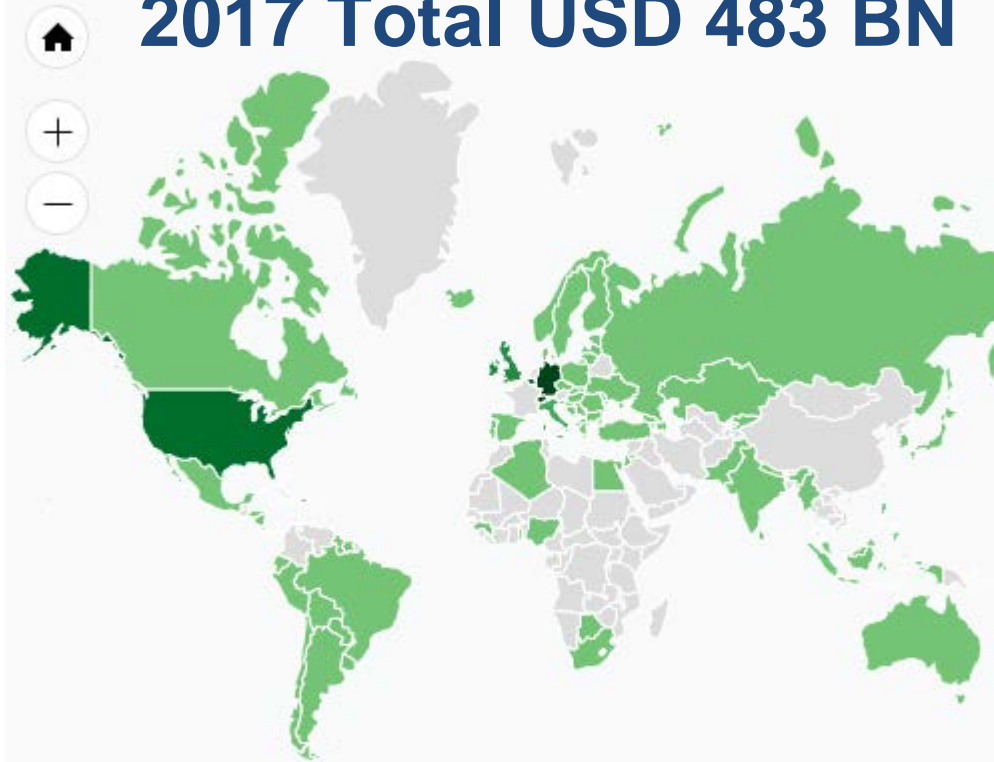
# Pharma Market – EU & US Dominance

- home to 10 largest drug companies, control > 33% of global market



# Pharma Export Countries by Value

2017 Total USD 483 BN



	Top 10 Exporters	USD BN	%
1	Germany	89.1	18%
2	Switzerland	75.0	16%
3	USA	57.4	12%
4	Belgium	46.7	10%
5	Ireland	41.2	9%
6	UK	35.4	7%
7	Italy	27.5	6%
8	Denmark	14.5	3%
9	Spain	12.5	3%
10	India	10.9	2%
	<b>Top Ten Sub Total</b>	<b>410</b>	<b>85%</b>



# Pharma Import Countries by Value

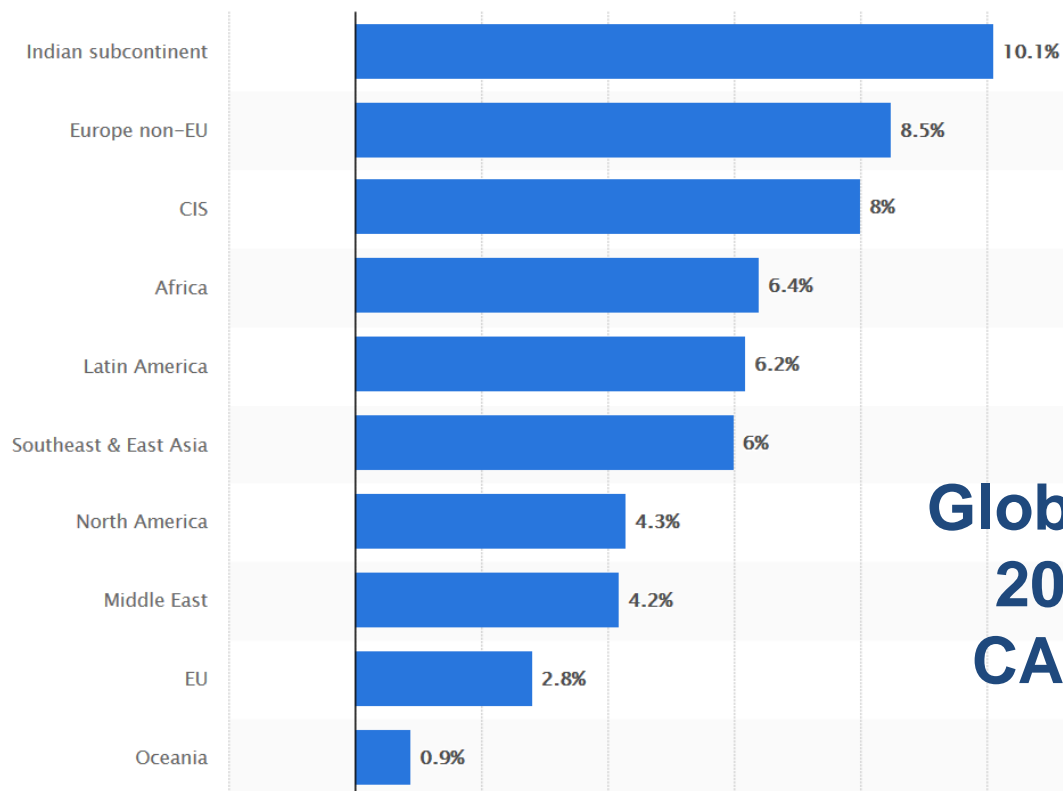
2017 Total USD 495 BN



	Top 10 Importers	USD BN	%
1	USA	103.7	21%
2	Germany	57.2	12%
3	Belgium	37.5	8%
4	UK	35.3	7%
5	Switzerland	30.7	6%
6	Italy	27.4	6%
7	Japan	24.5	5%
8	Spain	15.6	3%
9	Canada	13.8	3%
10	Russia	11.6	2%
	<b>Top Ten Sub Total</b>	<b>357</b>	<b>72%</b>

# Pharma Market – Growth by Region 2016-2021

- greater growth in emerging markets, from relatively small base



**Global Growth  
2016-2021  
CAGR 6.3%**

# Pharma Supply Chain: trends & developments

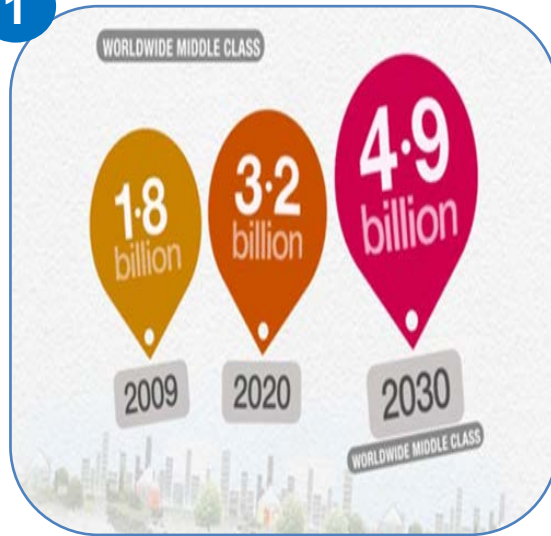
## Sector Trends



# Increasingly globalised

## - Emerging Markets Growing

1



Rising middle classes

2



Expanding healthcare coverage

3



Favourable  
manufacturing  
locations

# Increasingly globalised - rapidly growing demand in Asia Pacific



Ageing populations  
(CN, JP, SG, HK, AU)



Healthcare becomes  
more affordable



# Developed Market Trends

## ✓ Opportunities



## ✓ Challenges



# Risk and Regulation

## Sub Standard Vaccines



## *DSCSA Compliance* Drug Supply Chain Security Act



# Traceability – Goods and Information

## Physical Security



## BLOCK CHAIN TECHNOLOGY

## Digital Security



# Pharma Supply Chain: trends & developments

## Supply Chain Profile





# Pharma Supply Chain Certifications



## GDP for Pharmaceuticals

- demonstrates your dedication to good distributive practices and quality in every aspect of your service



## CEIV Pharma (IATA)

*Center of Excellence for Independent Validators*

- ensures that facilities, equipment, operations and staff comply with all applicable standards, regulations and guidelines expected from pharmaceutical manufacturers

# Pharma Supply Chain - Complex Mind Map:



# Pharma Supply Chain – Six Key Elements

1



2



3



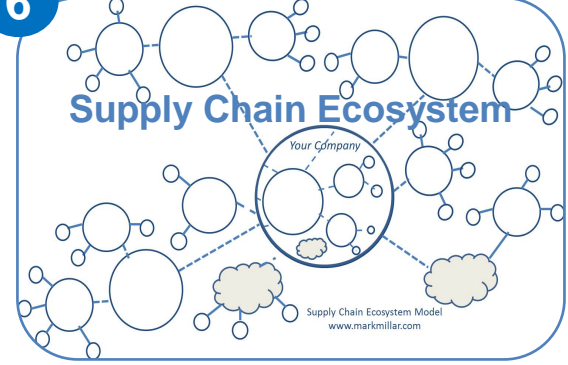
4



5



6

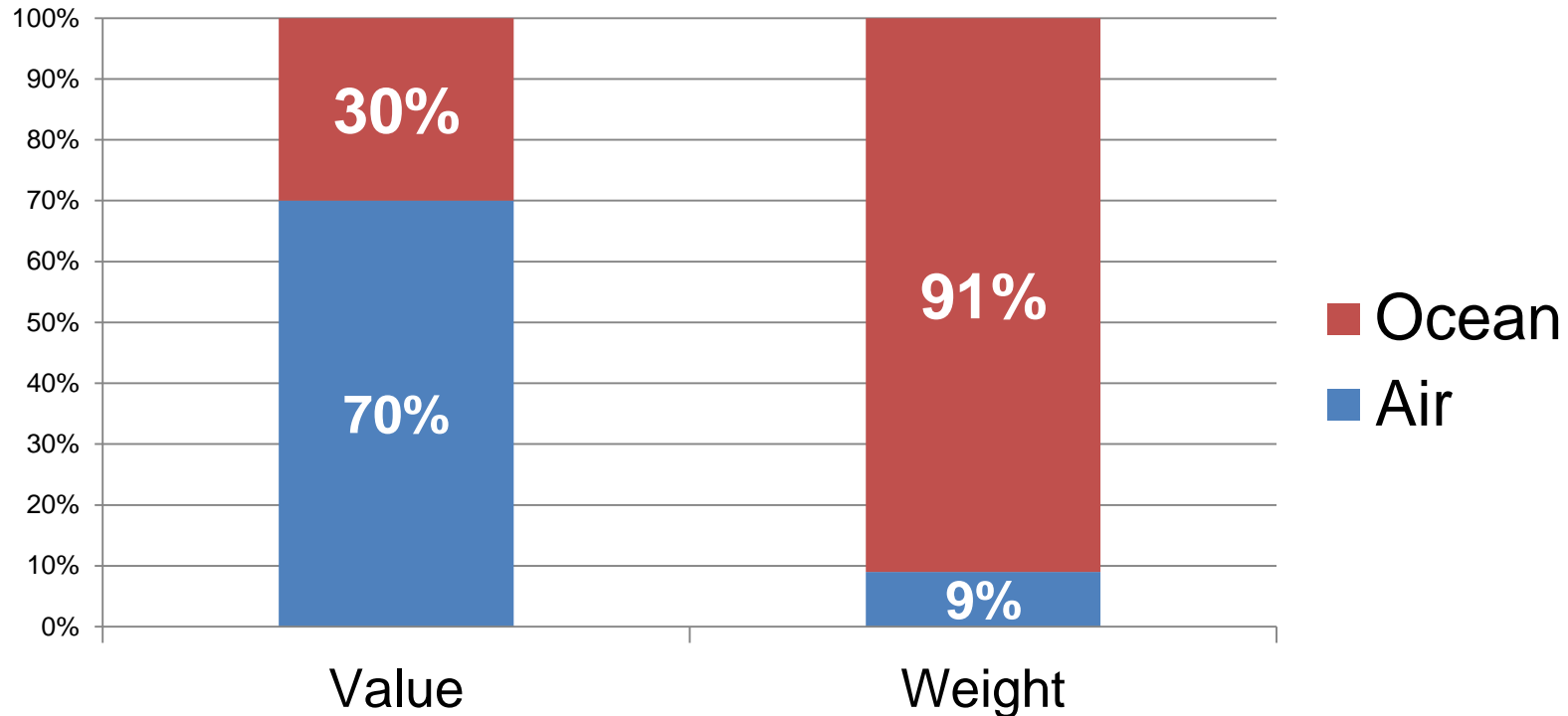


# Pharma Supply Chain: trends & developments

## **Logistics Developments**



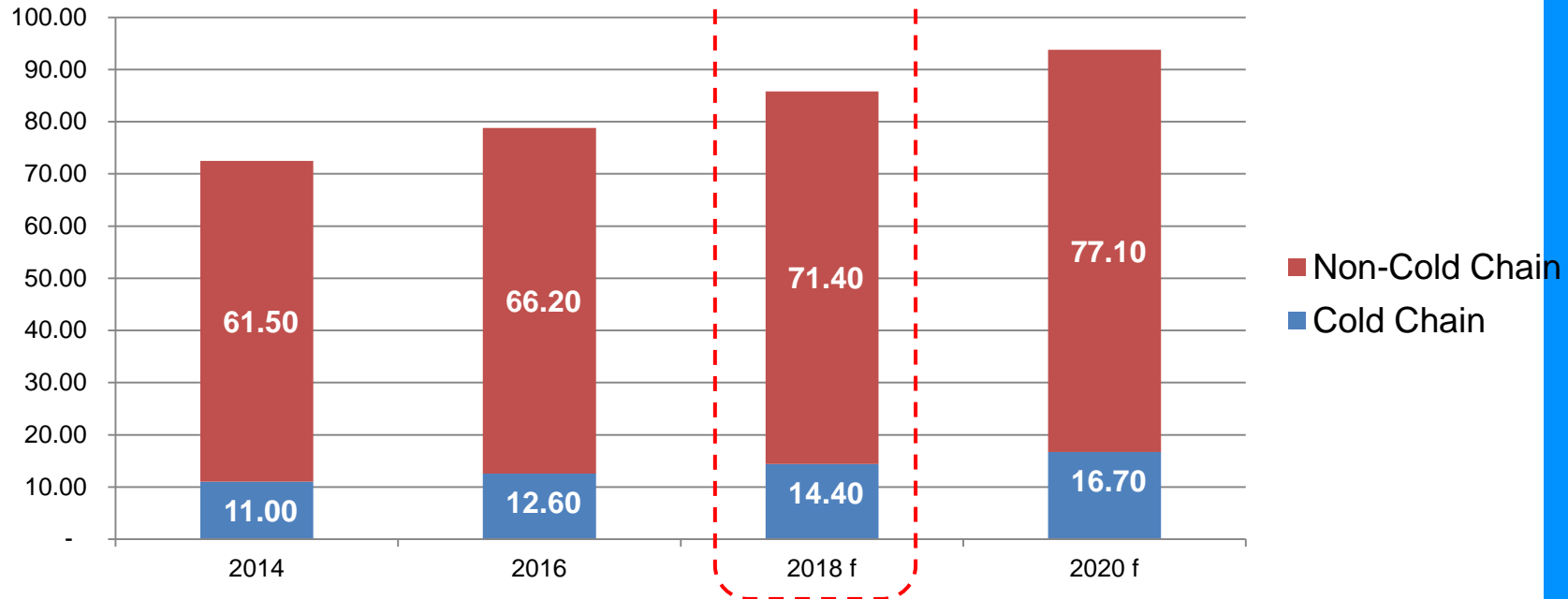
# Pharma Logistics - most Value (\$) by Air, - most Volume (kg) by Ocean



# Pharma Logistics: Global Spend 2018F USD 86 BN

- Growing 4.5%pa (~\$4bn) pa;
- Cold Chain proportion increasing, growing 8-9% pa

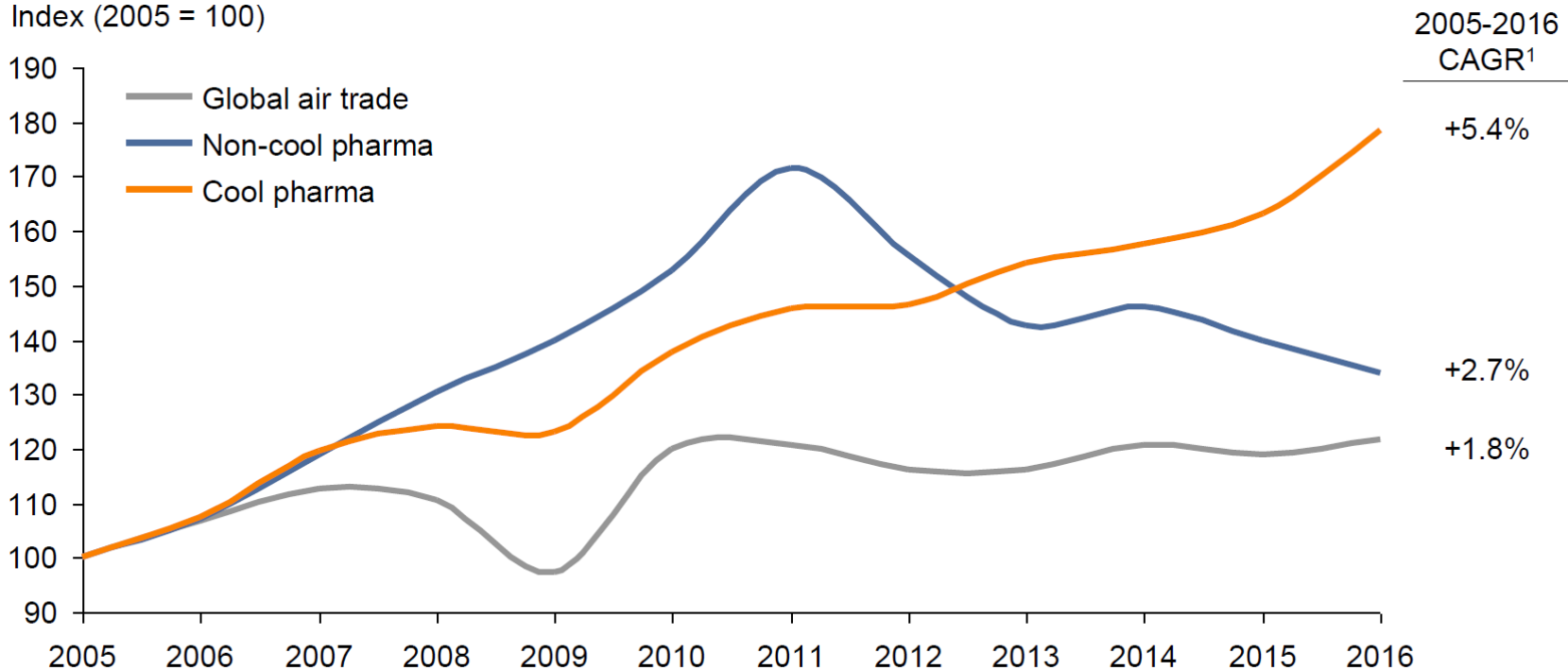
Total Logx Spend	72.50	78.80	85.80	93.80
% Cold Chain	15.2%	16.0%	16.8%	17.8%



# Cool Pharmaceuticals show continuous growth

The growth of **cool pharma air trade** has outpaced non-cool pharma, while pharmaceuticals as a whole have grown faster than general air freight

Index (2005 = 100)



# Top Challenges facing Pharma Supply Chains

1



Visibility

2



Logistics Coordination

***Customer Challenge = Opportunity for Service Providers !***

3



COMPLIANCE

4

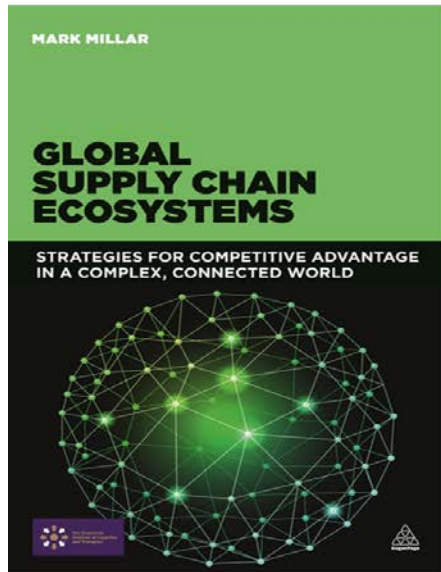
**COLD CHAIN**





# Global Supply Chain Ecosystems - strategies for competitive advantage in a complex, connected world - by [Mark Millar](#)

- ✓ Commissioned by leading business publisher [Kogan Page of London](#)
- ✓ [View Endorsements & Reviews from Industry Leaders](#)



## Global Supply Chain Ecosystems

### Table of Contents:

- Chapter 1 – Global supply chain ecosystems
- Chapter 2 – Supply chain visibility
- Chapter 3 – Sustainability and green supply chains
- Chapter 4 – Risk and supply chain resilience
- Chapter 5 – Free trade for all – navigating the FTA landscape
- Chapter 6 – The Asian Era – the workers become the shoppers
- Chapter 7 – The New Silk Road connecting Europe and Asia
- Chapter 8 – Integrated logistics – empowers the ecosystem
- Chapter 9 – Human Capital – the talent pool
- Chapter 10 – Omni-channel supply chains
- Chapter 11 – Africa – is it the next Asia?
- Chapter 12 – Supply chain innovation

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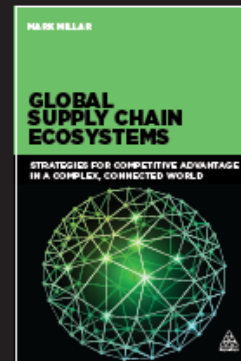


[www.markmillar.com](http://www.markmillar.com)



**Mark Millar**

[speaking@markmillar.com](mailto:speaking@markmillar.com)  
Hong Kong  
+852 9468 5295  
[www.markmillar.com](http://www.markmillar.com)



Mark's book, **Global Supply Chain Ecosystems**, is available at  
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