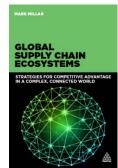
## Pharma Supply Chain – trends and developments





**Mark Millar** 

www.markmillar.com



## 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.

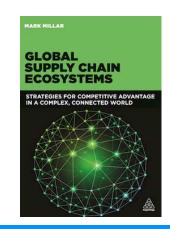
Acknowledged as an engaging presenter who delivers a memorable impact, Mark has completed more than 450 speaking engagements at corporate events, client functions and industry conferences across 28 countries.

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 "<u>Global Supply Chain Ecosystems</u> strategies for competitive advantage in a complex, connected world" was commissioned by leading business publisher <u>Kogan</u> 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





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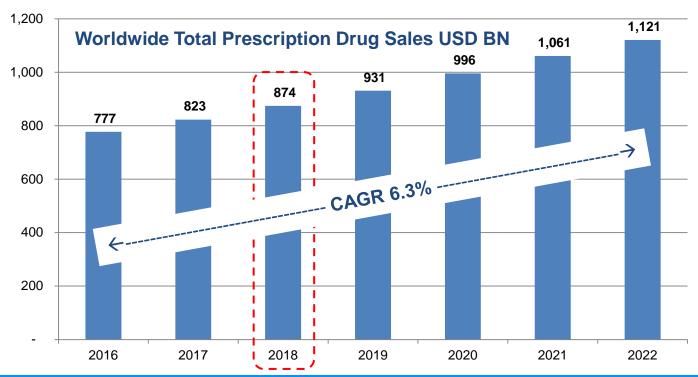
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## Pharma Supply Chain: trends & developments Market Overview

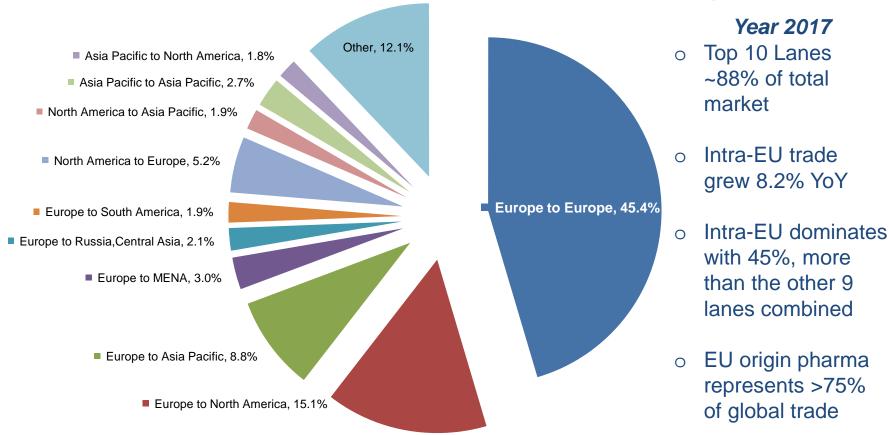


## Pharma Market – Huge, Global & Growing

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

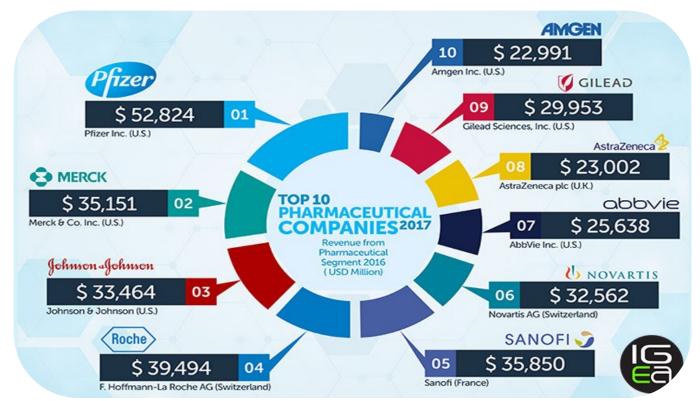


Pharma Market - Top 10 Trade Lanes by Value



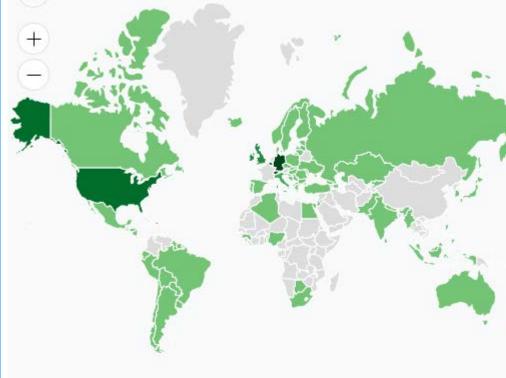
#### Pharma Market – EU & US Dominance

- 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>	410	85%

## **Pharma Import Countries by Value**

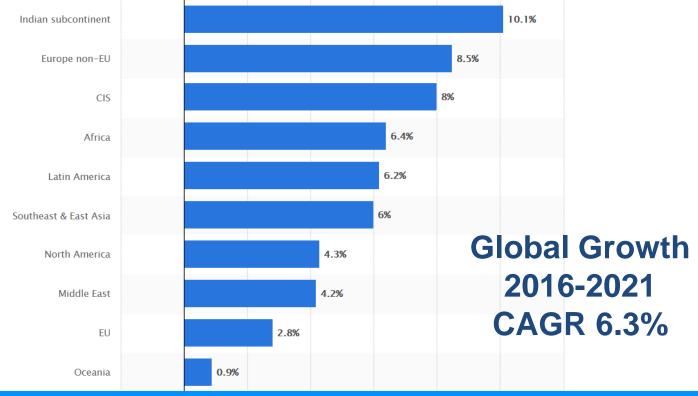
→ 2017 Total USD 495 BN



	<b>Top 10 Importers</b>	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>	357	72%

## Pharma Market – Growth by Region 2016-2021

- greater growth in emerging markets, from relatively small base

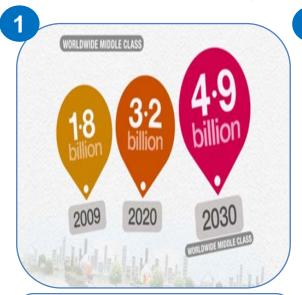


## Pharma Supply Chain: trends & developments **Sector Trends**



## Increasingly globalised

- Emerging Markets Growing



Rising middle classes



Expanding healthcare coverage



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**





#### **Traceability – Goods and Information**





# 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

high R&D investments higher working capita **Pharma Supply Chain - Complex** tight reporting opportunity for growth direct sales Mind Map: mercial fog stabilization/decline Western markets clinical trials handling packaging activities order to cash services increasing demand for proving product value more healthcare treatments nce changing patient target group 2 more demanding customers stricter SLA's complex supply chains strict regulatory guidelines ds arvino decorachical standards pharmerging markets integration of operations after merger/acquisition igations to help poor countries. now distribution models CHANGING **IMPACT PHARMA** , both ncreasing security & liability requirements pressure on legal stricter SLA's PHARMA MARKET **MANUFACTURER** advancement of science & technology new production methods lack of blockbusters in pipeline pressure B&D outsource research influence health authorities purchase start-ups with promising intellectual property nospital transferred care tee regional (trade) compliance dependency on IT increasing regulation Plan availability of Big Data sustainable eco-friendly (production) processes share potentially sensitive information co-development new substances tight collaboration preference policy increasing influence health insurance companies Pharma property rights marketing mpensation depending on Health outcome Supply from 'made on forecast' Act Do  $\triangle$ to 'make to order Chains manufacturing alignment production planning focus on core business product assortment (focus) production under license complex stable production 2014 management of partners added value services J† country specific lead-time clear trade-offs shipping end-to-end supply chains cooling technologies for medication unpredictable behaviour buyers increasing demand for transportation GDP compliance required track & trace requirement improving forecasting Check Sales & Operations Planning e de export Regional Distribution Centre by 3PL company ward level deliveries improving production planning directly to patient manage production GMP compliance phase in new products programs reorganization healthcare divisions flexible network design optimizing supply chains COURSOURCE SUPPLY CHAIN SUPPLY CHAIN shorten lead time trade compliance CHALLENGES SOLUTIONS larger inventories (more SKU's) inventory management smaller orders cost of capital pressure use of barcodes information management multi language packs share information tracking devices need for full visibility POD 3 repack & labelling decontamination increased need of value added services software installatio QA inspection of products

consigned inventory management

## **Pharma Supply Chain – Six Key Elements**









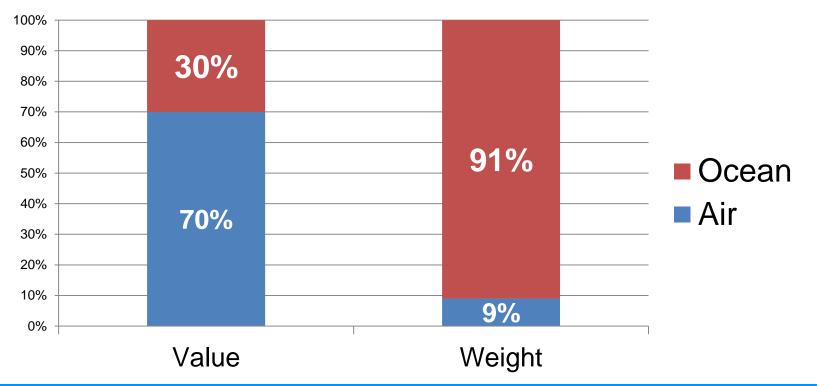




## Pharma Supply Chain: trends & developments Logistics Developments



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



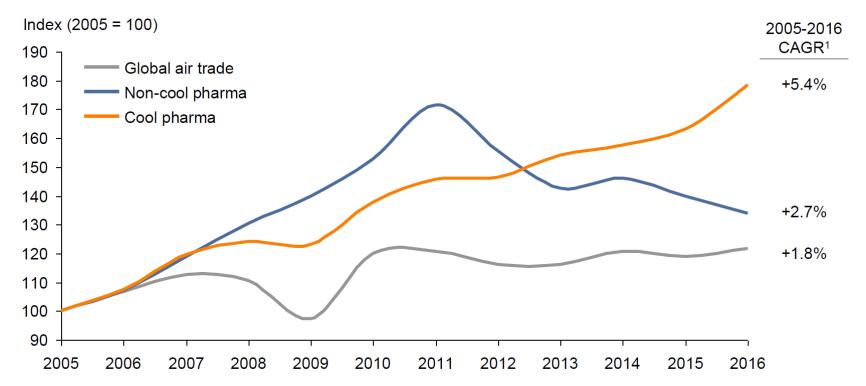
#### Pharma Logistics: Global Spend 2018F USD 86 BN

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



#### **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



## **Top Challenges facing Pharma Supply Chains**





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

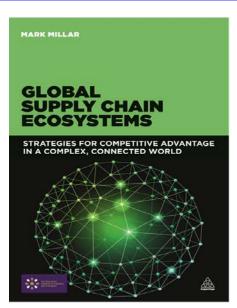




## Global Supply Chain Ecosystems - strategies for

competitive advantage in a complex, connected world - by Mark Millar

- ✓ Commissioned by leading business publisher Kogan Page of London
- ✓ <u>View Endorsements & Reviews from Industry Leaders</u>



#### **Global Supply Chain Ecosystems**

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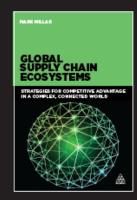
Clients have engaged Mark Millar as Speaker, Moderator, MC or Conference Chairman at more than 450 Events in 26 Countries.

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Mark's book, Global Supply Chain Ecosystems, is available at www.gsce-mm.com