Lloyd's Marine Intelligence Unit

Measuring Global Seaborne Trade

International Maritime Statistics Forum
New Orleans
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Outline

- Measuring Trade: Why ? Sources and Issues

- Developing a Global Maritime Trade Database

- Data Issues and Challenges

- Some Key Figures

- Conclusion

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How much trade moves by Sea ?

- Mantra of Shipping:

- "*90 % of global trade is carried by sea*":
  - IMO
  - UN
  - International Chamber of Shipping
  - US Federal Government
  - EU
  - etc

- 90% also magic number used as a measure of national seaborne trade !

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http://ec.europa.eu/transport/maritime/index_en.htm

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Transport

European Commission > Transport > Maritime transport

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Maritime transport

Maritime transport

- Internal market
- International aspects
- Safety and Environment
- Security
- Ports
- Seafarers
- Research
- Short sea shipping
- Motorways of the Sea

- Public consultations
- Grants
- Events
- Studies
- What's new

Information

- Press room
- Newsletter

What do we want to achieve ?

For Europe, maritime transport has been a catalyst of economic development and prosperity throughout its history. Maritime Transport enables trade and contacts between all the European nations. It ensures the security of supply of energy, food and commodities and provides the main vehicle for European imports and exports to the rest of the world. Almost 90% of the EU external freight trade is seaborne. Short sea shipping represents 40% of intra-EU exchanges in terms of ton-kilometers. The quality of life on islands and in peripheral maritime regions depends on good maritime transport services. Each year, more than 400 million passengers embark and disembark in European ports. Overall, maritime industries are an important source of employment and income for the European economy.

The European Commission's objective is to protect Europe with very strict safety rules preventing sub-standard shipping, reducing the risk of serious maritime accidents and minimizing the environmental impact maritime transport. The Commission also works actively against piracy and terrorism threats. Another important activity concerns the social dimension, looking after working conditions, health and safety issues and professional qualifications of seafarers. Finally, the Commission works for the protection of citizens as users of maritime transport services, ensuring safe and secure conditions, looking after their rights as passengers and examining the adequacy of the public service maritime transport connections proposed by Member States.

The Commission has recently updated its strategic goals and recommendations for the EU Maritime Transport Policy until 2018. Action in the area of maritime transport aims at ensuring the long term performance of the European maritime transport system as a whole to the benefit of all other economic sectors and of the final consumer. The Commission supports actively the efforts of the EU Member States and of the European shipping sector offering quality shipping services in Europe and all over the world.

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Daily news

Press room

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Antonio Tajani
Vice-President,
Transport

Webstreaming portal

High Level
Stakeholder
conference on the
Future of Transport
(2009)

Web-Streaming

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Video - Interview

Motorways of the
sea

Europe strengthens
maritime safety

Waves of Passion: a
film on careers as an
officer of the
merchant navy

Internet   100%

	A	B	C	D	E	F	G	H
1	REPORTER	PARTNER	PRODUCT	FLOW_LA	TRANSPO	PERIOD_L	INDICATORS_L	INDICATOR_VALUE
2	EU27	Eu-Extra	TOTAL	IMPORT	Air	Jan.-Dec.	QUANTITY_IN_	3,981,697
3	EU27	Eu-Extra	TOTAL	EXPORT	Air	Jan.-Dec.	QUANTITY_IN_	9,063,302
4	EU27	Eu-Extra	TOTAL	IMPORT	Fixed Mec	Jan.-Dec.	QUANTITY_IN_	281,635,015
5	EU27	Eu-Extra	TOTAL	EXPORT	Fixed Mec	Jan.-Dec.	QUANTITY_IN_	4,230,705
6	EU27	Eu-Extra	TOTAL	IMPORT	Inland Wat	Jan.-Dec.	QUANTITY_IN_	16,654,323
7	EU27	Eu-Extra	TOTAL	EXPORT	Inland Wat	Jan.-Dec.	QUANTITY_IN_	10,593,882
8	EU27	Eu-Extra	TOTAL	IMPORT	Post	Jan.-Dec.	QUANTITY_IN_	72,517
9	EU27	Eu-Extra	TOTAL	EXPORT	Post	Jan.-Dec.	QUANTITY_IN_	26,549
10	EU27	Eu-Extra	TOTAL	IMPORT	Rail	Jan.-Dec.	QUANTITY_IN_	76,691,899
11	EU27	Eu-Extra	TOTAL	EXPORT	Rail	Jan.-Dec.	QUANTITY_IN_	23,014,325
12	EU27	Eu-Extra	TOTAL	IMPORT	Road	Jan.-Dec.	QUANTITY_IN_	65,361,495
13	EU27	Eu-Extra	TOTAL	EXPORT	Road	Jan.-Dec.	QUANTITY_IN_	82,323,737
14	EU27	Eu-Extra	TOTAL	IMPORT	Sea	Jan.-Dec.	QUANTITY_IN_	1,231,052,585
15	EU27	Eu-Extra	TOTAL	EXPORT	Sea	Jan.-Dec.	QUANTITY_IN_	363,154,877
16	EU27	Eu-Extra	TOTAL	IMPORT	Self Propu	Jan.-Dec.	QUANTITY_IN_	8,940,655
17	EU27	Eu-Extra	TOTAL	EXPORT	Self Propu	Jan.-Dec.	QUANTITY_IN_	3,384,169
18	EU27	Eu-Extra	TOTAL	IMPORT	*Unknown*	Jan.-Dec.	QUANTITY_IN_	92,735,288
19	EU27	Eu-Extra	TOTAL	EXPORT	*Unknown*	Jan.-Dec.	QUANTITY_IN_	9,273,226
20							Total	2,282,190,246.00
21	**Source Eurostat**						Seaborne	1,594,207,462
22							% Seaborne	70%
23								

Trade Data Sources

- UN (COMTRADE)

- OECD (ITCS)

- IMF (DOTS)

- Eurostat (COMEXT)

- Sector specific e.g. IEA (MODS

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Trade Data Limitations

- Trade-off between:

  – Timeliness

  – Geographical Coverage

  – Commodity Detail

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Maritime Trade Database

- LMIU developed a detailed and consistent database of world merchandise trade broken down by mode

  – Seaborne
    - Tanker
    - Dry Bulk
    - General Cargo
    - Container
  – Overland
  – Pipeline
  – Air

- Value($) and Volume (metric tonnes) & TEU

LMIU Data Sources - Trade

- UN (COMTRADE) Sitc 4 Digit:

  - 1260 Commodities

  - 20,000 Trade Routes

  - $ Value + Volume

  - 3 Million Records

- LMIU Seaborne Crude Oil Database (APEX)

- Industry Sector Analysis

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Challenges

- Major differences between what is reported by exporting countries as exports and what is reported as imports by import countries for the same data set.

- Lack of consistency in reporting trade volumes. Trade volumes variously expressed in metric tonnes, cubic metres, number of items, number of pairs, volume in litres etc

- Gaps in the reporting of both value and volume details for particular trades

- Inconsistencies in value/volume relationships

- Data entry errors and reporting

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Who to Believe:

Importer or Exporter ?

Crude Oil Russia to Cyprus

Exports Reported by Russia	16.8 Million Tonnes
Imports Reported by Cyprus	131K Tonnes
LMIU Observed Crude Tanker Capacity Russia- Cyprus	*300K DWT*

Motor Vehicle Parts Germany to Mexico

	Value	Tonnes	$ per Tonne
Imports Reported by Mexico	860,887,000	4,360,282	197
Exports Reported By Germany	517,722,000	74,757	6,925
Avg Value German M/V Parts to World			8,409

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Methodology –Trade Volumes

- Analyse individual country reporter trade stats for overall consistency

- Create a country credibility index

- Compare Export and Import reporter discrepancies

- Convert all volume data to a common unit of measure = Tonnes & fill in gaps using:

  - Reverse Reporter figures (if consistent !)

  - Value to Volume Relationships by commodity & country

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Methodology – Modal Split

- Detailed Industry Research for Each Sector and Mode

- National Stats

- Industry reports/ questionnaires

- Topography (e.g landlocked countries, island states)

- Transport and distribution infrastructure (port capacities, road/rail links, international pipelines etc)

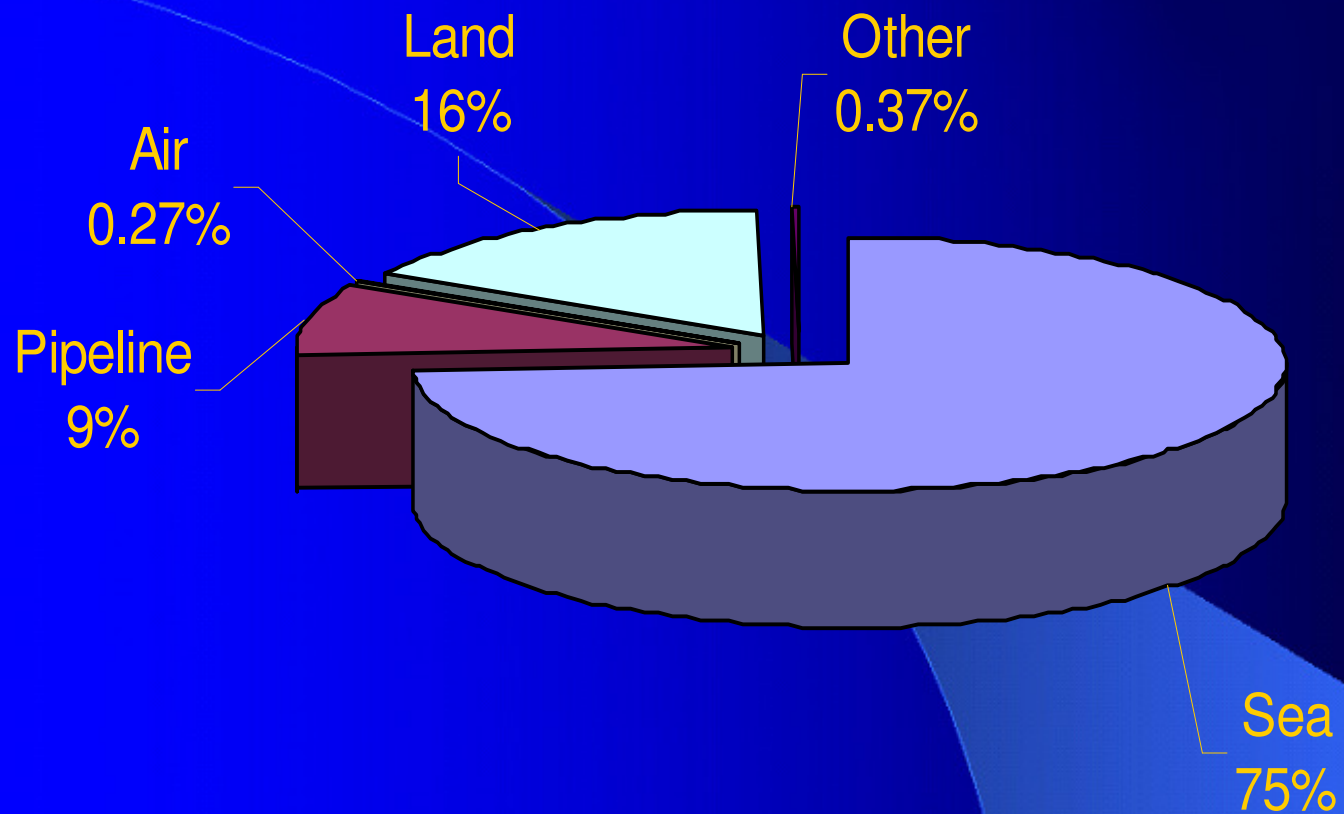- Benchmark Seaborne assumptions against LMIU shipping databases by route and ship type

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OrigCountry	DestCountry	SITC4	product_desc_lon	Tonnes2006	Pipeline	Overlan	AirTo	Othertc	Seaborne	TankerT	DryBulkT	Generalca	ContainerTc	TEU	TotalValue$200	Seaborne$	Overland	Air$	Container$
CHINA	TANZANIA,	7751	Household laundr	27	0	0	0	0	27	0	0	0	27	5.9146	104,000	104,000	0	0	103,977
CHINA	DJIBOUTI	7751	Household laundr	30	0	0	0	0	30	0	0	0	30	6	114,000	114,000	0	0	114,000
CHINA	SEYCHELLI	7751	Household laundr	26	0	0	0	0	26	0	0	0	26	5.6955	97,000	97,000	0	0	96,980
CHINA	MADAGASC	7751	Household laundr	13	0	0	0	0	13	0	0	0	13	2.8478	59,000	59,000	0	0	58,994
CHINA	MOZAMBIQ	7751	Household laundr	7	0	0	0	0	7	0	0	0	7	1.5334	27,000	27,000	0	0	26,999
CHINA	MARSHALL	7751	Household laundr	14	0	0	0	0	14	0	0	0	14	2.5225	54,000	54,000	0	0	53,998
CHINA	CAYMAN IS	7751	Household laundr	13	0	0	0	0	13	0	0	0	13	2.0704	55,000	55,000	0	0	54,990
KOREA REP	CHILE	7751	Household laundr	2,411	0	0	0	0	2,411	0	0	0	2,411	319.98	10,227,000	10,227,000	0	0	10,225,051
KOREA REP	UKRAINE	7751	Household laundr	7,350	0	0	0	0	7,350	0	0	0	7,350	1225	31,734,000	31,734,000	0	0	31,729,950
KOREA REP	RUSSIAN FI	7751	Household laundr	5,609	0	0	0	0	5,609	0	0	0	5,609	934.83	21,082,000	21,082,000	0	0	21,078,622
KOREA REP	MEXICO	7751	Household laundr	2,304	0	0	0	0	2,304	0	0	0	2,304	305.78	10,418,000	10,418,000	0	0	10,416,384
KOREA REP	IRAN (ISLM.	7751	Household laundr	1,604	0	0	0	0	1,604	0	0	0	1,604	267.33	6,063,000	6,063,000	0	0	6,061,516
KOREA REP	COLOMBIA	7751	Household laundr	3,316	0	0	0	0	3,316	0	0	0	3,316	440.09	15,321,000	15,321,000	0	0	15,319,920
KOREA REP	UNTD ARAE	7751	Household laundr	1,241	0	0	0	0	1,241	0	0	0	1,241	206.83	4,680,000	4,680,000	0	0	4,679,811
KOREA REP	SAUDI ARA	7751	Household laundr	1,497	0	0	0	0	1,497	0	0	0	1,497	249.5	6,533,000	6,533,000	0	0	6,532,908
KOREA REP	KAZAKSTAI	7751	Household laundr	1,309	0	0	0	0	1,309	0	0	0	1,309	218.17	5,689,000	5,689,000	0	0	5,688,914
KOREA REP	DOMINICA	7751	Household laundr	1,518	0	0	0	0	1,518	0	0	0	1,518	201.47	4,947,000	4,947,000	0	0	4,945,644
KOREA REP	PERU	7751	Household laundr	886	0	0	0	0	886	0	0	0	886	117.59	3,617,000	3,617,000	0	0	3,616,652
KOREA REP	PANAMA	7751	Household laundr	792	0	0	0	0	792	0	0	0	792	105.11	3,486,000	3,486,000	0	0	3,485,592
KOREA REP	THAILAND	7751	Household laundr	382	0	0	0	0	382	0	0	0	382	63.667	1,929,000	1,929,000	0	0	1,928,718
KOREA REP	VENEZUEL/	7751	Household laundr	951	0	0	0	0	951	0	0	0	951	126.21	4,210,000	4,210,000	0	0	4,209,126
KOREA REP	INDONESIA	7751	Household laundr	30	0	0	0	0	30	0	0	0	30	5	201,000	201,000	0	0	201,000
KOREA REP	JORDAN	7751	Household laundr	47	0	0	0	0	47	0	0	0	47	7.8333	113,000	113,000	0	0	112,988
KOREA REP	MALAYSIA	7751	Household laundr	146	0	0	0	0	146	0	0	0	146	24.333	502,000	502,000	0	0	501,948
KOREA REP	SYRIA A. R.	7751	Household laundr	23	0	0	0	0	23	0	0	0	23	3.8333	129,000	129,000	0	0	128,984
KOREA REP	TURKEY	7751	Household laundr	68	0	0	0	0	68	0	0	0	68	11.333	540,000	540,000	0	0	539,988
KOREA REP	VIET NAM	7751	Household laundr	53	0	0	0	0	53	0	0	0	53	8.8333	233,000	233,000	0	0	232,988
KOREA REP	POLAND	7751	Household laundr	165	0	0	0	0	165	0	0	0	165	27.5	722,000	722,000	0	0	721,875
KOREA REP	KUWAIT	7751	Household laundr	488	0	0	0	0	488	0	0	0	488	81.333	1,819,000	1,819,000	0	0	1,818,776
KOREA REP	TUNISIA	7751	Household laundr	191	0	0	0	0	191	0	0	0	191	31.833	710,000	710,000	0	0	709,947
KOREA REP	LEBANON	7751	Household laundr	424	0	0	0	0	424	0	0	0	424	70.667	1,810,000	1,810,000	0	0	1,809,632
KOREA REP	LIBYA	7751	Household laundr	491	0	0	0	0	491	0	0	0	491	81.833	1,757,000	1,757,000	0	0	1,756,798
KOREA REP	CHINA	7751	Household laundr	130	0	0	0	0	130	0	0	0	130	21.667	773,000	773,000	0	0	772,980
KOREA REP	INDIA	7751	Household laundr	24	0	0	0	0	24	0	0	0	24	4	133,000	133,000	0	0	132,984
KOREA REP	ECUADOR	7751	Household laundr	364	0	0	0	0	364	0	0	0	364	48.309	1,528,000	1,528,000	0	0	1,527,708

World Trade Tonnes - 2006

	2006
Sea	7,480,813,963
Pipeline	887,491,258
Air	27,408,750
Land	1,636,304,585
Other	36,890,917
Total	10,068,911,479

World Trade Tonnes - 2006

Land
16%

Other
0.37%

Air
0.27%

Pipeline
9%

Sea
75%

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World Trade $ Value

Land 28%

Other 1%

Air 10%

Pipeline 2%

Sea 59%
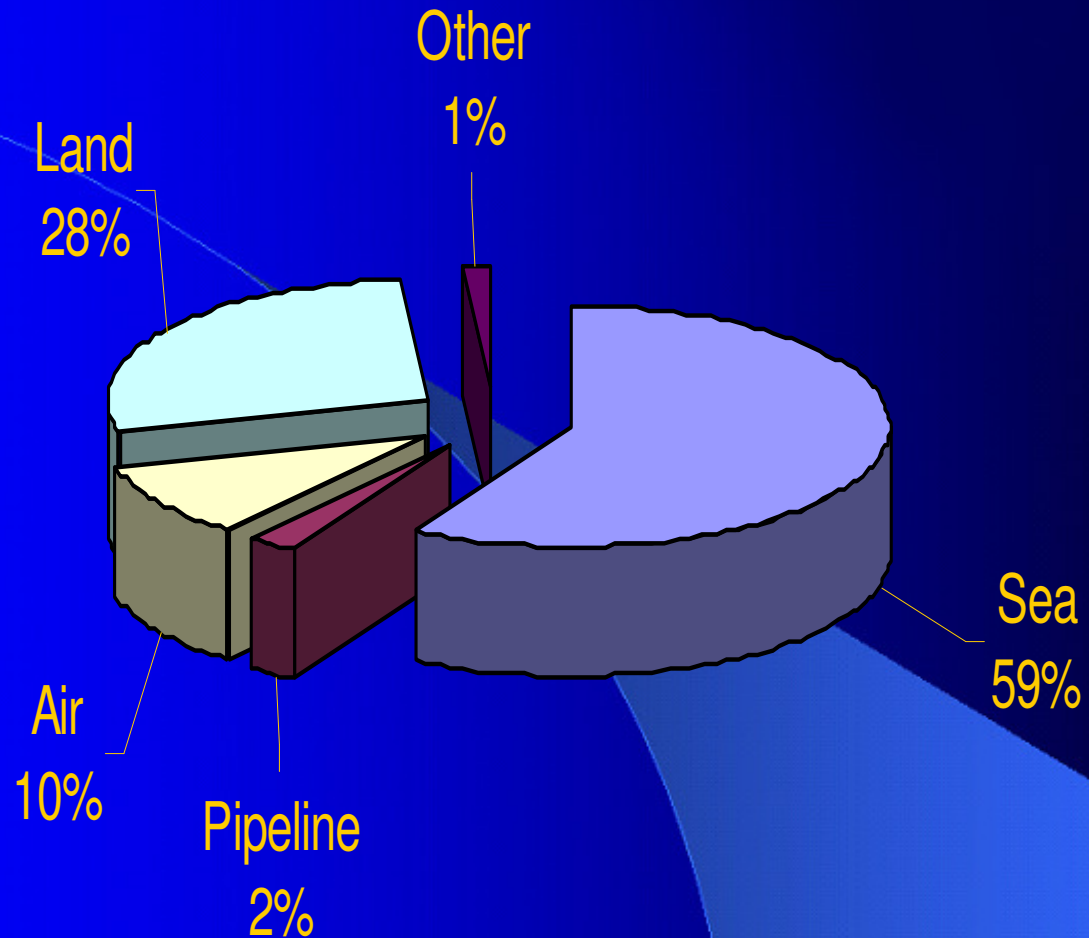
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Seaborne Trade - Tonnes

Container
10%

Gen Cargo
9%

Tanker
43%

Dry Bulk
38%
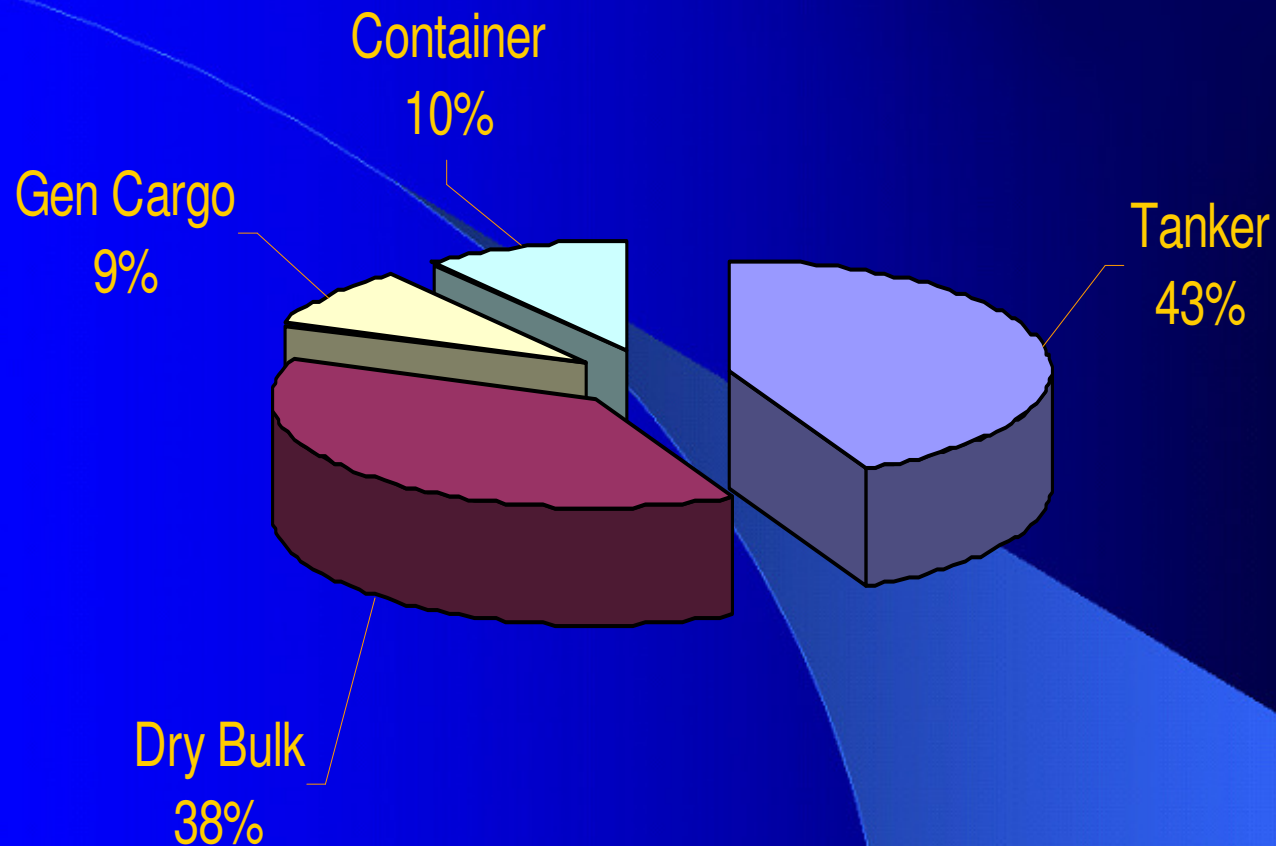
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Seaborne Trade - $ Value

Container
52%

Tanker
22%

DryBulk
6%

Gen Cargo
20%
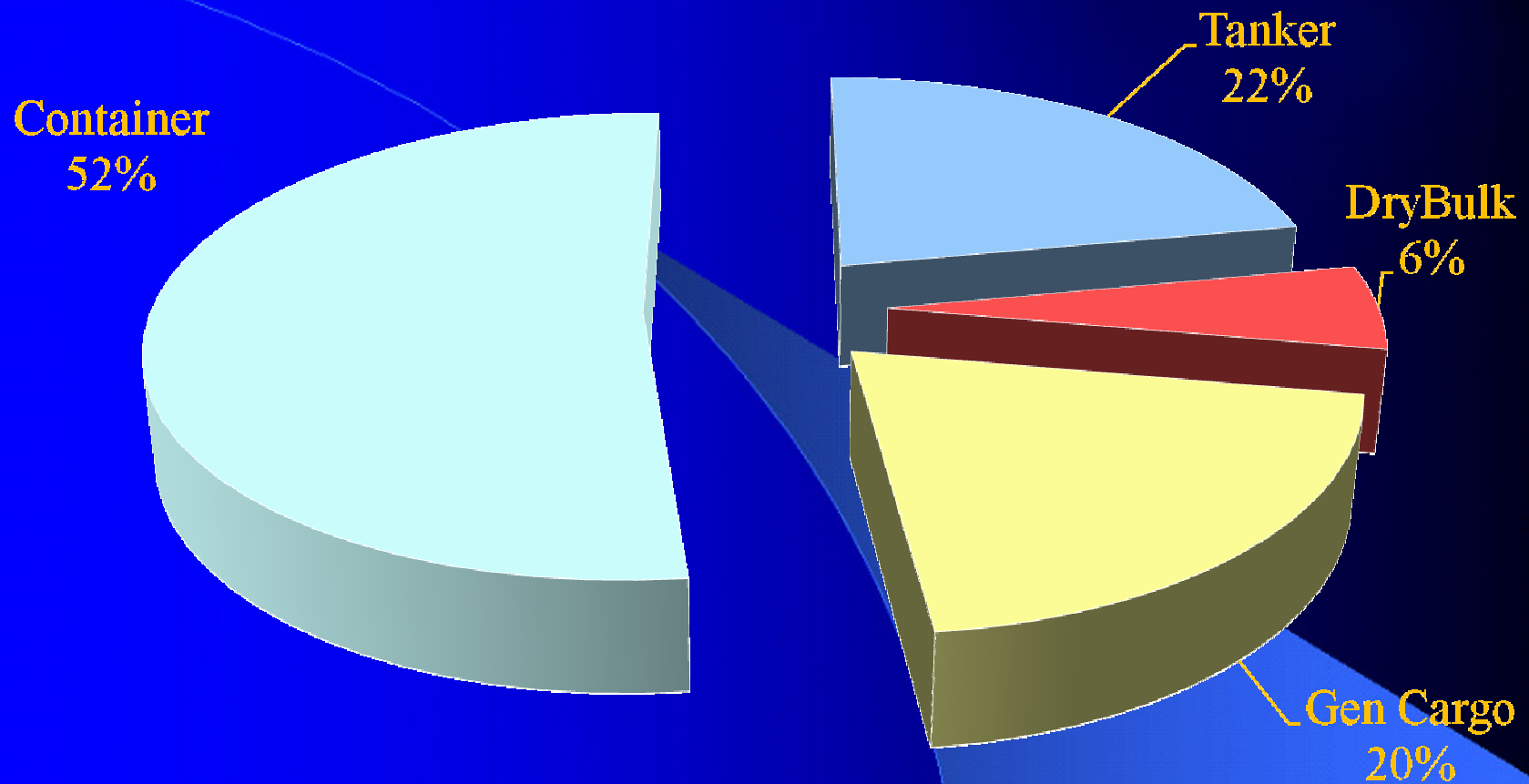
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Top 10 Seaborne Commodities $ Bil.

= 62% of Total Seaborne Trade
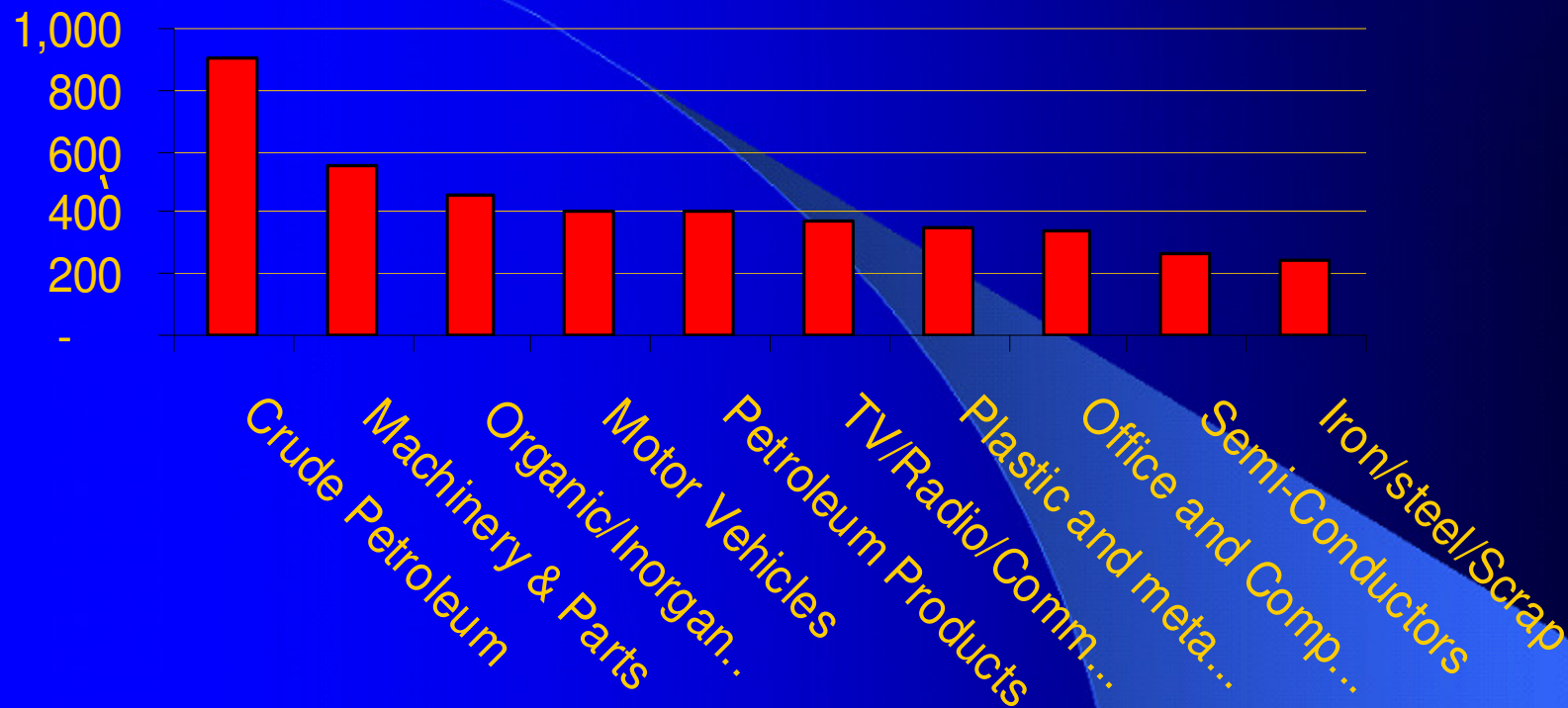
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Top 10 Seaborne Exporters -Tonnes
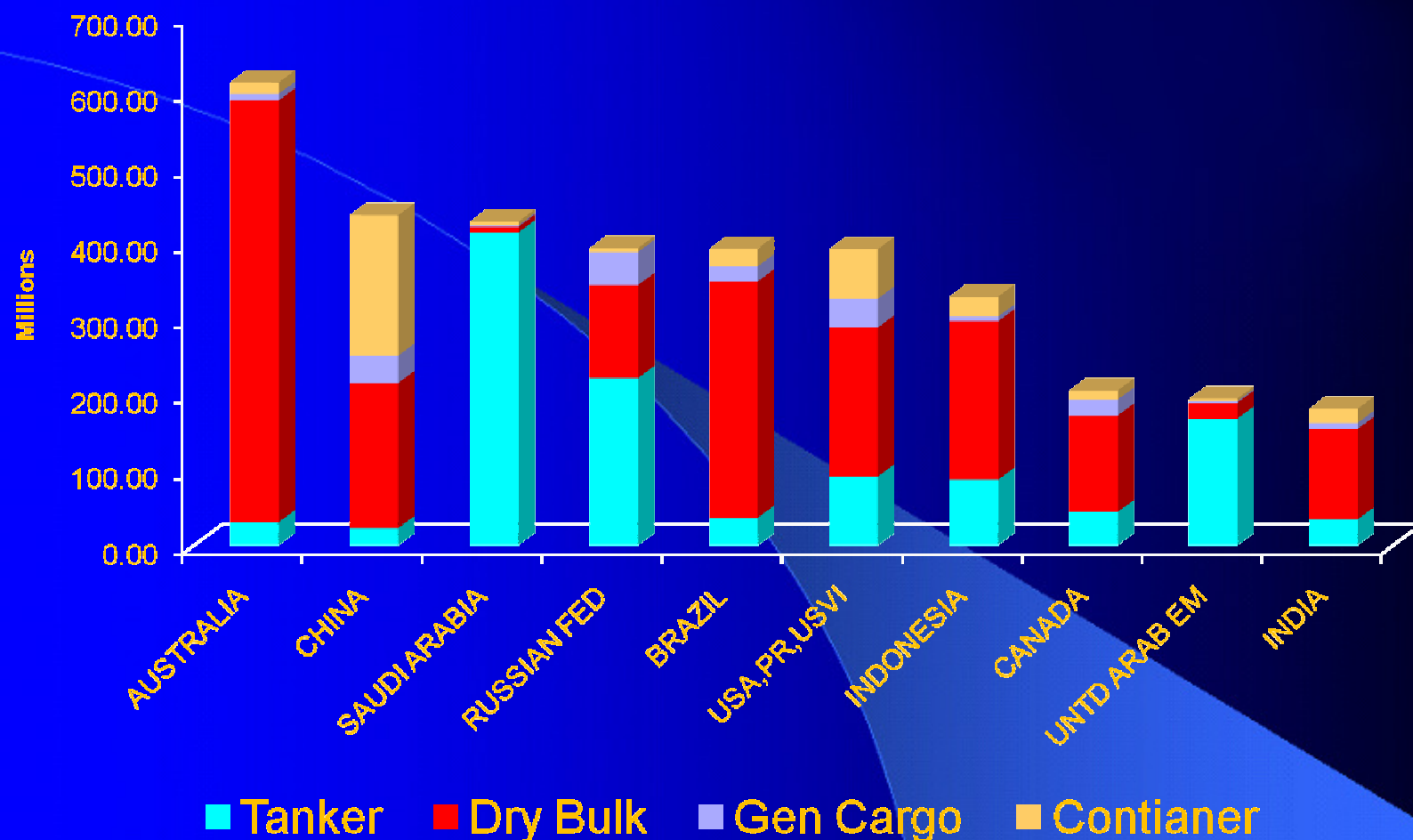
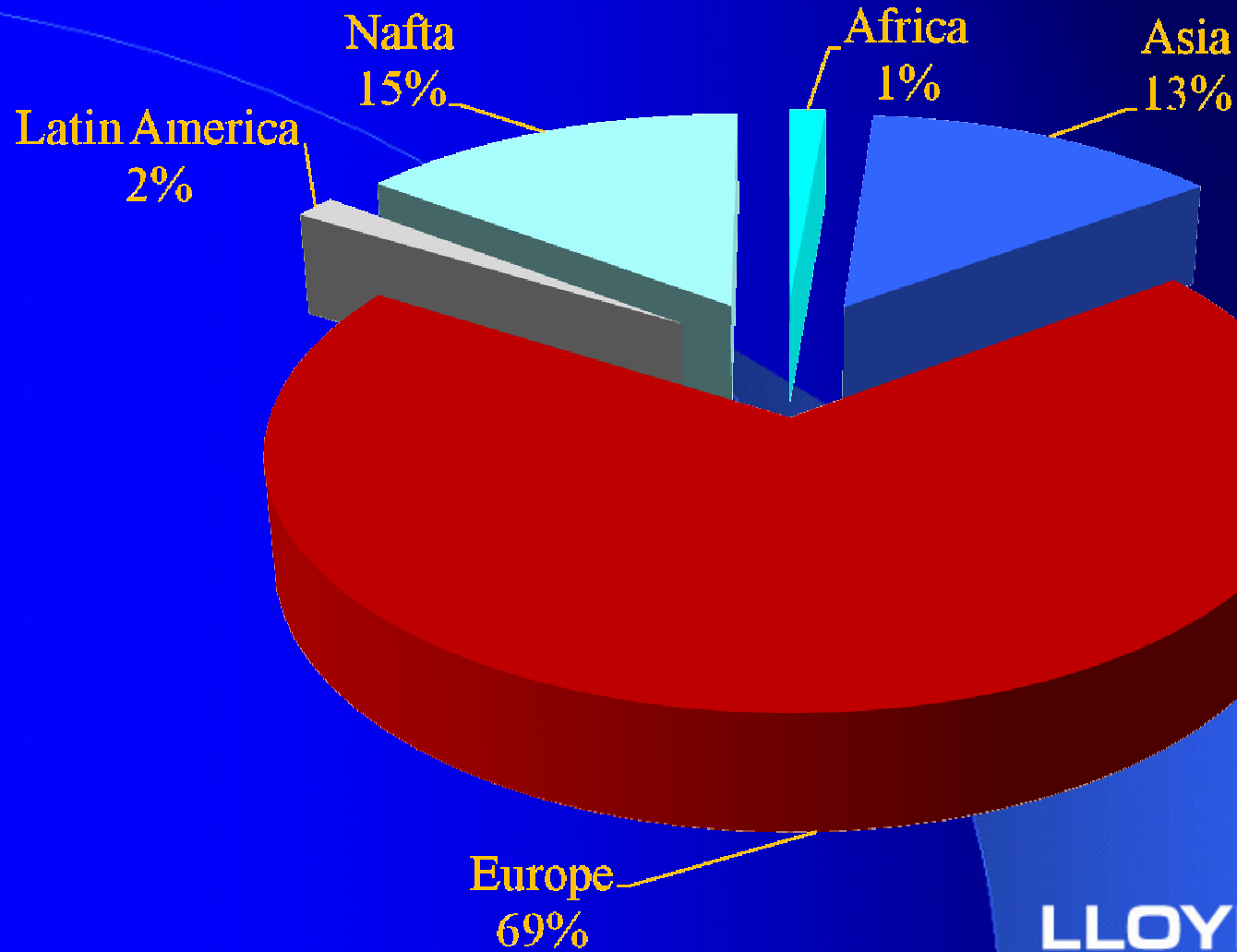# Top 10 Seaborne Importers -Tonnes
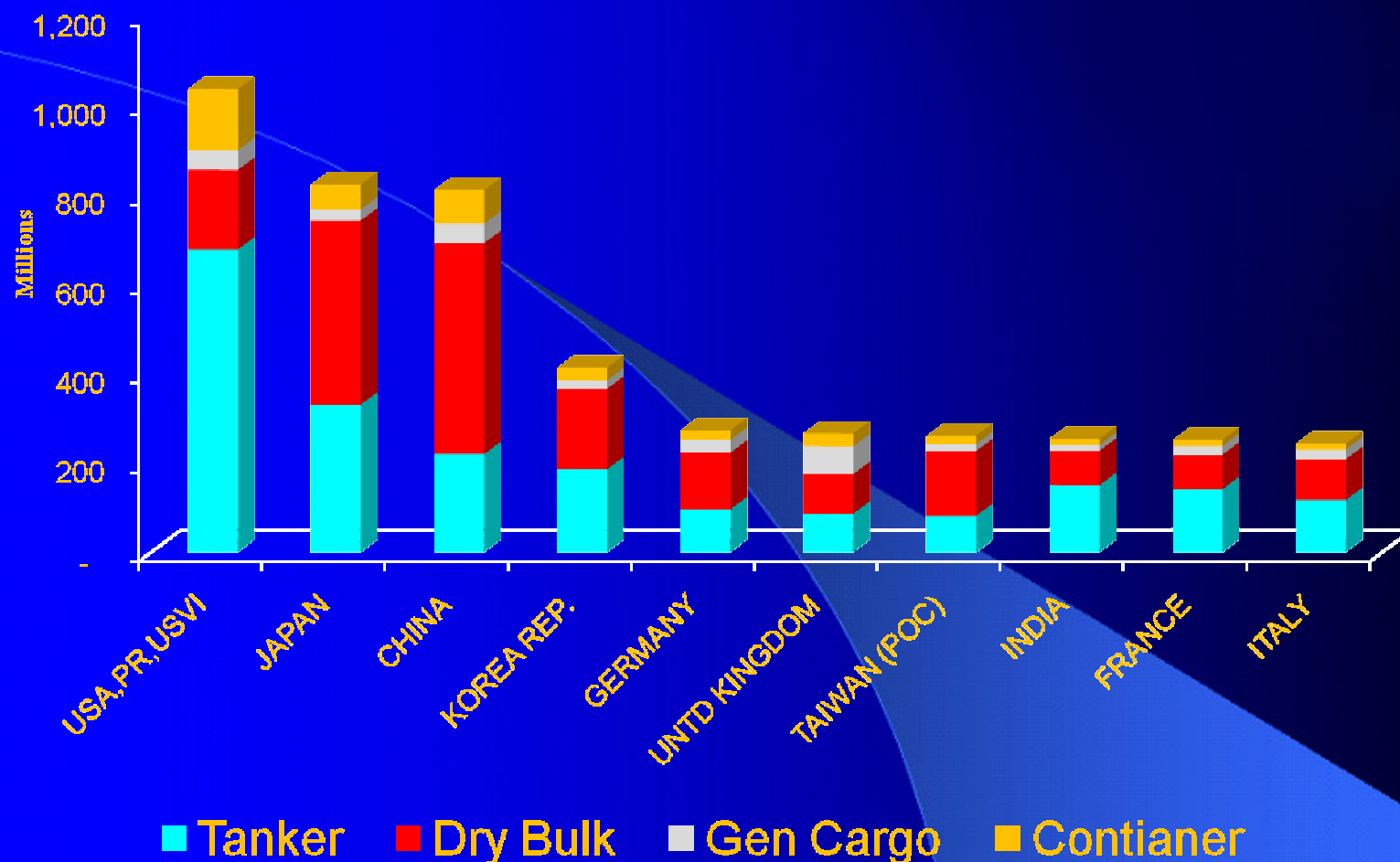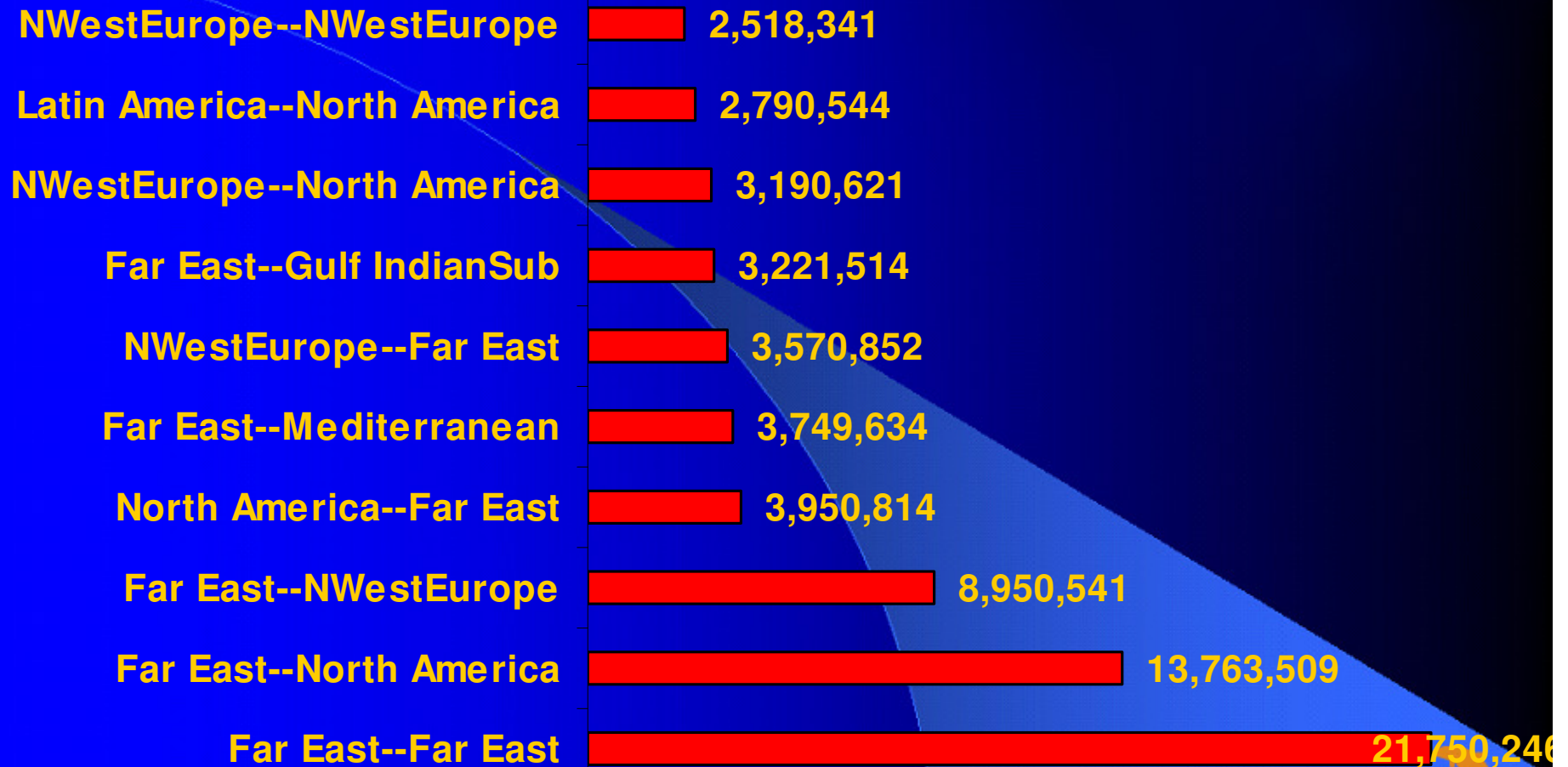
Overland Routes

(Excl Pipeline)

Conclusion

- Official stats are not always right !!!???

- Measuring Trade is complex analytical process and results open to interpretation

- Question the process behind headline catching "top down" numbers.

- Does it matter? Sheer volume and logistical practicalities means there is no alternative to the seaborne carriage of the majority of world trade