

The global context of logistics and supply chain management

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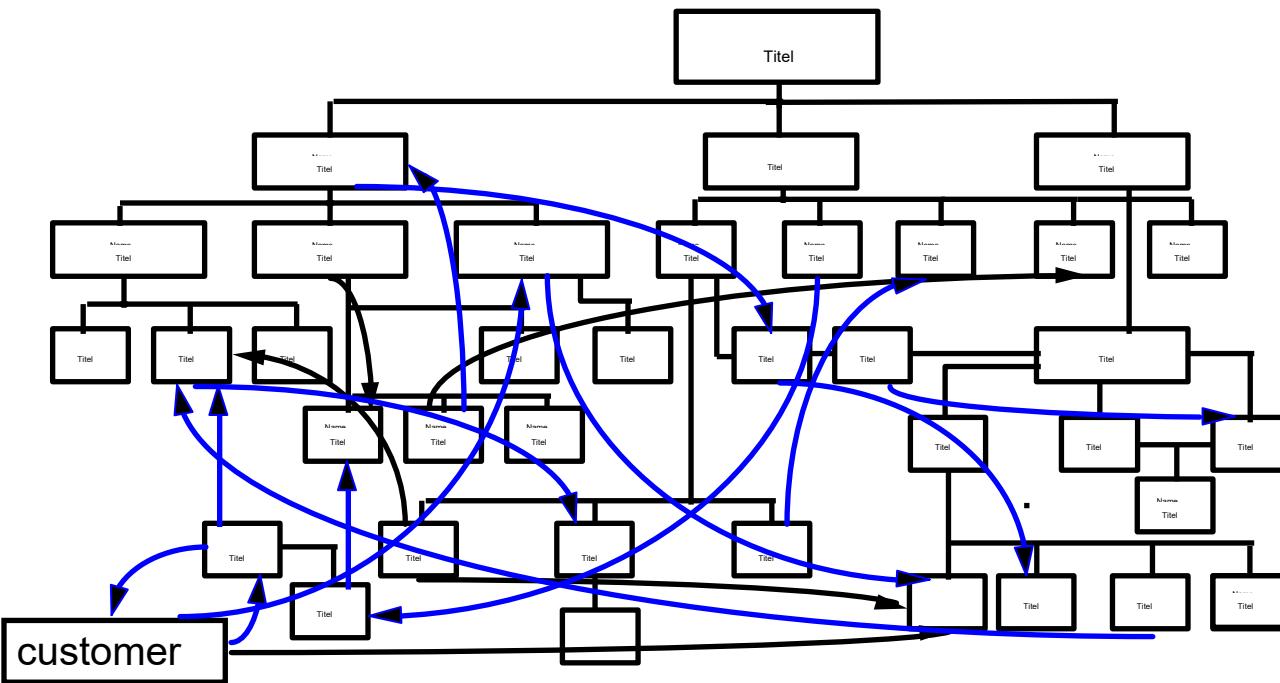


RECAP

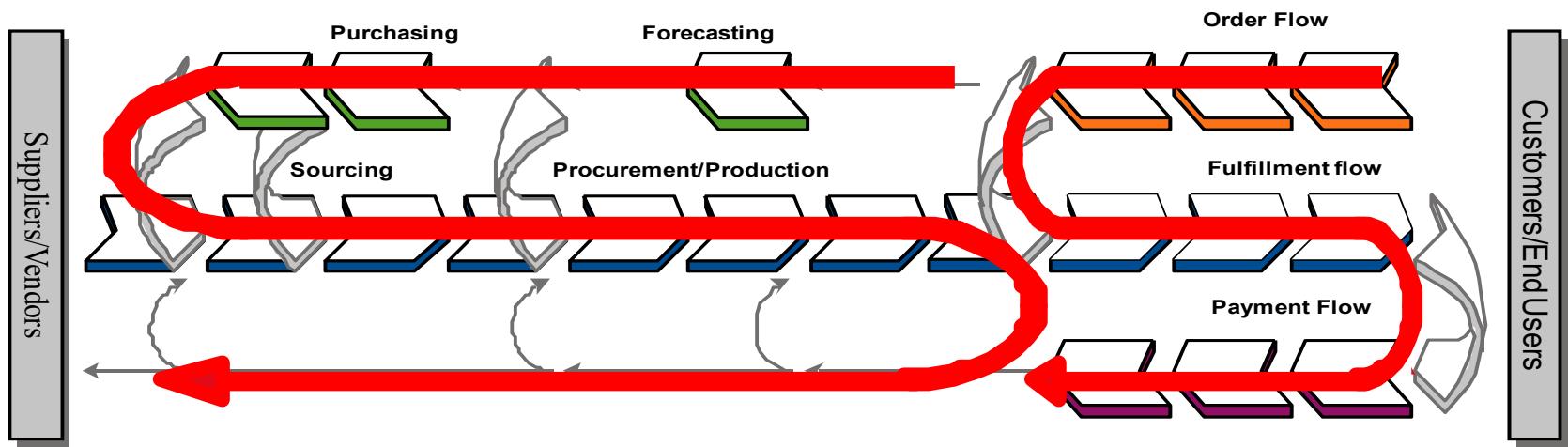
The grand purpose of SCM In (y)our own words

- ❖ “Awareness for a total unit – Seeing a whole flow, a network, a system as object for improvement and management”
- ❖ “Seeing the whole thing as an integrated thing – and design, coordinate, adapt accordingly”
- ❖ “Aligning the whole thing to the needs of – in ideal – the ultimate customer”
- ❖ “To provide value for the customer and the actors in the chain”

... more specifically: identifying „flows“ in the world of business

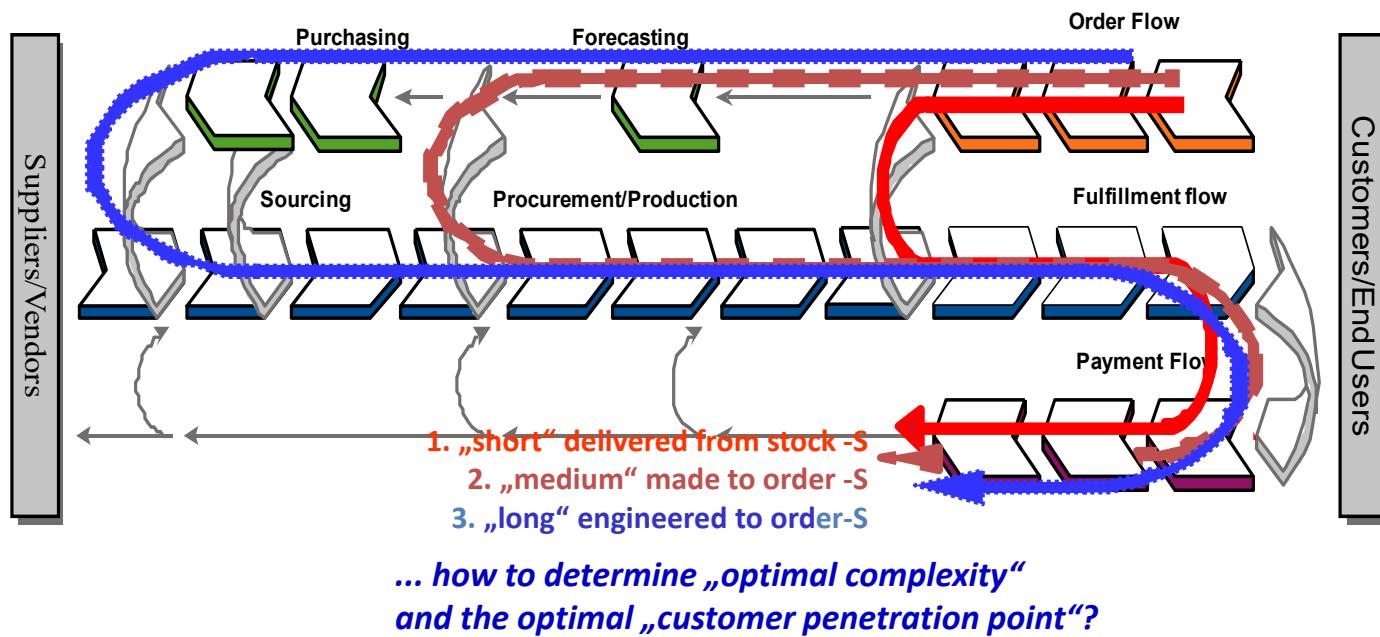


For example: The Order-to-Payment Flow

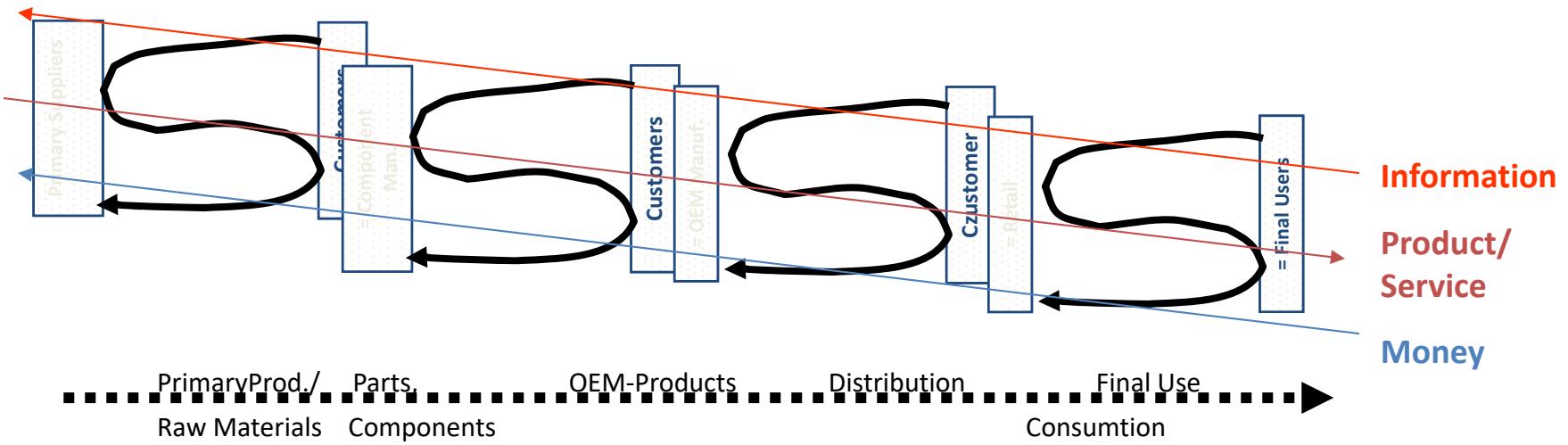


*... how to integrate activities
in the Supply-Chain „S“?*

For example: Integrating with different length of the chains

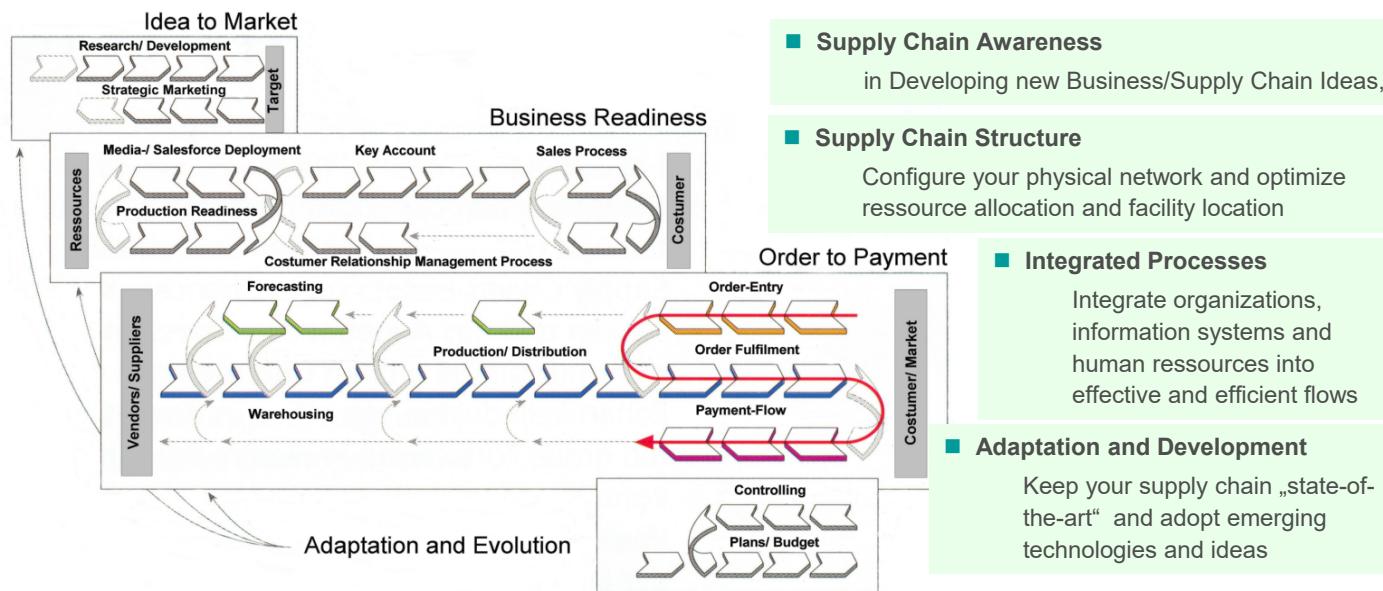


The Full Supply Chain: A Sequence of S's

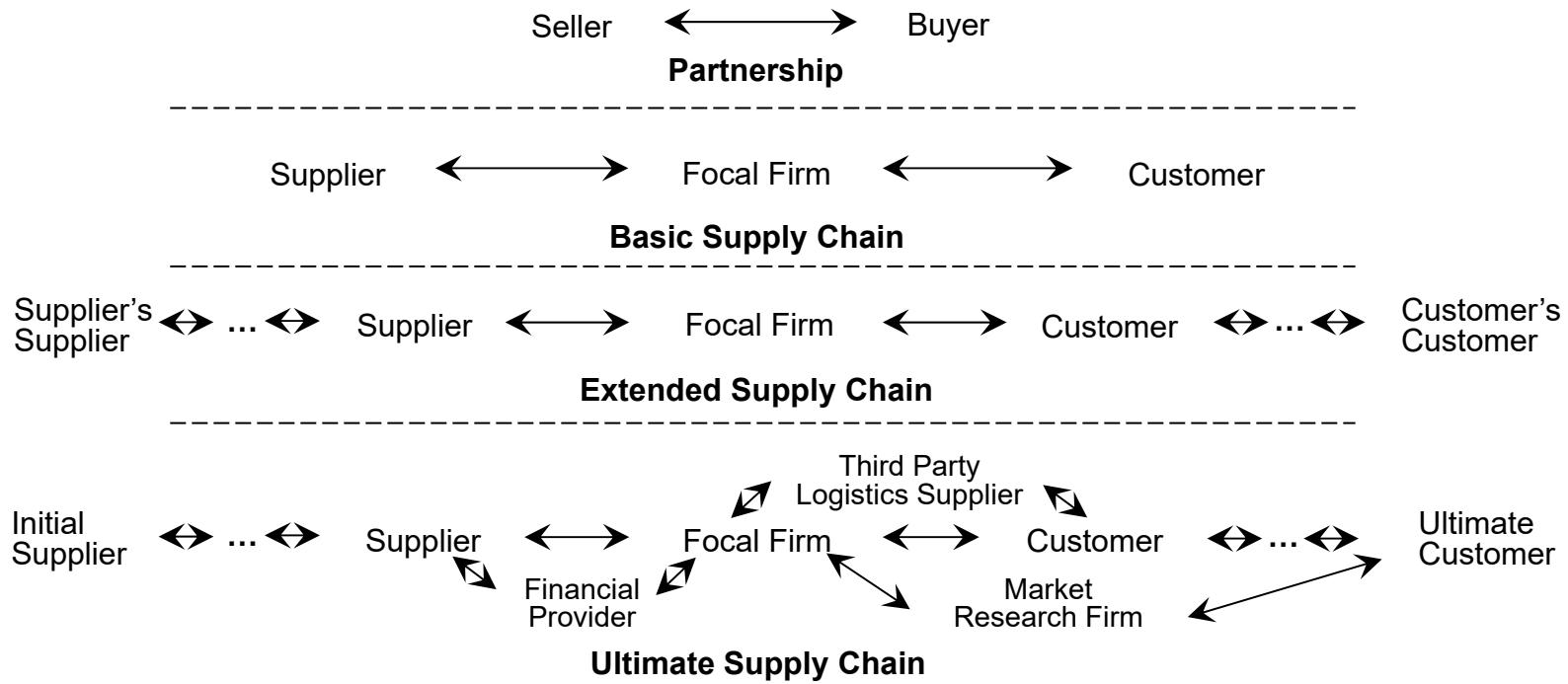


*... How to configure entire economy-wide
Supply Chains for competitiveness?*

It is not only the order-to-payment flow



The challenge of the Scope? Basic – Extended - Ultimate



Also different levels – Supply Chain, Company and Process level

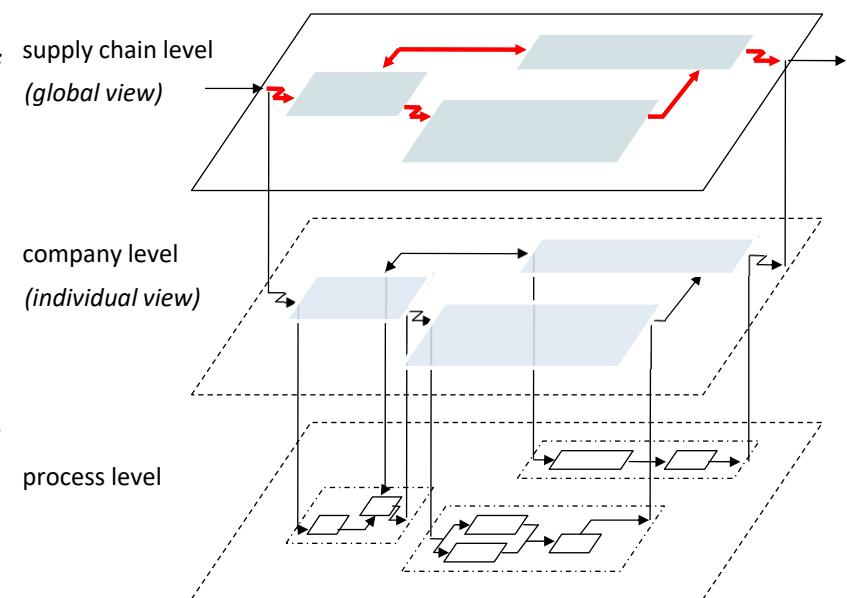
It is no longer all about technology, warehouses, and distribution centres ,or trucks or planes

... in effect the supply chain is any combination of processes, functions, activities, relationships, and pathways, along which products, services, information and financial transactions move in and between enterprises

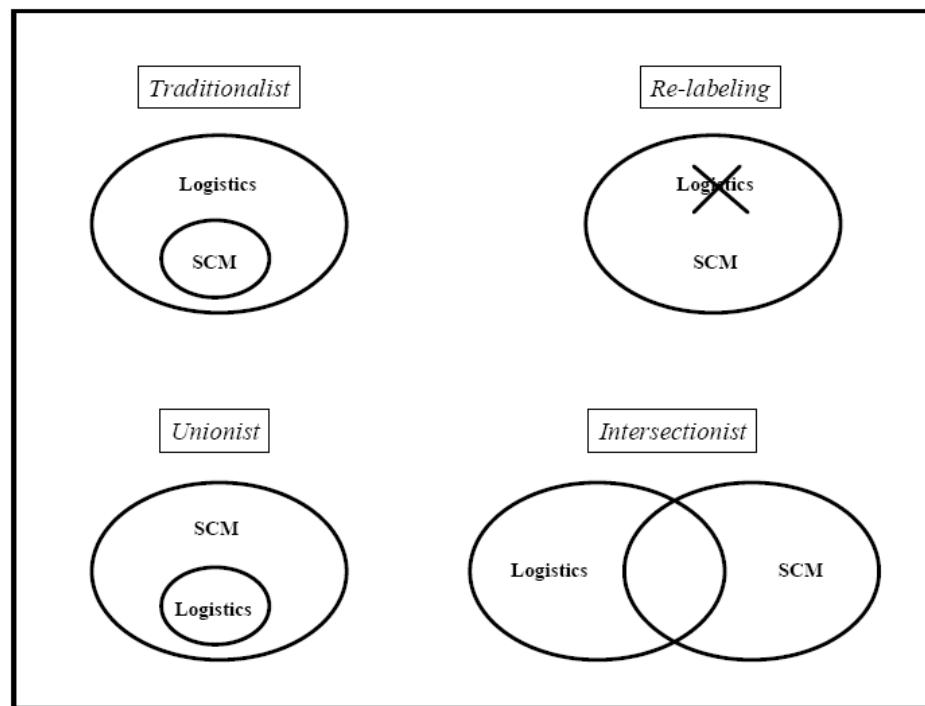
(Gattorna 2006)

Supply chain management focuses on the **integration** and **coordination** of all activities associated with the financial, material, and information **flows** through improved supply chain relations to achieve a sustainable **competitive advantage**.

(Monczka/Trent/Handfield,2002)



Logistics vs. SCM Larson and Halldorssons four positions



The CSCMP definition for supply chain and SCM

CSCMP Definition of Supply Chain Management

Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all Logistics Management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, Supply Chain Management integrates supply and demand management within and across companies.

Supply Chain Management – Boundaries & Relationships

Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the Logistics Management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology.



**Council of Supply Chain
Management Professionals**

What is logistics management?

“Logistics management is that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer requirements.”

CLM definition of Logistics Management (2003) as quoted in Mentzer et al. (2004)



Council of Supply Chain
Management Professionals

Today's Topics



Intro: A Big Picture of Internationalization and Globalization – And the Question on the role of Logistics and Supply Chain Management within

Is the World really flat – even without C19?

- Discussing the case of Flowers B.V.
 - The structure of the supply chain
 - Complications and Considerations in the global context of the operations

Wrapping it up: some key issues in a little bit broader view than that of the case



A piece of “mainstream“ literature:

- ❖ Friedman: Three-time winner of the Pulitzer Prize for journalism as a foreign affairs columnist for the New York Times.
 - ❖ Christopher Columbus traveled to America in 1492 and proved the world is round
 - ❖ Friedman traveled to India in 2003 and found
 - – Radiologists reading X-rays from Midwest Hospitals
 - Accountants doing US tax returns
 - 2003: 25,000 - 2006: 400,000
 - Call centers doing a variety of services
 - Leading US companies (e.g. Microsoft, IBM, Accenture, etc.)
 - Successful global Indian high tech companies (e.g. Infosys, TATA)
- ⇒ **Conclusion: The world is flat!**
- ⇒ **And getting flatter – at least until 2020**

February 2022

October 2023

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February 2025

What makes the world flatter?

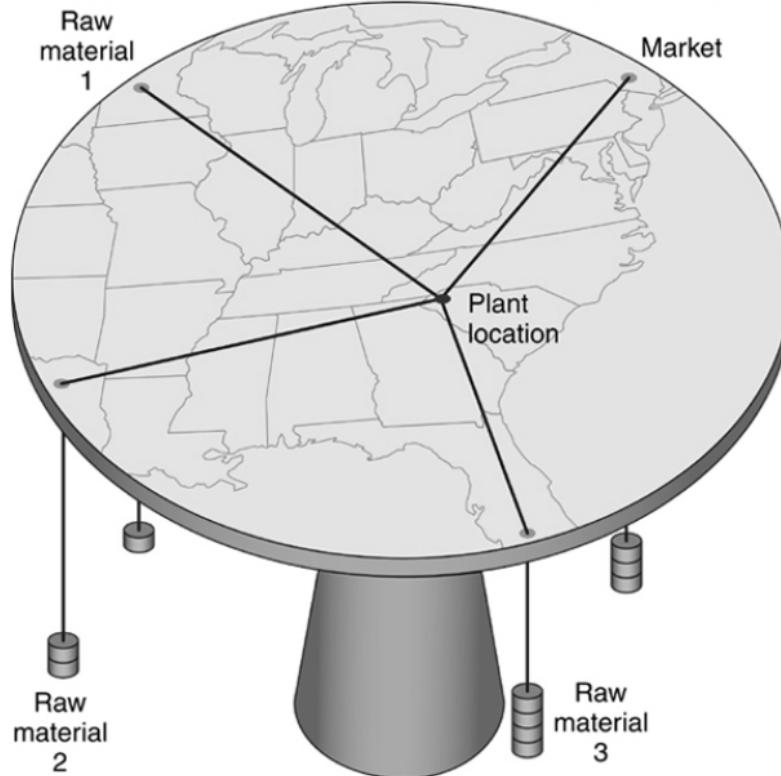
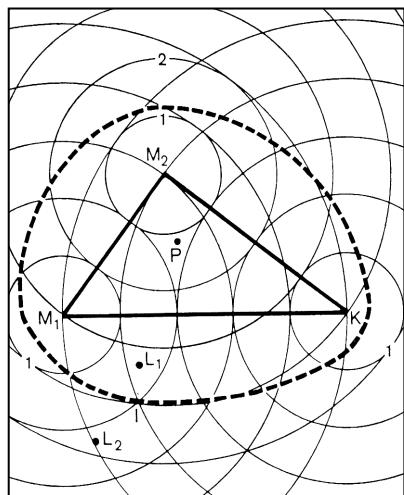
1. 11/9/89 The Fall of the Berlin Wall
2. 8/9/95 The Birth of the Internet (When Netscape Went Public)
3. Work Flow Software Software that coordinates tasks.
4. Open-Sourcing The Self-Organizing Collaborative Communities that produced Linux and Wikipedia
5. Outsourcing, e.g. move software coding to India (and demand for coding far in excess of US capacity created the necessity)
6. Offshoring The movement of manufacturing jobs to low-wage developing countries.
7. Supply-Chaining Wal-Mart supply chain management practices.
8. “Insourcing” UPS not only picks up your broken Toshiba laptop but repairs its as well. Small companies can act large because the fixed-cost logistics infrastructure is supplied by a third party.
9. “In-forming” Google and Internet searches
10. The Steroids Digital, mobile, personal and virtual communications, Videoconferences

But before: why „flat“?

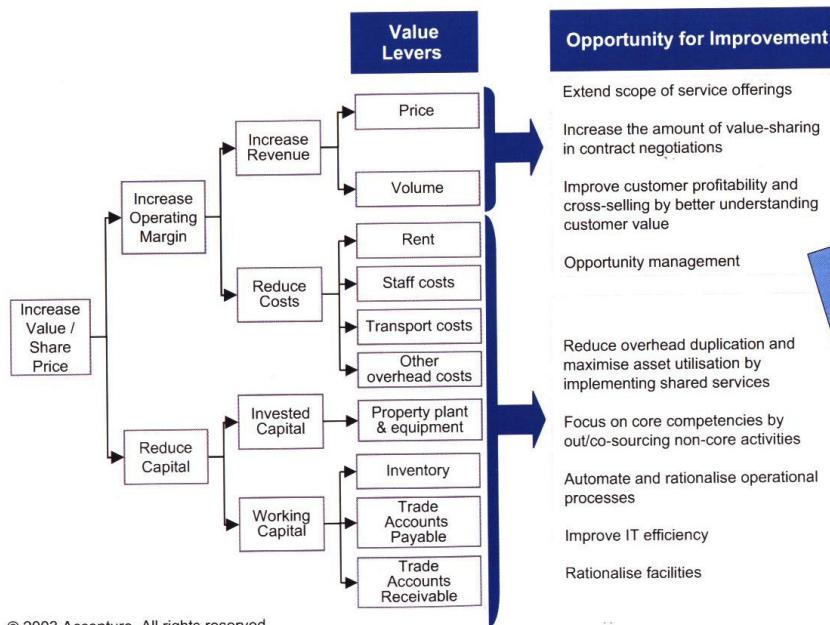


The Core Idea – The globe is the system

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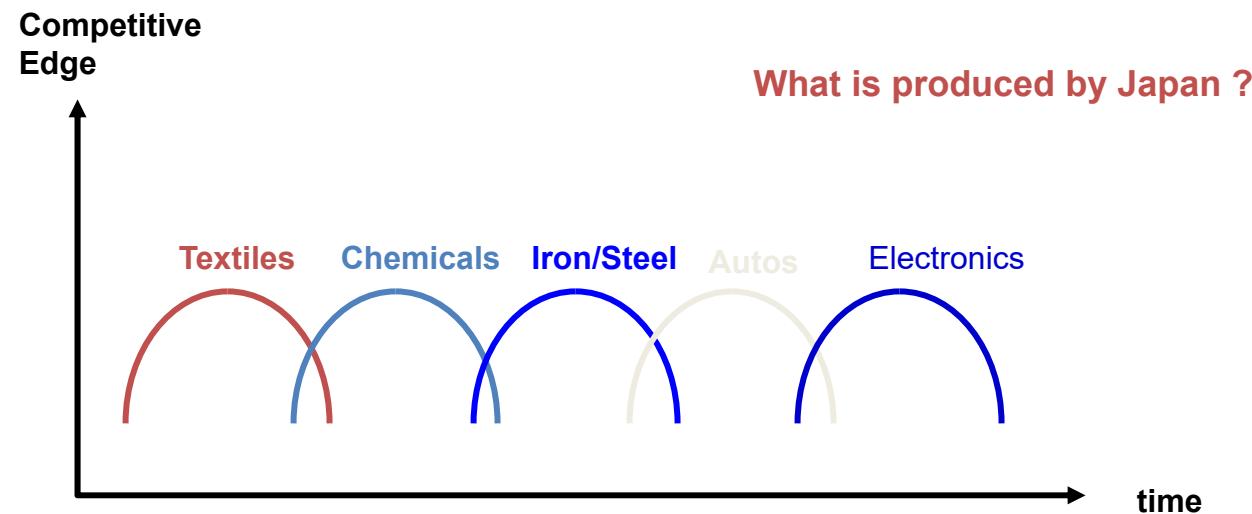
Global competition for capital value based Management - what is the role of logistics and SCM in that picture



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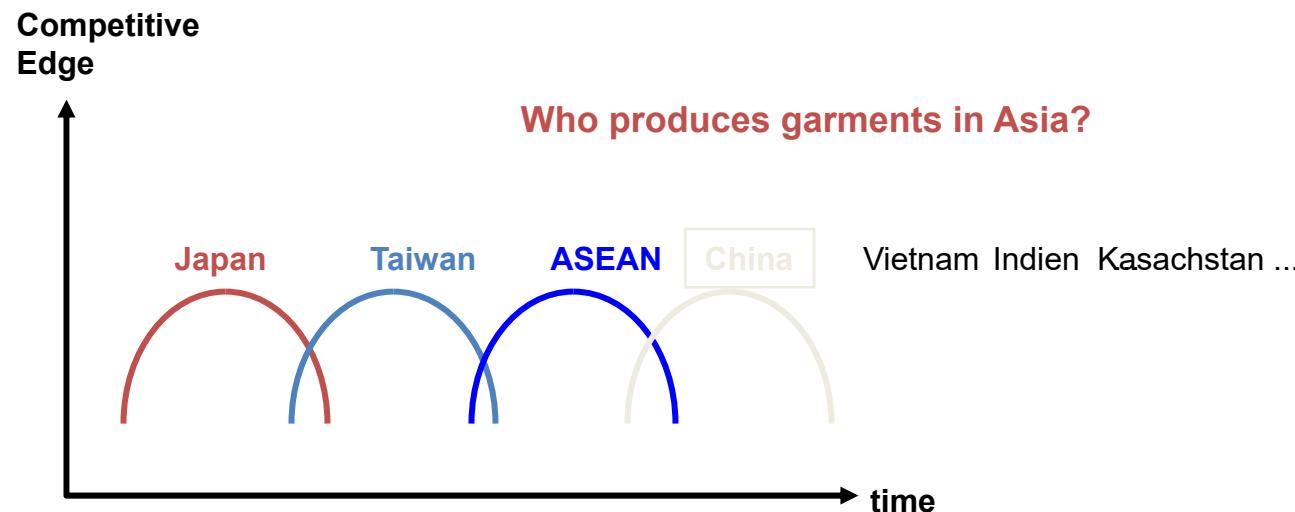
- Kenichi Ohno: Post-industrial period (from late 1980s) is one in which “arteries” of the economy are “cleansed” of “sclerotic” nation states, and capital flows freely and unconstrained.
- Focus on Management of the Capital flows?
- Reasking all activities with respect to their value contribution
- Concentration on Core-Competencies; Outsourcing of Non-Core Competencies
- „Headcount“

Global Resources and Dynamics – Footloose Industries and the “Goose Flight”



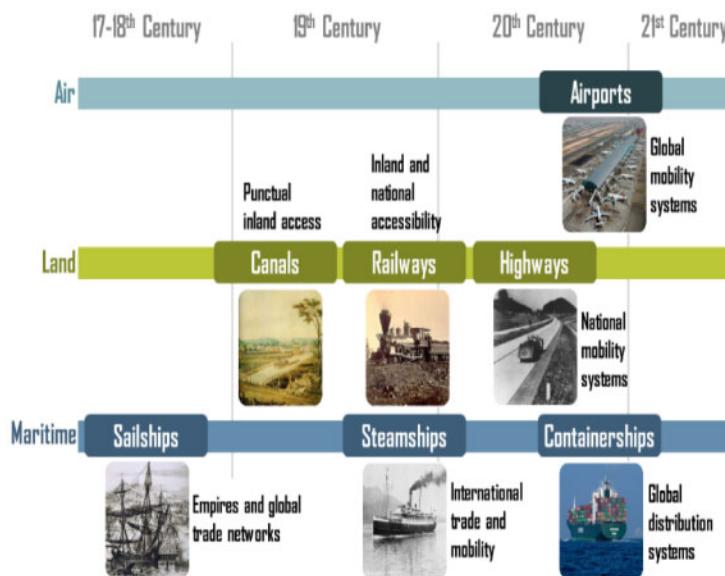
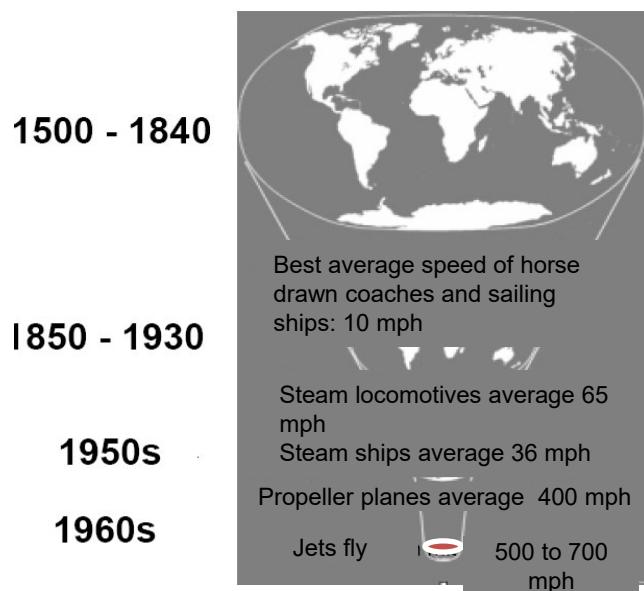
Quelle: Kwan, Chi; NRI Spring 97, S. 58 ff.

... – Footloose Industries and the “Goose Flight”



Quelle: Kwan, Chi; NRI Spring 97, S. 58 ff.

Logistics is driver of the development “shrinking the world”

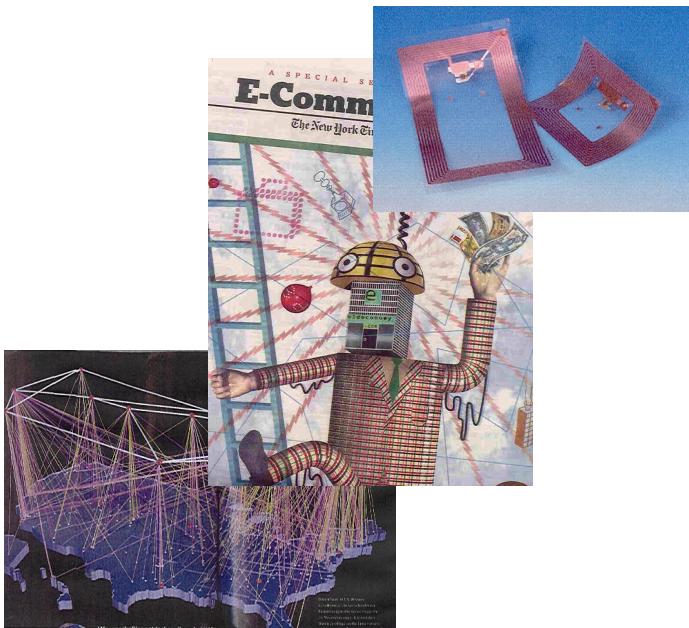


Quelle:
Peter Dicken,
Global Shift. Industrial Change in a
Turbulent World, London 1986

COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

Source: Rodrigue, Geography of Transport Systems

Intensified by new Technologies, especially ICT and new rules of competition

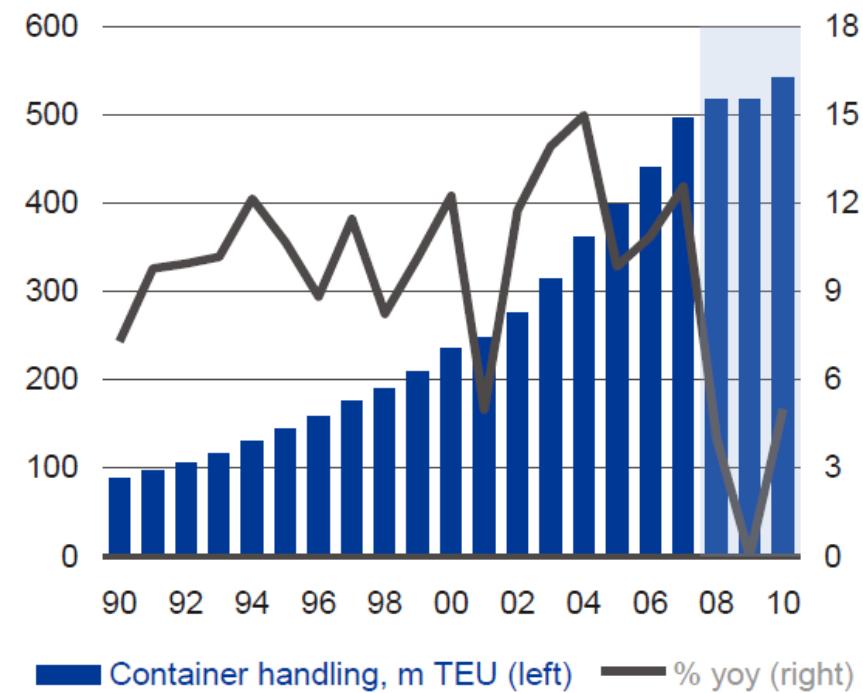


- The global village in the Internet
 - International Standards GCI replaces country initiatives
 - With smart phones in your hand
- With dissolution of (emotional) links to local Craftmans, Industries, or Retailers: e.g. Buying cars in the web
- Global sourcing of technology and Know-how (e.g. Programmers from India; Call Centers in Ireland)
- Dissolution of industry borders
 - Birthday card playing „Happy Birthday“ contains more computer power than that available in 1950 all over the world
 - Average new cars contain more Computer and electronic circuits than steel
 - „Fashion“ vs. Textile industry

But Logistics is also driven by the economy e.g the container boom



Total world container handling



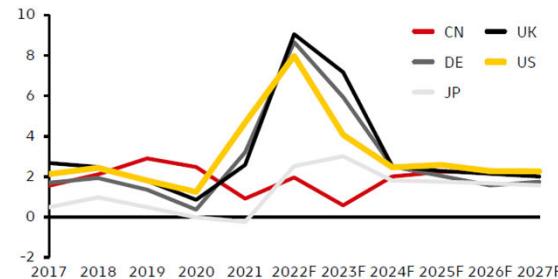
Sources: Drewry, DB Research

High level market development

ECONOMIC OUTLOOK GDP GROWTH BY REGION¹⁾

	2023F	2024F	2025F	2026F	2027F	CAGR (2024-27)
AMER	2.1%	1.5%	1.6%	1.9%	2.0%	1.8%
ASPA	4.2%	4.1%	4.3%	4.3%	4.2%	4.2%
EURO	0.8%	1.0%	1.7%	1.8%	1.7%	1.8%
MEA	2.4%	3.4%	3.8%	3.3%	3.3%	3.5%
DGF World	2.5%	2.4%	2.7%	2.8%	2.8%	2.8%

INFLATION, YOY in %²⁾



WORLD CONTAINER INDEX (WCI)³⁾



SHANGHAI CONTAINERIZED FREIGHT INDEX (SCFI)⁴⁾

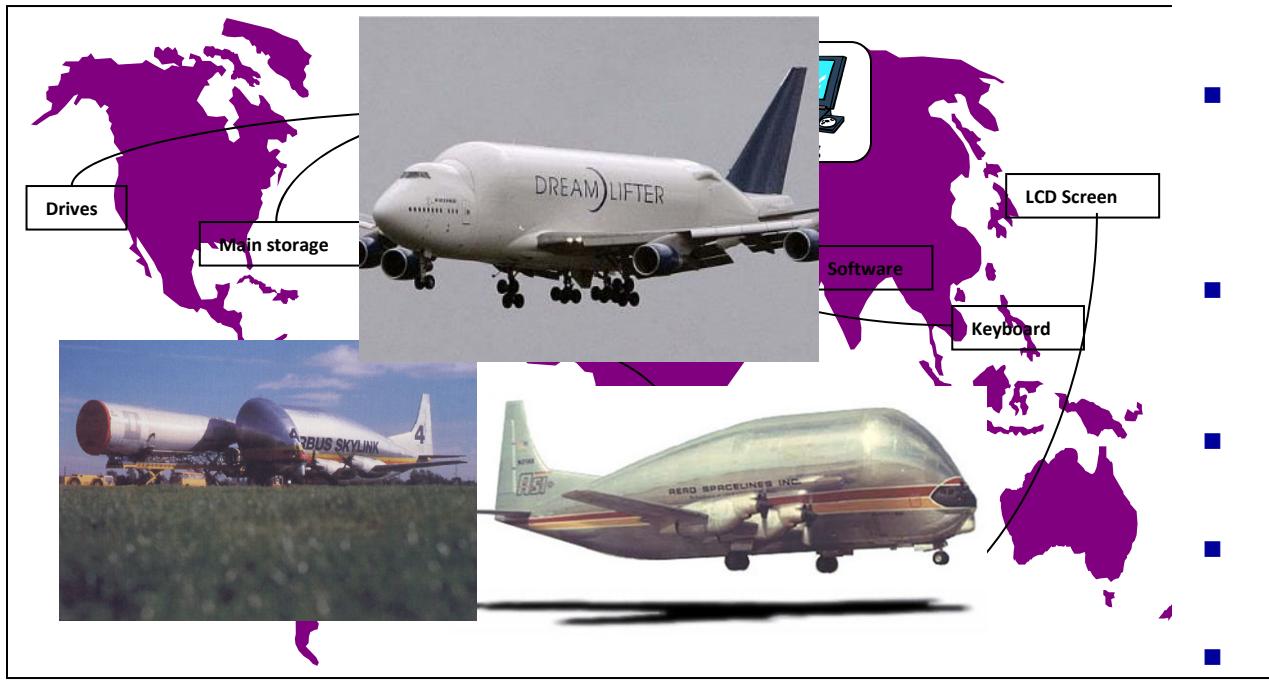


BUNKER PRICES⁵⁾



1) Real GDP, Copyright © IHS Markit, now part of S&P Global, Q3 2023 Update Sep '23. All rights reserved; 2) IHS Markit, now part of S&P Global, Q2 2023 Update 1 June '23. All rights reserved; 3 & 4) Surcharges related to e.g., equipment & space availability are not reflected in WCI & SCFI; 3) Drewry, in USD/40ft container, including BAF & THC both ends, 8 individual routes, excluding intra-Asia routes; 4) Shanghai Shipping Exchange, in USD/20ft ctnr & USD/40ft ctnr for US routes, including BAF, EBAF, CAF, PSS, WRS, PCS & SCS/SCF/PTF/PCC, excl. THC, 15 routes from Shanghai; 5) Source: DHL, in US\$

Logistics is driven by the economy Increasing globalisation has ...

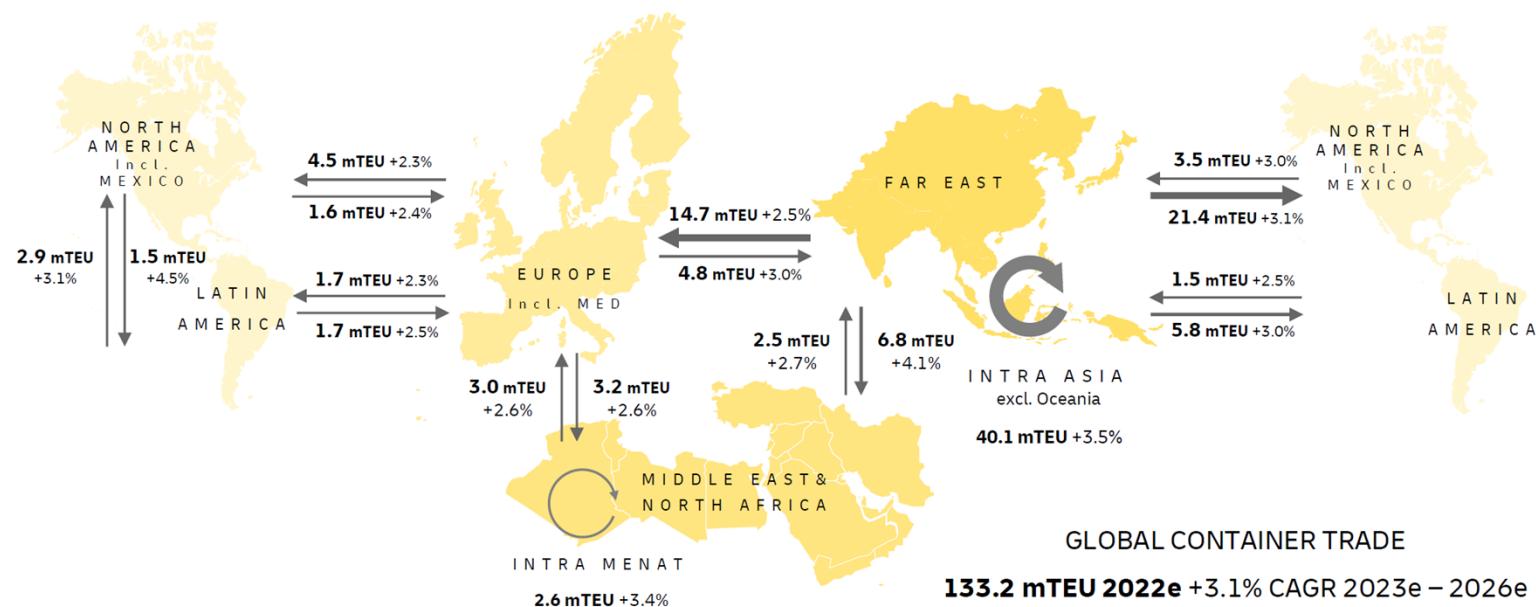


Airbus in 2019 – updating the concept!



Pattern of trade and transportation flows

Market volume 2023 – 2027



Source: Seabury Jun23 update

DHL Global Forwarding | OFR Market Update | October 2023

What are the consequences?

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Slide 27

Today's Topics



Intro: A Big Picture of Internationalization and
Globalization – And the Question on the role of
Logistics and Supply Chain Management within
Is the World really flat – even without Corona? –
Discussing the case of Flowers B.V.

- The structure of the supply chain
- Complications and Considerations in the global context of the operations

Wrapping it up: some key issues in a little bit broader view than that of the case

- **Assignment**
- **Case article: FLOWERS B. V**
- **Q1:**

From the case, identify the steps, actors and institutions involved in the process of supplying the US market?

Open class discussion

Steps, actors and institutions in the process of supplying the US market?

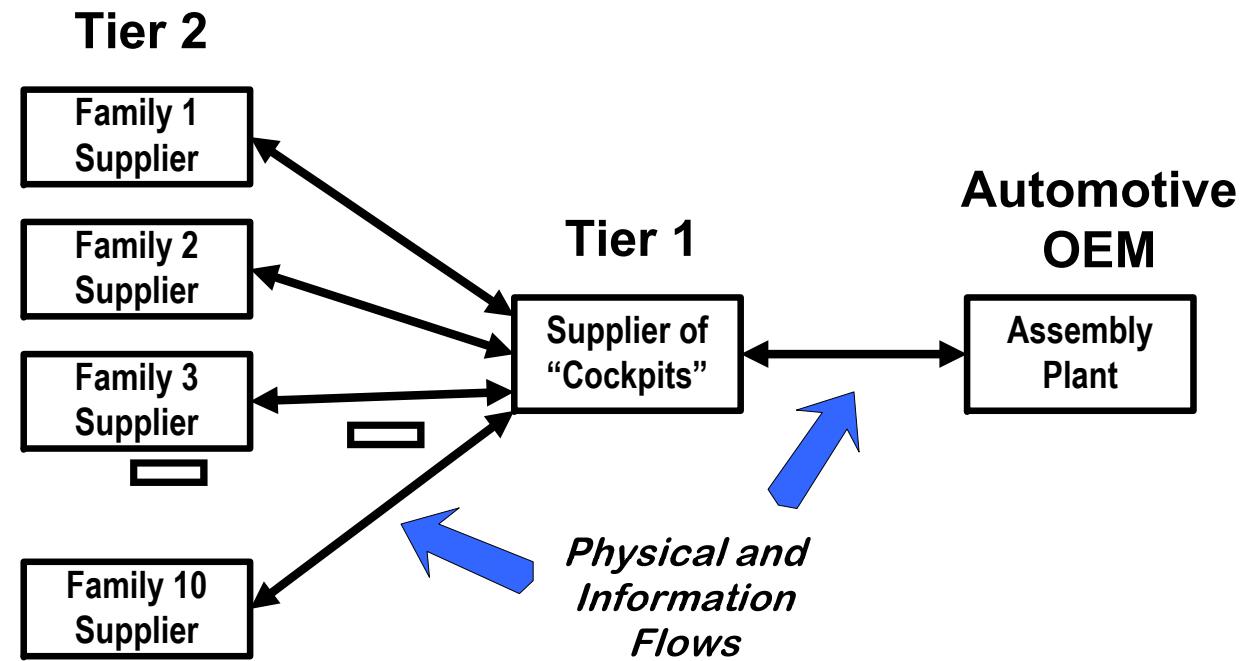
“FLOWERS B. V”



FedEx
Express

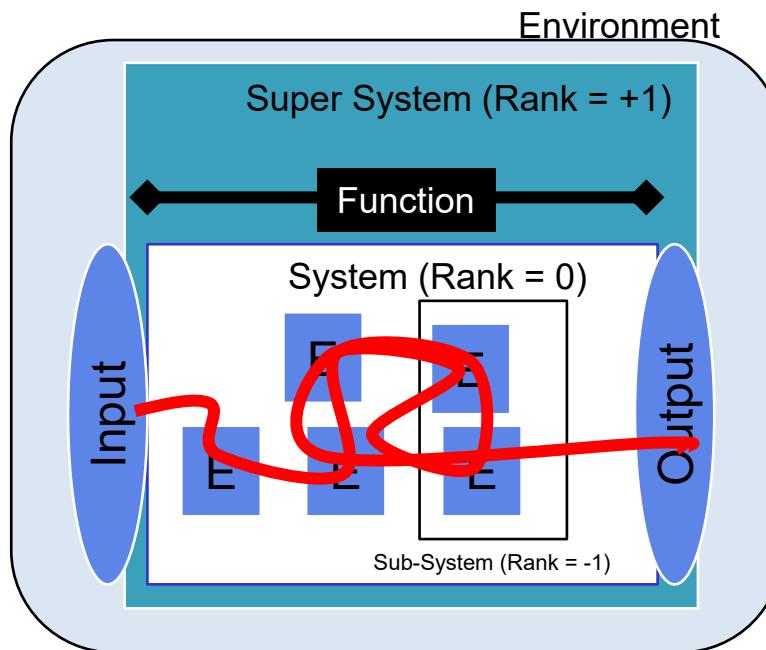


Relationship Map – probably similar to your map?



First a „simple“ Question: How to look at a system?

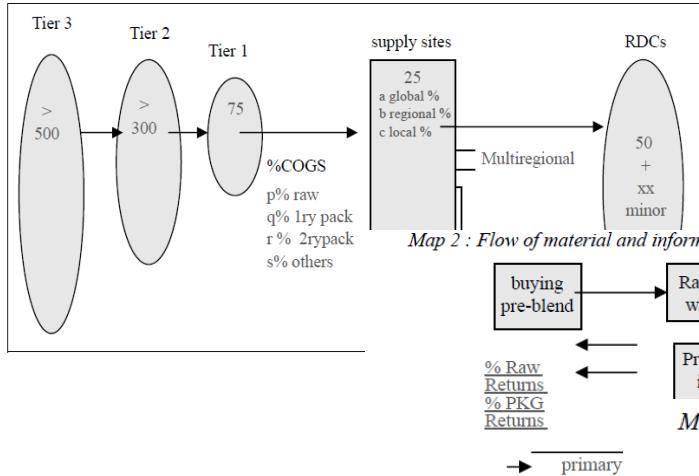
In technocratical and „simplified“ Terms



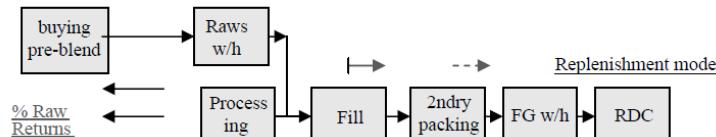
- ❖ **STRUCTURE:** Boundary, Elements, Subsystems, Interfaces (Input/Output) of the System
- ❖ **FUNCTION:** related to the purpose of the system; what is it supposed to do
- ❖ **PROCESS:** how the structure is actually combined, applied, to fulfill the function
- ❖ **ENVIRONMENT:** Elements outside the boundaries but affecting the system
 - Super System

„Connecting the dots“ of a Supply Chain What is typically mapped!

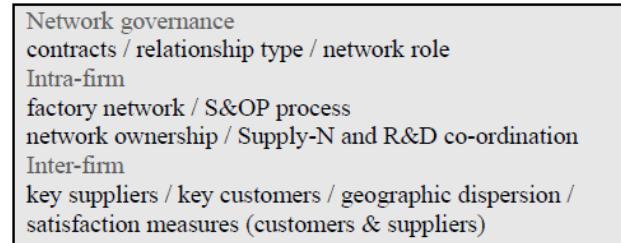
Map 1: Supply network structure



Map 2 : Flow of material and information between and within key unit operations



Map.3: The role, inter-relationships, and governance betweenkey network partners



Map.4: 'Value-structure' of the product or service

Product modularity Shape of Product Structure	None/ single unit/ sub-unit/ factory unit/w/h unit A. T. V. X																																																	
Product mix – SKUs – by SBU	<table border="1"> <thead> <tr> <th></th> <th>Eur</th> <th>NA</th> <th>LA</th> <th>Afr</th> <th>Asia</th> <th>total</th> </tr> </thead> <tbody> <tr> <td>P</td> <td>30</td> <td>7</td> <td>0</td> <td>35</td> <td>6</td> <td>78</td> </tr> <tr> <td>D</td> <td>60</td> <td>54</td> <td>20</td> <td>54</td> <td>2</td> <td>190</td> </tr> <tr> <td>S</td> <td>3</td> <td>34</td> <td>5</td> <td>40</td> <td>2</td> <td>84</td> </tr> <tr> <td>H</td> <td>30</td> <td>3</td> <td>0</td> <td>40</td> <td>9</td> <td>84</td> </tr> <tr> <td>Z</td> <td>1</td> <td>50</td> <td>11</td> <td>44</td> <td>6</td> <td>112</td> </tr> <tr> <td><u>totals</u></td><td></td><td></td><td></td><td></td><td></td><td>xxxx</td> </tr> </tbody> </table>		Eur	NA	LA	Afr	Asia	total	P	30	7	0	35	6	78	D	60	54	20	54	2	190	S	3	34	5	40	2	84	H	30	3	0	40	9	84	Z	1	50	11	44	6	112	<u>totals</u>						xxxx
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Z	1	50	11	44	6	112																																												
<u>totals</u>						xxxx																																												
Innovation churn	New variant/extension 2 – 3 yrs New product form 4 – 5 yrs																																																	
Product life cycle	3-6 months trade, 1 wk customer, max: 2 years																																																	
Offering	Product only, mainly product,mainly service																																																	
Forecast accuracy and planning horizon	Aggregate level: +/- 10%; 3 months out SKU level (wt avg): +/- 20 -25%; 3 months out																																																	
Fulfilment process & lead time – customers / suppliers	Supply to stock: 3 months rolling order Supply to stock/forecast: 3 month rolling/call-off																																																	
Product Value Density vs. Transport Cost	Euros/tonne / 10te/TEU Tonnes/TEU																																																	
% SC Cost /sales	yy%																																																	

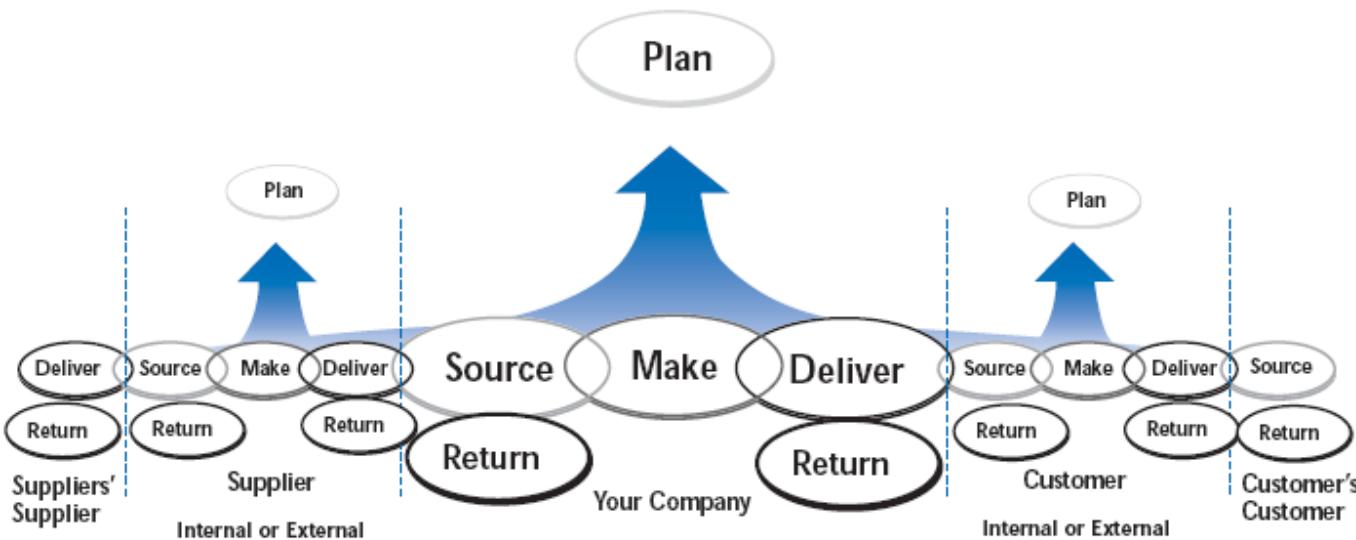
Srai, Jagit Singh; Gregory, Mike: A supply network configuration perspective on international supply chain development, in: International Journal of Operations & Production Management, 28(2008)5, S. 386-411

Supply Chain Operations Reference (SCOR) Modell – only for illustration purpose

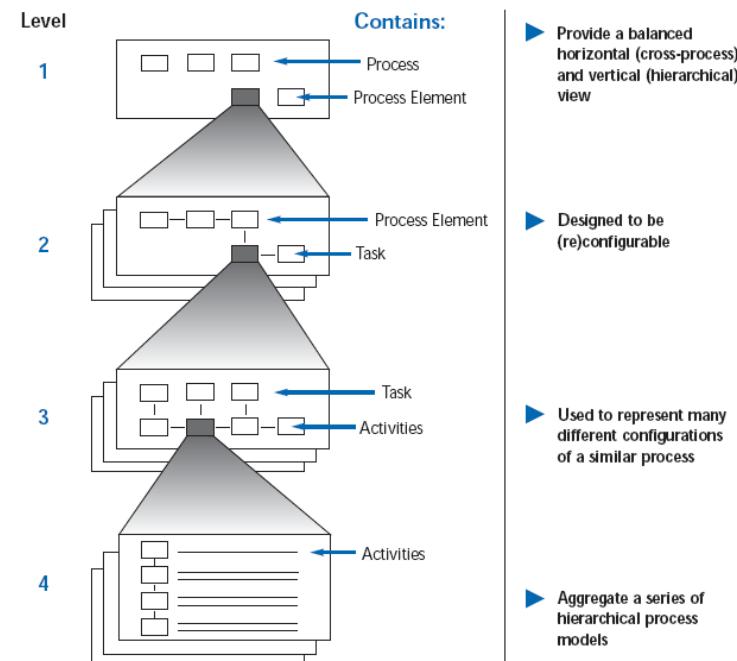
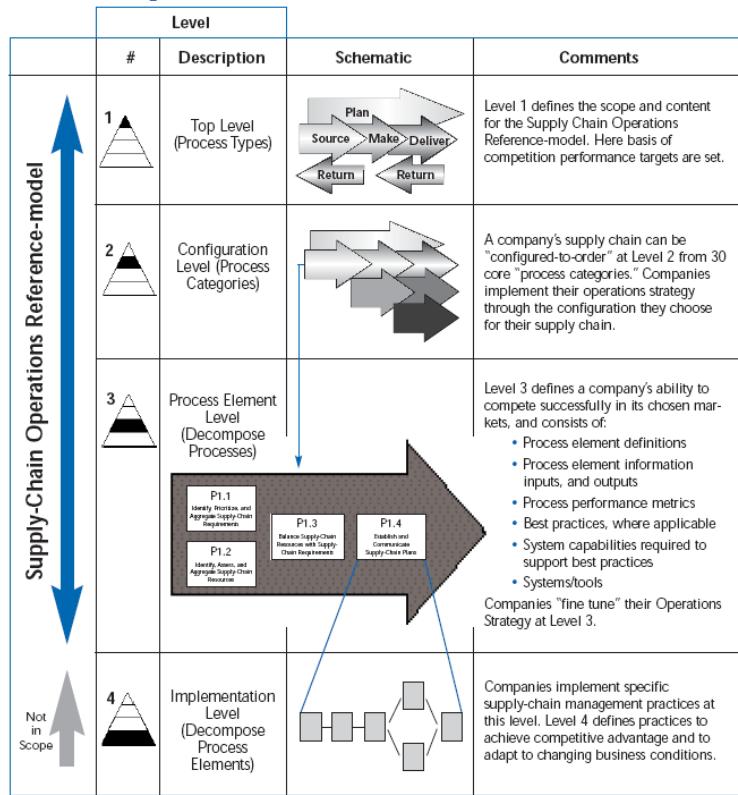
- ❖ Developed by Supply Chain Council (SCC)
- ❖ SCC: Independent, not-for-profit corporation organized in 1996 by:
 - Global management-consulting firm, Pittiglio Rabin Todd & McGrath (PRTM) and
 - Market research firm, Advanced Manufacturing Research (AMR) in Cambridge, Massachusetts.
- ❖ Started with 69 voluntary companies; now beyond 1000 members.
- ❖ SCC Objective: To develop a standard supply-chain process reference model enabling effective communication among the supply chain partners, by
 - Using standard terminology to better communicate and learn the supply chain issues
 - Using standard metrics to compare and measure their performance

Plan, Source, Make & Deliver (and after V6 Return) as Management Processes

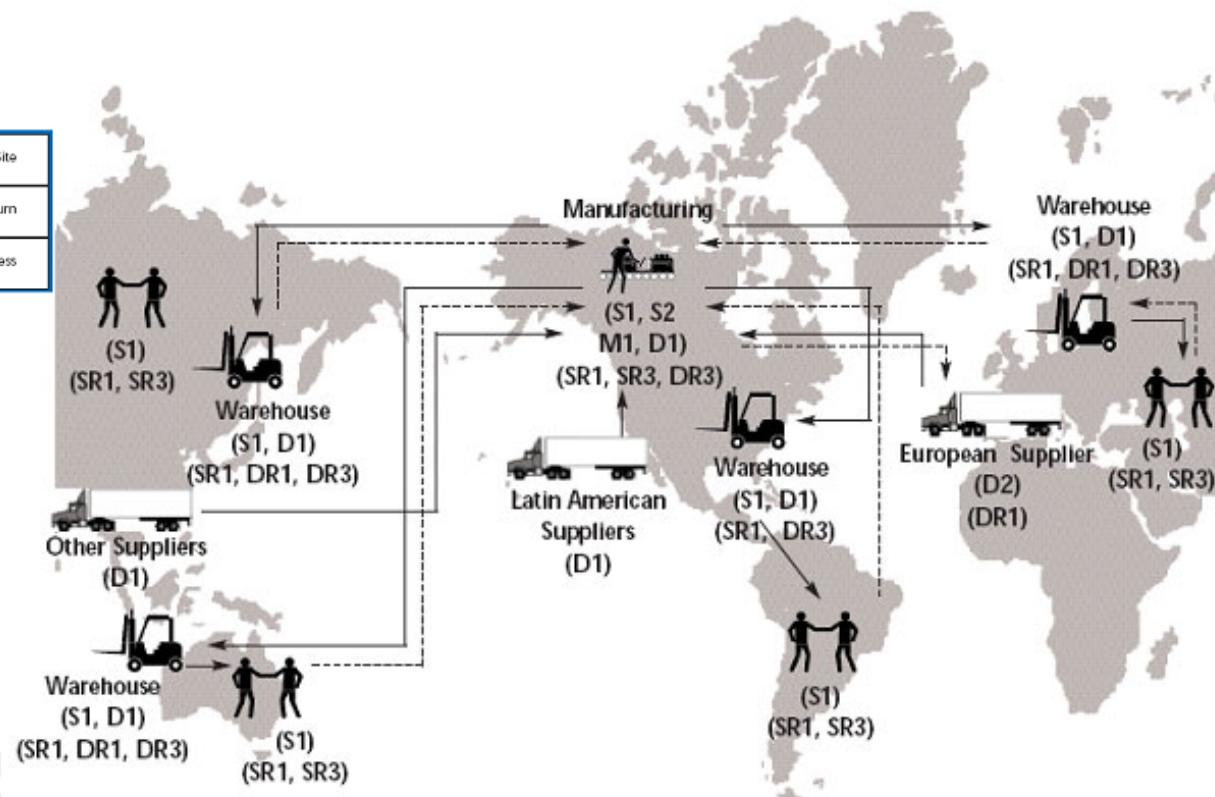
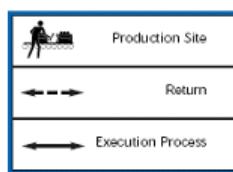
SCOR is Based on Five Distinct Management Processes



Claim: Different Layers of analysis instead of just a Process-Decomposition Model

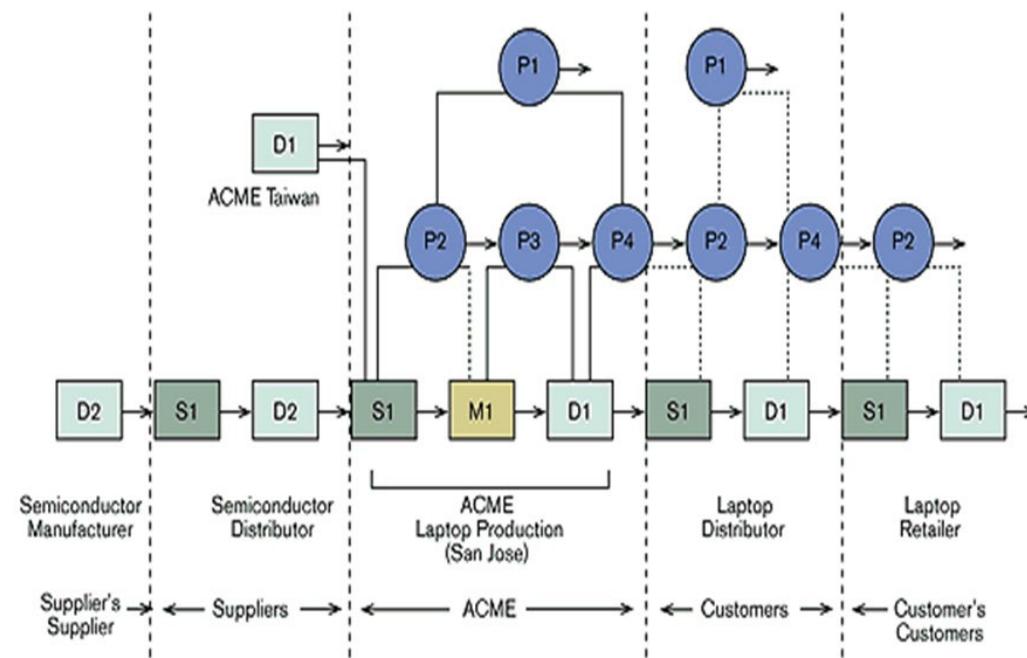


What is the scope of the Supply Chain – who is in, where are the nodes (actors, locations) in the net

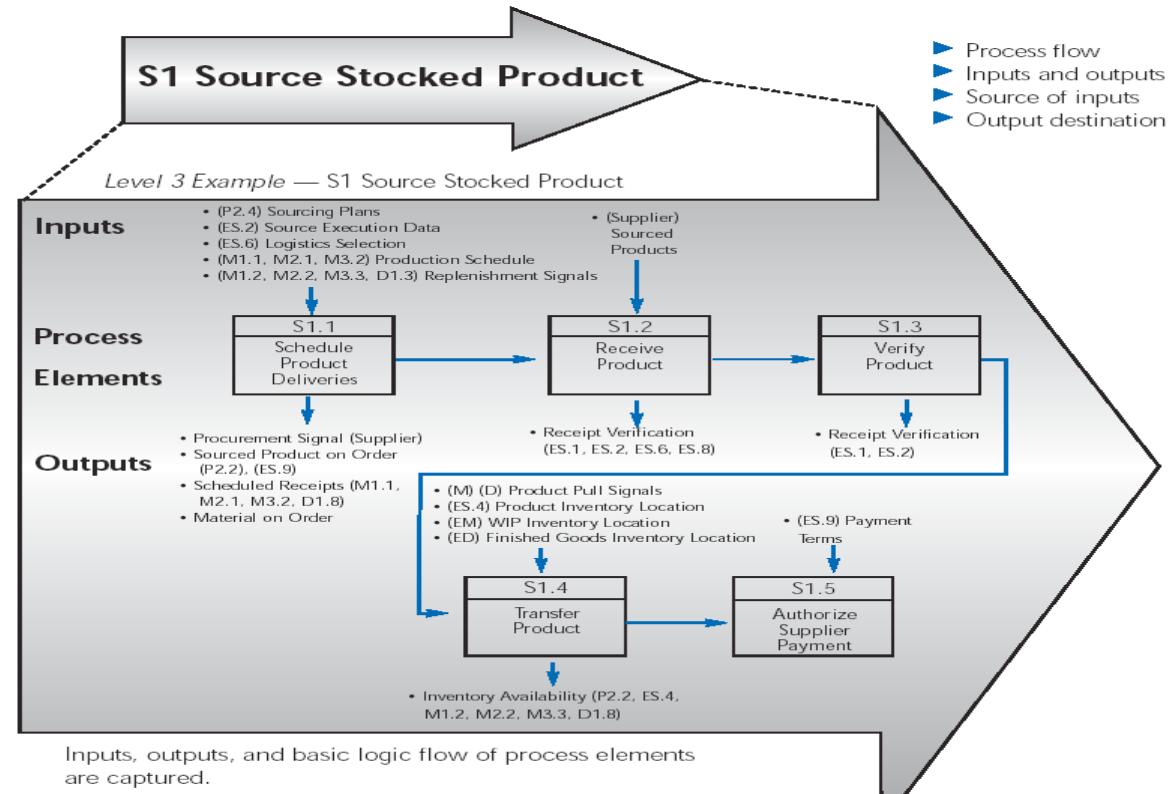


SCOR Process Maps

2nd Step: Create the SCOR Process Maps: Place planning process categories, using dashed lines to show links with execution processes



That is then further detailed

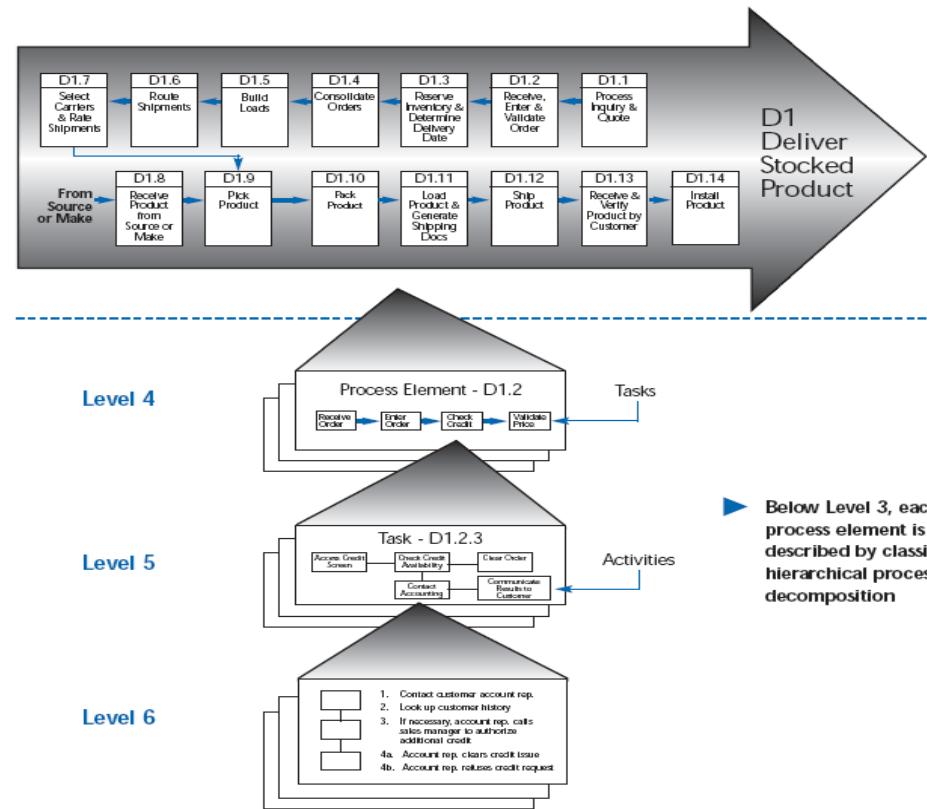


Description of processes (Standard)

- Process-Elements
- Performance Attributes with metrics
- Best Practices and required ressources

Process Element: Schedule Product Deliveries		Process Element Number: S1.1
Process Element Definition		
<i>Scheduling and managing the execution of the individual deliveries of product against an existing contract or purchase order. The requirements for product releases are determined based on the detailed sourcing plan or other types of product pull signals.</i>		
Performance Attributes	Metric	
Reliability	% Schedules Generated within Supplier's Lead Time % Schedules Changed within Supplier's Lead Time	
Responsiveness	Schedule Product Deliveries Cycle Time	
Flexibility	None Identified	
Cost	Schedule Deliveries Costs as a % of Product Acquisitions Costs	
Assets	Return on Supply Chain Assets	
Best Practices		Features
Utilize EDI transactions to reduce cycle time and costs	EDI interface for 830, 850, 856, and 862 transactions	
Mechanical (Kanban) pull signals are used to notify suppliers of the need to deliver product	Electronic Kanban support	
Consignment agreements are used to reduce assets and cycle time while increasing the availability of critical items	Consignment inventory management	
Advanced ship notices allow for tight synchronization between SOURCE and MAKE processes	Blanket order support with scheduling interfaces to external supplier systems	
Vendor Managed Inventory (VMI)	See Glossary	

Finally Detailing of the processes (done Company specific)



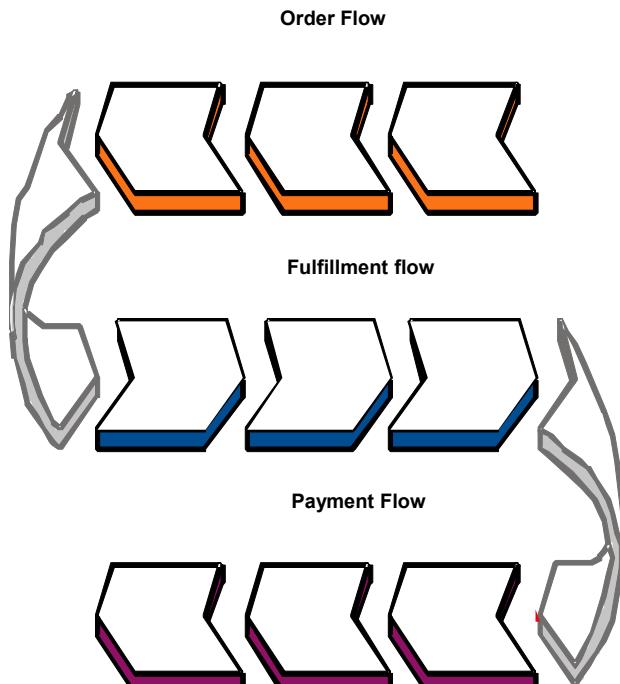
- Assignment
- Case article: FLOWERS B. V
- Q2:

What are the immediate concerns that bother Peter Brinkman?

particular problems that might arise because of the nature of the product

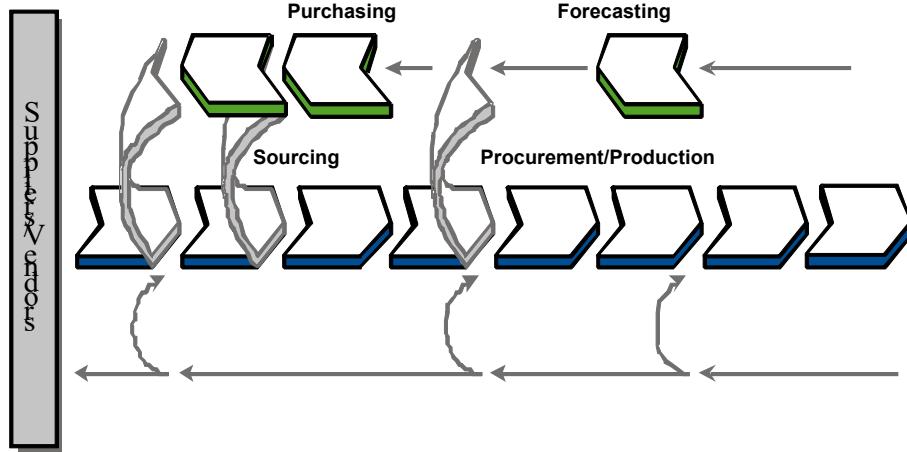
what problem could occur at each stage of movement from Holland to the sterling stores?

The Export order management process



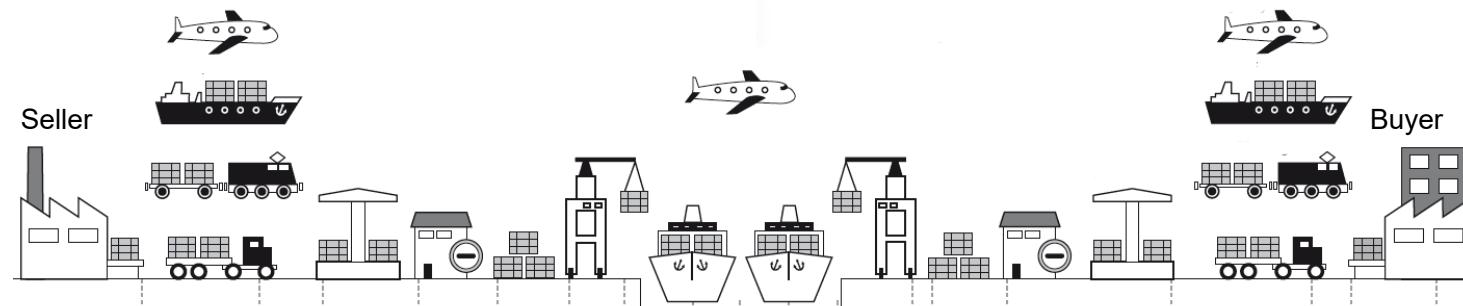
- ❖ Order negotiation - quantity, price, terms of delivery etc.
- ❖ Order receipt - e.g. a *proforma invoice*
- ❖ Order verification
- ❖ Customer verification e.g. *L/C*
- ❖ Insurance e.g. *CIF* or *C&F*
- ❖ Order fill/manufacture
- ❖ Packaging & labelling
- ❖ Pre-shipment inspections
- ❖ Documentation preparation - e.g. COO, B/L, AW bill etc.
- ❖ Shipment

The Export order management process



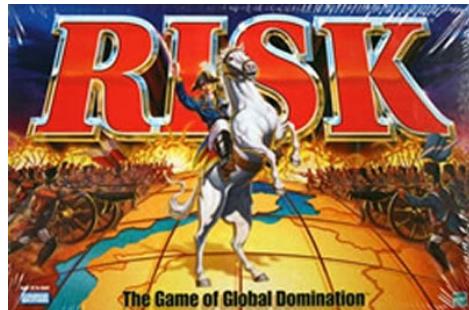
- ❖ And Upstream??
- ❖ Forecasting & planning activities
 - Demand forecasting & export
 - Purchasing, & logistical requirements movement
 - Production scheduling & logistical requirements - Supply planning & import movement
- ❖ Export/Import order management in sourcing
- ❖ Packaging considerations
 - packaging materials
 - carton types/sizes
 - pallet types/sizes
 - container types/sizes

E. G. Transport Mode Selection



Who is involved in Transportation?
What are the selection criteria?
Costs, Risks, Service levels?

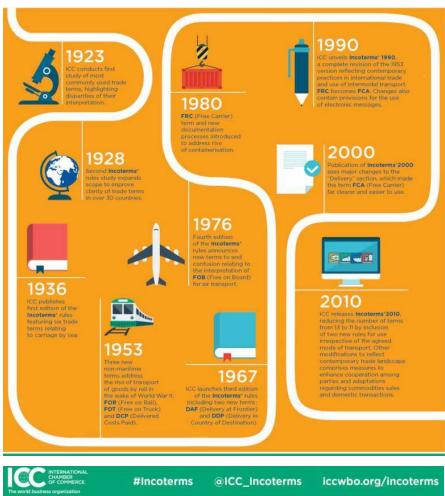
Involved actors in a transportation process (see module 10)



Nearly 100 different types of supporting services, but some typical examples include:

1. Ex/Im managers
2. Quota agents/traders/merchants
3. Freight forwarders
4. Customs brokers & other solution providers
5. Carriers/Shipping companies
6. NVOCCs
7. Goods surveyors
8. Container leasing companies
9. Export management companies
10. Export trading companies
11. Own account carriage, third party logistics (3PL)

Incoterms -Understanding



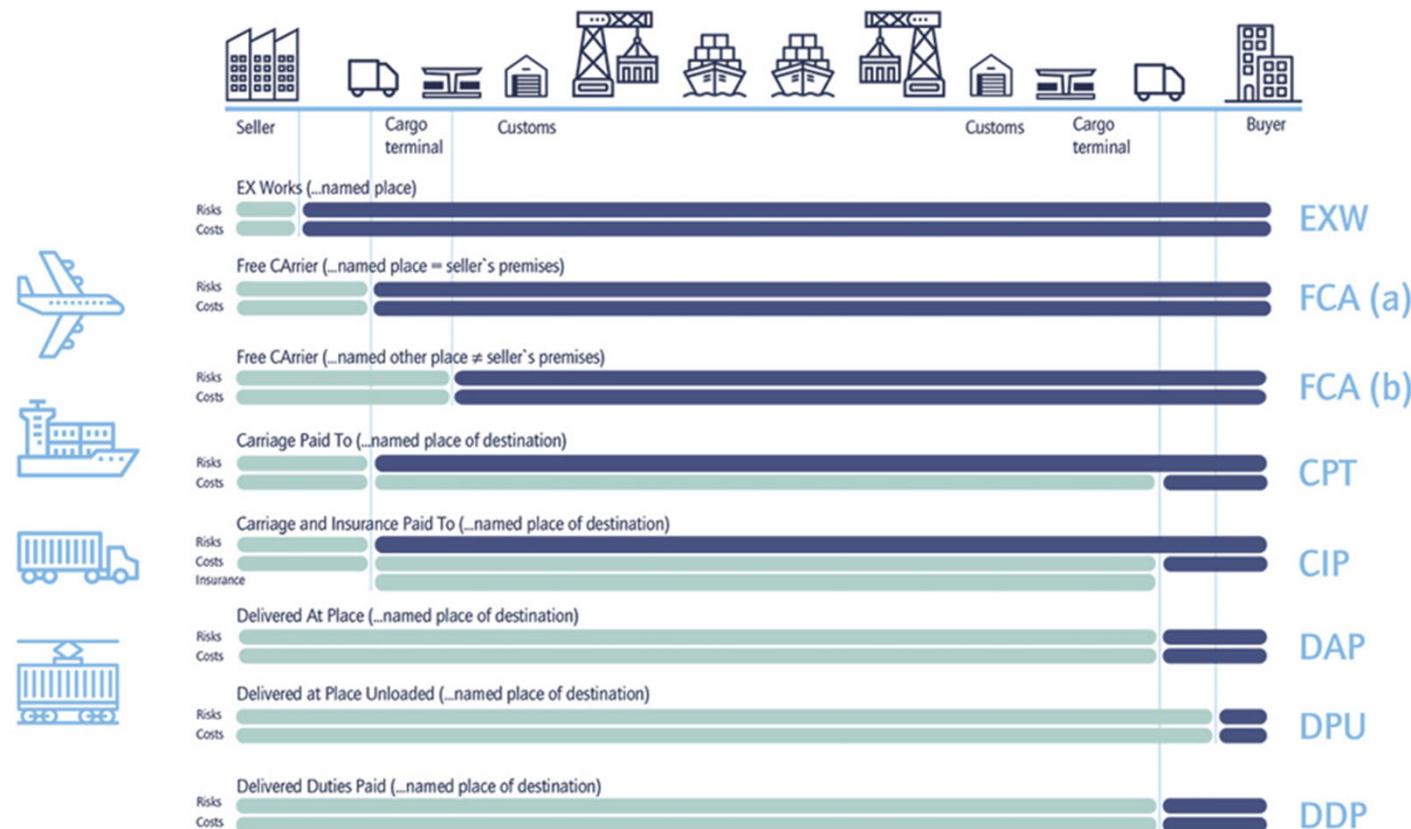
- ❖ Published by the International Chambers of Commerce
- ❖ A set of rules for the interpretation of the commonly used international commercial terms (INCOTERMS)
- ❖ First published by the ICC in 1936, since then updated in 1953, 1967, 1976, 1980, 1990, 2000, 2010 and latest revision in 2020
- ❖ Rules framed to ensure uniformity in understanding of various shipping terms used in international trade by different countries

Incoterms - Classification in Groups With different rights and duties

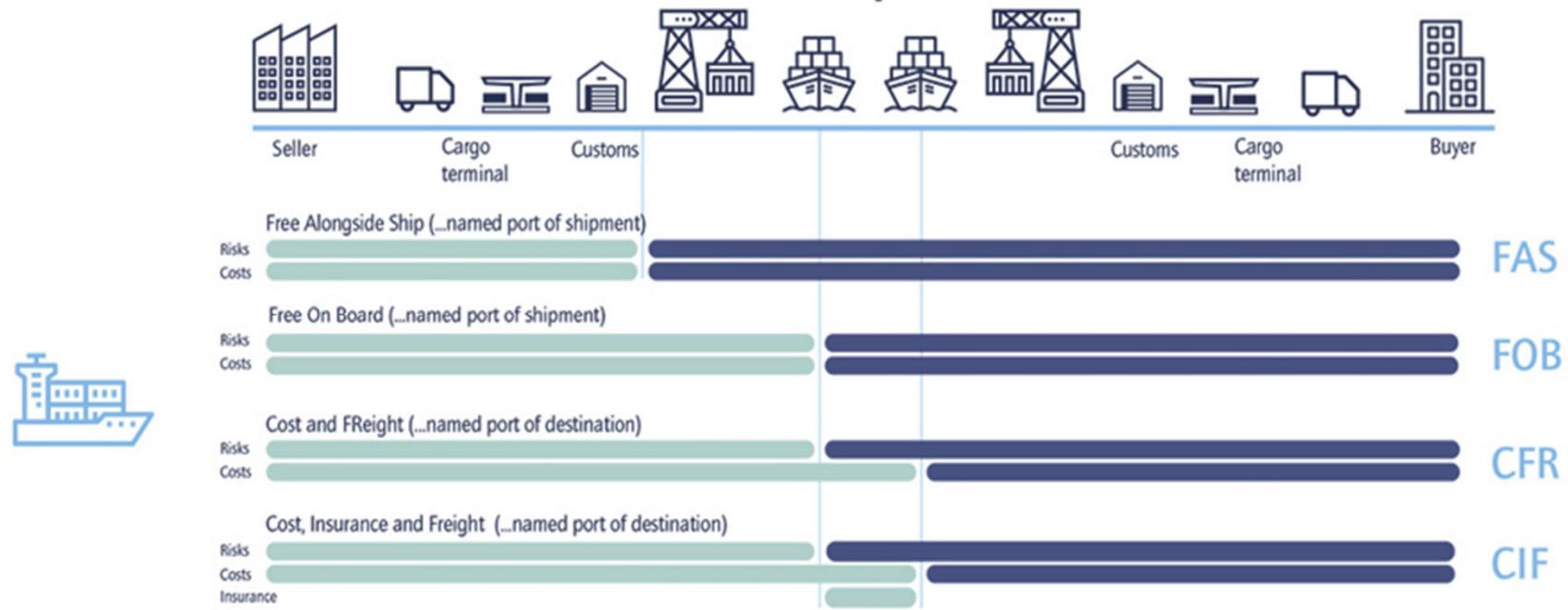
Eleven (since 2011) Incoterms are split into four distinct groups:

- ❖ Group E - where the goods are made available to the buyer at the seller's premises;
- ❖ Group F - where the seller must deliver the goods to a carrier appointed by the buyer;
- ❖ Group C - where the seller must contract for the carriage of the goods without assuming risk of loss of, or damage to the goods or additional costs due to events occurring after shipment;
- ❖ Group D - where the seller has to bear all costs and risks required to bring the goods to the place of destination.

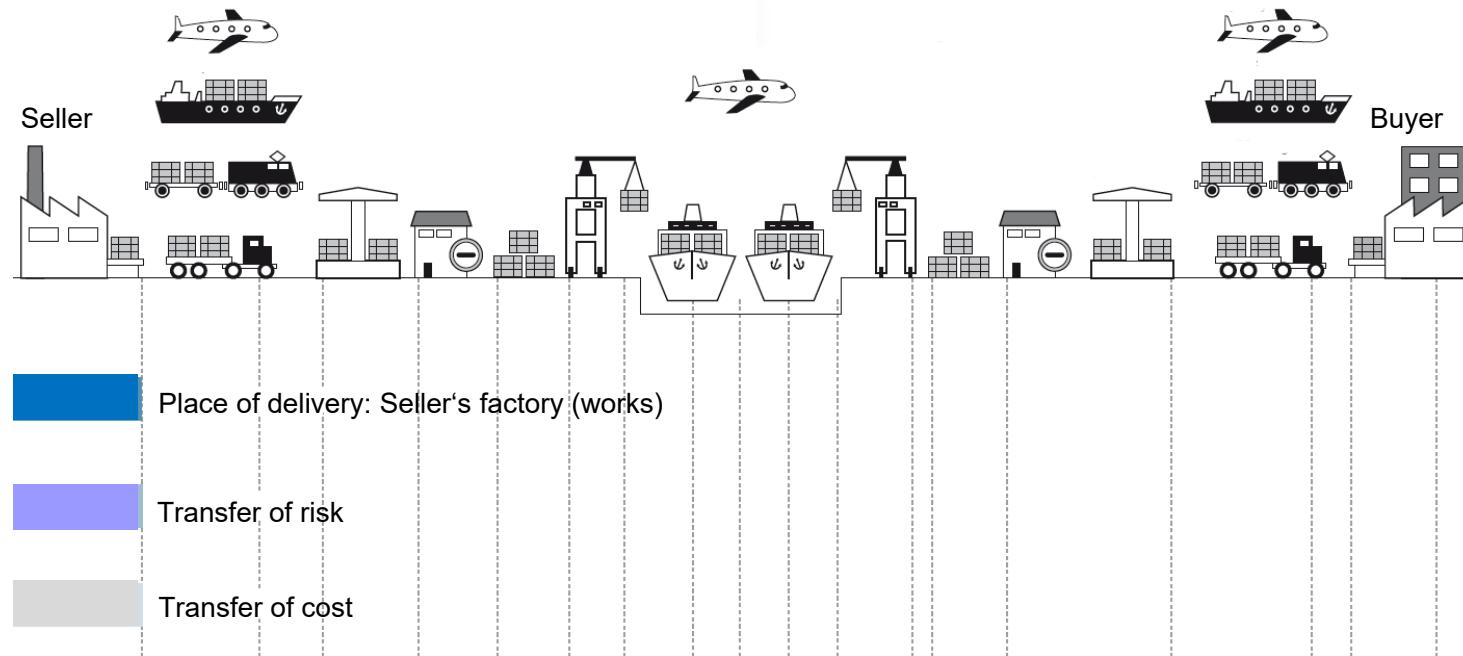
Incoterms 2020 for all modes of transport



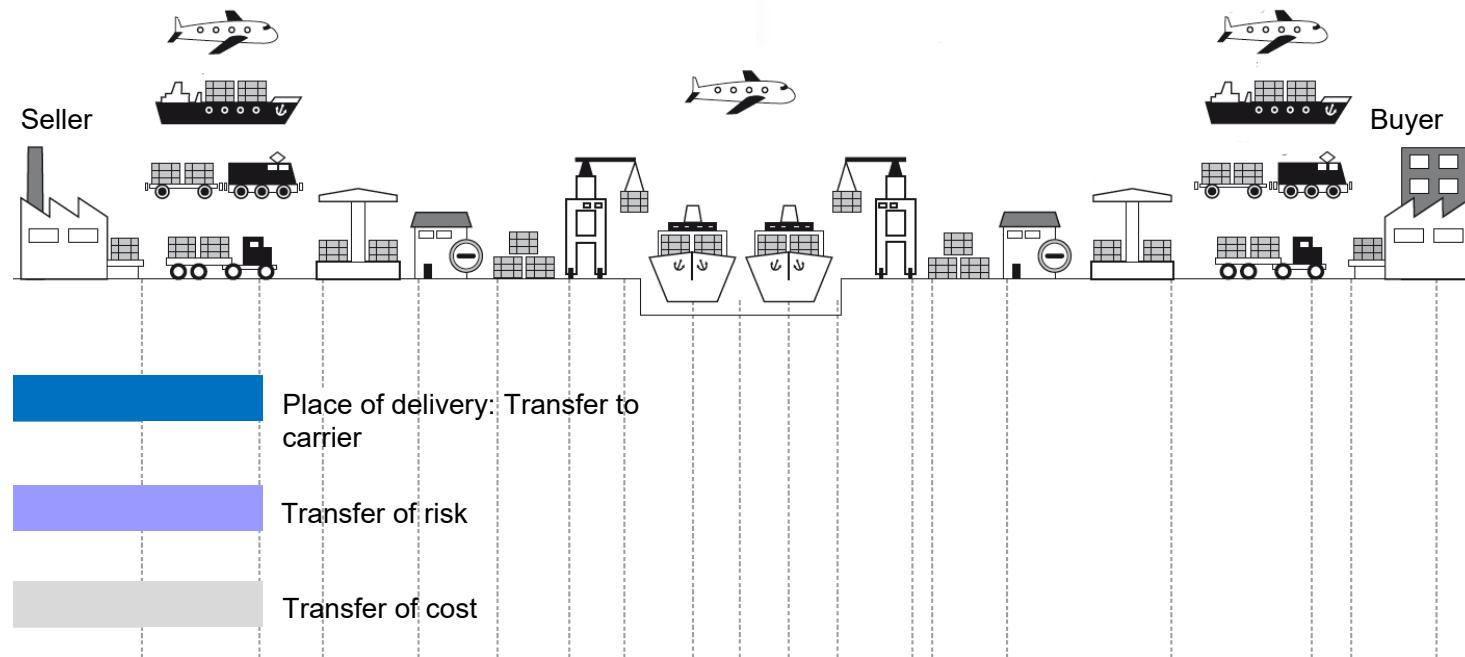
Incoterms 2020 for sea and inland shipping



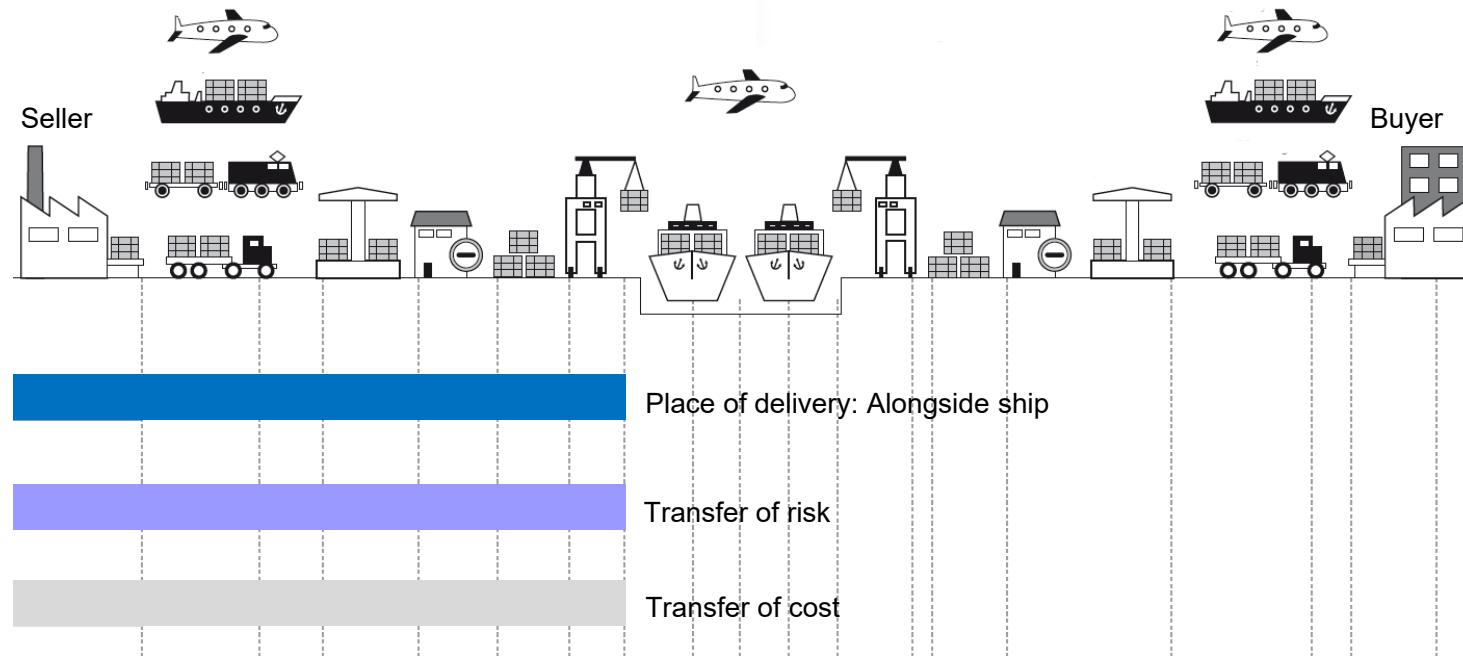
EXW – Ex Works



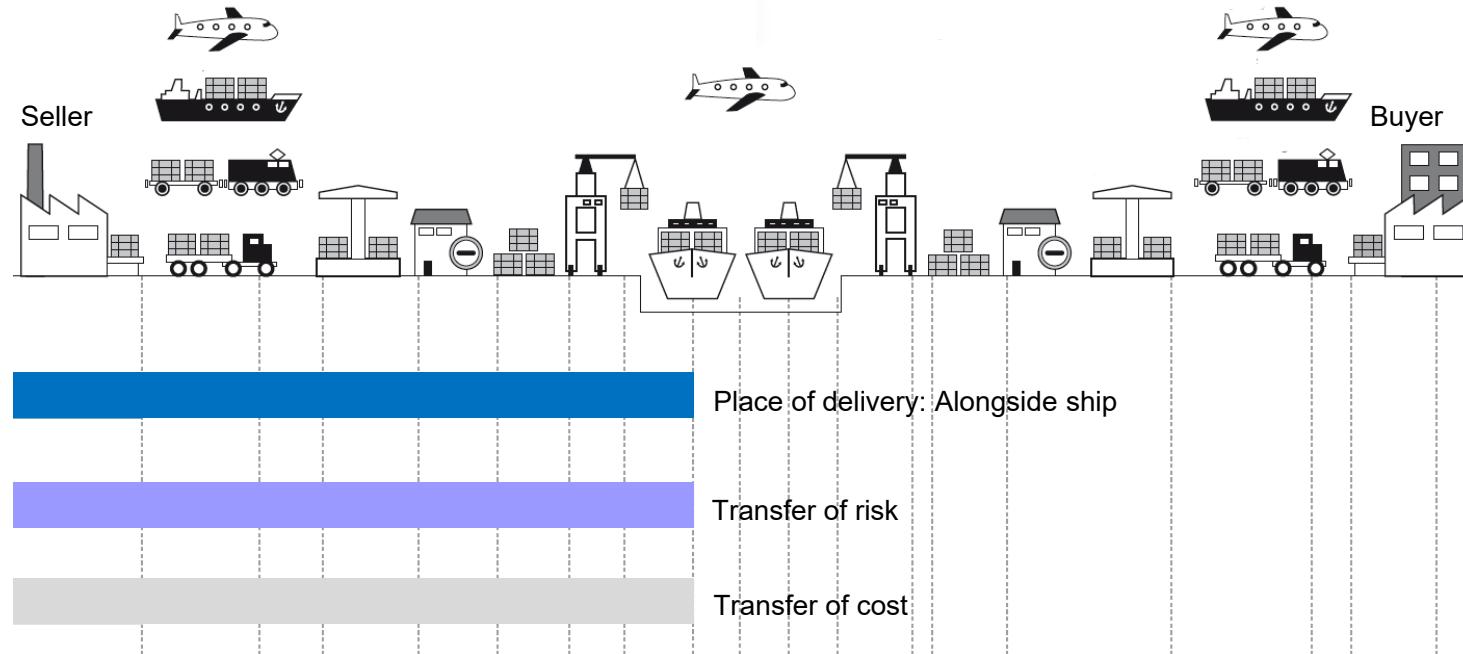
FCA – Free Carrier



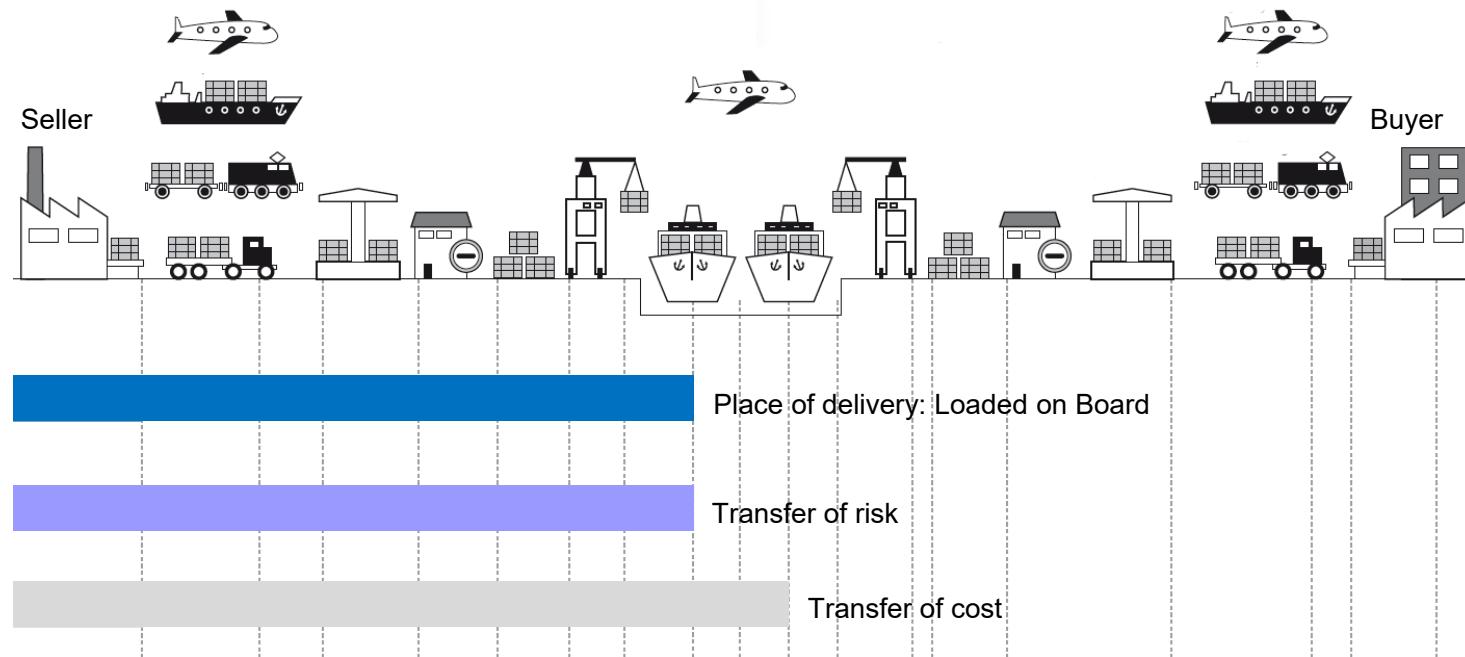
FAS – Free Alongside ship



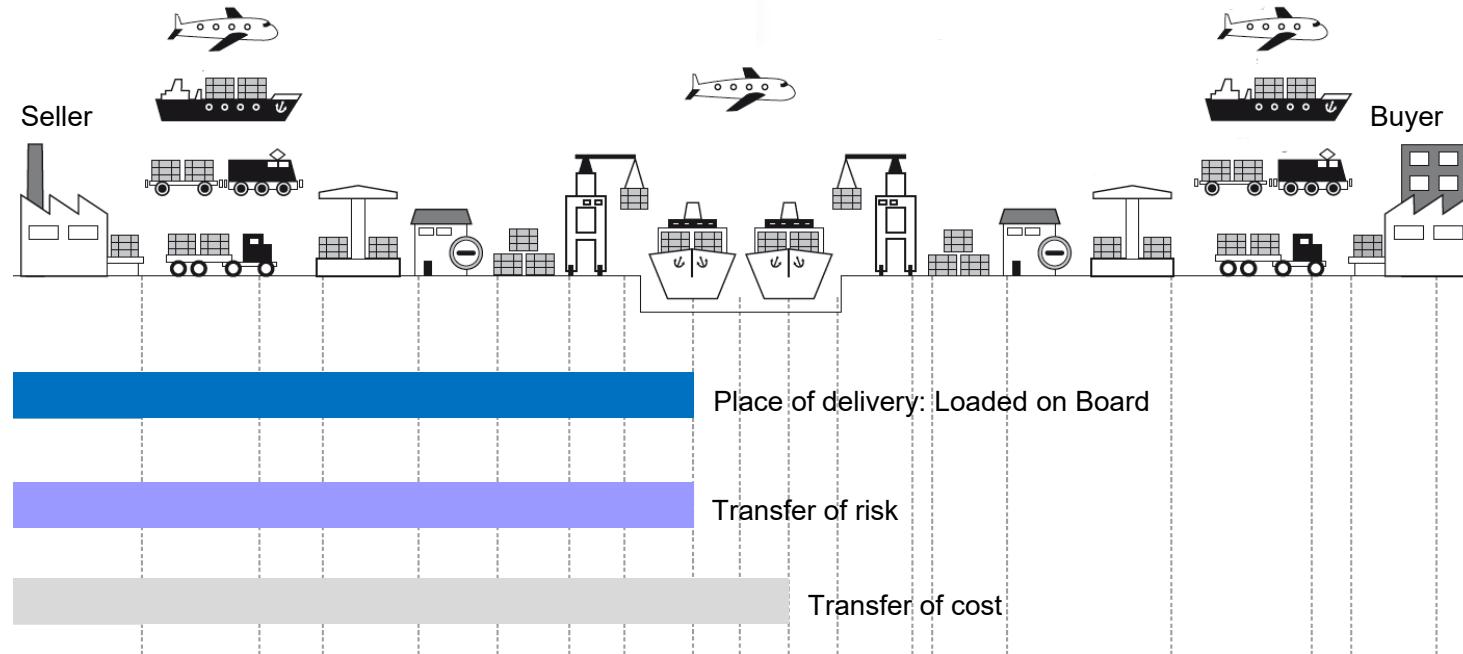
FOB – Free On Board



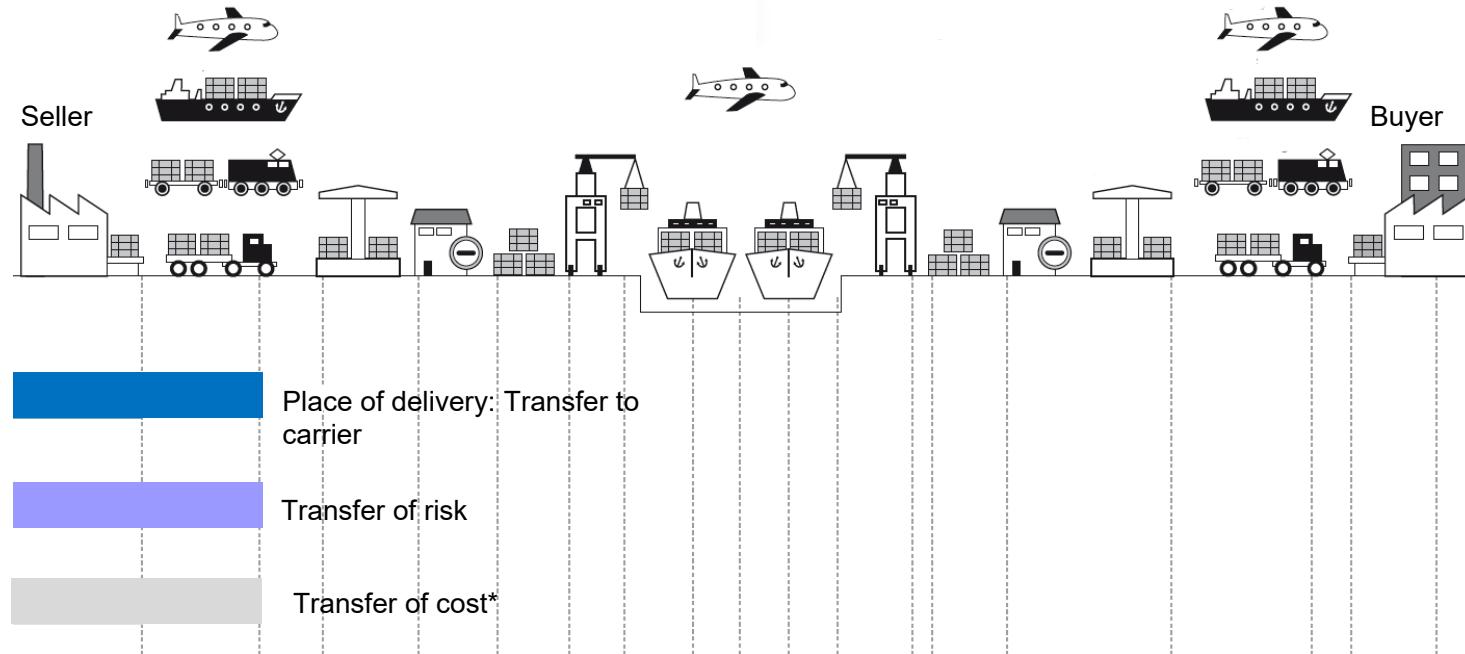
CIF – Cost, Insurance, Freight



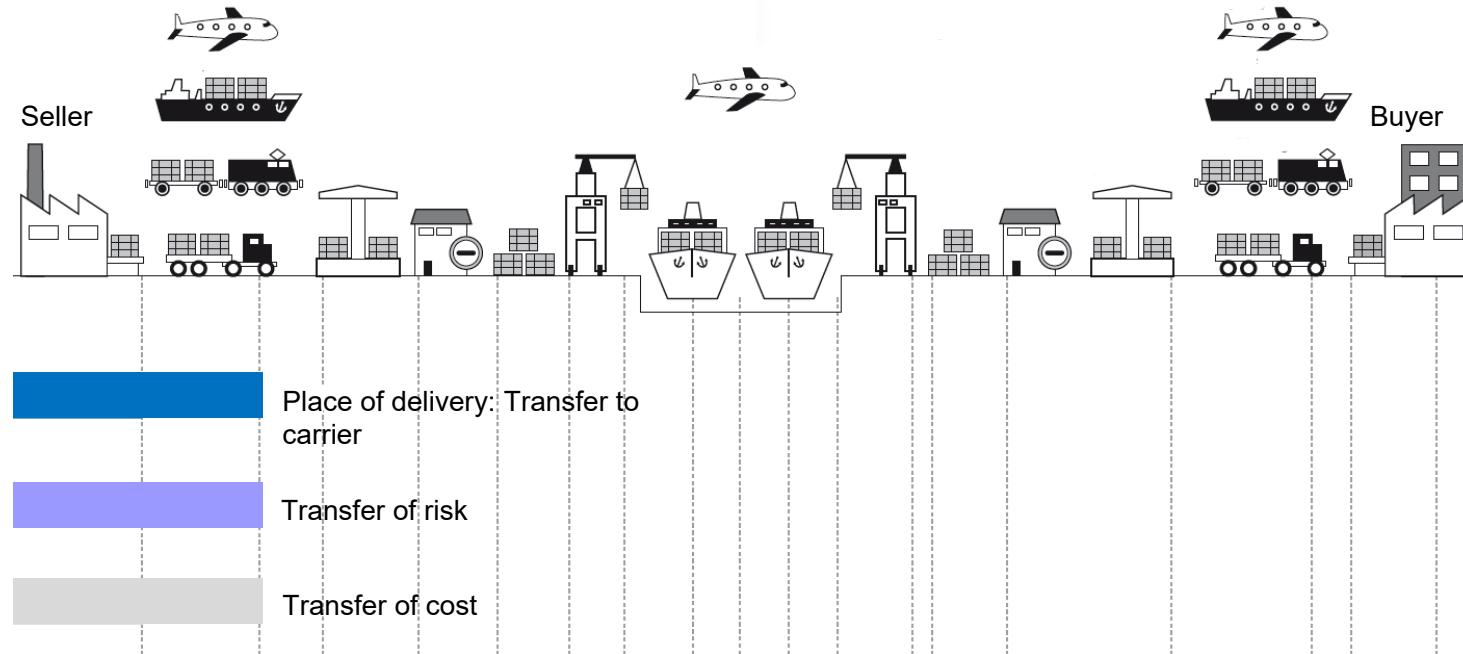
CFR – Cost and Freight



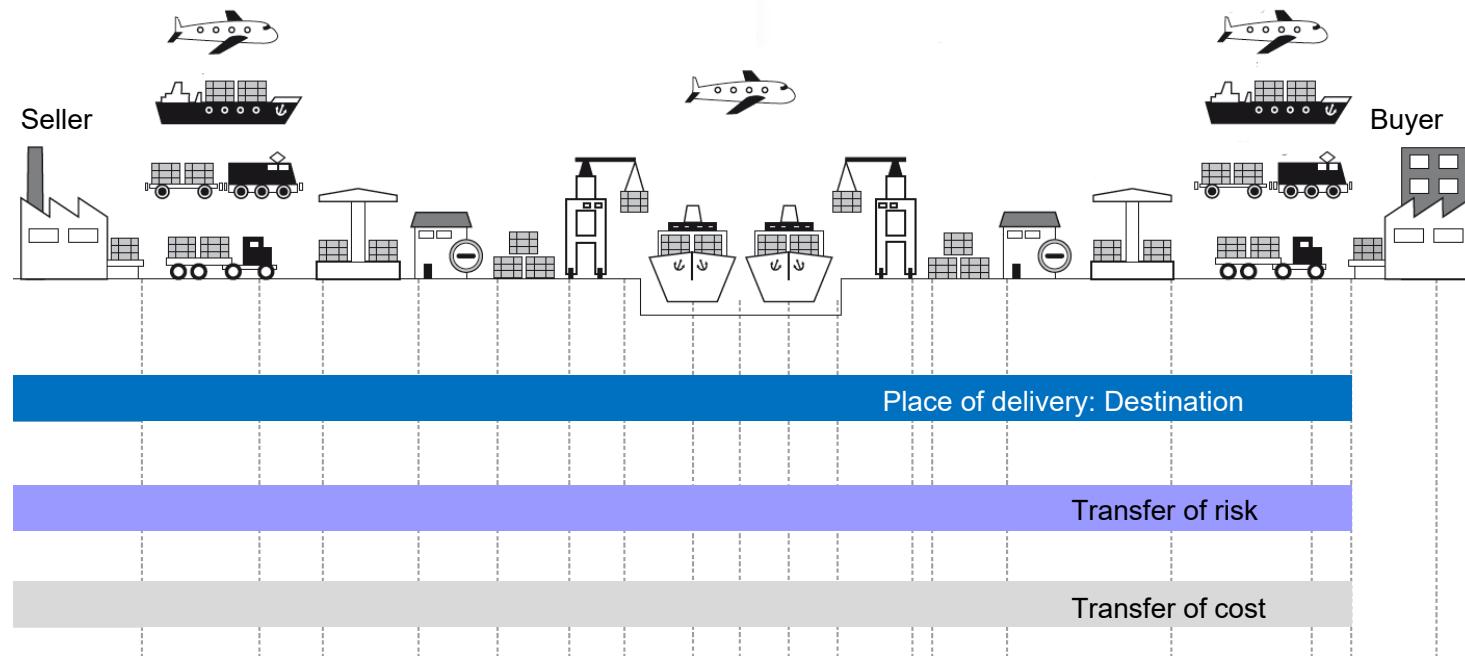
CPT – Carriage paid to



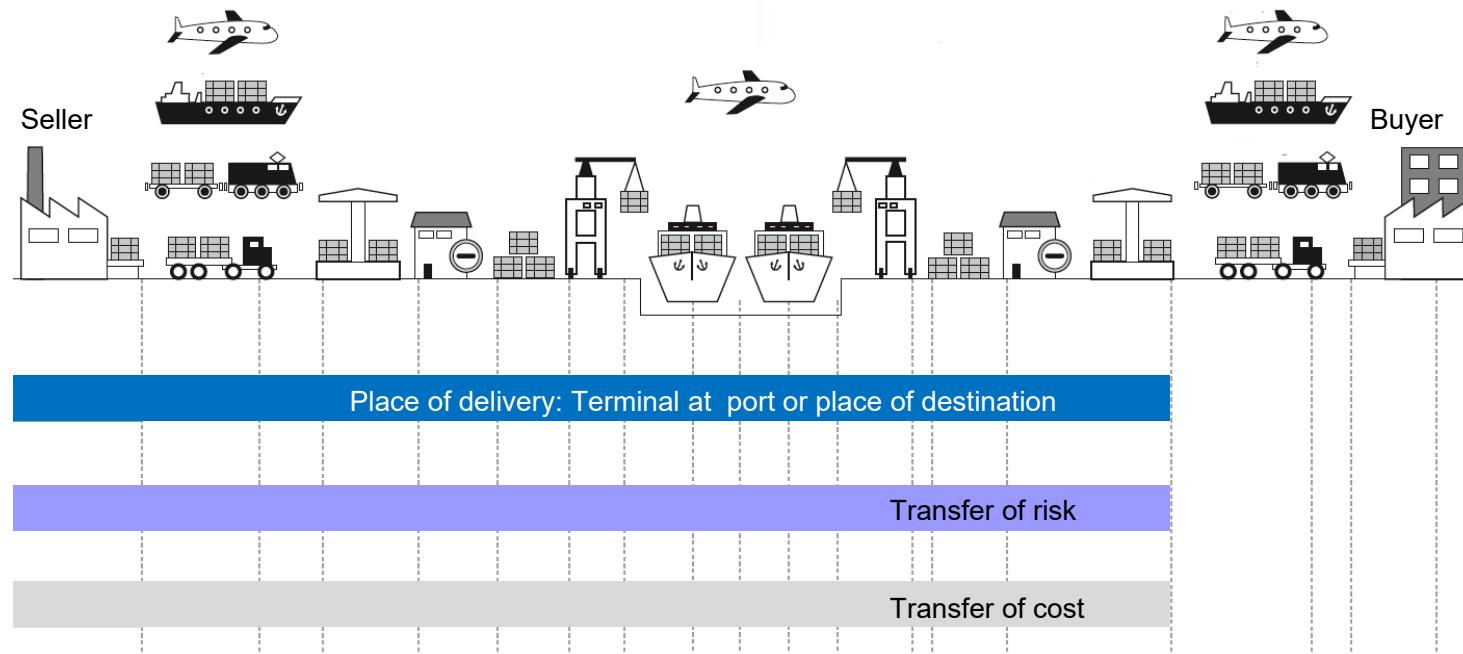
CIP – Carriage and Insurance paid to



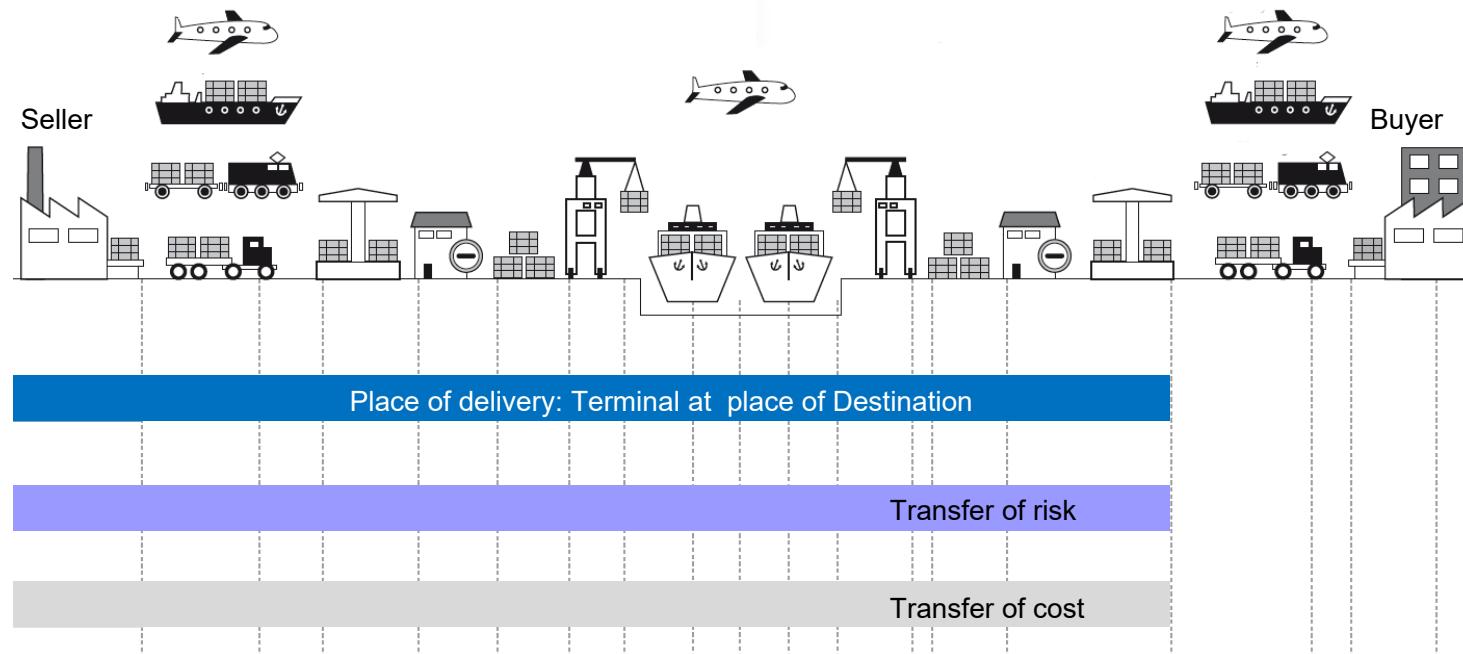
DAP – Delivered At Place



DAT – Delivered At Terminal



DDP – Delivered Duty Paid



Incoterms – Purpose and Scope

- In pricing terms, shipping terms, sales terms
- Define the rights and obligation of the parties to the contract of sale with respect to the delivery of goods sold.
- Clarify how functions, costs and risks are split between buyer & seller for delivery of goods as per requirement of sales contract
- As you move from group ‘E’ to ‘D’, the seller's risk and cost on the cargo will increase **and** buyers risk and cost on cargo will decrease

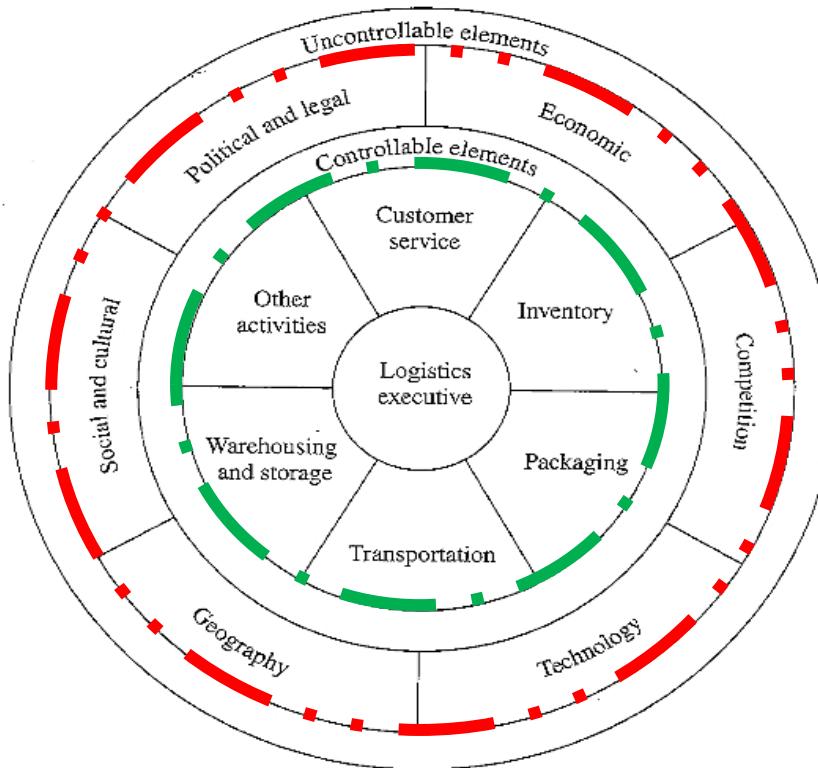
Assignment

Case article: FLOWERS B. V

Q3:

***WHAT QUESTIONS,
CONSIDERATIONS COULD
ARISE IN A LONGER TERM
VIEW?***

The global logistics environment



We will be back on this in lesson 4!

Voluntary Assignment - Use the internet or similar and investigate:

WHAT DO YOU FIND ABOUT TYPICAL CONSUMER GOOD SUPPLY CHAINS SUCH AS FOR FISH, TEXTILES, ELECTRONICS OR SIMILAR;

**DESCRIBE THEM AS WE DID IN THE CASE (ACTORS, LOCATIONS, CLUSTERS RISKS ETC)
HOW HAVE THEY BEEN OR WILL THEY BE AFFECTED BY THE CURRENT COVID-19 CRISIS, UCRAINE AND/OR ENERGY CRISIS?
HOW WILL THEY LOOK LIKE IN THE FUTURE?
YES, THIS HAS SOME “CRYSTAL BALL” CHARACTER, SO TRY TO GIVE ARGUMENTS, EXPERT VIEWS INSTEAD OF PURE OPINION!**

