

International Logistics

SANKEY Diagrams

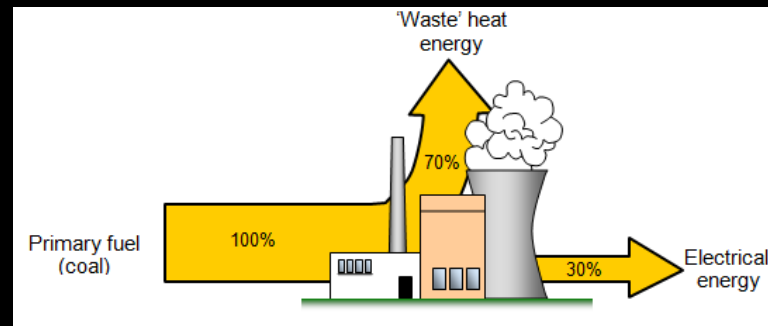
Workshop 7



Project



***How to control the flow of materials,
information and capital in logistics?***



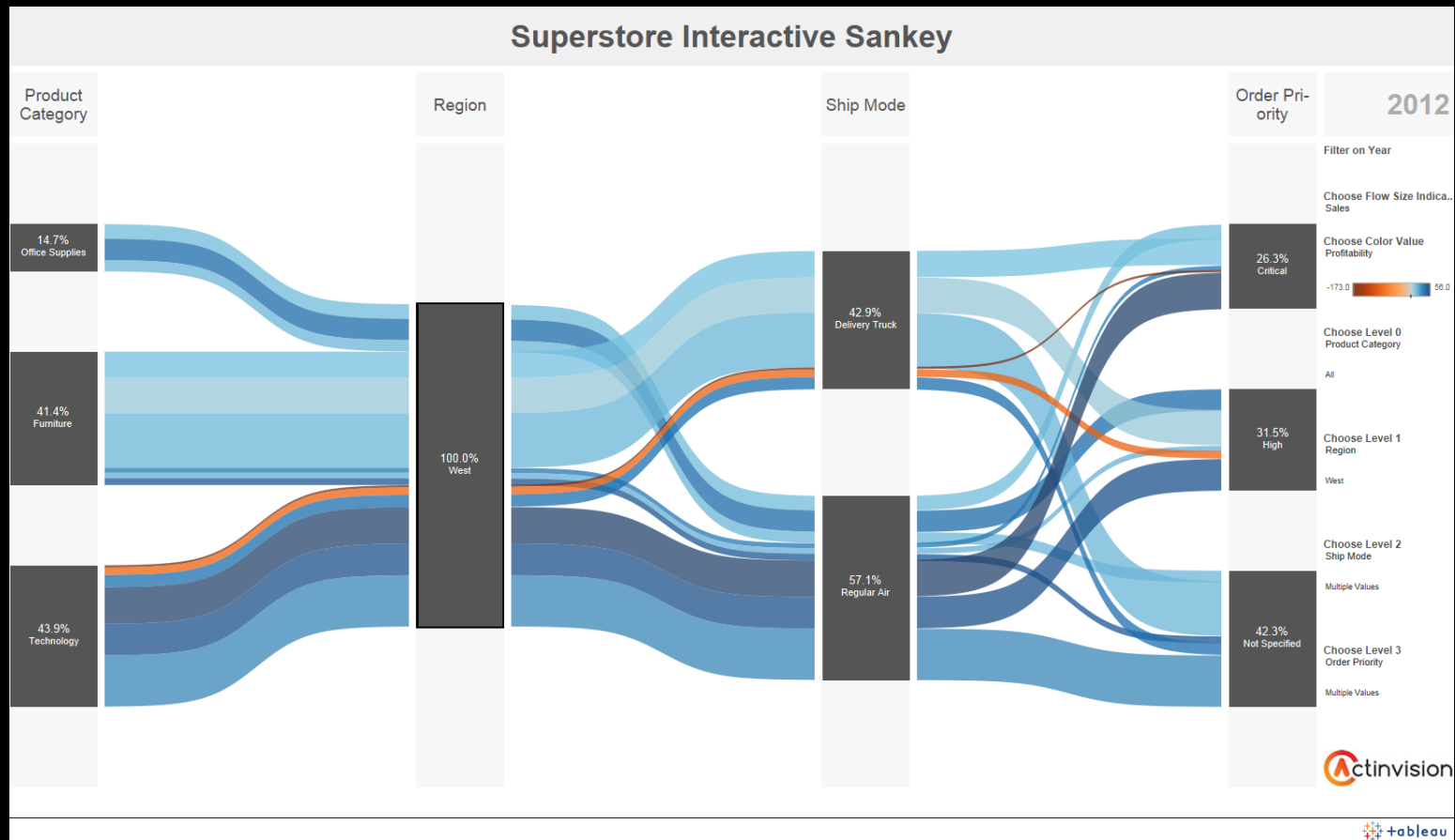
Definition:



- ✓ **SANKEY diagrams** – specific type of flow diagram that was developed to represent energy flows into a factory / the energy efficiency of a steam engine.
- ✓ The flow is represented by arrows that are shown proportionally to the flow quantity.
- ✓ Sankey diagrams are named after Irish Captain Matthew Henry Phineas Riall Sankey.

SANKEY Diagrams - examples

Material flow

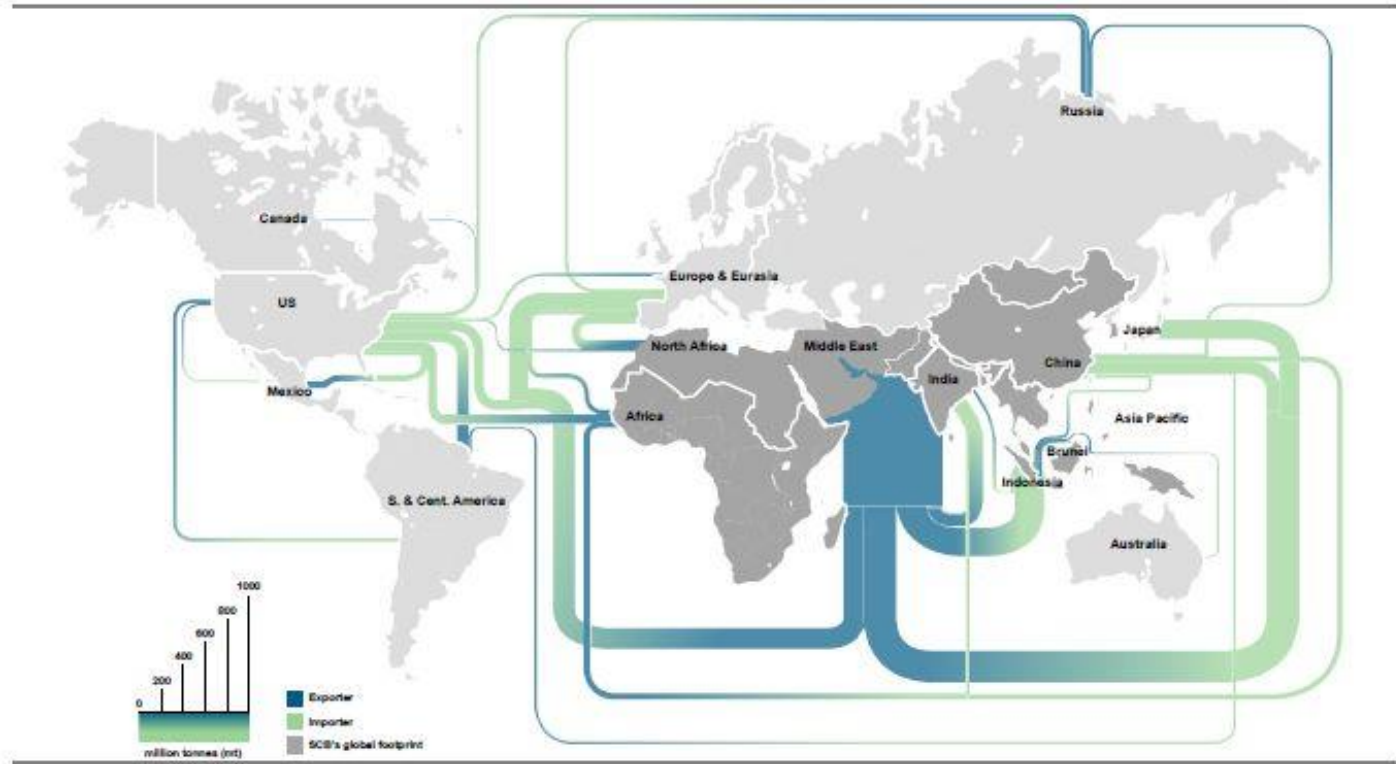


<https://public.tableau.com>

SANKEY Diagrams - examples

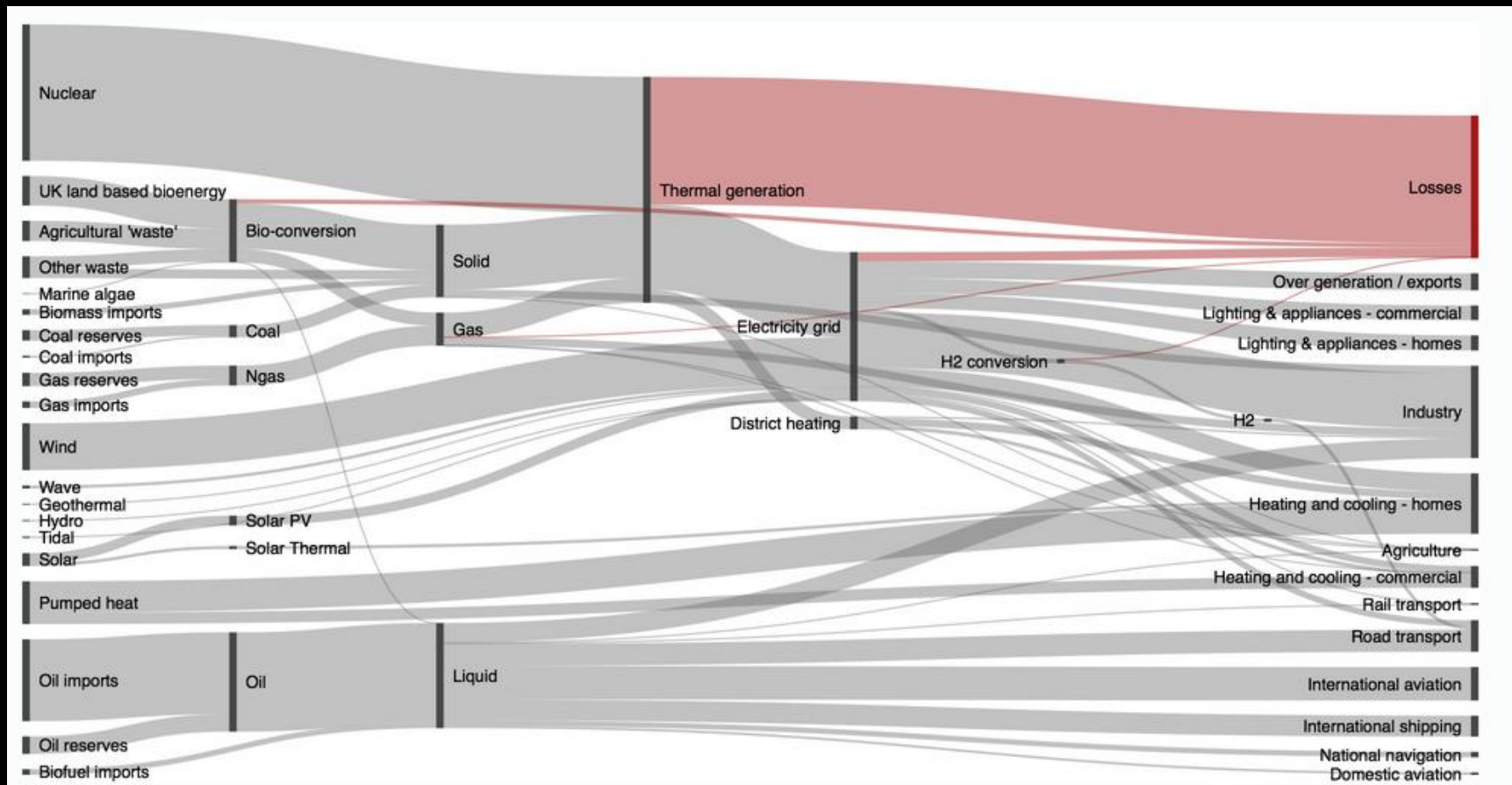
Material flow

Chart 5: Both oil production and demand are strongly connected to emerging economies



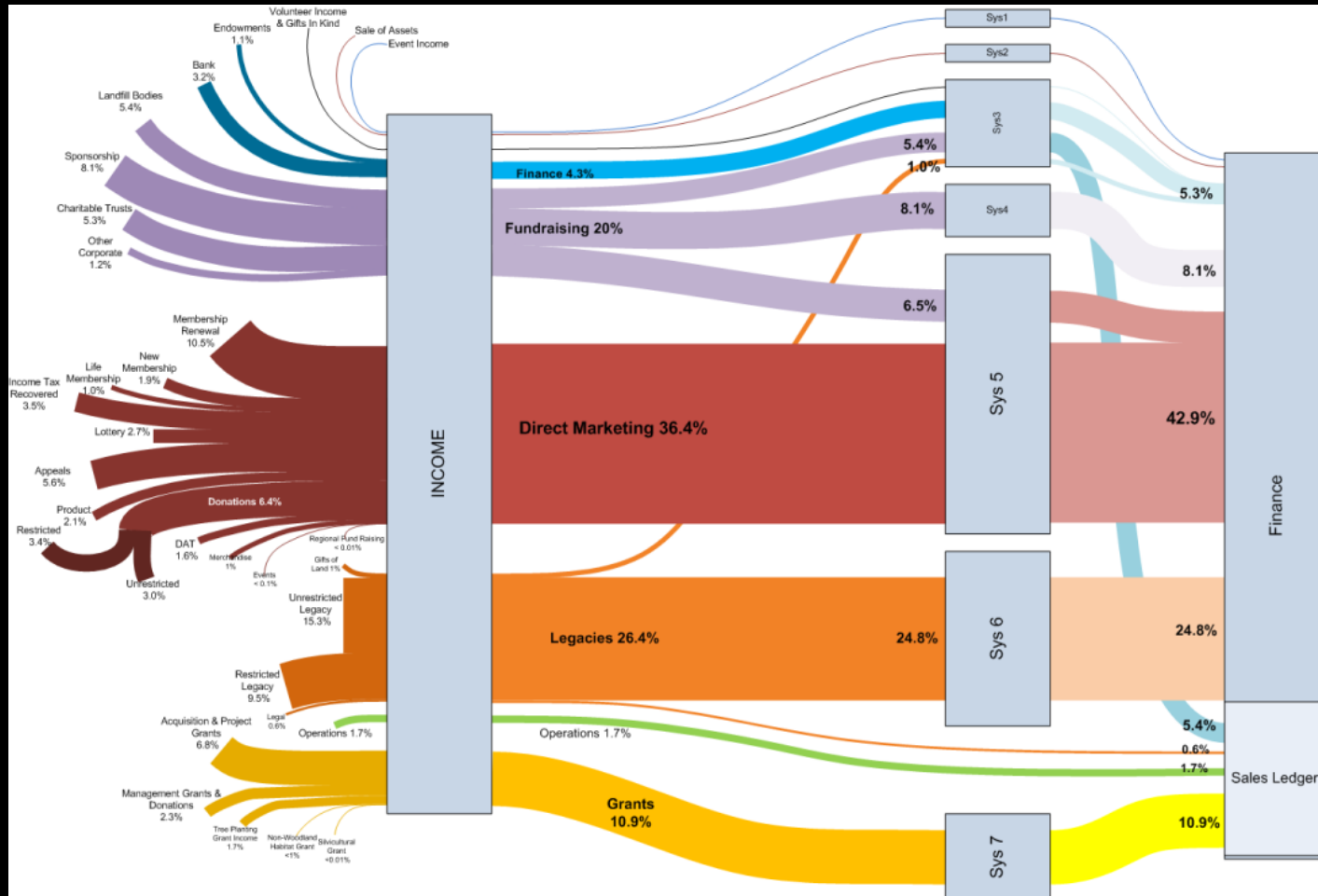
SANKEY Diagrams - examples

Energy flow



SANKEY Diagrams - examples

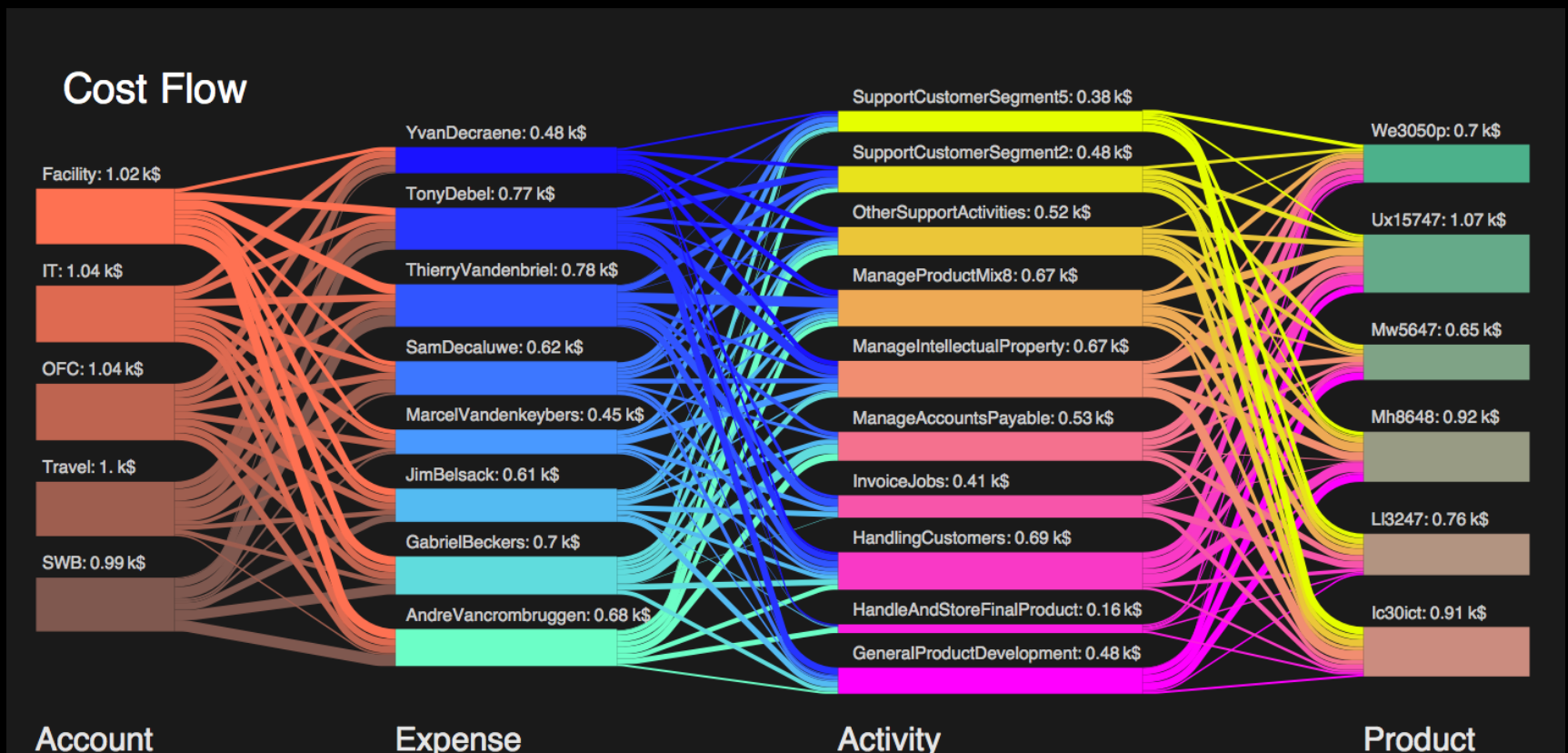
Financial flow



SANKEY Diagrams - examples

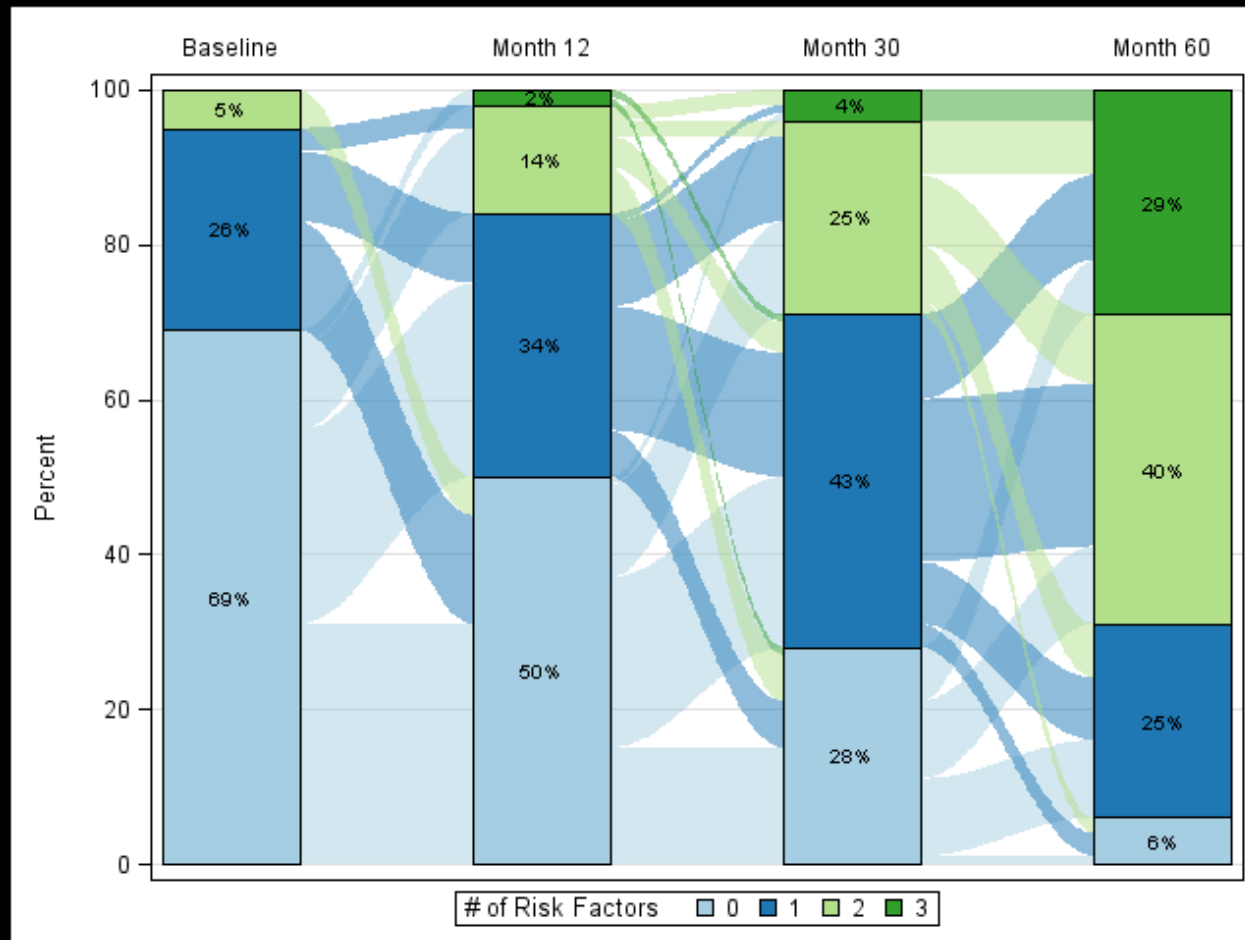
Cash flow

<https://visualign.files.wordpress.com>



SANKEY Diagrams - examples

Risk management



TASK:

With reference to Sankey Diagrams:

1. Display the flow of products within the supply chain.
2. Design the management model for the entire SCM.

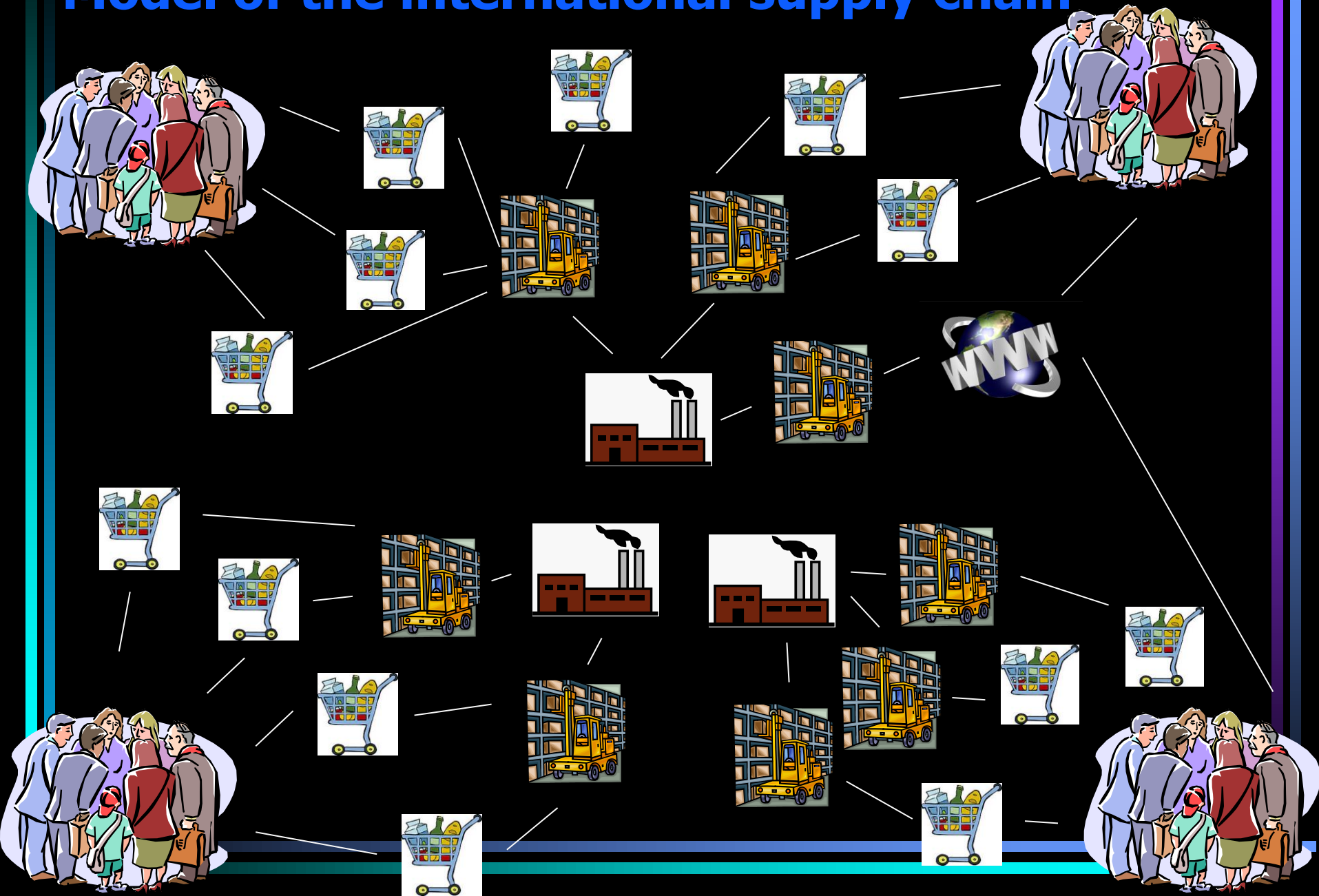


Link to the software:

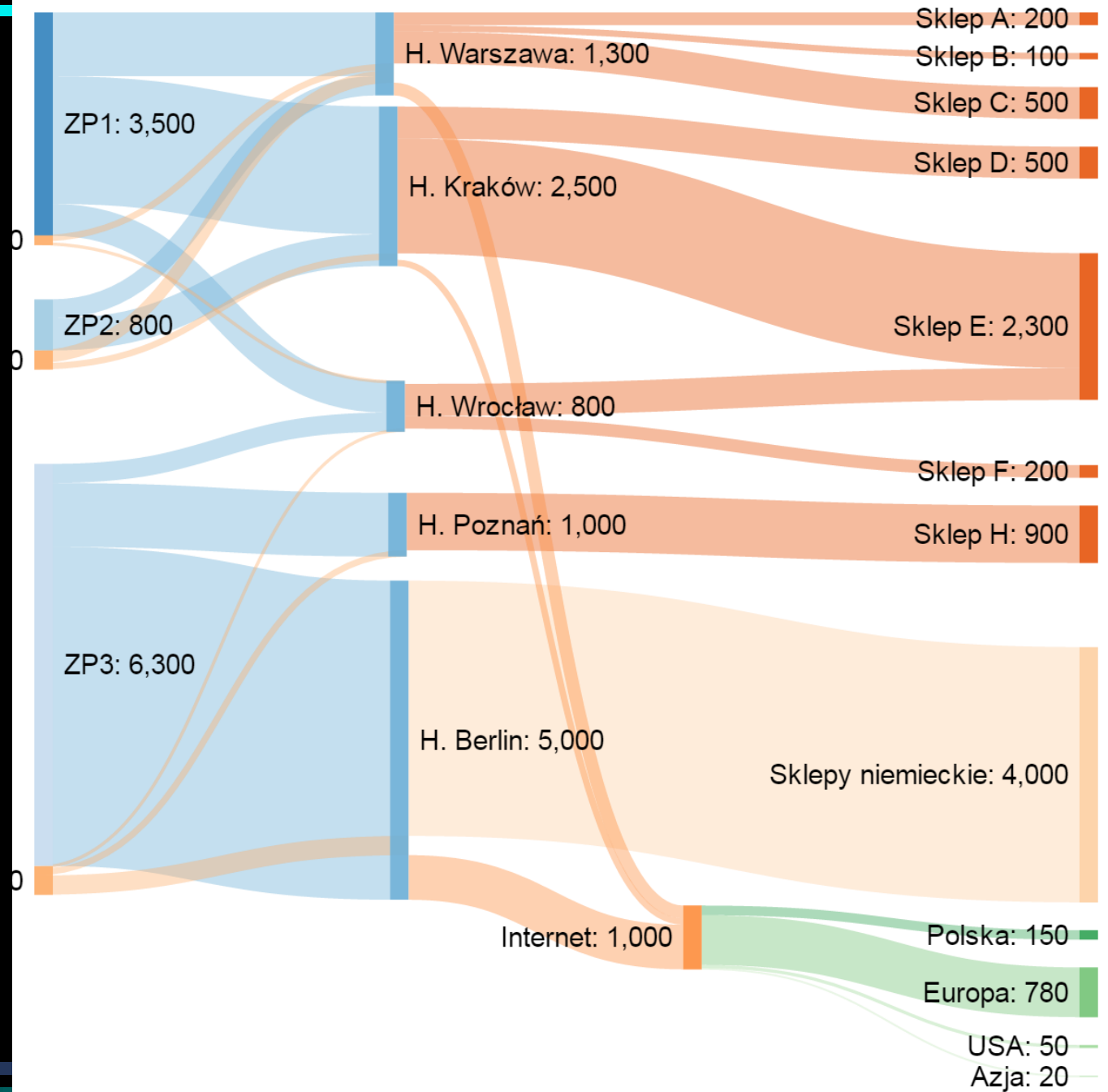
<http://sankeymatic.com>

The screenshot shows the SankeyMATIC website. At the top is a navigation bar with links: SankeyMATIC (BETA), Build a Sankey Diagram, Manual, Gallery, and FAQ. The main heading is "SankeyMATIC" followed by the tagline "A Sankey diagram builder for everyone". To the right are three small thumbnail images of different Sankey diagrams. The main content area explains that a Sankey diagram depicts flows of any kind, where the width of each flow is based on its quantity. It lists examples: money flows (budgets, contributions), energy flows, and goods flows. It notes that Sankey diagrams are good for complex information and lists more examples: money flows, energy flows, and goods flows. It states that Sankey diagrams can be difficult to produce without specialized software, and that SankeyMATIC aims to change that. It mentions that there are no tools to install, no code to write, and no sign-up required. It instructs users to enter their data, customize the diagram, and download the finished product. On the right side, there is a section titled "How SankeyMATIC works" with two steps: "1. Enter your data" and "2. Customize the diagram". Under step 1, there is a table with columns "Source [Amount]" and "Target", and rows for "Lorem (70) Dolor", "Ipsum (50) Dolor", and "Ipsum (50) Dolor". Under step 2, there is a diagram showing flows between "Lorem" and "Ipsum" nodes with values like \$70K, \$120K, and \$50K.

Model of the international supply chain



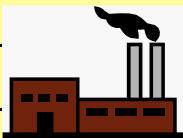



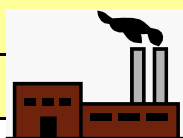


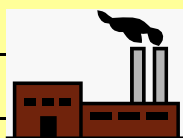



SANKEY project



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DATA – level I:

PLANT 1		Warehouse	
	1000	W: Paris	
	2000	W: London	
	500	W: Warsaw	
PLANT 2			
	300	W: Paris	
	500	W: London	
PLANT 3			
	300	W: Warsaw	
	1000	W: Budapest	
	5000	W: Berlin	


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DATA – level II:

W: Paris		1300
	200	Shop A
	100	Shop B
	500	Shop C
	200	INTERNET
	100	Returns to Plant 1
	200	Returns to Plant 2
	1300	




W: London		2500
	500	Shop D
	1800	Shop E
	100	INTERNET
	0	Returns to Plant 1
	100	Returns to Plant 2
	2500	




W. Warsaw		800
	200	Shop F
	500	Shop G
	50	Returns to Plant 1
	50	Returns to Plant 3
	800	



W: Budapest		1000
	900	Shop H
	100	Returns to Plant 3
	1000	












W: Berlin		5000
	4000	Shop E
	700	INTERNET
	300	Returns to Plant 3
	5000	



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DATA – level III:

Shop A		200
	150	EUROPE
	50	Returns to Paris
	200	
Shop B		100
	90	EUROPE
	10	Returns to Paris
	100	
Shop C		500
	480	EUROPE
	20	Returns to Paris
	500	
Shop D		500
	400	EUROPE
	100	Returns to London
	500	

Shop E		1800
	1700	EUROPE
	100	Returns to London
	1800	
Shop F		200
	200	EUROPE
	0	Returns to Warsaw
	200	
Shop G		500
	420	EUROPE
	80	Returns to Warsaw
	500	
Shop H		900
	800	CHINA
	100	Returns to Berlin
	900	
Shop E		4000
	3900	CHINA
	100	Returns to Budapest
	4000	



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DATA – level INTERNET:

INTERNET	1000
150	POLAND
780	EUROPE
50	USA
20	ASIA
1000	



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SOLUTION:

Questions?



- dr Marian Krupa