



Exercises Session 9

Each of the distribution centers offer warehousing facilities for the assembled machines. Obviously this is not free. To use a DC's warehousing facility, a one-year contract must be signed with an establishment fee. Additionally there is a unit inventory cost for storing a machine from one period to another. The data are given below.

	Cost
Singapore	2 000
Hong Kong	2 000
Århus	3 000

Table 1: Fixed costs for using warehouse facility

	Winter	Spring	Summer	Autumn
Singapore	110	115	120	125
Hong Kong	90	90	90	90
Århus	145	145	155	155

Table 2: Inventory unit cost

Because of the low demand in Scandinavia compared to other market areas, it is questioned whether it might be better to find an alternative distribution form, than shipping through the DC's. There is an offer of transporting your machines directly from your plant in Bangkok to your wholesaler in Scandinavia.

However, capacity is limited to 15 pieces pr. time period at a unit cost of 3010, and you'll have to sign a new contract for each time period costing 1750 in administration and lawyer fees. Management would like you to include this possibility in your production/distribution plan.

The physical layout of the network, with the summer parameters' setting, can be seen on the Figure 1.

Task

- Expand your model to include the possibility of having inventories between seasons and a direct capacitated distribution route as described above.
- Modify you OPL Studio model and solve the distribution plan again.

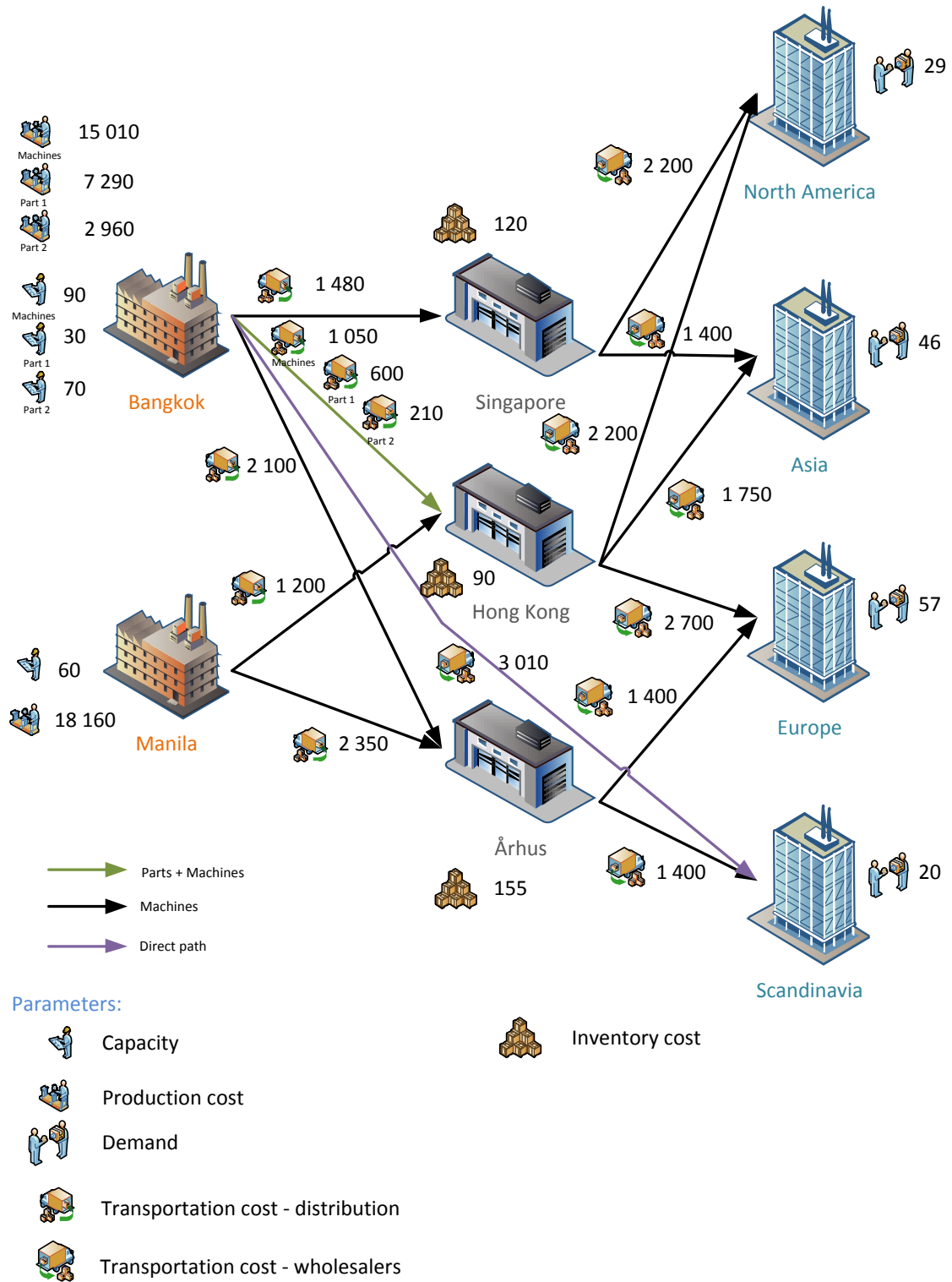


Figure 1: Network layout (Summer)