



Production Help Sheet




The Production department is responsible for managing the company's assets and to satisfy the customers' demands brought to our attention by our marketing department.

How and when can we change the location of our plant?

The location of our plant needs to be decided in the first year. It can be changed by clicking the green, "Change" button at the top of the production page. This populates a chart with the advantages and disadvantages of each location.

Choose Your Plant Location

Deciding which country to base your plant in is about understanding your long term vision. You are exempt from local shipping costs and tariffs in the market you select. Consider the customers you plan to target and make a choice that will limit your costs.

	USA	Germany	China
			
Cost to Ship to (per unit)	\$0.00	\$2.50	\$2.50
Defect Rate*	4%	2%	6%
Tariff	0%	5%	3%
Hourly Wage**	\$21.00	\$22.89	\$19.11
Market Size and Growth Rate	Low Tech - 5,838 (6%) High Tech - 3,195 (13%)	Low Tech - 911 (20%) High Tech - 747 (35%)	Low Tech - 823 (45%) High Tech - 263 (32%)

The United States of America is known to promote free economy which explains the lower tariffs. Shipping costs are highest coming from USA, which increases the overall cost per unit. The upside however, is that the initial demand in USA is greater than Germany or China.

* Defect Rates apply to all products created in the selected country.
** Hourly wages increase by 5% each year.

CloseSelect Plant Location

How do we meet the sales forecast?

Below the country images we see the following: sales forecast, (provided by marketing) our inventory remaining from last year, and how much we need to meet the estimated demand referred to as "Needed Supply". This factors in the defective items we produced. We move the slider/input a number in the box, to make the "shortfall/Overage" number be positive yet low.

Should we produce extra?

Generally, yes. If we only produce to meet our demand, there is a fair chance we may stock out. Producing some extra will help us avoid stocking out. However, the more you produce the more you may have remaining as inventory. Keep in mind that any inventory on hand accumulates a cost.

What is capacity?

Capacity is the number of units you can produce in a full year when running your production line 24/7. For example, if you have a capacity of 1,000 you can produce 2,000 with 2 shifts.

What is plant utilization?

Plant utilization is how much of our equipment we are using. 100% indicates you are using all of your first shift. 200% indicates you are fully using your first and second shifts.

How much capacity do we need?

You need enough capacity to be able to meet this year's demand.

When should we buy capacity?

You buy capacity a year before you need it as it takes a year to acquire the capacity. Therefore, you need to make sure you have enough capacity to meet next year's demand. You have to buy more capacity if you currently do not have enough to meet your expected demand for next year.

How to we buy capacity?

Move the Capacity slider to the desired capacity under Modify Plant. Make sure you buy enough capacity to fulfill your customer demand.

When should we sell capacity?

Capacity can be sold when you know you have equipment you will not be needing in the near future. (2-3 years)

How do we sell capacity?

To sell capacity, Move the Capacity slider to the left to the desired amount under modify plant. So if you have 1,000 Capacity, moving the slider to 900 will sell off 100 units of Capacity.

What is automation?

Automation represents the robotics and machines, which help you produce the product in place of employees.

Modify Plant			
Able			
Capacity ⓘ	0	<div><div>1700</div></div>	Total (in 000's)
		5000	\$0
Automation ⓘ	0	<div><div>3</div></div>	\$0
		10	
Plant Investments			
Able			
			Total (in 000's)
		\$0	\$0
			Max Investments ⓘ
			\$15,274

Why should I automate?

Automation is a good idea to lower the cost of production. It replaces employees with robotics/ machinery, which means you can meet demand while paying lower labor costs. The downside is that it is costly and it lengthens the time it takes to revise products.

How much can we spend on capacity and automation?

To the right of the capacity and automation cells under "Modify plant" there is a number for Maximum Investment. This number represents how much you can spend on capacity and automation within the current year.

How much are we currently spending?

Right above the Max Investment, we see a "Total" column. This is how much we are currently spending.