Improve the Constraint - Summary

A system's constraint is the process that immediately limits its capacity and therefore its throughput, sales and profit. It is "the weakest link" and therefore the most important.

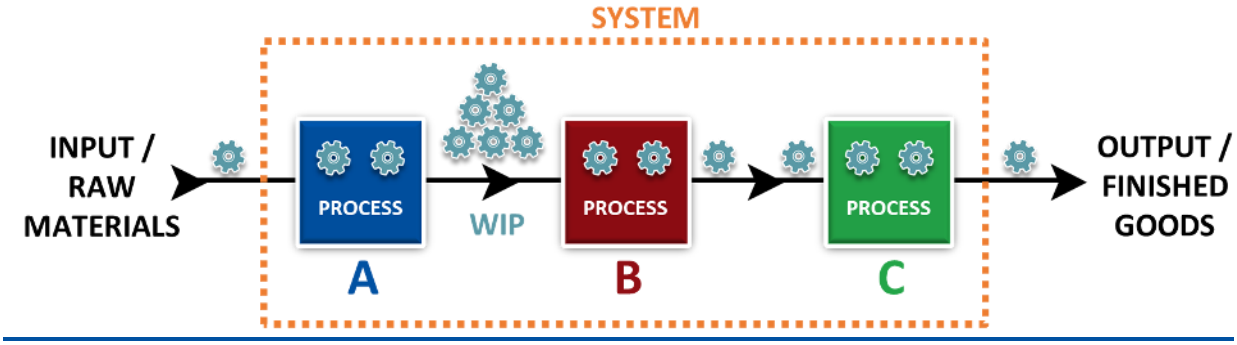
(A constraint is similar but not the same as a bottleneck.)

When looking at your operations, the first step is to create an appropriate process map of the whole system.

Map your system into its core processes. In this system there are three sequential processes, A, B & C.

Inputs / raw materials come in from the left and are first processed by process A, then B then C. Then it is finished and that is the output.

We can see the jobs / the inventory as little light-blue cogs going through the system (in the image below).



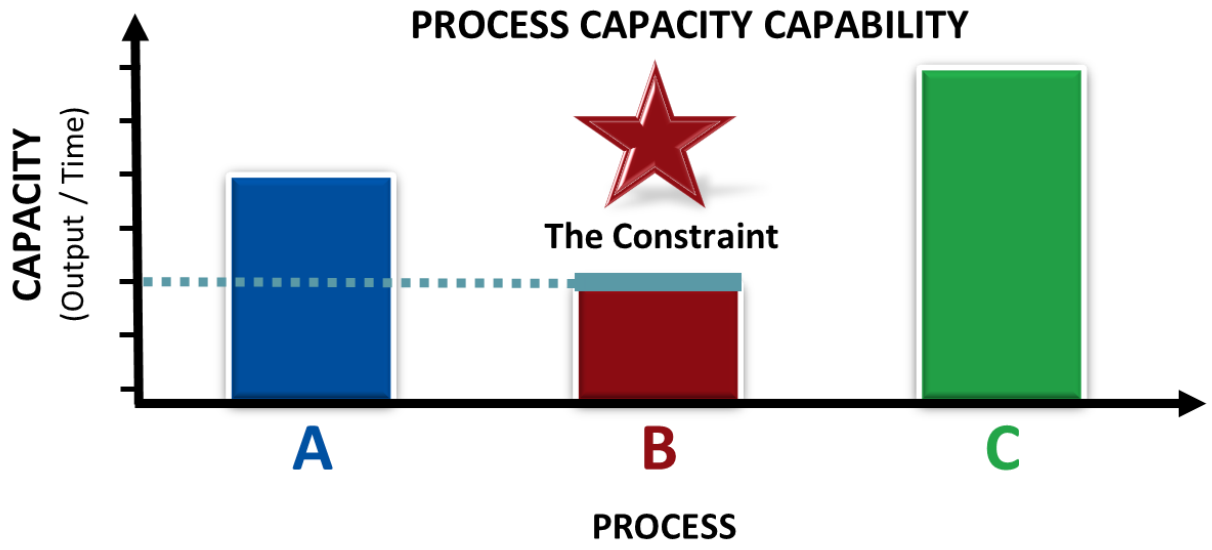
Now we can see that there is a lot of work in progress (WIP) building up and waiting in front of process B.

This is a common sign and a strong indicator that process B is the constraint.

In the graph below, we see a capacity profile graph of the same system. It plots the capacity of each individual process "if" it was operating on its own, independent of the availability and capability of other purposes. (This is necessary to calculate / determine the capacity of each individual process.)

We can see that process B has the lowest capacity and is indeed the constraint which is therefore limiting the output capacity of the entire system.

Assuming this system / factory / operation is "production constrained" (i.e. we have plenty of demand), then any extra system capacity improvement will likely be incredibly profitable.



The “Theory of Constraints” from the famous book “The Goal” by E.Goldratt, gives a five-step framework to tackle constraints.