

Appointment to Positions

Customer

Layout Expert

Scheduler

Time Study Expert

Materials Handler

2 X Setout

Printing

Cutting

Folding

Fabricate



The Work Week

Each day is minutes long


2 Minutes between days to update graphs

Each week is made up of 4 days

At the end of each week there is time for a 8 minute
Tool Box Meeting

- Identify problems
- Agree improvement plans
- Set targets for the improvement

The Market

- The average daily demand is 7 units – determined by rolling to dice – Green for Green, White for White
 - The customer wants delivery in 4 working days
 - If the factory is unable to supply it must by a more expensive product from a competitor
- 

Tool Box Meeting – End Week

1

Meeting - 8 Minutes

Agenda

- Ensure all graphs are updated
- Identify the problems within the Mini Business
- Hear from Experts
- Agree one change and the new performance level (Future State KPI and Target Line on Graph) and document the plan
- Make the Change – 5 minutes

Change to Factory Procedures

Product no longer needs to be batched in four for transport



Changes in the Market — End Week 1

The customer will no longer accept Green Dice

The Materials Handler to remove all Green Dice from WIP and Finished Goods

Customer to adjust the Profit / Loss for the Factory

By the end of the coming week the customer wants the lead reduced from 4 days to 2 days

Forecasting

Customer Order Variability

Promotions

Seasonal demand

The human factor

Long leadtimes

Increased inventory

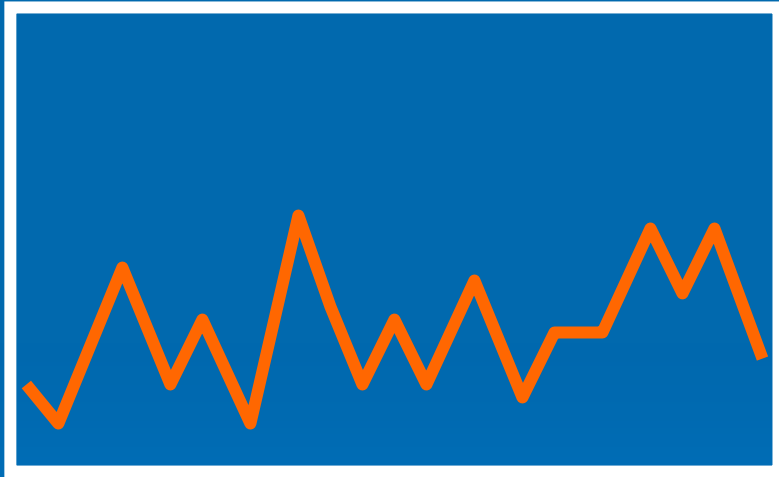
Reduced flexibility

Increased costs

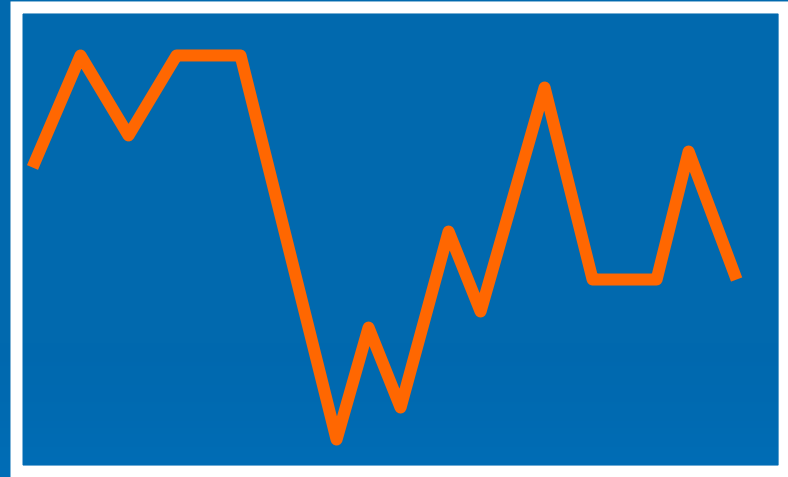


Forecasting - Push

Actual Customer Orders

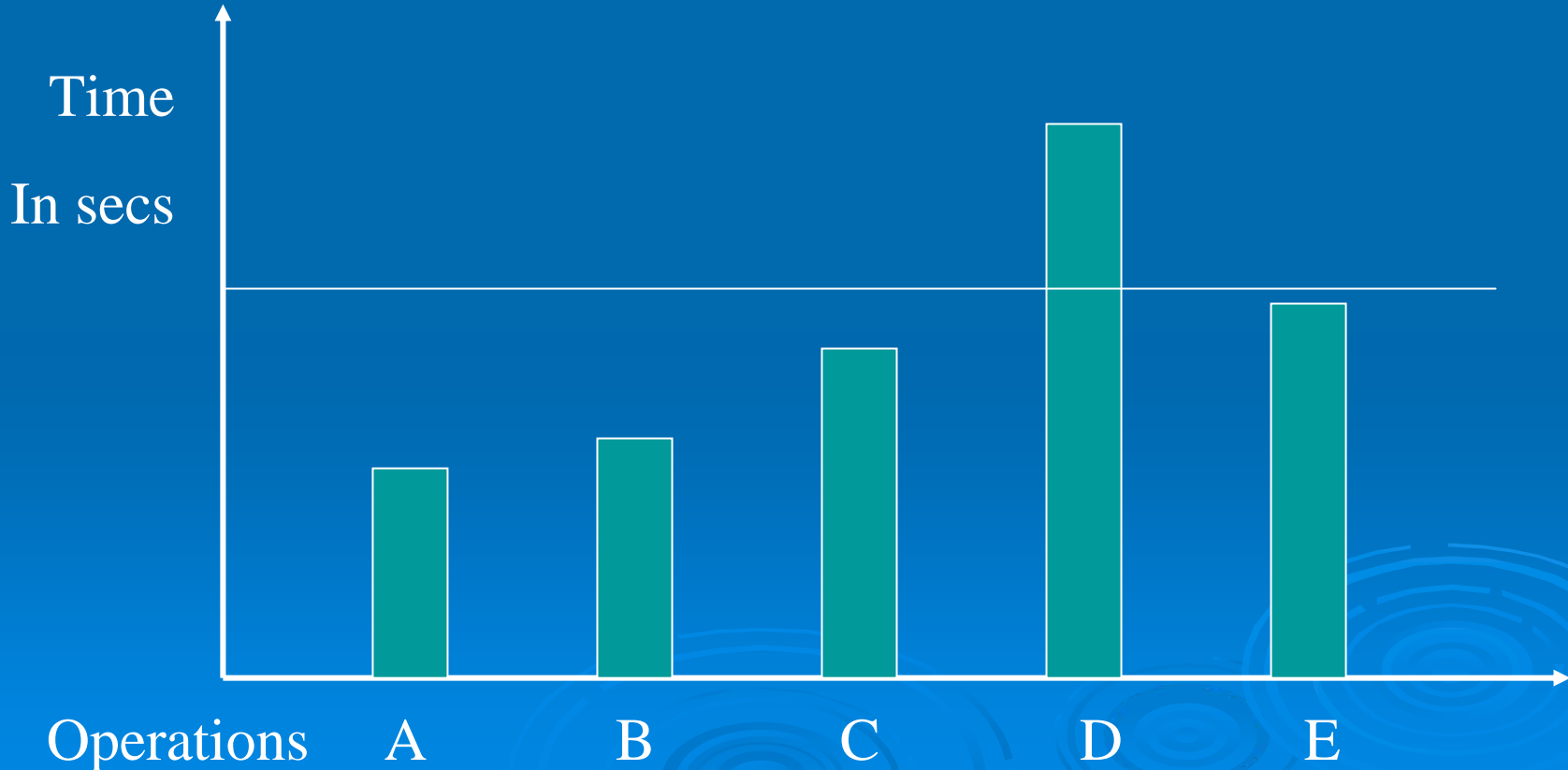


Scheduled Factory Work

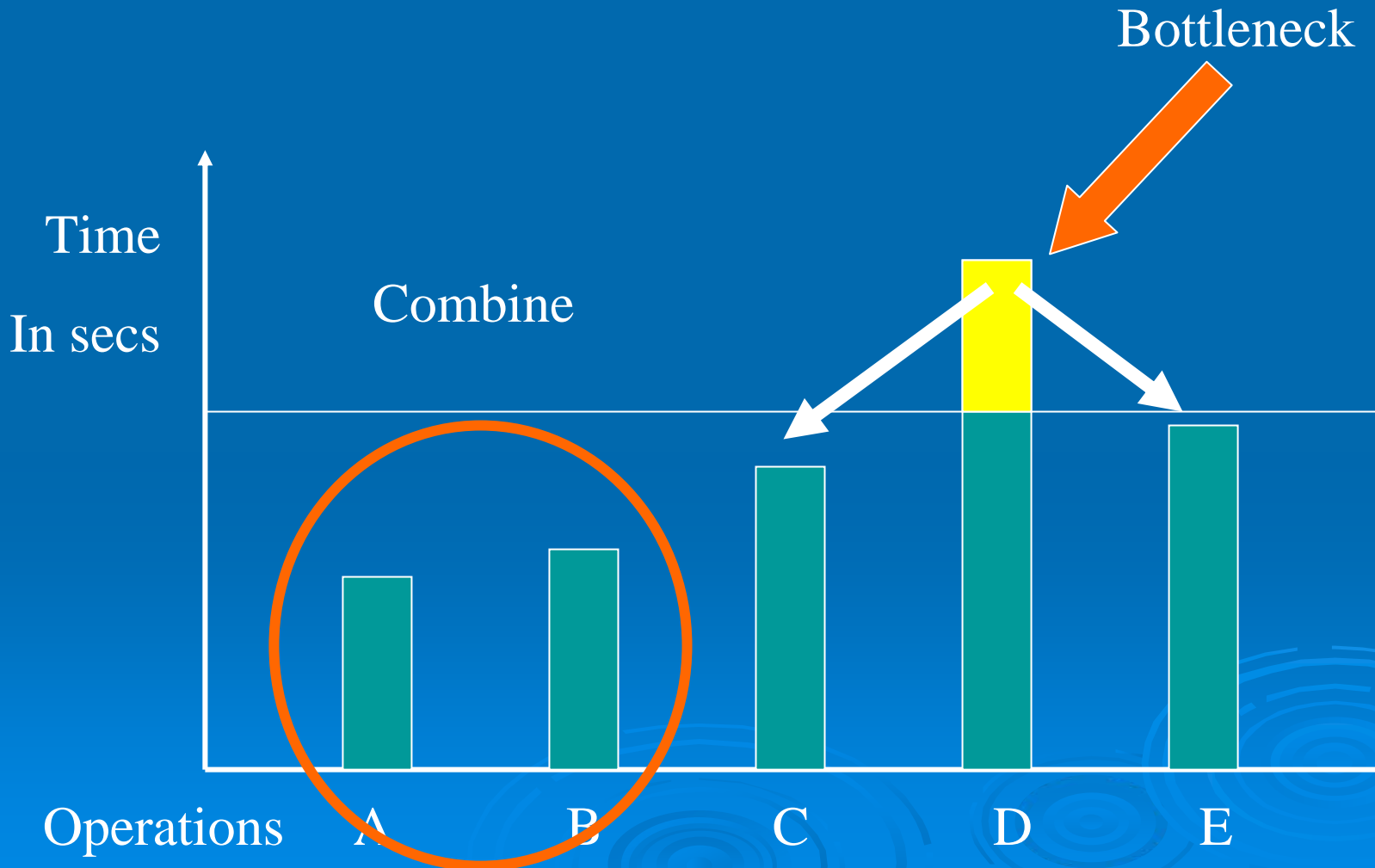


Takt Time

Takt Time = Time available to produce / Average customer orders



Takt Time



Tool Box Meeting – End Week 2

Meeting 8 Minutes

Agenda

- All graphs updated
- Problems and issues identified
- Refer to the improvement plan – Was the objective achieved? Why / Why not?
- Plan for the changed Customer Order rate
- Agree the plan, document and set the target

Changes in the Market – End Week 2

The customer insists on a daily order increase from 7 to 10.5 units per day.

Unchanged

- 2 day leadtime

Leveling Demand

By volume and by variety

Buffer the process from the customer by Finished Goods

Buffer the process from the customer by time – queuing of orders to the factory



Tool Box Meeting – End Week 3

Meeting 8 Minutes

Agenda

- All graphs updated
- Problems and issues identified
- Refer to the improvement plan – Was the objective achieved? Why / Why not?
- Plan for the changed Customer Order rate
- Agree the plan, document and set the target

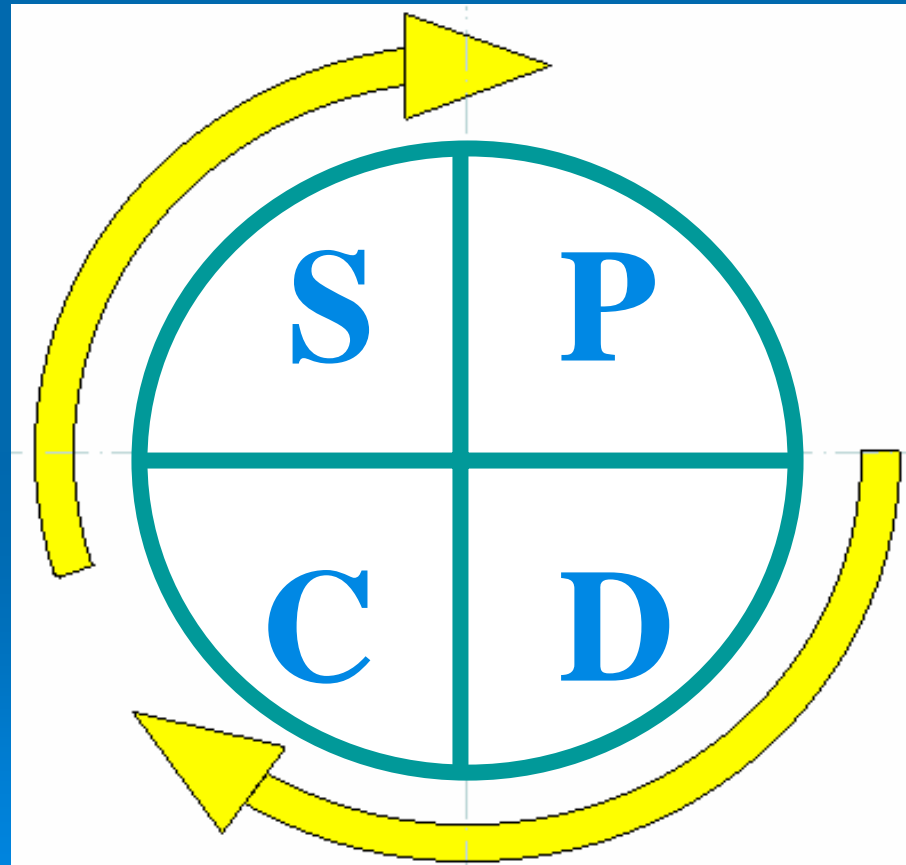
Changes in the Market – End Week 3

The customers the choice of 3 different colours of dots.

Unchanged

- 2 day leadtime
- Order rate of 10.5 units per day

A Process for Improvement PDCA Cycle or PDCS



Standardize or
apply counter -
measures

Plan the
improvement

Check the results

Do the
improvement

Tool Box Meeting – End Week 4

Meeting 8 Minutes

Agenda

- All graphs updated
- Problems and issues identified
- Refer to the improvement plan – Was the objective achieved? Why / Why not?
- Plan for the changed Customer Order rate
- Agree the plan, document and set the target

Changes in the Market – End Week 4

The customer demands a one day leadtime and the order rate has increased to 14 units per day.

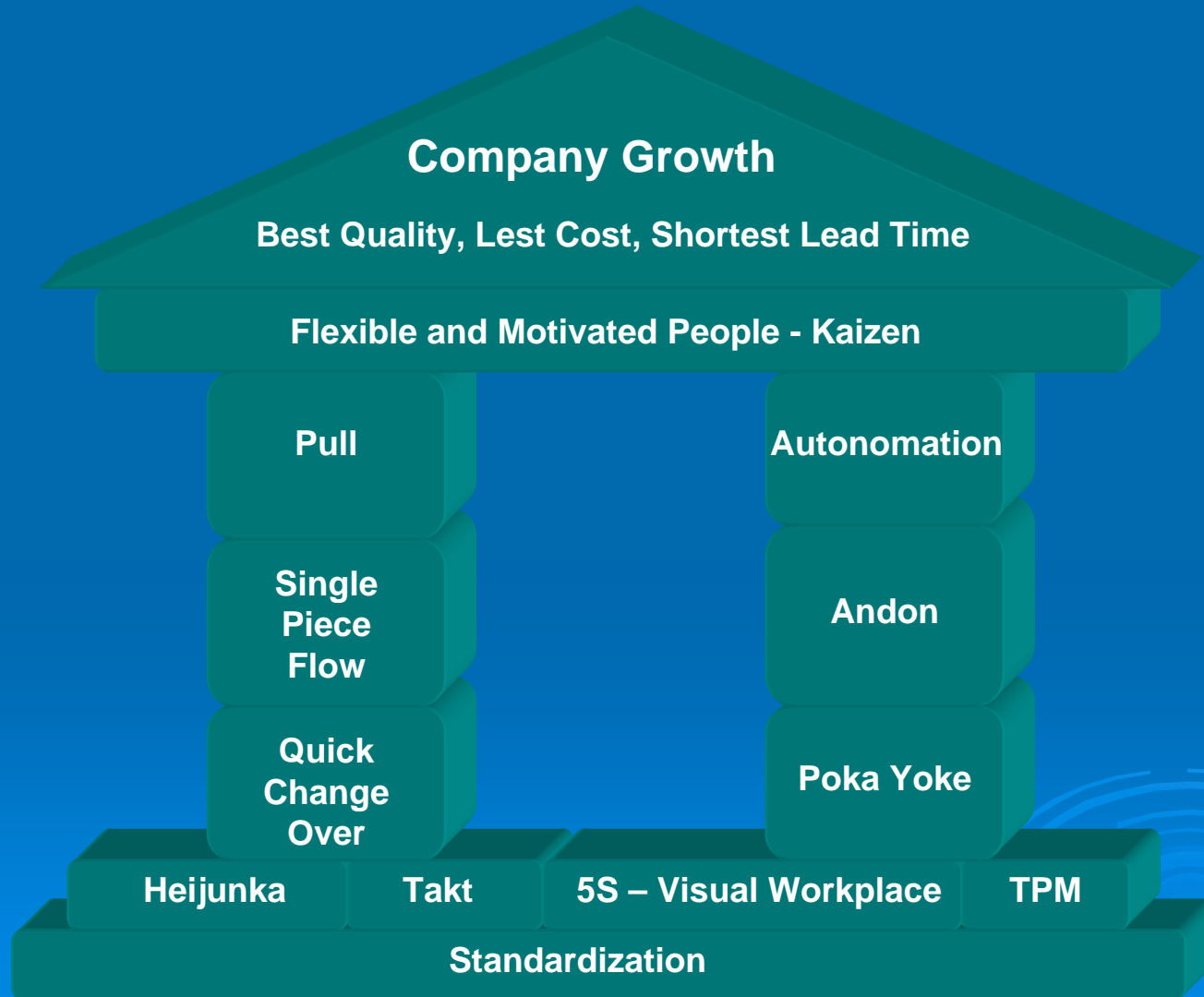
Unchanged

- 3 different coloured dots

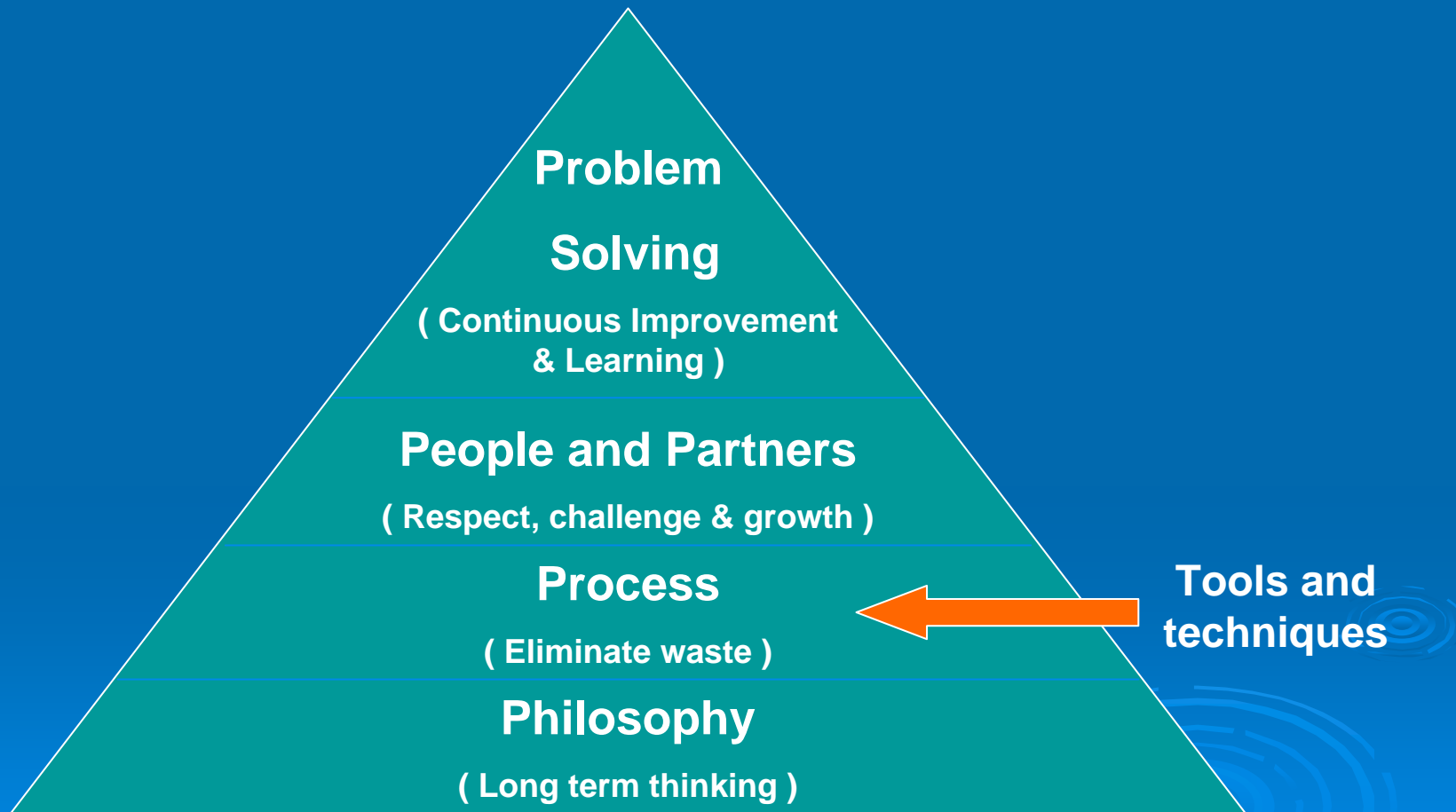
There are no constraints, apart
from your imagination, in meeting
the new targets



The Toyota Production System Temple



TPS – A socio technical system



Lean Learnings

Long term philosophy and process

Focus on Waste vs Single Point Efficiency

Engage people – What is the mechanism for engagement?

Responsibility, Accountability and Empowerment

Countermeasures by those closest to the problem

Use visual controls to highlight problems

Fix problems forever

Absolute discipline