

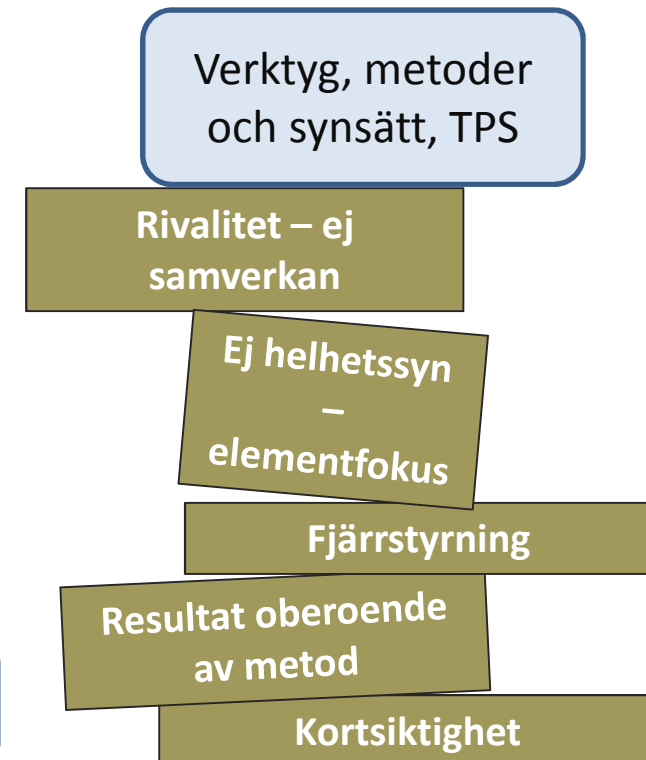
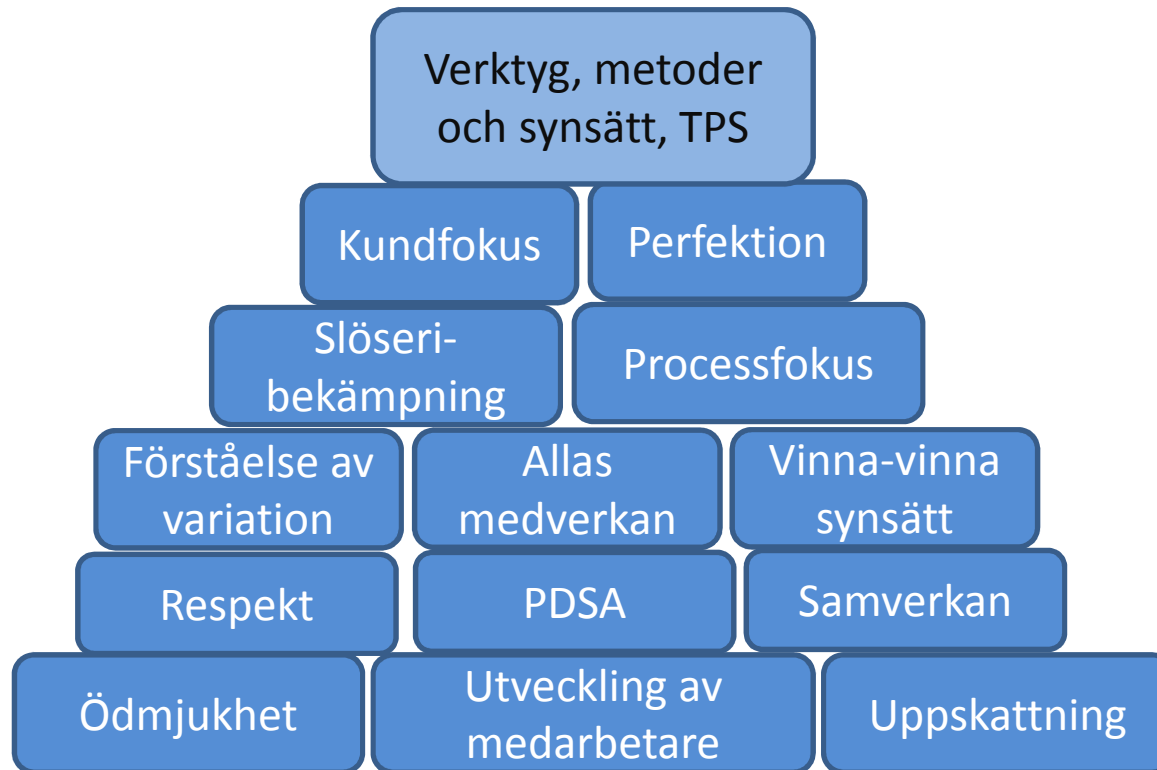


LEAN & statistik, Six Sigma

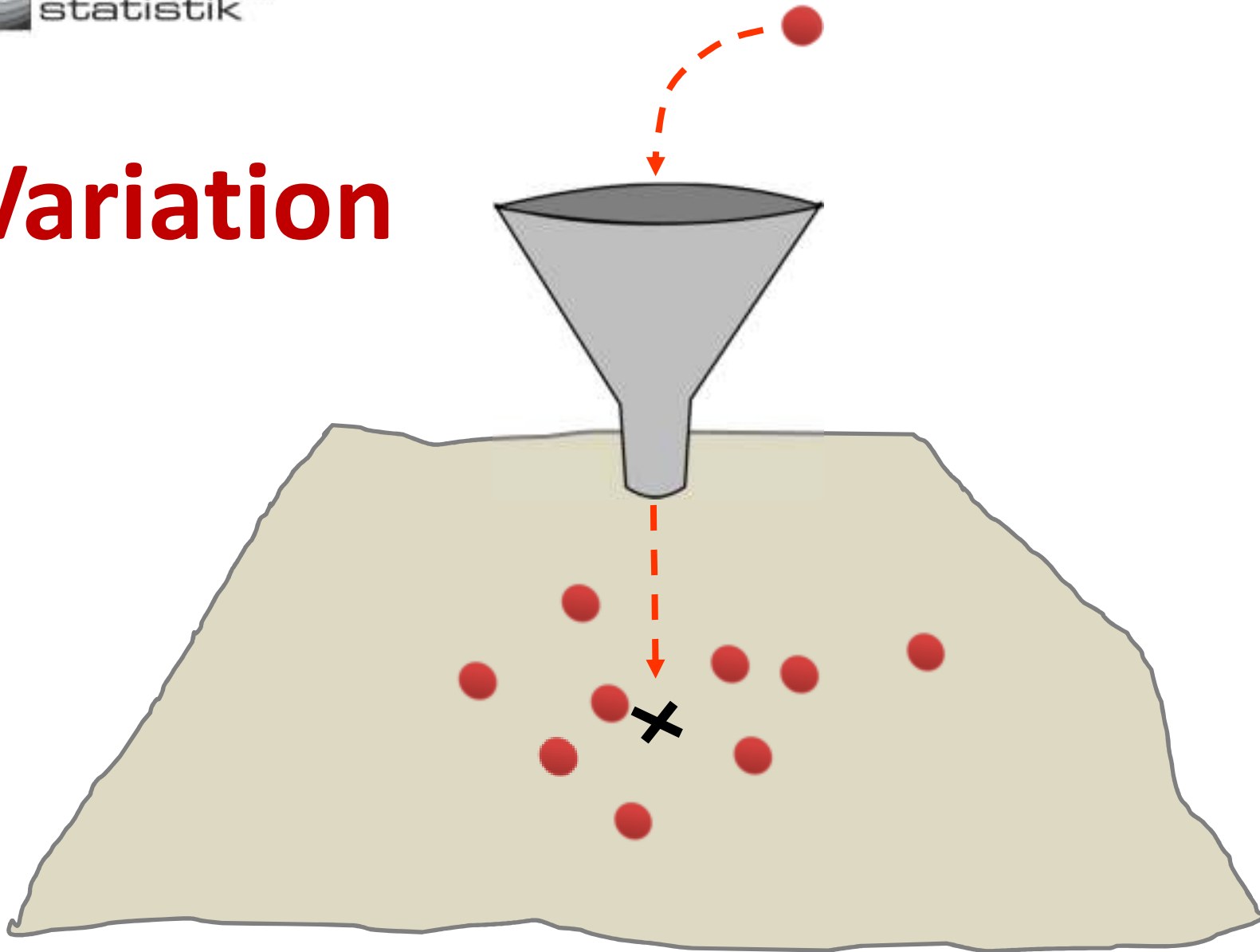
Varför kopierar vi det som andra gör?

Vet vi vad som ska kopieras?

Kopiera?



Variation

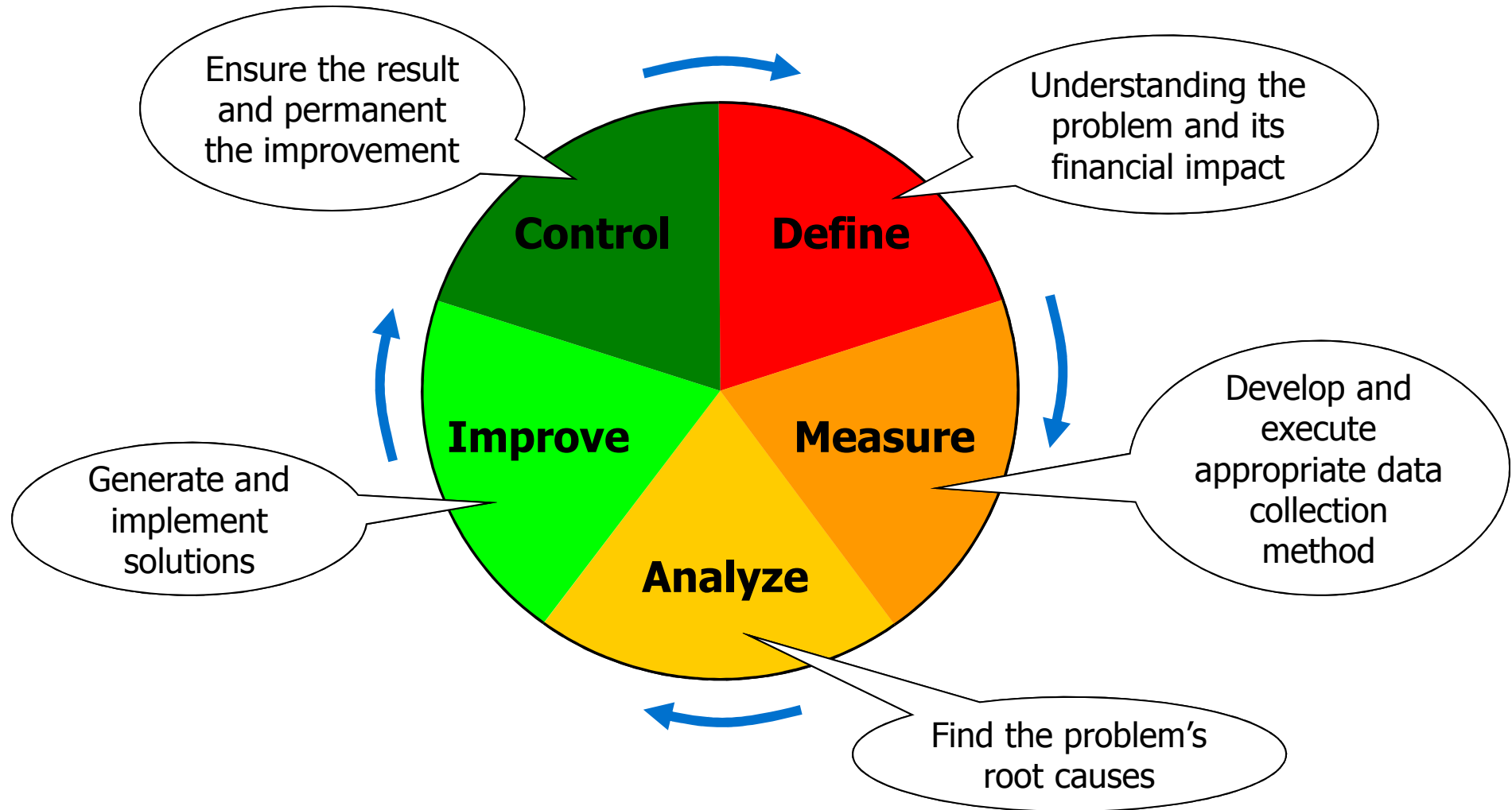




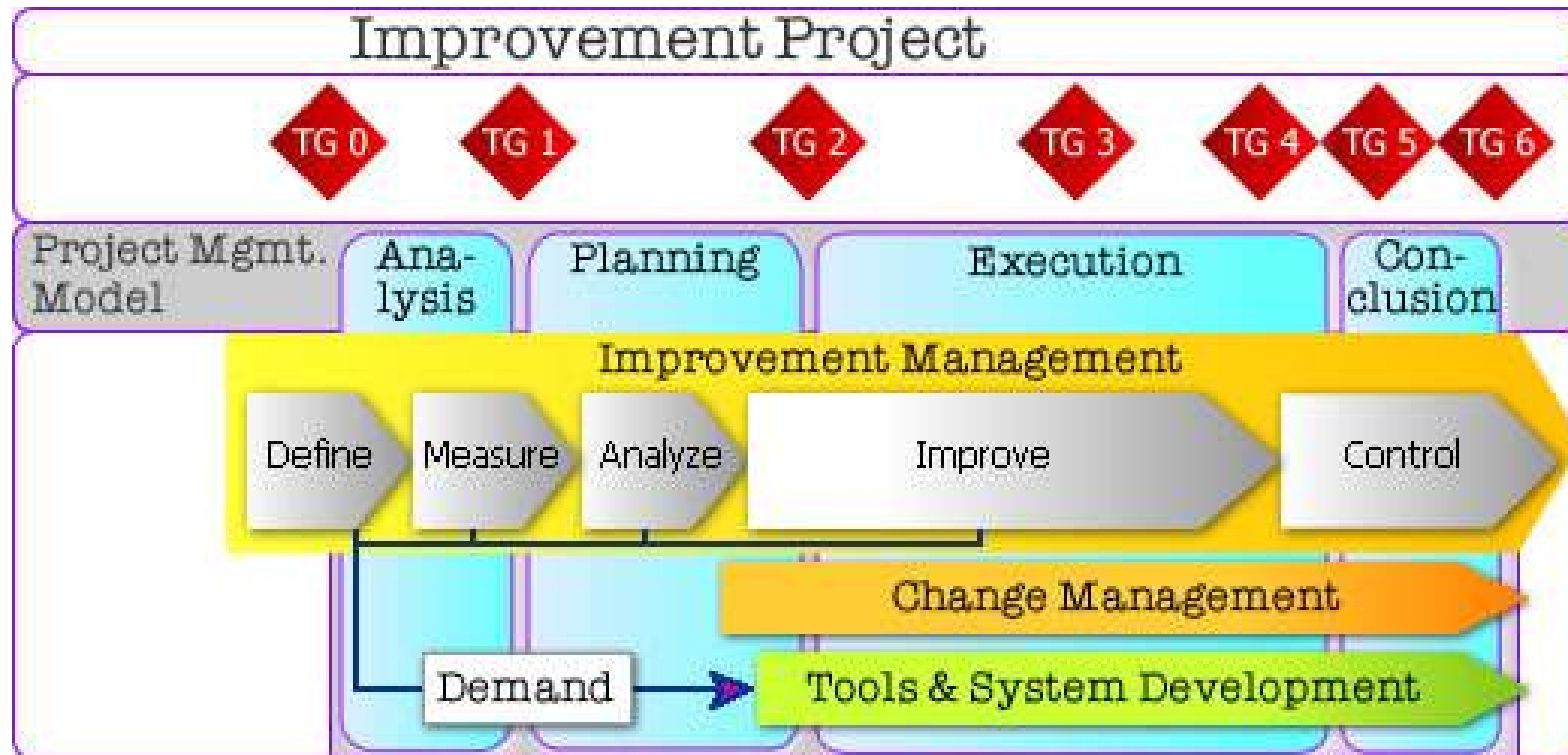
2013-03-23

Föreningen industriell statistik tillsammans med SFK-StaM

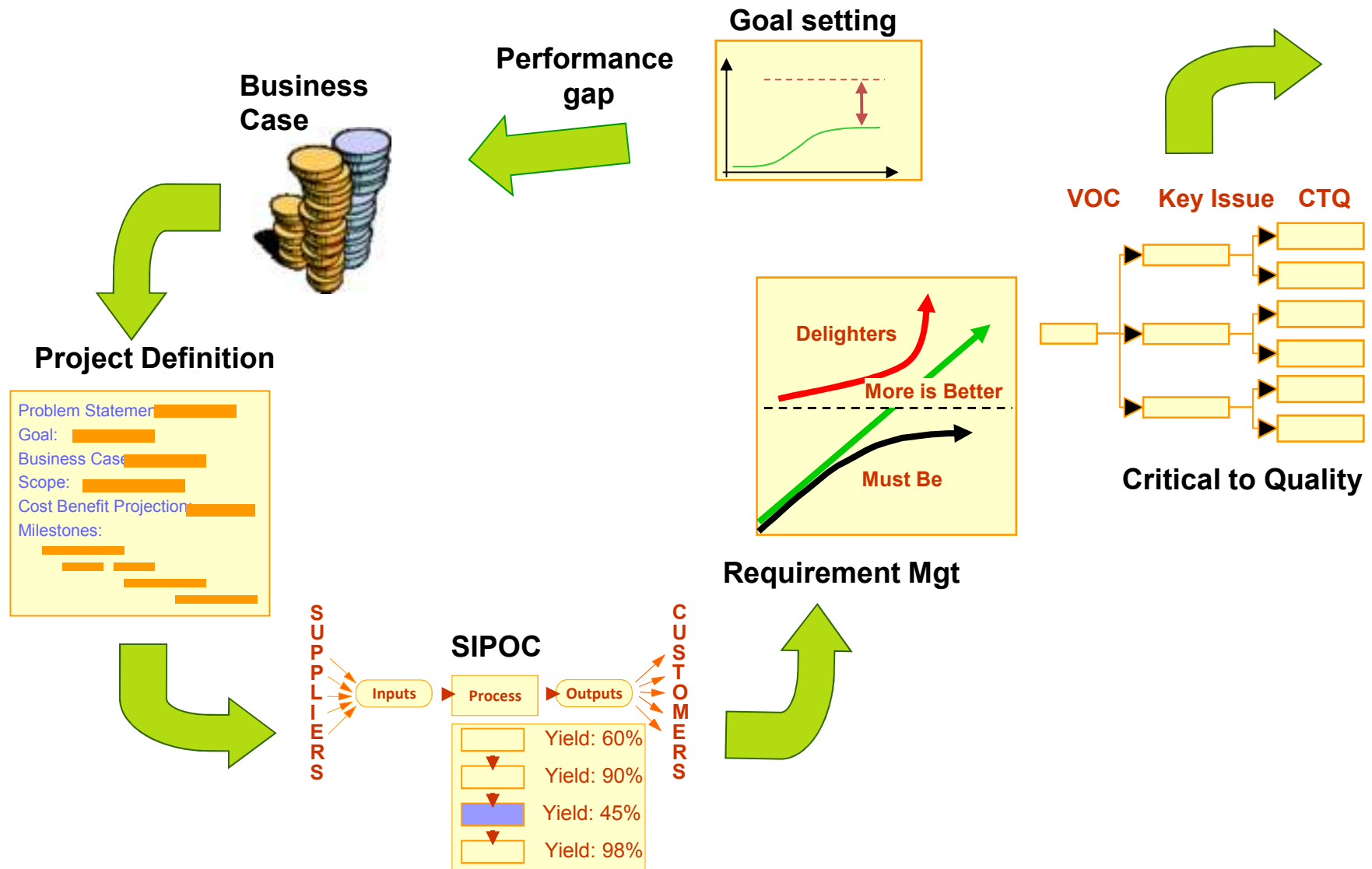
Six Sigma DMAIC Overview



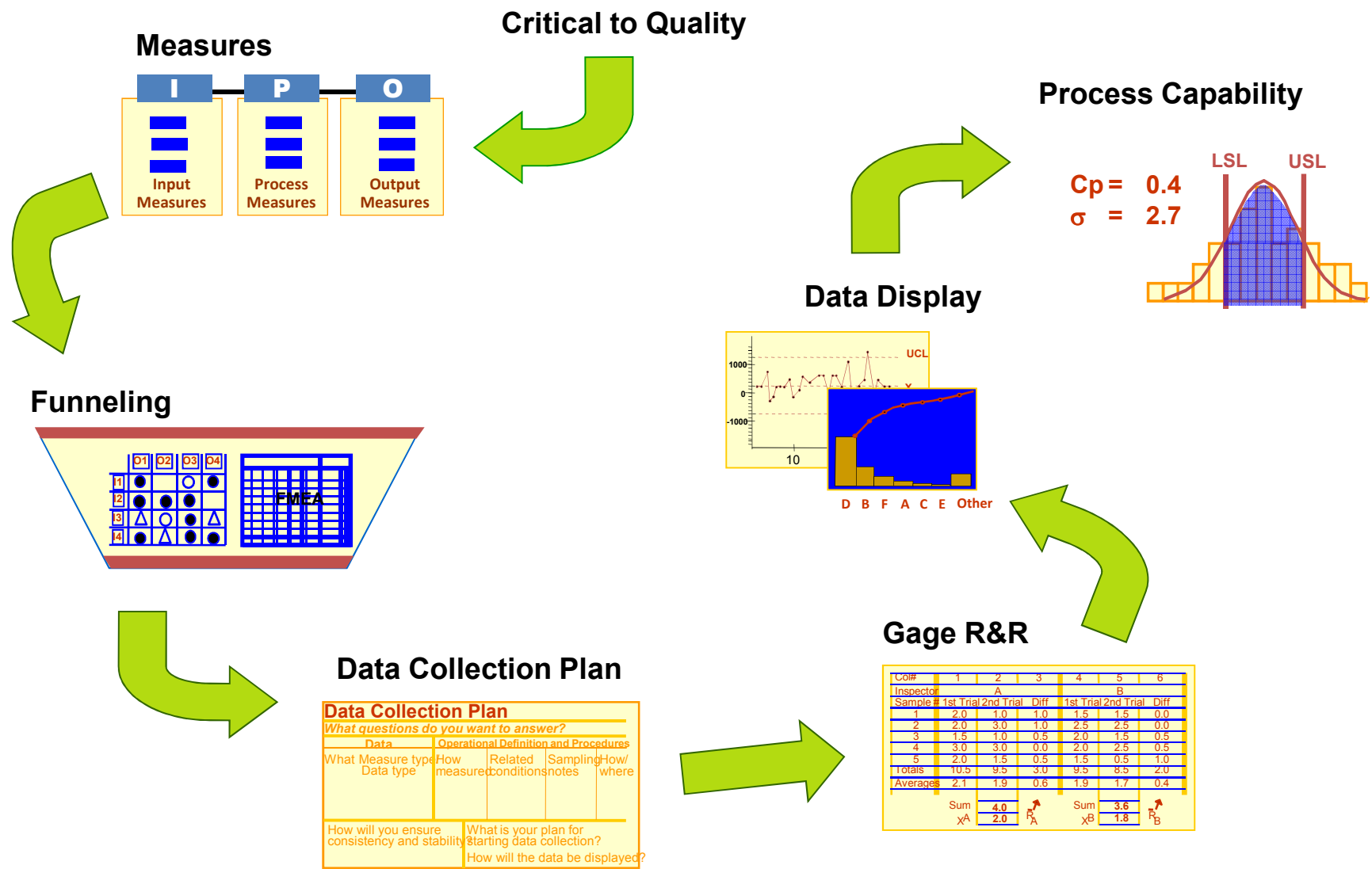
Improvement Concept



DMAIC Tools - Define



DMAIC Tools - Measure



Data Collection Plan

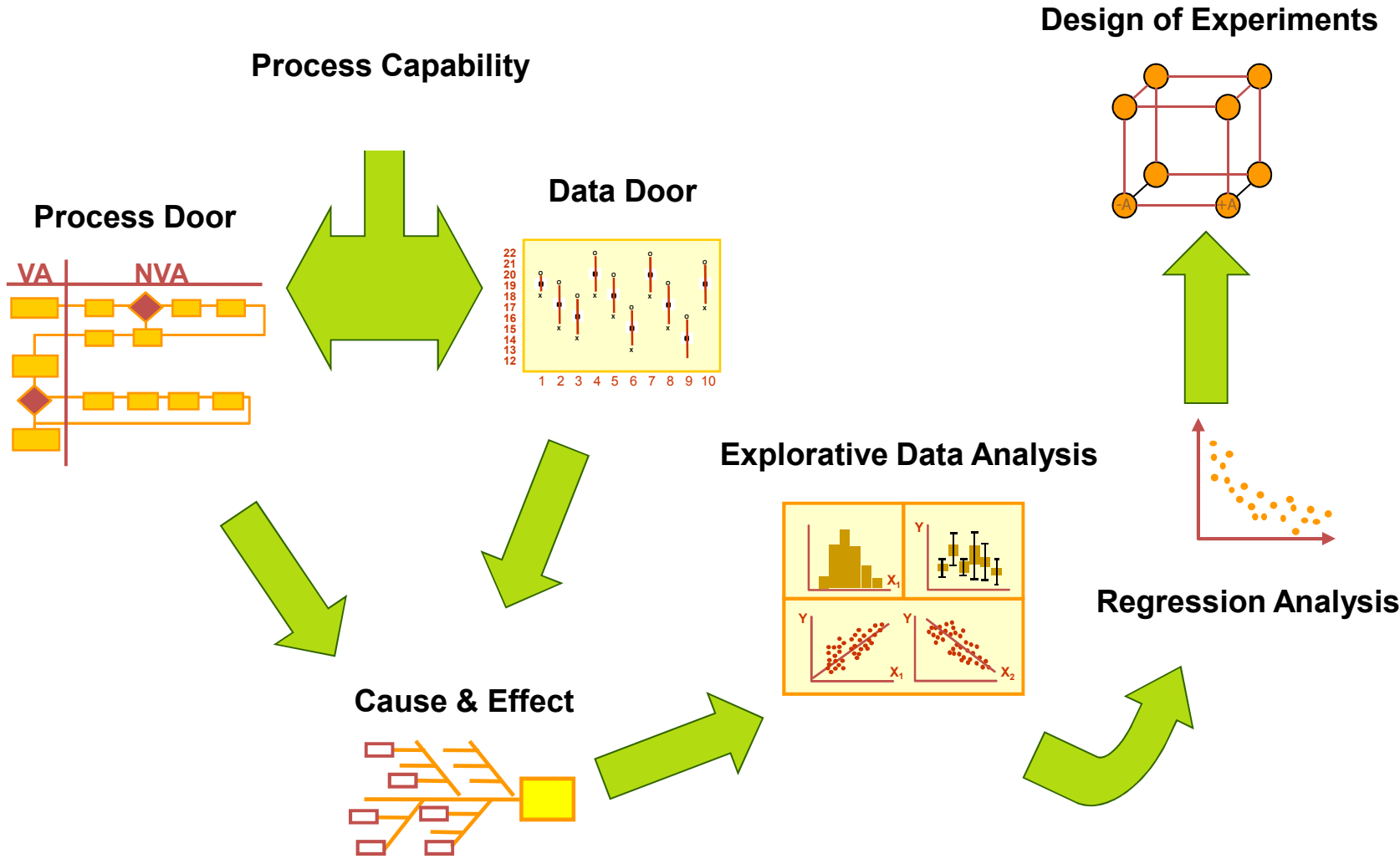
What questions do you want to answer?

Data	Operational Definition and Procedures			
What Measure type/ Data type	How measured	Related conditions	Sampling notes	How/where

How will you ensure consistency and stability? What is your plan for starting data collection? How will the data be displayed?

Co#	1	2	3	4	5	6
Inspector	A			B		
Sample #	1st Trial	2nd Trial	Diff	1st Trial	2nd Trial	Diff
1	2.0	1.0	1.0	1.5	1.5	0.0
2	2.0	3.0	1.0	2.5	2.5	0.0
3	1.5	1.0	0.5	2.0	1.9	0.5
4	3.0	3.0	0.0	2.0	2.5	0.5
5	2.0	1.5	0.5	1.5	0.5	1.0
Totals	10.5	9.5	3.0	9.5	8.5	2.0
Averages	2.1	1.9	0.6	1.9	1.7	0.4
Sum	4.0			3.6		
\bar{x}_A	2.0			\bar{x}_B 1.8		

DMAIC Tools - Analyze



DMAIC Tools - Improve

Design of Experiments

Generating Solutions

A	●		○	4
B	●	●	●	1
C	▲	○	●	3
D	●	▲	●	2



Cost-Benefit Analysis



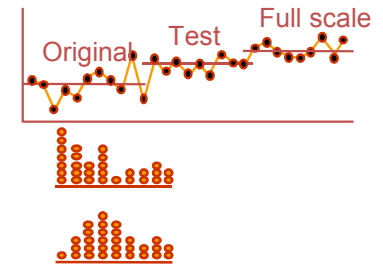
Assessing Risks

Selecting the Solution

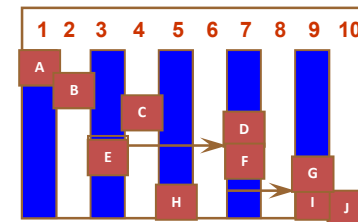
TRIZ



Piloting



Implementation Planning



DMAIC Tools - Control

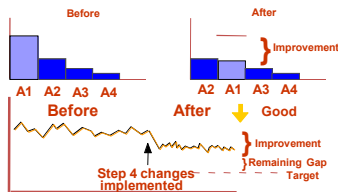
Implementation Planning

QC Process Chart

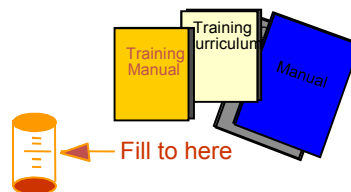
Product Name		Date of Issue	Issued by	Approved by
Process Name		Revision Date	Reason	Signature
Process Code #				
Flowchart	Work Instructions	Control/Check Point	Response to Abnormality	
		Chart Code	Impediment	Permanent Fix
			Fix	Fix
			Notes	



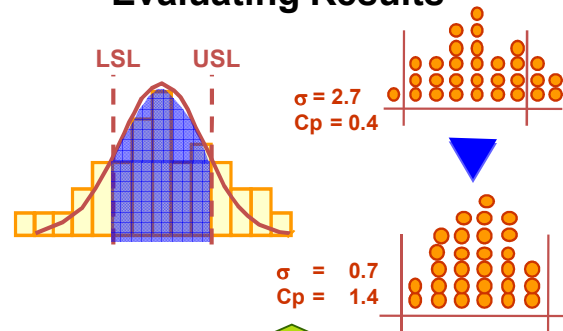
Process Change Management



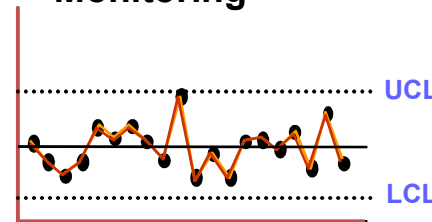
Documentation & Standardization



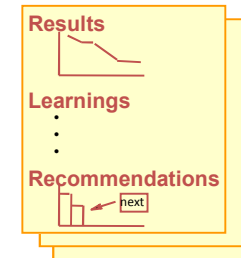
Evaluating Results



Monitoring



Lessons Learned



Celebration



DMAIC - Summary

Define CTQ's	Step 1	Define CTQ's based on VOC and the company's profit
	Step 2	Break down the CTQ's
Measure Metrics (Y's)	Step 3	Define metrics (Y's) that represents CTQ quantitatively
	Step 4	Verify the reliability of the measurement system for the metrics (Y's)
	Step 5	Check the current status of the metrics (Y's) and determine the target for improvement
Analyze Vital Few (X's)	Step 6	List and analyze factors of variance for the metrics (Y's)
	Step 7	Identify Vital Few (X's) that are critical to the metrics (Y's)
	Step 8	Verify the reliability of the vital Few measurement systems
Improve Optimal Conditions	Step 9	Identify the relationship between the Vital Few (X's) and the metrics (Y's)
	Step 10	Set optimal conditions for the Vital Few (X's) including their tolerances
	Step 11	Test and verify the optimal conditions in the real process
Control Standardization	Step 12	Establish Vital Few control systems and sustain them
	Step 13	Organize and accumulate the knowledge gained through the project
	Step 14	Share the improvement process and transfer best practices to others

LEAN & statistik, Six Sigma

09:30 – 10:00 - Registrering och kaffe

10:00 – 10:30 Göran Lande. Välkomst- och öppningsanförande

10:30 – 11:15 Mats Franzén, Sundsvalls kommun, socialtjänsten

”Varje människa måste mötas individuellt rätt i alla led för att verklig kundnytta och kvalitet skall uppstå”.

Systemorienterad verksamhetsutveckling/förbättringsarbete – tjänsteproduktion. Resultat för helheten, bygga ett lärande styrsystem, nya behov av mått, mätning, lagring, metoder och användning av statistik

11:15 – 12:00 Stefan Bükk - ***Principer för lean produktutveckling-***

Forskare, rådgivare och lärare inom LPD-området. Medlem i Lean Academy. Insikt i filosofier och principer för lean produktutveckling samt ett urval av arbetssätt och metoder inom området. En modell/ett system för produktutveckling.

12:00 – 13:00 Lunch vid reserverat bord

12:00 – 13:00 Lunch (vid reserverat bord)

13:00 – 13:45 Jan-Erik Andersson, Lantmännen Agroetanol AB

Införande av arbetsmetodik för ständiga förbättringar enligt LEAD- koncept -- Learn- Engage- Act- Do- hos Lantmännen Agroetanol AB i Norrköping. Möjligheter, och risker under implementering av utvecklingsteam för produktionsteknik, underhåll, miljö och säkerhet, HR och kvalitet i det dagliga linjearbetet.

14:00 – 14:45 Johan Axelsson, Karolinska universitetssjukhuset, SVU – *LEAN inom verksamhetsutveckling - Karolinska universitetssjukhuset*

Flödesorientering av verksamheten som införs på Karolinska sjukhuset och det metodstöd som ges. Fokus på IT/data stöd. Exempel på uppföljning.

14:45 – 16:30 Kaffe + diskussion,

Årsmötesförhandlingar