

# Toyota KATA for indirect and non production areas

## KATA in indirect areas / non production areas

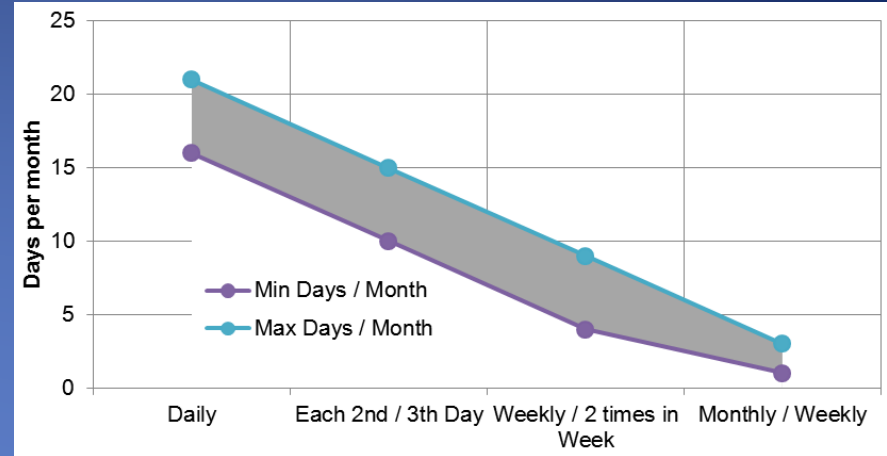
e.g. departments: HR, Logistic, QM, ....., Restaurants, Hotels, ...

There are running the processes

- during 1 day from few min to many hours.
- 1 time per week / month / term / year.

Important is that we can speak about **repeatable processes** and their **frequencies**.

You can begin with the processes from daily to yearly frequency or with the processes with higher impact to customers targets.



For the orientation of **set up meetings and data condition**, see table:

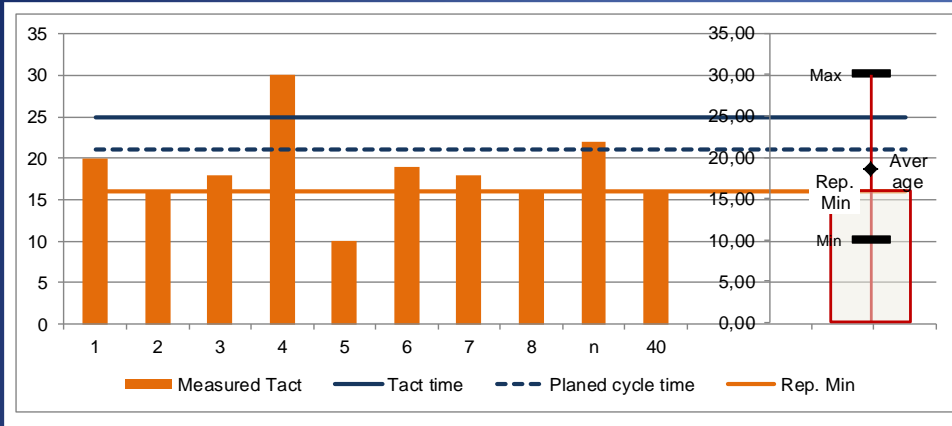
Minimum Days / Month	Maximum Days / Month	Frequency = Process is running	Meetings to set <b>Actual &amp; Target Conditions</b>	Meetings to do <b>Improvements</b> (1 day before process start to run)	Data Collection for <b>Actual Conditions</b>
16	21	Daily	3-5 Days in week	3-5 Days in week	20-40 Measurements including Observations
10	15	Each 2nd / 3th Day	3-5 Days in week	2-3 Days in week	8-12 Measurements including Observations
4	9	1 time Weekly / 2 times per Week	3-5 Days in week	1-2 Days in week	<b>Estimation (Min; Optimum; Max) including Why?</b> + 4-8 Measurements including Observations
1	3	1 time Monthly / 1 time Weekly	3-5 Days in week	1-3 Days in month	<b>Estimation (Min; Optimum; Max) including Why?</b> + 1-2 Measurements including Observations



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## KATA data collection and statistic

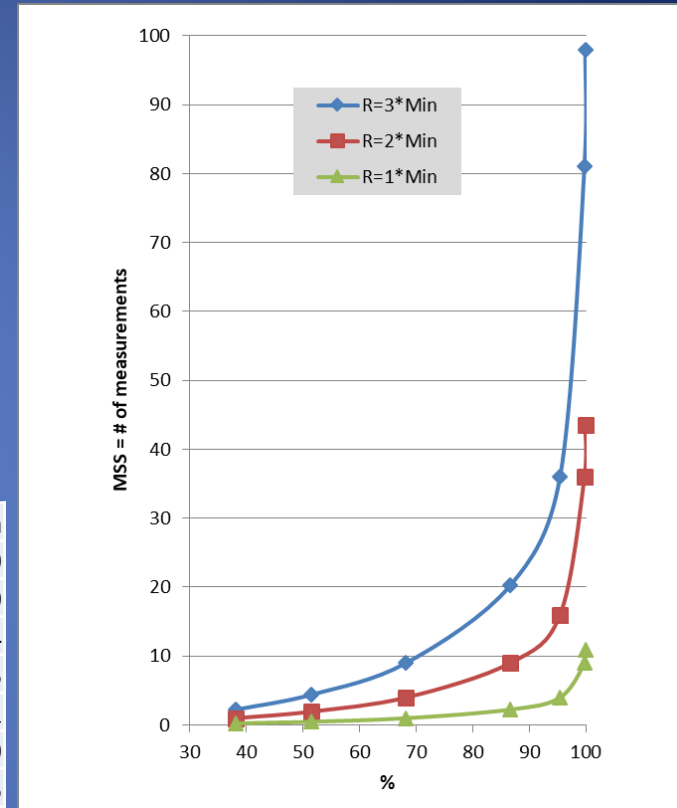
We can help us with Six Sigma tools cold MSS (minimal sample size) and KATA 40 cyklus diagram.



$$R = \text{Max} - \text{Min} = 2 * \text{Min}$$

Max =	30 min
Min =	10 min
Normal R range =	5 sigma
Estimations =	4 min
Exactness E =	2 min
Z-score =	1
MSS =	4 #

%	R=3*Min	R=2*Min	R=1*Min
99,90	98,01	43,56	10,89
99,74	81	36	9
95,44	36	16	4
86,64	20,25	9	2,25
68,26	9	4	1
51,60	4,41	1,96	0,49
38,30	2,25	1	0,25



### Interpretation in our Example, e.g. R=2\*Min:

- 40 samples (MSS) represented about 99% data from whole reality
- 20 samples (MSS) represented about 95% data from whole reality
- 10 samples (MSS) represented about 86% data from whole reality
- 4 samples (MSS) represented about 68% data from whole reality**

From table of previous page:

Process frequency = 1 time monthly

**4 samples can be = Estimation of Max, Optimum (=Repeatable Min), Min + 1 or 2 measurement**

**Conclusion:** We can use the KATA methodology for indirect and non production processes and get measurable improvement result.