



Introduction

Office add in "Sixsigmablackbelt Analysis"

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Reseller

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Purpose of the Excel add in

The add-in enables easy analysis and evaluation of process capability and measuring systems. The add-in offers templates that can be supplemented and changed with your own values. The results are then calculated and displayed in charts.

Short description of the add in

In the "Sixsigmablackbelt Analysis" add in we currently provide you with the templates and calculations for:

- Machine capability
- Measurement System Analysis Type 1
- Measurement System Analysis Type 2 (ANOVA)

Further applications are in preparation.

The mentioned procedures are used across all industries / regions and company sizes. The procedures are based on the recognized procedures in the automotive sector, Bosch and AIAG 4th.

Service

For each procedure, one push of a button is all it takes to create template. After you change data, the data is calculated at the push of another button and the charts are updated.

All templates can be customized by you to your personal needs in terms of formatting, inserting logos and the other possibilities of Excel. The adapted templates can be saved by you and edited again at any time.

All Excel functionalities are available. In the support section, the templates are available in other languages.

What happens to your data if you stop using the add in?

If you no longer use the add-in, you can only no longer execute new calculations. All existing tables and calculations remain present and unchanged. Your tables can therefore also be used by anyone who does not use the add-in.

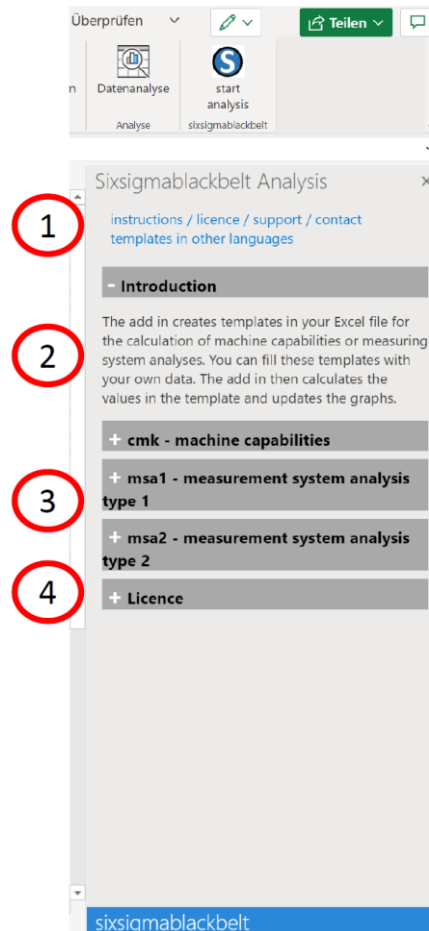
Continuous improvement

Without a license, the number of calculated values in the template is limited. With a license, you can calculate the total number of values.



Home

After starting the add-in, the add-in opens and the following Taskpane becomes visible.



The points contain the following content

Point 1:

This point contains 2 links.

One link leads to the page with information about the "instructions / licence / support / contact".

The second link leads to the page with templates in alternative languages.

Point 2:

Point 2 describes the introduction. The add in will be described here shortly.

Point 3:

Here are the 3 individual modules listed

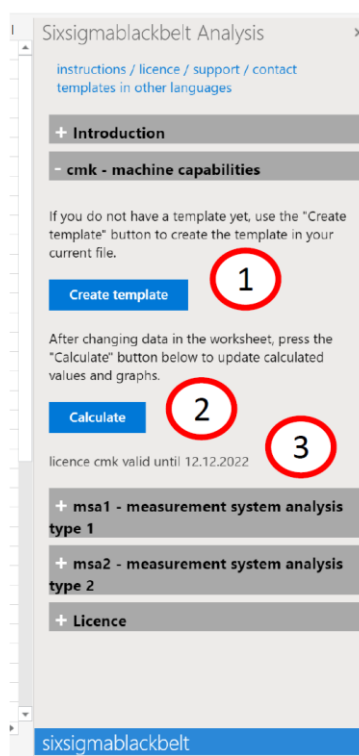
- cmk – machine capabilities
- msa1 – measurement system analysis type 1
- msa2 – measurement system analysis type 2

Point 4:

The information about the license is included in this point

Templates – Example cmk - machine capabilities

After opening the sub-item "cmk – machine capabilities" you get the following Taskpane



Point 1:

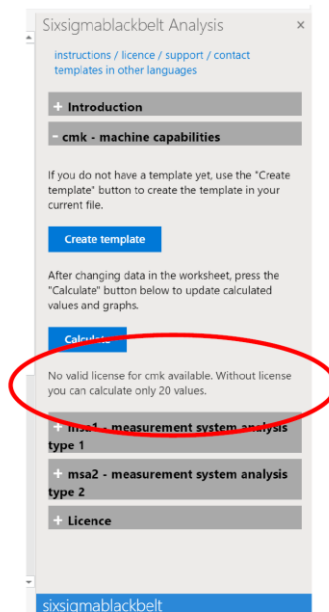
Pushing the "Create template" button creates a new worksheet and creates a predefined template in this worksheet.

Point 2:

By pushing the "Calculate" button, the data in the current worksheet is calculated and the charts are updated

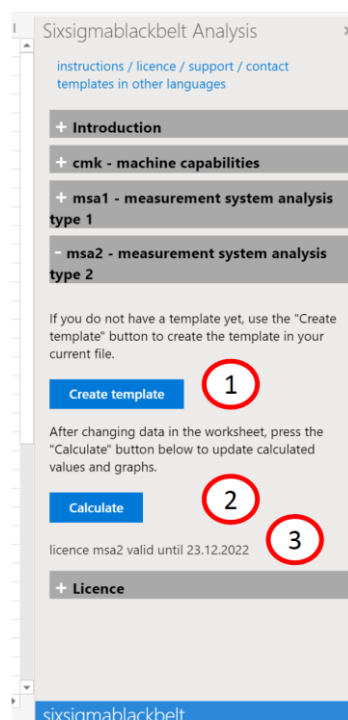
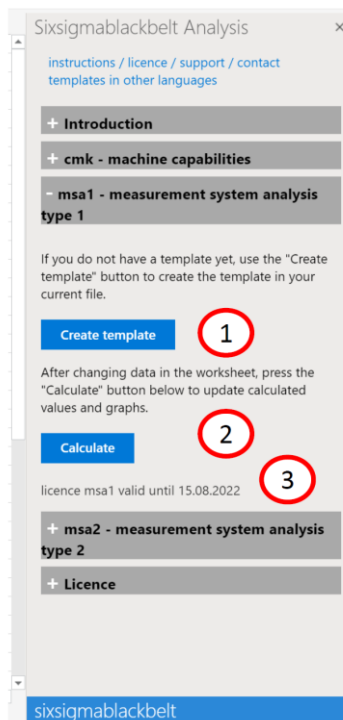
Point 3:

Point 3 shows whether a license is available for this point. If no license exists, the following text is displayed.



The same display and functionality as in the menu "cmk - machine capabilities" can also be found under the menu items:

- msa1 – measurement system analysis type 1
- msa2 – measurement system analysis type 2





Menu item "Licenses" without log in

If the user is not logged in, he will get the following representation

Point 1:

The User E-mail field has no value

Point 2:

The User Key field has no value

Point 3:

"Log in" button after values have been entered in the two upper fields

Point 4:

If a user is logged in, he can log out by pushing the "Log out" button

Point 5:

If a user is logged in, his user e-mail appears here

Point 6:

If a user is logged in, his login key appears here

Point 7:

Currently no user is logged in, so no licenses can be displayed



Menu item "Licence" with login

If the user has logged in with his e-mail and his user key, he receives the following information.

Sixsigmablackbelt Analysis

- + Introduction
- + cmk - machine capabilities
- + msa1 - measurement system analysis type 1
- + msa2 - measurement system analysis type 2
- Licence
 - [instruction](#) / [licence](#) / [support](#) / [contact](#)

user log in

user e-mail *

john.doe@contoso.com

user key *

dd35f439

Log in

user log out

Log out

user logged in e-mail

john.doe@contoso.com

user logged in key

dd35f439

licence	valid until	reference
msa1	15.08.2022	ref21321
msa2	23.12.2022	ref21321
cmk	12.12.2022	ref21321

licence for actual user available

Point 1:

The User E-mail field has the value just entered.

Point 2:

The User Key field has the value just entered.

Point 3:

"Login" button after values have been entered in the two upper fields

Point 4:

If a user is logged in, he can log out by pressing the "Logout" button

Point 5:

The user e-mail of the currently logged in user is visible.

Point 6:

The user key of the currently logged in user is visible.

Point 7:

The licenses with for the currently logged in user are displayed.



Using a template - menu item - cmk - machine capabilities

If the user wants to make a calculation of the machine capabilities, he opens the corresponding menu item.

The screenshot shows the Six Sigma Black Belt software interface. On the left is a blank Excel-style worksheet with columns A through W and rows 1 through 38. On the right is a sidebar menu titled 'Sixsigmablackbelt Analysis'. The menu includes links for 'instructions / licence / support / contact' and 'templates in other languages'. The 'cmk - machine capabilities' menu item is highlighted. Below this, there is a 'Create template' button and a 'Calculate' button. A note states: 'If you do not have a template yet, use the "Create template" button to create the template in your current file.' Another note says: 'After changing data in the worksheet, press the "Calculate" button below to update calculated values and graphs.' At the bottom of the sidebar, it says 'licence cmk valid until 12.12.2022' and lists 'msa1 - measurement system analysis type 1' and 'msa2 - measurement system analysis type 2'.

If he does not yet have a template from previous calculations, he has the possibility to create a template via the button "Create template".

A new worksheet is created with the template.

The screenshot shows the Six Sigma Black Belt software interface with a completed 'process and machine capability' calculation. The main area displays a 'sample chronological' chart, a 'histogram', and a 'probability plot'. The 'histogram' shows a normal distribution curve with a mean of 18.63 and a standard deviation of 5.53. The 'probability plot' shows a straight line fit. The 'sample chronological' chart shows data points over time. The 'process and machine capability' table is visible, showing values for 'process not capable', 'process limited capability', and 'process capable'. The 'histogram' table shows 'calculated performance in ppm' with values for 'exceedance', 'p50%', and 'p'.

The user now has the option to change values in the blue cells that are his input cells.

By pressing the "Calculate" button, the key figures are calculated and the charts are updated.

The user can then continue to use the worksheet.

This also applies in the same way to the worksheets of the two methods.



- msa1 – measurement system analyses type 1
- msa2 – measurement system analyses type 2

Measurement System Analysis Type 1: Cg / Cgk									
Gage		Master / Reference		Feature					
Designation:		Designation:		Designation:					
Number:		Number:		Number:					
Resolution:	0,0010	Actual value:	6,0000	Nominal size:	USL 6,0000 LSL 5,9700				
Test reason:		Unit:		Unit:	Tolerance 0,0300				
		U-Cal:	0,0000	Calculated with:	3 * sg				

The blue cells values could be changed, the grey ones are calculated

sample chronological

1 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30	31 - 35	36 - 40	41 - 45	46 - 50
6,0010	6,0010	6,0010	6,0020	6,0020	6,0010	6,0000	6,0010	6,0000	6,0020
6,0020	6,0010	6,0000	6,0020	6,0000	6,0010	6,0010	6,0000	6,0010	6,0010
6,0010	6,0000	6,0010	6,0020	5,9990	6,0000	6,0010	6,0000	6,0020	6,0020
6,0010	5,9990	6,0020	6,0020	6,0020	5,9990	6,0020	5,9990	6,0010	6,0010
6,0020	6,0010	6,0020	6,0000	6,0020	5,9990	6,0010	5,9990	6,0020	6,0010

Specification values		Measured values		Statistical values		Systematic error	
sm	6,0020			sg mid	6,0009	BIAS	0,0011
sm - 0,1*T	5,9960	x min	5,9990	sg mid - 3*sg	5,9979	t	7,8182
sm + 0,1*T	6,0080	x max	6,0020	sg mid + 3*sg	6,0039	p value	0,0291
0,2*T	0,0120	R	0,0030	6*sg	0,0060		
T	0,0600	n	50,0000	sg	0,0010		

Minimum requirement for the test equipment Cg > 1,33

Instructions / licence / support / contact
templates in other languages

Introduction

cmk - machine capabilities

msa1 - measurement system analysis type 1

msa2 - measurement system analysis type 2

If you do not have a template yet, use the "Create template" button to create the template in your current file.

Create template

After changing data in the worksheet, press the "Calculate" button below to update calculated values and graphs.

Calculate

licence msa2 valid until 23.12.2022

Licence

Measurement System Analysis Type 2 Anova (AIAG 4th, Bosch)									
Gage/Usage		Feature		Reference Standard					
Design:		Objective:		Design:					
Number:		Number:		Number:					
Resolution:		Drawing:		Nom. size:					
Approver:		Unit:		Unit:					
Act. date:		USL:	4,00	Tolerance:	8,00				
Approver:		SL:	4,00						

Test procedure description: All blue cells can be changed, all grey cells are calculated

Result MSA 1		Number of parts n		10		Measurement system is	
Protocol nr.		Number of appors k	3		capable to	10%	
The Gage/Usage is		Condition n*k*r >= 30	3	fulfilled	acceptable to	30%	

Part nr.	Appraiser j=1			Appraiser j=2			Appraiser j=3		
	m=1	m=2	m=3	m=1	m=2	m=3	m=1	m=2	m=3
i=1	0,79	0,41	0,64	0,08	0,25	0,07	0,04	-0,11	-0,15
i=2	-0,56	-0,68	-0,58	-0,47	-1,22	-0,68	-1,38	-1,13	-0,96
i=3	1,34	1,17	1,27	1,19	0,94	1,34	0,88	1,09	0,67
i=4	0,47	0,50	0,64	0,01	1,03	0,20	0,14	0,20	0,11
i=5	-0,80	-0,92	-0,84	-0,56	-1,20	-1,28	-1,46	-1,07	-1,45
i=6	0,02	-0,11	-0,21	-0,20	0,22	0,06	-0,29	-0,67	-0,49
i=7	0,59	0,75	0,66	0,47	0,55	0,83	0,02	0,01	0,21
i=8	-0,31	-0,20	-0,17	-0,63	0,08	-0,34	-0,46	-0,56	-0,49
i=9	2,26	1,99	2,01	1,80	2,12	2,19	1,77	1,45	1,87
i=10	-1,36	-1,25	-1,31	-1,68	-1,62	-1,50	-1,49	-1,77	-2,16

Influence variables:		Standard deviation		Staily variation		Percentage of total variance		Percentage of tolerance	
Parts (Part Variation):	PV	1,042	6,254	%PV	96,04%	%V	78,17%		
Appraisers (Appraiser Variation):	AV	0,227	1,361	%AV	20,90%	%V	17,01%		
Interaction:	INT	0,000	0,000	%A	0,00%				
Equipment (Equipment Variation):	EV	0,200	1,200	%EV	18,42%		14,99%		

Instructions / licence / support / contact
templates in other languages

Introduction

cmk - machine capabilities

msa1 - measurement system analysis type 1

msa2 - measurement system analysis type 2

If you do not have a template yet, use the "Create template" button to create the template in your current file.

Create template

After changing data in the worksheet, press the "Calculate" button below to update calculated values and graphs.

Calculate

licence msa2 valid until 23.12.2022

Licence