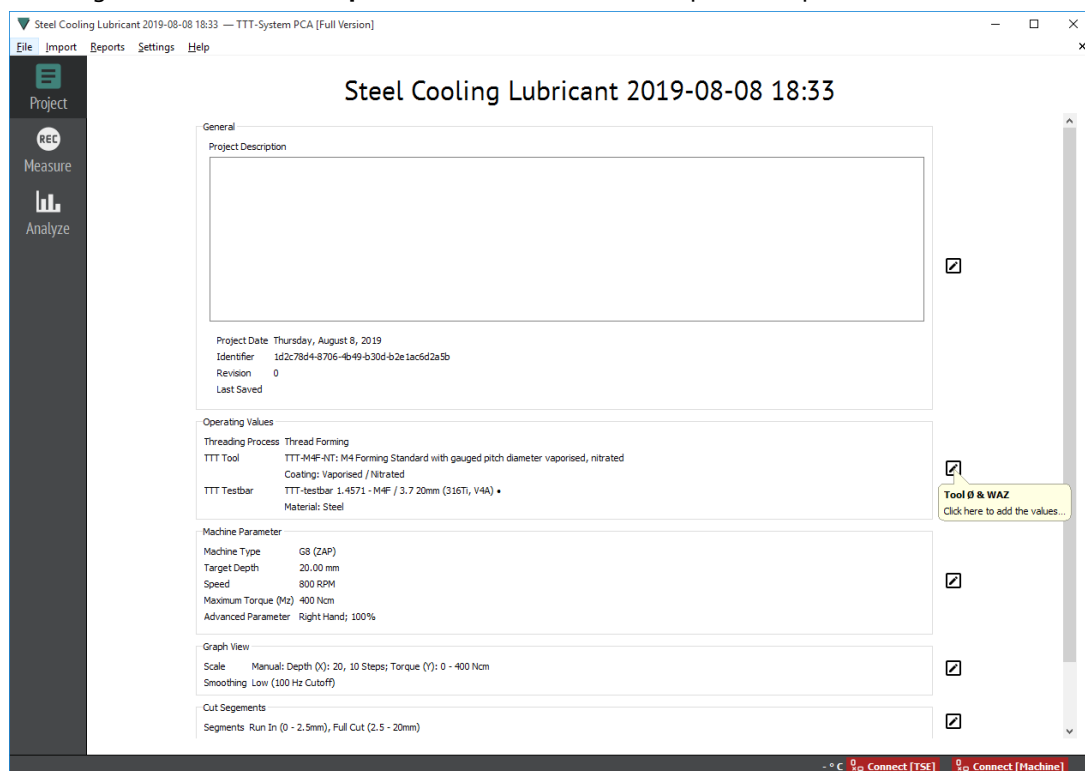


Complete rewrite with massive improvements

The TTT-System PCA (formerly WinPCA) Version 4 (4.1 since fall 2019) is a complete rewrite with massive improvements and additions. The user experience has hugely improved and will improve in the future. With your help we will offer you the analysis tool we all deserve.

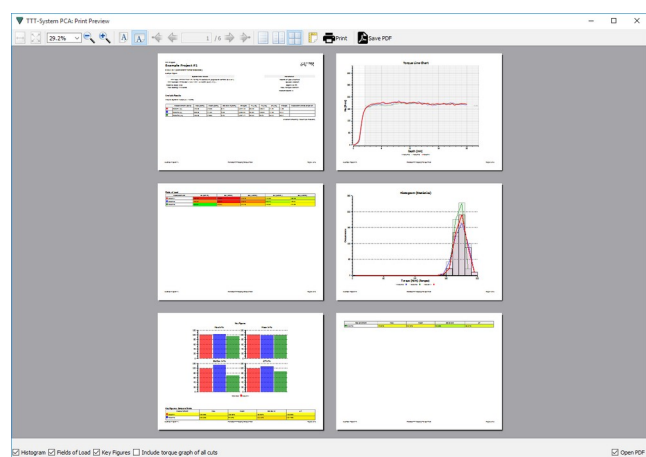
Improved Project-Management

All cuts and SumCuts are contained in a single project file. Integrated TTT-Tool and TTT-Testbar selection as well as starter templates for all TTT-Standard equipment. The templates are equipped with a good and a bad **example measurement series** for quick comparison.



Much improved reporting

Multi page PDF document with sharp (vector based) graphs and detailed tables. The user can add custom formatted text. **New in 4.1:** Now with configurable content. It is possible to include all line graphs from all cuts. Further you can disable some charts if you don't want them.



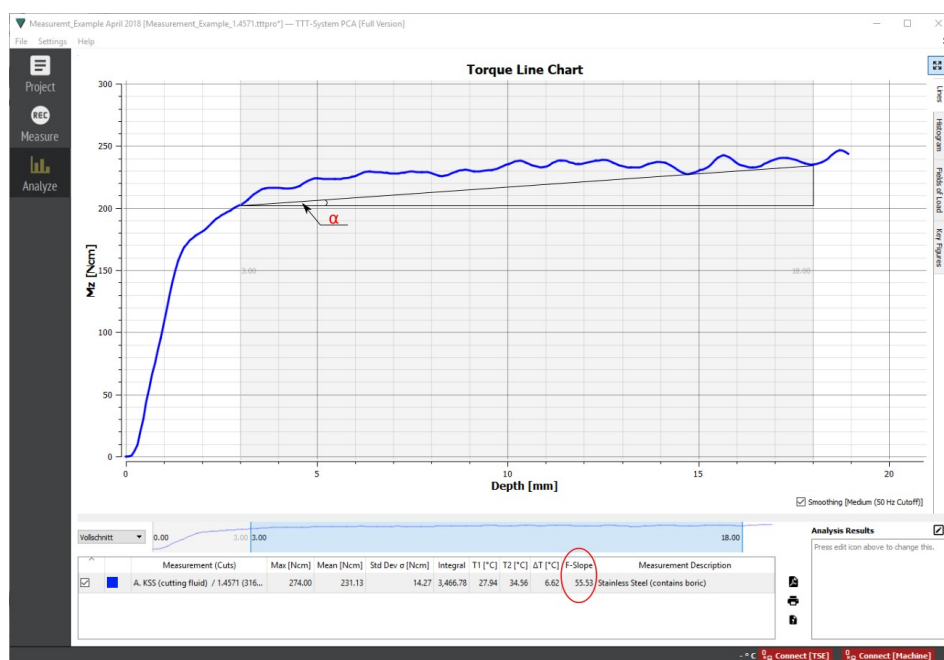
Data-Export of calculated data (Min/Max/StdDev)

Export the calculated table with Min/Max/StdDev etc. Excel compatible CSV file.

Measurement (Cuts)	Max [Ncm]	Mean [Ncm]	Std Dev σ [Ncm]	Integral	T1 [°C]	T2 [°C]	ΔT [°C]	F-Slope	Measurement Description
0.A. KSS (cutting fluid) / 1.4571 (316Ti)	274.0000	231.1250	14.2710	3466.7800	27.9400	34.5600	6.6200	55.5257	Stainless Steel (contains boric)
1.B. KSS (cutting fluid) / 1.4571 (316Ti)	307.0000	233.9388	24.6630	3509.2600	28.2000	34.3800	6.1800	60.7361	Sainless Steel (boric free)




New key figure: F-Slope

Linear regression of the curve: It is the math. slope of the line between start end end point of the current segment (similar to the old dual cursor). The value is the angle in degrees. The lower, the better.



New visualization: Fields of Load

Torque of several fixed points (depth 6 mm, 9 mm etc.) are visually shown for easier comparison. So it is easy to see which cut performed better in the particular section, even if the absolute torque values are close to each other.

Measurement		B1 (6mm)	B2 (9mm)	B3 (12mm)	B4 (15mm)	B5 (18mm)
 Medium A		171.37	172.41	170.39	165.57	166.43
 Medium B		177.31	178.37	174.73	174.47	173.33
 Medium C		166.02	172.31	171.76	170.67	171.02

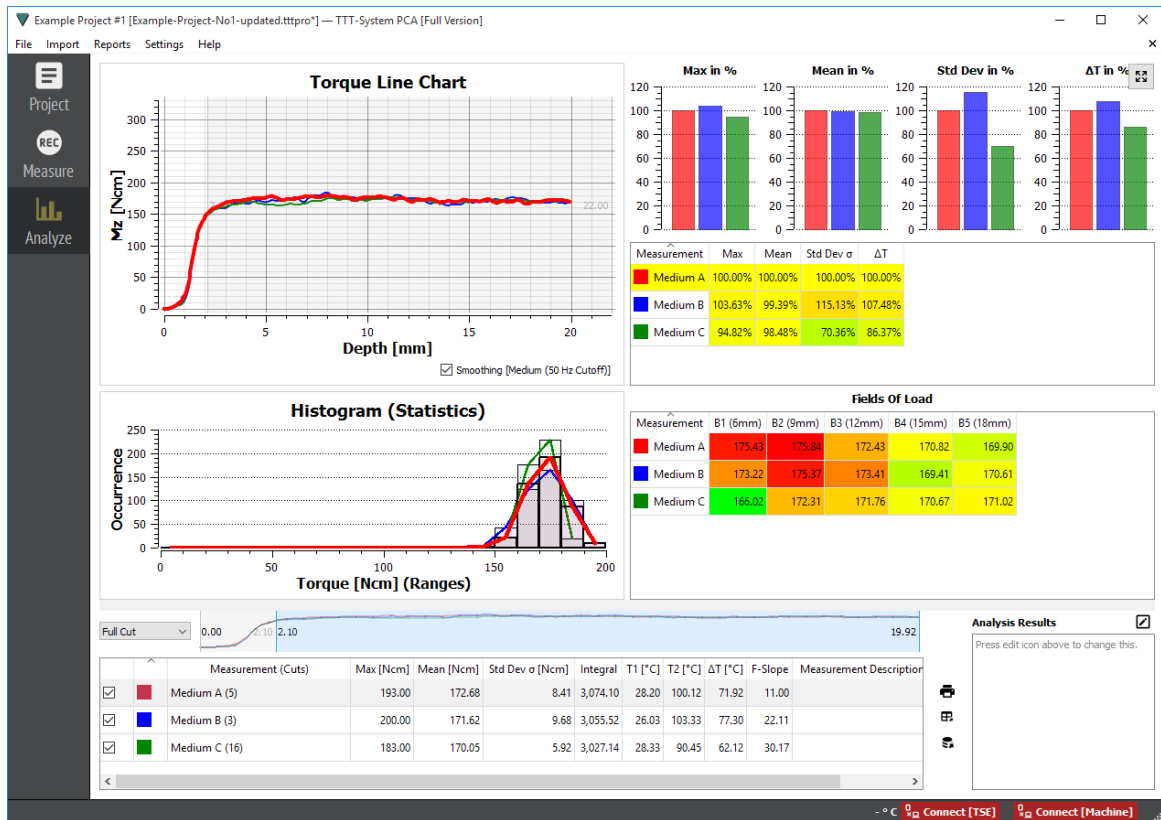
Tribological Example

Medium A has a lower torque (Mz) at depths B4 and B5 (see illustration above) than at depths B1 to B3, from which it can be deduced that the medium A has better lubricity (performance) at depths B4, B5 and the resulting higher requirements due to friction and temperature. Medium B shows a similar behavior but overall is worse. Medium C shows a contrary behaviour.

It can be assumed that due to the temperature-dependent effect of additives and so-called EP's, the formulator has a tool at his hands which, according to the "exclusion principle", can be used to proof the efficiency and effectiveness.

Analyze Mode: Automatic always-up-to-date one click *SumCuts*

Analyze the data at any time without the need of loading files manually, the sum of a measurement is build on the fly.



New in 4.1: The SumCut values are not visible in the Measure mode already. The dashed line represents the average over all other curves.

