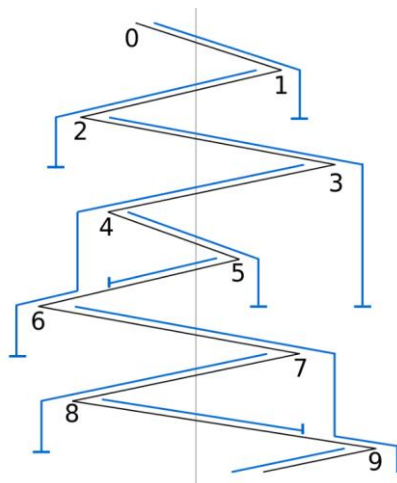


## Highlights KISSsoft Release 2020

### Rainflow-Method

- Strength verification with time series
- Consideration of load direction changes
- Conversion of torque curves to LDD

Process-dependent load spectra are often used for strength verifications. Measured data as time series must then be converted into a dwell time collective. If the time series do not contain load reversal, the "Simple Count" method is used.

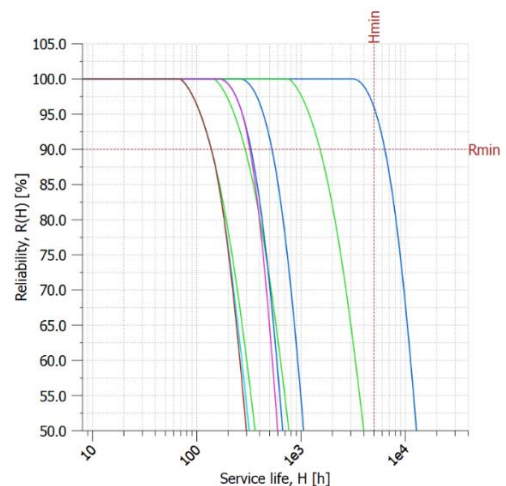


In vehicles, for example, alternating torques occur, the influence of which is taken into account with the mean stress influence factor. This factor must be determined for each element of the spectrum. For this purpose, the "Rainflow" method is used and combined with ISO 6336 for the determination of the mean stress influence.

### Reliability Assessment

- Calculates probabilities of failure
- For components, subsystems and systems
- According to AGMA 6006, VDMA 23904, Bertsche

In addition to safety factors, results are increasingly extended with a time-dependent probability of survival or required reliability. In addition to the Bertsche calculation method, AGMA 6006 and VDM 23904 are now also available. The calculation procedure is available for individual damage mechanisms, components, sub-systems and entire gearboxes. This makes it possible, for example, to create maintenance plans, optimize spare parts inventory or even compare two gearbox designs with a holistic approach.



### ISO 6336:2019

- Changes especially in root strengths
- Comparisons of the 2006 and 2019 editions
- Enables revaluations of gearboxes

ISO 6336 is the most important standard for the strength calculation of cylindrical gears. Part 1 (principles, general influencing factors), Part 2 (flank) and Part 3 (root) were revised and republished in 2019.

Compared to the previous version, the changes of the calculated safety factors are in some cases considerable and will influence the future design of gearboxes and the minimum safety factors required by certification guidelines.

## Scripting

- Automation and extension of calculations
- Automation of standard tasks
- Rapid variational calculus

The integrated programming language has been extended for tailor-made calculations. Thanks to the KISSsoft-"Script", calculation automations and "hooks" (preCalc, postCalc, etc) can be programmed independently and individually. Typical applications are, for example, tolerance analyses, integration of company-specific research methods, individual interfaces and much more. The efficient and easy-to-learn programming language "Script" is available in all KISSsoft modules.

## Gearbox Data Exchange

- REXS format
- Gearbox data for different software
- Compatible with KISSsys

The standard for simple data exchange of gear concepts proposed by the Forschungsvereinigung Antriebstechnik e.V. (Version 1.1) is supported by KISSsoft as well as KISSsys. A gear concept exported in this way can be used as input by various other calculation programs.

## Gear Manufacturing

- Process chain GDE 2.6
- According to VDI/VDE 2610
- Including macro and micro geometry

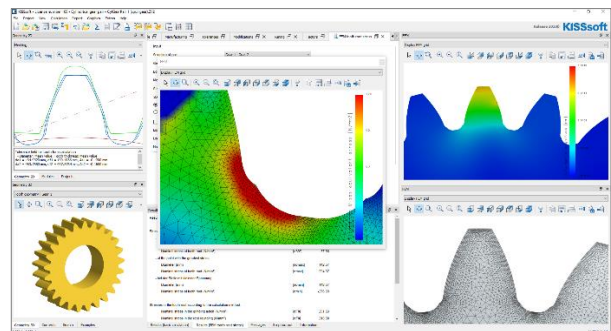


VDI/VDE 2610, first published in May 2014, defines a format for the exchange of gear data. Gear Data Exchange Format (GDE format) enables digital transmission of gear data between design, production, measurement and quality inspection.

The GDE (Version 2.6) export and import is available in KISSsoft from Release 2020 and includes the micro and macro geometry of spur and helical gears.

## Integrated FEM Calculation

- FEM results displayed directly in KISSsoft
- Rapid analysis using external FE calculation
- Simple comparison of FEM and standard



The results of the FEM calculations of the gear body deformation as well as the 2D and 3D tooth root stresses are now additionally displayed in KISSsoft. For the user, this means a significantly faster evaluation of critical components and critical points as well as better control over the calculation than before.

The usual graphics such as meshing, deformation, as well as the stress according to von Mises and other graphics are available for evaluation. For a detailed evaluation, post-processing with SALOME is still recommended. This also shows the trend and the long-term strategy of KISSsoft to further advance the integration of FE calculations in their calculation programs.

If you are interested in acquiring a trial version, please contact us at [info@KISSsoft.com](mailto:info@KISSsoft.com)