KISSsoft is used wherever there are gears!

KISSsoft covers all common gear types, shafts, bearings, shaft-hub connections, bolts, springs etc. It is used for the analysis of a single element and to design complex transmissions and drive trains. Training and consultancy services provided by KISSsoft AG complement the software business.
Join some 4000 licensees and benefit from 40 years of experience in gear software.

Gears keep track of time.

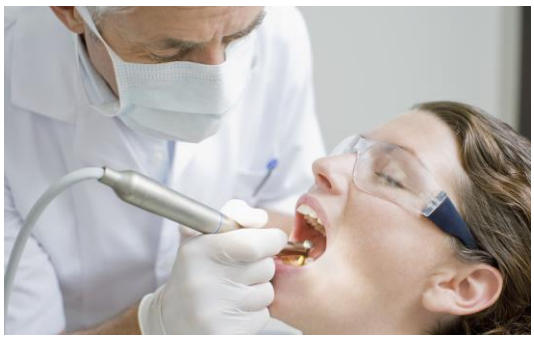
Non involute gears of low friction are needed to drive watches, clocks, and timepieces accurately. KISSsoft works with proverbial Swiss watch accuracy, keeping you up with time.

8 billion humans need food.

Tractors and other agricultural equipment are one of the pillars on which food security is based. KISSsoft is used by most of the top tractor manufacturers to design and strengthen transmissions and axles.

You like to go to the dentist?

KISSsoft helps to reduce the noise and vibration in the gears used in dental drills. Lower noise level means less nervous patients and therefore less pain during the treatment.



Whether you play the violin or do water skiing, gears drive your hobby.

Any hobby relying on a vehicle or a mechanism (think of the worm gear in a violine to tune it) features gears. KISSsoft makes hobbies fun, safe and affordable.

The train is on time.

KISSsoft ensures that the root cause for a delay is not a gearbox failure in the locomotive. The high reliability and lifetime needed in rail transport, is achieved through detailed life and failure probability calculation methods.

The center of the milky way is 25’000 light years away.

KISSsoft is used to maximize the slewing bearing stiffness to maintain antennae and telescope elevation and azimuth accurately. Highly detailed images of our solar system are the result.

We all pay water bills.

Fluid flow sensors, require high ratio, low friction geared transmissions to drive the clocks metering usage. KISSsoft allows for optimization of the gears to achieve high metering precision at low cost.

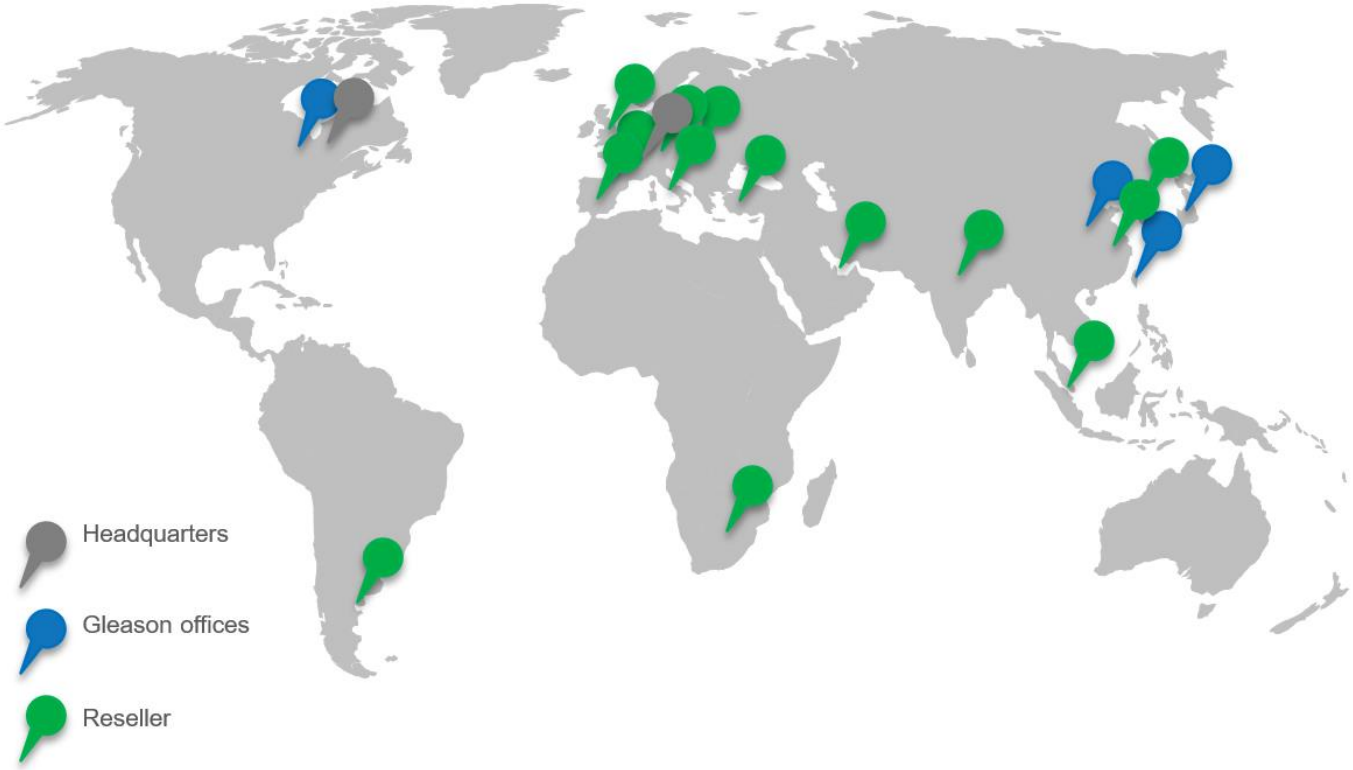
Space travel, the hobby of the ultra-rich.

And yes, there are gears used in rovers, satellites, rockets and their actuators. And of course, KISSsoft is used for the design for highest reliability at lowest mass.

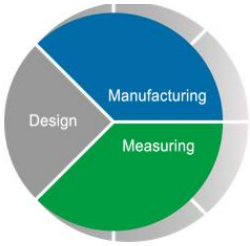
Gears are everywhere. Every day, new applications for this time-tested machine element are found.

Where do you use gears? Ask for our assistance with your gear design, be it through our software, training, or consultancy services.

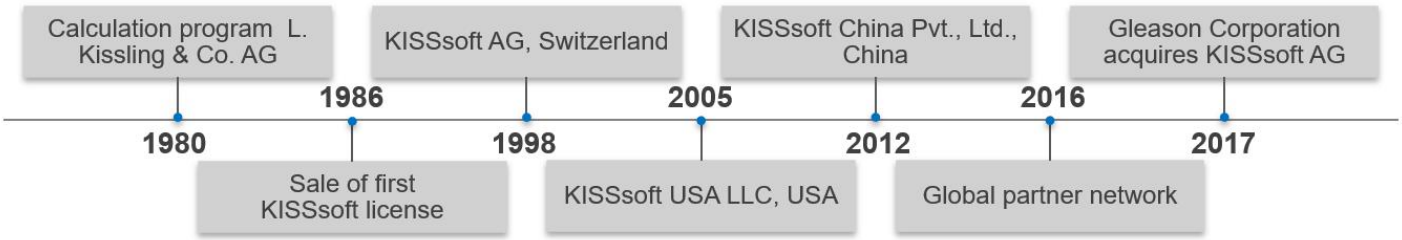
Global presence and …

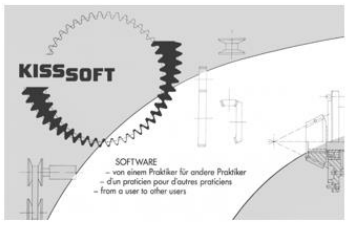


… 40 years experience



Gleason





Applications

Fine pitch, plastic, and sintered gearing

- Printers, copiers, tray drives
- Geared motors, gearheads
- Automotive actuators
- Medical, building automatization, HVAC
- Power tools, kitchen appliances
- Watches, meters, and sensors
- …

Energy generation

- Turbo gears
- Wind turbine main gearboxes
- Generator shafts
- Engine gear trains
- Pitch and yaw drives
- …

Aerospace

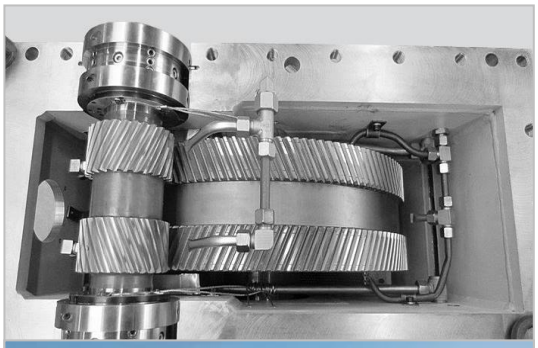
- Rovers, satellites
- Geared turbo fans
- Helicopter MGB, IGB, TGB transmission
- Fuel, oil pumps, alternator drives
- Turbine power take off, starter gears
- Civil and military drones
- Flap actuators, unmanned aerial vehicles
- …

Industrial

- General purpose and heavy-duty gearboxes
- Mining and raw materials handling
- Cranes and winches, mill drives
- Servomotors, geared motors
- Robotics, spindle drives
- Open gears, girth gears
- 5 axis CNC milling of gears
- Bearings, slewing bearings
- …

Vehicles

- EV transmissions, E-axles, hybrid transmissions
- Cars, LCV, trucks, buses
- Tractors, harvesters
- Motorbikes, three wheelers, RVs
- On-road, off-road motorsport
- Military, tracked, armored vehicles
- Construction equipment, forklifts
- Engine drive trains, valve drive train
- ...



KISSsoft Software Modules

General

- KISSsoft module as individual modules
- KISSdesign system module
- Interfaces to other Gleason software, CAD systems and bearing OEM tools

KISSsoft

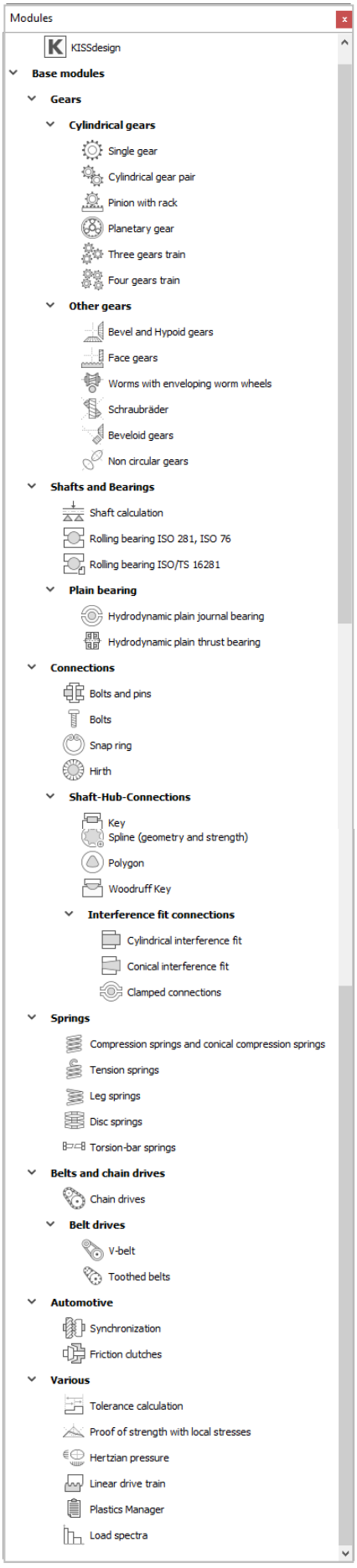
- Cylindrical, rack & pinion, bevel / hypoid, beveloid, worm, face gears, crossed axis helical, non-circular gears
- Involute and non-involute gears, symmetrical and asymmetrical involute teeth
- Shafts and rolling element bearings, hydrodynamic bearings, coaxial shaft systems, bearing stress and load distribution
- Shaft modal analysis and unbalance response
- Shaft-hub connections, bolted connections
- Spring analysis, chains and belts, clutches
- Tolerance stack-up, local stress analysis, Hertzian contact stress, spindles
- Plastic gear materials manager
- Load spectrum from time series

KISSdesign

- Includes scripting language
- Machine element library to build own models
- Programming language module
- Housing stiffness import from FEM (ABAQUS, ANSYS, NASTRAN, …)
- System efficiency calculation, thermal rating
- Load spectrum rating on system level
- Modal analysis / natural frequencies calculation on system level
- Forced response analysis (gear mesh excitation, torque ripple, …)

CAD interfaces and supported formats

- Interfaces to Gleason software like GEMS®, GAMA®
- 2D CAD export in neutral / graphic formats
- Gear geometry 3D export to CAD systems
- Interfaces to multi body systems software



Databases

General

- User editable database
- Bearings: FAG / INA, SKF, Koyo, Timken, …
- For standard bearing data and bearing inner geometry

Detailed backlash calculation

Backlash from true tooth form

- Backlash is calculated as an angular backlash.
- Theoretical backlash is calculated based on true tooth form. Tooth form may be involute, involute with modifications or non-involute. For non-involute tooth form or involute tooth form with modifications, backlash is not constant over the meshing cycle.
- Backlash is calculated for highest, lowest and mean tooth thickness / diameter / center distance combination, resulting in three curves.
- Collisions and tip to root interferences are indicated by zero backlash condition
- Gear modifications in lead direction are considered, backlash is calculated for a number of slices along the face width
- Tooth deformation and temperature influence are not considered
- Works also for tooth form from imported *.dxf files

Backlash, acceptance backlash, operating backlash

- Theoretical backlash in transverse and normal section, chordal and arc value, considering tooth thickness and center distance tolerances.
- Acceptance backlash considering runout, manufacturing errors and axis misalignment.
- Operating backlash considering housing and gear temperatures and moisture absorption.
- Contact and collision check in 2D graphic in transverse section for any tooth thickness, diameter and center distance tolerance combination.
- Recommendation of tooth thickness tolerances in case of gear jamming.
- Backlash definition through manufacturing profile shift or tooth thickness tolerances.
- Calculation of tooth thickness / backlash from span measurement or from diameter over pins.
- Strength calculation on theoretical gear or on gear with backlash.