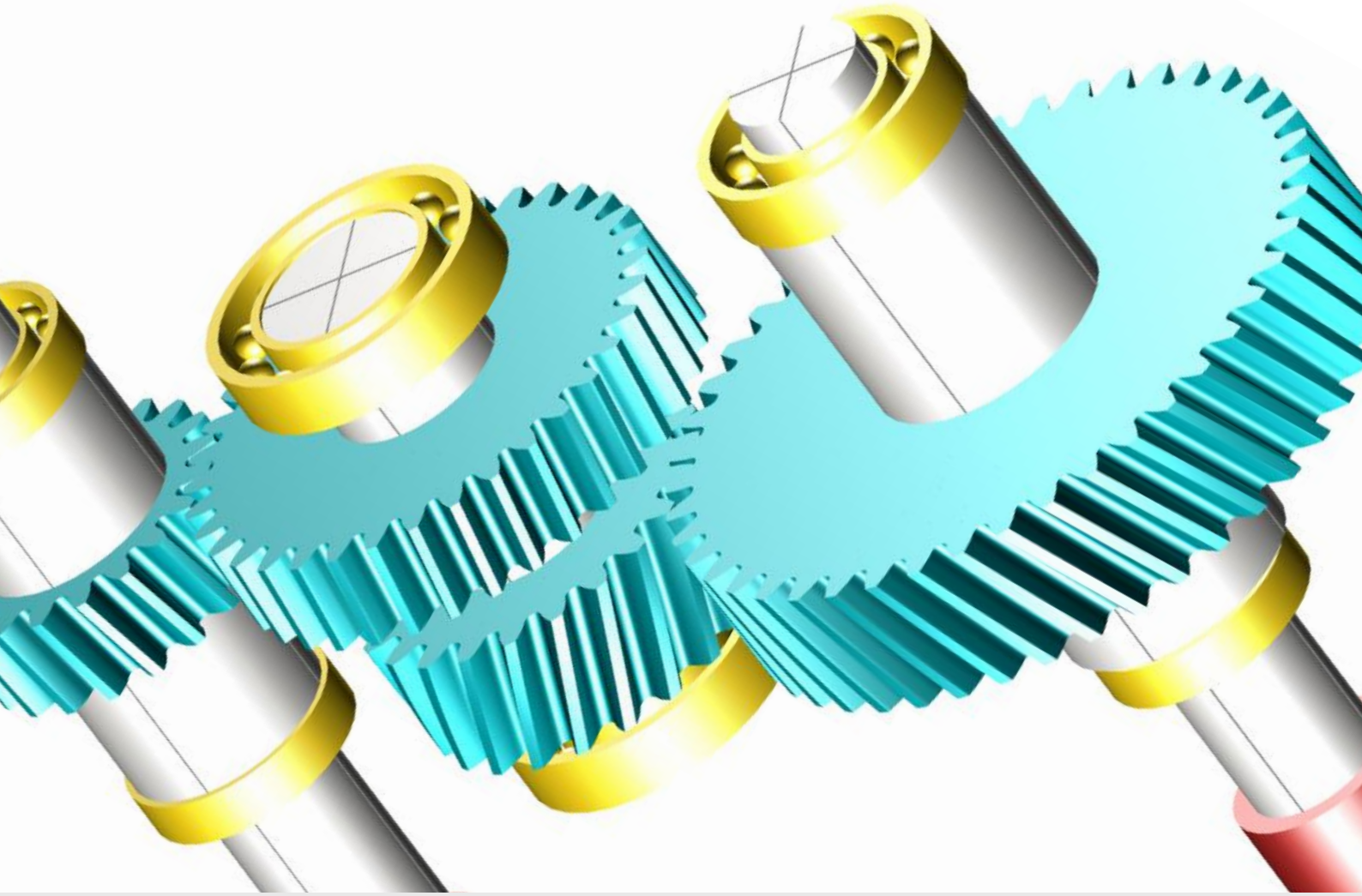
Drivetrain Design Solutions KISSsoft

KISSsys Live Stream Training

Basic: Modeling Gearboxes

September 14-16, 2021



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Sharing Knowledge

Day 1 – September 14, 2021

08:30 – 08:45	Welcome
08:45 – 10:10	Introduction to KISSsys
10:10 – 10:30	Break
10:30 – 12:00	Modeling of a two-stage gearbox
Exercises	**“Modeling single shaft gearboxes”**
16:00 – 17:00	Questions

Day 2 – September 15, 2021

08:30 – 08:40	Exercise follow up
08:40 – 10:10	Special kinematic cases, power split
10:10 – 10:30	Break
10:30 – 12:00	Gearbox with shifting elements
Exercises	**“Special kinematics”**
16:00 – 17:00	Questions

Day 3 – September 16, 2021

08:30 – 08:40	Exercise follow up
08:40 – 10:10	Modeling a planetary stage
10:10 – 10:30	Break
10:30 – 12:00	Adding additional stages to a planetary stage
Exercises	**“Modeling a complete gearbox”**
16:00 -17:00	Questions

Introduction to KISSsys

- Key benefits
- Important settings
- User and administrator mode
- User Interface and functionalities
- Terminology
- Using existing models, GPK models
- Communication with KISSsoft modules for strength analysis

Introduction to Modeling

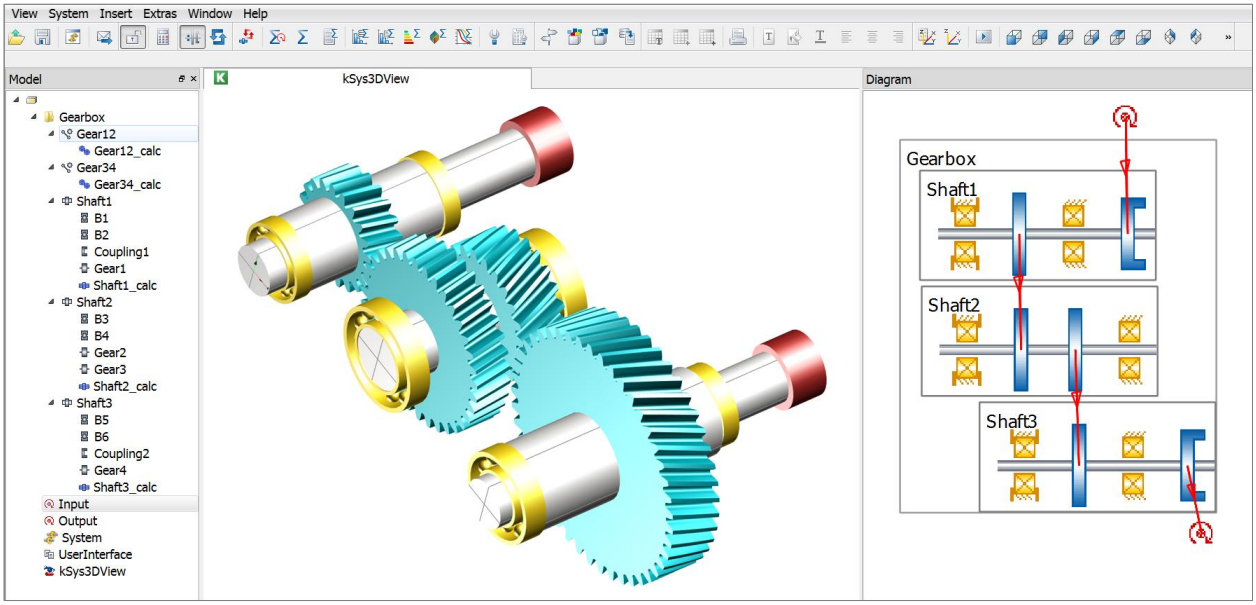
- Plan the model
- Calculation of kinematics / power flow
- System based calculations regarding safeties, lifetime, weight and cost
- Generate user defined tables

Modeling with Single Shafts

Examples of modeling a two-stage industrial gearbox and a bevel gear stage gearbox

- Creating a proper sketch
- Building the model with different methods
- Calculating and defining the kinematics
- Geometry definition of machine elements in KISSsoft Interfaces
- Sizing of gears, positioning of shafts and bearings according to the requirements
- Generating a User Interface table with variables for system information (operating data, safeties, lifetimes)

Exercise to build a simple industrial gearbox and use the sizing functionalities.



Special Kinematic Conditions

Models with One Input Two Outputs

- Definition of boundary conditions
- Controlling power distribution

Gear Chain with Three Gears

- Handling of KISSsoft calculations
- Setting alternating bending factors

Overdefined Kinematics

- Model with powersplits
- Using of gear activation method

Coaxial Shaft Modeling

Planetary Stage

- Important notes on the sketch
- Generation of the model, kinematics calculation
- Definition of the geometry in KISSsoft
- Modifying the positions of the groups
- Implementing of simple functions into a table
- Realization of multiple stages with spline connections
- Combination of single and coaxial shafts in one model

Summary of the first two days with a complete gearbox as an exercise.