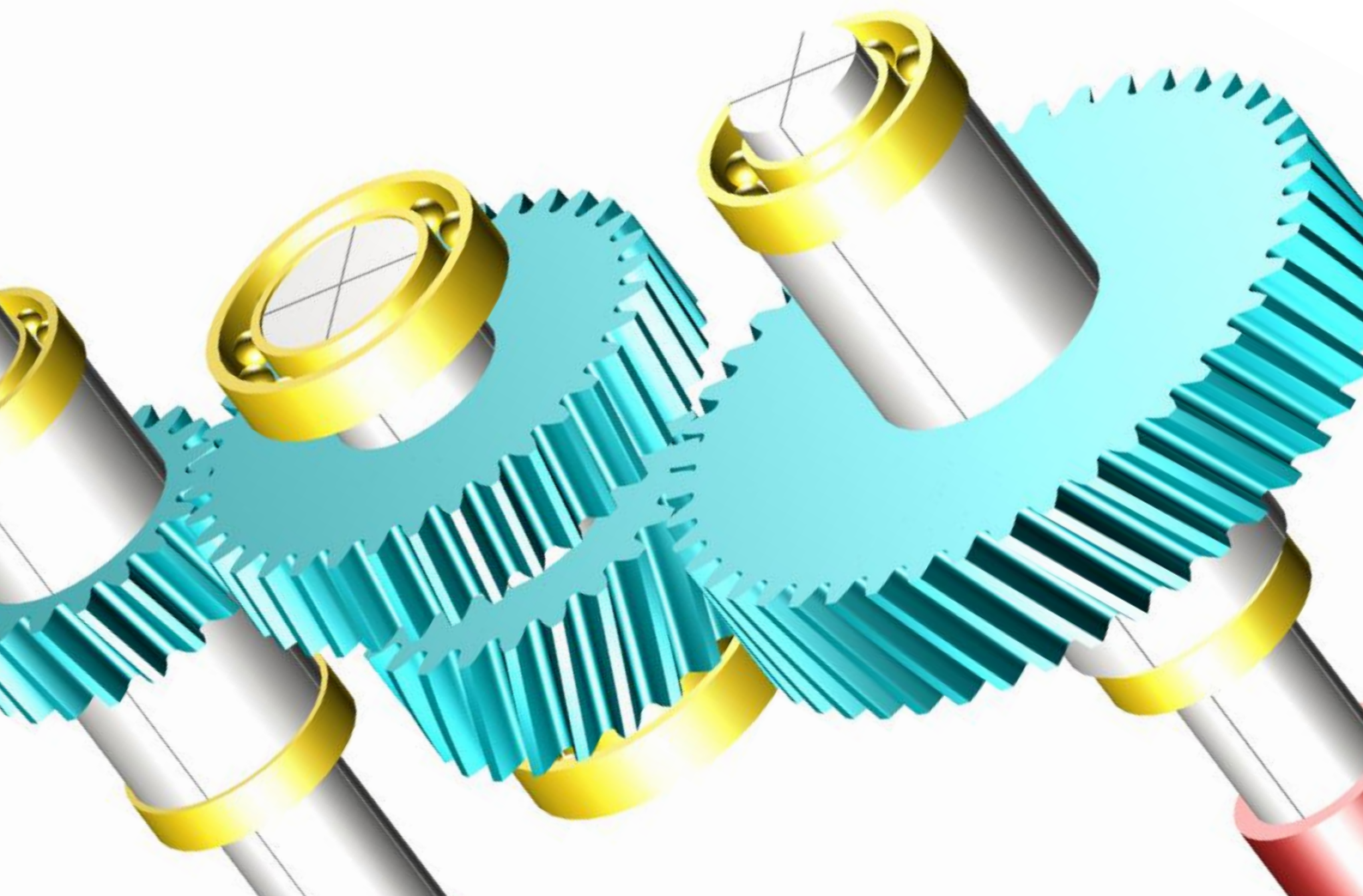


# KISSsys Live Stream Training

Basic: Modeling Gearboxes

March 14-16, 2023



The below schedule is shown in time zone CET 2:00 pm – 6:00 pm (Brussels)

Session 1:            March 14, 2023

2:00 – 2:15 pm        Welcome

2:15 – 3:25 pm        Introduction to KISSsys

3:25 – 3:40 pm        Break

3:40 – 6:00 pm        Modeling of a two-stage gearbox

**Exercises**            **Modeling single shaft gearboxes**

Session 2:            March 15, 2023

2:00 – 2:10 pm        Exercise follow up

2:10 – 3:40 pm        Special kinematic cases, power split

3:40 – 3:55 pm        Break

3:55 – 6:00 pm        Gearbox with shifting elements

**Exercises**            **Special kinematics**

Session 3:            March 16, 2023

2:00 – 2:10 pm        Exercise follow up

2:10 – 3:40 pm        Modeling a planetary stage

3:40 – 3:55 pm        Break

3:55 – 6:00 pm        Adding additional stages to a planetary stage

**Exercises**            **Modeling a complete gearbox**

## 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

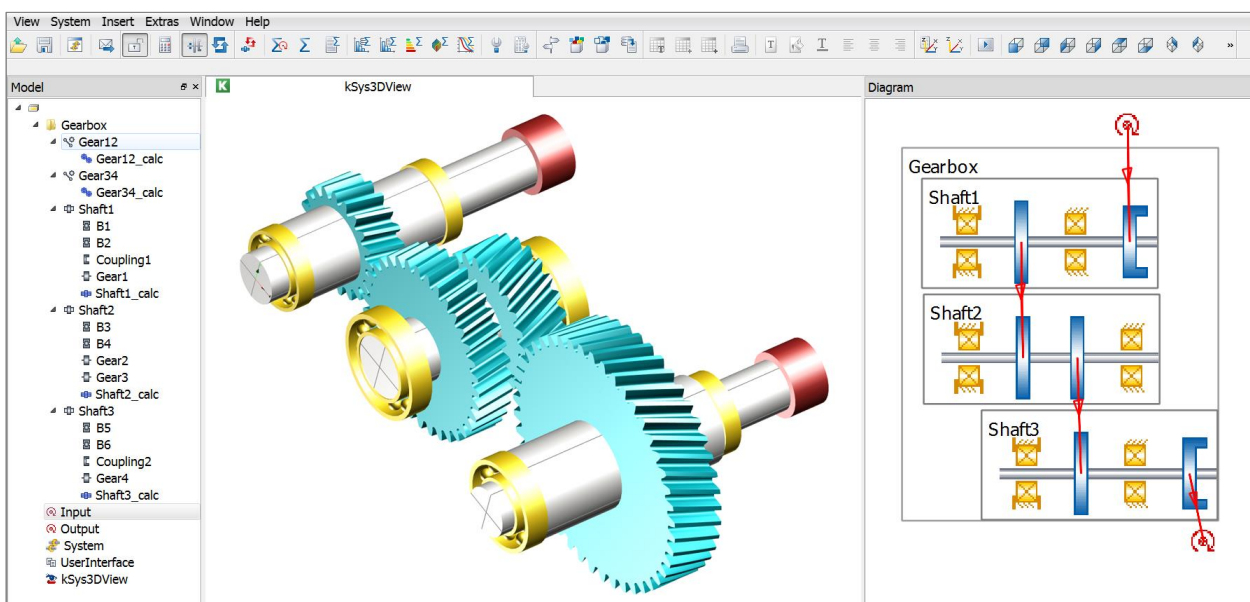
- Plan the model
- Calculation of kinematics / power flow
- System based calculations regarding safeties, lifetime, weight and cost
- Generate user defined tables

## 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

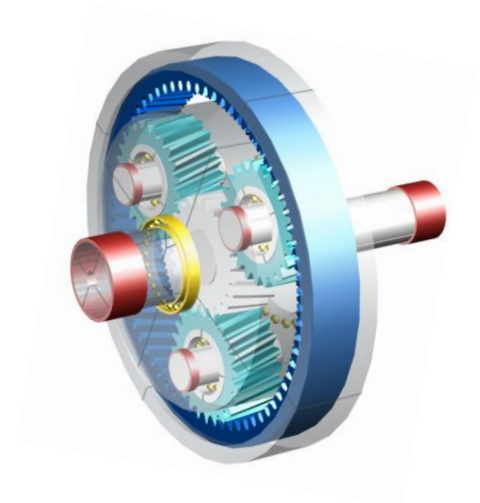
- Definition of boundary conditions
- Controlling power distribution

### 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.

