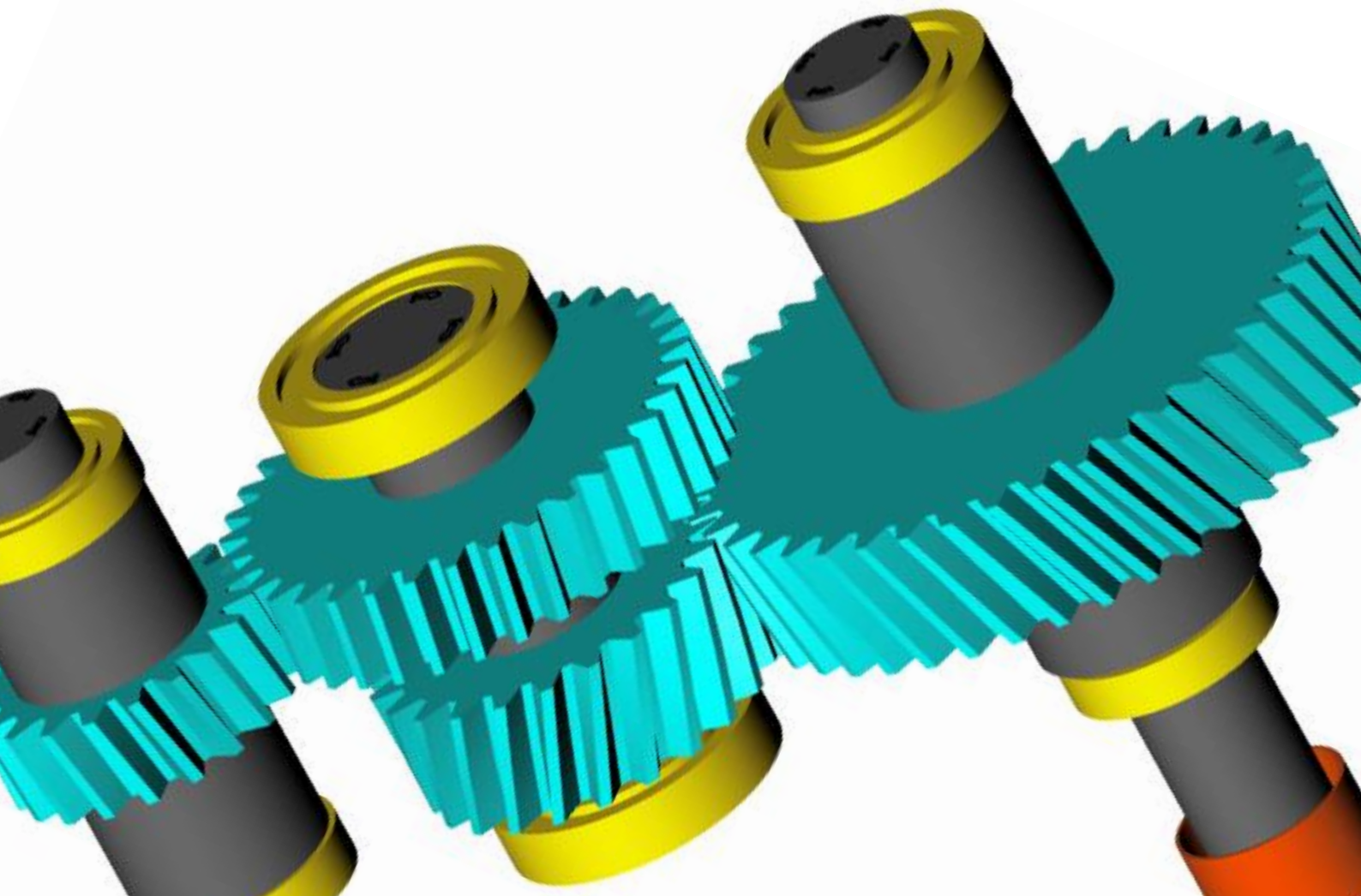


# KISSsys Live Stream Training

Basic: Modeling Gearboxes

September 8-10, 2020



## Day 1 - September 8, 2020

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
<b>Exercises</b>	<b>“Modeling single shaft gearboxes”</b>
16:00 – 17:00	Questions

## Day 2 - September 9, 2020

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
<b>Exercises</b>	<b>“Special kinematics”</b>
16:00 – 17:00	Questions

## Day 3 - September 10, 2020

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
<b>Exercises</b>	<b>“Modeling a complete gearbox”</b>
16:00 -17:00	Questions

## Introduction to KISSsys

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

## Introduction to Modeling

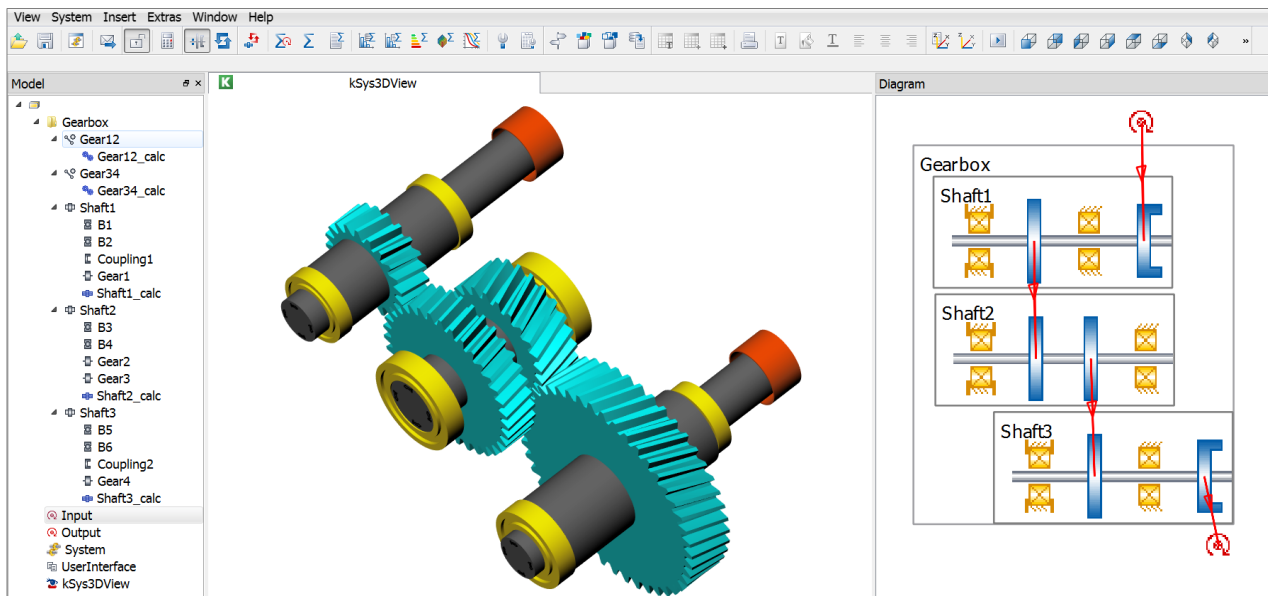
- Plan the model
- Calculation of kinematics / power flow
- System based calculations regarding safeties, lifetime, weight and cost
- Generate user defined tables

## 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

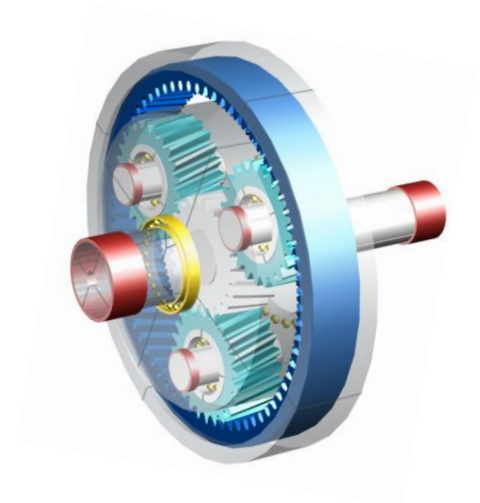
- Definition of boundary conditions
- Controlling power distribution

### 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.

