# Endoscopic training

## Basic training
- Introducing the Winergy Original Service
- Design of a wind gearbox
- Lubrication principles of a wind gearbox
- Possible gear failures
- Possible bearing damage
- Preparing an oil sample
- Up-tower-repair

## Practical training
- Endoscopic inspection (theoretical part)
  - Preparations
  - Inspection of geared parts
  - Inspection of bearings
- The endoscope
  - Overview
  - Controls
- Endoscopic inspection (practical part)
  - Simulation of an endoscopic field service operation
  - Taking pictures of damages and assessment
  - Creating the inspection report

<table>
<thead>
<tr>
<th>Number of participants:</th>
<th>Minimum 3, maximum 4 participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duration of training:</td>
<td>3 days</td>
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</tbody>
</table>

## Practical training

### Basic training
- Introducing the Winergy Original Service
- Design of a wind gearbox
- Possible gear failures
- Up-tower tools
- Lubrication principles of a wind gearbox
- Possible bearing damage

### Practical training (optionally)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Change of HSS-pinion shaft and HSS bearings 150, 151 and 152</td>
<td>Change of HSS-pinion shaft and HSS-bearings 150 and 151</td>
<td>Change of HSS-pinion shaft and HSS-bearings 150 and 151</td>
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<tr>
<td>Change of pitch tube</td>
<td>Change of IMS-pinion shaft and IMS-bearings 450, 451 and 452 (rotor- and generator side-bearings)</td>
<td>Change of the IMS-pinion or the rotor side-bearing 451</td>
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<tr>
<td></td>
<td></td>
<td>Change of the generator side-bearing 450</td>
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<table>
<thead>
<tr>
<th>Number of participants:</th>
<th>Maximum 2 participants</th>
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<tbody>
<tr>
<td>Duration of training:</td>
<td>5 days</td>
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