

## Our seminars in March 2018, Germany

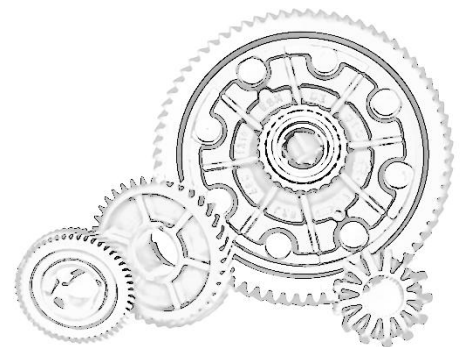


### Bearings

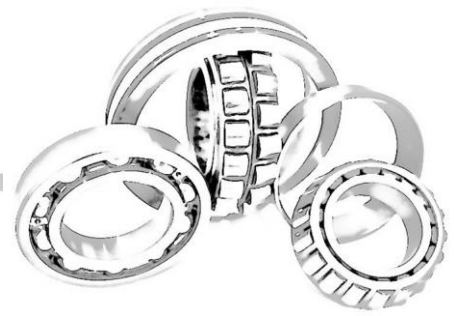
- ✓ 03/05 Development of bearing suppliers and quality control during purchasing
- ✓ 03/06 Basics of bearing technology
- ✓ 03/07 Bearing failures: Investigation and analysis of practical examples

### Gearboxes

- ✓ 03/08 Preventive maintenance and condition monitoring of industrial gearboxes
- ✓ 03/09 Supplier development for large industrial gearboxes and quality control during purchasing
- ✓ 03/10 Basics of machine acoustics – reduction of noise by design measures



# Bearing seminars



## Development of bearing suppliers and quality control during purchasing

- 5<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

Global sourcing of bearings opens plenty of opportunities for optimization of supply chains. However, any new supplier approval goes along with a certain quality risk. Therefore, this seminar is focused on the following subjects:

1. Definition of quality requirements, technical specifications
2. Approach during supplier visits and audits
3. Requirements related to documentation of production
4. Methods for incoming inspection
5. Concepts for quality control

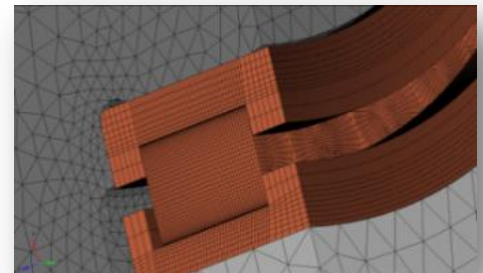


## Basics of bearing technology

- 6<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

This one day seminar provides basic knowledge especially for design of bearing arrangements and for quality assurance during purchasing. Lectures shall focus especially on:

1. Types, Properties, Concepts
2. Basics of Tribology
3. Raceway crowning
4. Material properties
5. Sample assessment



## Bearing failures: Investigation and analysis of practical examples

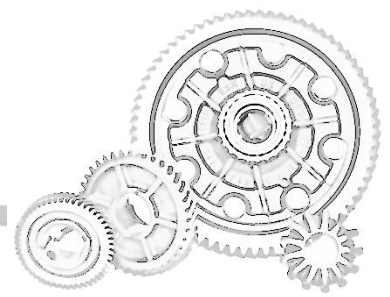
- 7<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

Identification and understanding of failure root causes is necessary in order to initiate the required counter measures. Therefore, this seminar shall show based on practical examples how damage characteristics can be identified and to which conclusion they lead. Main topics are especially:

1. Methods for damage investigation
2. Damage mechanisms
3. Quality characteristics of bearings
4. Examples from numerous applications



# Gearbox seminars



## Preventive maintenance and condition monitoring of industrial gearboxes

• 8<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

In many technical systems, breakdowns of particular components lead to enormous subsequent costs as production will be affected significantly. Detection of damages at early stages can lead to minimization of downtime and helps to avoid secondary damages by which overall breakdown costs can be highly reduced.

Therefore, this seminar refers to the following topics:

1. Investigation of lubricants
2. Regular inspection and endoscopy
3. Vibration measurement and analysis of obtained results
4. Automation of shutdown in case of detected defect



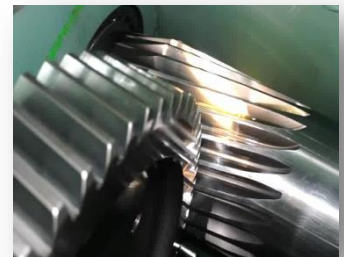
## Supplier development for large industrial gearboxes and quality control during purchasing

• 9<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

Large industrial gearboxes are typically produced in small series while frequently, individual solutions are requested which require close collaboration between supplier and customer. Here, especially clear communication of requirements, verification of technical concepts and of course the general assessment of production processes are essential.

Accordingly, the topics of this seminar are:

1. Structure and content of technical specifications
2. Verification of technical documents such as drawings, stress and lifetime calculations of shafts, gearings, bearings and housings
3. Approach during supplier visits and audits
4. Requirements related to documentation of production
5. Methods for incoming and production related inspection



## Basics of machine acoustics – reduction of noise by design measures

• 10<sup>th</sup> of March 2018, 10:00 a.m. – 05:00 p.m.

Avoidance of noise emission belongs to the important requirements of technical systems while noise protection covers frequently are expensive and go along with other disadvantages. In this context, it can be much more efficient to prevent noise emission by proper design measures instead of capsuling noisy machines. Such measures refer especially to design of housings for which reason the following subjects will be discussed during this seminar:

1. Basics of machine acoustics
2. Excitation forces
3. Structure born noise
4. Noise radiation



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# Registration form



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Elgeti Engineering GmbH

Frau Alexandra Becker  
Liebigstraße 15  
52070 Aachen

I hereby register for the following seminars:  
(Please fill in the first column of the table below)

Enroll yes/no	Date/Time	Title	Price	Location	Lang.
	03/05 10:00 a.m.	Development of bearing suppliers and quality control during purchasing	495,00 €	Aachen GER	English
	03/06 10:00 a.m.	Basics of bearing technology	495,00 €	Aachen GER	English
	03/07 10:00 a.m.	Bearing failures: Investigation and analysis of pract. Examples	495,00 €	Aachen GER	English
	03/08 10:00 a.m.	Preventive maintenance & condition monitoring of industrial gearboxes	495,00 €	Aachen GER	English
	03/09 10:00 a.m.	Supplier development for large industrial gearboxes & quality control during purchasing	495,00 €	Aachen GER	English
	03/10 10:00 a.m.	Basics of machine acoustics - reduction of noise by design measures	495,00 €	Aachen GER	English

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[www.elgeti-engineering.de](http://www.elgeti-engineering.de)

Please fill in your contact and invoice data in the table below.

After registration, you will receive our invoice which is due one week prior to the seminar. In case of further questions, please feel free to contact us by phone or e-mail.

Name of participant	
Company	
Address	
Optional billing address	
Optional PO No.	
Phone and e-mail	
Signature	