

Workshops and service offers  
for motor manufacturers and system suppliers

# IMS.services Program 2018/2019



Gear Technology. Worldwide.

**IMS:GEAR**

# IMS.services

Even quieter, even more energy-efficient, even more cost-effective: The requirements imposed on drive technology products are rising as rapidly as the variety of applications is expanding. It is therefore all the more important for customers and development partners to share an in-depth, mutual understanding in order to find ways to leverage even the slightest of areas for potential improvement. This is what the latest range of products we offer aims to address.

In intensively coached small groups we would like to share our products and our technical expertise with you in a practical way. The workshop enables us to find the most appropriate drive solutions together.

For example, you will learn how to configure and assemble our planetary gears in a professional manner.

Laboratory tests to examine characteristics curves, and noise measurement tests, serve to round off our range of services. Not only that, but if you as a motor manufacturer wish to cut your own spline on your drive shaft, you will find that we are exactly the right address to help you accomplish that.

Have we got you interested? You can find out more about IMS.services on the following pages.



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## Modular system for planetary gears - Correct Configuration



**A SEMINAR TO MAKE YOU AN EXPERT** The seminar will make you a sought-after specialist for application, connection, and configuration options of the modular system for planetary gears of IMS Gear. You will be introduced to the modular system looking at each individual component. You will receive all relevant information on technical possibilities and limitations of the system, the potential of various material combinations, and much more. From designing motor connections to matching gear configurations or designing a properly dimensioned output side: This seminar covers all relevant aspects of your work and provides practical exercises to apply your new skills.

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**Participants** Employees from purchasing, sales or design departments

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**Content**

- Technical knowledge on planetary gears
- Configuring gearboxes correctly
- Framework conditions for configuration
- Motor connection options, explained step-by-step
- The output side - which is the correct bearing?
- Practical configuration exercises based on various task profiles

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**What to expect**

- eight-hour one-day seminar covering both theory and practice
- Seminar documents and data catalogs
- Practice material with planetary gear construction kit sample and exercises
- Factory tour
- Lunch, snacks, and beverages during breaks

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**Cost** on request

## Gear Solutions - Precise Identification of Needs



**A SEMINAR TO ANSWER ALL YOUR QUESTIONS** This seminar prepares you for complex requirements - whether as a buyer working together with R&D or a sales representative dealing with customers. You will gain the required specialized knowledge about the modular design range for planetary gears of IMS Gear in a practical, example-based and interactive way. You will learn what technical characteristic data and soft factors are important in a discussion to allow you to compile the ideal catalog of requirements. Handling of technical product documentation and auxiliary materials is covered as well. This seminar will enable you to provide perfect consulting for tailored drive solutions quickly and easily.

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**Participants** Employees from purchasing or sales departments

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**Content**

- Technical knowledge on planetary gears
- Discussion of selected technical data based on typical inquiries
- Gear configuration calculations
- How to arrive at the right solution: Knowing the variation options

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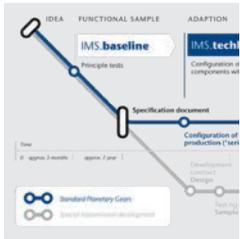
**What to expect**

- eight-hour one-day seminar covering both theory and practice
- Seminar documents
- Auxiliary materials such as CAD files, data catalogs, etc.
- Factory tour
- Lunch, snacks, and beverages during breaks

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**Cost** on request

# Modular Systems - Impulses for Purchasing and Sales



**A SEMINAR TO BRING DOWN BORDERS IN OUR MINDS** Get strategic impulses as well as verifiable arguments in favor of a modular system solution. The seminar will give you an overview of the advantages and limitations of modular system solutions using the modular system for planetary gears of IMS Gear as an example. Discuss how the system differs from new developments of gears with respect to costs, time and technical responsiveness. You will acquire relevant know-how that will make a real difference to your customers: Through increased flexibility and speed in solving problems.

**Participants**

- Decision-makers from purchasing or sales departments
- Employees from purchasing or sales departments

**Content**

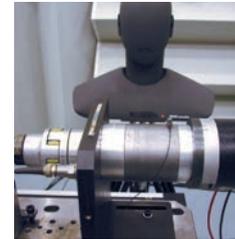
- From an initial function sample to an individual gear solution: The modular system really can deliver the goods!
- Time management: ‚Time to market‘ in a new dimension
- Investments reduced to a minimum
- Risk management: Maximum flexibility beats rigid structures

**What to expect**

- eight-hour one-day seminar covering both theory and practice
- Seminar documents
- Factory tour
- Lunch, snacks, and beverages during breaks

**Cost** on request

# Noise sources from planetary gears



**GETTING ACQUAINTED WITH NOISE SOURCES AND INFLUENCING THEM IN A TARGETED MANNER** Whenever things are in motion, they create noise. We experience this on a daily basis with the fan in our laptops, with the wind noise caused by our cars, or whenever we operate a vacuum cleaner. Noise cannot be prevented, but it can be influenced within certain limits once you know what is causing unpleasant sounding frequencies. In this seminar you will experience the key characteristics about noise, how to measure and analyze it, and how to alter or dampen it in the targeted manner.

**Participants** Employees from design, research and development departments

**Content**

- Fundamentals of acoustics: Differences between tone, sound and noise
- Recording of airborne and structure-borne sound at a jointly defined operating point
- Calculation of rotational and meshing frequencies in planetary gears
- Analysis and interpretation of acoustic measurements
- Measures to change noise patterns in a targeted manner

**What to expect**

- eight-hour one-day seminar covering both theory and practice
- Seminar documents
- Factory tour
- Lunch, snacks, and beverages during breaks

**Cost** on request

## Assembly training course

### Planetary gears



**MASTERING THE ZERO-DEFECT ASSEMBLY OF MOTOR & PLANETARY GEARBOX** On this training course, you learn about all of the operations that assure safe and zero-defect functionality after installation of the motor and planetary gearbox. This includes pressing on the motor pinion, non-damaging fitting of motor and planetary gearbox as well as proper tightening and securing of screw connections.

**Participants** Employees from assembly, quality assurance and service departments

**Content**

- Training in the design and function of planetary gears
- Motor-gearbox-assembly, explained step-by-step
- Knowing and preventing the sources of errors
- Acoustic examples to illustrate detection of differences in noise emissions during the function test
- Practical assembly exercises at the workplace

**What to expect**

- Training in theory and practice, also based on your own practical examples
- Half-day seminar, approx. four hours
- Training materials
- When we provide on-site training at the customers', it is possible to train employees working on different shifts in the course of the same day, in two consecutive workshops
- Lunch, snacks, and beverages during the breaks

**Cost** on request

## Tuition module

### Planetary gear configuration



**KNOW-HOW IN A BOX** In Addition to the seminars about the configuration of planetary gearboxes and the precise identification of needs, we can provide you with a complete training package in the form of an interactive training unit for your trainees, students, or school pupils. With this, you can communicate gear technology and information about the variety of materials employed on a practical and versatile manner, reflecting current market requirements. Based on the example of our modular system for planetary gears, you can then highlight configuration options and explain their different ramifications.

**Participants**

- Lecturers from colleges and universities
- Teaching staff from technical-vocational schools
- Trainers and vocational instructors appointed by motor manufacturers and system suppliers

**Content**

- Training in the design and function of planetary gears
- Calculations for the configuration
- Configuring a planetary gear correctly
- Handy configuration exercises based on various task profiles

**What to expect**

- A package comprises the tuition materials for five participants as well as a version for the trainer
- Training manual
- Data catalogs and application tasks with a solutions matrix
- A sample module of planetary gear for each group

**Note** To facilitate the in-depth application and dissemination of knowledge, we advise prior attendance at our training seminars about the configuration of planetary gears and the precise identification of needs.

**Cost** on request

## Planetary Gearbox analysis



**OBTAIN EXPERT ADVICE** After initial application tests, or for specific problem situations, this question often arises: “Well then now, what does it look like inside?”. We take a very close look at Your planetary gearbox and help you to analyze its condition, the possible causes of wear and, where necessary, the improvement measures required.

### What to expect

- Shared examination and discussion of your questions
- Conducting of a brief function test - depending upon its condition
- Disassembly of the planetary gearbox and defect anamnesis
- Cleaning of components and photographic documentation of critical components
- Recording of wear values using measurement technology
- Detailed documentation of analysis results with recommended courses of action

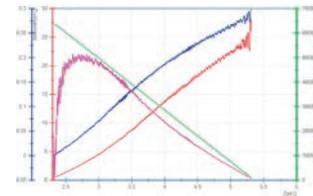
### Note

In the analysis of the planetary gearboxes, we are able to incorporate our extensive expertise. Please note, however, that we are not an accredited laboratory.

### Cost

on a time and material basis

## Measurement of characteristics curves



**POWER MEASUREMENT OF YOUR DRIVE UNIT (MOTOR + PLANETARY GEAR)** Do you want to find out what your drive unit can really deliver? Not a problem: In dialog with you, we measure the performance characteristics of your drive unit at the operating point, with impact load, or, if so desired, under specific ambient climate conditions.

### What to expect

- Shared consultation and definition of test parameters
- Measurement of motor and motor-gearbox characteristics curve in respect of current consumption under defined load conditions at room temperature
- Derivation of the efficiency rating characteristics curve
- On request: Determination of aforementioned characteristics curves under ambient weather conditions
- Detailed documentation of measurement result with test layout and test conditions

### Cost

on a time and material basis

## Noise measurement



**NOISE MEASUREMENT OF YOUR DRIVE UNIT (MOTOR + PLANETARY GEAR) WITH ANALYSIS** Your drive unit “makes noises” and you would very much like to know how to remedy the situation. Also in this scenario, analysis is Job One. In our noise laboratory, we examine your drive unit and can then tell you precisely which part of the drive unit generates which frequencies. Based on these findings, you can then search in a targeted manner, i.e. in the right places, for improvement measures.

- What to expect**
- Shared discussion and definition of measurement and test parameters
  - Recording of airborne and structure-borne noise at the measured, defined operating point
  - Interpretation of the measurement results
  - Detailed documentation of measurement results with the test layout and test conditions

**Note** Do you wish to learn more about the topic of noise and its causes? If so, then you should attend our seminar on the topic of “Sources of noise in planetary gear units”.

**Cost** on request

## Directly splined motor shaft



**SERVICE PACK FOR PROCESS DATA AND GEAR CUTTER FOR YOUR MOTOR SHAFT SPLINE** You are an motor manufacturer and you wish to cut the spline on your own drive shaft? We show you the ,How‘ that includes the gear data sheet with test dimensions as well as the right selection of gear cutter for your machine. We are also there to provide you with guidance and advice about the recommended cutting speeds for your motor shaft material.

- What to expect**
- Joint discussion and definition of production and measuring parameters
  - Milling cutter design and production of the spline data sheet
  - Milling cutter production (is calculated individually to suit size and number)
  - Test certificate of the gear cutter

**Cost** on request



[services.imsgear.com](https://services.imsgear.com)