

starrag

# Training program Heckert

Engineering precisely  
what you value



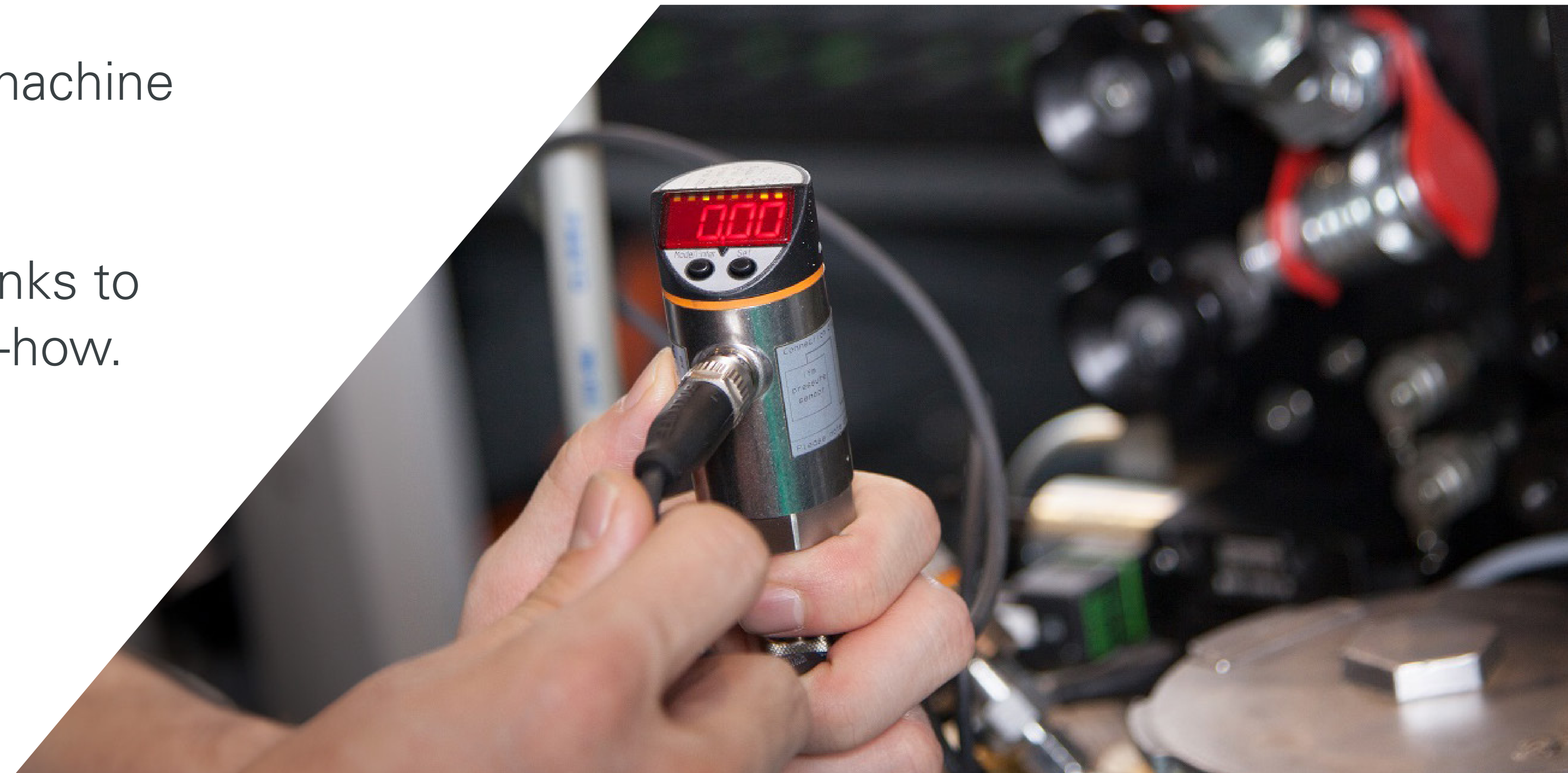
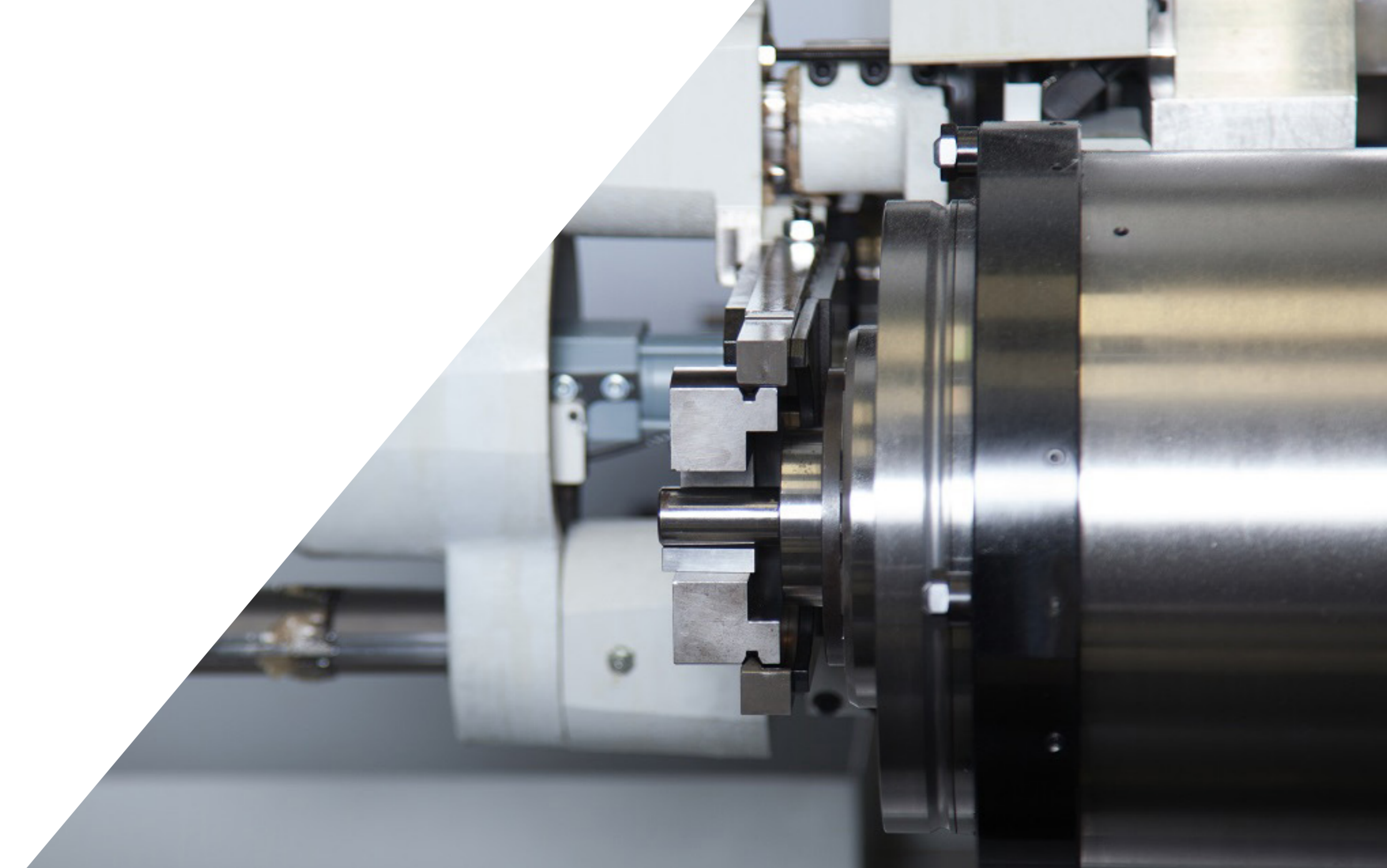
# An investment that pays off.

In order to be able to fully exploit the potential of modern CNC machines, professional and systematic user training is essential. Be it **programming**, **operation** or **maintenance**.

The Starrag training program provides the participants with practice-oriented, machine-specific expert knowledge and turns competent users into highly qualified specialists.

# Advantages that speak for themselves.

- + You avoid unnecessary operating errors and the resulting follow-up costs.
- + You get the most out of your machine technologically.
- + You avoid long downtimes thanks to fast diagnosis and OEM know-how.



# Training overview

Operation

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Application

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Maintenance

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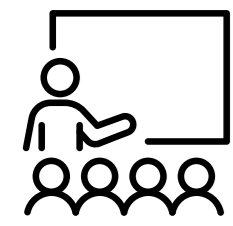
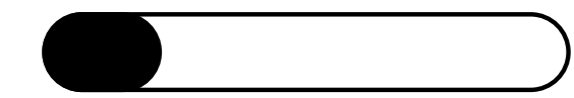
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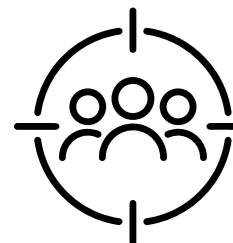
# Training information

BASIC



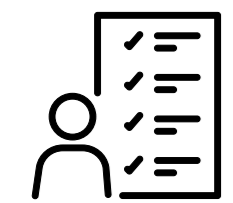
## Training

Machine Operation



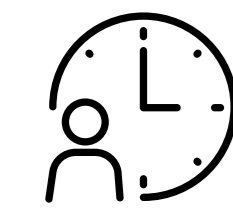
## Target group

Machine operators/Machine setters



## Requirements

Basic knowledge of CNC machine operation



## Duration

3 Days

## Contents

1. Presentation of the machine and operator stands
2. Commissioning and stopping the machine
3. Introduction to the keyboards and menus
4. Explanation of the NC operating modes
5. Tool management, loading, unloading
6. Operating area "Machine"
7. Operating area "Parameters"
8. Operating area "Program Manager"
9. Operating area "Diagnosis"
10. Operating area "Starrag"
11. Operating sequences, work steps

## Organizational

The trainings are conducted in German or English. If an appropriate expert is available, the training will be conducted in local language. The scope of services includes the training for a maximum of four people and the training documents.

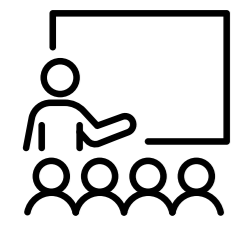
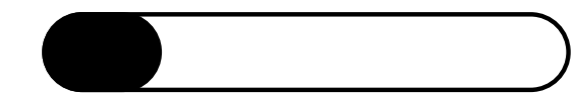
Training at the Starrag plant also includes lunch and soft drinks. In the case of training at the customer's plant, the customer shall provide the machine and a training room.



**Learning Goal:** Professional and safe operation of the machine according to the recommendations of the machine manufacturer

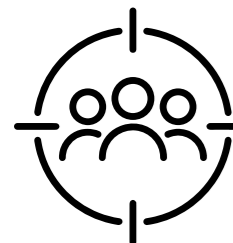
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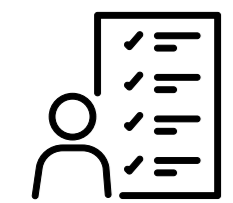
## Training

CNC-programming



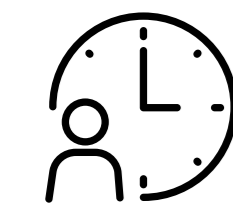
## Target group

CNC-programmers/Machine setters



## Requirements

Basic knowledge of CNC-programming



## Duration

3 Days

## Contents

1. Machine specification
2. Zero point systems
3. Tool call, tool change, tool management
4. Pallet call, pallet change, pallet management
5. Process monitoring
6. Machine-specific functions
7. Machine-specific programs
8. Technological commands including G-groups
9. Sub-program technology
10. Variables and calculation parameters
11. Technological cycles

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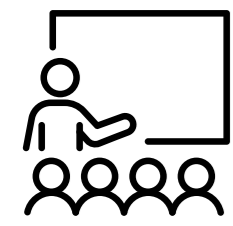
Training at the Starrag plant also includes lunch and soft drinks. In the case of training at the customer's plant, the customer shall provide the machine and a training room. This training can also be carried out online.



**Learning Goal:** Professional and safe creation of CNC-programmes for the machine

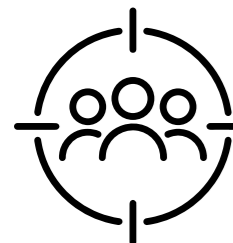
# Training information

PROFI



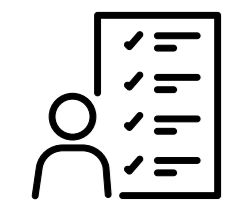
## Training

Measuring probe



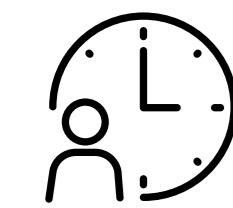
## Target group

CNC-programmers/Machine setters



## Requirements

Training CNC programming



## Duration

1 Day

## Contents

1. Basics
2. Calibration
3. Measuring cycles
4. Programming examples
5. Logging

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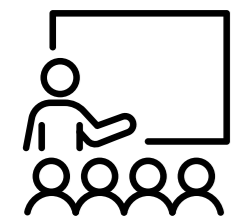
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**Learning Goal:** Professional and safe calibration, programming and use of the probe

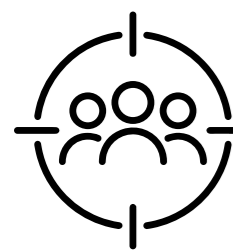
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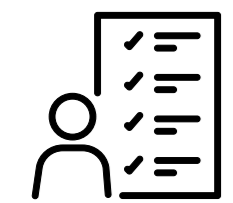
## Training

Machine kinematics calibration



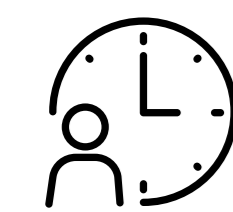
## Target group

Maintenance technicians/Machine operators/  
Machine setters



## Requirements

Basic knowledge in programming CNC machines  
and in the use of measuring probes



## Duration

2 Days

## Contents

1. Round axes compensation
2. Measurements
3. Measuring probe
4. Swivel data set parameters
5. Short sequence of measurements
6. Data backup

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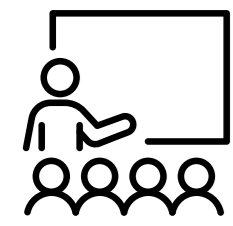
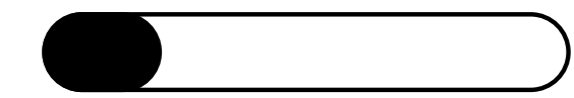


**Learning Goal:** Professional and safe calibration of the machine kinematics



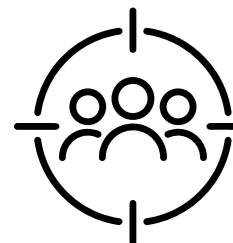
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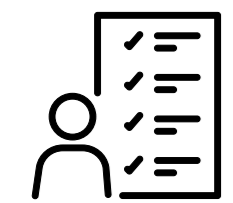
## Training

Maintenance – Maintenance plan & Initial diagnosis



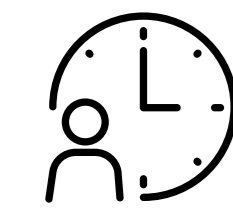
## Target group

Machine operators/Maintenance technicians



## Requirements

Basic knowledge of CNC machine maintenance



## Duration

1 Day

## Contents

1. Safety
2. Maintenance schedule
3. Lubrication diagram
4. Machine-specific initial diagnosis
5. Recommended measuring and auxiliary equipment

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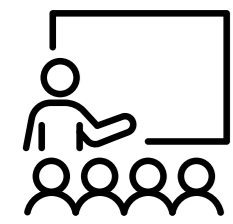


**Learning Goal:** Quality maintenance  
Making the initial diagnosis



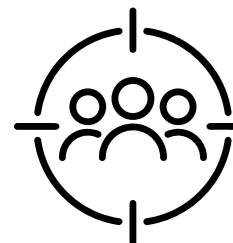
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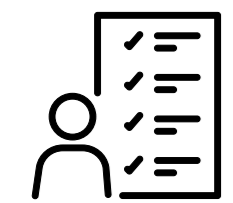
## Training

Maintenance – Failure Analysis & Repair



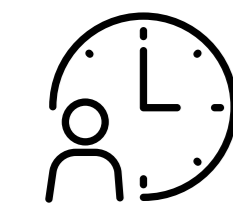
## Target group

Maintenance technicians



## Requirements

Maintenance training – maintenance plan and initial diagnosis



## Duration

3 Days

## Contents

1. Safety
2. Linear axes
3. Work spindle
4. Table unit / rotary axes
5. Changer assemblies, magazine
6. Fluid systems
7. Options
8. Maintenance and lubrication
9. Control system
10. Machine-specific settings
11. Recommended measuring and auxiliary equipment

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**Learning Goal:** Knowing the mechanical and electrical structure of machine and control system Analysing faults and carrying out general repairs



# Contact & Registration

We appreciate your interest and will be happy to advise you individually on your chosen training.

Here you will find the appropriate contact for your location:

Book your individual training:

Your contact person for all questions about training:



Starrag AG  
**Daniel Ramm**  
Training Center Manager

