RIETER

# Customer Training

## Learning with textile technology experts boosting profitability

Increasing know-how and expertise

# Wide Range of Customer Trainings

Continuous learning pays rich dividends – Rieter offers training on several topics being conducted by professional Rieter trainers who bring along decades of experience in the textile industry with a very strong passion to impart learning.

Customers can choose trainings on-site in their spinning mill, called INmill trainings, or trainings in Rieter facilities in Europe or China, called INclass trainings. For both options, there are four categories of trainings: Machine training, electrical training, process management and mill management. Last but not least, Rieter offers mass-customized trainings as per customer needs.

| Training modules | INmill | INclass |
|---|---|---|
| **Machine training** | | |
| Blowroom | ■ | ■ |
| Carding | ■ | ■ |
| Draw frame | ■ | ■ |
| OMEGAlap and comber | ■ | ■ |
| Roving frame | ■ | ■ |
| Ring and compact spinning | ■ | ■ |
| Semi-automatic rotor spinning | ■ | ■ |
| Automatic rotor spinning | ■ | ■ |
| Air-jet spinning | ■ | ■ |
| Autoconer | ■ | ■ |
| Autoconer Preci FX | ■ | ■ |
| **Electrical training** | | |
| Electrical training general | ■ | ■ |
| Electrical Autoconer | ■ | ■ |
| **Process management** | | |
| Fiber preparation | ■ | ■ |
| Spinning preparation | ■ | ■ |
| Roving spinning | ■ | ■ |
| Rotor spinning | ■ | ■ |
| Air-jet spinning | ■ | ■ |
| Process control techniques in spinning | ■ | ■ |
| **Mill management** | | |
| Mill economics | ■ | ■ |
| Mill management summit | | ■ |

# Training Methodology

## INmill training



**At customer's spinning mill**
• 50% classroom training
• 50% machine training

## INclass training



**At a Rieter training center**
• 50% classroom training
• 50% machine training

Over 50% of the time on the machine enables customers to address their current performance issues leading to immediate results.

## INclass training locations



Heinsberg, Germany

Changzhou, China

Winterthur, Switzerland

# Machine Training
## Blowroom

**Day 1**

- **Introduction**
- Technological purpose and functioning of blowroom machines
- Understanding the function and machine details of UNIfloc

**Day 2**

- Practical machine adjustment of UNIfloc
- Importance of air measurement and STOP-GO ratio in blowroom
- Understanding the function and machine details of UNIclean
- Understanding of VARIOset and its adjustment
- Practical machine adjustment and air measurement on UNIclean
- UNImix function and basic adjustment

**Day 3**

- Practical machine adjustment and air measurement on UNImix
- UNIstore – machine details, air adjustment, and understanding of machine parameters
- Quality check – nep count/SFC
- Waste analysis

**+ 1**

- **In case UNIblend is available**
- Working principle of UNIblend (blending principle)
- Calibration and adjusting dosing
- Adjusting the monitoring unit
- Process optimization in UNIblend
- Air adjustment

**+ 1**

- **For UNIcontrol – for blowroom line with more flexibility**
- Understanding blowroom layout (lines)
- Understanding and reading electrical schema
- Display parameters from UNIcontrol

**Duration:**
- 3 days for standard blowroom
  - + one additional day in case of UNIblend installation
  - + one additional day for UNIcontrol in case of more than 2 blowroom lines

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

■ INmill ✓     ■ INclass ✓

Scan here and register for your training:

l.ead.me/be3nZo

# Machine Training
## Carding

**Day 1**
- **Introduction –** basic function of carding
- Technological purpose and functioning of the machine
- Technical terms related to carding machine
- Basic calculations – production/batt weight/ draft/NRE
- Parameters influencing sliver quality

**Day 2**
- Machine setting influencing sliver quality and waste generation in card
- Mechanical and technological adjustments, drives, change points, gearing plans and pneumatic plans
- Important components and their setting – IGS classic/IGS top
- Understanding the function of the autoleveller and its calibration method

**Day 3**
- Wire maintenance on the card machine
- Coiler adjustments
- Preventive maintenance and safety regulations
- Operator work practices – standard procedure for starting the machine and stopping the carding machine.
- Understanding sliver quality parameters like A%, CV%
- Sliver nep report and its analysis



**Duration:**
- 3 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

INmill ✓          INclass ✓

Scan here and register
for your training:



*l.ead.me/be3nZo*

# Machine Training
## Draw frame

**Day 1** **Introduction to draw frame**
- Technology of draw frame/basic calculations – production/draft
- Sub assembly in detail – draw frame

**Day 2**
- Technology of autolevelling
- Calibration and adjustments autoleveller
- Auto leveling – adjusting LAP, levelling intensity, slow speed adaption
- Levelling adjustments for quality reasons
- Technology of RQM

**Day 3**
- Understanding of quality parameters like – A%; CV%; spectrogram and thick places
- Display parameters/maintenance and safety aspects
- Open discussion and test

**Duration:**
- 3 days for draw frame

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

INmill ✓     INclass ✓

Scan here and register for your training:

l.ead.me/be3nZo



Rieter's Autoleveler Draw Frame RSB-D 55 for stable operation with high quality and productivity

www.rieter.com/services/after-sales/textile-technology-and-customer-training/customer-training

# Machine Training
## OMEGAlap and comber

### OMEGAlap (lap former) training topics

**Day 1**    **Introduction to combing** – basic textile
- Technological purpose and functioning of the machines
- Technical terms related to lap former machine
- Basic calculations – production/lap weight, gms/m / draft

**Day 2**
- Parameters influencing lap formation
- Doffing cycle in detail
- Mechanical and technological adjustments, drives, change points, gearing plans,
- Pneumatic circuit of the machine
- Preventive maintenance and safety regulations

**Day 3**
- Working principle difference between E 32/E 35/E 36
- Assembly and subassembly, important components and its setting
- Change the winding belt and it's calibration, winding pressure E 32/E 35/E 36
- Tension in calendar rolls, adjusting the drafting system
- Knowledge of clutch, maintenance, checking air gap

### Comber training topics

**Day 4**    **Introduction and necessity of combing machine**
- Technical terms related to combing machines
- Parameters influencing combing operation
- Noil extraction theory
- Practical adjustment on the machine

**Day 5**
- Basic calculations – production/noil%/draft
- Programming of the machine configuration/ description of machine menu
- Preventive maintenance and safety regulations
- Understanding of gearing diagram and pneumatic panel
- Assembly and subassembly

**Day 6**
- Yarn count change procedure/technical formulae
- Comber ROBOlap – basic principle/settings
- General discussion and question answers
- All pending points/exam

**+ 1**    **Additional day in case of SERVOlap installation**
- SERVOlap layout and positioning of the machine
- Introduction and working principle of SERVOlap
- Introduction of display parameters
- Important components and its setting
- Initialization and referencing of SERVOlap

**Duration:**
- 6 days for OMEGAlap and comber without SERVOlap
  + one additional day in case of SERVOlap

**Number of participants:** Up to a maximum of 10

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

Scan here and register for your training:

l.ead.me/be3nZo

● INmill ✓    ● INclass ✓

# Machine Training
## Roving frame

**Day 1**
- **Introduction to roving machine**
- Technological purpose and functioning of the machine
- Functioning/working principle of the individual working parts

**Day 2**
- Mechanical and technological adjustments, drives, change points, gearing plan
- Explanation of the pneumatic, electrical and electronic systems
- Explanation of all the settings on the machine's control panel

**Day 3**
- Introduction to all tools supplied along with machine
- Preventive maintenance and safety regulations
- General discussion and question answers
- All pending points/test

**Duration:**
- 3 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

■ INmill ✓     ● INclass ✓

Scan here and register for your training:

*l.ead.me/be3nZo*

# Machine Training
## Ring and compact spinning

**Day 1**
- • **Introduction to ring and compact spinning machines** – basic textile (calculation of yarn count/draft/twist etc.)
- • Technological purpose and functioning of the machines
- • Introduction to ring spinning machine (G/K)

**Day 2**
- • Functioning/working principle of the individual working parts
- • Mechanical and technological adjustments, drives, change points, gearing plan
- • Technological components (cots/aprons/ring/traveller) and its importance/maintenance schedule and service life of technological components

**Day 3**
- • Introduction to all tools supplied along with the machine
- • Explanation of the pneumatic, electrical and electronic systems

**Day 4**
- • Programming of the machine configuration/description of machine menu's
- • Preventive maintenance and safety regulations
- • Yarn quality – IPI/strength/hairiness/spectrogram; action required based on interpretation of quality report

**Day 5**
- • Yarn count change procedure/technical formula
- • Do's and don'ts for operators/technical team
- • General discussion and question and answers
- • All pending points/test

**Duration:**
- • 5 days

**Target audience:**
- • Mechanical and electrical technicians, foreman, fitters
- • Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- • Up to a maximum of 10

- INmill ✓
- INclass ✓



Machine training with tutor Mr. Martin Frehner

Scan here and register
for your training:



*l.ead.me/be3nZo*

# Machine Training
## Semi-automatic rotor spinning

**Day 1**

- **Introduction – basic textile**
  (calculation of yarn count/draft/twist/etc.)
- Technological purpose and functioning of the machine
- Introduction to rotor spinning machine

**Day 2**

- Functioning/working principle of the individual working parts
- Mechanical and technological adjustments, drives, change points, gearing plan
- Technological components (rotor/opening roller/nozzle/twist segment) and their importance/maintenance schedule and service life of technological components

**Day 3**

- Introduction to all tools supplied along with the machine
- Explanation of the pneumatic, electrical and electronic systems
- Understanding of yarn clearer Q 10/Q 20

**Day 4**

- Programming of the machine configuration/description of machine display parameters
- Preventive maintenance and safety regulations
- Yarn quality – IPI/strength/hairiness; action required based on interpretation of the quality report

**Day 5**

- Yarn count change procedure/technical formula
- Do's and don'ts for operators/technical team
- General discussion and question answers
- All pending points/test

**Duration:**
- 5 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

INmill ✓        INclass ✓

Scan here and register for your training:



l.ead.me/be3nZo

# Machine Training
## Automatic rotor spinning

**Day 1**
- **Introduction to rotor spinning machine**
- Technological purpose and functioning of the machine
- Preventive maintenance and safety regulations

**Day 2**
- Functioning/working principle of the individual working parts
- Mechanical and technological adjustments, drives, change points, gearing plan
- Technological components (rotor/opening roller/nozzle/twist segment) and their importance/maintenance schedule and service life of technological components

**Day 3**
- Introduction to all tools supplied along with the machine
- Explanation of the pneumatic, electrical and electronic systems
- Understanding of yarn clearer

**Day 4**
- Programming of the machine configuration/description of the machine and robot menu
- In-depth robot training such as how to improve the performance of the robot (efficiency)
- Piecing parameters adjustment for better piecing strength and appearance

**Day 5**
- Yarn count change procedure/technical formula
- Do's and don'ts for operators
- General discussion and question answers
- All pending points/test

**Duration:**
- 5 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

■ INmill ✓   ■ INclass ✓

Automatic rotor machine training

Scan here and register
for your training:

*l.ead.me/be3nZo*

# Machine Training
## Air-jet spinning

**Day 1**
- **Introduction**
- Air-jet spinning machine with several videos
- Machine overview on the machine
- Review of the learning and group discussions

**Day 2**
- Process optimization
- Recommendations, sliver preparation and impacts, spinning variables, critical settings in spinning units, etc.
- Spin unit settings on the machine

**Day 3**
- **Machine settings**
- Various systems such as suction, pneumatic, tube loader, etc.
- Deep dive into Q-sensor and quality monitoring
- Review and group discussions

**Day 4**
- **Introduction to robots**
- In-depth robot training such as how to improve the performance of the robot (efficiency)
- Practical training on the machines specific to robots

**Day 5**
- Deep dive into maintenance topics
- Do's and don'ts, trouble shooting techniques, best practices, handling machine display and robot display, etc.
- Review of all topics and group discussions

**Duration:**
- 5 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

INmill ✓       INclass ✓


Air-jet machine training

Scan here and register for your training:



l.ead.me/be3nZo

# Machine Training
## Autoconer

**Day 1**
- **Introduction**
- Autoconer types, models and their functions
- Technological purpose and functioning of winding machines
- Explanation of the basic layout

**Day 2**
- Functioning/working principle of the individual working parts
- Mechanical and technological adjustments and explanation about sub assemblies of Autoconer
- Technological components (drum, splicer and FX products) and technological information of various parameters on winding system

**Day 3**
- Introduction to all tools supplied along with the machine
- Explanation of the pneumatic, electrical and electronic systems
- Understanding of parameter of machine display
- Package engineering – type of winding and package structure

**Day 4**
- Programming of the machine configuration/ description of machine menu
- Preventive maintenance, importance/ maintenance schedule and service life of technological components and safety regulations
- Machine performance – optimization of machine setting and action required based on interpretation of reports

**Day 5**
- Lot change procedure
- Do's and don'ts for operators/technical team
- General discussion and question answers
- Q&A

**Duration:**
- 5 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

■ **INmill** ✓          ■ **INclass** ✓



Autoconer machine training

Scan here and register
for your training:



l.ead.me/be3nZo

# Machine Training
## Autoconer Preci FX

**Day 1**

• **Introduction**
- Autoconer types and models
- Precifx introduction and working principal
- Types of winding and its properties

**Day 2**

- Explanation of machine display menus – related with Precifx (pitch, symmetric ratio and geometry, etc.)
- Preci FX winding unit settings and check points
- Explanation of importance of Preci FX
- Various application of Preci FX and its setting optimization

**Day 3**

• **Package engineering**
- Type of windings and package structures in detail
- Package quality analysis
- Preventive maintenance, importance or maintenance schedule and service life of Preci FX components
- Safety regulations and do's and don'ts
- General discussion and question answers
- All pending points, test

**Duration:**
• 3 days

**Target audience:**
- Mechanical and electrical technicians, foreman, fitters
- Supervisors, engineers from production, quality, maintenance and utility departments

**Number of participants:**
- Up to a maximum of 10

■ INmill ✓      ■ INclass ✓

Scan here and register
for your training:

l.ead.me/be3nZo

On the machine winding training
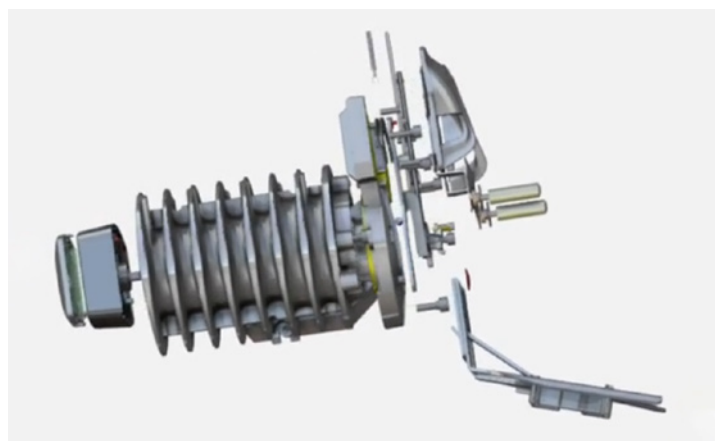
# Electrical Training
## Electrical training general

**Day 1**

**Blowroom training**
- UNIcontrol settings and explaining of the processes
- UNIfloc programming and settings
- Explanation of the electrical schematic of each blowroom machine
- Practical training and safety regulation on the machines

**Day 2**

**Card training**
- Card leveling function and settings
- Programming and explaining the test program
- Practical training and safety regulation on the machines

**Day 3**

**Draw frame training**
- Explanation of the pneumatic, electrical and electronic systems
- Leveling function and settings
- Programming of the machine and safety regulation on the machine
- Practical training

**Day 4**

**OMEGAlap/Comber and SERVOlap training**
- Explanation of the pneumatic, electrical and electronic systems
- Programming of the machine and safety regulation on the machines
- Practical training

**Day 5**

**SPIDERweb or ESSENTIALmonitor training**
- Basics of network technology
- Data analysis of the individual machines
- Troubleshooting
- Questions and answers

**Duration:**
- 5 days

**Target audience:**
- Electrical technicians, foreman, fitters
- Supervisors, engineers from the electrical or electronics department

**Number of participants:**
- Up to a maximum of 10

INmill ✓    INclass ✓



Classroom training with tutor Mr. Jürg Hug

Scan here and register for your training:



l.ead.me/be3nZo

# Electrical Training
## Electrical Autoconer

**Day 1**

**Introduction**
- Autoconer types, models and their functions
- Explanation of the machine layout
- Explanation of the electrical basic layout
- Functioning/working principle of winding units components
- Explanation of machine display menus related with electrical
- Explanation of game boy functions

**Day 2**
- Software update procedures and methods
- Programming of the machine configuration
- Trouble shooting and maintenance activities
- Important of quality power supply and safety measures
- General discussion and question answers
- Questions and answers

**Duration:**
- 2 days

**Target audience:**
- Electrical technicians, foreman, fitters
- Supervisor, engineers from the electrical or electronics department

**Number of participants:**
- Up to a maximum of 10

● INmill ✓    ● INclass ✓

Scan here and register for your training:



l.ead.me/be3nZo



Classroom training with tutor Mr. Willen
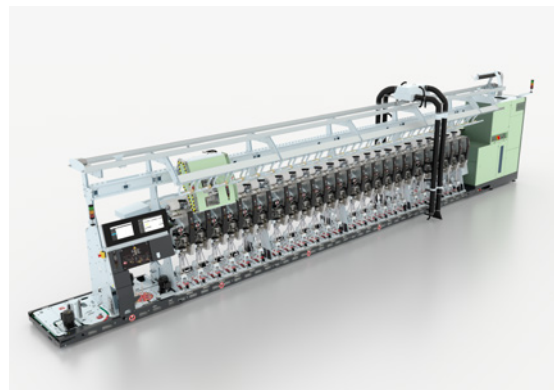


On the machine training

# Process Management
## Fiber preparation

**Balancing cost and quality**

QUALITY    PRODUCTIVITY

**Customer values**
- Obtain techno-economic advantage
- Balancing cost and quality requirements for better profitability
- Quick response to technology changes
- Avoidance of production losses
- Instant stability in operation
- Trouble-free operation

**Day 1**
- Need of opening, cleaning, blending and mixing
- Understanding the definition of degree of cleaning and cleaning efficiency
- Factors influencing the degree of cleaning and cleaning efficiency
- Air measurement and adjustment and its role in achieving required degree of cleaning
- Understanding the role of ambient climate in blowroom performance

**Day 2**
- Raw material management, fiber testing and its interpretation
- Bale laydown and does and don'ts for bale laydown
- Understanding what is Stop/Go ratio in blowroom and its importance in quality consistency
- Machine optimization based on waste analysis

**Day 3**
- Infeed material requirement for better carding performance
- Carding machine setting based on waste analysis
- Sliver testing and test report interpretation – doing neps report analysis
- Trouble shooting – nep removal efficiency/fiber damage
- Role of wire maintenance in overall carding performance

**Duration:**
- 3 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

● INmill ✓        ● INclass ✓

Scan here and register for your training:

l.ead.me/be3nZo

# Process Management
## Spinning preparation

**Balancing cost and quality**



QUALITY     PRODUCTIVITY

**Customer values**
- Obtain techno-economic advantage
- Balancing cost and quality requirements for better profitability
- Quick response to technology changes
- Avoidance of production losses
- Instant stability in operation
- Trouble-free operation

**Day 1**
- Introduction to draw frame optimization
- Selecting the right sliver hank/number of drawing processes
- Choosing a draft distribution/a number of doublings in the draw frame
- Selection of technological components and machine setting
- Technology and working principle of autolevelling
- Auto levelling – adjusting LAP, levelling intensity, slow speed adaption

**Day 2**
- Technology and working principle of RQM
- Understanding of quality parameters like – A%; CV%; spectrogram and thick places
- Quality report interpretation (CV%/spectrogram analysis)
- Number of drawing processes/draft distribution/number of doublings in draw frame
- Roller setting/selection of components

**Day 3**
- Pre-comber draft distribution
- Deciding the right lap weight based on fiber length and fiber fineness
- Factors influencing lap quality and producing optimum lap for better combing
- Selecting the setting on comber – feed amount/feed type/noil%
- Understanding and optimizing – noil%, analysis of noil, combing efficiency
- Best work practices in draw frame/combing preparation and comber

**Duration:**
- 3 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

■ INmill ✓     ● INclass ✓

Scan here and register for your training:



*l.ead.me/be3nZo*

# Process Management
## Roving spinning

**Balancing cost and quality**

QUALITY  PRODUCTIVITY

**Customer values**
- Obtain techno-economic advantage
- Balancing cost and quality requirements for better profitability
- Quick response to technology changes
- Avoidance of production losses
- Instant stability in operation
- Trouble-free operation

**Day 1**
- Choosing the right roving hank/twist
- Understanding the role of the bobbin speed curve on roving stretch
- Best work practices in roving frame
- Importance of utilization/efficiency of ring/compact spinning machine in cost management
- Factors deciding twist multiplier/draft distribution/ roller setting

**Day 2**
- Factors influencing end down in spinning machine
- Choosing the right ring traveller weight and profile
- Understanding cop build-up/speed curve
- Understanding of spinning geometry – spinning triangle/spinning length and spinning angle
- Technological components (cots/aprons/ring/ traveller), maintenance schedule, and service life of technological components

**Day 3**
- Working principle of compacting
- Yarn quality – IPI/strength/hairiness; action required based on interpretation of the quality report
- Understanding and reading quality reports, keys factors for quality consistency
- Doffing and start-up process optimization – factors affecting start-up breaks
- Humidification/Rieter recommendation and its impact on machine performance

**Duration:**
- 3 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

■ INmill ✓    ■ INclass ✓

Scan here and register for your training:

*l.ead.me/be3nZo*

# Process Management
## Rotor spinning

**Balancing cost and quality**

QUALITY  PRODUCTIVITY

**Customer values**
- Obtain techno-economic advantage
- Balancing cost and quality requirements for better profitability
- Quick response to technology changes
- Avoidance of production losses
- Instant stability in operation
- Trouble-free operation

**Day 1**
- Raw material management for required yarn quality
- Setting of a fiber preparation (ABC) for rotor spinning
- Choosing the number of draw frame passages, right sliver hank, and draft distribution in the draw frame for the rotor spinning process
- Best work practices

**Day 2**
- Selection of technological components based on raw material and yarn quality requirements
- Understanding the role of yarn piecing in rotor spinning
- Optimizing yarn piecing strength and appearance
- Frequently committed mistakes in rotor spinning

**Day 3**
- Understanding the role and working principle of yarn clearer
- Yarn testing – IPI, strength, hairiness, etc.,
- action required for quality improvement
- Means to improve productivity in rotor spinning with required yarn quality
- Humidification/Rieter recommendation and its impact on machine performance

**Duration:**
- 3 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

INmill ✓  INclass ✓

Scan here and register for your training:

*l.ead.me/be3nZo*

# Process Management
## Air-jet spinning

**Balancing cost and quality**

QUALITY  PRODUCTIVITY

**Customer values**
- Obtain techno-economic advantage
- Balancing cost and quality requirements for better profitability
- Quick response to technology changes
- Avoidance of production losses
- Instant stability in operation
- Trouble-free operation

**Day 1**
- Raw material management for required yarn quality
- Setting of a fiber preparation (ABC) for air-jet spinning
- Choosing the number of draw frame passages, right sliver hank, and draft distribution in the draw frame for the air-jet spinning process.
- Best work practices

**Day 2**
- Selection of technological components based on raw material and yarn quality requirements
- Service life of technological components
- Understanding the role of yarn piecing in air-jet spinning
- Optimizing yarn piecing strength and appearance
- Frequently committed mistakes in air-jet spinning

**Day 3**
- Understanding the role and working principle of yarn clearer
- Yarn testing – IPI, strength, hairiness, etc., action required for quality improvement
- Means to improve productivity in air-jet spinning with required yarn quality
- Humidification/Rieter recommendation and its impact on machine performance

**Duration:**
- 3 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

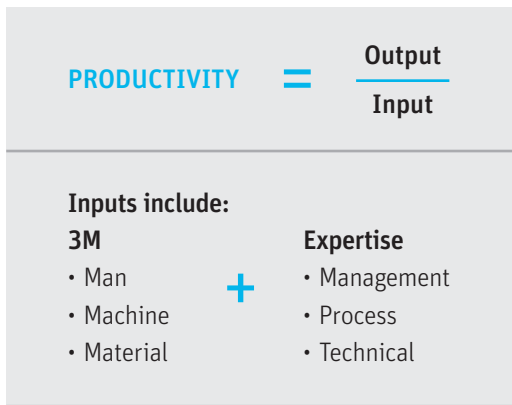INmill ✓    INclass ✓

Scan here and register for your training:

*l.ead.me/be3nZo*

# Process Management
## Process control techniques in spinning

**Day 1**
- Raw material management, fiber testing and interpretation
- Understanding the definition of the degree of cleaning and cleaning efficiency
- Blowroom setting based on trash analysis
- Air measurement and adjustment and its role in achieving the required degree of cleaning
- Understanding the Stop/Go ratio in blowroom and its importance in quality consistency

**Day 2**
- Carding machine setting based on waste analysis
- Sliver testing and test report interpretation – doing neps report analysis
- Trouble shooting – nep removal efficiency/fiber damage
- Auto levelling – adjusting LAP, levelling intensity, slow speed adaption
- Technology and working principle of RQM
- Understanding of quality parameters like – A%; CV%; spectrogram and thick places, quality report interpretation (CV%/spectrogram analysis)

**Day 3**
- Pre-comber draft distribution
- Deciding the right lap weight based on fiber length and fiber fineness
- Factor influencing lap quality and producing optimum lap for better combing
- Selecting the setting on comber – feed amount/feed type/noil%
- Understanding and optimizing – noil%, analysis of noil, combing efficiency

**Day 4**
- Choosing the right roving hank/twist
- Understanding the role of the bobbin speed curve on roving stretch
- Choosing the right ring traveller weight
- Understanding cop build-up/Speed curve
- Yarn quality – IPI/Strength/Hairiness; action required based on interpretation of the quality report

**Day 5**
- Humidification/Rieter recommendation and its impact on machine performance (temperature/relative humidity and air changes)
- Selection of the right accessories (sliver can/bobbins/spinning tubes) and their impact on the mill performance
- Material handling – understanding of FIFO and the need for channelization in quality consistency

**Duration:**
- 5 days

**Target audience:**
- Supervisors and above – production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 – 15

INmill ✓   INclass ✓

Scan here and register for your training:

*l.ead.me/be3nZo*

# Mill Management
## Mill economics

**Mill management is key to obtain techno-economic advantages and respond to technology changes.**

$$\text{PRODUCTIVITY} = \frac{\text{Output}}{\text{Input}}$$

**Inputs include:**

| 3M | Expertise |
|---|---|
| • Man | • Management |
| • Machine | • Process |
| • Material | • Technical |

Increase of productivity
• machine productivity
• labour productivity

Optimization and consistency of yarn quality
Statistics for textile spinning

Reduction of the conversion costs

Better utilization of machines
Optimization of technology components lifetime

**Training content**
- Textile market scenario and challenges in spinning
- Understanding cost and quantity relationship (capacity utilization and efficiency)
- Importance of cost of conversion in profitability
- Understanding of clean raw material cost
- Role of waste analysis and waste composition in cost of conversion.
- Role of climatic conditions on spinning mill productivity
- Understanding of process optimization/spin plan calculation/air measurement
- Understanding textile testing – testing reports and their interpretation.
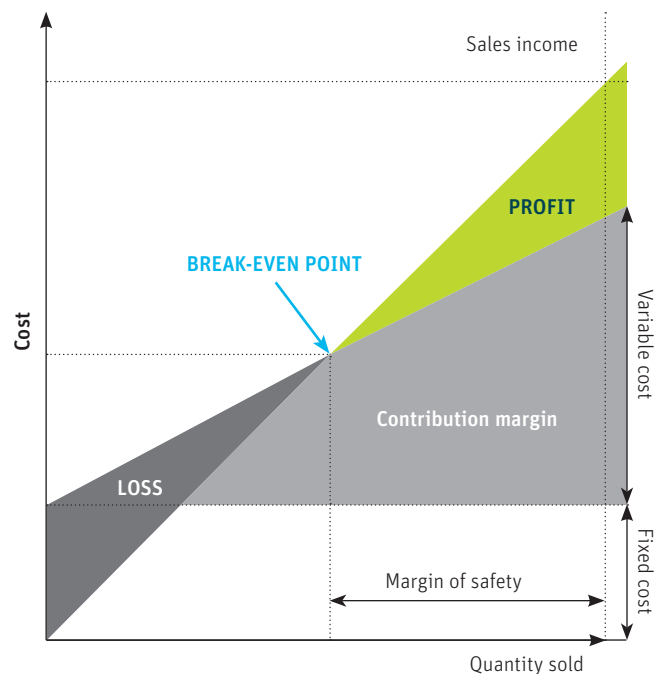
The Mill Economics training features simple breakeven analysis and teaches how to increase the margin of safety and thus, the mill competitiveness.

## Impact of training

- Better understanding of raw material results in consistent yarn quality
  - Less yarn buyers complaints
  - Reduced yarn clearer cuts on winding machines, resulting in reduced operating cost for winding
  - A good spinning mill produces good quality, but the best spinning mill always produces the same quality

- Reduced conversion costs with better work practices
  - Optimization of opening and cleaning machines to reduce good fiber loss
  - Machine cleaning pressure started using 4 bar instead of 6 bar
  - Rapid analysis of machine and production data
  - Optimized speed curve and end brake rate on ring/compact spinning for higher productivity
  - Better understanding of cleaning requirements to reduce clearer cuts in winding process

**Duration:**
- 3 or 5 days

**Target audience:**
- Supervisors, middle management and above from production, quality, maintenance, utility

**Number of participants:**
- Up to a maximum of 10 to 15

■ **INmill** ✓          ■ **INclass** ✓

Scan here and register
for your training:



*l.ead.me/be3nZo*



Mill economics classroom training

### Raw material and yarn realization
Factors affecting clean raw material cost per kg of yarn



Raw cotton cost
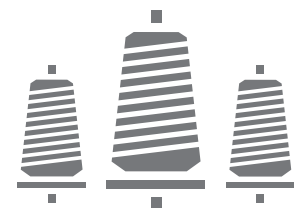
Average waste cost

Raw material utilization
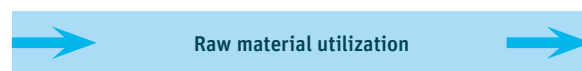
Yarn selling price

contributes 55 – 65% to the yarn price

# Mill Management
## Mill Management Summit

**Day 1**
- Welcome
- Introduction to Rieter and market information
- Introduction to Rieter blowroom concept
- Process control techniques in carding
- Wire maintenance with IGS

**Day 2**
- Draw frame – optimal sliver quality
- Combing system – highest sliver quality – noil influencing factor
- Automation in combing – ROBOlap and SERVOlap
- Lunch with Rieter management team

**Day 3**
- Mill Economics – more with less
- After sales – Performance Optimization Services
- Surprise event – out of Rieter premises followed by dinner

**Day 4**
- Compacting devices – the new generation in yarn compacting
- Ring yarn – high quality yarns produced with high flexibility
- Ring traveller – enjoy performance
- Rieter Autoconer – More production with superior yarn quality

**Day 5**
- Rieter recycling system – recycling pre- and post consumer goods
- ESSENTIAL – the all in one mill management system
- Feedback and farewell

**Duration:**
- 5 days

**Target audience:**
- Supervisors, middle management and above from production, quality, maintenance, utility

**Number of participants:**
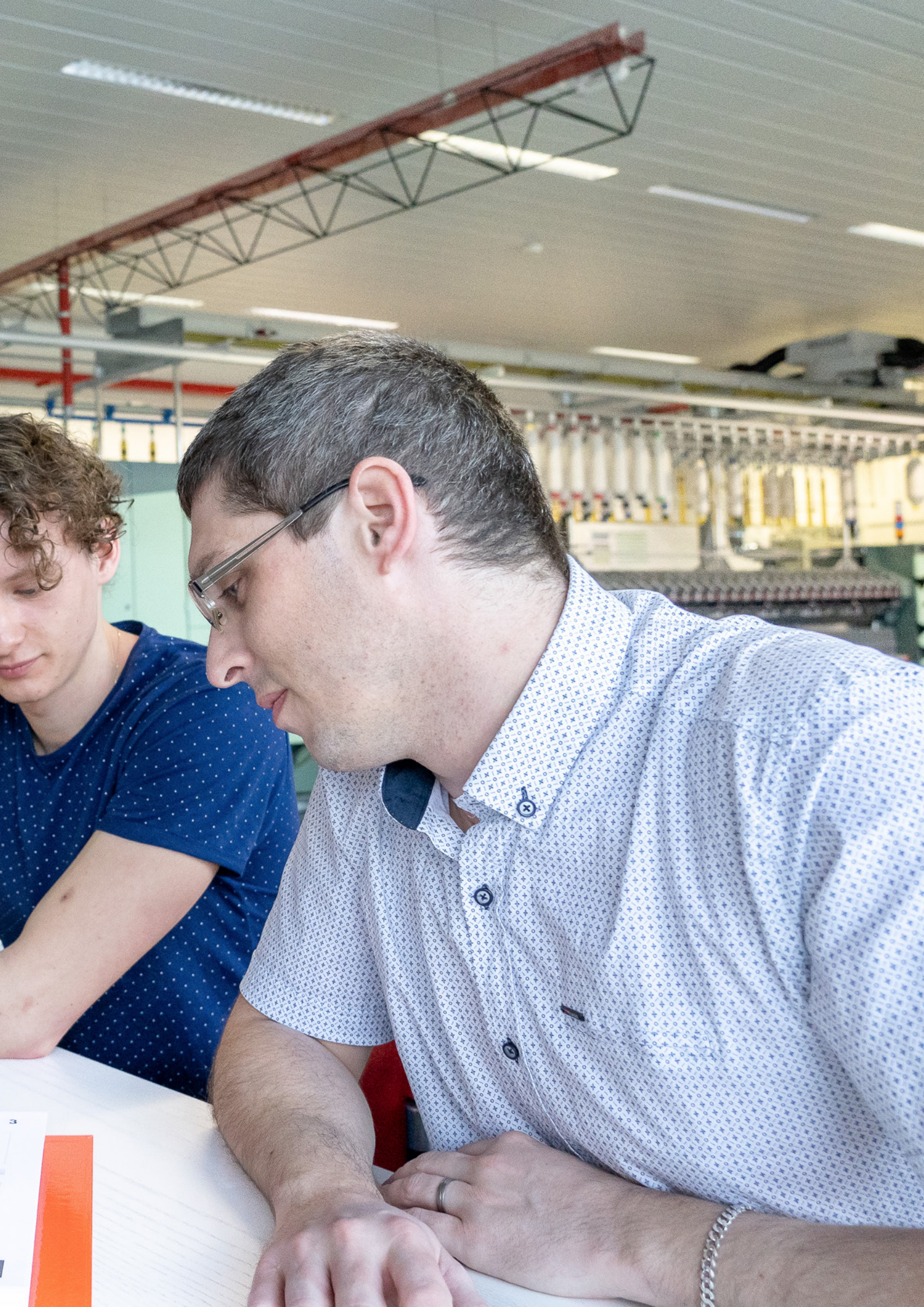- Up to a maximum of 12

INmill ✕          **INclass** ✓
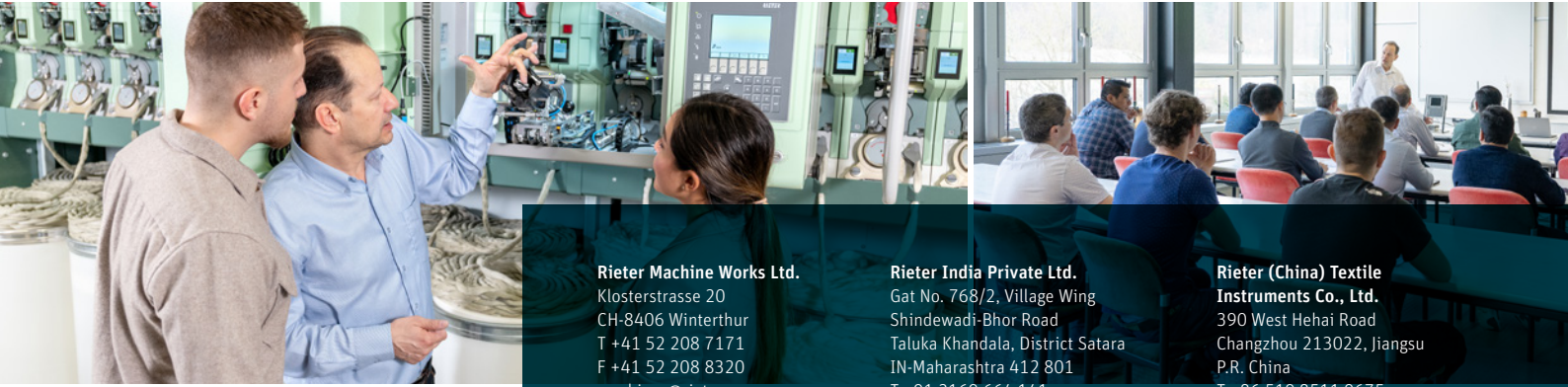


Mill management summit classroom training

Scan here and register for your training:



*l.ead.me/be3nZo*