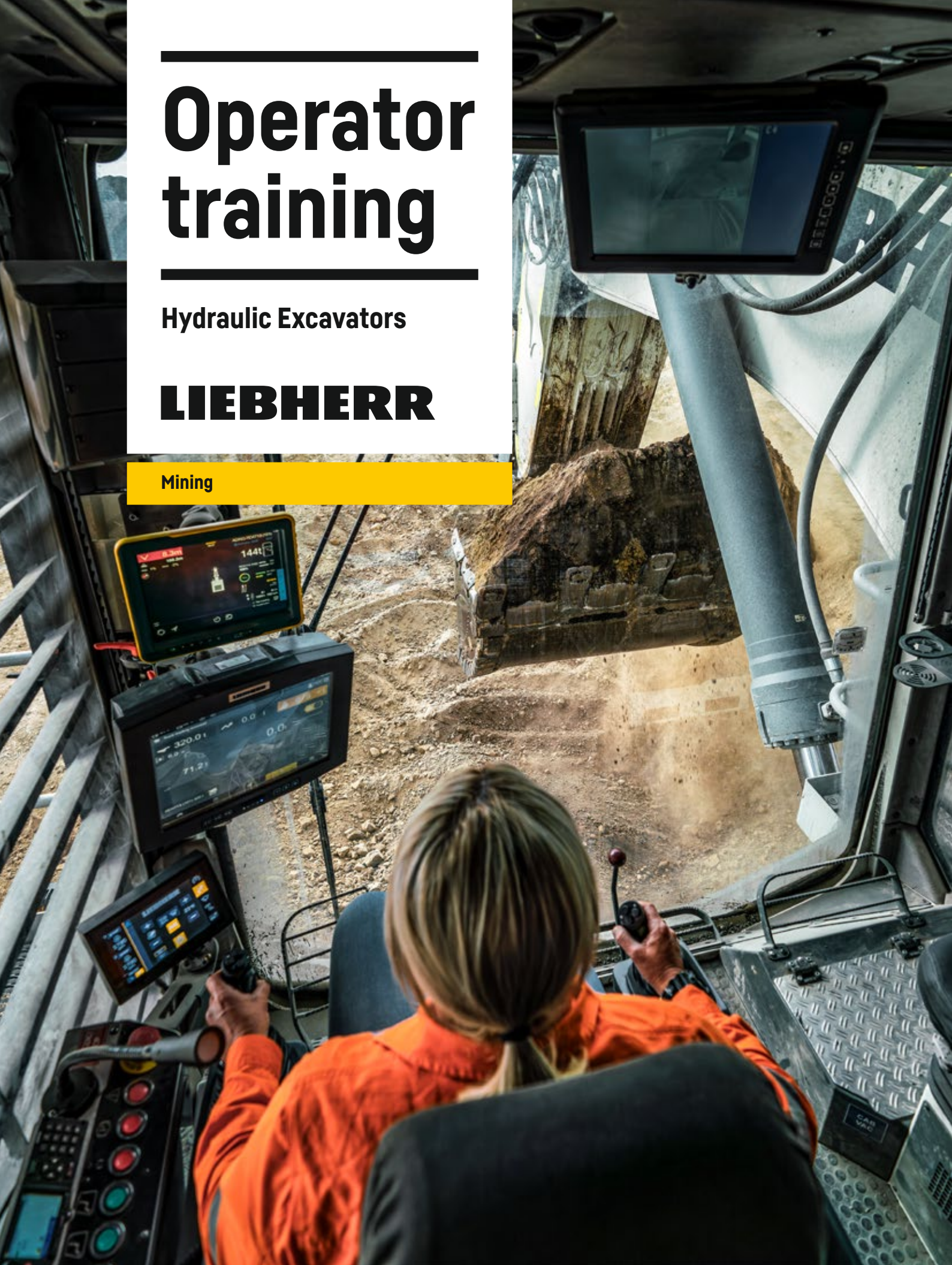


Operator training

Hydraulic Excavators

LIEBHERR

Mining



Operator training

Liebherr Mining's operator training program has both a theoretical and practical component. Both must be successfully completed to attain full operator certification.





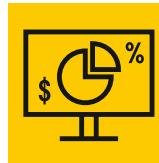
Well-trained specialists play a pivotal role in the success of any company. Liebherr aims to support its customers by offering a comprehensive range of training courses tailored to meet the specific needs of personnel, enabling them to enhance their skills in their respective applications. In an effort to continually improve its training methodologies, Liebherr organises courses based on professional groups and prior experience levels. Experienced trainers from Liebherr deliver practical content, engage in discussions on real life challenges, and address questions relevant to everyday work scenarios. This ensures that operators acquire all of the necessary knowledge and skills.

The training courses involve diverse instructional methods tailored to all operator proficiency levels, ultimately enhancing their skill sets so they can operate Liebherr machines efficiently.



Productivity boost

Increases the productivity and efficiency of both operators and machines.



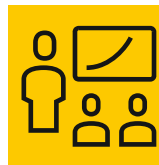
Online training

Enables operators to familiarise themselves with training materials beforehand, leading to improved engagement.



Practical machine experience

Enhancing operators' confidence and skills through hands-on experience.



Expert guidance

Provides operators with professional training directly from experts, ensuring optimal machine performance that upholds Liebherr's high safety standards.



Pre- and post-training evaluations

Testing is conducted both before and after the theoretical training to evaluate trainees' knowledge and the effectiveness of the training program.



1:1 student-trainer ratio

Personalised one-on-one training ensures that participants receive the trainer's full attention and support throughout the entire training session.



Safety assurance

Enhances reliability and safety with proper machine operation.

Theoretical training

The theoretical part of operator training can be given on site or online and includes the following elements:

Topics	On site 1 day classroom	Online 3-4 hours
Pre-training test	■	
General presentation	■	■
Liebherr Group presentation	■	■
Product overview and safety features	■	■
Walk around inspection	■	■
Major components: location, explanation, and dimensions	■	■
Cab orientation and control instrumentation	■	■
Liebherr operating recommendations	■	■
Assistance Systems (optional)	■	■
Post-training test	■	
Training book	■	

The online training includes an initial theoretical session to prepare for the onsite trainer visit. Completing online training does not result in any official accreditation. Instead, a certificate of participation can be provided.

Testing is conducted both before and after the theoretical training to evaluate trainees' knowledge and the effectiveness of the training program. The initial test measures the baseline knowledge of excavator operations before the training starts. Following the completion of the training, trainees must pass a post-training test with a score of 80 % or higher to complete the training successfully.

Should a trainee score below 80 %, they may still participate in practical training. However, they should be aware that

without passing the post-training test, certification will not be granted. It's important to note that not achieving certification does not prevent an operator from using the machinery, but certification does affirm that the operator meets Liebherr's best practises.

If a trainee does not pass, they will receive a certificate of attendance. There is no fixed period within which they must retake the test; instead, the timing will depend on the individual's need to address specific areas of improvement.

Practical training

During practical training, Liebherr Mining uses an internally developed evaluation metric based on its own criteria as well as the relevant excavator's specifications to determine trainees' skill levels. The three skill levels used are basic, intermediate, and expert.

Training highlights

Walk around inspections:

This aim to reduce the risk of significant damage if the excavator is not in a suitable operational state. Conducting these inspections helps to extend component life by detecting wear before it leads to failure and enhances machine availability. Please note that conducting this training is dependent on the relevant excavator being available while the trainers are on site.

Usage and Production:

Each trainee will receive a minimum of half a day's training.

However, a full day is best for this subject. The topics covered include:

- Bench opening / development
- Optimal bench height
- Production optimisation
- Truck positioning
- Correcting undesirable habits, such as using the back of the bucket for cleaning, improper jack tracking, swinging into the digging face or bench, and turning the machine by lifting it with the attachment.
- Utilising EVO buckets (if equipped)
- Assistance systems

These training sessions are designed to enhance the proficiency and efficiency in excavator operations.

Upon request, our trainers are available to offer recommendations aimed at optimising mining operations.

Given the hands-on nature of practical training, our trainers are in an ideal position to observe day-to-day activities on site. Consequently, they can conduct studies to evaluate various aspects of your mining activities, including cycle times, tonnes moved per hour, and exchange times. These findings, along with suggestions for enhancing your operations, will be included in their final report.

Final report

Once training is complete, Liebherr trainers put together a comprehensive final report that documents all aspects of the training program, including:

- Results of assessment.
- Operators' participation and interest throughout training.
- Observations made of each operator during practical sessions, including areas for improvement.
- Observations regarding equipment usage and machine configuration in relation to the working environment, including recommendations and opportunities for improvement.
- Certification for all operators who successfully completed both the theoretical and practical training modules.

Training your operator trainers

To address continuous training needs, having an on-site trainer to closely monitor operator performance may be necessary. That's why Liebherr Mining offers specialised training programs to certify operator trainers for Liebherr hydraulic excavators. Once certified, these operator trainers will be able to deliver theoretical and practical training. They will be able to demonstrate best practices and necessary optimisations to enhance production in line with Liebherr's factory recommendations and will have access to Liebherr's factory training documentation.

Similar to standard operator training, the operator trainer program includes both theoretical and practical components, along with a pre-training test to evaluate trainees' baseline knowledge before the training starts. To obtain full operator trainer certification, trainees must score 85% or higher on the theoretical assessment and successfully complete the practical section.

To give trainees the chance to practice what they learn during the operator trainer program, this training is split into two sessions and consists of the following:

Session 1

Training activities		Equipment required	Duration
1	Classroom training with a Liebherr factory trainer.	Video projector White board	2 days (5–7 hours / day)
2	Review of training materials includes the Liebherr factory trainer being present to answer any questions from the participants.	Video projector White board	1 day (5–7 hours)
3	Participants present classroom teaching sessions to students, which are then evaluated and corrected by the Liebherr factory trainer.	Video projector White board	1 day (5–7 hours)
4	During practical training with the excavator, the Liebherr factory trainer demonstrates optimal loading practices and evaluates or corrects the participants' techniques.	Liebherr Hydraulic Excavator Good bench to practice	1 half day per trainee
5	Participants take turns demonstrating, evaluating, and correcting excavator operation techniques to their students, all under the supervision of the Liebherr factory trainer.	Liebherr Hydraulic Excavator Good bench to practice	1 half day per trainee

To provide participants with sufficient time to apply their newly acquired skills, a two-month interval is scheduled between Session 1 and Session 2. Session 2 serves as a refresher course, during which participants are re-evaluated. Certifications are valid for three years, with the option to renew based on customer's decision, ensuring operators continue to meet Liebherr's best practices.

Session 2

Training activities		Equipment required	Duration
1	Classroom training is conducted with participants, while a Liebherr factory trainer is present to evaluate and correct their training procedures and delivery methods.	Video projector White board	1 day per trainee
2	Practical training with the excavator involves participants demonstrating proper operation techniques, evaluating, and providing feedback to fellow operators. This process occurs under the supervision of the Liebherr factory trainer.	Liebherr Hydraulic Excavator Good bench to practice	2 days per trainee



Several Liebherr Service centres around the world offers **On Demand training** which offers courses designed to revise the operators' efficiency with Liebherr machines. This training includes both classroom theory sessions and practical training and the topics covered include machine familiarisation, safety protocols, and best practices.

Additionally, Liebherr conducts reviews and evaluations of sitespecific Standard Operating Procedures (SOPs) and Safe Work Instructions (SWIs) and provides customers with its findings and recommendations for improvement. These on-demand training courses can be tailored to meet the specific needs of all customers.

Please contact local Liebherr Service representative to know more about this Service offering.



