

**KOMATSU****Komatsu simulators**

# Enhanced Training with simulators

Immersive technology has proven to be highly effective in enhancing training across various industries, including heavy machinery operations. By incorporating realistic scenarios, interactive elements, and detailed feedback, our simulators provide an engaging and motivating learning experience.

Trainees benefit from increased retention, skill development, and the ability to transfer knowledge to real-world scenarios. Our simulators enable

trainees to refine their skills safely, resulting in improved efficiency, reduced downtime, and enhanced safety in heavy machinery operations.





## Why simulators?

- Engaging and motivating learning with realistic machinery operations.
- Customizable configurations and high-quality, durable systems.
- Risk-free skill refinement with reduced downtime and increased productivity.
- Cost-effective training with savings on machinery damage and CO<sup>2</sup> emissions.

# As close to reality as you can get

Our simulators offer a first-hand experience of what it's like to work in the forest. The KF500 is equipped with a comfortable driver's seat, a large screen and authentic levers, for a truly authentic operating experience. For a portable solution that's easy to transport, we offer the KF60, also with a true Komatsu feel.

## Authentic operator environment **Genuine Komatsu experience**

Komatsu simulators are meticulously designed with authentic Komatsu components, featuring all the essential operator controls. Faithfully replicating the controls of the actual machines, the simulator offers a remarkably realistic training experience that allows operators to become proficient in operating the equipment's key functions and controls. By undergoing training on a simulator, operators gain the confidence and comfort necessary to operate the real machines effectively and safely. Whether you are new to the industry or an experienced operator, the Komatsu simulators provide reliable and efficient training solutions that cater to a wide range of training scenarios.

- **Features genuine Komatsu controls for authenticity.**
- **Provides a remarkably realistic training experience.**
- **Helps operators gain confidence and comfort in operating real machines.**
- **Suitable for both new and experienced operators.**



## Elevate Your Training **MaxiXT**

The MaxiXT option takes simulator training to new heights by offering a comprehensive understanding of real machine operations. Experience accurate price lists and gain insights into the entire production process, from area preparation to final production reports. With the MaxiXT system, operators can adjust function speeds, mappings, and sequences using authentic control interfaces, ensuring a seamless transition from simulation to real-world operation. The integrated StanForD2010 support allows for the use of spi-, oin-, and pin-files, and the production of hpr-files, aligning with industry standards and delivering a realistic training experience.

- Provides insights into real machine operations.
- Authentic control interfaces for smooth transition from simulation to real-world operation.
- Integrated StanForD2010 support for realistic training aligned with industry standards.





## Real-time Collaboration **Group training**

Experience the power of multi-simulator functionality where two simulators can operate simultaneously in the same virtual environment. This allows a forwarder and a harvester to work together and present their combined results in comprehensive statistics. Collaborate with other operators to optimize performance and unlock the machine's full potential. Learn from each other's expertise and achieve greater efficiency through teamwork.

## Monitor performance effectively **Operator performance assessment**

The Komatsu Operator Performance System (OPS) provides operators with easy-to-understand metrics for performance assessment. Aim for gold, silver, or bronze level across a wide range of measurement points. Monitor your performance effectively, identify areas for improvement, and optimise your machine operation. With the OPS, you can make informed decisions to enhance your skills and abilities.



## Immersive Training **Virtual Reality module**

Unleash the full potential of the Komatsu Forest 500 by enabling the VR module. Step into the simulator and experience a new level of realism. With full 360-degree visuals, VR provides enhanced depth perception and an immersive view perspective, making you feel like you are actually in the forest. To further elevate the training experience, it's possible to combine the VR module with the MaxiXT option, offering a truly remarkable sense of reality.

## Extensive scenario reports **Supporting the instructor**

The simulator includes a web-based user management system that allows the instructor to have full control over the training path of all students. The simulator will provide an extensive report after each scenario where erroneous behavior is logged and key improvement areas are highlighted. The scenario reports are based on the Komatsu Edge format.

# Comprehensive operator training

The Komatsu simulator provides comprehensive training thanks to its advanced software. Experience a high fidelity simulation of the Komatsu 931 harvester, complete with S92 and C93 heads as well as multi-tree handling capabilities. Or try operating a Komatsu 855 forwarder with a 130F or 165F crane option.

## Harvester training

Immerse yourself in a realistic simulation of the Komatsu Forest Harvester 931, complete with S92 and C93 heads and multi-tree handling capabilities. The software features an emulated MaxiXplorer equipped with a bucking table and an automatic cutting feature.

Operators can also create an unlimited number of new exercises using the Forest Editor. With its realistic simulation capabilities and extensive training scenarios, the Komatsu simulators are an invaluable tool for harvester operators seeking to refine their skills and improve their efficiency.

The simulator comes equipped with a variety of standard training scenarios such as:

- **Basic Gripping**
- **Advanced Gripping**
- **Basic Felling**
- **Advanced Felling**
- **Clearcutting 20x60 Meter**
- **Complex Clearcutting**
- **Sparse Stand**
- **Natural Stand**
- **Natural Ribbons**
- **Thinning**





## Forwarder training

The software includes a high-fidelity simulation of the Komatsu Forest Forwarder 855 with 130F and 165F crane options.

Operators can seamlessly load a saved session from the Harvester software and efficiently load the felled timber using the Save & Load feature. The simulator provides a range of standard training scenarios designed to enhance forwarder skills.

These include:

- **Forwarding Introduction**
- **Stacking Boxes**
- **Sorting Logs**
- **Obstacle Course**
- **Championship**
- **Pine**
- **Eucalyptus**

These scenarios offer diverse challenges and real-world scenarios to train operators effectively. Furthermore, the Forest Editor allows operators to create any exercises imaginably, tailoring the training experience to specific needs and requirements. With their high-fidelity simulations and versatile training scenarios, the Komatsu simulators equip forwarder operators with the necessary skills and expertise to work efficiently and productively out in the field.



## Create, Customise and Adapt

With the completely redesigned Scenario editor, the simulator experience can be customised to precisely match geographical and local needs. Create realistic virtual landscapes by adding individual trees or entire stands, with complete control over diameter and height. To simulate logging operations, it's also possible to create striproads and mark trees for removal.

The Scenario creator can define the order, felling direction and the direction tolerance of trees to be felled. This means that the challenge level can be set to match the expertise of the operator, making it suitable for both beginners and experts. For each scenario the creator can set specific learning goals and track progress for continuous improvement.

- **Custom scenario creation for different geographical places**
- **Completely redesigned, user-friendly interface**
- **Endless possibilities for bespoke scenarios**
- **Adjustable levels suitable for both beginners and experts**
- **Set specific learning goals and track progress**

## Guide, Evaluate and Reward

In addition, event-triggered guidance can be set to give helpful messages and hints at crucial moments. This keeps the operators on track with their learning experience, while allowing instructors to assess progress with ease.

After the training session, the instructor can easily make a knowledge-based evaluation for specific tasks. Rewards are determined based on operator progress, providing valuable feedback to the operator and maintaining motivation to continue learning.

- **Event-triggered guidance for crucial moments**
- **Easy knowledge-based evaluation by instructors**
- **Operator progress-based rewards to maintain motivation**



# Komatsu Forest 500

The KF 500 is a highly configurable simulator system built to last with authentic and industrial-grade components. Whether you choose a wheel-based system with one screen or a motion-platform system with three screens, the KF 500 will accommodate all your operator training needs.

## The simulator consists of following parts:

- 1x55" 1080P NEC Display  
(or 3x in Triple screen configuration)
- Operator Controls
- USB Numpad
- 15" LED Display (MaxiXplorer)
- USB Wireless Keyboard and Mouse
- Simulator Base (wheeled or with MPF)
- Operator Chair

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## Standard package

- 500 Simulator Base on wheels
- 55" NEC Full HD Display
- 15" Display (MaxiXplorer)
- Harvester Software
- Forwarder Software
- Scenario Editor
- Operator Performance System
- KCC and/or EME levers with Komatsu Forest original seat
- Multiplayer (requires an additional simulator)
- All available languages
- Transport Case

## Options

- Tracked PC 200 Harvester application with Suregrip (or EME) levers and pedals
- Virtual Reality
- Maxi XT
- Upgrades & Support Agreements
- Motion Platform (MPF, no wheels)
- Triple-screen setup (3 x 55" NEC Full HD Display)

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## Multiple languages

The KF 500 simulator modules are currently available in 8 languages, ensuring that operators from around the world can benefit from their comprehensive training capabilities.

Additionally, we offer the flexibility to expand to additional languages upon request, ensuring that the module can cater to a wider range of operators and locations.

The currently supported languages are:

- English
- Finnish
- Polish
- Japanese
- German
- French
- Spanish
- Brazilian Portuguese

## Specifications

Height	1541 mm
Width	1356 mm
Depth	1399 mm
Weight	166 kg

## Motion platform

Max. Roll Angle	+23° (left/right)
Max. Pitch Angle	+15° (forward/backward)
Max. Roll Velocity	46°/s (115 VAC operation)
Max. Pitch Velocity	30°/s (115 VAC operation)

## Operator's unit with Motion Platform. Triple screen

Height	2063 mm
Length (with screen)	2140 mm
Width (with 3x screens)	2263 mm
Width (without screens)	800 mm
Weight	222 kg

The simulator needs a space of 3x3 meters for operation



# Komatsu Forest 60

The Komatsu Forest 60 offers users a rugged simulator system equipped with cutting-edge Komatsu Forest technology. This simulator is both portable and flexible, designed for easy use and transport.

## The simulator consists of following parts:

- One large monitor that shows the OPS as well as the regular simulation view (Required, the monitor is not included in the product)
- Maxi monitor. Shows the MaxiXT and emulated MaxiXplorer screens. (Monitor included in the product)
- The main computer
- An MaxiXT MBU unit (MaxiXT option)
- An MaxiXT control panel (Maxi XT option)
- A pair of Komatsu Comfort Control joysticks
- A pedal set
- An HTC Vive VR headset (Optional)
- A pair of VR base stations

## Standard package

- Harvester Software.
- Forwarder Software.
- Scenario Editor.
- Operator Performance System.
- Multiplayer (requires an additional simulator).
- All available languages.
- Height adjustable consoles to allow for an ergonomic working position.
- Multiple lever options – KCC levers as a standard with optional EME or Suregrip levers.
- The standard system is delivered with an emulated version of MaxiExplorer.
- The system comes in a rugged transport case for easy transport.

## Options

- Expandable with an authentic MaxiXT system as an option – usable with both the Harvester and the Forwarder.
- The MaxiXT system connects to the base unit via a single connector and is easy to add as an expansion at a later stage.
- The system is prepared for VR (option). No additional computers needed.
- Forestry excavator application (option).
- Forestry excavator pedal kit (option).

### Simulator and transport case dimensions

Simulator Height	163 mm
Simulator Width	340 mm
Simulator Depth	375 mm
Case Height	365 mm
Case Width	530 mm
Case Depth	750 mm

### KF 60 simulator weight

Simulator computer	11 kg
Joystick and Pedals	9,5 kg
Maxi Monitor	1,5 kg
Maxi XT MBU Unit & Control Panel (option)	11 kg
VR headset & Base Stations (option)	5,5 kg
Peripherals & Cables	4 kg
Transport Case (empty)	14 kg<
KF 60 System Total weight	57 kg'

\*Small variations in weight for the simulator computer may occur due to changes in the selected hardware.





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