



LUVMI•X



User Manual





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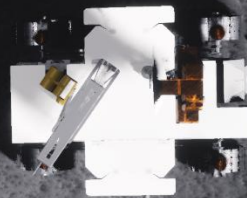
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2. Requirements

Minimum requirements:

- Processor: Intel® Core™ i5-4590 or AMD FX™ 8350, equivalent or better.
- Graphics: NVIDIA® GeForce® GTX 970 or AMD Radeon™ R9 290, equivalent or better.
- Memory: 4 GB RAM or more
- Operating system: Windows® 7, Windows® 8.1 or later, Windows® 10.
- Disk space : 1.25Gb
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Recommended requirements:

- Processor: Quad-core Intel or AMD, 2.5 GHz or faster
- Graphics: NVIDIA GeForce GTX 1060, AMD Radeon R9 480 equivalent or better.
- Memory: 8 GB RAM or more
- Operating system: Windows® 10 64-bit.
- Disk space : 2Gb

3. Installation guide

1. Decompress the game.
2. Double click on LUVMI-X.exe to launch the simulation.

A introductory cinematic will appear. Press "S" if you want to skip it.

4. How to play

The screenshot shows the game's control interface. On the left, a control panel lists various actions with corresponding keys or icons: 'W' for 'Move LUV MIX', 'A', 'S', and 'D' for 'Raise platform', 'Q' and 'E' for 'Locomotion mode', 'Z' for 'Camera views', 'Space' for 'Rotate Camera', a mouse icon for 'Drill', another mouse icon for 'LIBS spectrometer', and a third mouse icon for 'Move LIBS / Camera'. On the right, a list of actions is displayed with colored squares: 'X' for 'Free mode', 'H' for 'Help', 'F1' for 'Reset', 'F' for 'Dropable payload', 'R' for 'Propellable payload', and 'V' for 'Turn on/off light'. The background shows a lunar surface with a rover and a small structure.

- Press “H” to hide or show the simulation controls.
- Use the mouse to rotate the camera and press SPACE to change the selected view.
- You can move LUVMI-X using the “W-A-S-D” keys.
- Change the locomotion mode by pressing “Z”.
- If LUVMI-X is not moving, it is possible to:
 - Raise or lower the platform using “Q-E”.
 - Perform a drill activity in the soil with the right mouse button.
- Press the left mouse button to activate the LIBS spectrometer and use the arrow keys to move it.
- Press “V” to turn on or off the regular lights.
- Use “F” to drop a payload in the ground and press it again to retrieve it back to the rover. Similarly, press “R” to propel a payload in a crater or other difficult-to-access areas.
- Press “X” to explore the moon landscape and “F1” to reset the simulation.

The LUVMI-X
simulation is also
compatible with
Virtual Reality
Headsets*

***Optimized for HTCP Vive Pro**

5. Challenges

The landscape developed in LUVMI-X is made by a real height map from the Moon. The rover will be firstly deployed in the predicted landing ellipse. You can move LUVMI-X and follow the designed traverse for the future lunar mission. It will be displayed by interactive arrows when looking at the sky in the simulation.

LUVMI-X is designed to access into Permanently Shadowed Regions (PSR). Select the best locomotion mode between Ackerman steering, Crab steering or Point-Turning to move efficiently in the ground. Use the lights to discover the secrets of the lunar landscape.

Some payloads in LUVMI-X are devised to be deployed in the ground. Use the droppable payload to simulate a long-duration environmental monitoring. You can retrieve it back to the rover when desired. Additionally, a propellable payload can be projected into otherwise inaccessible areas like craters.

Use the different views to move the LIBS spectrometer, perform drill operations in the ground or check the status of the rover with the onboard cameras.

For more information: <https://www.h2020-luvmi-x.eu/>

Video: https://youtu.be/A_2YbkNn-bE