

Instruction Manual

3D R CKET

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1. START AND STRUCTURE OF THE VIEWER

1.1. Viewer versions



The viewer is available for different systems:

- Windows
- Mac
- Web (Web-GL)
- Android
- iOS

1.2. Download Viewer (Windows / Mac / iOS / Android / Web)



The Windows and Mac viewer is provided via a download link. Download speed varies depending on viewer size and internet connection.

No download is necessary for the web version.

For iOS and Android, the viewer is downloaded via the app store.

1.3. Extract Viewer from . zip (Windows / Mac)



The viewer is downloaded compressed as a .zip file and must be unzipped after successful download. To unzip the file, right-click on the file and select "Extract here" or "Unzip now".

1.4. Start Viewer (Windows / Mac / iOS / Android / Web Browser)



Windows / Mac: The folder structure created after unpacking contains the startup file with the 3D-Rocket icon.

- Windows: Start with a double click on the 3D-Rocket.exe file.
- Mac: Start by double-clicking the 3D-Rocket.app file.

Web browser: By opening the provided URL, the viewer starts automatically. Usually, a loading bar appears quickly after a black empty image, which you have to wait for.

iOS / Android: Tap to open the downloaded app as usual.

1.5. Select resolution and performance (Windows / Mac)



After the start a PopUp menu opens. In this menu you can make the following settings:

- Selected monitor
- Screen resolution
- Graphics quality
- Checkbox: Windowed

If you don't want fullscreen mode, please check the "Windowed" checkbox.

The size of the viewer and also the display quality significantly influence the runnability of the viewer. By selecting the screen resolution and the graphics quality, you can choose the optimal settings for your hardware. For more information, see "Hardware requirements".

1.6. Hardware requirements



For simple quality:

- Processor: Intel Core i3/Core i5/Core i7 or comparable processor
- Working memory (RAM): at least 4 gigabytes
- Graphics card: OnBoard graphics card (at least Intel HD Graphics)
- Monitor: 1280x1024 (32bit)
- Operating system: Windows Vista, Windows 7 incl. the latest service packs, Windows 8 and Windows 10, 32-bit or 64-bit operating system

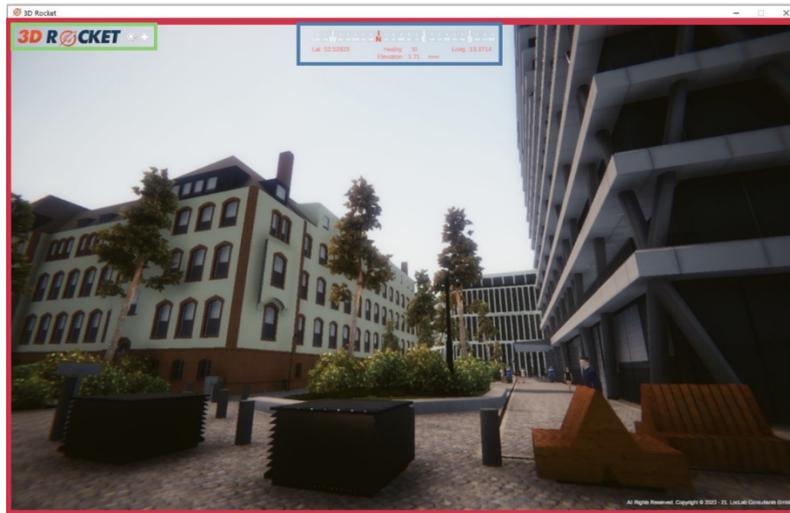
For good quality:

- Processor: Intel Core i5/Core i7 or comparable processor
- Working memory (RAM): at least 4 gigabytes
- Graphics card: OnBoard graphics card of the latest generation (e.g. Intel HD Graphics 4000 and up) or dedicated graphics card from Nvidia Geforce GT 610 and up.
- Monitor: 1600x900
- Operating system: Windows Vista, Windows 7 incl. the latest service packs, Windows 8 and Windows 10, 32-bit or 64-bit operating system

For maximum quality:

- Processor: Intel Core i5/Core i7 or comparable processor
- Working memory (RAM): at least 8 gigabytes
- Graphics card: Dedicated graphics card from Nvidia Geforce GTX 1080 and upwards
- Monitor: 1920x1080
- Operating system: Windows Vista, Windows 7 incl. the latest service packs, Windows 8 or Windows 10, 64-bit operating system

1.7. Viewer overview



Stage (Red Box):

The Stage shows the actual 3D model, i.e. the content. There are no buttons, checkboxes, etc. on purpose. The focus of the stage is on visual enjoyment, which should not be disturbed by anything.

In the Stage, the 3D model can be virtually walked on and influenced with the help of many tools. These tools are described in more detail in the "Tools" section.

Main menu (green box):

The main menu is located in the upper left corner. Clicking on the 3D-Rocket icon opens the menu. All settings and tools can be accessed via this menu.

Compass (Blue Box):

The compass is used for orientation and is located directly in the center of the upper window border.

1.8. Main menu



Clicking on the 3D-Rocket icon opens the main menu. The respective menu sub-items expand with another click.

The functions in the submenu items are explained below.

1.9. Settings



The Settings menu field can be used to individually change graphics settings. There are 4 presets from "Low" to "Ultra". Individual settings can be set individually. These settings are recommended for advanced users.

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2. CAMERA SETTINGS

You can move through the viewer with different camera settings.

2.1. Flying



With the "flying" camera setting, free movement in the scene is possible without gravity. You can move in any direction in the 3D Rocket viewer. But you can also stay on the spot and only turn your head. The keyboard provides the movement, the mouse changes the direction or the viewing angle.

To change the viewing angle, position the mouse pointer approximately in the center of the viewer, hold down the **right mouse button** and move the mouse. It is as if you are turning your head. You don't move, you stay in place, but you turn your head.

The keyboard is used to move in the scene. If you now want to move from the spot, please press the W key and hold it. As soon as you release the W key, you will automatically stop. With the S key you move backwards again.

Two controls are combined for a change of direction in the movement: The W, S, A and D keys provide movement forward, backward, right or left. The right mouse button pressed at the same time changes the movement in the viewing direction.

A tip: always position the mouse cursor at about the center of the image. If it moves off center, release the mouse button, return to the center, and restart.

Key assignments:

W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
E:	move upwards (like a helicopter)
Q:	move downwards (like a helicopter)
Shift key (hold):	move faster
Right mouse button:	Change direction of view and movement

2.2. Running



The Walking camera setting behaves the same as the Flying control from point 2.1. The difference is that in Walking, gravity is activated, and the camera behaves like a person and can only be moved on planes.

Key assignments:

W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
Space bar:	Jump
Shift key (hold):	move faster
Right mouse button:	Change direction of view and movement

2.3. Mouse



When the mouse camera is activated, direction and movement are controlled with the mouse. The keyboard is not required.

The mouse camera can be selected either by selecting "Mouse" in the →→Camera settings" menu bar or by pressing the middle mouse wheel. When the mouse camera is activated, a crosshair is visible in the center of the viewing window. To exit the mouse camera, press the middle mouse wheel again.

The viewing and movement direction is changed by simply moving the mouse without pressing a key. Pressing the right mouse button starts forward movement. Turning the mouse wheel forward or backward increases or decreases the speed of the mouse movement.

To increase the speed of this locomotion, you can additionally hold down the shift key on the keyboard.

Key assignments:

Mouse movement without buttons:	Change gaze and movement direction
Right mouse button:	Forward movement (keep right mouse button pressed)
Mouse wheel forward:	fast
Mouse wheel backwards:	slower
Shift key (hold):	even faster forward movement

2.4. Avatar



With the avatar control, a 3D person is moved. The person can be controlled with the "WASD keys" as with the other camera settings. The camera is always at a certain distance from the person. The distance can be changed with the mouse wheel. For the viewing angle, position the mouse pointer approximately in the center of the viewer, hold down the **right mouse button** and move the mouse. This changes the viewing direction to the desired direction. Using the space bar it is possible to make the person jump, for example to get to a higher level.

Key assignments:

W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
Mouse wheel:	change distance to person
Space bar:	Jump
Shift key (hold):	move faster
Right mouse button:	Change direction of view and movement

2.5. Drone



The drone camera suggests flying through the environment with a drone. As with the flying camera, the WASD keys are used for control. The I and K keys are used to make the drone climb up and down. The J to the left and L to the right keys are used to turn.

Key assignments:

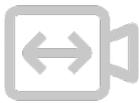
W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
I:	move upwards (like a helicopter)
K:	move downwards (like a helicopter)
J:	turn to the left
L:	turn to the right
Right mouse button:	Change direction of view and movement

2.6. Street View



In this camera setting, the left mouse button is used to navigate through the world. Clicking on the desired ground surface moves the camera to that point.

2.7. Overflight



The "flyover" camera setting "freezes" the current height above the ground and the camera's angle of view. So you can fly through the scene using the WASD- key assignment and the mouse movement and always be at the same height and look with the same angle to the ground. This camera setting is especially suitable for route projects.

Key assignments:

W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
Right mouse button:	Change direction of view and movement

2.8. Variable overflight



In the "Variable Overflight" camera setting, the height above the ground and the viewing angle are defined using six previously defined values. The further movement in the scene takes place analogously to the "Overflight" camera setting by the WASD key assignment -and the mouse movement.

This camera setting is also well suited for route projects. The predefined height and angle of view allow different users to take the same flyover position right away.

Key assignments:

W or "Up" arrow:	move forward
S or "Down" arrow:	move backwards
A or "To the left" arrow:	move to the left
D or "To the right" arrow:	move to the right
Right mouse button:	Change direction of view and movement

3. CONTENTVERSIONS

The viewer can contain and combine different content versions and variants. The version contents and designations can be defined individually by the client.

In addition to the versions, further content can be added with a check box, in a version or across versions.

3.1. Present



Shows the present model.

3.2. Construction phase



Shows the model in one or more construction phases, between existing and planned. In the construction phases, either only one or several construction stages are shown. Animations and simulations within construction phases are possible.

3.3. Planning



Shows a model created from planning data that represents a possible future state.

3.4. Switchable geometries



Project-specific integration of a library of basic geometric elements that can be freely positioned and edited in the viewer. This switchable geometry can either refer to only one version or be shown across versions.

4. TOOLS

An extensive collection of functionalities and tools are already available for the 3D Rocket Viewer. Customized tools can be developed and provided on request.

4.1. Weathering system



The weather system enables the simulation of realistic weather conditions. The following settings are available:

- A. Clear sky
- B. Cloudy 1
- C. Cloudy 2
- D. Cloudy 3
- E. Cloudy 4
- F. Rain
- G. Snowfall
- H. Gewitter
- I. Light rain
- J. Light snow
- K. Heavy rain
- L. Heavy snowfall

Please refer to the separate description for a detailed description of how to use the "Weathering system".

4.2. Annual system



The seasonal system is an extension of the weather system and allows the display of seasonal foliage on trees.

4.3. Daytime system



In addition to the weather system, there is also a time-of-day system. This is mainly used to simulate the time of day with realistic shadows. Besides the use of the system time, a virtual time as well as a virtual date can be set.

4.4. Distance and angle measurement



A distance measuring tool or a distance and angle measuring tool can be implemented to measure distances or angles.

The distance measuring tool can be used to measure the respective distance between two points in the model by clicking on them.

The angle measurement tool is used to first position a point on the surface and then another point diagonally in height to it. This tool provides information about the distance, depth, width and angle between these two points.

4.5. Mini map / overview map



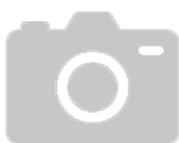
The mini-map shows an overview of the 3D scene and your own location as well as the viewing direction. The scale of the mini-map can be changed individually. A standard version of the Mini-Map is available, as well as a version with a connection to various map and aerial photo services, such as Google Maps, Arc GIS from Esri, MapQuest and Virtual Earth.

4.6. Jump position



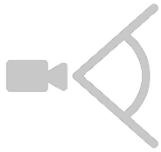
Jump positions are fixed camera positions with a predefined viewing direction. These jump positions are displayed either on a map or as a selection box in the viewer. Clicking on the respective jump position teleports the camera to the specific position.

4.7. Screenshot



The "Screenshot Tool" allows the automated storage of the current screen content as an image file in a predefined folder. By pressing the "p" key, this screenshot is automatically created via shortcut. All created screenshots can be displayed in a selection window in the player.

4.8. Focal length



By changing the slider, the focal length of the camera can be changed. The focal length defines the wide angle of the camera.

If necessary, you can also vary between a full view and a depth-of-field view.

4.9. GPS



With the "GPS" tool you can find out your position in the geographic coordinate system. The GPS information gives the latitude and longitude in the WGS84 coordinate system. In addition, you can also use this tool to find out the altitude from a certain point.

4.10. GPS Image Search



The "GPS Image Search" is an extension of the "GPS" tool. With the GPS tool you can retrieve the real GPS information according to WGS84 in the model. With the command "Search images" or "Image near" the images stored in the system are displayed at the position or near this GPS coordinate.

By entering the image number in the search field, you can search for an image stored in the system.

Clicking on the Google Maps icon opens the browser and the Google Maps page and displays a map showing the current GPS coordinates.

4.11. Comment



With the "Annotate" tool, comments or notes can be located in the scene, similar to a "Post-It" note. The system saves the point including the comment as well as the camera position when the point was set. In addition, a screenshot is stored in the system from this very position.

For a detailed description of how to use the "Comment" tool, please refer to the separate description.

4.12. Camerapath



The "Camera Path" tool can be used to create a camera flight in the viewer that can be flown repeatedly at different speeds.

For a detailed description of how to use the "Create camera path" tool, please refer to the separate description.

4.13. Dollie Shot



The "Dollie Shot" tool can be used to call up previously defined camera movements in the viewer.

4.14. On-screen navigation aid



The "On-Screen Navigation Help" displays a window that shows an overview of the most important keyboard commands. The user can choose whether the help can be shown every time the viewer is started.

4.15. Editor Mode



The "Editor Mode" offers the possibility to change the contents of the scene in the viewer. After activation, all objects are selectable. When you click on an object, a transformation symbol appears with three different axes. The objects can be moved via the individual axes.

In addition to moving, there is also the possibility to rotate, scale or delete the objects.



An object panel offers the user a selection of objects that can be placed in the scene. It is possible to load additional objects into the panel via the corresponding icon and a selection in the file browser. The object is then added to the panel and can be placed in the 3D- scene.

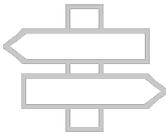
Modified 3D scenes can be saved under the Save item.

4.16. Switch collider on/off



This function allows you to activate or deactivate colliders. When the collider is active, walls, floors or objects are not passable, as in reality. By deactivating it is possible to fly through all objects.

4.17. Place name signs



Activates the display of place names or labels in the viewer.

4.18. Flood



By operating the slider, it is possible to regulate the height of the water level to simulate high water.

4.19. Transportation system



By activating the traffic system appear vehicles, trains or bicycles. This behave correctly to the given traffic rules.

4.20. Km-Tool



The "Km-Tool" can be used to jump to the specified kilometer along a route. The properties of the "Km-Tool" are adapted according to the project requirements.

Please refer to the separate description for a detailed description of how to use the "Km-Tool".

4.21. Trains



The "Trains" tool can be used to activate the running of one or variable trains on the track in the viewer.

Depending on the requirement, it is also possible to animate the trains according to the timetable.

4.22. eVIT / DPO (only for projects with DPO assignment)

With the help of the "eVIT / DPO" tool, it is possible to link the viewer with the digital planning folder. Through this link, further options are available:

- Show plot areas
- Switch between "perspective camera" and "bird's eye view"
- Sending the current position to eVIT

In addition, linked structures can be sent to eVIT by mouse click. This is represented by optical highlighting of the building and the indication of the building ID:

For a detailed description of how to use the "eVit / DPO" tool, please refer to the separate description.

4.23. Background noise



This tool allows you to turn the background sounds in the viewer on and off without having to change the general sound setting of the computer.

4.24. Isophone cards



By activating the "Isophone maps" tool, noise propagation analyses can be visualized in color.

4.25. Cadastral information



This tool can be used to show and hide information stored in the viewer, such as cadastral information. Personal data are not displayed.

4.26. Inspector



The inspector displays the structure of the 3D models.

- The inspector provides complete control over all objects.
- It contains a list of objects present in the scene.
- Objects in the scene can be activated or deactivated via the "Is active" check box.
- Each object detail is provided in the inspector tool.
- Full control over the position, rotation and scaling of the object is provided.
- Names of a parent object are inherited. If there is no parent object, "None (Transform)" is displayed and the user can make an assignment.

4.27. Languages



The viewer is available in German and English in the base. Clicking on the flag changes the language.

4.28. Viewer imprint



Display of the imprint by clicking.

5. EXIT VIEWER

5.1. Switch off



It is possible to exit the viewer via the icon on the left. Please note that this is done without confirmation and the viewer closes immediately after pressing the button. Please make sure that you save the elements to be saved beforehand.