

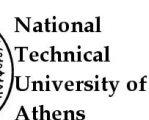
## TASK 02/A4

### PRODUCTION OF 3D ANIMATIONS FOR SAFETY TRAINING ENVIRONMENT



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## 1. INTRODUCTION AND LINK TO DOWNLOAD

Nowadays, the wide availability of information has led to a revolution in the way society selects the content it accesses. Numerous studies show that nowadays animated digital content is the most used option by users to access any kind of information. An example of this is the great impact generated by audio-visual content platforms and educational videogames.

One of the pillars on which the project is based is the creation of an interactive multimedia learning tool to be made available to all workers in the stone sector, with the main objective of generating safe working environments for the use and application of nanomaterials to stone products. The reason is because there is a wide lack of knowledge about the consequences of their use. The lack of information on the risks derived from the use of nanomaterials is mainly based on the fact that research and commercial development of these materials is going much faster than the study of the health and safety problems they generate.

Therefore, the necessity to develop this tool is focused on raise awareness and to put on the table the existing risk derived from the application and use of these nanocomposites, and to make available to the educational and professional community all the necessary training materials, as well as to take advantage of the different possibilities offered by new technologies as a means of diffusion and visualization of the multimedia materials that has been developed in the IO2 of NanoSafe project.

Taking advantage of this trend, NanoSafe consortium has produced a 3D Training Tool that has included 10 3D risk scenarios based on the application and safe use of nanomaterials in the stone sector that show the main risks derived from their use, as well as the preventive measures needed for their mitigation.

This 3D Training Tool is available for free on the project's platform in the project, which can be used as support material for the courses that will be developed for awareness and learning about safe environments in the stone industry for the application of nanomaterials. These 3D animations will be designed and produced on the basis of all the previous information developed in the project, to support the implementation of NanoSafe training courses and the OER.

The training tool can be downloaded here: <https://www.nanosafeproject.eu/nanosafe-products/>

## 2. NANOSAFE USER GUIDE.

This section contains the different observations necessary for the correct use of the tool developed in this project.

### 2.1. System components

The equipment necessary to be able to carry out tests and trials of the positions included in this tool is shown below.

1. A Virtual Reality device.
2. A computer to install the application.
3. A USB cable.

### 2.2. Before the first use

It is important to follow the following steps in order to install the application:

- A Virtual Reality device and, if required, a computer. Unity specifies the following features:

VR Device	Refresh Rate
Gear VR	60hz
Oculus Rift	90hz
Vive	90hz

#### Software

- **Windows:** Windows 7, 8, 8.1, y Windows 10 son todos compatibles.
- **Android:** Android OS Lollipop 5.1 o superior.
- **OS X:** OSX 10.9+ con Oculus 0.5.0.1 runtime. Sin embargo, Oculus ha pausado el desarrollo para OS X, entonces utilice Windows para una funcionalidad VR nativa en Unity.
- **Graphics card drivers:** Asegúrese de que sus drivers (controladores) estén actualizados. Cada dispositivo se mantiene al día con los drives más nuevos, por lo que los drivers más viejos podrían no estar soportados.

*Figure 1. Necessary performance of the equipment to be used.*

- Use the cable included with the Virtual Reality device to connect it to a computer.
- Check that the connection is correct.
- In the case of using Oculus, it will be necessary to provide permissions to unknown in order to continue.

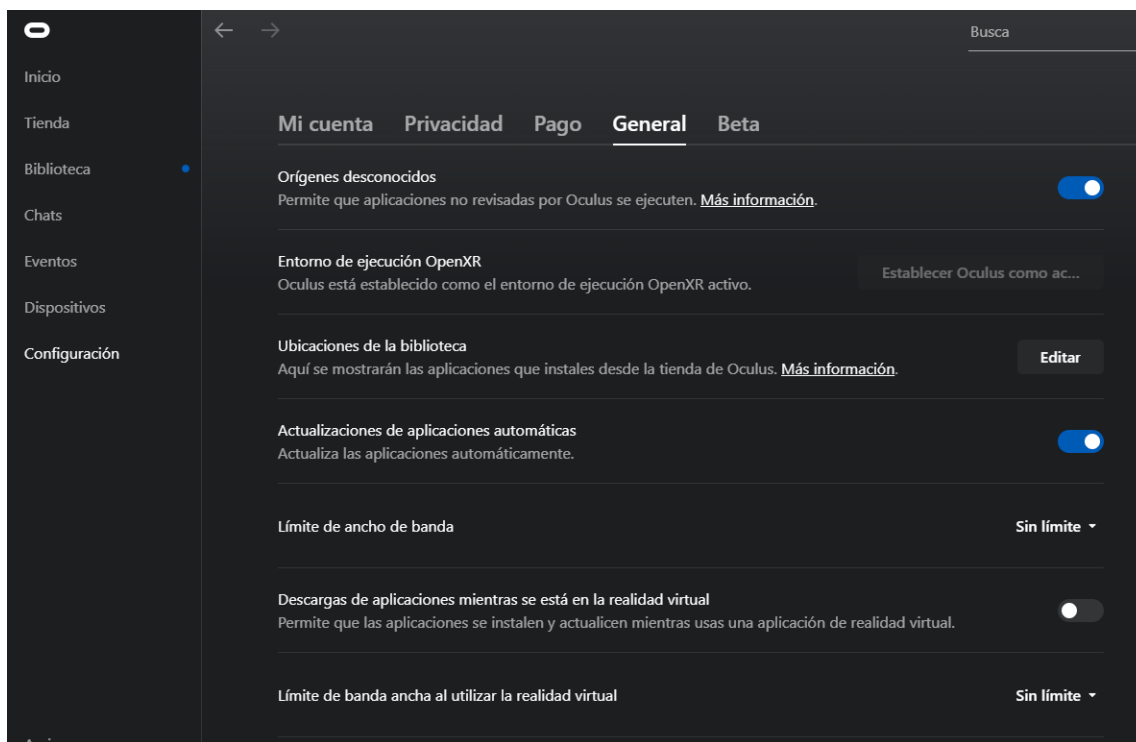


Figure 2. Provide permissions to Oculus.

- Once connected to the computer, in case of Oculus via oculus link.
- Download the standalone application provided on the NanoSafe website onto the computer.
- Once this is done, open the executable of the standalone application on the computer.
- The interaction can then begin.

### 2.3. Using NanoSafe

The NanoSafe user experience follows the structure outlined in the functionality development section. The steps that the user will follow when using the tool are as follows:

1. At the start of the experience, the user will be presented with the main menu.
2. First, the language is chosen.
3. Secondly, the user chooses the scene to be evaluated.
4. Next, you will enter the scene and you will have to read the welcome information and instructions that are displayed.
5. After this, you will move on to the first mission. Here you will have to choose your personal protective equipment.



6. If you pass this mission, you will move on to the next one. And so on until you reach the last mission.

After this, you will be given the option to return to the main menu to repeat each of the steps again with any of the scenes.