

## Application Note #12

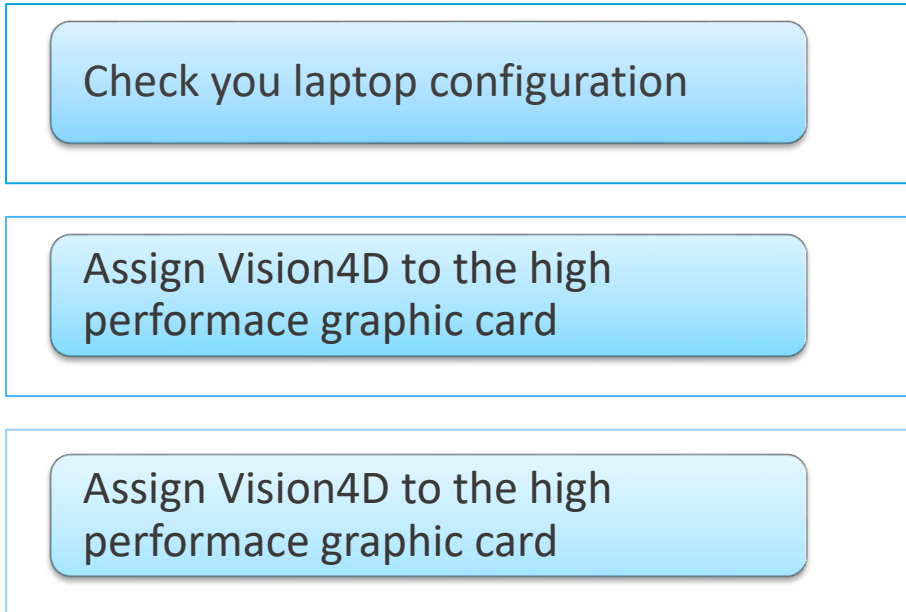
### How to : «Run V4D on a laptop»

The application-note purpose is to guide the user in configuring Vision4D to run on a laptop equipped with double graphic card. Medium or top level laptop usually have 2 graphic devices available, Vision4D requires to access at the high performance one.

The high performance graphic device is needed in order to support the 3D advanced graphic language (OpenGL) used during the volume rendering and visualization.

By default, the operating system assigns the basic graphic device to the application. This application note shows how to change the predefined OS setting.

## Application Flowchart



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1. Overview
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3. Assign Vision4D to the high performance graphic card (from the Nvidia control panel)
4. Assign Vision4D to the high performance graphic card (from the desktop icon)

### **NOTE:**

The Application Note is referred to a specific graphic card family (NVidia) but similar workflow can be applied to other graphic devices (ATI, and etcetera) installed on the laptops.

## 1. Overview

In order to handle the 3D volumes and segments visualization and rendering, Vision4D requires to access at the hardware resources of the graphic engine installed on the PC. While this is not a problem on the desktop workstation (correctly equipped with high performances GPU), the medium or top level laptops usually have a less clear configuration. Their configuration usually include a double graphic card, the built in one (E.G. Intel HD family), as well as an advanced graphic engine (E.G. NVIDIA, ATI RADEON, and etcetera). Vision4D cannot applies its 3D visualization tools if a basic graphic card is used. By default, the Laptops operating systems forces the applications to be executed using the basic graphic hardware, in order to save energy.

If the message «***Viewer initialization failed: OpenGL ILS extension is not supported***» is issued, it means that Vision4D has been launched using the basic graphic processor. Therefore, the 3D visualization features are not available. Please follow the instruction hereby reported to check first if the laptop has the required graphic resources and, if confirmed, to change the default settings.

**NOTE:**

Keep your high performances graphic driver update. Check frequently on the GPU producer web site if a new driver is available.

# 1. Check you laptop configuration

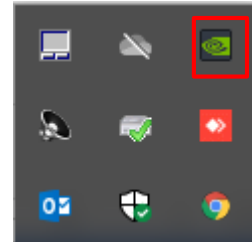
## Step 1.1

Click on **Show hidden icons..** Button on the task bar



## Step 1.2

Check if the Nvidia control panel icon is shown in the pop up menu.



### TIPS :

If the Nvidia control panel icon is not present in the pop up menu, use the searching field, located in the task bar, to search for the Nvidia control panel.

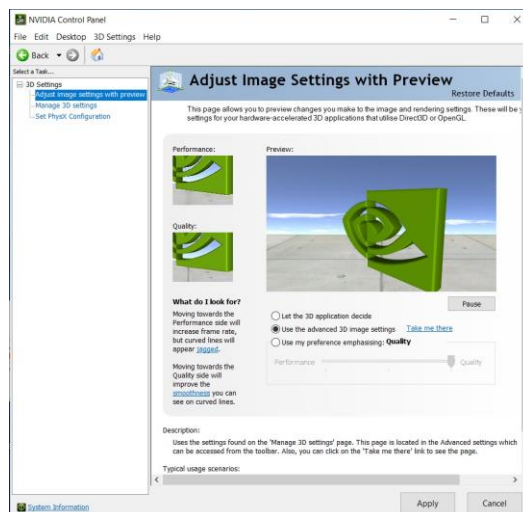
### DETAILS:

The presence of the Nvidia control panel clearly indicate that the laptop is equipped with a double graphic card. Therefore is possible to proceed in the Vision4D configuration

# 2. Assign Vision4D to the high performance graphic card (directly via Control panel)

## Step 2.1

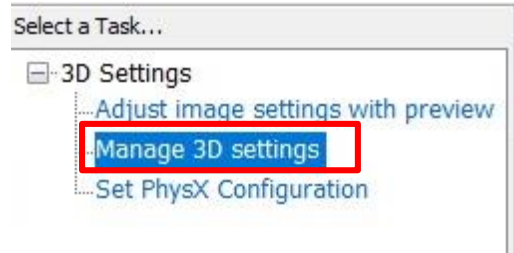
Open the Nvidia control panel.



## 2. Assign Vision4D to the high performance graphic card (continue)

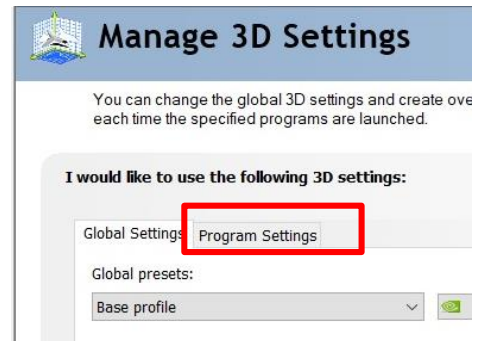
### Step 2.2

From the top left panel select the „*Manage 3D setting*“ task.



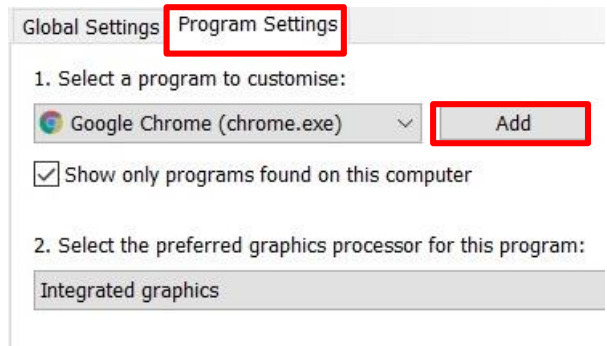
### Step 2.3

Click on the „*Program setting*“ tab.



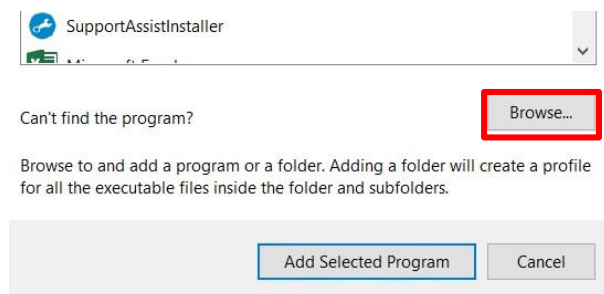
### Step 2.4

Click on the „*Add*“ button.



### Step 2.5

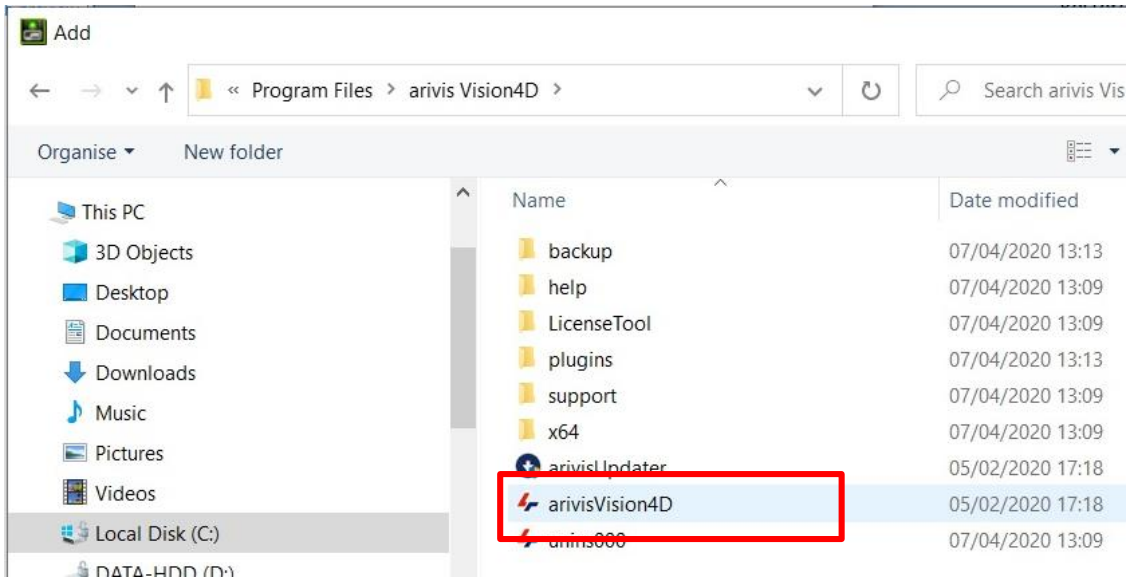
From the pop up dialog, use the „*Browse..*“ button to select the Vision4D executable file



## 2. Assign Vision4D to the high performance graphic card (continue)

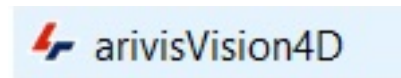
### NOTE:

The Vision4D executable file is located under the “*C:\Program Files\arivis vision4d*” folder.



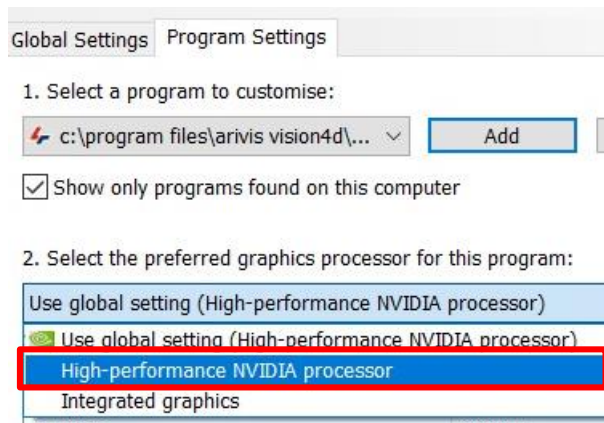
### Step 2.6

Select the „*arivisVision4D*“ exe file.



### Step 2.7

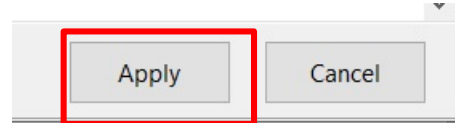
From the drop down list, select the „*High performance NVIDIA processor.*“



## 2. Assign Vision4D to the high performance graphic card (continue)

### Step 2.8

Press the „**Apply**“ button to confirm permanently the selection.



## 3. Assign Vision4D to the high performance graphic card (from the desktop icon)

### NOTE:

The assignment process can be started from Vision4D desktop icon.

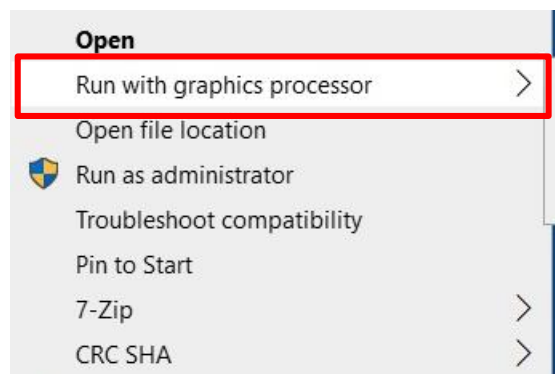
### Step 3.1

Mouse right click on the Vision4D desktop icon.



### Step 3.2

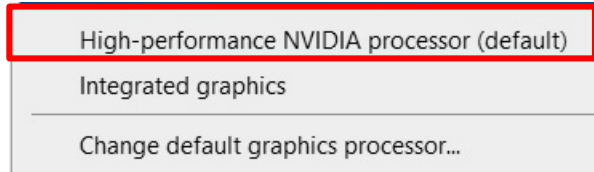
From the pop up menu, select the “**Run with graphic processor**” item



### 3. Assign Vision4D to the high performance graphic card (continue)

#### Step 3.3

Selecting the “*High-performance NVIDIA processor*” item, Vision4D will start using this option



#### NOTE:

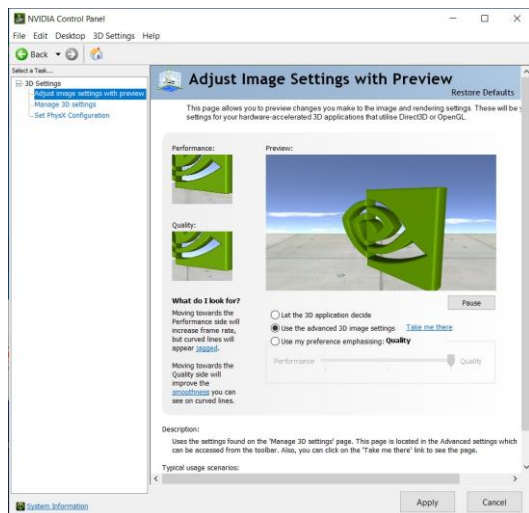
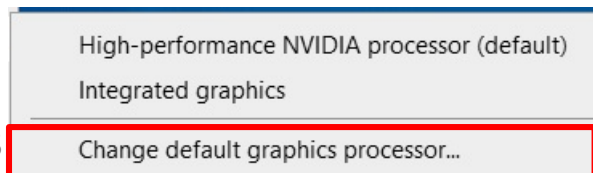
This approach is NOT permanent. It must be repeat any time Vision4D is launched.

To make the choice permanent, click on the «*Change default graphic processor...*»

The NVIDIA control panel is shown, please jump back to the chapter 2 and follow the related instruction.

#### Step 3.3 (alternative)

Go back to the chapter 2 for the related instructions







Contact the arivis application support to receive additional technical details about the topic described in the application note, or how to adapt the application workflow to your requirements.

*“The quantitative analysis of the images represents the art of transforming a visual sensation into its schematic and discrete form allowing its univocal description, classification and mathematical and logical interpretation of its spatial and temporal components”*

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