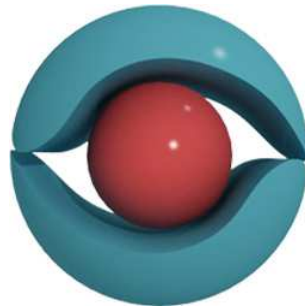


# AR-media™ Plugin & Exporter Professional Bundle

for Autodesk® 3dsMax®

## INSTALLATION & USER GUIDE

(May, 2010)



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## Contents

Introduction	1
Requirements	1
Hardware	1
Software	1
Software Versions	1
Trial Version	1
Registered Version	1
Installation	2
Configuration	2
Configuration Options	3
Usage	3
Printing the Marker	3
Using the Plugin and the Exporter	3
Plugin Interactions	5
Exporting Models	5
Visual Appearance	5
Animations	5
Licensing	6
Registering	6
Buying licenses	6
Downloading registered versions	7
Licenses management	7
License Type	10
Support	11
Licensing Service	11
General Help	11

## Introduction

AR-media™ technology allows you to bring your models from your favourite 3D modelling tools straight into Reality just in a click. Once installed and configured AR-media™ tools allow you to visualize any model in Augmented Reality and experience a totally new way to interact with your digital content and show it to your customers.

The *AR-media™ Plugin & Exporter Professional Bundle* for Autodesk® 3dsMax® allows you to enhance the world wide famous content creation software by Autodesk® with Augmented Reality capabilities, bringing the power of the AR-media™ platform on your desktop. The bundle comprises the AR-media™ Plugin and the AR-media™ Exporter: the former allows you to start your Augmented Reality experience inside the creative and design process, whereas the latter allows you to export your models and distribute them to your clients that will be able to experience your models in Augmented Reality even without 3dsMax® installed.

## Requirements

### Hardware

Minimum Hardware: 1 GHz Processor, 512 MB Ram, 100% Compliant OpenGL Video Card with 128 MB Ram, 50 MB of available Hard Disk space, USB 2.0 Webcam.

Recommended Hardware: 2 GHz Processor, 2 GB Ram, 100% Compliant OpenGL Video Card with 512 MB Ram, 50 MB of available Hard Disk space, USB 2.0 Webcam with 30FPS @ 640x480 resolution.

### Software

Required Software: Microsoft Windows® XP/Vista/7, Latest Video Drivers, Autodesk® 3dsMax® 2008, 2009, 2010 or 2011.

## Software Versions

Both “TRIAL” and “REGISTERED” versions are available to end users. Please refer to the licensing section to discover how to register your software.

### Trial Version

The trial version allows you to experiment Augmented Reality with Autodesk® 3dsMax® with a 30 seconds duration limit and with both AR-media™ and Inglobe Technologies logos always on the screen. Exporting models is not available in the trial version as well as the possibility to change visualization settings.

### Registered Version

The registered version doesn't have time limits and doesn't show AR-media™ and Inglobe Technologies logos on screen. Many visualization options are available as well as the possibility to export models for viewing outside of 3dsMax®. Moreover end users can customize their augmented experience displaying a personal message during plugin execution (the message could be your company name, project name, ...).

## Installation

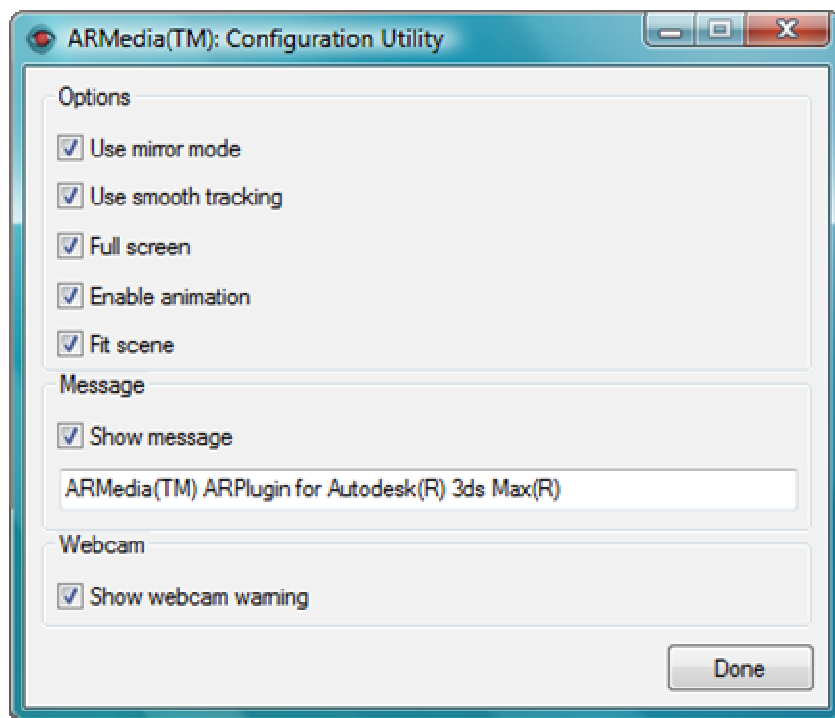
The installation<sup>1</sup> procedure requires full administrative rights, so be sure to have the required privileges before trying to install the software. The installation process will install the following components:

- AR-media™ Plugin for Autodesk® 3dsMax®
- AR-media™ Exporter for Autodesk® 3dsMax®
- AR-media™ Configuration Utility
- AR-media™ License Manager
- Help and Documentation files

To start the installation process execute the *AR-media™ Plugin & Exporter Professional Bundle* setup and follow on screen instructions from the installation wizard. At the end of the installation process the installer will search your system for any installed version of Autodesk® 3dsMax® and will configure itself for the latest version found<sup>2</sup>.

## Configuration

You can configure<sup>3</sup> the Plugin and Exporter using the *AR-media™ Configuration Utility* installed with the AR-media™ software. The Configuration Utility window is shown in the following figure:



In the configuration window you can choose many options each of which is described in the following section.

<sup>1</sup> Both 32 bit and 64 bit installers are available.

<sup>2</sup> “Design” versions have lower precedence over “not-Design” versions.

<sup>3</sup> Please note that you must have full administrative rights to configure the plugin.

## Configuration Options

Use mirror mode: if enabled, the video stream will be horizontally flipped like in front of a mirror (this mode is suitable for cameras mounted in a fixed position and facing the user); if disabled the video stream will be not flipped (this mode is suitable for head mounted displays and in those scenarios where the user can move the camera around).

Use smooth tracking: allows to configure the tracker for using either a smooth or precise technique; if smooth tracking is enabled then objects will follow the marker in a soft manner and with a little delay, if smooth tracking is disabled then objects will be glued to the marker.

Full screen: allows to choose to run Augmented Reality in full screen or windowed mode.

Enable animations: allows to choose if animations have to be exported for Augmented Reality or not.

Fit scene: use this option to automatically scale the scene so that it will always be visible with respect to the marker.

Show message: allows to choose to display a personal message during the Augmented Reality experience; you can set the personal message in the corresponding input box.

Show webcam warning: disable this option to avoid the warning that reminds the user to connect a webcam before starting the Augmented Reality experience.

When you click the *Done* button any change you've made will be stored. These settings will be used not only when viewing your models but also when exporting models for the Player. You can also temporarily change any option before running the Plugin or before exporting your models from the interface available within 3dsMax® (refer to the following section for details).

## Usage

### Printing the Marker

The very first step to experience Augmented Reality with AR-media™ tools is to print the provided marker and possibly fix it on a rigid, flat surface. You can print the marker from the Plugin and Exporter program group by opening the “Markers” sub-group where the file “Marker.pdf” is available for printing. During execution point your webcam towards the printed marker to visualize your 3D content on it; be sure to have a well lit environment without reflections and highlights on the marker surface in order to have the best possible experience.

### Using the Plugin and the Exporter

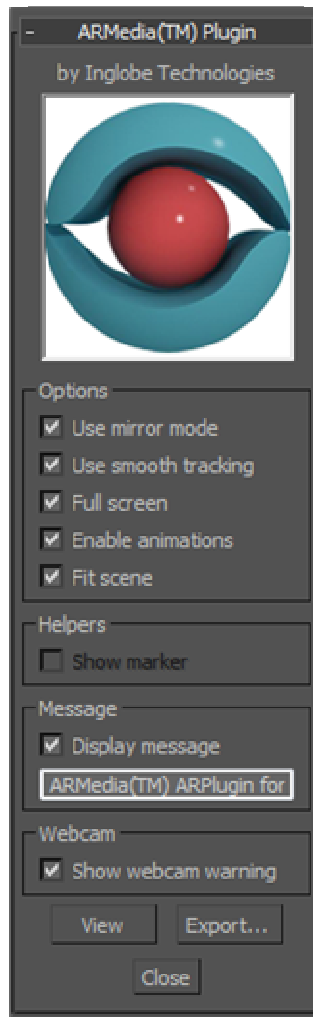
When *AR-media™ Plugin & Exporter Professional Bundle* is installed and configured, 3dsMax® interface will be enhanced with a new Utility rollout. In order to open the Plugin and Exporter utility rollout follow these steps:

1. click the 3dsMax® Utility panel
2. click the MAXScript button
3. select the “ARMedia™ Plugin” entry in the Utilities list<sup>4</sup> in order to open the Plugin and Exporter rollout (you may have to scroll down the MAXScript rollout to completely see the Plugin and Exporter interface)

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<sup>4</sup> If the “ARMedia™ Plugin” entry is not displayed in the Utilities list then a problem it's likely to have occurred during the installation process; please uninstall the AR-media™ Plugin & Exporter Professional Bundle and repeat the installation and if the problem persists contact the support team.

The Plugin and Exporter rollout is shown in the following figure:



*AR-media™ Plugin & Exporter Rollout.*

In addition to the options available within the Configuration Utility, there is a “*Show marker*” option that is available only when “*Fit scene*” option is not selected. When you select “*Show marker*” a reference marker will be shown in the scene, you can use it as a reference to place and scale objects before actually viewing or exporting them for Augmented Reality (the marker won’t be displayed or exported). Modifying options in the Plugin and Exporter rollout will change values only for the current session, when you start another session values will be resetted to reflect those stored within the Configuration Utility.

At the bottom of the rollout there are the main action buttons:

View: clicking this button will start the Augmented Reality experience, every visible object will be displayed in Augmented Reality;

Export: clicking this button will start the export process, a dialog box asking where to save your models will be displayed and then the process will start.

## Plugin Interactions

During plugin execution you can perform some simple interactions by using the following keys:

- “w” key will toggle wire-frame mode “ON” and “OFF”
- “f” key will toggle full-screen mode “ON” and “OFF”
- “p” key will pause/start animations
- “r” key will rewind animations
- “e” will decrease animations speed
- “t” will increase animations speed
- “a” will make your model more stable
- “A” will make your model more responsive
- “s” will make your model smaller
- “S” will make your model bigger
- “+” will increase the lighting threshold
- “-” will decrease the lighting threshold
- ESC will terminate the execution and take you back to 3dsMax®

Modifying the lighting threshold will allow you to recognize the marker even in bad lighting conditions (too dark or too lit environments).

## Exporting Models

When you export your models the plugin will create a file with the name you provide and the .armedia extension. The .armedia file format is the format used within AR-media™ tools and technologies. In order to experience .armedia files in Augmented Reality users have to download and install the free AR-media™ Player available on the Inglobe Technologies website. Once the Player is installed, users simply have to double-click the .armedia file to start their experience. Although the Exporter refers to specific content creation software (such as Autodesk® 3dsMax®), exported files do not require any other software but the free AR-media™ Player to be displayed.

## Visual Appearance

When viewing or exporting models in Augmented Reality, you have to pay attention to materials and shaders created with the 3dsMax® material editor in order to get the desired visual result. In particular, among the materials types available in 3dsMax® the Plugin and Exporter directly support the Standard and Multi/Sub-Object materials types. This means that if you use other materials types you have to use the Render To Texture command available in 3dsMax® in order to bake some effects. When using Render To Texture, the Plugin and Exporter will automatically use the baked material instead of the original one. Of course you can also use Render To Texture with Standard materials if you want to fake illumination or simulate other effects, please refer to the 3dsMax® help for details about using Render To Texture. Within the Standard material type, the Plugin and Exporter will directly support Ambient, Diffuse and Specular terms, Specular Highlights, Self-Illumination settings, and Opacity values. Moreover, within the Standard material Maps rollout, supported maps<sup>5</sup> are: Diffuse Color, Self-Illumination, Opacity and Reflection.

## Animations

Animations are supported with some limitations<sup>6</sup>. Basic animations types are currently supported and even more complicated ones although, for example, skinning and morphing animations are not.

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<sup>5</sup> Bump maps are going to be supported.

<sup>6</sup> More animations types are going to be supported.

## Licensing

In order to use the full capabilities of the *AR-media™ Plugin & Exporter Professional Bundle* you need to:

- 1) register yourself
- 2) buy one or more licenses
- 3) download the registered version of the plugin
- 4) follow the activation procedure

Each step will be now described in more detail.

## Registering

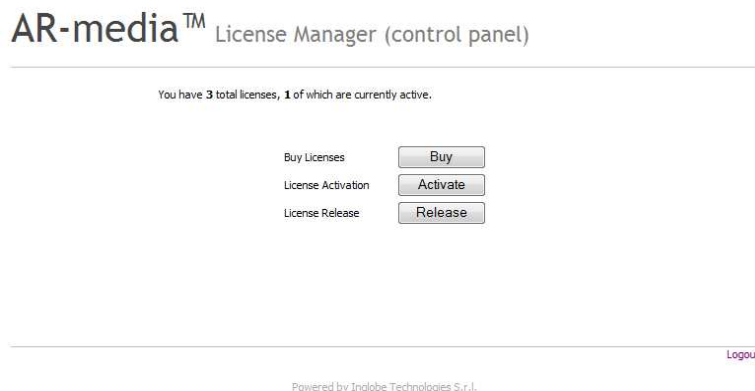
You can register yourself by pointing your browser at the following URL:

[http://www.inglobetechnologies.com/en/products/arplugin\\_max/info.php](http://www.inglobetechnologies.com/en/products/arplugin_max/info.php)

After successful registration you'll be automatically redirected to the “*Online License Manager*” web application's control panel which allows you to:

1. buy new licenses
2. activate a license
3. release a license
4. download the last registered version of the plugin

The *Online License Manager*'s control panel also summarizes the number of purchased licenses as well as the number of currently active licenses. License activation and management will be described later.



*Online License Manager's control panel.*

You can always access the control panel by using the previous URL and your registration credentials.

## Buying licenses

To buy a new license, you need to click on the “*Buy*” button from the *Online License Manager*'s control panel, this will bring you to the purchase's page where you can click on the PayPal™ button

to start a standard PayPal™ procedure. Please note that if you need more than one license, you can set the desired quantity during the PayPal™ checkout procedure. If you prefer to agree on other payment methods you can contact the licensing service (see later for contacts details).

## Downloading registered versions

After buying a license you'll be able to download the registered version. In order to do so, you must:

- 1) remove the “trial” version
- 2) download the “registered” version from the link that will be displayed in bottom of *Online License Manager's* control panel.

Before installing the latest available version, be sure to remove any previously installed version (both trial and registered)<sup>7</sup>. You can always refer to the download section for the latest registered version available.

## Licenses management<sup>8</sup>

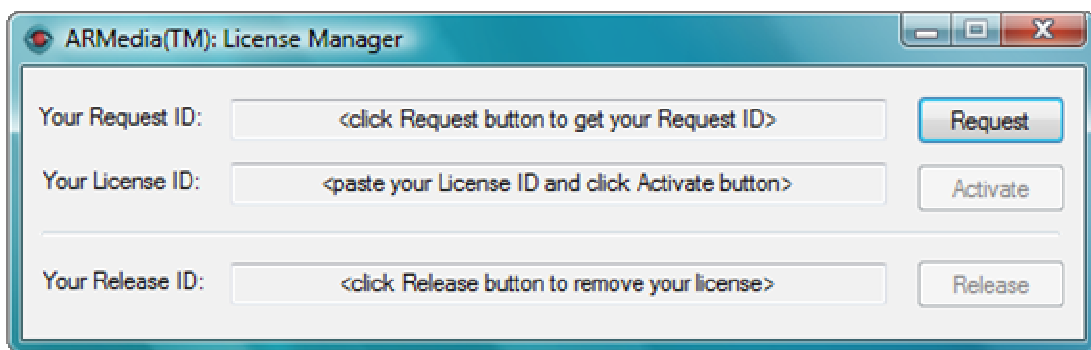
Licensing for the *AR-media™ Plugin & Exporter Professional Bundle* is based on the following actions:

- 1) license activation
- 2) license release

License management actions require you to use both the *Online License Manager's* control panel and the local *AR-media™ License Manager* that is installed with the plugin and that can be found in the Plugin and Exporter program group. Please refer to the following section for instructions on how to activate and release a license.

License Activation: allows you to unlock your registered version. Unless you activate your plugin, it will still run as the trial version. In order to activate your plugin, follow these steps:

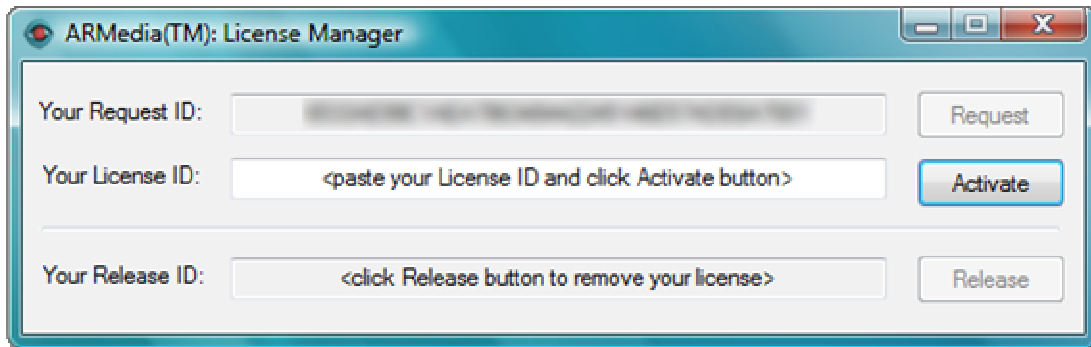
- 1) On the machine you need a license for, run the local License Manager that was installed with the plugin:



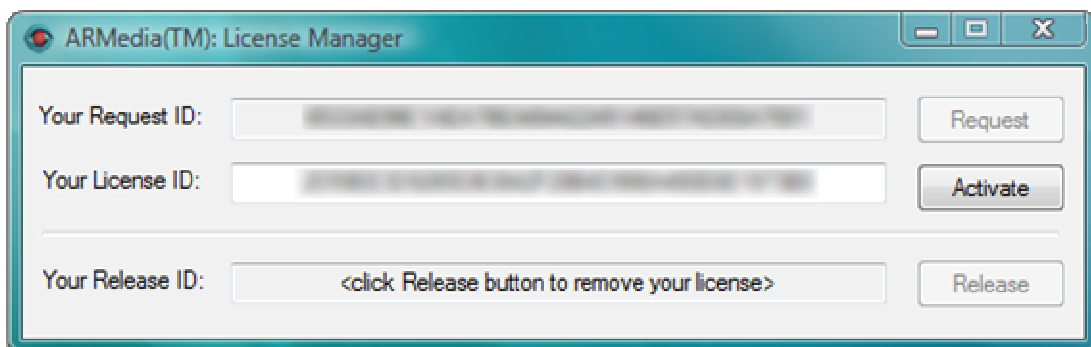
- 2) Click the **Request** button in order to get a *Request ID*, the interface will change as follow:

<sup>7</sup> If you're removing an installation that has been already activated with a license, make sure to release the corresponding license before actually removing it. Refer to the licensing section for details.

<sup>8</sup> In order to buy, activate or release a license you must have an Internet connection available.

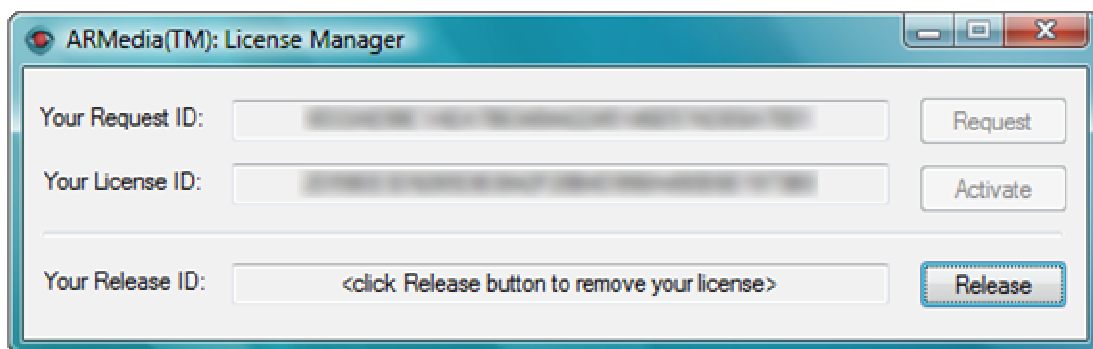


- 3) copy the *Request ID* somewhere
- 4) Login to the *Online License Manager* using the credentials provided upon registration
  - a. click the **Activate** button
  - b. paste the *Request ID* and click on **Continue** (the web application will generate your *License ID*)
  - c. copy the *License ID* somewhere
- 5) Go back to the local License Manager and paste the *License ID* in the corresponding area:



- 6) Click the **Activate** button
- 7) the utility will prompt you a confirmation message depending if you entered a valid license or not.

If the licensing procedure completes successfully, the local License Manager will look like the following figure:



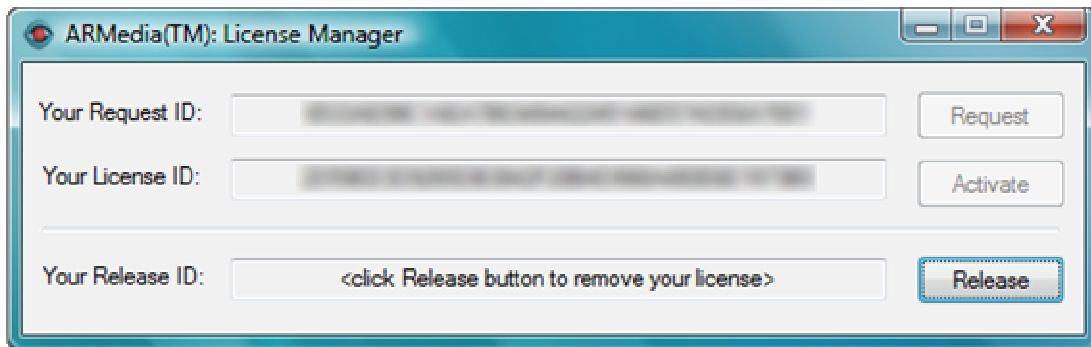
Please note that if you paste an invalid *Request ID* into the *Online License Manager*, and if the web application's engine is not able to understand that it is not valid, you could waste your license and get an invalid *License ID*.

**License Release:** allows you to remove your previously activated license so that you can re-use it. Only correctly activated licenses can be released. Typically you'll need to release your license in the following scenarios:

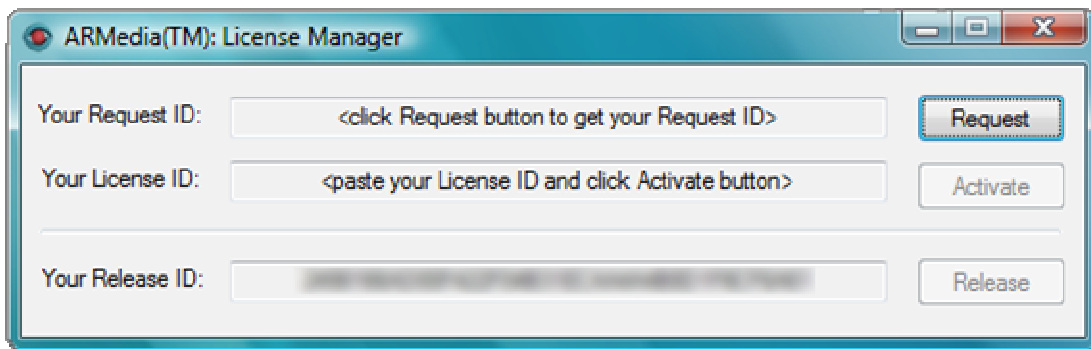
- a) when you need to uninstall or re-install the plugin or the operating system
- b) when you need to move your license from a computer to another

License release is achieved by following these steps:

- 1) execute the local License Manager:



- 2) click the **Release** button, a confirmation message will pop up
- 3) confirm that you want to release the currently active license by clicking on **Continue**<sup>9</sup>
- 4) the application will generate the *Release ID*, copy it somewhere:



- 5) login into the *Online License Manager* using the credentials provided upon registration
  - a. click the “*Release*” button
  - b. paste the *Release ID* in the input box and click the “*Continue*” button
  - c. if the key is correct the web application will make your license available again for another installation and will prompt you with a confirmation message

The *Online License Manager*'s control panel will be updated with the information regarding your current active licenses. Once your license has been released, the plugin will run in trial mode again, and you can use your license with another computer or for a new installation by repeating the License Activation procedure described earlier.

**WARNING:** *be sure to store your Release IDs for future uses.*

<sup>9</sup> At this point your plugin will run in trial mode even though you won't follow the other steps.

## License Type

Each license is valid for one seat only: you may install and use the full version of the plugin only on a single machine. In order to use the plugin on other machines you must purchase another license or transfer the license from a machine to another. Please refer to previous sections in order to understand licenses management tasks.

## Support

### Licensing Service

The user can refer to the Inglobe Technologies licensing service through the email address: [licensing@inglobetechnologies.com](mailto:licensing@inglobetechnologies.com). Please feel free to write for any licensing related questions.

### General Help

For any problem or question you can write to: [help@inglobetechnologies.com](mailto:help@inglobetechnologies.com).