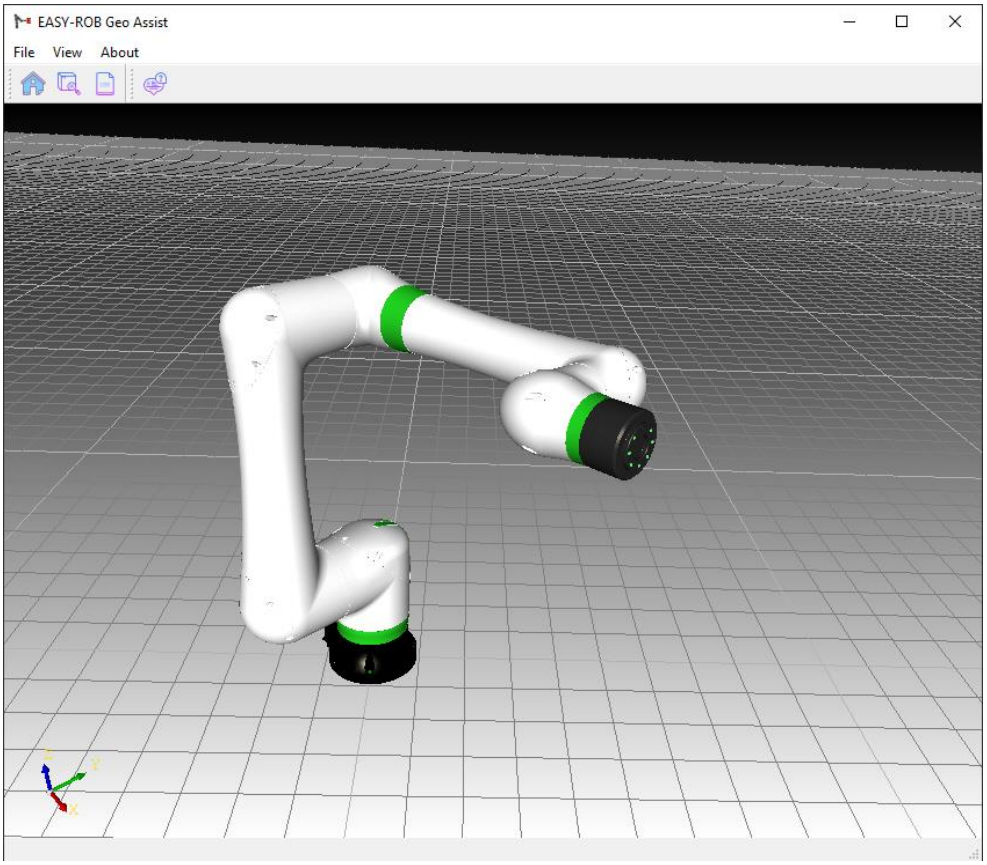
EASY-ROB™ Geo Assist



January 2021

Version 1.1

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

EASY-ROB™ Geo Assist

Table of Contents

List of figures

List of tables

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

Introduction

EASY-ROB™ Geo Assist is a tool to import the neutral 3D data format STEP and to convert it to the triangulated format IGP and STL.

Import:

- STEP

Export:

- IGP Format, native 3D Format in EASY-ROB™
- STL (ASCII, binär, binär with colors), neutral format

Operating instructions

File	-> import		Import Step File
	-> export		Export igp-, stl-File
	-> exit		Exit EASY-ROB Geo Assist
View	-> Reset		Reset to orthographic view
	-> FitAll		Zoom complete 3D scenario
	-> Log		Message Window
	-> Orthographic		Set to orthographic view
	-> Perspective		Perspective view
Middle Mouse Button	MMB		Cruise- and Zoom Mode
Right Mouse Button	RMB		Pan Mode

Table 1: Overview of controls

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

1. User Interface

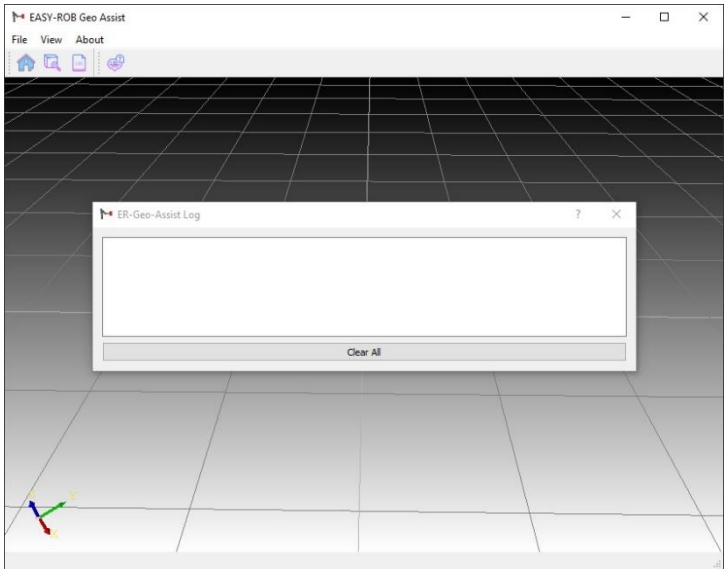


Figure 1: ER-Geo-Assist GUI

When starting the application *„ER-Geo-Assist.exe“* the user panel with the Log Window is displayed.

2. Import

Load a step file into the 3D Scene

Folder: .. \ER-Geo-Assist\Step-Files\...

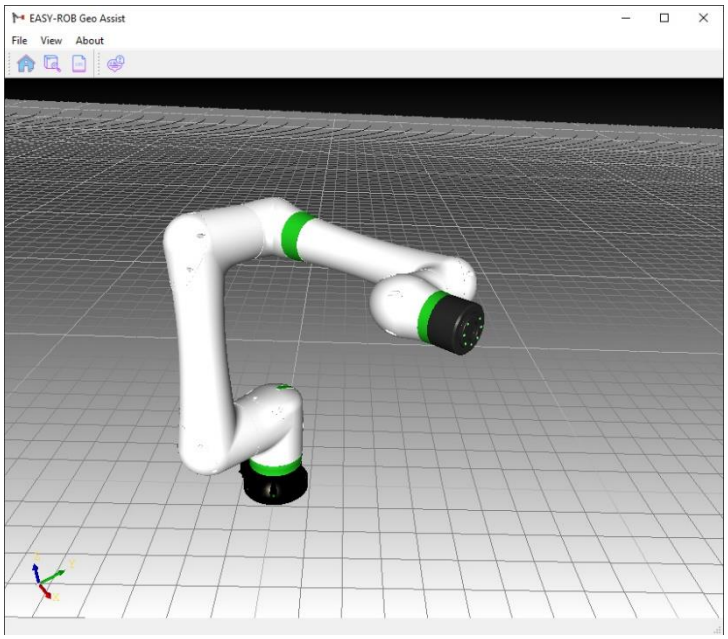


Figure 2: Import Step-File “3D_CRX-10iA_v01.stp”

Figure 2 shows a Fanuc-Robot CRX-10iA. (https://www.fanuc.eu)

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

3. Export Window

On the left side the „Step file structure“ (Assembly) of the loaded step file is displayed, showing all available components. By selecting and deselecting it, you can determine which components are to be exported.

- „Export IGP“ exports selected components into the IGP Format (binary)
- „Export STL“ exports selected components into the STL Format (binary)

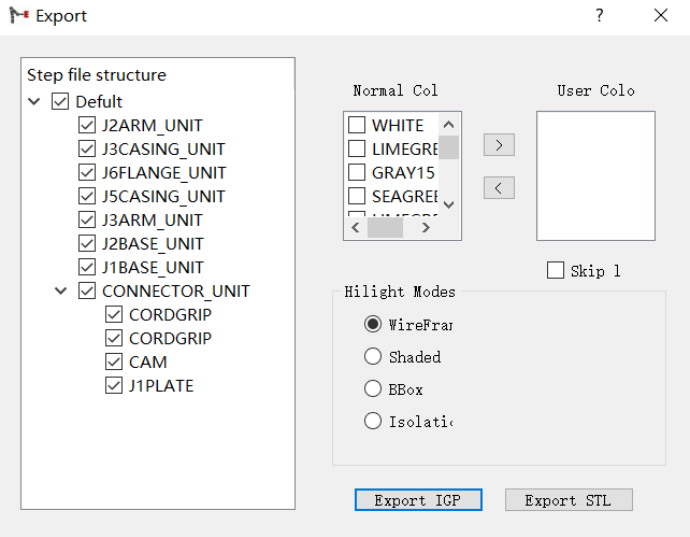


Figure 3: ER-Geo-Assist Export „3D_CRX-10iA_v01.igp“

Figure 3 shows the Export-Dialog for the step file „3D_CRX-10iA_v01.stp“ an.

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

4. User Color

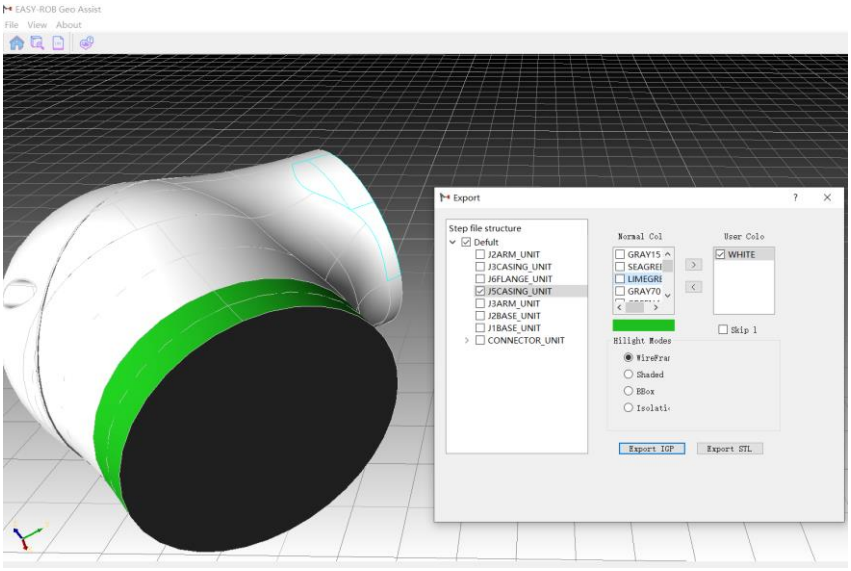


Figure 4: ER-Geo-Assist Export “3D_CRX-10iA_v01-J5CASING_UNIT.igp”

The component „J5CASING_UNIT“ is selected here as an example. The other deselected components are automatically hidden in the working environment.

In EASY-ROB ™ the color of individual objects of a geometry can be changed user-defined. This color is known as the "*User Color*". The desired colors of the geometry can be determined as *User Color* in ER-Geo-Assist. The user color is assigned later in EASY-ROB ™ in the 3D CAD window or dynamically from the simulation run.

For this purpose, EASY-ROB ™ Geo Assist offers the possibility to simplify the setting for *User Color*. You should first predefine the required color arrays as *User Color* and then export the geometry as an IGP file. The predefined arrays are set to the user color during export.

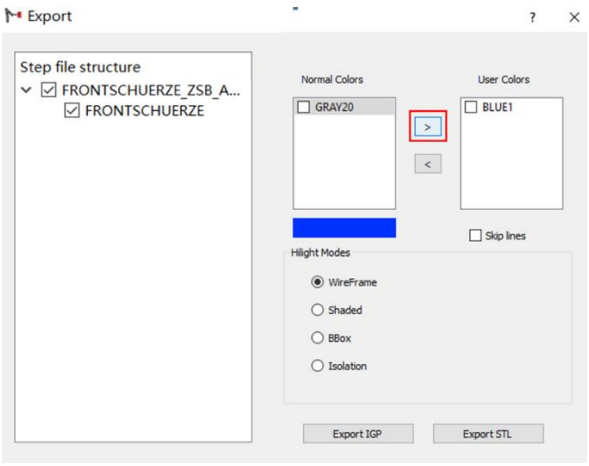


Figure 5: ER-Geo-Assist Export bumper-user-color

The following figure 5 shows an example of the setting for the step file "bumper.stp". The color blue was defined as the *user color*. The color GRAY20 is retained and cannot be changed.

You should first select the desired color from the list of *Normal Colors*. Then they can be moved into the *User Colors* list using the right arrow.

The “Skip lines” checkbox filters existing lines / edges when exporting to the IGP format.

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

5. Highlight Modes

Assemblies usually contain a large number of components, so that a selected component is often difficult to identify.

Highlight Modes specifies how the selected components should be rendered.
The display only takes place if the geometry is then marked again from the component list.

- *WireFrame* -> a wire model is drawn around the selected geometry.
- *Shaded* -> the colors are shown transparently by the selected geometry.
- *BBox* -> the selected geometry is drawn as a cube.
- *Isolation* -> only the selected geometry is drawn, all others are not visible.

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

6. Log Window

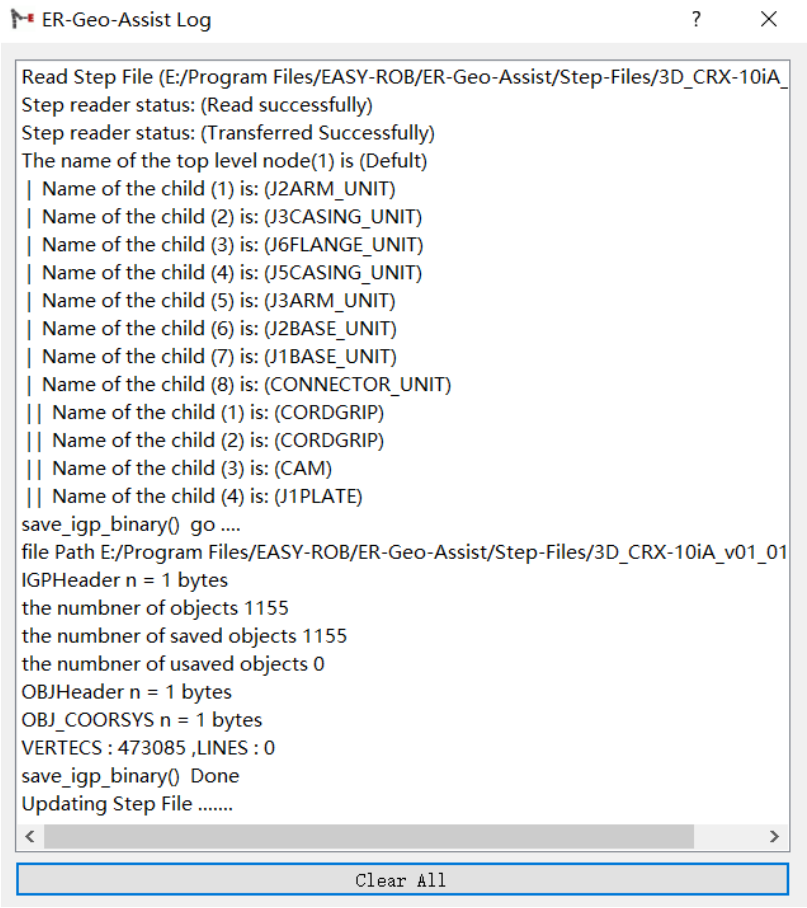


Figure 6: ER-Geo-Assist Log Window Import-Step- 3D_CRX-10IA_V01 –Log

The Log-Window updates all program steps and shows any errors.

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com

7. EASY-ROB™ Viewer

In folder „.\ER-Viewer\“ you can start the EASY-ROB™ Viewer „Easyrobwx64.exe“.

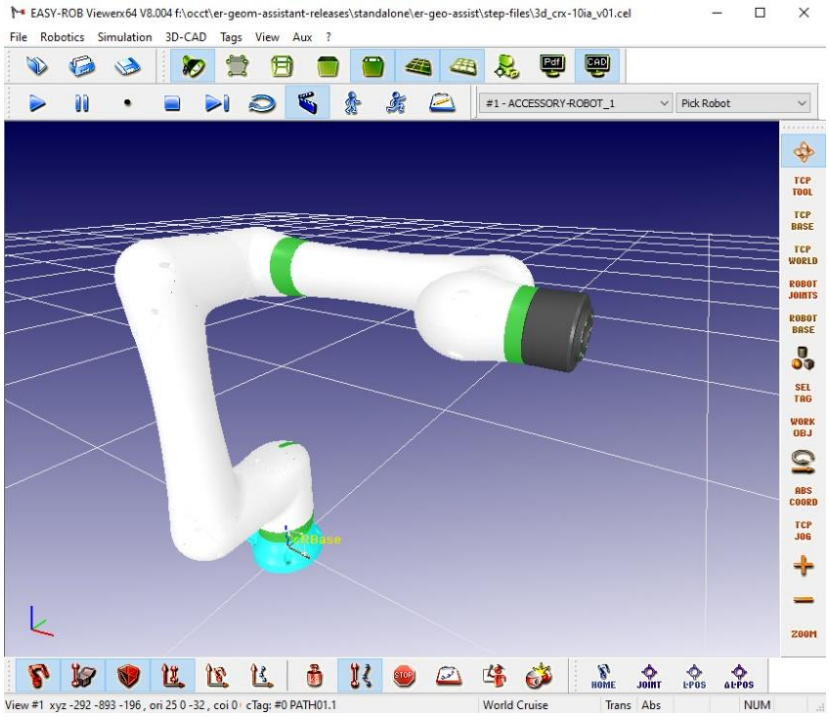


Figure 7: EASY-ROB™ Viewer

The exported IGP or STL files can be loaded and checked here.

EASY-ROB Software GmbH Hauptstr.42 65719 Hofheim am Taunus Germany Tel. +49 6192 921 70-77 Fax. +49 6192 921 70-66 info.er@easy-rob.com www.easy-rob.com