

What's New RobotStudio

5.60

Revision: -

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1 What's New in 5.60

Overview

This section contains information on the new features of RobotStudio 5.60

1.1 New graphics engine based on DirectX11

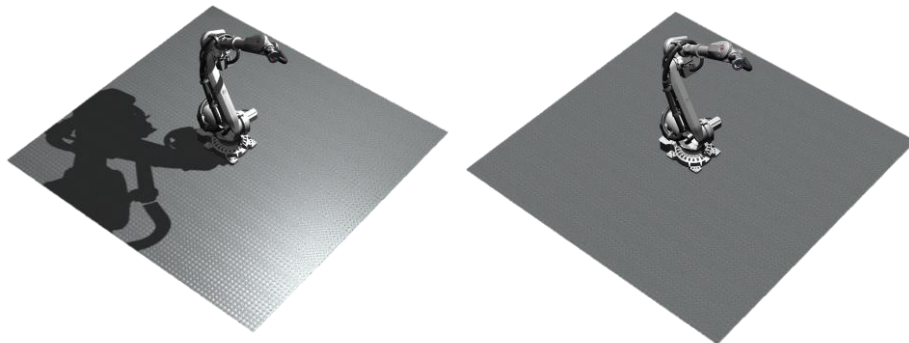
Overview

The DirectX 11 based 3D graphics engine in RobotStudio enables the user to customize the light setup by adding and tuning the light sources available: ambient light, infinite light, spotlight and point light. The shadows cast by the objects in combination with the built-in material library gives a realistic touch to the visualization of your result.



Advanced lightning mode

Shadows and lights are enabled in the *Advanced lightning* mode. The mode is optimized for visual appearance. The mode enables the various light sources to be configured and saved as presets. You can add materials (textures) to your parts to make them look more realistic. The built-in material library provides a basic set of material, e.g. brushed metal, copper, concrete etc. The library can be extended with your own customized materials. The advanced lightning mode is typically used when creating movies and Station Viewers for visualization of your result.

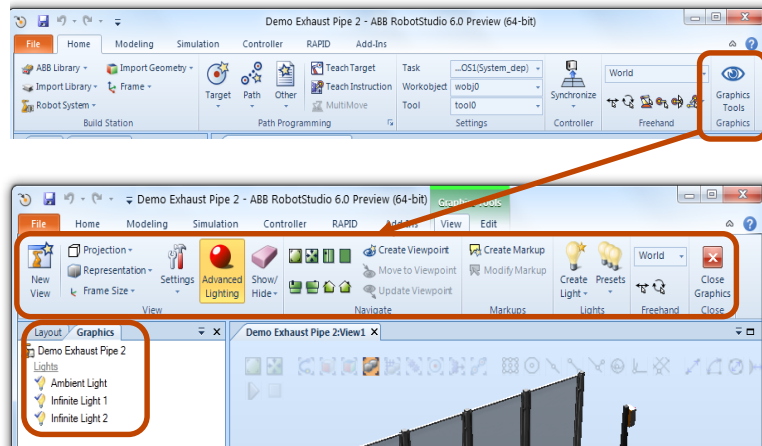


When working with layout and programming the Advanced lightning mode can be disabled. Then the 3D view is optimized for performance and visibility.

In the RobotStudio options, you can select if the Advanced lightning mode shall be the default.

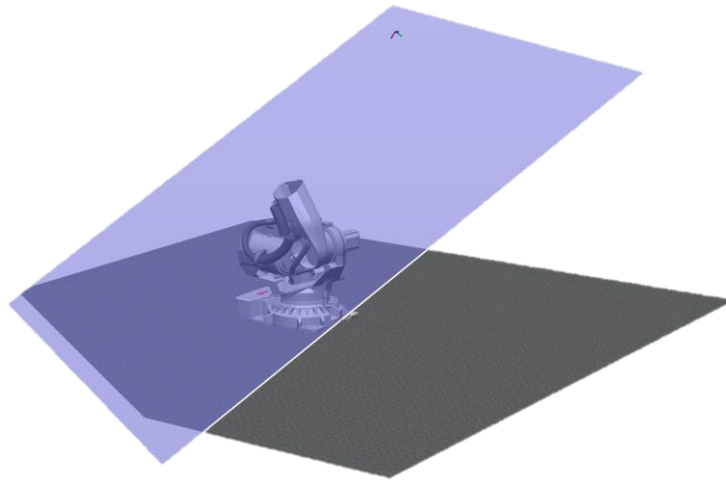
Graphics tools

The graphics functions have been collected in the the Graphics Tools tab that is opened by pressing the button with the same name of the Home tab.



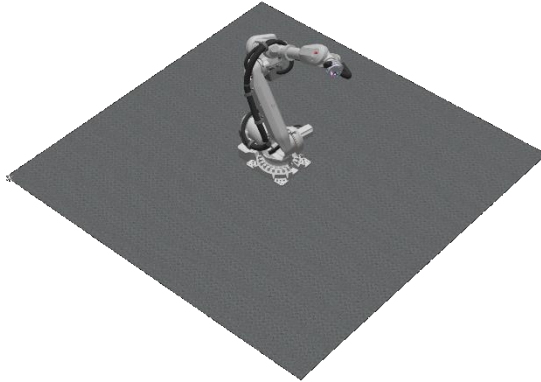
Clip planes

A clip plane is an infinite plane that cuts through geometric objects in the station. Objects on one side of the plane are visible while objects on the other side are invisible. A station can contain multiple clip planes, but each graphics view can only have one active clip plane.

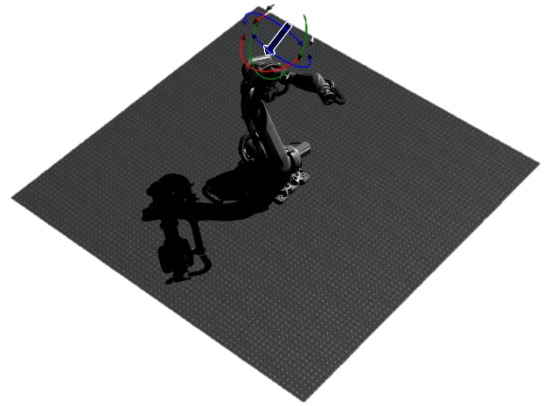


Light sources

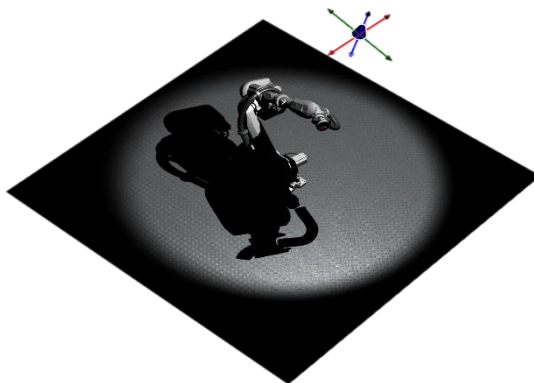
In the Advanced Lightning mode, you can setup four different light sources and combine to meet your needs.



Ambient light. Basic background light that affects all objects equally. No shadows



Infinite light. Parallell light from infinitely far away. Direction can be changed. Casts shadows



Spotlight. Light originates from a single point, and spreads outward in a cone. Direction and location can be changed. Casts shadows



Point light. Light originates from a single point, and spreads outward in all directions. No shadows.

Materials and textures

The predefined material and texture library contains common materials that can be applied to graphical objects. You can also add your own materials or customize the existing ones.



1.2 Migrate backup

Migrate backup is a pre-installed add-in to RobotStudio. The tool helps in migrating IRC5 backups from RobotWare versions 5.15 and earlier to RobotWare versions 5.60 and later.

To use the tool, press *Migrate backup* in the Add-Ins tab and then select the controller backup you want to migrate. Click OK to start the migration. Information about the migration progress will be displayed in the output window. After migration, configuration files that contain incompatibilities are opened in a text editor. Configuration parameters that are not migrated automatically will be commented out together with an explanation. These parameters must be migrated manually.

The backup is ready to be restored when migration is completed for all incompatible files. Incompatible configuration files are retained in the SYSPAR folder with *.bak extension.

For details about the changes in the configuration parameters for RobotWare 5.60, check the *Migration guideline* that is available from the Help button of the tool

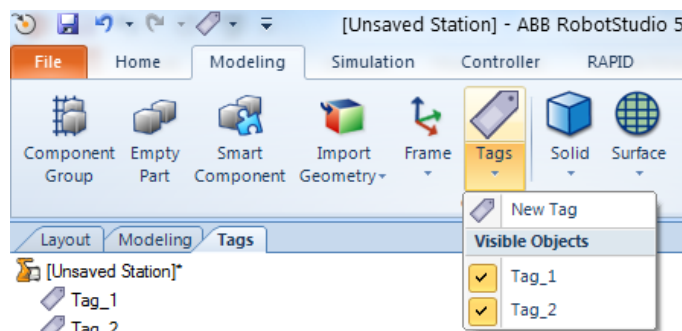
The Migrate backup tool is available in English only, both the user interface and the Migration Guide.

1.3 Tags

Overview

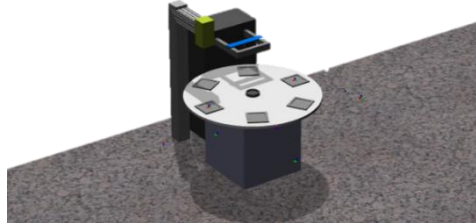
For a complex RobotStudio station containing many robots, parts, paths, targets and other objects the browser and the 3D graphics view becomes cluttered. *Tags* help the user to group objects in the 3D graphics view and in the browser during station modeling and offline programming.

Using tags, you can group objects in a defined structure by labeling them. It is possible to hide or show these tags independent of the other tags. A hidden tagged object is invisible in the browser and in the 3D graphics window unless it is labeled by a currently visible tag.



Example:

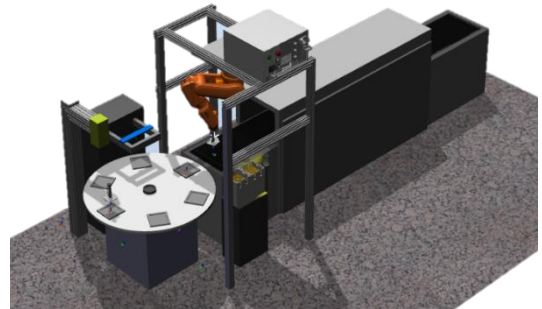
The three pictures below show a station with two tags.



When all tags are disabled only objects with no tag is visible.



When Tag_1 is enabled then objects tagged with Tag_1 and untagged objects are visible.



When Tag_2 is enabled then objects tagged with Tag_2 and untagged objects are visible.

1.4 Track motion in Online Monitor

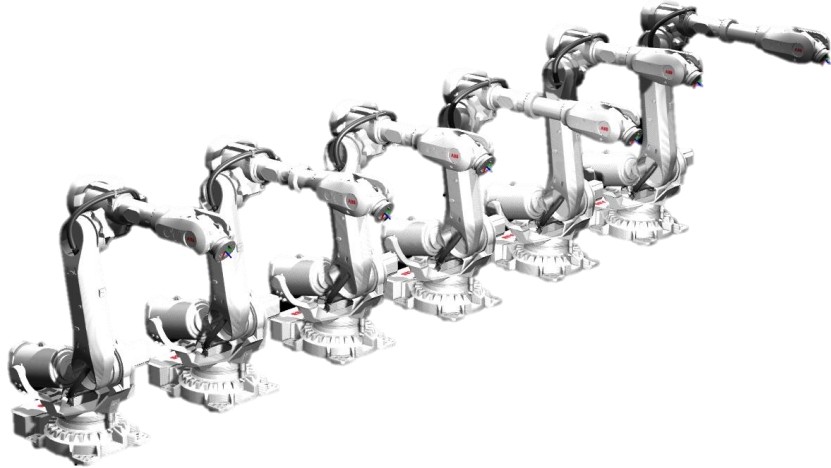
Overview

Track motions can now be displayed in the Online monitor, when connected to a robot mounted on a track motion. The geometry of the track motion is automatically generated based on the parameters in the controller (min and max limits).

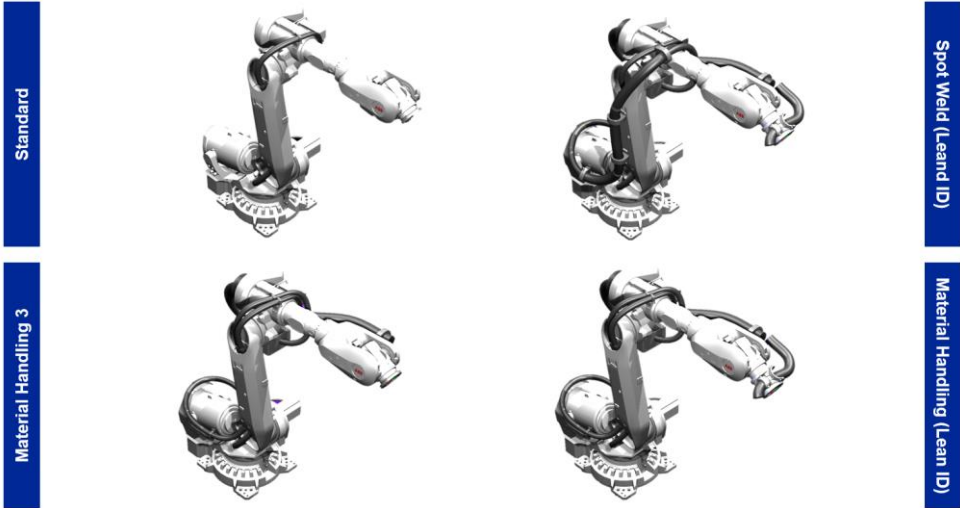
1.5 IRB 6700

Overview

The new robot IRB 6700 is available in six sizes with payloads in the range of 150-235 kg and working ranges of 2.6 - 3.2 m.



Each robot size can be ordered with one of four different dress pack variants.



1.6 IRB 360 6kg / 1.6m

Overview

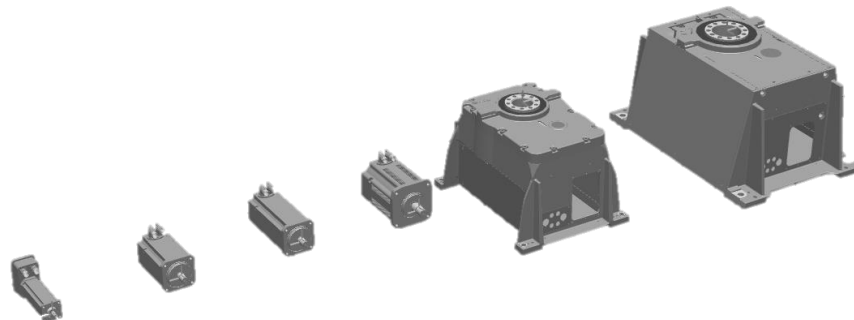
The FlexPicker family has been extended with a 6 kg version of the large FlexPicker with 1.6m working range.



1.7 Motor units MU and gear units MID

Overview

The ABB Robotics motor units MU100-400 and the motor units MID 500 and 1000 are available in RobotStudio 5.60 and supported by the function *System From Layout*.



1.8 ScreenMaker Widgets

Overview

A widget is a visual building block, containing an information arrangement, which represents an aspect of a robot application. It is a reusable and sharable user interface building block which can help speed up the development of screens. The widgets can then be used in ScreenMaker applications and in Production Screen.

1.9 Other changes in RobotStudio 5.60

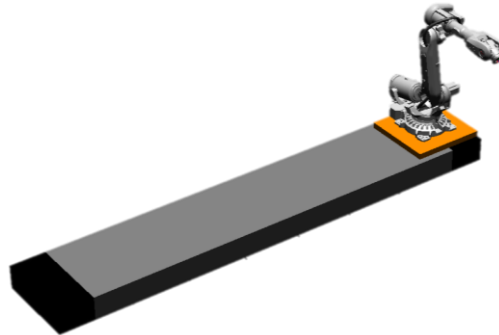
Robots and equipment available in ABB Gray

All ABB robots and equipment in the ABB Gallery import tool are available in gray color known to color specialists as RAL 7035/Pantone 428 C) and red ABB logo. This is the new standard color of the ABB industrial robots. The robot models are also still available in orange and can manually imported using the "Import Library" option by browsing to the files on disk. Whenever a robot is available in both gray and orange, the library name will contain the "_G_" suffix.

Robots whose standard color is white are not affected, they will remain in white.

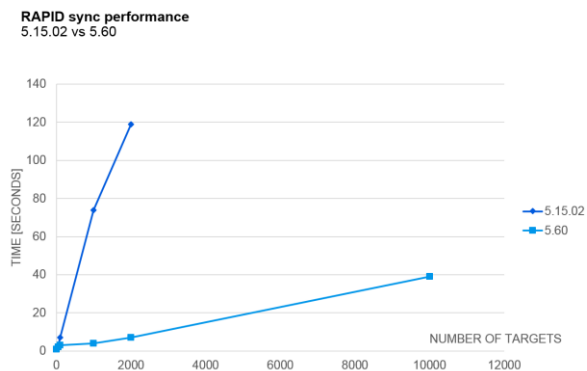
Track motions visible in Online Monitor

The Online Monitor has been improved to support track motions. A model of the track motion will be automatically generated from boxes that approximate the rail and the carrier. The length of the track motion is taken from the robot motion configuration parameters.



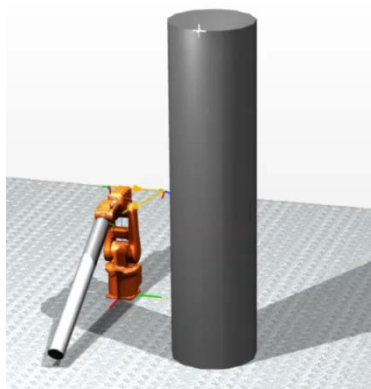
Improved RAPID sync performance

The performance for RAPID sync has been improved.

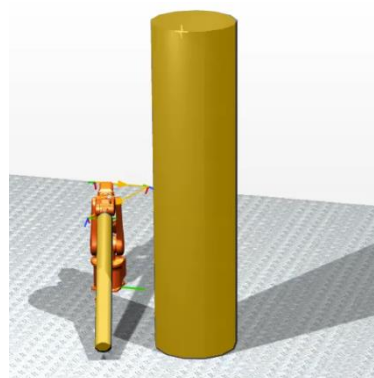


Stop At Collision improvements

The function Stop At Collision has been improved to stop exactly at the point of collision (or near miss). The simulation is paused at the collision point and can be resumed by the user. Note that the virtual time mode must be set to Time Slice. If using Free Run mode, the behavior will be as in RobotStudio 5.15, where the stop is initiated at the collision, but the robot requires a certain time to stop the motion.



Starting position (before collision)



Collision position. Simulation paused at Near Miss indicated by the yellow color.

Visual Studio Tools for Applications discontinued

Visual Studio Tools for Applications has been discontinued and is no longer available in RobotStudio.



Windows XP and Vista support discontinued

Windows XP and Vista are not supported by RobotStudio 5.60.

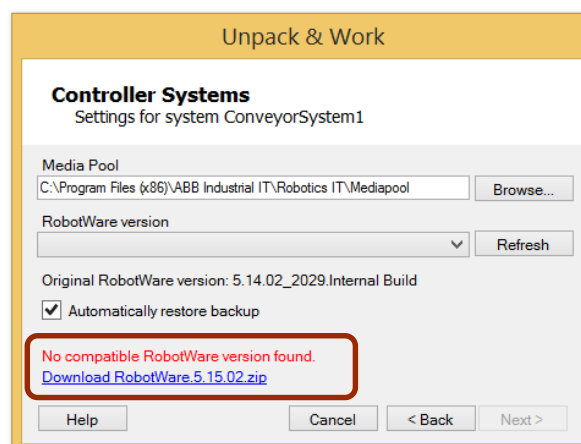


Compatible with RobotWare 5.60 and earlier

RobotStudio 5.60 is compatible with RobotWare 5.60 down to 5.07.

RobotWare 5.15 is optionally available for download in Unpack&Work when required

RobotStudio Pack&Go files (.rspag) based on RobotWare 5.15.02 or earlier cannot be opened with RobotWare 5.60. If no compatible RobotWare version is installed the user will be able to download the latest revision of RobotWare 5.15 through a download link that is displayed.



Import of RobotStudio S4 4.0 stations and libraries no longer supported

It is no longer possible to import stations and libraries from RobotStudio S4 4.0.

Discontinued 3D formats

Import of PLY, Jupiter and VRML1 formats are no longer supported. (Note that VRML2 is still supported.)

System Builder Download lists compatible controllers

The list of controller presented when selecting a system in System Builder and pressing the Download button will only show controllers that are compatible with the selected system. If the system selected is based on RobotWare 5.15. or earlier only controllers with the ULC1 main computer will be listed. If the selected system is based on RobotWare 5.60 or later, only controller with the RAC main computer will be listed.