

Product Information

New Product

Hirata • Robot • Simulator

RPI-0174

Date of issue : 3rd July 2020

■ Release overview

This is a new release information of a software product 『Hirata Robot Simulator』which can realize reviewing of Hirata robot application system during designing. Please check the detail shown below.

■ Background

Now a day, against a background of shortage of workers, factory automation system becomes more complex and highly functional, therefore, it is needed pre-verification environment in order to shorten start-up period. With these background, we have developed the engineering environment to support Hirata robot and controller.

■ Product overview

『Hirata Robot Simulator』 is an engineering tool which can support the design and evaluation and sales of small-scaled equipment applied Hirata robots. This product enable to do the below.

- Find problem early which was conventionally difficult to find in advance.
- Shorten start-up period by enabling advance teaching.
- Supporting sales activities, by making image documents like videos and/or PDF, before system completion.

Construction of simulation model

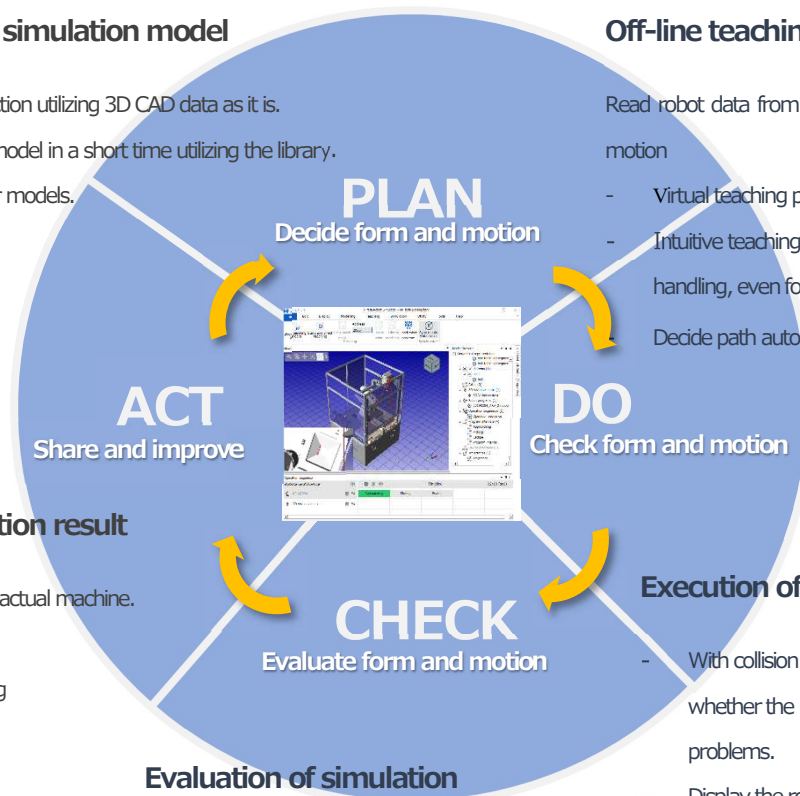
System model construction utilizing 3D CAD data as it is.
 Creation of simulating model in a short time utilizing the library.
 Reutilization past similar models.

Off-line teaching

Read robot data from actual machine and reproduce the motion

- Virtual teaching pendant.
- Intuitive teaching by moving robot tip with a mouse handling, even for robot difficult to teach.

Decide path automatically between over 2 positions.



Utilize of simulation result

Feedback to design and actual machine.

- Machine layout
- Operation timing
- Robot data
- Sales support

Execution of simulation

- With collision check function, checking whether the motion and layout have no problems.
- Display the robot tip trajectory to check the robot path.

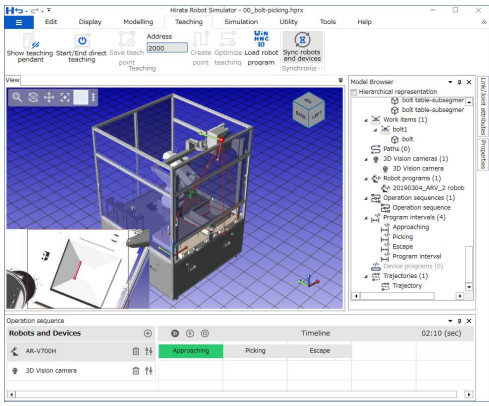
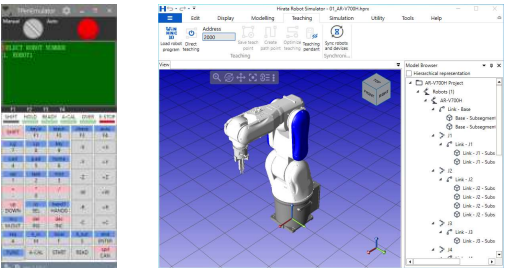
Evaluation of simulation

Evaluate takt time and calculate life span, by statistical

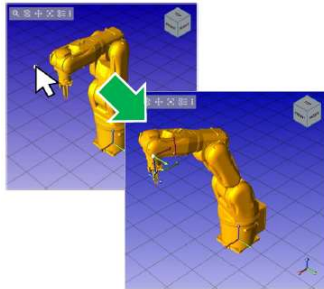
- Main feature
 - Possible to replay Hirata robot motions accurately.
 - It can be used by a mid-range PC which is used in an office work.
 - Possible to create system model and simulate by simple operation.

- Release date
July, 2020

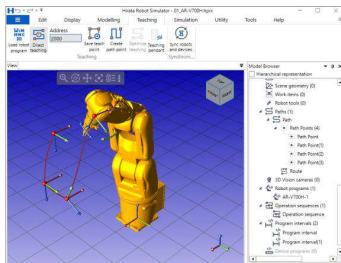
■ Function

Function	Note
Modeling	<p>Load 3D CAD data (Robots, devices, safety fence, etc.) and make model. The below are CAD data form can be loadable. HSF(.hsf), StereoLithography(.stl), Wavefront(.obj), ACIS SAT (.sat, .sab), CATIA V5(.CATPart, .CATProduct, .CATShape, .CATDrawing), Creo(.prt, .neu, .asm, .xas, .xpr), DWG(.dwg, .dxf), IGES(.igs, iges), Inventor(.ipt, .iam), JT(.jt), PDF(.pdf), Parasolid(.x_t, .xmt, .x_b, .xmt_txt), STEP(.stp, .step, .stp_z, .stp_z), etc ※Depends on a version and data contents of CAD model, it has a difficulty to load in some case.</p>
Layout	<p>Possible to check the appearance of robot system on the 3D view, by combine with the models created.</p> 
Off-line teaching	<p>Possible to conduct teaching to the virtual robot on PC. Details function is the below.</p> <ul style="list-style-type: none"> ➤ Load/Write robot program (ERC file※) Possible to simulate by loading exiting robot program(ERC file). A robot program which is changed inside the simulator can be saved onto the external. ➤ Virtual teaching pendant function Operate robot and conducting teaching using a screen compatible to H-38xx series teaching pendant. 

- **Direct teaching function**
Possible to conduct teaching by moving robot tip with mouse handling.
AR-V series robot is supported.



- **Automatic path generation function**
Automatically generate path avoided obstacles, from the specified more than one positions. AR-V series robot is supported.



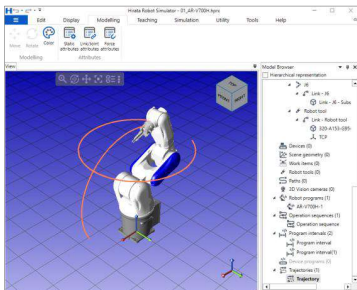
※ERC file

A parameter configuration file of expanded robot. It is Hirata dedicated file which is saved robot configuration, setting and position data.

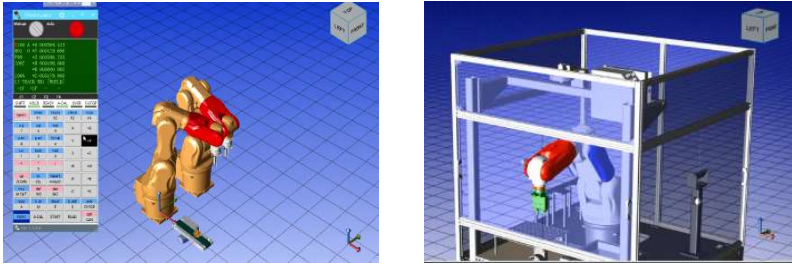
Simulation

Possible to check motion by operating robot in accordance with teaching. It can control maximum 4 robots (the case of the robot less-than-or-equal-to 4-axis). And, it is offered some supporting functions below.

- **Robot tip trajectory display function**
Possible to display a trajectory the robot tip(TCP) go through set in the simulation model, as a line drawing.



- **Collision detected function**
Possible to detect collision between robots or between robot and surrounding things.

	
Library	<p>Models of the standard robots below are provided.</p> <p>AR-V700H, AR-V950H, AR-V1200H, AR-F450HCs, AR-F500HCs, AR-F650HCs, AR-T550, AR-T800, AR-TS550, AR-TS800, MB, MB+3Axis</p>
Share	<p>Possible to output the simulation result to a movie.</p> <p>Possible to select the movie/animation format of mp4, wmv or PDF.</p>

■ Supported robots and controllers

The supported robots and controllers by this product is below.

Controller	HNC-X series
Robot	<p>Horizontal articulated robot AR-F series (※note) Vertical articulated robot AR-V series Hanging over robot AR-T series (※note) Cartesian robot MB series (excluding some) (※note)</p> <p>※note: Although it is possible to simulate robot that are controlled by HNC9xx series controller, but some supported functions are different. Please check HNC-9xx functions and use within the range of specifications..</p> <p>※ About the standard robots, it is planned to expand gradually. ※ Regarding a robot which custom specs, please make contact with sales representative staffs of Hirata.</p>

■ Others

If you have any concerns, please contact sales representative staffs of Hirata.

Specification described on this notice is as of the issue date and might be changed without notice.