Simplified Robot Programming
A revolution in paint programming
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Project goals

Objective

- A simplified method for programming paint robots, targeted at plastic parts, wood and small metal parts
- A fully editable program along with path, tool angle and trigger positions

Deliverables

- ABB Teach Handle designed to resemble a manual paint gun
- PC application software (in ABB RobView) process the motion data
- Adaptation to a specified motion tracking system

Differentiated value proposition

- A revolution in paint programming, ABB Simplified Robot Programming cuts programming time from hours to minutes
SRP
Customer values

SRP enables the user to teach a paint robot program without knowing the robot programming language.

SRP enables simplicity in learning a robot what to do and where to enable paint.

SRP enables all programs to be fully editable using ABB RobView 5 or RobotStudio®.
SRP
Customer groups and applications

- Fast and efficient programming of panels
- Time efficient solution for small or large series of parts

Painting flat panels

- Tracing 3D part with the SRP tool provides easy way to access difficult angles
- Teaching outside the paint zone makes it possible to teach a new parts without stopping production

Painting 3D parts

- Manufacturers of metal parts need to get the parts coated.
- SRP a solution that makes small batch programming efficient and simple

Small metal parts
SRP
Controller, version and backwards compatibility

Controller platform
- IRC5P, but also IRC5 or IRC5C

Backwards compatible
- SRP generates generic ABB robot programs from the RobView 5 SRP application with PaintL or MoveL instructions
- If used in combination with ABB IRC5 or IRC5C robot controllers, the MoveL instruction need to be selected.
- The trigger input need to be addressed separately
SRP
Where to teach a paint program

**Teaching in prep zone**
SRP enables users to create the robot program in a none production environment (outside the robot zone).

**Checking robot program**
Remote teaching – with SRP a designer of a part can teach and secure the robot painting program.

**Send program to the robot**
Paint production does not need to be stopped to teach a new part. Program can be checked; reachability, accessibility, cycle time, paint coverage and more.
SRP
Main components with setup example

SRP consist of:

- Motion tracking hardware, source and processing unit
- Teaching handle – connected to the motion tracking unit and to the PC application
- PC with ABB RobView 5 and the SRP plug-in
SRP
Features and benefits

ABB Teach Handle

- Motion tracking – full 6 degrees of freedom with absolute accuracy with no drifting (no error in tracking output over time). No shadowing effect from a human, plastic or wooden part. Large metal part and power cables could have an impact on the sensor signal

- Trigger on/off with line guiding – designed to feel like a conventional air spray gun and trigger. Adding function buttons for starting recording function

PC application

- ABB RobView 5 gets the position data from the motion tracking sensors and trigger + function commands from the teach handle
SRP
Accuracy of motion tracking – graph view

Illustration of magnetic field
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