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# Software update from PCS 7 V9.0 SP1 to PCS 7 V9.0 SP2

SIMATIC PCS 7

<https://support.industry.siemens.com/cs/ww/en/view/39980937>

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# 1 Preparation

To prepare for the update, perform the following steps:

## 1. Backup

We recommend that you back up the partitions of all affected machines before starting the update.

For this requirement the software "SIMATIC Image & Partition Creator" can be used.

<https://support.industry.siemens.com/cs/ww/en/view/109587465>

## 2. Save project

Before starting the update, save the project and your own libraries.

## 3. Save license

Licenses installed on the system are not deleted by the update.

If you are performing a new installation, backup all existing licenses beforehand.

## 4. PDM data

Save the device descriptions of the PDM devices.

Updating PCS 7 removes the SIMATIC PDM device catalog. The device descriptions used must be reinstalled after the update.

## 5. Disabling WinCC auto start

When using the "WinCC AutoStart" function, it must be deactivated before updating the software.

- OS client:

"Start > All Programs > Siemens Automation > SIMATIC > WinCC > Autostart"

- OS server:

"Start > All Programs > Siemens Automation > SIMATIC > WinCC > Autostart"

or

"Start > All Programs > Siemens Automation > SIMATIC > SIMATIC Net > Communication Settings > SIMATIC NET Configuration > Autostart".

After deactivating WinCC Autostart, restart the PC station.

## 6. Removing password protection for projects

Any existing password protection must be deactivated before updating the software.

### Note

If you use the SIMATIC Management Console to perform the installation, the Autostart functions are automatically disabled by the SIMATIC Management Console during the installation. Do not start the runtime until you have loaded the project. Reconfigure the "WinCC autostart" function.

## 2 Starting the PCS 7 Update Installation

**WARNING****Delta loading capacity**

The AS projects can be delta-loaded as long as no blocks (FB, FC) with interface changes are used in the CFC.

In PCS 7 V9.0 SP2 there were no interface changes.  
Note the list of changed blocks in section 6.

**Note**

Before installing PCS 7 V9.0 SP2, please read the system and software requirements in the PCS 7 Readme.

**Note**

For more information on updating PCS 7, refer to the following manuals:

- "PCS 7 process control system; software update with use of new functions"
- "PCS 7 process control system; software update without using new functions"

1. Start the setup of PCS 7 V9.0 SP2. Select "Update" as the setup type.
2. Then install any used libraries and faceplates from the DVD2\Additional Products.

**Note**

After installing older libraries, the PCS 7 V9.0 SP2 - Basic Library must be reinstalled using the PCS 7 V9.0 SP2 framework setup.

## 3 Updating the Project

### 3.1 Updating blocks

#### With master data library

Perform the following steps:

#### 1. Copy blocks

Copy all blocks used in the project from the new libraries (e.g. PCS 7 APL V9.0 SP2) into the master data library.

#### Note

When copying the blocks, a dialog opens with the message whether you want to overwrite the blocks. Here you can use the "Adjust attributes..." button to display different attribute values in the source and target and to adjust your project-specific changes.

#### 2. Update block types

Select the block folder in the master data library of the multi-project and select the menu command "Tools > Plans > Update block types".

In the following dialog all programs can be selected or deselected. Click on "Continue".

All module types are offered for selection or deselection. Select the blocks from the "List of changed system blocks" for the system update. Click on the "Finish" pushbutton.

You are then asked whether you want to convert the format of the CFC plans to the current version. Confirm the dialog with "Yes".

### Without master data library

Perform the following steps for all S7 programs and for each library you use:

1. **Open the library**

Open the new library (e.g. PCS 7 APL V9.0 SP2) from which you use blocks (e.g. PCS 7 APL V9.0 SP1) in your projects.

2. **Update block types**

Select the block folder of the library and select the menu command "Tools > Plans > Update block types".

In the following dialog all programs can be selected or deselected. Click on "Continue".

All module types are offered for selection or deselection. Select the blocks from the "List of changed system blocks" for the system update. Click on the "Finish" pushbutton.

You are then asked whether you want to convert the format of the CFC plans to the current version. Confirm the dialog with "Yes".

**Note**

You can convert the format of the CFC plans as follows if you do not update the block types, for example, because you want to continue using the already configured block versions:

- Open a CFC chart
- Move a block
- Acknowledge the dialog for converting the CFC chart

**Note**

With both procedures, all module types in the module folders of the project are replaced and a module type import is carried out in all plan folders of the project.

## 3.2 Compiling Configuration Data of the AS

Execute the function "Save and compile" in the HW Config and in NetPro for all AS.

## 3.3 Compile S7 program plans

Translate the program of each AS with the settings:

- Changes only
- Generating module drivers

### Note

If necessary, you can only translate the AS program with the "Total" option. However, this has no effect on the delta loading capacity.

The AS projects can be delta-loaded as long as no blocks (FB, FC) with interface changes have been used in the CFC. The blocks with interface changes can be found in chapter 6 the "List of changed blocks".

## 3.4 Compile OS configuration data

For all PC stations, execute the "Save and Translate" function in the HW configuration and in NetPro.

## 3.5 Update OS projects

Open the projects of all OS servers, OS single stations and OS clients on the ES one after the other and carry out the following steps:

### 1. Generate header

Open the Global Script C Editor and select the menu command "Options > Regenerate Header".

### 2. Start OS Project Editor

Start the OS Project Editor with the option "Complete project planning (loss of online change load capability)" (tab "General").

## 3.6 Compile OS Server/OS Single Stations

Start the compilation for all OS servers or all OS single stations with the following options:

- Variables and messages
- SFC visualization
- Picture Tree
- With interconnection partner (SFC option)
- Overall compiling with overall reset

## 3.7 Downloading target systems

Before you load the OS, update the PCS 7 software on the corresponding PC stations.

Perform the charging operations in the following order:

### 1. OS Server/OS Single Stations

- Start the total load of all OS Server/OS Single Stations.
- Start the OS runtime of the server/single stations.

### 2. OS clients

- Start the total load of all OS clients
- Start the OS runtime of the clients.

### 3. AS program

- Start the change loading of the S7 programs of all ASs.

#### Note

The AS projects can be delta-loaded as long as no blocks (FB, FC) with interface changes are used in CFC. The blocks with interface changes can be found in chapter 6 "List of changed blocks".

Step chains of SFC plans are not stopped during the software update unless changes have been made within the step chain.



## 4 Update redundant systems in normal operation

To update redundant systems, proceed in the following order:

1. Update the stand-by servers.
2. Update the clients that have the standby server as their preferred server.
3. Execute the total loading of the OS projects on the stand-by servers and the clients.
4. Start the stand-by servers and clients. Wait for the redundancy adjustment.
5. Load the updated control program into the AS.
6. Update the master servers.
7. Update the clients that have the master server as their preferred server.
8. Execute the total loading of OS projects on the master servers and clients.
9. Start the master server. Wait for the redundancy adjustment.

### Note

If a Process Historian is used in the plant, it must be updated and in "Active" state before the OS server update is started.

### Additional information

Further information on updating redundant systems can be found in the manual "Process control system PCS 7; Highly available process control systems" in the chapter "Guide for updating a redundant OS during operation".

## 5 Options

### SIMATIC Route Control

For projects with Route Control, start the "Route Control Wizard".  
Then follow the steps shown in the Route Control Wizard log files.

#### Note

Further information on the Route Control library can be found in the documents "SIMATIC Route Control - Read Me" and "SIMATIC Route Control - What's New".

### SIMATIC BATCH

1. Regenerate and propagate the "BATCH types" and merge all batch instances.
2. Reload all components.
3. Execute the function "Transfer messages". This transfers all batch message texts to the OS project.
4. Load the OS.
5. In the Batch Control Center, execute the function "PCell Upd/ Update device".

### Web Option

Web servers are like OS clients. In addition, the "Web View Publisher" and the "Web Configurator" must be started.

When you restart Internet Explorer on the Web Clients, you are prompted to install an update to the Web Client. The installation files can be obtained from the Web server.

After installing the Web Client, update the plugins.

### Process Historian (PH)

After a new installation/update installation of the servers (OS servers, Batch, ..), it is necessary to perform the "PH-Ready Configuration" again before activating the process operation.

The Process Historian must be in "Active" mode during operation before the updated servers are started for the first time. If necessary, restart the process operation of the OS servers to establish the connection to the PH.

### Maintenance Station

After you have translated your automation system, execute the function "Generate/update diagnostic images".

The Maintenance Station must be retranslated and reloaded.

### PDM

When using the PDM Server function, you must perform the "PDM Server Configuration" and activate the firewall rules for the HTTP protocol used.

## 6 Changed blocks

The list of changed blocks can be found in the corresponding online readme of the libraries.

## 7 Previous libraries and updates

The predecessor libraries and current updates of the SIMATIC PCS 7 libraries are available on the following article page:

<https://support.industry.siemens.com/cs/ww/en/view/109480136>