

# Unity SFC View

## Version 2.0

## Quick Start

June 2004



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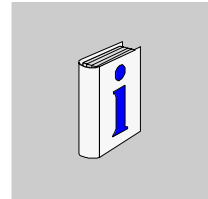
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## About the Book



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### At a Glance

**Document Scope** This manual contains a quick start for Unity SFC View.

**Validity Note** This manual applies to Unity SFC View 2.0 with Unity Pro 2.0, OPC Factory Server 3.1, Microsoft Windows 2000 or Microsoft Windows XP Professional.

### Related Documents

Title of Documentation	Reference Number
Unity SFC View User Guide	-
Unity Pro Reference Manual	-
OPC Factory Server User Guide	TLX DM OFS x.x
Vijeo Look SCADA software for small and medium monitoring applications	-

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# General information



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## Introduction

### Overview

This chapter contains general information about quick start for Unity SFC View.

### What's in this Chapter?

This chapter contains the following topics:

Topic	Page
General	8
System requirements	9
Installation and Registration	10
Unity Pro presetsings	10

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## General

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### Goal of the documentation

The documentation is intended to help you integrate SFC View as quickly as possible and in a targeted manner into a HMI application.

You can then display step chains of a Unity Pro test project that is contained in the delivery scope of SFC View, in the three following views of SFC View:

- Overview
- Details
- Details Simple.

In addition, you can send the following commands to the PLC for a step chain:

- Next step
  - Set Initialize Flag
  - Reset InitializeFlag
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### Programming environment

Programming environment in this case is Vijeo Look 2.5.

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## System requirements

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**Operating System**

One of the following operating systems is required:

- Microsoft Windows 2000
  - Microsoft Windows XP Professional
- 

**Unity Pro Version**

Unity Pro V2.0 must be installed at least once on the system.

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**SFC View Library**

The SFC View library must be installed (update type library).

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**OPC Factory Server**

An OPC Factory Server (OFS) Version 3.1 must be installed on the system.

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**ActiveX Container**

The programming environment is a HMI application that supports ActiveX container.

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**HMI Application**

HMI applications tested for Unity SFC View are:

- Monitor Pro 7.2, Schneider Electric
- Vijeo Look 2.5, Schneider Electric
- iFix 3.0, GE Fanuc
- InTouch 7.2, Woderware

Other applications tested are:

- Internet Explorer 6.0, Microsoft
  - Visual Basic 6.0, Microsoft
- 

**PLCs supported**

The following PLCs programmed with Unity Pro are supported:

- Quantum
  - Premium
  - Atrium
-

## Installation and Registration

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**Installation Sequence**      Observe the installation sequence specified in Unity SFC View User Guide.

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**Installation**      Install the required software (Unity Pro, OPC Factory Server, SFC View, HMI-Software) as described in the associated manuals.

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**Registration**      Register the required software as described in their respective manuals.

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## Unity Pro presets

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**General**      Before the SFC View can be used, Unity Pro must be configured in a certain way.

**Note:** These settings must be configured separately for every Unity Pro project.

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**Diagnostics**      Make sure that under **Tools** → **Project settings...** → **Build** → **Diagnostics** the option **Application diagnostics** is selected and the application level is set to **Local Diagnostics**.

**Note:** This setting is required if the SFC View diagnosis is carried out via the PLC diagnosis buffer.

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**Sequential Function Chart (SFC)**      Make sure that under **Tools** → **Project settings...** → **Language extension** the **Allow multiple token** option is **not** selected.

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**Save project automatically**      Make sure that under **Tools** → **Options** → **General** → **Save project automatically** the option **On Download** is selected.

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# Testing SFC View using the demo application

# 2

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## Introduction

### Overview

This chapter contains information on the possibility of testing and learning SFC View using the demo application.

### What's in this Chapter?

This chapter contains the following topics:

Topic	Page
General	12
Start and Use of the SFC View Demo Application	12

## General

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### Prior to the Integration of SFC View

Before you integrate SFC View into an HMI application, you should test for flawless interplay between SFC View, Unity Pro, the OPC Factory Server (OFS) the Unity Pro PLC Simulator.

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### SFC View Demo-Application

In order to test SFC View and to perform a few important adjustments, please use the SFC View Demo Application as described in the following.

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## Start and Use of the SFC View Demo Application

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### General

When installing SFC View, a **SFC View Demo Application** and the corresponding source code (in Visual Basic) are installed.  
The **SFC View Demo Application** is an independent program that can also be executed without HMI, SPS and Visual Basic.  
Nearly all the properties, methods and events for SFC View were configured in this program, are available using menus and can be tested in conjunction with Unity Pro, the OPC Factory Server (OFS) the Unity Pro PLC Simulator.  
The user can experiment with this demo application and learn how SFC View is used and programmed.

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### Source code

If the user's development environment is Visual Basic 6.0, the source code for the demo application can be viewed in it.  
If a different development environment is used, the Visual Basic source code can be viewed in any editor.  
The Visual Basic files can be found in the default directory: `...Installation directory of the SFC View...SFC View\Example`.

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### Saving the Unity Pro test project

The Unity Pro test project that belongs to the demo application is saved during the installation of SFC View as an `*.XEF`-file as a standard under `...Installation directory SFC View...TESTSFC`.

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### Settings for the conversion

**Note:** Before the Unity Pro test project can be converted, the SFC View library must be installed.

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### Converting the Unity Pro Test project

The following table describes the procedure for converting the Unity Pro test project.

Step	Action
1	Launch Unity Pro.
2	Open the TESTSFCV.XEF file via <b>File</b> → <b>Open</b> .
3	Generate the project via <b>Build</b> → <b>Rebuild All Project</b> .
4	Save the project via <b>File</b> → <b>Save</b> using the name TESTSFCV.STU.

### Settings

The demo application only works properly if all the presettings were made correctly (*Unity Pro presettings, p. 10*).

### Loading the Unity Pro test project in the PLC simulator

The following table describes the procedure for loading the Unity Pro test project into the PLC simulator.

Step	Action
1	Launch Unity Pro.
2	Open the TESTSFCV.STU file via <b>File</b> → <b>Open</b> .
3	Via <b>PLC</b> → <b>Connect...</b> create a connection to the PLC simulator controller.
4	Via <b>PLC</b> → <b>Transfer Project to PLC</b> load the program into the PLC simulator controller. <b>Note:</b> If you select the <b>PLC RUN after transfer</b> option, the PLC starts automatically after the program is transferred.

### OFS configuration tool

Before the SFC View can be used, the OFS configuration tool must be configured in a certain way.

Execute the command **Start** → **Program** → **Schneider Electric** → **OFS** → **OFS configuration tool**.

### Options

In the tab **Options** under **Features** the following option must be selected:

- Enable OPC Extensions

**Note:** In case the tab **Options** is not displayed, via the command button **Advanced...** all tabs can be shown.


- Comm. settings** In the **Comm. tab** in **Options for devices without alias** the following option must be selected:
- Check Consistency

**Note:** If the **Comm. tab** is not shown, all of the tabs can be shown via the **Advanced...** tab.

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**Create Alias for demo application**

An alias is required to ensure that SFC View and OFS can work together. The following table describes the procedure to create an alias for the demo application.

Step	Action
1	Click the <b>Alias</b> tab.
2	Click the  (Create new alias) button.
3	Enter as the name <b>TESTSFCV</b> .
4	Click on the <b>&lt;Driver&gt; field:&lt;PLC addr&gt;</b> and using the <b>Arrow down</b> open the page to enter the driver name.
5	In the <b>ADDRESS</b> tree structure on the left click on <b>DIRECT → TCP IP</b> .
6	For the <b>TCP IP address</b> enter <b>127.0.0.1</b> and for the <b>PLC select</b> <b>UNITY</b> .
7	Confirm your entries using <b>OK</b> .
8	Click in the <b>Symbol table file</b> and using the <b>arrow pointing down</b> select the page to select the symbol file.
9	For the file type select <b>File type</b> <b>UnityPro project file (*.stu)</b> and for the file select <b>File</b> <b>TESTSFCV.STU</b> .
10	Confirm your selection using <b>Open</b> .
11	Click on the button <b>Alias properties...</b> and check the <b>Check Consistency</b> option. Confirm the option is activated using <b>Validate</b> .
12	Now confirm all of your entries for the Alias <b>TESTSFCV</b> using <b>Apply</b> .

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### Test the connection between the OFS and the PLC

The following table describes the procedure for testing the connection between the OFS and the PLC.

Step	Action
1	Start the OFS client via <b>Start</b> → <b>Programs</b> → <b>Schneider Electric</b> → <b>OFS</b> → <b>OFS Test Client</b> . <b>Note:</b> The program <b>OFS Client</b> is only available if the appropriate option was selected for the OFS installation.
2	Click on <b>Schneider Aut.OFS</b> as server and confirm using <b>OK</b> .
3	Create a new group via <b>Group</b> → <b>New Group...</b> and give it the <b>name</b> : e.g. GRP1.
4	Under <b>Notification</b> activate all the options and select the following settings: <ul style="list-style-type: none"> <li>● <b>Update rate:</b> 1000 ms</li> <li>● <b>Dead banding:</b> 0.000000 [0.0,1.0]</li> <li>● <b>OPC version:</b> Auto</li> </ul> Confirm with <b>OK</b> .
5	Via <b>Item</b> → <b>New...</b> open the <b>AddItem</b> window.
6	In the tree structure in the left window of the project select <b>TestSFCV</b> . The project variables are shown in the right hand window.
7	Click on the variable e.g. <b>ACT1</b> and confirm with <b>OK</b> .
8	If a green symbol appears to the left of the variable in the properties window which now appears, the connection between the OFS and the PLC is intact.

### Diagnosis window for the OFS

Errors which might appear are shown in red in the OPC Factory Server diagnosis window.

### Diagnosis window not visible






The installation of a HMI application (e.g. Vijeo Look) can make it so that the diagnosis window of the OPC Factory Server is not visible in the foreground and is displayed only as an icon in the footer line of the screen.

If this is the case, run the program `ChangeOFSSettings.exe`. This program is saved during the installation of SFCView as a standard under `...Installation directory of the SFCView...\`.

So that the change is effective, you must restart, via **Start** → **Programs** → **Schneider Electric** → **OFS**, the **OPC Factory Server**.

### Starting the demo application

The following table describes the procedure for starting the demo application.

Step	Action
1	Execute the command <b>Start</b> → <b>Program</b> → <b>Schneider Electric</b> → <b>Unity SFC View</b> → <b>SFC View Demo Application</b> .
2	Select, via the command button  the Project <code>TestSFCV</code> to be opened and confirm using <b>OK</b> .
3	The project data are loaded from the Unity Pro project.
4	Start the demo application via the demo application button  .
5	Select the appropriate view via one of the following command buttons: <ul style="list-style-type: none"><li>•  Overview</li><li>•  Details</li><li>•  DetailsSimple</li></ul>

### Using the demo application

Use the items **View** and **Run** in the main menu to activate and deactivate the individual properties, methods and events in SFC View and to observe the changes to the individual views.

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# Integration of SFC View in Vijeo Look

# 3

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## Introduction

### Overview

This chapter contains information on the integration of SFC View in Vijeo Look.

### What's in this Chapter?

This chapter contains the following topics:

Topic	Page
Nature of Tasks	18
Configure new project and Prepare SFC View-ActiveX	19
Create New Overviews	20
Shift between the overviews via the SFCView Menu	21
Switch between the overviews via the Process Menu	23
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Insert SFC View ActiveX in SFCView Overview	26
Insert SFC View ActiveX in Process Overview	28
VBA-Scripts for the use of SFC View	30
VBA-Scripts for controlling the SPS	33
Operate Vijeo Look Project	35

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## Nature of Tasks

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### Possibilities of the new project in Vijeo Look

After you have configured the new Vijeo Look project as described in the following sections, the following possibilities are available to you in your new Vijeo Look project:

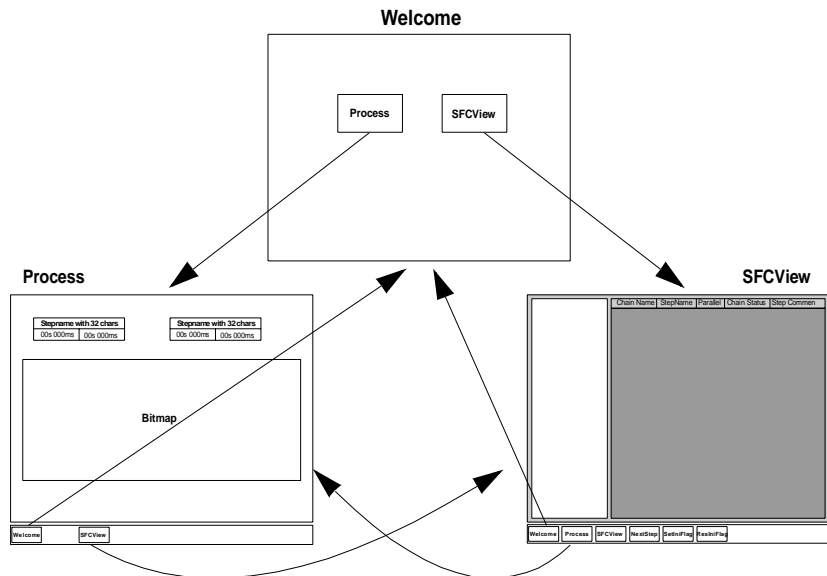
- Switching between the three overviews (Welcome, Process, SFCView) via operating buttons
- Display of the SFCView ActiveX-Controls in the three views:
  - Overview (in the SFCView overview)
  - Details (in the SFCView overview)
  - Details Simple (in the Process overview)
- Send the following step chain commands to the PLC:
  - Next step
  - Set Initialize Flag
  - Reset InitializeFlag

The sending of the step chain commands is done via operating buttons.

---

### Representation of the three overviews

The individual overviews and switching possibilities between the individual overviews:



## Configure new project and Prepare SFC View-ActiveX

### Open the Unity Pro test project

Make sure that the Unity Pro test project (`TESTSFCV.STU`) is opened and saved in the PLC-Simulator (*Starten and Use of the SFC View Demo Application, p. 12*), before you begin with the configuring in Vijeo Look.

This ensures that SFC View can access the Unity Pro project data.

### Configure new project in Vijeo Look

The following table describes the procedure for configuring a new project in Vijeo Look.

Step	Action
1	Start Vijeo Look.
2	Click in the now opened dialog window <b>Open a project</b> on the command button <b>New...</b>
3	In the dialog window <b>New Project</b> enter a Project name (e.g.. <code>TestSFCView</code> ) and confirm it with <b>OK</b> .

### Changes in a Vijeo Look Project

Keep in mind that changes in a Vijeo Look Project only become fully effective once the project has been closed and then opened again.

### Prepare SFC View-ActiveX for a project

The following table describes the procedure for preparing the SFC View-ActiveX for a project in Vijeo Look.

Step	Action
1	Open via <b>Tools</b> → <b>Preferences</b> → <b>ActiveX Controls</b> the dialog window <b>ActiveX Controls Configuration</b> .
2	Click in the left column on the ActiveX <code>UnitySFCViewCtrl.SFCView</code> and move it with the command button <b>&gt;&gt;</b> into the right column.
3	Make sure that the check in the checkbox is placed next to the SFC View-ActiveX, so that the ActiveX is available later under the menu item <b>Insert</b> → <b>Favorite ActiveX Controls</b> .
4	Confirm with <b>OK</b> .

## Create New Overviews

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### Overview, Image, Window

**Note:** The screen sides of a display, called **Overviews** in Vijeo Look, are also shown in other HMI applications as an image or window.

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### New Overview

The following table describes the procedure to create new overviews.

Step	Action
1	In Vijeo Look open the project that you have configured in the previous section (e.g. TestSFCView).
2	Configure a new overview via the command button  .
3	Configure a total of five new overviews.
4	The following table shows the properties and names of the individual overviews:

---

### Properties and names of the overviews

Properties and names of the individual overviews.

Name	Position	Size
Welcome	X=0, Y=0	Width = 800, Height = 600
Process	X=0, Y=0	Width = 800, Height = 550
SFCView	X=0, Y=0	Width = 800, Height = 550
Process_Menu	X=0, Y=550	Width = 800, Height = 50
SFCView_Menu	X=0, Y=550	Width = 800, Height = 50

---

**Note:** Open the dialog field for changing the properties via **right mouse button** → **Properties....** Saving is done via **File** → **Save as....**

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## Shift between the overviews via the SFCView Menu

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### General

The shift can be done between the different overviews in Vijeo Look e.g. via **Animate** → **Link** or via **VBA-Script** .

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### Edit mode

Make sure that you can only edit the views if you are in **Mode** → **Design**.

---

### Switching to the Welcome Overview

Switch is made via **Animate** → **Link**.

Step	Action
1	Open the overview <b>SFCView_Menu</b> . <b>Note:</b> In order to make more space available on the overview, you can, under <b>Properties</b> → <b>Style</b> deselect all options, except for <b>Border</b> and <b>Client Border</b> .
2	Place, on the overview <b>SFCView_Menu</b> a text with the following properties: <ul style="list-style-type: none"> <li>● Text: Welcome</li> <li>● Text size: 10, bold</li> <li>● Position: X=0, Y=0</li> <li>● Size: Width = 80, Height = 40</li> <li>● Aspect: <b>Button</b></li> </ul>
3	Specify via <b>Animate</b> → <b>Link</b> → <b>Open...</b> , that by clicking on the operating button, the <b>Welcome</b> -Overview is opened.

---

### Switching to the Process Overview

Switch is made via **VBA script**.

Step	Action
1	Place, on the overview <b>SFCView_Menu</b> a text with the following properties: <ul style="list-style-type: none"> <li>● Text: Process</li> <li>● Text size: 10, bold</li> <li>● Position: X=92, Y=0</li> <li>● Size: Width = 80, Height = 40</li> <li>● Aspect: <b>Button</b></li> </ul>
2	Click on the operating button and open via <b>right mouse button</b> → <b>View Script</b> the Visual Basic Editor.
3	Enter the following code: <pre>Private Sub Text2_Click()     Mimics.Open "Process"     Mimics.Open "Process_Menu" End Sub</pre> <p>Close the Visual Basic Editor.</p>
4	By clicking on the operating button, the overviews <b>Process</b> and <b>Process_Menu</b> are now opened.

---

### Switching to the SFCView Overview

Switch is made via **VBA script**.

Step	Action
1	Place, on the overview <b>SFCView_Menu</b> a text with the following properties: <ul style="list-style-type: none"> <li>● Text: SFCView</li> <li>● Text size: 10, bold</li> <li>● Position: X=184, Y=0</li> <li>● Size: Width = 80, Height = 40</li> <li>● Aspect: <b>Button</b></li> </ul>
2	Click on the operating button and open via <b>right mouse button</b> → <b>View Script</b> the Visual Basic Editor.
3	Enter the following code: <pre>Private Sub Text3_Click()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu" End Sub</pre> <p>Close the Visual Basic Editor.</p>
4	Save the overview <b>SFCView_Menu</b> .
5	By clicking on the operating button, the overviews <b>SFCView</b> and <b>SFCView_Menu</b> are now opened.

### SFCView-Menu

This is how the SFCView Menu should now appear.



### Switch between the overviews via the Process Menu

---

#### Copy SFCView-Menu

Open the overview **SFCView\_Menu** and save it as **Process\_Menu** .

**Note:** Since you have already configured the overview **Process\_Menu** you must confirm the question of whether you want to replace it.

#### Switching to the Process Overview

The switch to the **Process**-view is not necessary in the process menu. Therefore, delete this button.

Save the overview **Process\_Menu**.

### Process Menu

This is how the Process Menu should now appear.



## Shift between the overviews in the Welcome Overview

---

### Switching to the Process Overview

Switch is made via **VBA script**.

Step	Action
1	Open the overview <b>Welcome</b> .
2	Place, on the overview <b>Welcome</b> a text with the following properties: <ul style="list-style-type: none"><li>● Text: Process</li><li>● Text size: 18, bold</li><li>● Position: X=184, Y=160</li><li>● Size: Width = 172, Height = 100</li><li>● Aspect: Button</li></ul>
3	Click on the operating button and open via <b>right mouse button</b> → <b>View Script</b> the Visual Basic Editor.
4	Enter the following code: <pre>Private Sub Text1_Click()     Mimics.Open "Process"     Mimics.Open "Process_Menu" End Sub</pre> Save and close the Visual Basic Editor.
5	By clicking on the operating button, the overviews <b>Process</b> and <b>Process_Menu</b> are now opened.

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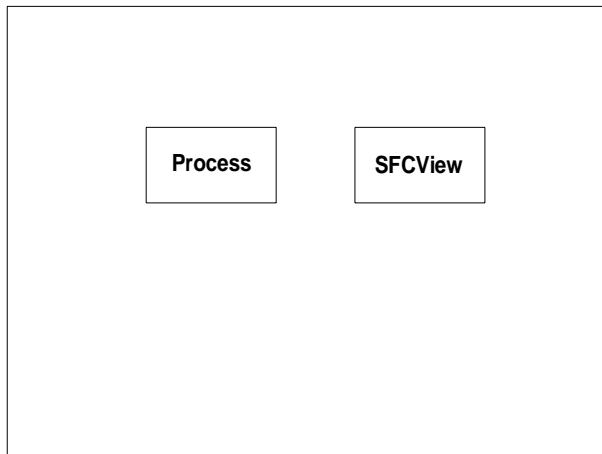
### Switching to the SFCView Overview

Switch is made via **VBA script**.

Step	Action
1	Open the overview <b>Welcome</b> .
2	Place, on the overview <b>Welcome</b> a text with the following properties: <ul style="list-style-type: none"> <li>● Text: SFCView</li> <li>● Text size: 18, bold</li> <li>● Position: X=460, Y=160</li> <li>● Size: Width = 172, Height = 100</li> <li>● Aspect: Button</li> </ul>
3	Click on the operating button and open via <b>right mouse button</b> → <b>Display Script</b> the Visual Basic Editor.
4	Enter the following code: <pre>Private Sub Text2_Click()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu" End Sub</pre> <p>Save and close the Visual Basic Editor.</p>
5	By clicking on the operating button, the overviews <b>SFCView</b> and <b>SFCView_Menu</b> are now opened.

### Welcome Overview

This is how the Welcome Overview should now appear.



## Insert SFC View ActiveX in SFCView Overview

---

### General

In this section you insert the SFC View-ActiveX into the Overview **SFCView** and specify the properties via the dialog window **Object Properties**. So that SFC View Information is displayed for step chains, a few additional VBA-Scripts must be programmed. This is explained in the following section.

---

### Prepare SFC View-ActiveX

Before you can use SFC View, you must prepare ActiveX for each project (*Configure new project and Prepare SFC View-ActiveX, p. 19*).

---

### Insert SFC View-ActiveX

The following table describes the procedure for inserting ActiveX.

Step	Action
1	Open the overview <b>SFCView</b> .
2	Insert, via <b>Insert...</b> → <b>Favorite ActiveX Controls</b> the ActiveX <b>UnitySFCViewCtrl.SFCView</b> .
3	Open the dialog window <b>Object Properties</b> and specify the properties as listed in the following table.
4	Save the overview <b>SFCView</b> .

---

### Properties of ActiveX

Properties of SFC View-ActiveX in the overview **SFCView**.

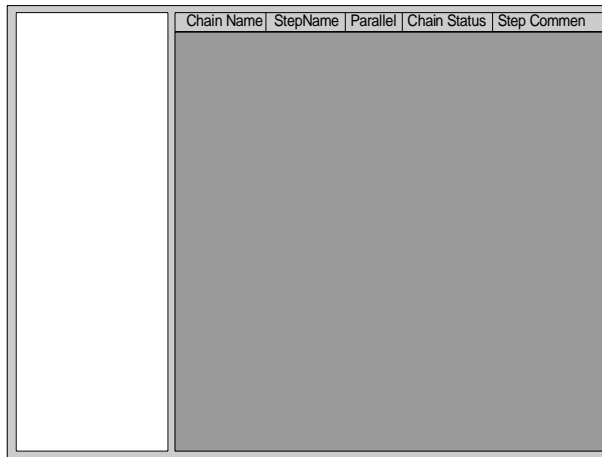
Register	Property	Value
Aspect:	Position	X=5, Y=5
	Size	Width = 775, Height = 510
General	Use OPC Project	selected
	ViewMode	0-sfcOverview

<b>Note:</b> For all properties not listed in the table, the preset values remain set.
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**SFCView-  
Overview**

This is how the SFCView-Overview should now appear.



Chain Name	StepName	Parallel	Chain Status	Step Commen

## Insert SFC View ActiveX in Process Overview

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### General

In this section you insert the SFC View-ActiveX twice into the Overview **Process** and specify the properties via the dialog window **Object Properties**. So that SFC View Information is displayed for step chains, a few additional VBA-Scripts must be programmed. This is explained in the following section.

---

### Prepare SFC View-ActiveX

Before you can use SFC View, you must prepare ActiveX for each project (*Configure new project and Prepare SFC View-ActiveX*, p. 19).

---

### Insert SFC View-ActiveX

The following table describes the procedure for inserting ActiveX.

Step	Action
1	Open the overview <b>Process</b> .
2	Insert, via <b>Insert...</b> → <b>Favorite ActiveX Controls</b> the ActiveX <b>UnitySFCViewCtrl.SFCView</b> .
3	Repeat Step 2.
4	Open the dialog window <b>Object Properties</b> and specify the properties as listed in the following table.
5	Save the overview <b>Process</b> .

---

### Properties of the first ActiveX

Properties of the first SFC View-ActiveX in the overview **Process**.

Register	Property	Value
Aspect:	Position	X=80, Y=80
	Size	Width = 240, Height = 60
General	Use OPC Project	selected
	ViewMode	2-sfcDetailsSimple
	Chain Name	SFC
Details Simple	Show Chain Name ...	All properties <b>not</b> selected
	Show Initial Step Indicator	

<b>Note:</b> For all properties not listed in the table, the preset values remain set.
--

---

**Properties of the second ActiveX**

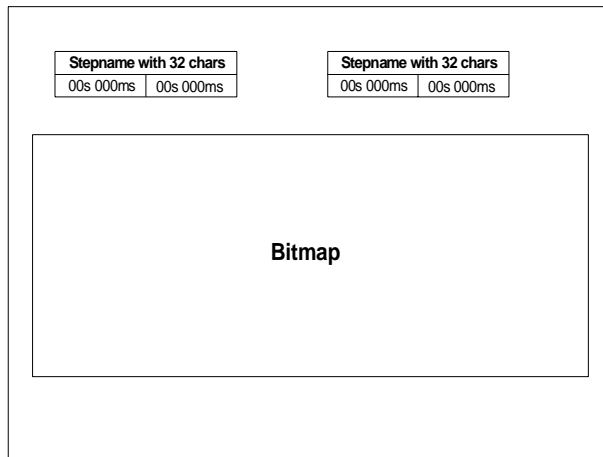
Properties of the second SFC View-ActiveX in the overview **Process**.

Register	Property	Value
Aspect:	Position	X=440, Y=80
	Size	Width = 240, Height = 60
General	Use OPC Project	selected
	ViewMode	2-sfcDetailsSimple
	Chain Name	SFC_ACT11
Details Simple	Show Chain Name	All properties <b>not</b> selected
	...	
	Show Initial Step Indicator	

**Note:** For all properties not listed in the table, the preset values remain set.

**Process-Overview**

This is how the Process Overview should now appear.



**Note:** The area shown in the previous graphic **Bitmap** could, for example, contain a display of the process to be observed.

## VBA-Scripts for the use of SFC View

---

### General Information for the Workspace-Script

The following is defined by this script:

- the Variable `MainSFCView` as an object for use in additional Scripts
  - the Variable `OPCAccessPath` as a string for use in other scripts
  - the `OPCAccessPath` via the Alias of the Unity Pro test project (`TESTSFCV`)
  - the Start overview of the Vijeo Look Project (`Welcome`)
- 

### Creation of the Workspace-Script

The following table describes the procedure when creating the script.

Step	Action
1	Open the overview <b>Welcome</b> .
2	Click on an operating button and open via <b>right mouse button</b> → <b>View Script</b> the Visual Basic Editor.
3	Double-click in the project explorer in the directory <b>Main (Work Space)</b> on <b>ThisProject</b> .
4	<p>Enter the following code:</p> <pre> Public MainSFCView As Object Public SFCView_OPCAccessPath As String ----- Private Sub fvProject_StartupComplete()     SFCView_OPCAccessPath = "TESTSFCV"     Mimics.Open "Welcome" End Sub </pre> <p>Save and close the Visual Basic Editor.</p>

---

### Switch to the SFCView Overview

The SFC View-ActiveX can be displayed in three different views (Overview, Details, Details Simple).

So that when clicking on the operating button **SFCView** the SFC View-ActiveX is always in view: Overview is shown the script must be expanded for this operating button.

On the overviews **Welcome**, **Process\_Menu** and **SFCView\_Menu** one operating button of this type is used for each. Therefore, all three corresponding scripts must be expanded.

---

### Expansion of the operating button script

In the following table, the procedure for the expansion of the operating script **SFCView** is described.

Step	Action
1	Open the overview <b>Welcome</b> .
2	Click on the operating button <b>SFCView</b> and open via the <b>right mouse button</b> → <b>View Script</b> the Visual Basic Editor.
3	Expand the code as follows:  <pre>Private Sub Text2_Click()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu"     ThisProject.MainSFCView.ViewMode = 0 End Sub</pre> Close the Visual Basic Editor.
4	Also perform this expansion in the overviews <b>Process_Menu</b> and <b>SFCView_Menu</b> .

### SFC View-ActiveX for the SFCView-overview

So that in the view **SFCView** the SFC View-ActiveX is displayed with the proper contents, a script must be created as follows for this view.

Step	Action
1	Open the overview <b>SFCView</b> .
2	Click on the SFC View-ActiveX and open via the <b>right mouse button</b> → <b>View Script</b> , the Visual Basic Editor.
3	Delete the preset code.
4	Enter the following code:  <pre>Private Sub Mimic_Open()     Set ThisProject.MainSFCView = SFCView1     SFCView1.OPCAccessPath = ThisProject.SFCView.OPCAccessPath End Sub</pre> Save and close the Visual Basic Editor.

### General information about the script for the process overview

The following is defined by this script:

- the OPCAcessPath via the Alias of the Unity Pro test project (TESTSFCV)
- the opening of the overview **SFCView** upon a double-click on an ActiveX
- the step chain that is then displayed in the overview (ChainName)
- the view in which the step chain is shown (ViewMode)

**Script for the process overview**

The following table describes the procedure when creating the script.

Step	Action
1	Open the overview <b>Process</b> .
2	Click on the left SFC View-ActiveX and open via the <b>right mouse button</b> → <b>View Script</b> , the Visual Basic Editor.
3	Delete the preset code.
4	<p>Enter the following code:</p> <pre> Private Sub Mimic_Open()     SFCView1.OPCAccessPath=ThisProject.SFCView.OPCAccessPath     SFCView2.OPCAccessPath=ThisProject.SFCView.OPCAccessPath End Sub ----- Private Sub SFCView1_DetailsSimpleDbClick()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu"     ThisProject.MainSFCView.ChainName = SFCView1.ChainName     ThisProject.MainSFCView.ViewMode = 1 'Details End Sub ----- Private Sub SFCView2_DetailsSimpleDbClick()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu"     ThisProject.MainSFCView.ChainName = SFCView2.ChainName     ThisProject.MainSFCView.ViewMode = 1 'Details End Sub </pre> <p>Save and close the Visual Basic Editor.</p>

---



## VBA-Scripts for controlling the SPS

### Create operating buttons

Place, on the overview **SFCView\_Menu** the operating buttons (texts) with the following properties:

Text	Text size	Position	Size	Aspect
NextStep	10, bold	X=276, Y=0	Width = 80	Button
SetIniFlag		X=368, Y=0	Height=40	
ResIniFlag		X=460, Y=0		

### SFCView-Menu

This is how the SFCView Menu should now appear.

Welcome	Process	SFCView	NextStep	SetIniFlag	ResIniFlag
---------	---------	---------	----------	------------	------------

**Creation of the Controlling-Script**

The following table describes the procedure when creating the script.

Step	Action
1	Open the overview <b>SFCView_Menu</b> .
2	Click on the operating button <b>Nextstep</b> and open via the <b>right mouse button</b> → <b>Display Script</b> the Visual Basic Editor.
3	<p>Expand the code as follows:</p> <pre> Private Sub Text2_Click()     Mimics.Open "Process"     Mimics.Open "Process_Menu" End Sub ----- Private Sub Text3_Click()     Mimics.Open "SFCView"     Mimics.Open "SFCView_Menu" End Sub ----- Private Sub Text4_Click()     ThisProject.MainSFCView.PLCGotoNextStep (True) End Sub ----- Private Sub Text5_Click()     ThisProject.MainSFCView.PLCSetInitializeFlag (True) End Sub ----- Private Sub Text6_Click()     ThisProject.MainSFCView.PLCSetInitializeFlag (False) End Sub </pre> <p>Save and close the Visual Basic Editor.</p>

---

## Operate Vijeo Look Project

### Changes in a Vijeo Look Project

Keep in mind that changes in a Vijeo Look Project only become fully effective once the project has been closed and then opened again.

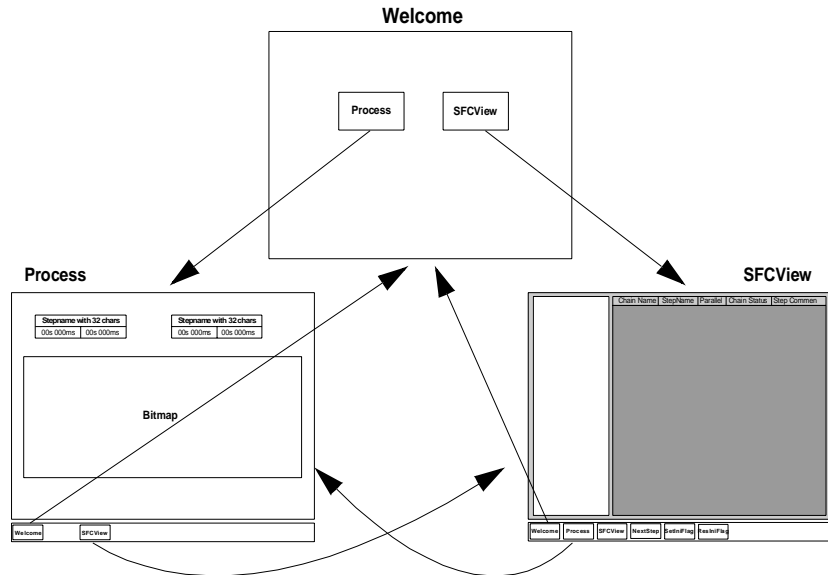
### Open the Unity Pro test project

Make sure that the Unity Pro test project (`TESTSFCV.STU`) is opened and saved in the PLC-Simulator *Starten and Use of the SFC View Demo Application*, p. 12, before you open the Vijeo Look-Project.

This ensures that SFCView can access the Unity Pro Project data and you can observe projects in parallel in Unity Pro and Vijeo Look.

### Switch between the overviews

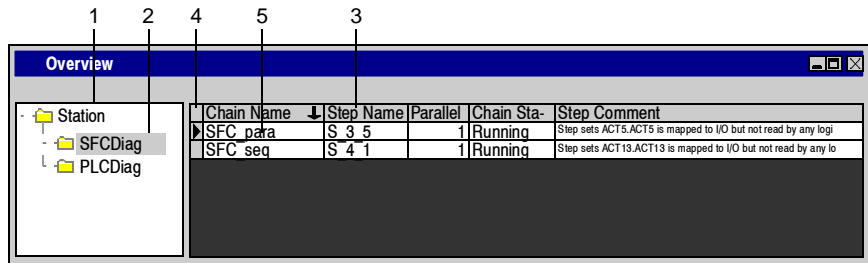
From the Start overview of the Vijeo Look-Project (**Welcome**) you can switch via the operating heads **SFCView** and **Process** to the two other overviews.



The switching between views can also be done via the respective menu bar in the lower part of the overviews.

**Overview**  
**SFCView,**  
**View: Overview**

If you change to the overview **SFCView** the Unity Pro test project is shown as a standard in the view-overview.  
 View display: Overview.



View components Overview

Number	Components	Description
1	Functional view	After a project has been loaded directly or via the OFS, the functional view for the Unity Pro project is shown. It is possible to navigate through the project via this functional view.
2	Functional project units	If a functional unit was selected all the step chains for it are shown in the table on the right. <b>Note:</b> All chains that are not assigned to a functional unit are shown in the main directory.
3	Information on the step chains	<ul style="list-style-type: none"> <li>● Step chain name</li> <li>● Name of the active step for each chain</li> <li>● Number of parallel/alternative steps</li> <li>● Chain state</li> <li>● Step / chain comment</li> </ul>
4A	Selecting a step chain	Click on the cell in the right table. In the first column, an arrow is shown.

---

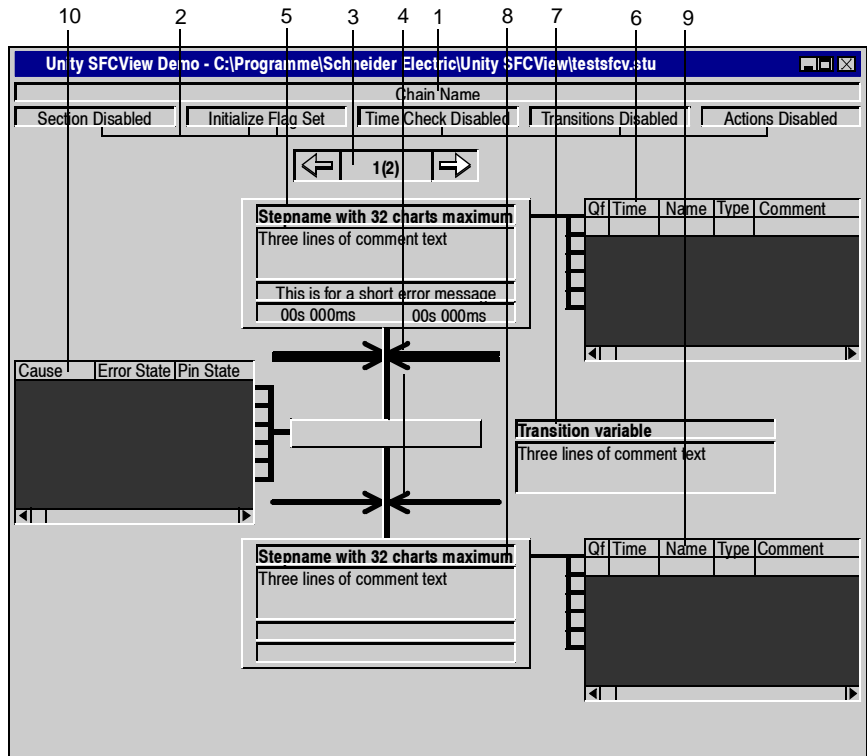
Number	Components	Description
4B	Selecting more than one step chain	<p>Click in a line in the right hand table and confirm by pressing the <b>spacebar</b>.</p> <p>Instead of an arrow in the first column, a cross is shown.</p> <p>Using this method you can select more than one step chain and for all chains at once, apply e.g. the <code>PLCSetInitializeFlag</code> method.</p> <p><b>Note:</b></p> <p>If more than one step chain is marked by a cross, the method to be implemented acts on them. A step chain that is marked with only one arrow is considered in this case to be <b>not</b> selected.</p>
5	Switching to another view	You can switch to a different view (Details) by double-clicking on a step chain.

**Note:** By double-clicking on a step chain, this step chain is in view: Show details. Via the operating button **SFCView** you will get back to the view: Overview.

---

**Overview**  
**SFCView,**  
**View: Details**

View display: details.



View components Details

Number	Components	Description
1	Chain name	Name of the selected chain
2	Status flags	Shows the state of step chain. The state is represented using a color outline.
3	Number of active steps and navigation	Display for number of active steps. The arrow keys can be used to navigate between the active parallel steps.
4	Parallel/alternative branches	Display of parallel (double line) or. Alternative branches (single line)

Number	Components	Description
5	Information on the active steps	<ul style="list-style-type: none"> <li>● Active step name</li> <li>● Comment (three lines)</li> <li>● Short Error message</li> <li>● Delay Time</li> <li>● Current dwell time</li> </ul> <p>The outline around this info field can have a different color depending on the state of the step. On the right hand side the actions for the step are displayed.</p>
6	Information on the actions for the active step	<ul style="list-style-type: none"> <li>● Identifier</li> <li>● Time</li> <li>● Name of variables or the section (variable or section type)</li> <li>● Comment</li> </ul> <p>The background color for the variables can have a different color depending on the state of the variable.</p>
7	Information on transitions	<ul style="list-style-type: none"> <li>● Name of transition variables</li> <li>● Comment (three lines)</li> </ul> <p>The rectangle representing the transition can have a different color depending on the state of the transition.</p>
8	Information on the following step	<ul style="list-style-type: none"> <li>● Next step name</li> <li>● Comment (three lines)</li> <li>● Short Error message:</li> <li>● Delay Time</li> <li>● Current dwell time</li> </ul> <p>On the right hand side the actions for the step are displayed.</p>
9	Information on the actions for the next step	<ul style="list-style-type: none"> <li>● Identifier</li> <li>● Time</li> <li>● Name of variables or the section (Variable or Section type)</li> <li>● Comment</li> </ul>
10	Diagnostic information	Display of error messages for the transition. Which diagnostic information is shown can be set individually by the user.

**Overview  
Process**

If you change to the overview **Process** the chains of the Unity Pro test project, which you have defined via the properties of the SFCView, are displayed in the view:Details Simple *Insert SFC View ActiveX in Process Overview, p. 28*. By double-clicking on one of the two chains, it is then shown in the overview **SFCView** in the view: Details.

---

**Control PLC**

Via the operating buttons **NextStep**, **SetIniFlag** and **ResIniFlag** you can control the PLC or in this case the PLC simulator.

With **NextStep** you switch the step chain a step further independently of whether the transition has been met.

With **SetIniFlag** you set the Initialize-Flag for the selected chain.

With **ResIniFlag** you reset the Initialize-Flag for the selected chain.

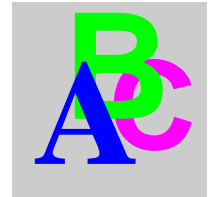
Activate the individual operating buttons and observe what changes in the display of the SFCView-ActiveX.

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