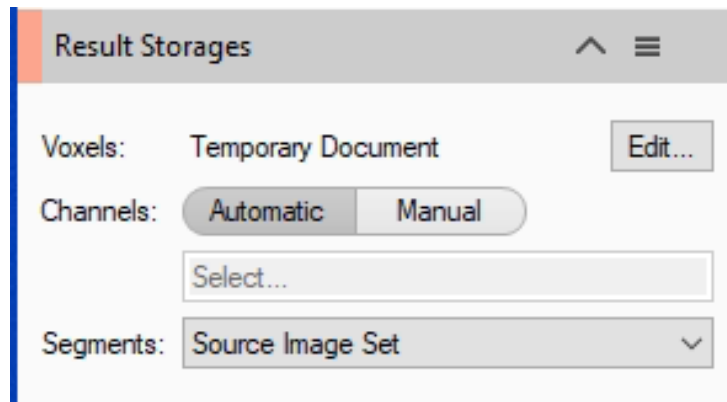


Application Note #17

How to : «Set the Result Storage operator»

The application-note purpose is to define how to correctly set the Result Storage operator and which is the effects of it's setting on the analysis results.

Result Storage Strategy



The **Result Storages** operator defines the voxels storage strategy to be applied at the processed image.

By default, the **Voxels** parameter is set on the **Temporary Document** option and the processed image is saved in a temporary repository. This document will be deleted at the end of the pipeline execution leaving the Image-Set as it was in origin. Using one of the **Voxels** available options, the processed image can be stored as a new channel(s), new Image-Set or a new Document (SIS file). The processed image storing will allow to use it for further analysis or documentation scopes. Any setting of the **Voxels** item, except as **Temporary Document**, enables the **Channels** option. Through this item, one or more channels can be saved accordingly to the **Voxels** parameter.

The **Segments** parameter sets the target from which the features (included the intensity based ones) will be collected. It also defines on which image the objects are stored (Original or Processed).

By default, the **Source Image Set** option is set and the original Image-Set will be measured.

IMPORTANT:

Regardless The Result Storages_settings, the source image is not modified or altered (except if set to Replace Original). It remains stored in the SIS as it was when imported.

NOTE:

Only the **INTENSITY** features are influenced by the Segments option, meanwhile the shape and dimensional data remains the same regardless its setting.

Result Storage Strategy

Voxels

- The parameter sets the destination storage of the pre-processed ImageSet.

Channels

- Set the channels storing accordingly to the Voxels parameter setting.

Segments

- Set the Image source from which the features will be extracted. The features are stored with the selected image

Index

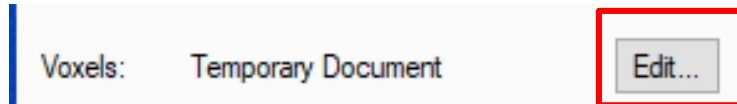
1. The Voxels setting
2. The Channels setting
3. The Segments setting

Result Storage Strategy

1. Voxels:

1.1

Press **Edit** to open the form.

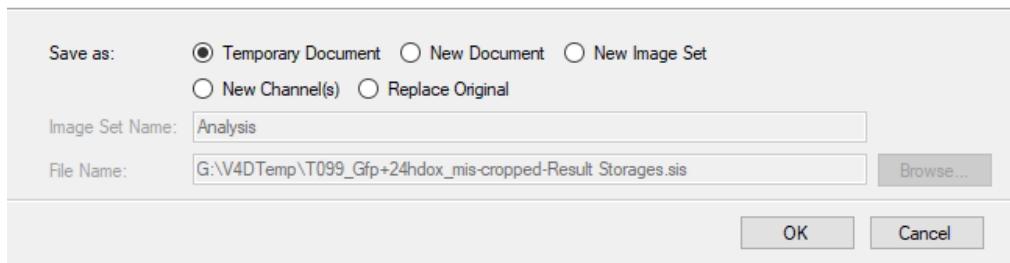


1.2

Select one of the available option.

Specify how to store the result of image processing operations.

Use a Temporary Document to discard the image data when closing the pipeline. Use New Document, New Image Set, New Channel(s) or Replace Original to keep the image data.

A screenshot of a dialog box titled 'Specify how to store the result of image processing operations'. It contains several options: 'Save as:' with radio buttons for 'Temporary Document' (selected), 'New Document', 'New Image Set', 'New Channel(s)', and 'Replace Original'. Below this is a text field for 'Image Set Name' containing the word 'Analysis'. Another text field for 'File Name' contains a long path: 'G:\V4DTemp\T099_Gfp+24hdox_mis-cropped-Result Storages.sis'. To the right of the 'File Name' field is a 'Browse...' button. At the bottom right are 'OK' and 'Cancel' buttons.

Temporary Document : The processed image is saved in a temporary repository. This document will be deleted at the end of the pipeline execution

New Document : The processed image is saved in a new document (SIS file). The new document will be saved in the **File Name** location. Use the **Browse** button to select the destination folder.

New Image-Set : The processed image is saved in a **new Image-Set** (located in the active SIS file). The **Image-Set** name can be assigned typing it in the Image Set Name text field.

New Channel(s) : The processed image is saved as additional channel(s) in the active Image-Set. Using the **Channels** parameter, all the available channels, or a selection of them, can be saved.

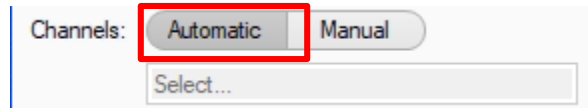
Replace Original: The processed image is replacing one of the existing Image-Set. The selected Image-Set is overwritten by the processed image (**the original data are lost**).

Result Storage Strategy

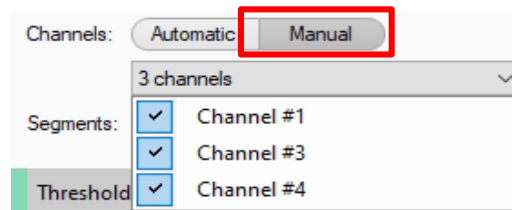
2. Channels:

2.1

Select one of the available option.



Automatic : Depending on the **Voxels** setting, a reasonable channels selection is made. E.g. If **Voxels** is set as **New Image-Set**, the **Automatic** select all channels from the Input ROI (regardless if processed or not). But, if **Voxels** is set as **New Channels**, only the processed channels ones are selected by **Automatic**.



Manual : A selection of channels can be defined using the drop down list. These channels will be stored accordingly to the **Voxels** setting.

TIPS:

In order to select multiple channels, keep the CTRL key pressed while you are ticking the items.

NOTE:

The selected channels can be renamed.

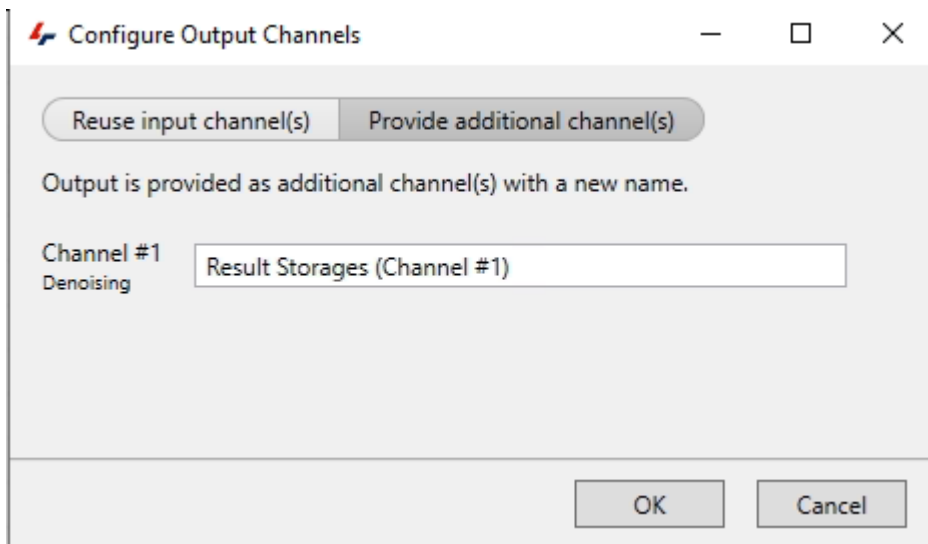
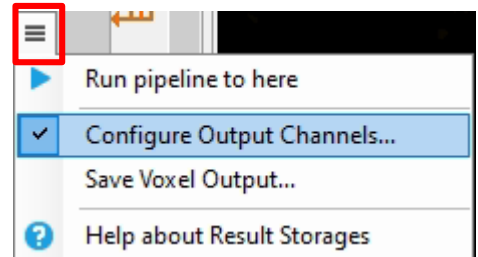
Result Storage Strategy

2. Channels (Con't):

2.2

Rename output channels

Click on the Result Storages drop down menu and select the “**Configure Output Channels..**” item.



Reuse input channel(s) : The original channel(s) name is used.

Provide additional channel(s) : The original channel(s) name can be modified. A default channel name is set, it can be overwritten typing the new text in the box.

NOTE:

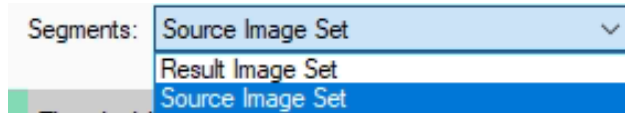
The new channel name is maintained for the next operators.

COMMENT:

The channel(s) can be also renamed in any Voxels operators included into the pipeline

Result Storages Strategy

3. Segments:



Result Image Set : The processed image is used to collect the features.

Source Image Set : The source image is used to collect the features.

NOTE: Check the following table for the possible "Segments" combinations accordingly to the "Voxels" setting

Table 1
Voxels / Segments setting scenarios.

Voxels/Segments	Source Image Set	Result Image Set
Temporary Doc	OK	-----
New Image Set	OK	OK
New channel(s)	OK	X
Replace Original	OK	X
New Document (SIS)	OK	OK

X = Not available ----- = Not Useful

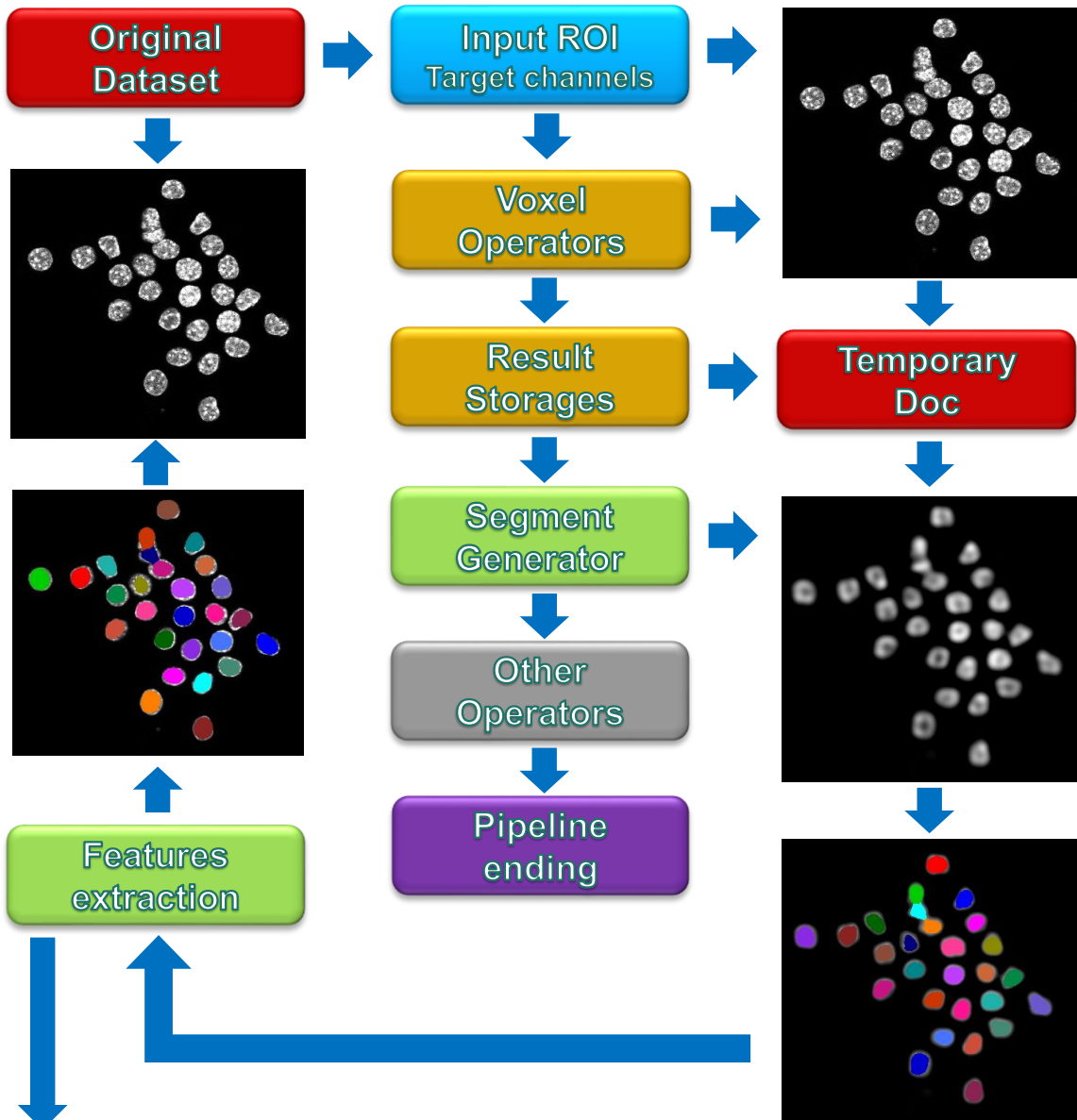
As mentioned before, the **Source Image Set** setting warranties that the original dataset (without modification due to processing) is used as target to collect the features.

Setting the **Result Image Set** as voxels destination, the features are collected from the processed dataset. Therefore, the data will not report the original information.

NOTE: All the possible scenarios are summarized in the next pages.

Voxels / Segments setting scenarios.

1. Voxels : Temporary Doc
Segments : Source Image Set
Objects Measurements collected from the **Original** Dataset



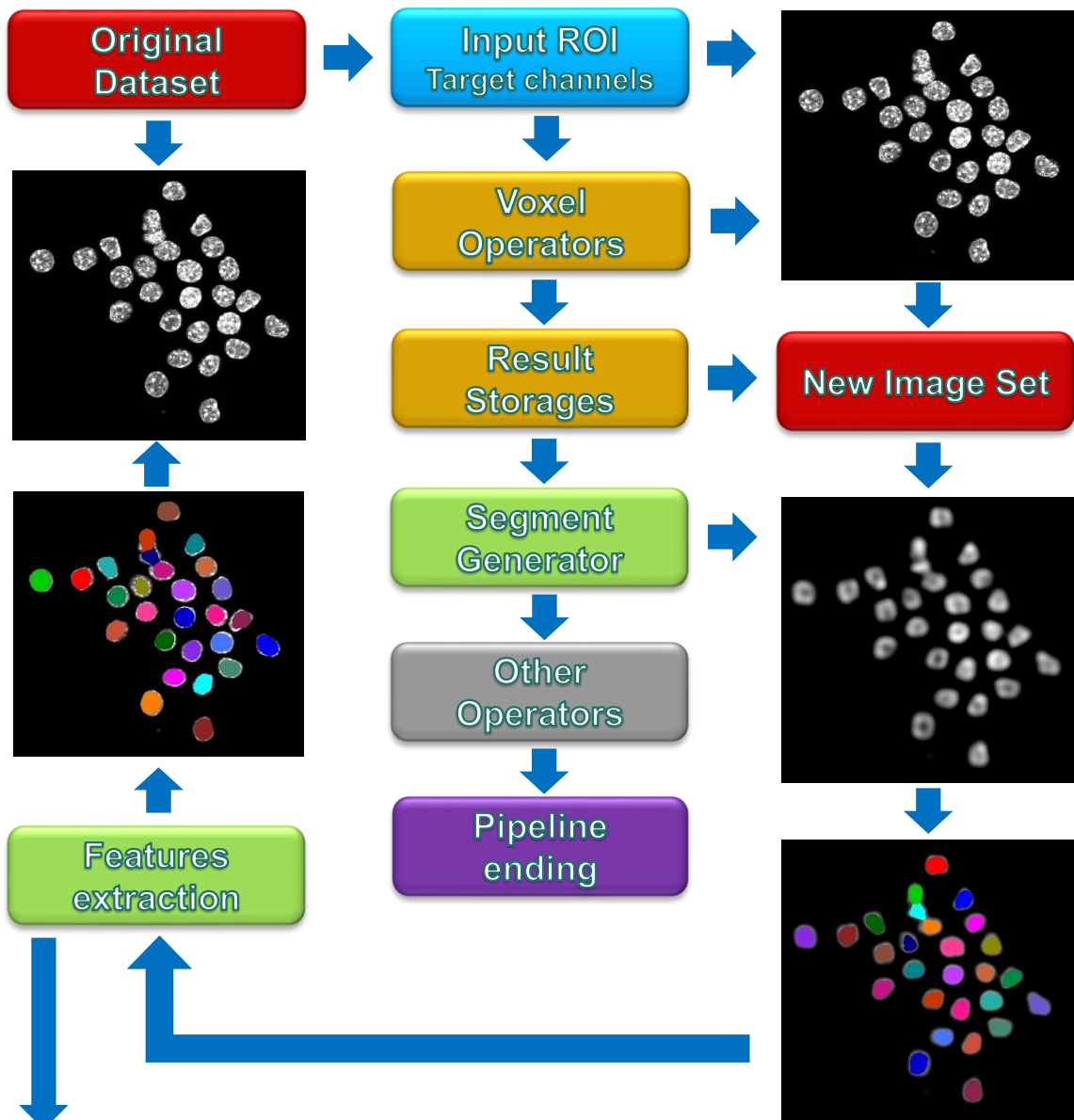
Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

The Temporary Doc is deleted once the pipeline has been completed

Voxels / Segments setting scenarios.

2. Voxels : New Image Set
Segments : Source Image Set
Objects Measurements collected from the **Original Dataset**



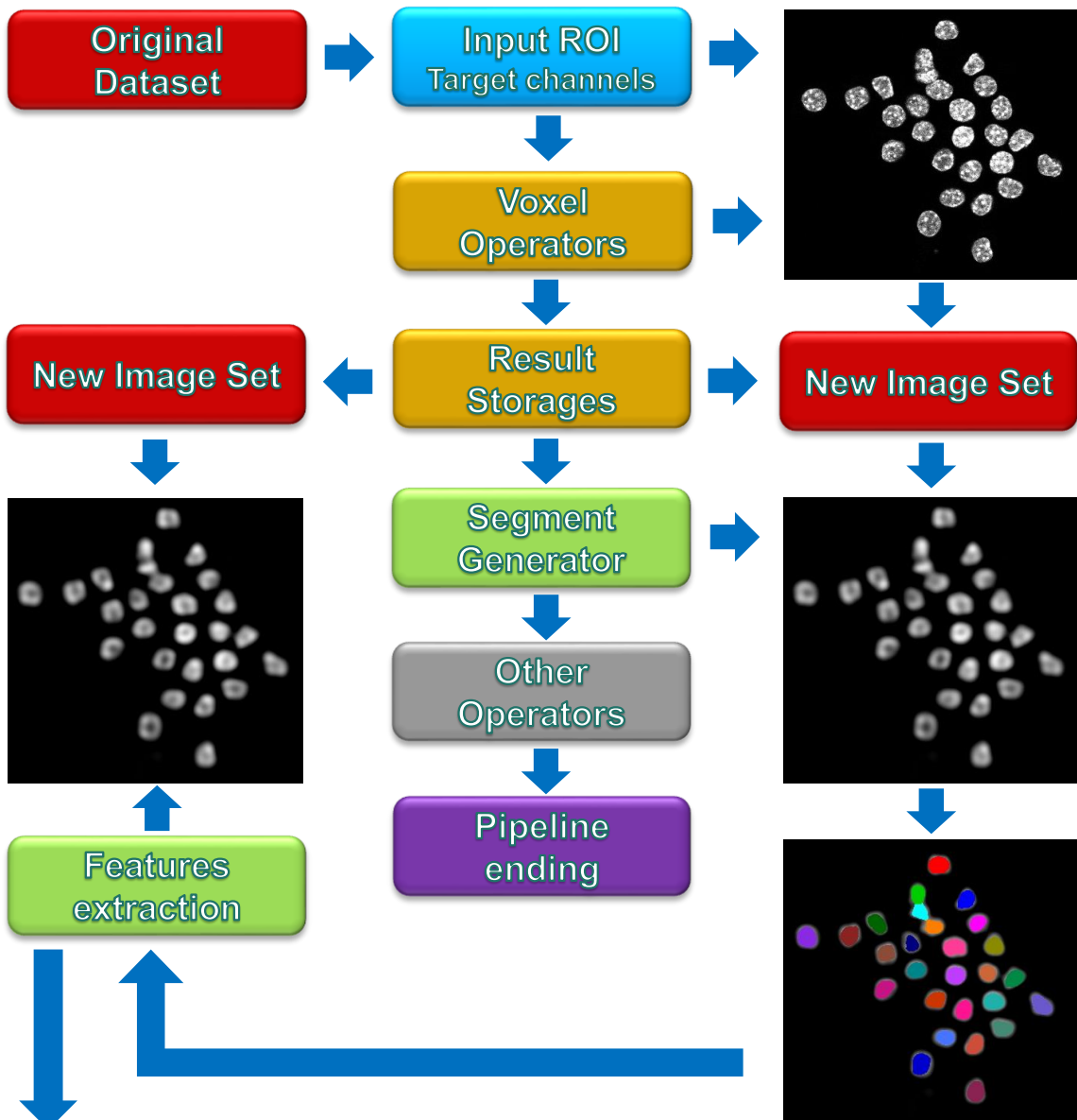
Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

The New Image Set is added to the active SIS document, It is available for visualization or further processing and analysis.

Voxels / Segments setting scenarios.

3. Voxels : New Image Set
Segments : Result Image Set
Objects Measurements collected from the **Processed** Dataset



Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

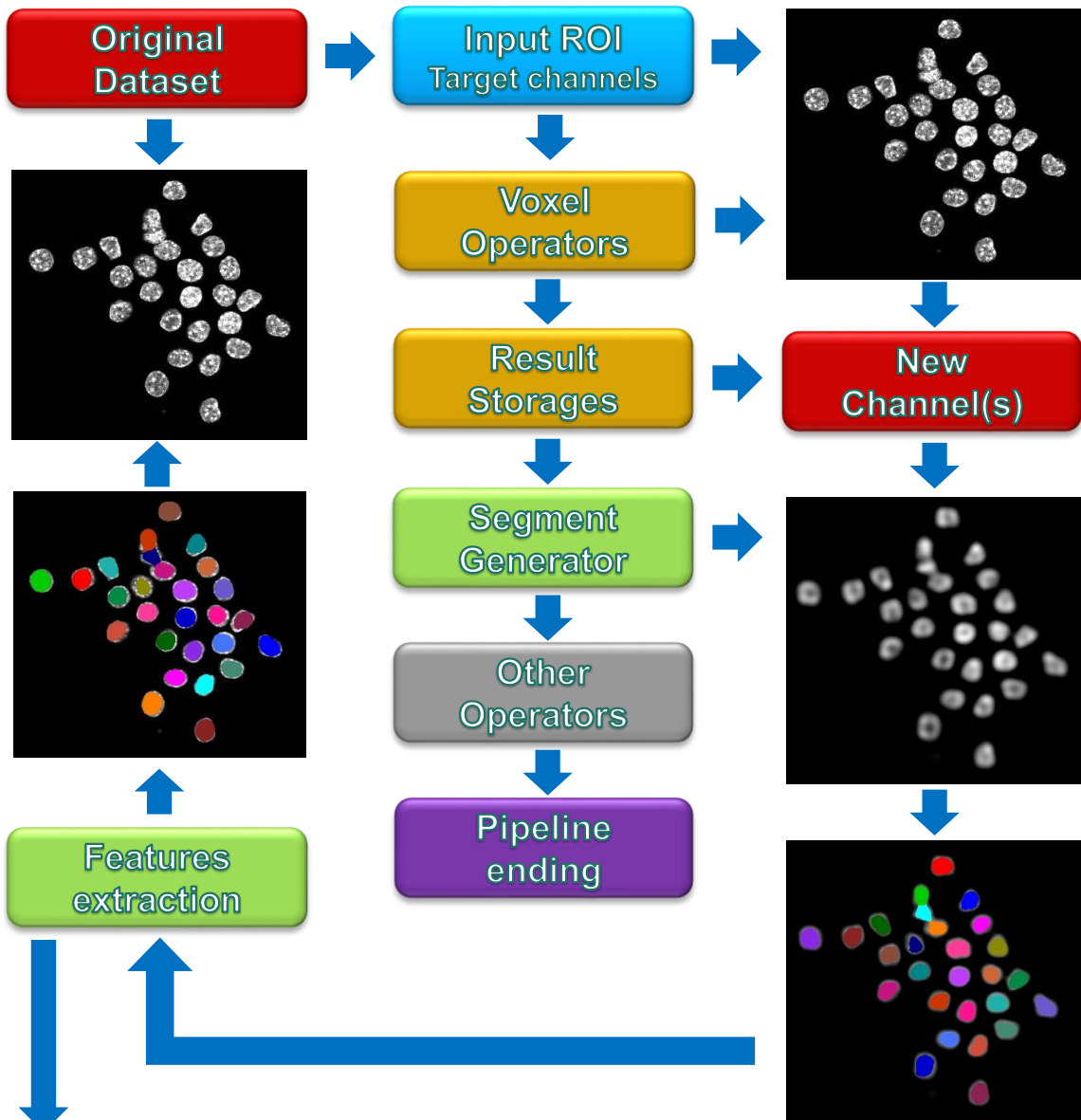
NOTE:

The New Image Set is added to the active SIS document, It is available for visualization or further processing and analysis.

Voxels / Segments setting scenarios.

4. Voxels : New Channel
Segments : Source Image Set

Objects Measurements collected from the **Original** Dataset



Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

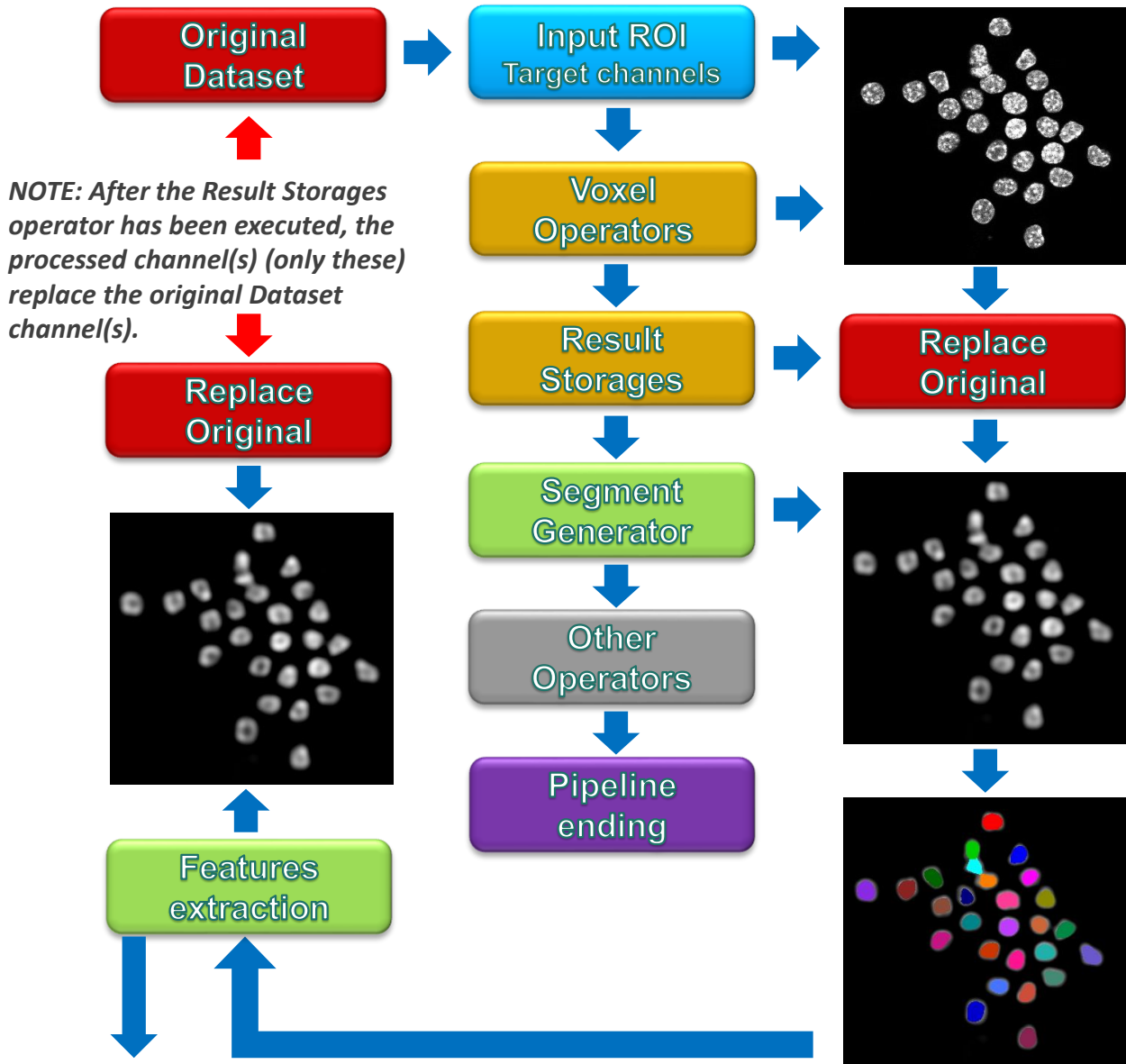
The New Channel(s) is added to the active Image Set in the current SIS document.

Voxels / Segments setting scenarios.

5. Voxels :
Segments :

Replace Original
Source Image Set

Objects Measurements collected from the **Original** Dataset



Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

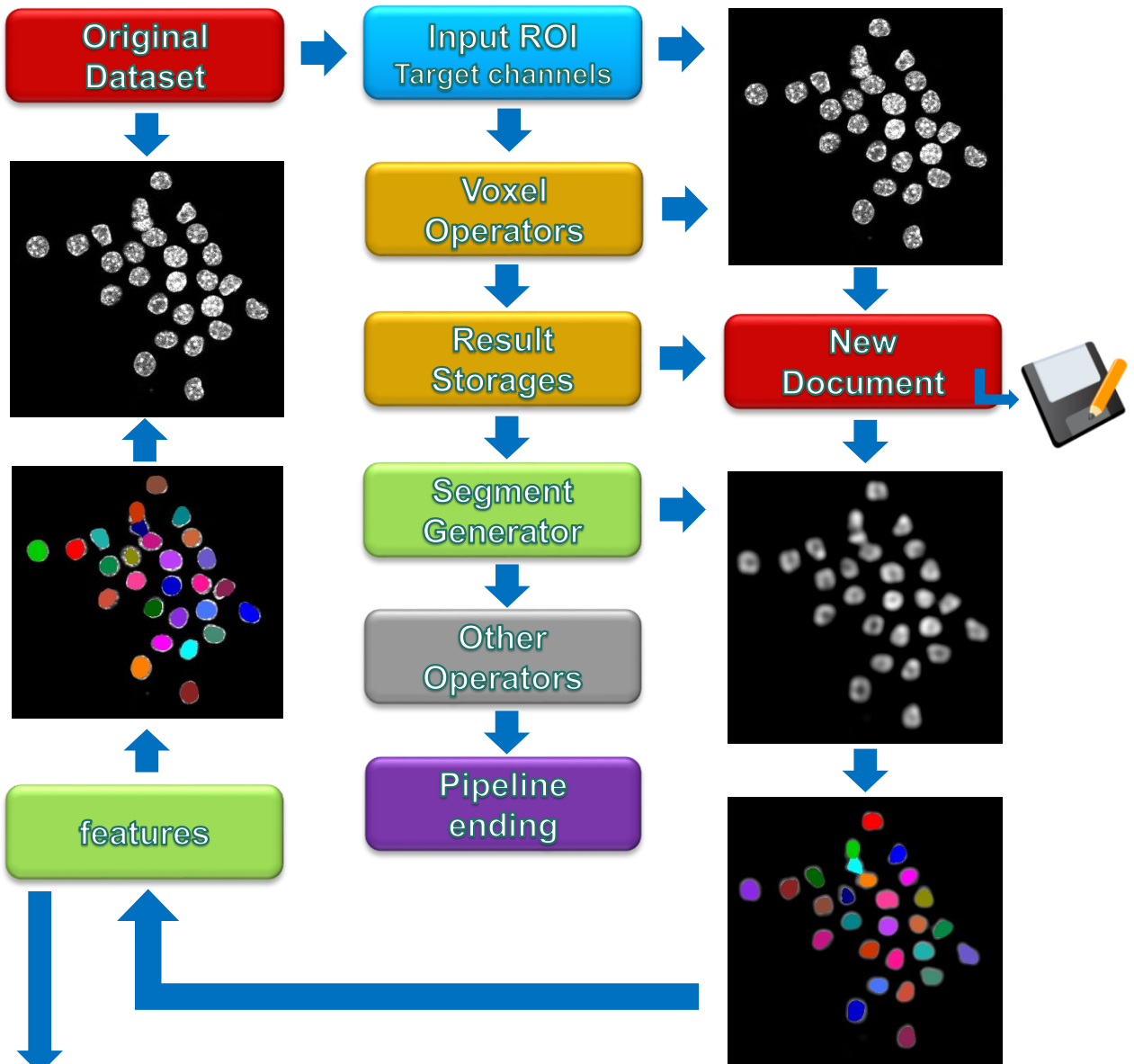
The Original Image Set (target channel(s)) are replaced by the processed Channel(s). The source data are lost.

Voxels / Segments setting scenarios.

6. Voxels : Segments :

New Document (SIS)
Source Image Set

Objects Measurements collected from the **Original** Dataset



Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

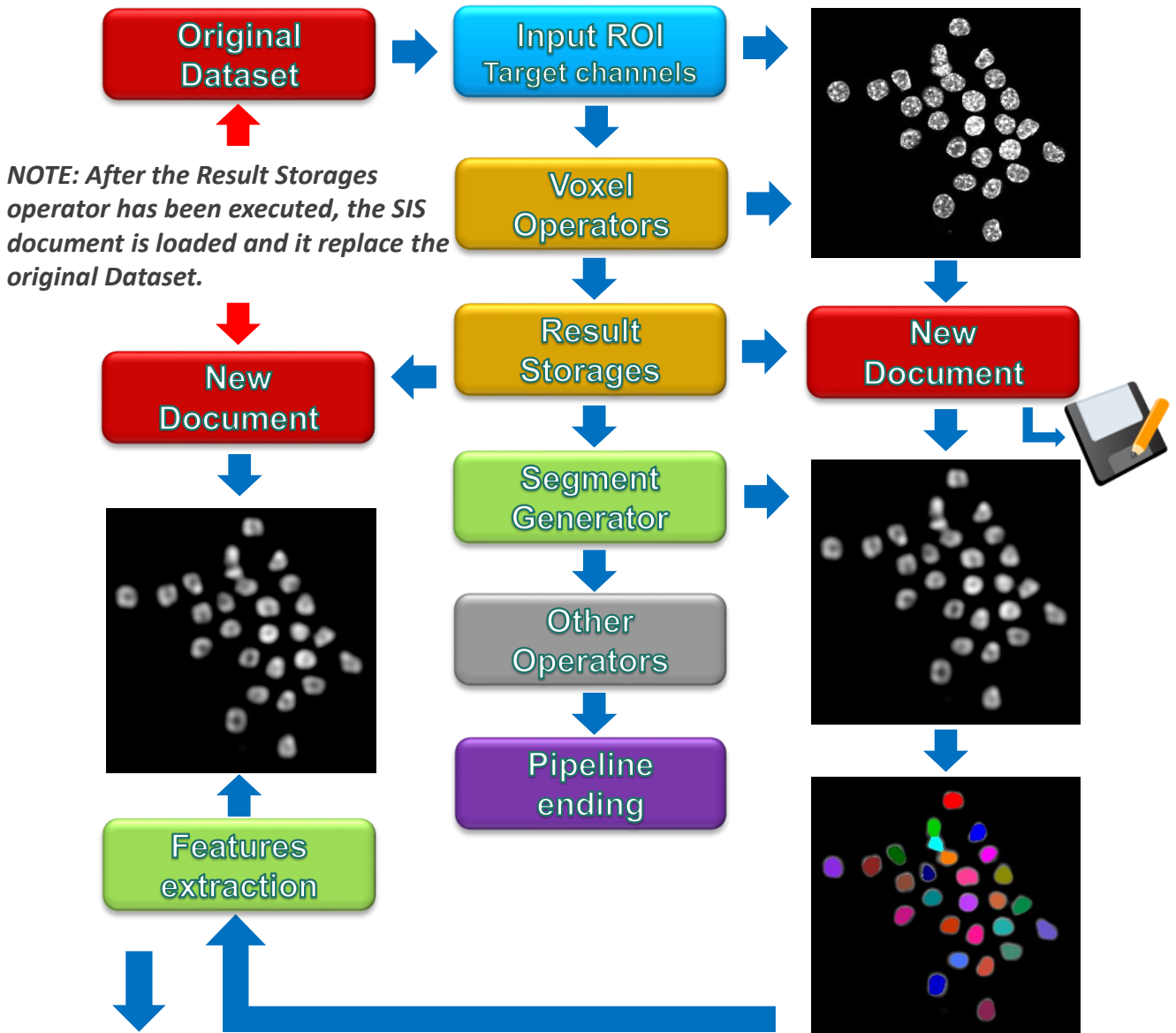
The New Document is saved to the storage device. The SIS document must be manually loaded in order to access it.

Voxels / Segments setting scenarios.

7. Voxels : Segments :

New Document (SIS)
Result Image Set

Objects Measurements collected from the **Processed** Dataset



Volume, Volume (µm³)	Mean, Intensities #1	SD, Intensities #1
290.941	36938.336	13248.978
300.807	35052.769	13371.156
320.501	35611.132	12395.448
344.070	42067.365	13205.159
281.387	37250.358	13085.098
295.247	32611.198	12646.323
267.528	35688.137	14483.361

NOTE:

The New Document is saved to the storage device and automatically reloaded. The new SIS document replaces the original dataset, that is closed.



Contact the arivis application support to receive additional technical details about the topic described in the application note.

“The quantitative analysis of the images represents the art of transforming a visual sensation into its schematic and discrete form allowing its univocal description, classification and mathematical and logical interpretation of its spatial and temporal components”

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