



Smart-VS plus

New FW release

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Smart-VS plus New FW Releases

SVS Plus FW R 1.4 (currently in production)

- Introduction of the third class (No Object)
- I\O setting page graphics refactoring
- Widget storage logic and layout modification

SVS Plus FW R 1.5 (available on WEB site going early in production)

- Adjustable Region of Interest

Third class object detection feature (R1.4.0)

- Wizard procedure includes the third class setting without changes about job definition.
- The teaching procedure includes the third class setting just in addition to the current teach flow.
- The teach flow keeps the same step by step concept increasing detection performance for a great easy-to-use experience.
- The TEACH button is still usable with the same approach of the two-class teach procedure adding just a third acquisition phase to the current flow
- The total number of images is set to 20
- If there is no need of third classification it can be skipped without loading images in the related dataset

TEACHING

To perform Teaching on your Smart-VS Plus device, enter a job name, select the bank where to store it, click on the Create Job button, and follow the procedure described below.

Job Creation Wizard

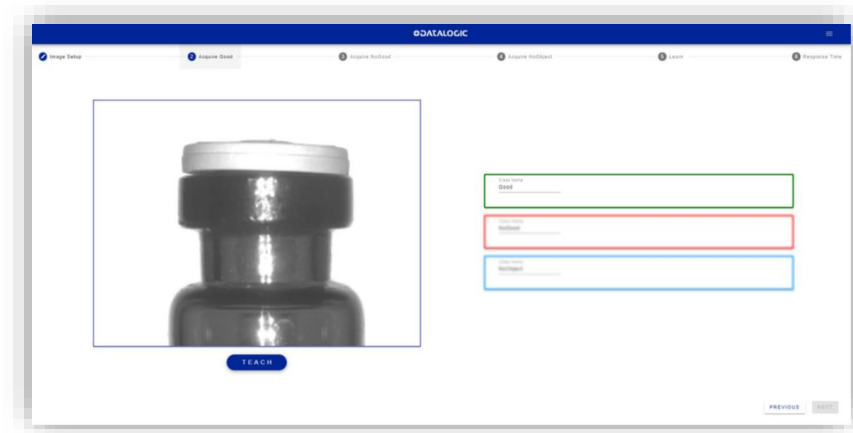
Please provide a Job name to proceed.

Insert a Job name
Batch01

Select Bank
Bank 0

Create Job

Cancel




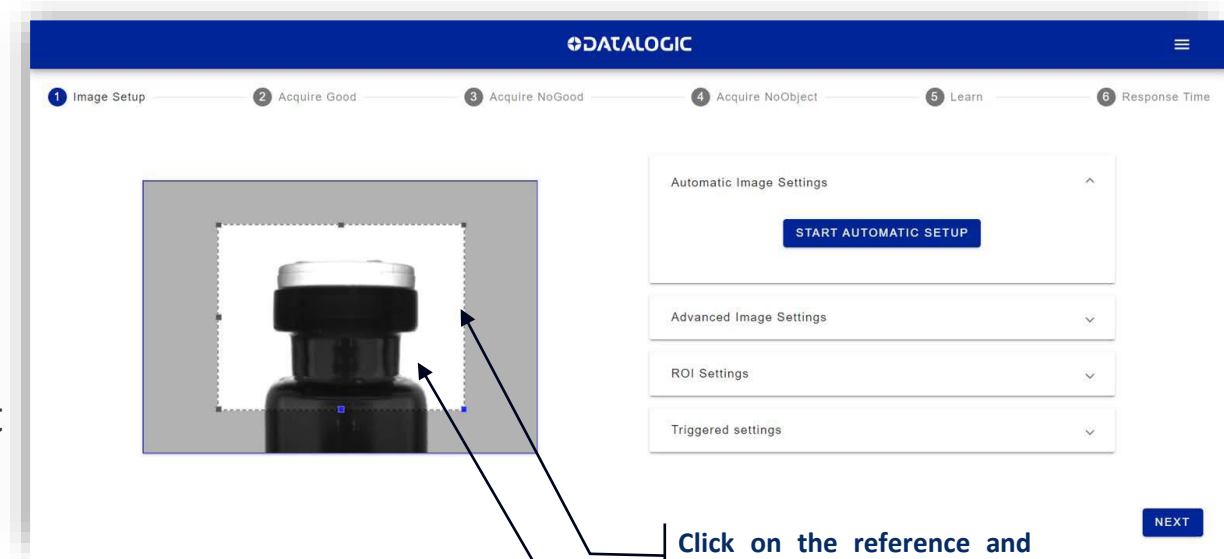
Third class object setting flow

Image Setup with NEW resizable ROI feature

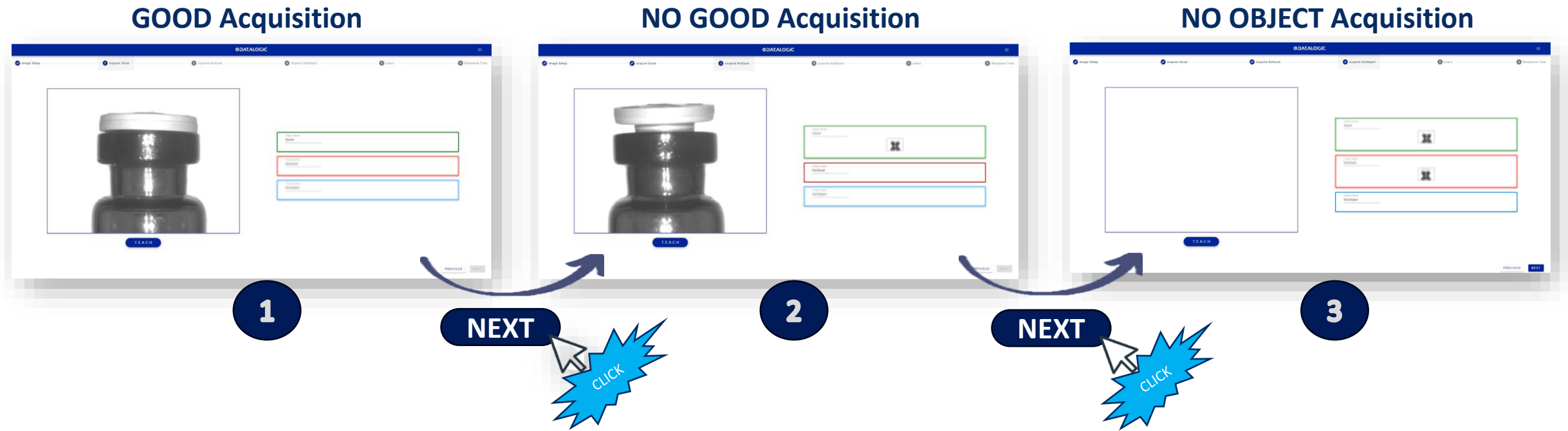
The image Setup phase maintains the current functionalities in terms of image exposure parametrization with some important improvements:

 Maximum **detection distance increased** from 150mm up to 400mm.

 Possibility to **set the ROI dimensions** keeping the current capability to move it inside the field of view area.



Third class setting flow



- The Teach procedure keeps the «just one step option» with increased classification range capability.
- The procedure can be even done by the on top yellow TEACH-IN button, keeping the same easy-to-use experience.
- The class label names are set by default to GOOD, NO-GOOD, NO-OBJECT but they can be edited with different names.
- Total image storage capability for each job with two or three classes is 20.

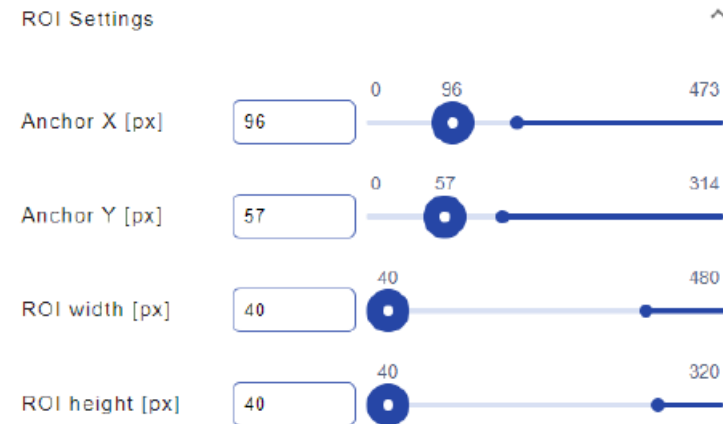
ROI setting feature



The ROI size can be set by using the mouse directly on the GUI or by sliders on the ROI parameter window or by editing the parameter value

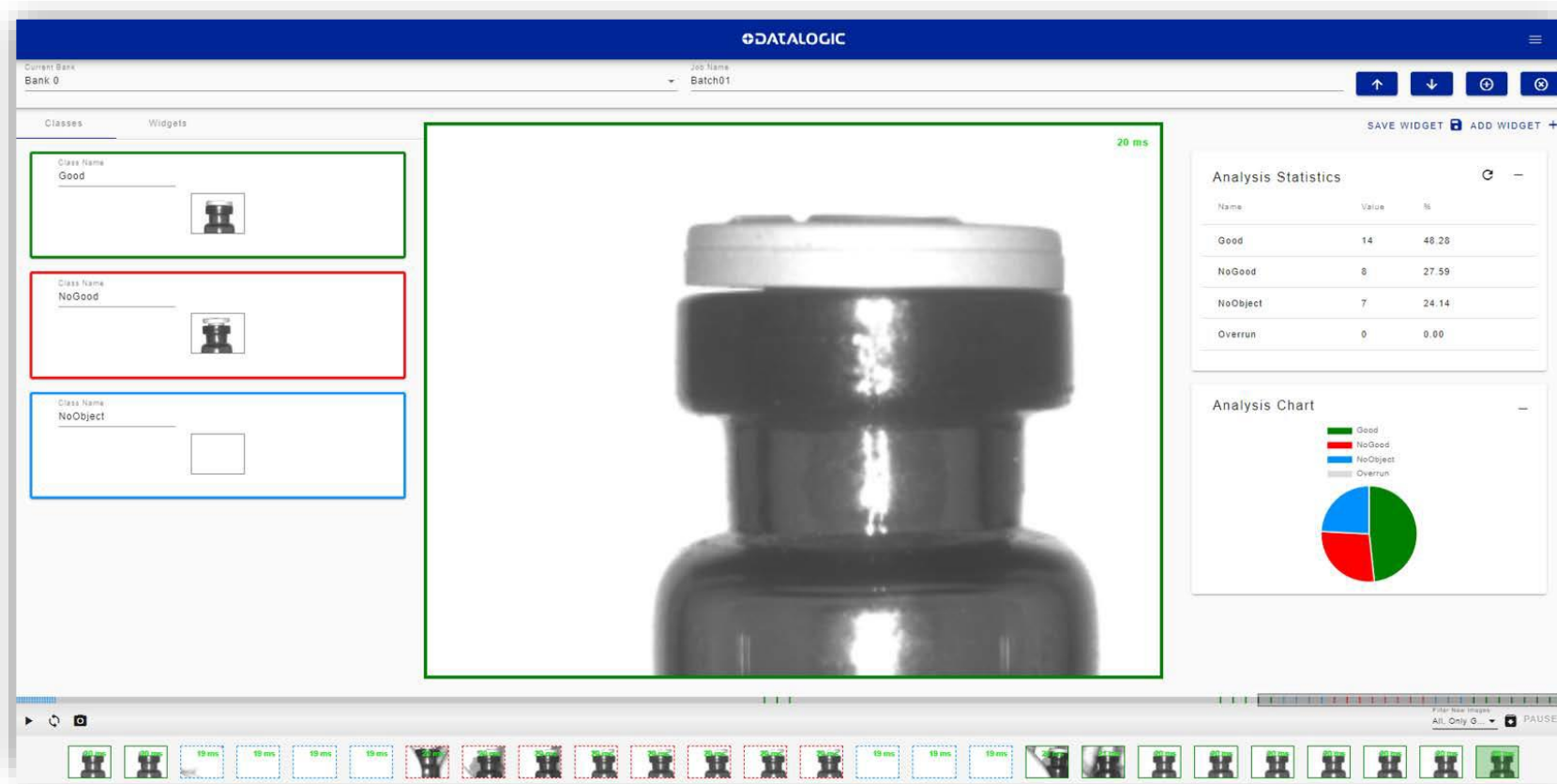
ROI Settings

The "ROI Settings" button allows to modify ROI values that are Anchor X, Anchor Y (that together represent the upper left point of the ROI) and ROI width and ROI height.



NOTE: When the "Next" button is pressed, the ROI dimensions can be slightly changed automatically to improve algorithm behavior.

Monitor and widgets



The monitor layout page has been improved including the addition of the third class
The widget handling is now more flexible and complete with additional statistics

Image archive



The new release is also improving the archive of the film-strip images, handling all the types of different classes independently

Response time

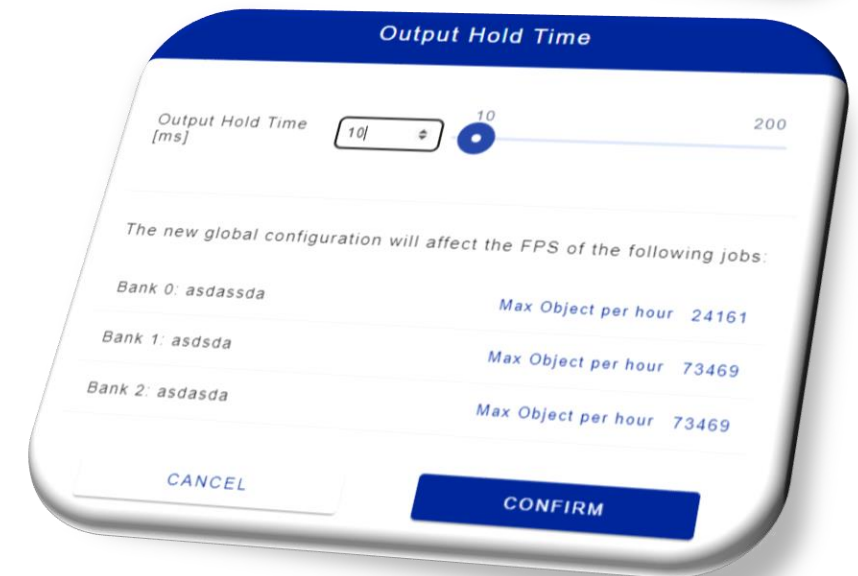
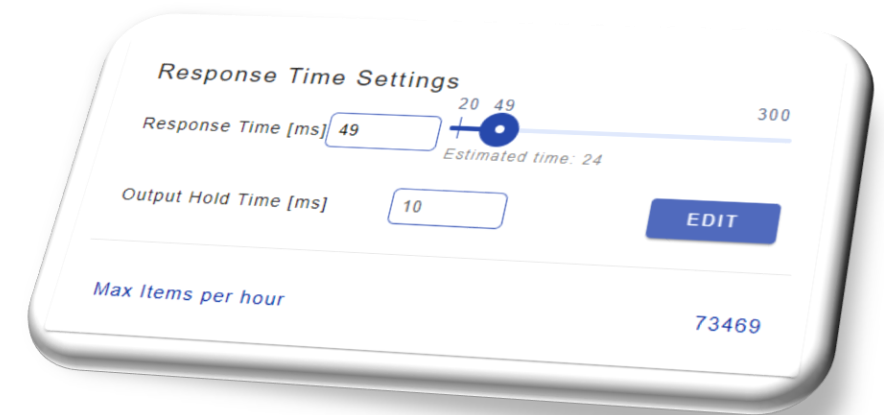
The new release has added some interesting response time handling features:

- The new ROI resizing feature has improved the response time.
- Depending on ROI dimensions the response time can get different values depending on job type reaching faster values down to 15ms, being still deterministic.
- The response time window shows the number of object per hours that can be detected for the selected job.

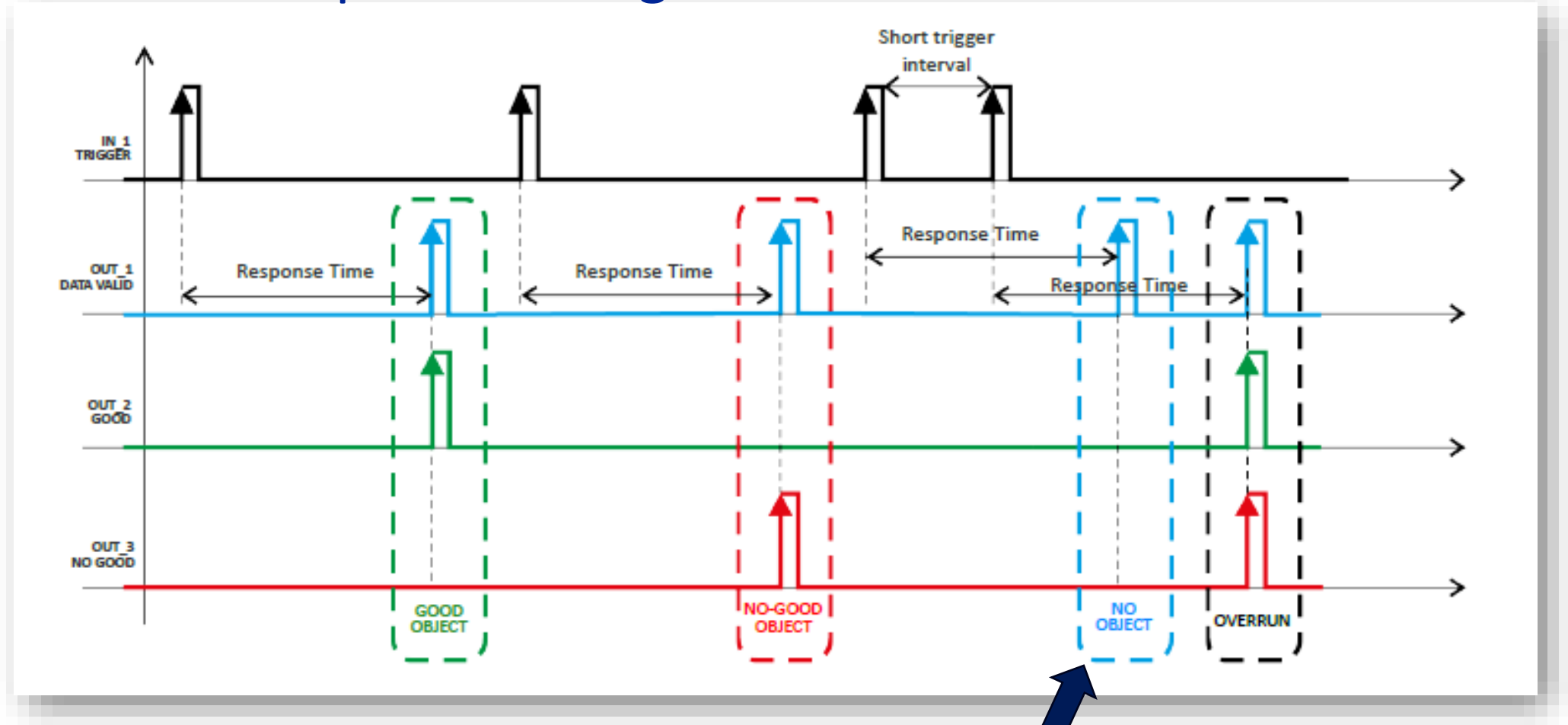
The maximum acquisition frequency depends on two timings:

- Job Response Time: `Resp_T_ms`
- Output Hold Time: `Out_HT_ms`

The maximum number of objects that can be analyzed by the device is $3600 * 1000 / \max(\text{Resp_T_ms}, \text{Out_HT_ms})$.



Three classes output handling

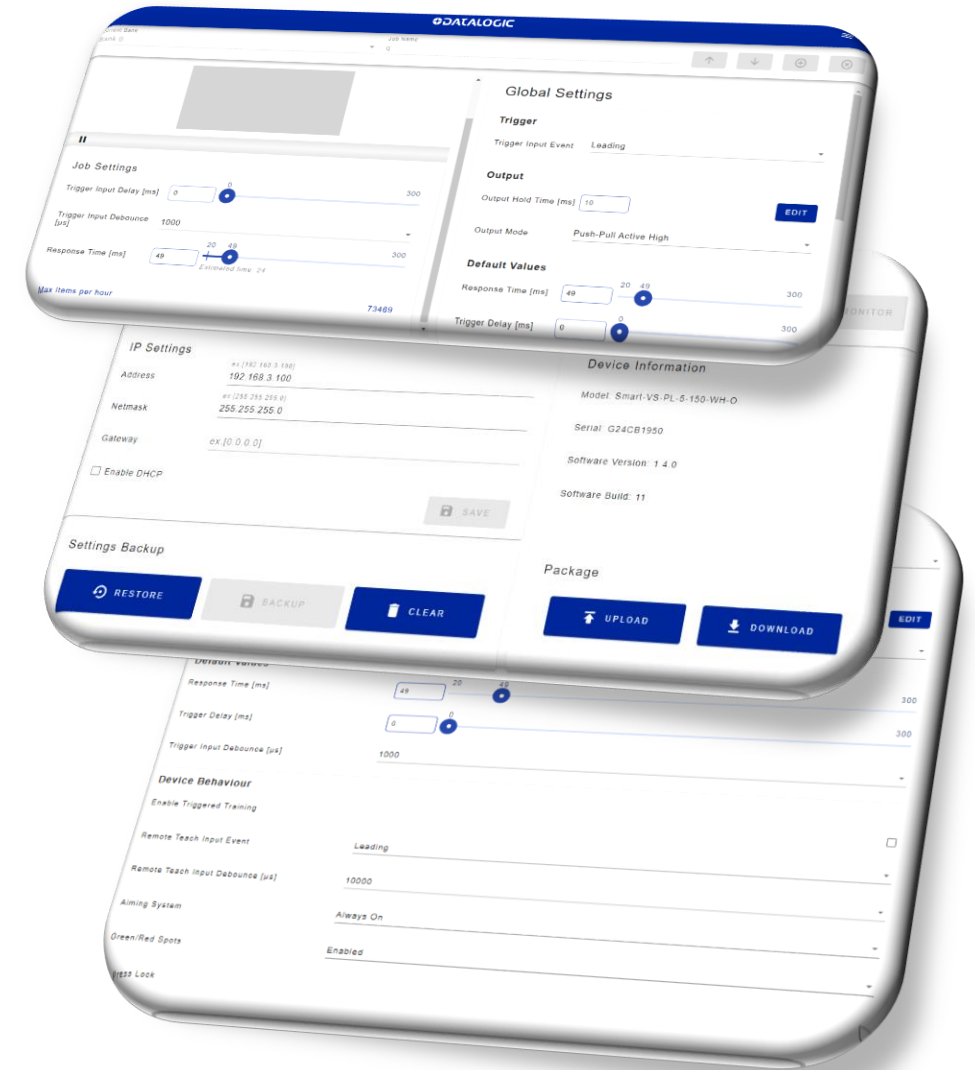


The output handling has kept the same former concept adding a status for the 3° class detecting information which keep both OUT_1 and OUT_2 at low logic level (deactivated)

Dashboard and I/O Settings

The new release has more optimized features to easily handle the product firmware update.

The I/O setting is more complete with Key Lock feature that can be activated by user flag.



■ New FW release advantages

The new FW release has several advantages for the customers:

- ✓ Faster response time can cover challenging applications making difference versus smart camera or expensive sensor solutions with even more stable results
- ✓ Resizable ROI increases object detection stability thanks to more precision on object feature selection
- ✓ More operating distance to improve the sensor detection capability working up to 400mm
- ✓ More flexibility in product parametrization for fast and easy machine integration

THANK YOU

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