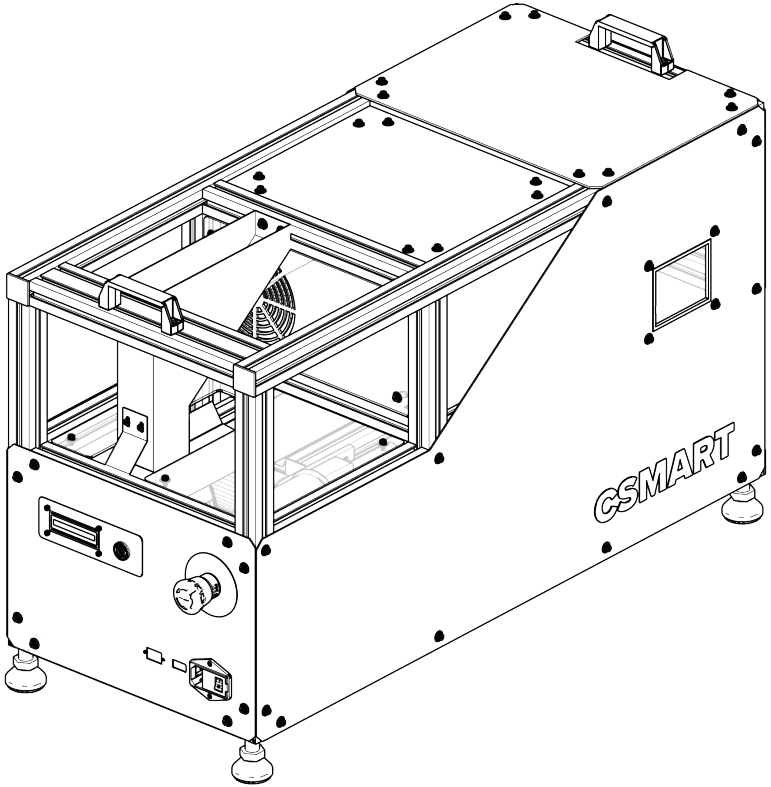


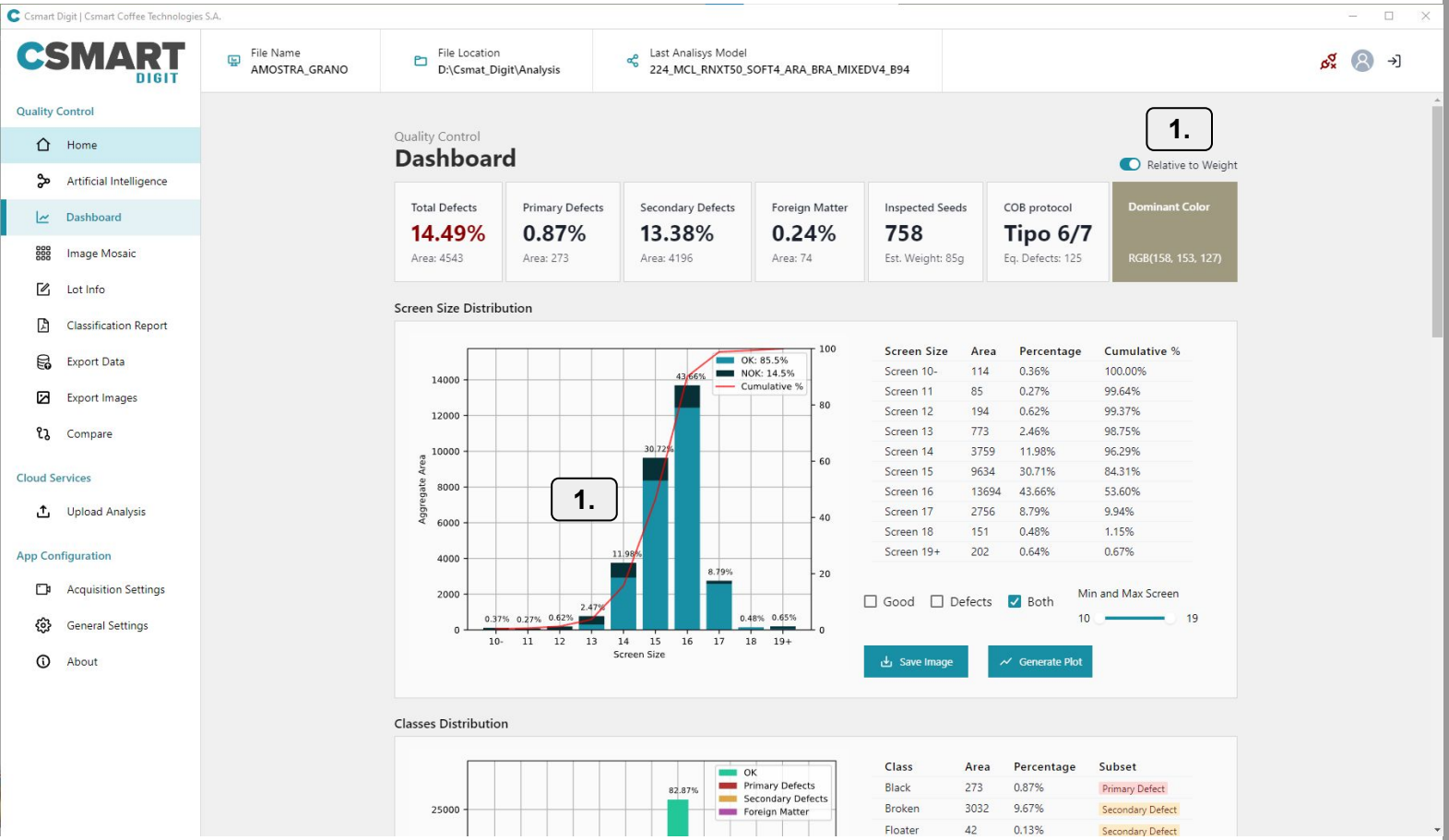
New Release

Device Control Desktop App

Minor version - V3.0.10

2024/07/19

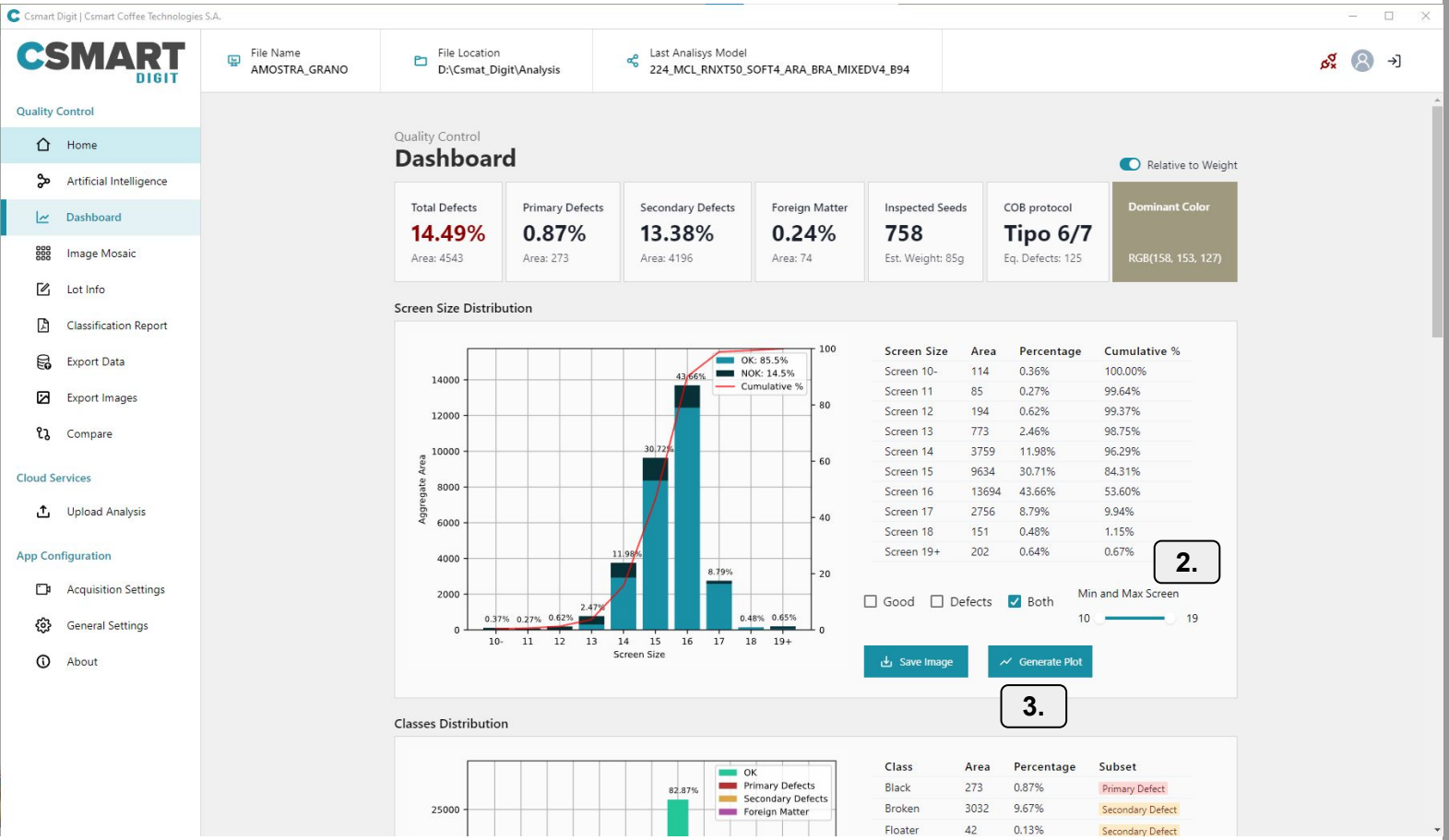
CSMART DIGIT



Dashboard

1. A new switch labeled **Relative to Weight** and **Relative to Count** can be selected to change all calculations regarding screen size distribution. When **Relative to Count** is selected, all graphs and tables reflect the occurrence of each seed relative to the total occurrence. Conversely, when **Relative to Weight** is selected, the percentage is calculated based on the area of each seed relative to the total area of the sample, which strongly correlates to weight. This is a global variable, meaning any change here will affect all screens in the software.

Dashboard

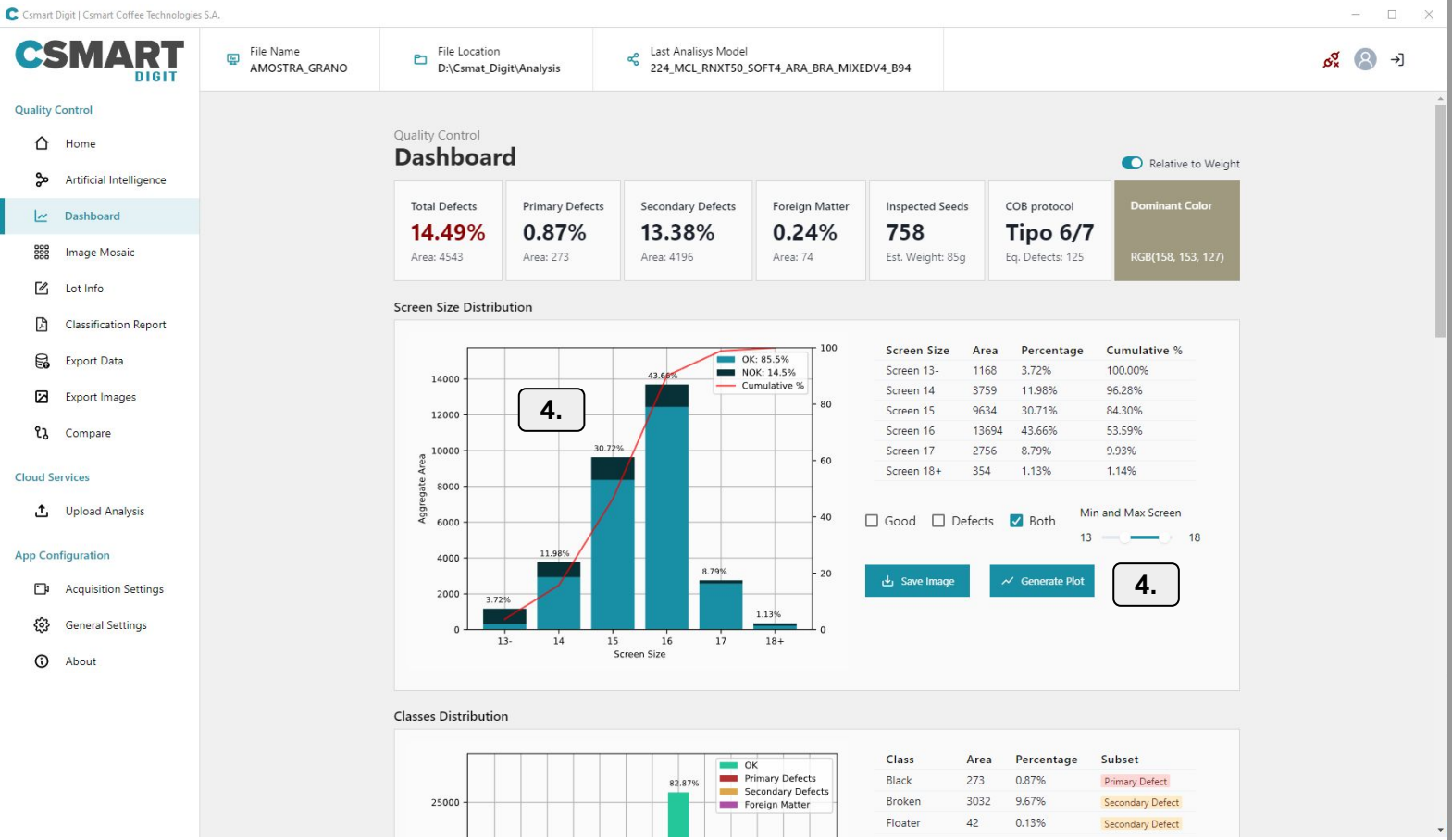


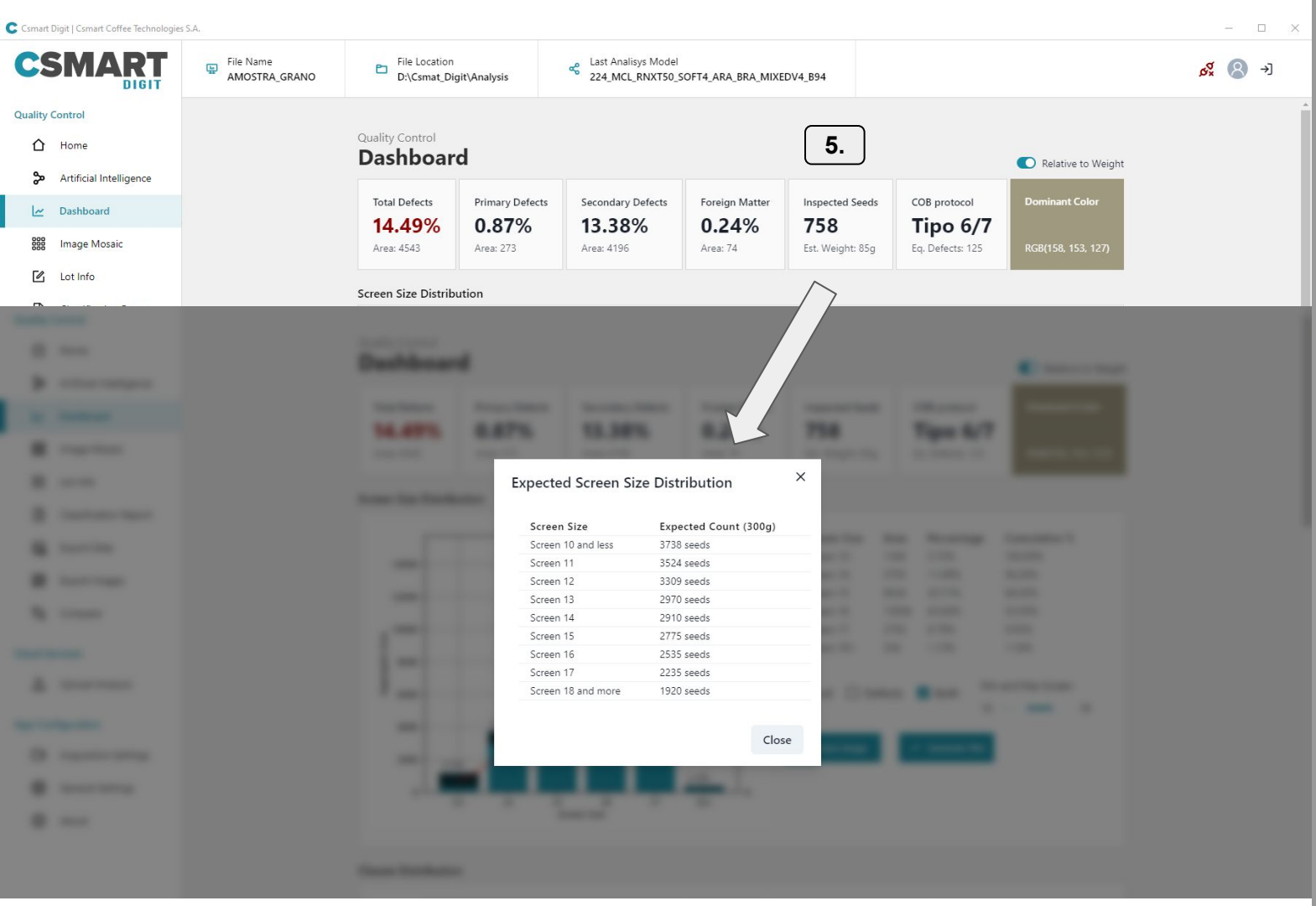
2. The **Min and Max Screen** slider is intended to define the boundaries of the screen size distribution. Changing the values will adjust any sizes that are larger or smaller than the specified limits to the selected boundaries.

3. After selecting the min and max values, click **Generate Plot** to calculate and generate both the Screen Size plot and table

Dashboard

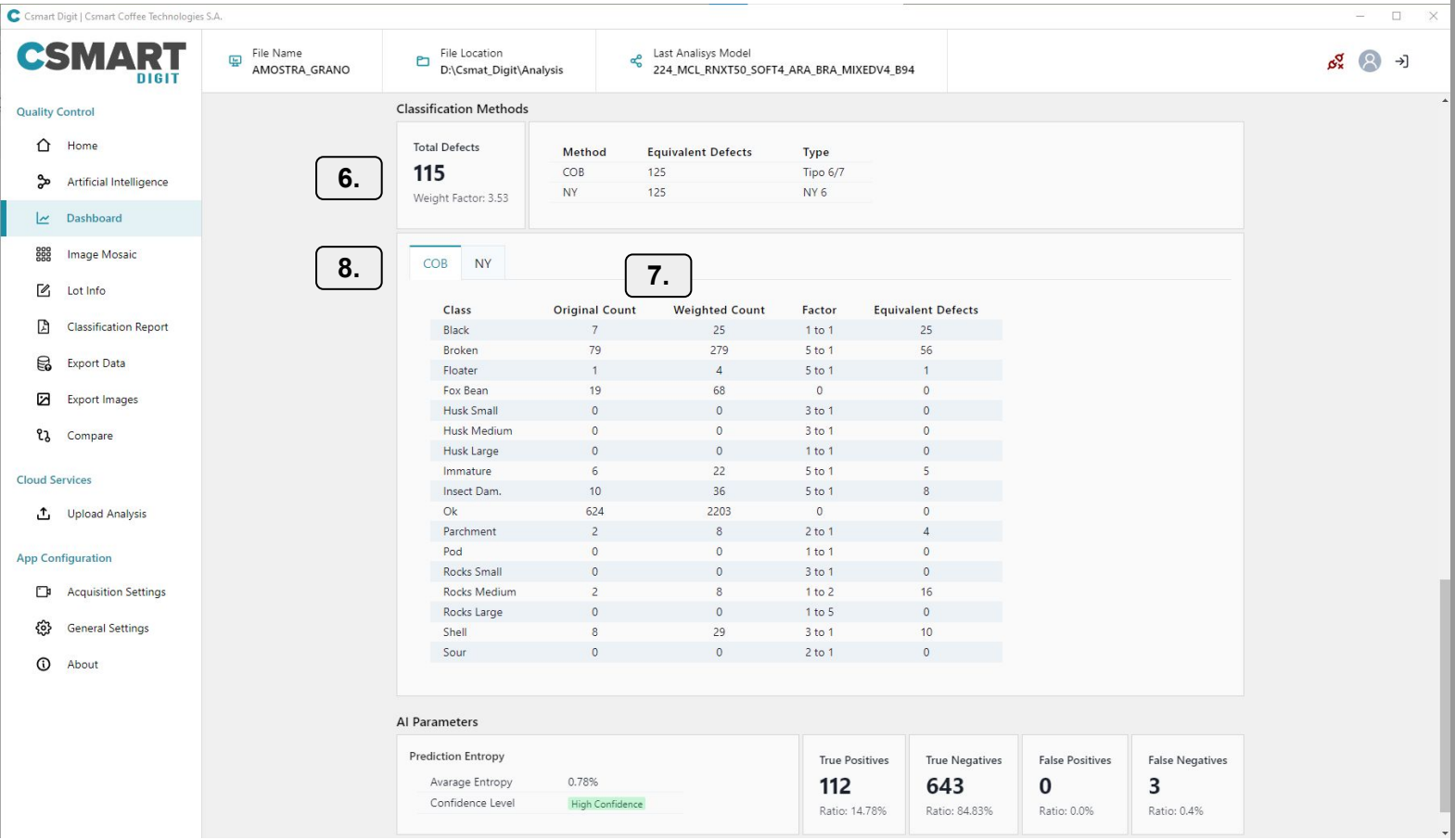
4. Example of the adjusted plot and table, limited to screens 13 and 18.





Dashboard

5. Weight estimation now takes into account the expected screen size distribution over a known weight. This information is associated with the AI model file, allowing each AI model to have a different distribution. Users need to create this table for their models. Based on the expected count distribution and the total seeds inspected, it is possible to estimate the weight of the analyzed sample. Note that it is not possible to assume that every seed that passes through the conveyor will be recorded, so the expected distribution serves as the baseline variable for accurate classification methods



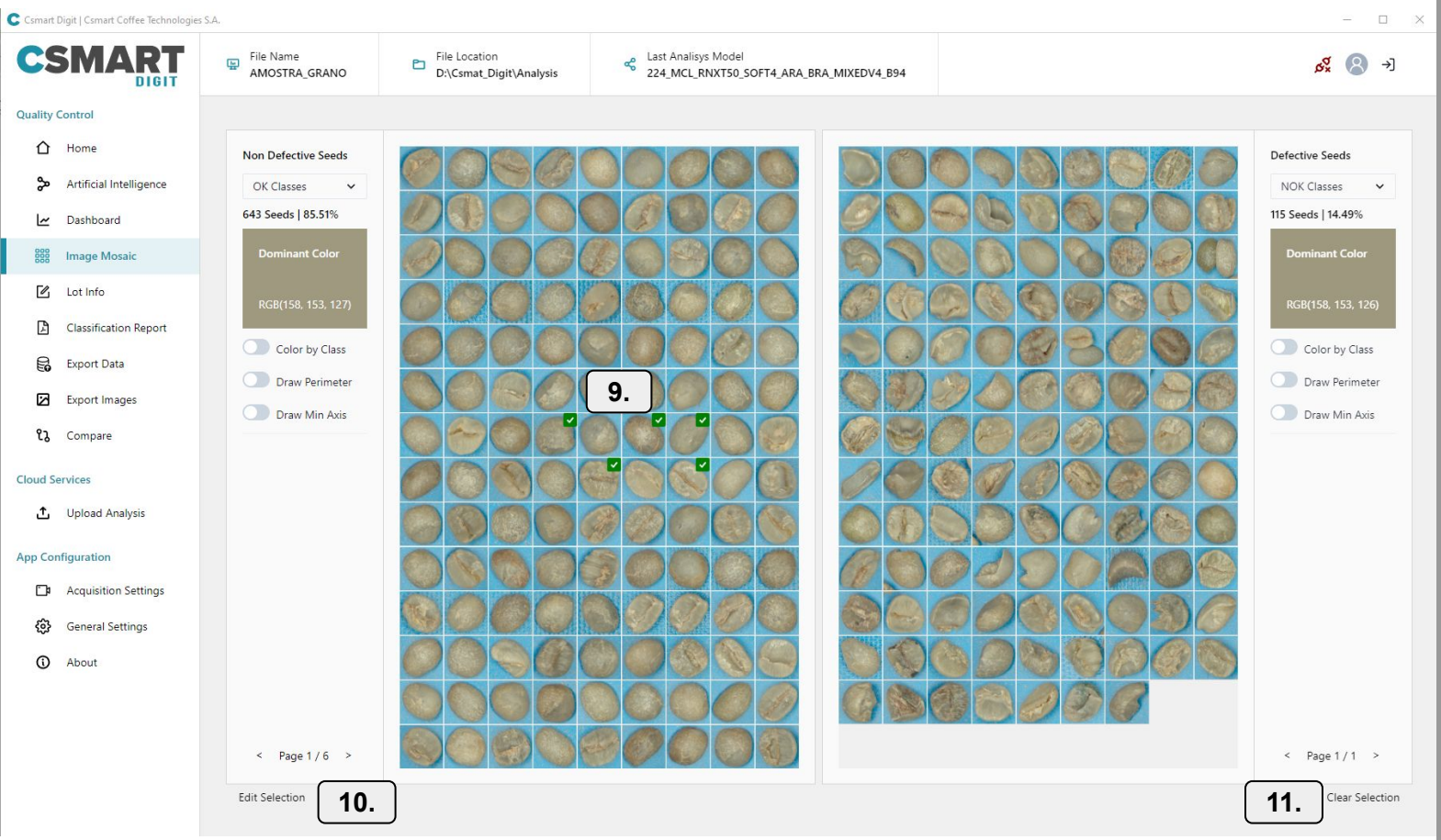
Dashboard

6. Based on the **Estimated Weight** and the **Required Weight** of the classification method, a **Weight Factor** is applied.

7. All occurrences of each defect will be multiplied by the **Weight Factor**, generating a **Weighted Count**. From that, the class factor, defined by the chosen method, is applied to determine the **Equivalent defects** per class and Total.

8. This procedure is applied to all methods present in the AI model and can be accessed in the tabs view.

Image Mosaic



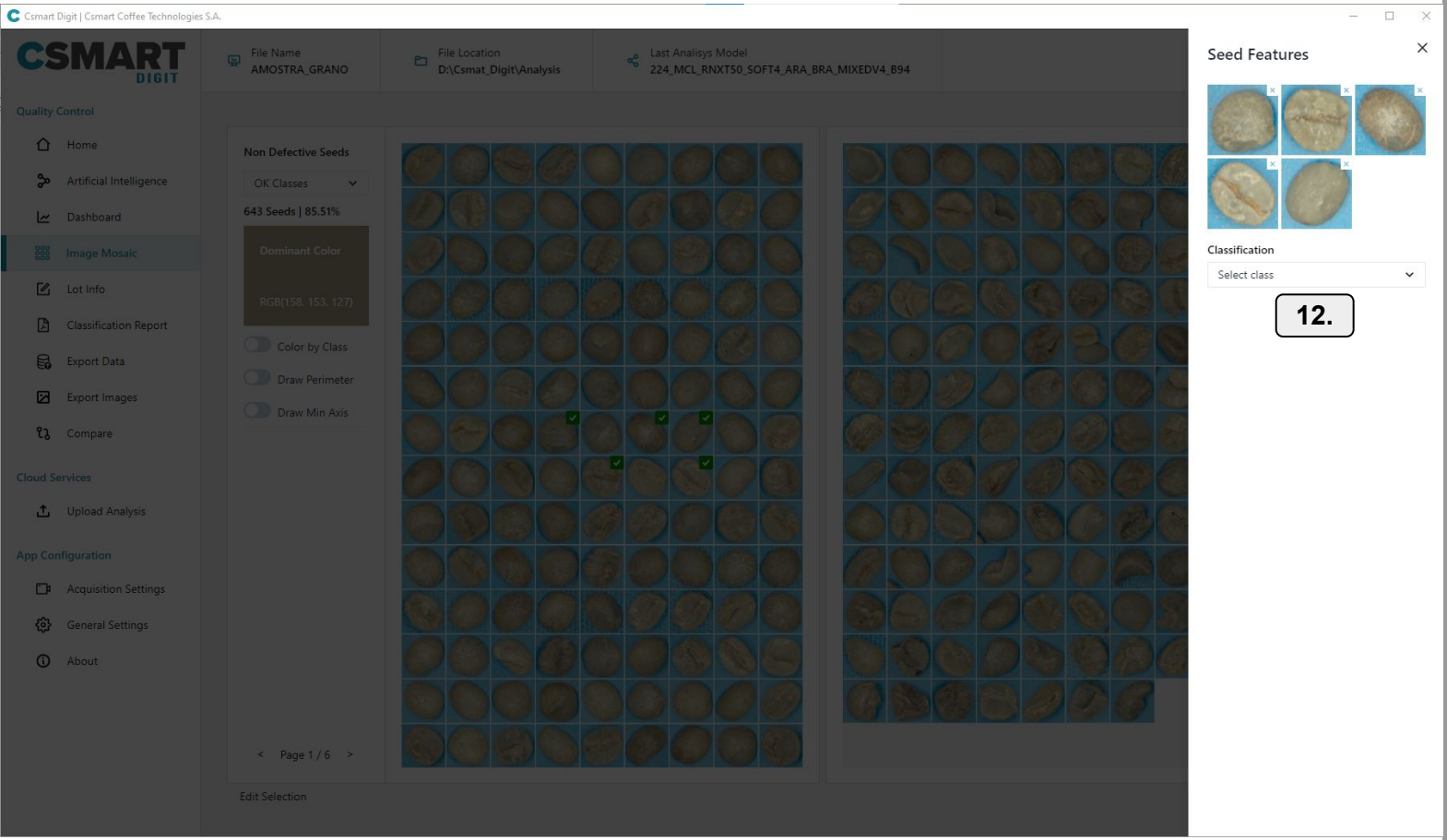
9. By pressing **CTRL** and clicking on the grid cells, it is possible to select multiple images at once. A green check mark is shown on each selected seed.

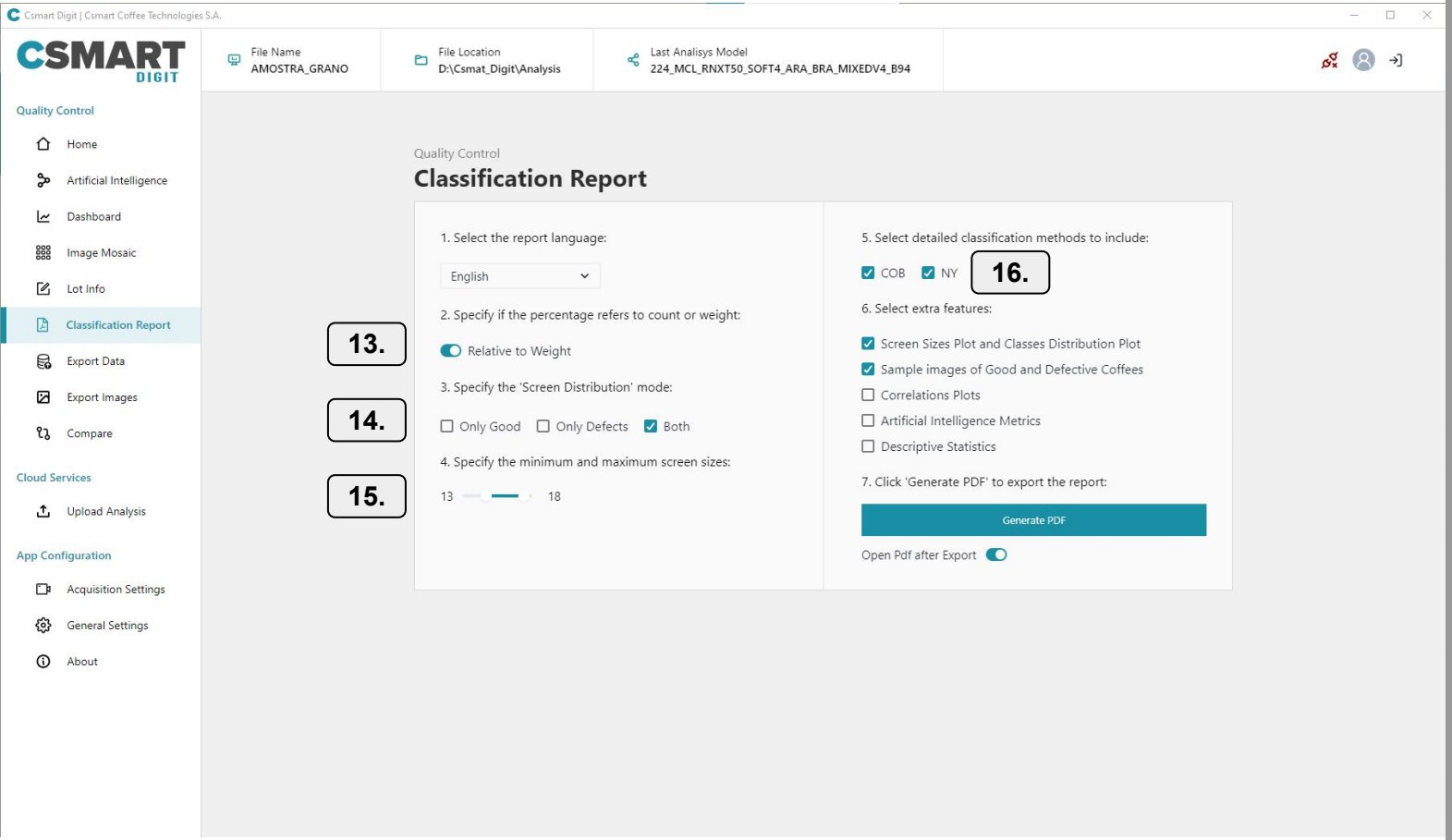
10. By pressing **Edit Selection**, a side menu will open, allowing the user to change the class of all selected images at once.

11. To reset the selection, the user can click the **Clear Selection** button.

Image Mosaic

12. Use the select menu to assign a new class to the selected images





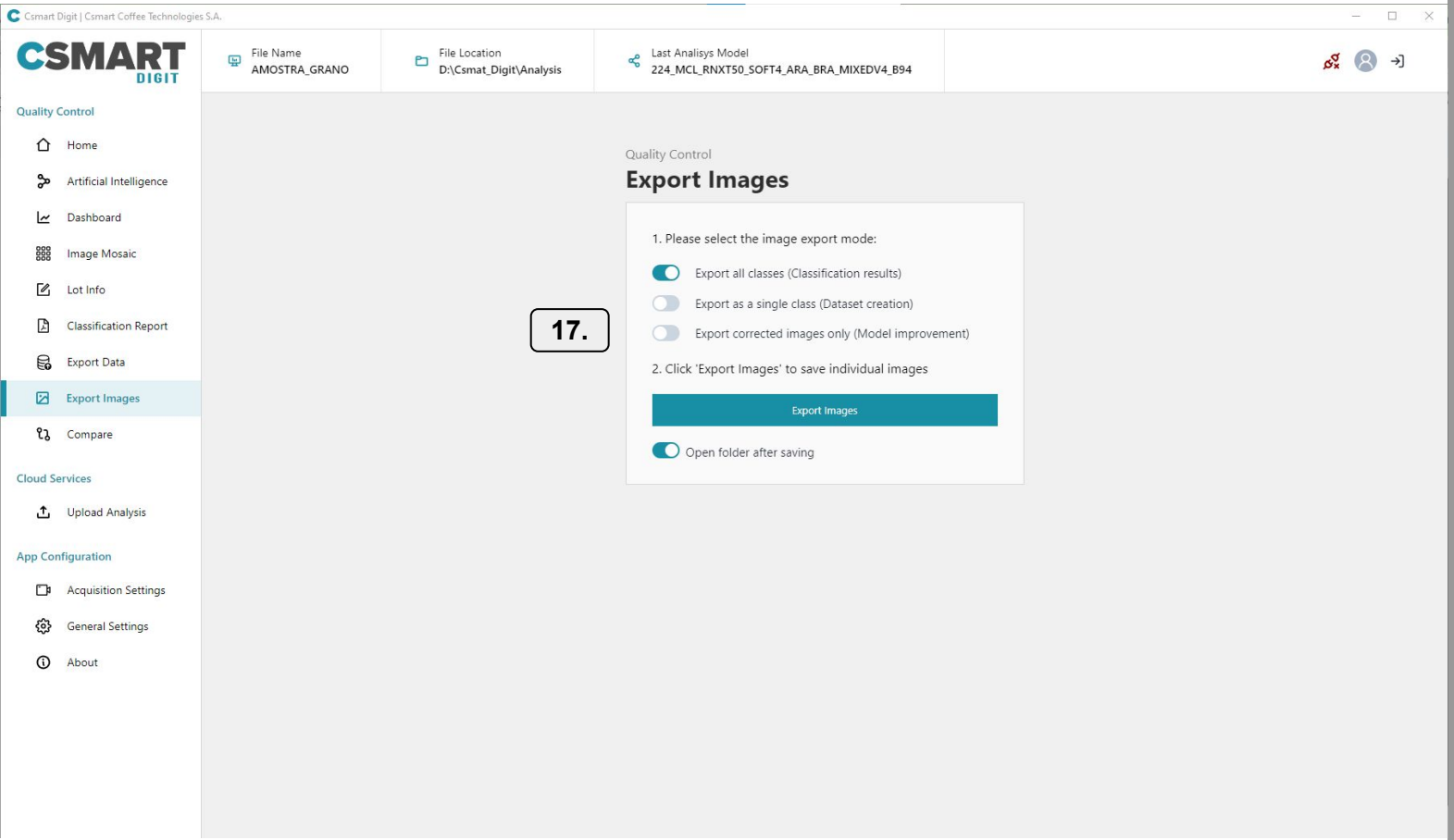
Classification Report

13. The classification report incorporates changes in screen distribution, allowing it to be represented as relative to weight or relative to count.

14. The Screen Distribution mode can be selected to include only good coffee, only defective coffee, or both, in regards to tables and plots.

15. The user can specify limits for screen size, adapting the data accordingly.

16. A new selection allows specifying the method to be included in the report



Classification Report

13 Export Images is now divided into three different modes:

Export All Classes: Saves a new folder for each class, containing the respective images inside.

Export as a Single Class: Saves all images into a single folder and is intended to create training datasets, particularly in cases where the input sample is previously known to be a single class, regardless of the actual classification.

Export Corrected Images: Only exports images that were changed in class by the user.

CSMART

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