Gravity Control

**The simplest system for complex data search and management**

COLOR CODING

Color Coding in Gravity Control™

Gravity Control™ is meant for handling large amounts of data and searching, sorting and managing it by complex criteria. To make that easier for the user the interface provides a number of different tools including the Color Coding system. Color coding allows the user to identify objects relevant to some of the active criteria without relying entirely on text labels. This provides higher accessibility for people with reading difficulties such as vision problems and dyslexia. Although useful, this is a supporting feature. Its understanding are not essential in order to be able to use the full extent of other basic or advanced features.

When activated, each element of the logical expression is assigned a color. This is done regardless of whether the criterion has been entered in the search bar as a key word, dragged to the workspace from a control panel or chosen from a classification. The color of each criterion is unique and will not be assigned to another criterion within the session. It is used in all visualizations created by the interface, including:

- All text labels.
    - In the search bar
    - In the grouping point across the workspace
    - In all control panels of single objects, grouping points, special fields or other groups of objects.
    - In the attribute list of all control panels.
    - In the full text search result fields in object panels.
- The color matrix of logical expressions – the image representing every grouping point in the workspace and all control panels.
- Logical color patterns – the connector lines between grouping points in the workspace. These lines represent the relationships between groups of objects in a directed graph.
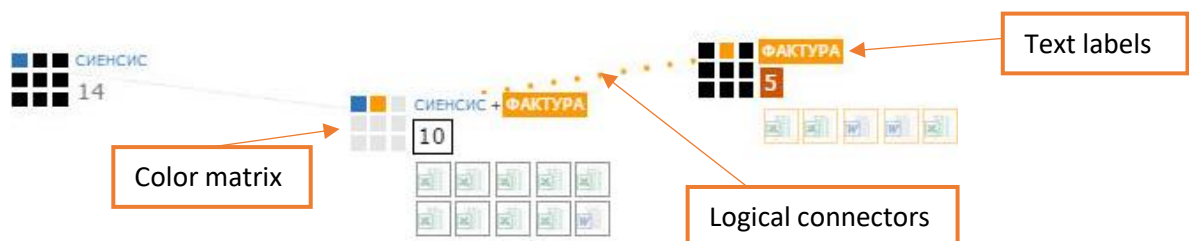
# Examples of Color Coding

Text labels

- **In the search bar.** The criterion text is colored respectively. When the pointer hovers over a text label, the text becomes white and the background of the text acquires the criterion color.

- **In a grouping point.** The same happens with the text labels of grouping points. In resultant grouping points each criterion retains its respective color. When only one of the criteria in the logical expression is pointed out, its coloring is reversed while the rest of the criteria stay not highlighted. The principle of forming the color matrix icons is described below.


- **In control panels.** The text labels in the control panels follow the same color logic.
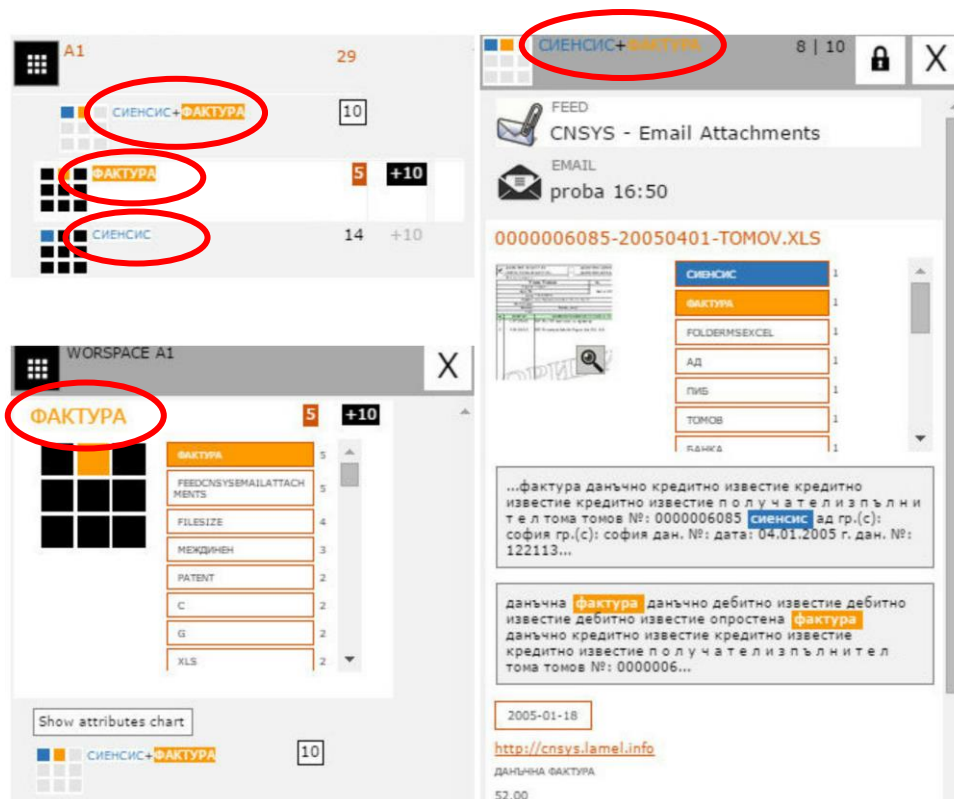

- **In attribute list of objects and groups.** Such lists with dragable attributes can be seen in the control panels of objects, grouping points and special fields. The active attributes are shown

with white text on a respectively colored background. They can also be dragged to activate special functions like the Event Horizons. Dropping them does not create a second grouping point with the same criterion in the same workspace.
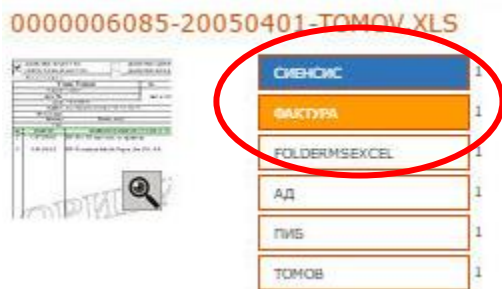

- **In full text search results.** Every keyword hit is highlighted in the text with a white font on a color background.
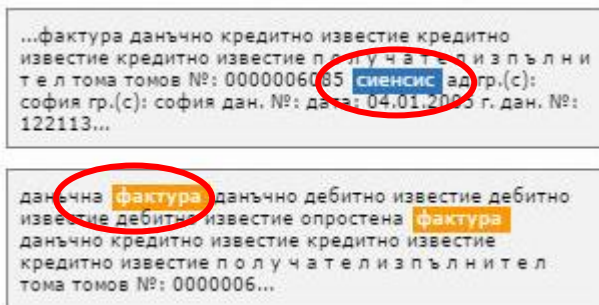
Grouping point color matrices

The figure for the coloring of text labels in grouping point above also contained an example of the automatically generated color matrices or grouping point icons. Below is a more complex example with three active criteria and two levels of resultant points.

- **Primary grouping point matrix.** Grouping points that contain only one active criterion are called primary. They use only the color of the respective criterion. The matrix is a 3 by 3 grid of dark colored squares and one colored square. The position of the colored square varies between criteria and is determined by the order of activation of criteria by the user.
- **Resultant grouping point matrix.** Grouping points that contain a logical expression with more than one active criteria are called resultant. In this case the empty squares are lightly colored and there are several colored squares. Colored squares retain not just their color but also their position from the primary point, providing the user with more markers to identify criteria besides text labels.
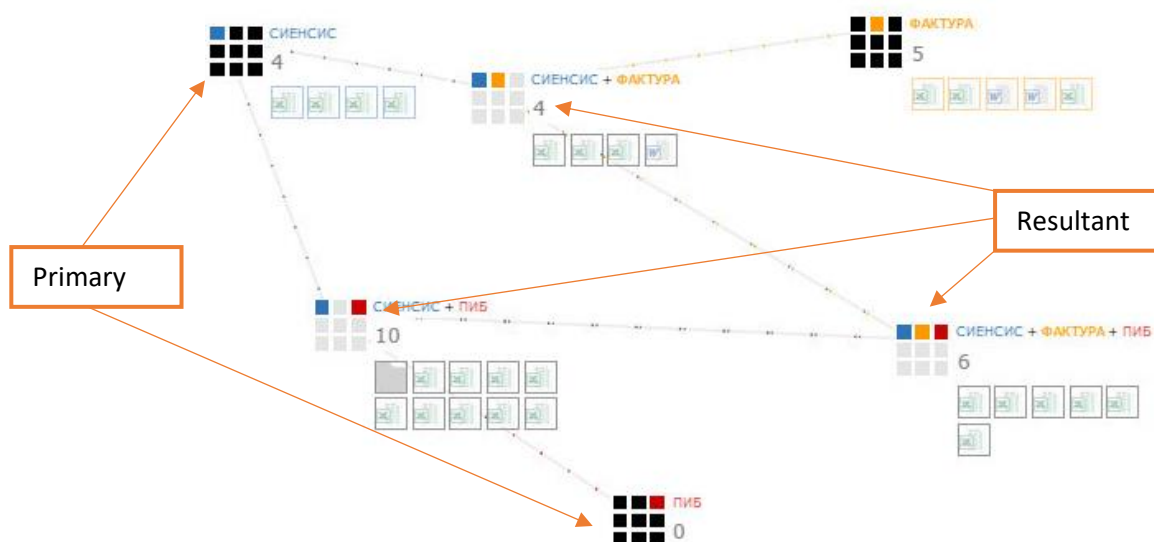
Logical connector lines

In Gravity Control™ all grouping points that share a primary criterion are visually connected with lines. These lines are dash-dotted where the dashes are a neutral color and the number and color of the dots depends on the primary criteria the two grouping points share.

Logical connectors run between grouping points that share criteria and are of adjacent levels. Primary grouping points are Level 1. They represent a simple logical expression with one element. Level 2 points represent a logical expression with two elements, Level 3 with 3 elements, etc. A series of grouping points connected by the same logical expression is called a branch.

The weight of the logical connector lines in the branch is used to represent the relationships in a directed graph with neutral lines being the thinnest upward vectors being heaviest and downward vectors of a medium weight.