



User Guide

MySurvey v.1.4.0.10 July 2017

This guide presents the features and tools available in the above version. As the software is constantly evolving, this document will be updated.



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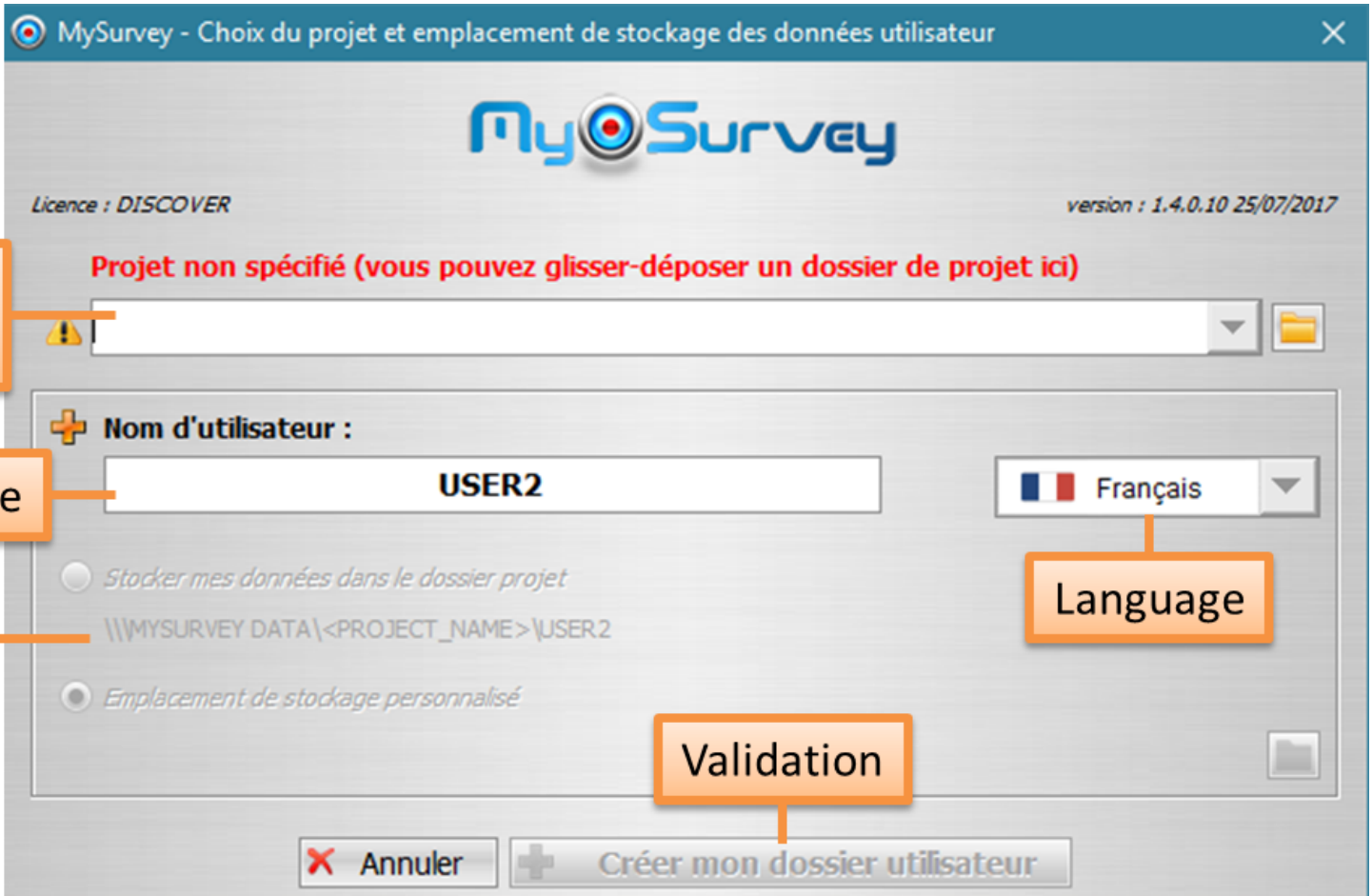
1. GETTING STARTED

- MySurvey is a data viewing software program to access data acquired by laser scanners.
- Scans are represented as panoramic views. The physical location from which a scan is performed is called a station.
- Several panoramic views are available (green or red) for viewing different stations at the same time.
- It is possible to take measurements in the panoramic views and to view these measurements in the different views available (panoramic, map or 3D).
- The project is divided into zones. Each zone is represented by a map showing the stations belonging to that zone.
- Point clouds can be extracted so they can be viewed in 3D view or exported for use in other software.
- MySurvey can import data in different formats and integrate them into panoramic, 3D or map views.

- MySurvey can be used without prior installation as the digital media provided contains the software itself as well as the data.
- We recommend that you create a MySurvey folder on the network to store the executables and their associated folders. Project and executable data can be placed in two separate locations.
- If this is the selected solution, the executable  **MySurvey_Network.exe** must be launched to ensure optimal performance in MySurvey.
- After selecting which project to launch (see next section), a shortcut will be created next to the executable. It will then be possible to copy it to the user's workstation.
- However, if all the data is local, the executable  **mySurvey.exe** can be launched.

For assistance, please call Quadrica on +33 973 208 507.

2. STARTING UP MYSURVEY



MySurvey - Choix du projet et emplacement de stockage des données utilisateur

MySurvey

Licence : DISCOVER version : 1.4.0.10 25/07/2017

Projet non spécifié (vous pouvez glisser-déposer un dossier de projet ici)

Project selection: corresponding xml file


User name

User folder location

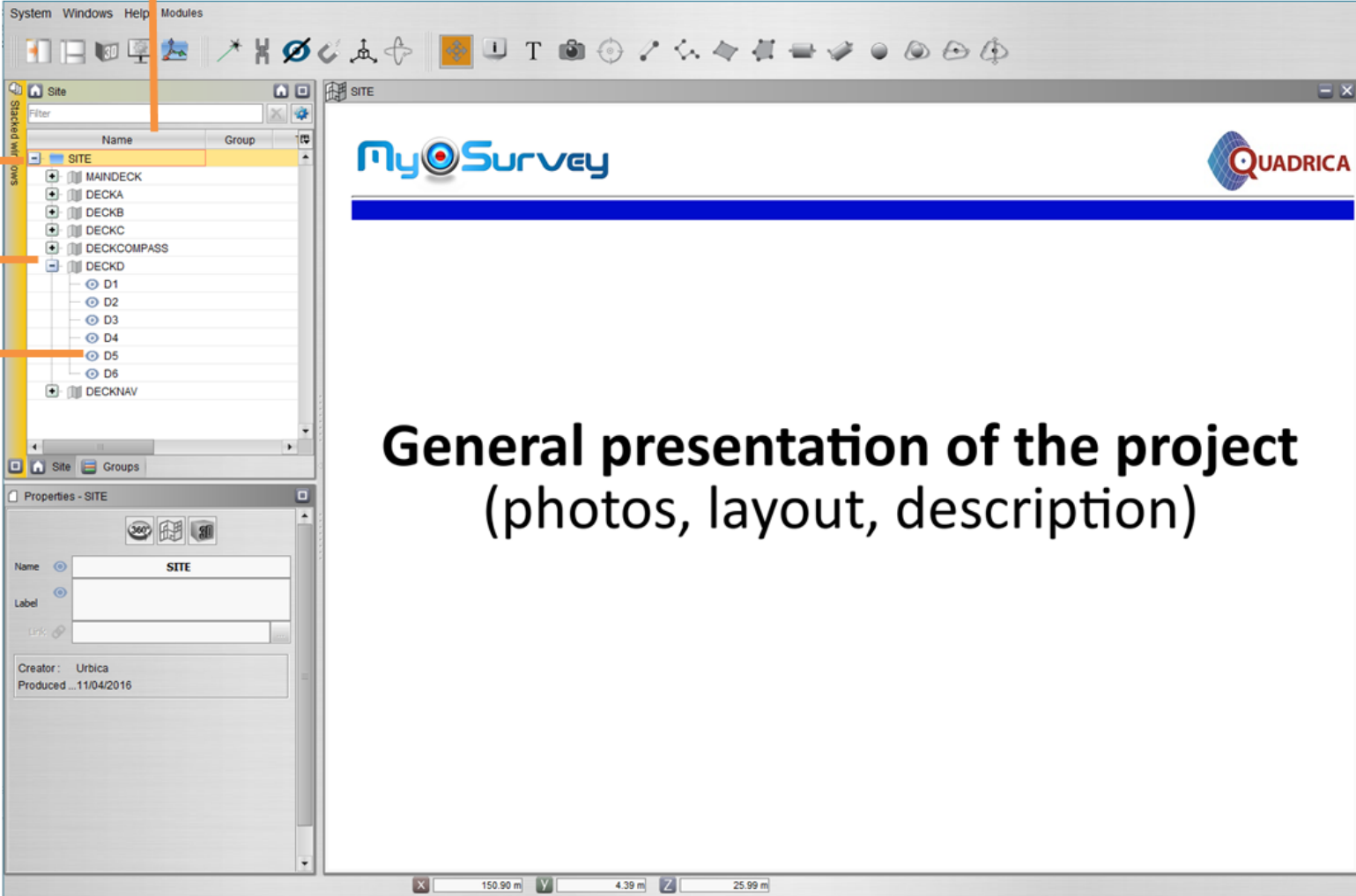
Language

Validation

Annuler Créer mon dossier utilisateur

- This window launches MySurvey where you can select which project to open. To do this, drag-and-drop the project data folder containing the MySurvey.xml and the DATA folder to the dedicated space. It is also possible to select the MySurvey.xml file directly via the tree view by clicking the  button.
- The user name can be changed. The default for this is the login of the current Windows session.
- The language for MySurvey can be chosen via this window. It can be changed later via the configuration window (see section [Configuration Window](#)).
- The configuration file determines the location of the default user folder. If the file does not prevent this (choice available and not greyed out), the location can be modified by the user. See appendix *mySurvey - Config system v1.pdf* to change the default location.

3. GENERAL OVERVIEW



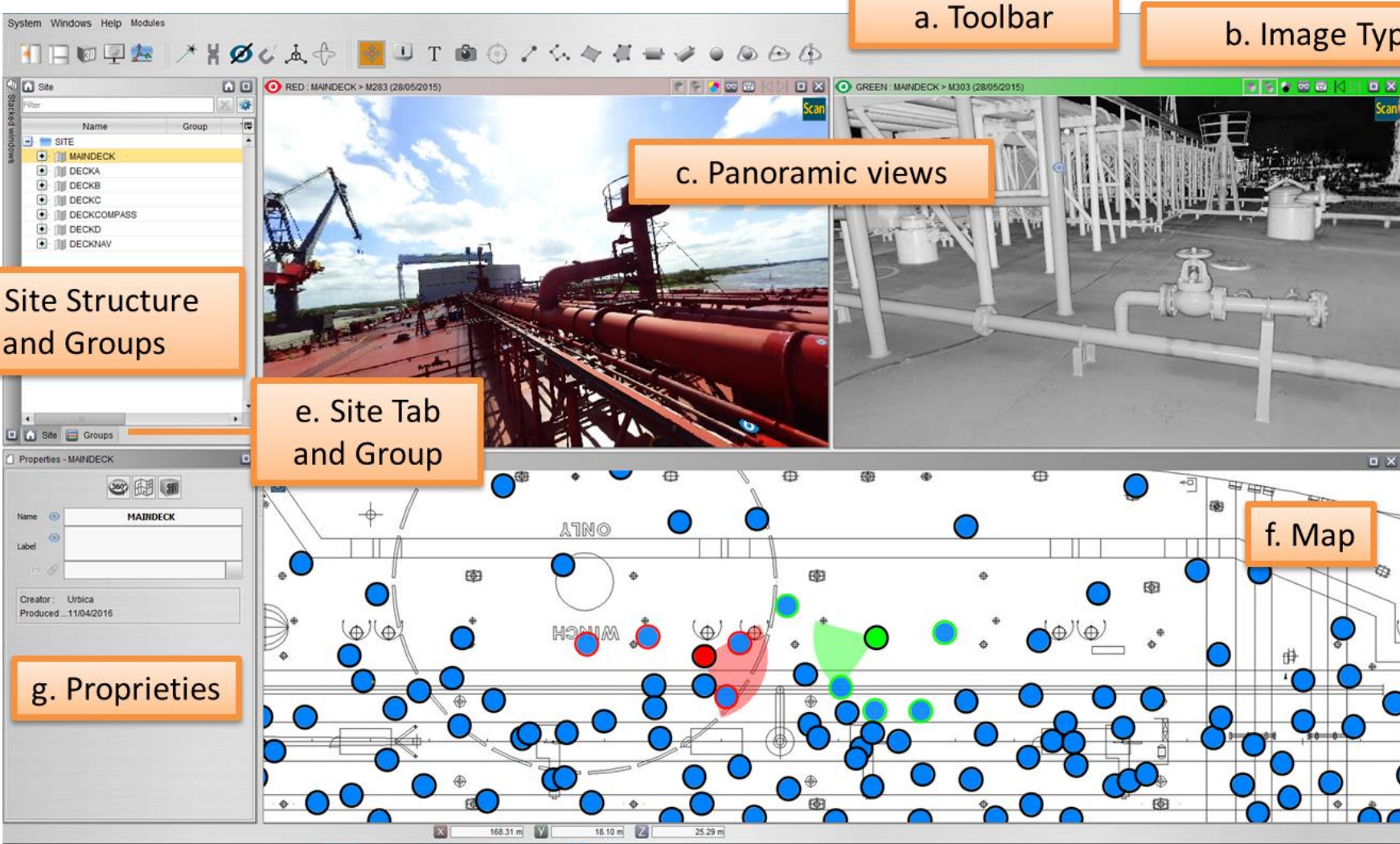
The screenshot displays the MySurvey software interface. On the left, the 'Site structure window' is visible, showing a hierarchical tree of nodes. The 'Root node' is 'SITE', which contains several 'Map nodes' (MAINDECK, DECKA, DECKB, DECKC, DECKCOMPASS, DECKD, DECKNAV) and 'Stations' (D1, D2, D3, D4, D5, D6). The 'Properties - SITE' window at the bottom left shows the site name 'SITE', label, and creator 'Urbica'.

The main window on the right displays the 'General presentation of the project (photos, layout, description)'. It features the MySurvey logo and the QUADRIC logo at the top. The main content area is currently blank, with the text 'General presentation of the project (photos, layout, description)' overlaid.

- At first startup, MySurvey presents an overview page for the project.
- On the left, a tree view of the Site Structure allows you to browse the different levels of the installation. Each expandable element is called a node.
- By selecting a masternode, the map corresponding to the node is displayed in the **Layout Window**.
- Beneath the masternodes are the different viewpoints on the corresponding level or zone.
- During subsequent startups, the workspace is displayed in the same way it was when last closed.

The following page shows the standard appearance of the workspace.

4. WORKSPACE




The screenshot displays the MySurvey software interface, which is divided into several functional areas:

- a. Toolbar:** Located at the top of the workspace, containing various icons for navigation, editing, and viewing.
- b. Image Type:** Located at the top right, showing two tabs: 'RED: MAINDECK > M283 (28/05/2015)' and 'GREEN: MAINDECK > M303 (28/05/2015)'. The 'RED' tab is active, displaying a panoramic view of an industrial site.
- c. Panoramic views:** The main area of the workspace showing a wide-angle, high-resolution image of an industrial facility with large red pipes and structures.
- d. Site Structure and Groups:** A sidebar on the left side of the workspace, listing the site hierarchy: SITE, MAINDECK, DECKA, DECKB, DECKC, DECKCOMPASS, DECKD, and DECKNAV.
- e. Site Tab and Group:** A tab labeled 'MAINDECK' is visible in the workspace, indicating the current view is for the main deck area.
- f. Map:** A map view at the bottom of the workspace, showing a top-down layout of the site with numerous blue circular markers representing data points or features.
- g. Properties:** A panel on the left side of the workspace, displaying the properties of the selected site (MAINDECK), including the creator (Urbica) and production date (11/04/2016).
- h. Information Bar:** A bar at the bottom of the workspace, displaying coordinates (168.31 m, 18.10 m, 25.29 m) and other site-related information.

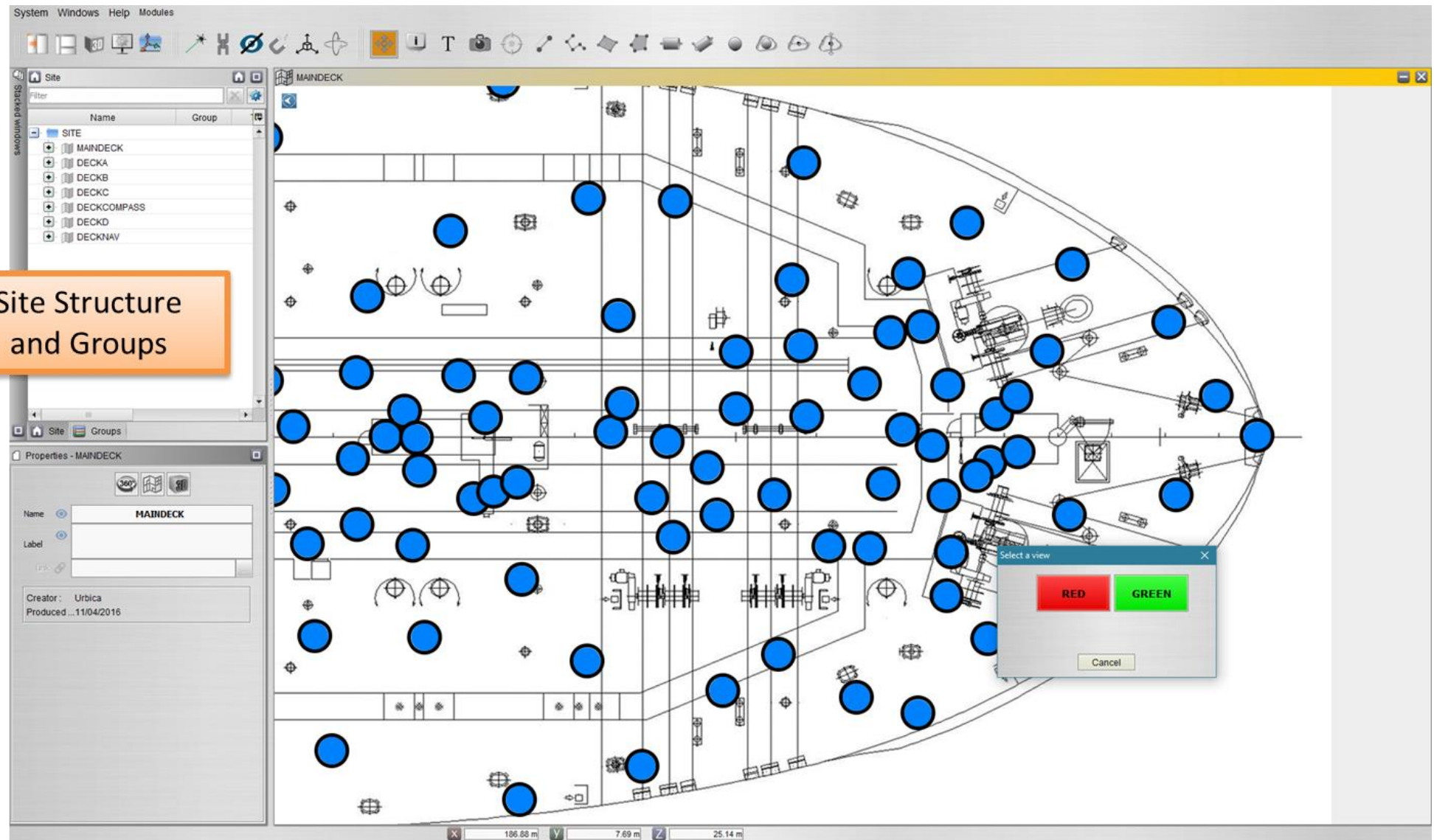
- a. **Toolbar**: this presents the workspace layout functions and the objects available when created.
- b. **Image type**: image loading and image type information (scan or UHD if applicable). Keyboard shortcut **H** switches between different types if they exist.
- c. **Panoramic views**: a 360° view of the project from a given camera position.
- d. **Site Structure Window**: site tree view for several levels or zones, with the list of viewpoints performed.
- e. **Site and Groups Tab**: this allows you to organize objects into groups (like a directory).
- f. **Map Window**: a map view showing the locations of the viewpoints and objects displayed.
- g. **Properties Window**: the properties of the object or node of the selected tree view and the related viewing features.
- h. **Information bar**: status and information about current actions.

All windows can be moved, stacked, made smaller or hidden. This document shows the default workspace layout.

This layout can be reset by clicking the button:  or via the menu

Windows -> Restore Layout or using keyboard shortcut **O**.

5. MAP VIEW AND SITE STRUCTURE

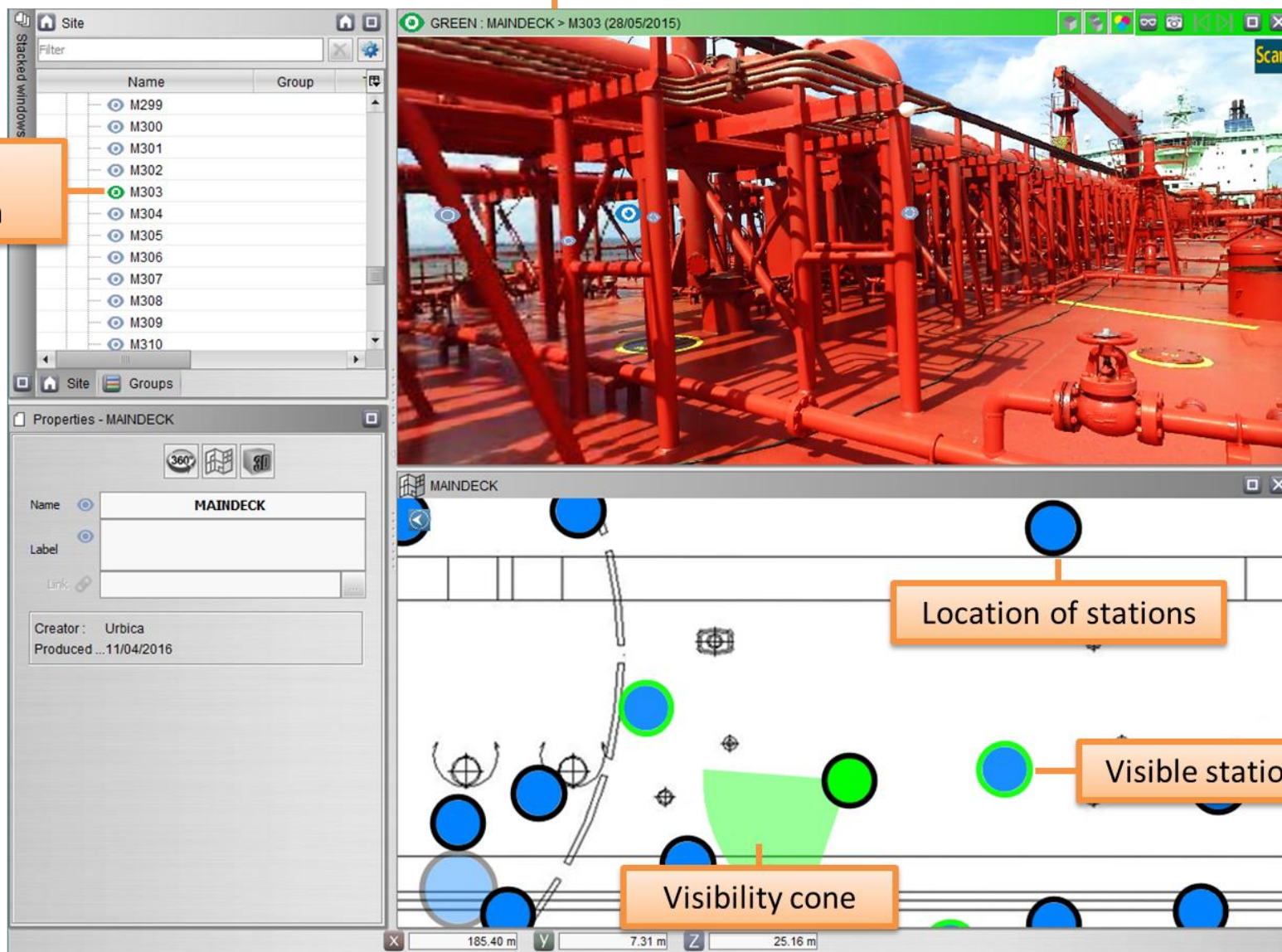


- **Site Structure Window** on the left shows the organization of the site as a tree view. The first node, or "root node", provides access to the project overview page. The master nodes are the "map nodes" and these represent a zone or level of the installation.
- The different stations belonging to the level are listed in the **Site Structure Window** by expanding the nodes. A double-click on a station node opens the corresponding view and a right click offers other options such as locating it on a map or collapsing the node. It is also possible to drag it into the view of choice (green or red).
- By selecting a node, the corresponding map is displayed in the **Layout Window**. This map is an image generated from site maps or a point cloud. The mouse allows you to browse the map and zoom in (use the scroll wheel to zoom and, click left and hold to move). The keyboard provides the same functions with the **arrow keys** and the **+** and **-** keys.
- This image features coloured bullet points that correspond to the locations of the different viewpoints. When hovering over these bullets, the cursor changes to a green arrow. By clicking on a bullet point, the viewpoint opens as a panoramic view in a dedicated window. A right click (or CTRL + left click) allows to choose in which view (green or red) to open the **panoramic view**. This option is not available to computers with less than 4GB of RAM. References to the green and red view are interchangeable throughout the rest of the documentation.

6. PANORAMIC VIEWS 1

Map Name > Station Name (acquisition date)

Green station






- The 360° **panoramic view** is the optimal viewing mode for MySurvey: a panoramic image is used in each location occupied by the scanner (called stations) in order to view what the measuring device has captured.
- Opening a **panoramic view** causes a dedicated window to appear, which has the predefined view name of green. The colour will enable you to identify the view and its associated station in the different parts of MySurvey:
 - in the title of the green panoramic window,
 - in the site tree view as a green eye icon,
 - in the Layout Window using the green visibility cone.
- When in this window, it is possible to move the view in all directions by pressing and holding the left mouse button; the scroll wheel increases or decreases the zoom of the image. The keyboard (**arrow keys** and **+/-**) provides the same functions.
- In the **Layout Window**, a coloured area (visibility cone) centred on the bullet point provides the direction and zoom level corresponding to the panoramic view. This visibility cone also allows you to point the view in a particular direction: click in the area while pressing and holding the left button and move the mouse to direct the viewpoint.
- The stations surrounded by the colour of the view are the stations directly visible from the current station.

7. PANORAMIC VIEWS 2

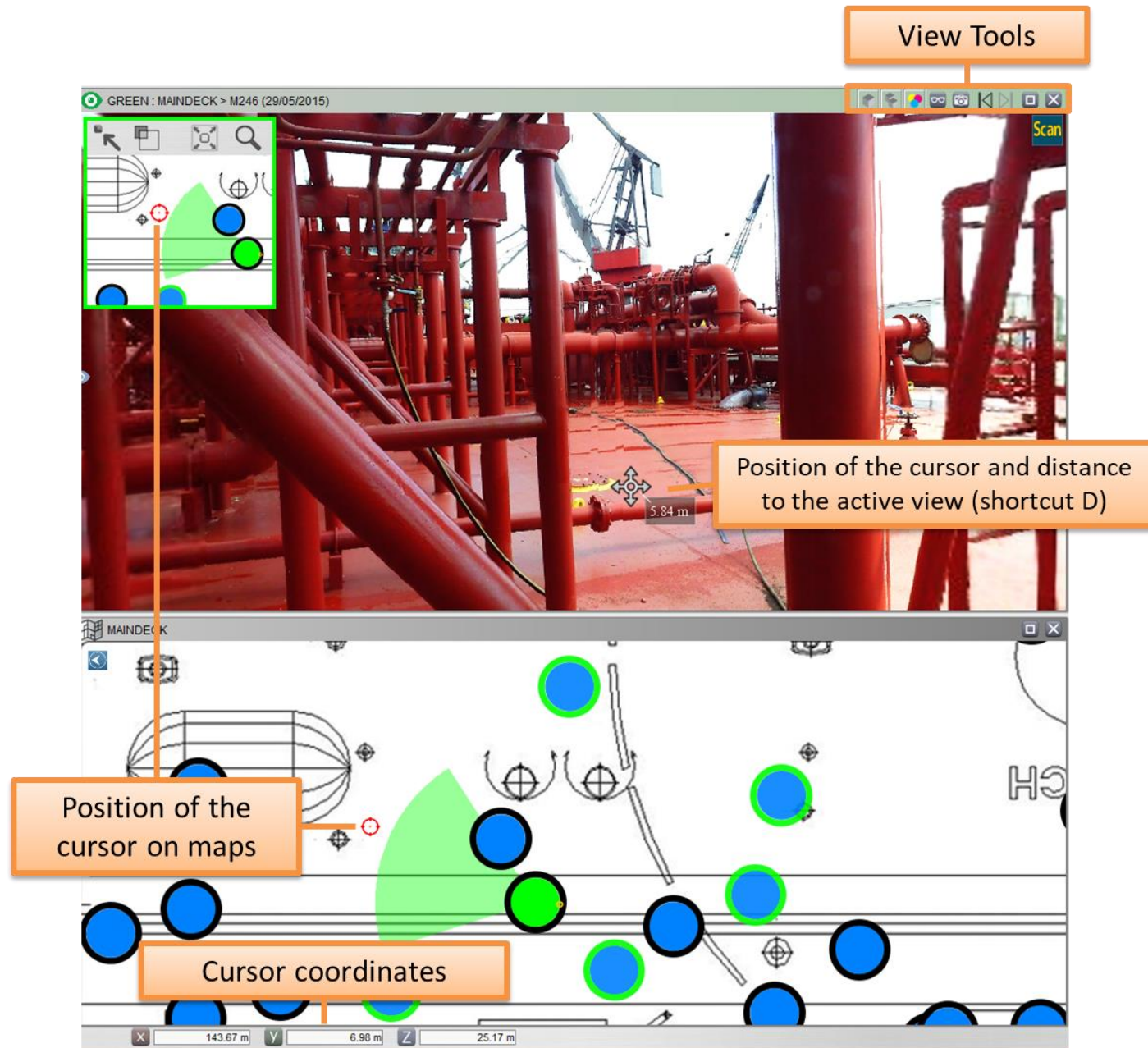
The screenshot displays the MySurvey software interface. The top window shows a 3D panoramic view of an industrial site with red pipes and structures. A small inset map in the top-left corner shows the current view's location within a larger project area. The bottom window shows a 2D map layout with various station markers (blue and green circles) and a green polygon representing a specific area. A yellow dot on the map indicates a station that is visible from the active view. A tooltip for station M294 shows its name, altitude (z = 26.62 m), and a 'Select the view' option.


Callouts and annotations:

- Hide the keyplan
Keyplan size
- Extended zoom of the map
Centre the station on the map
- Mouse hovered over station
in layout: yellow in view
- Station hidden from
active view
- Station visible from
active view
- Distance from the station
from active view
- Overflow station in
layout
- Tool tip: name and altitude of
the station and choice of view

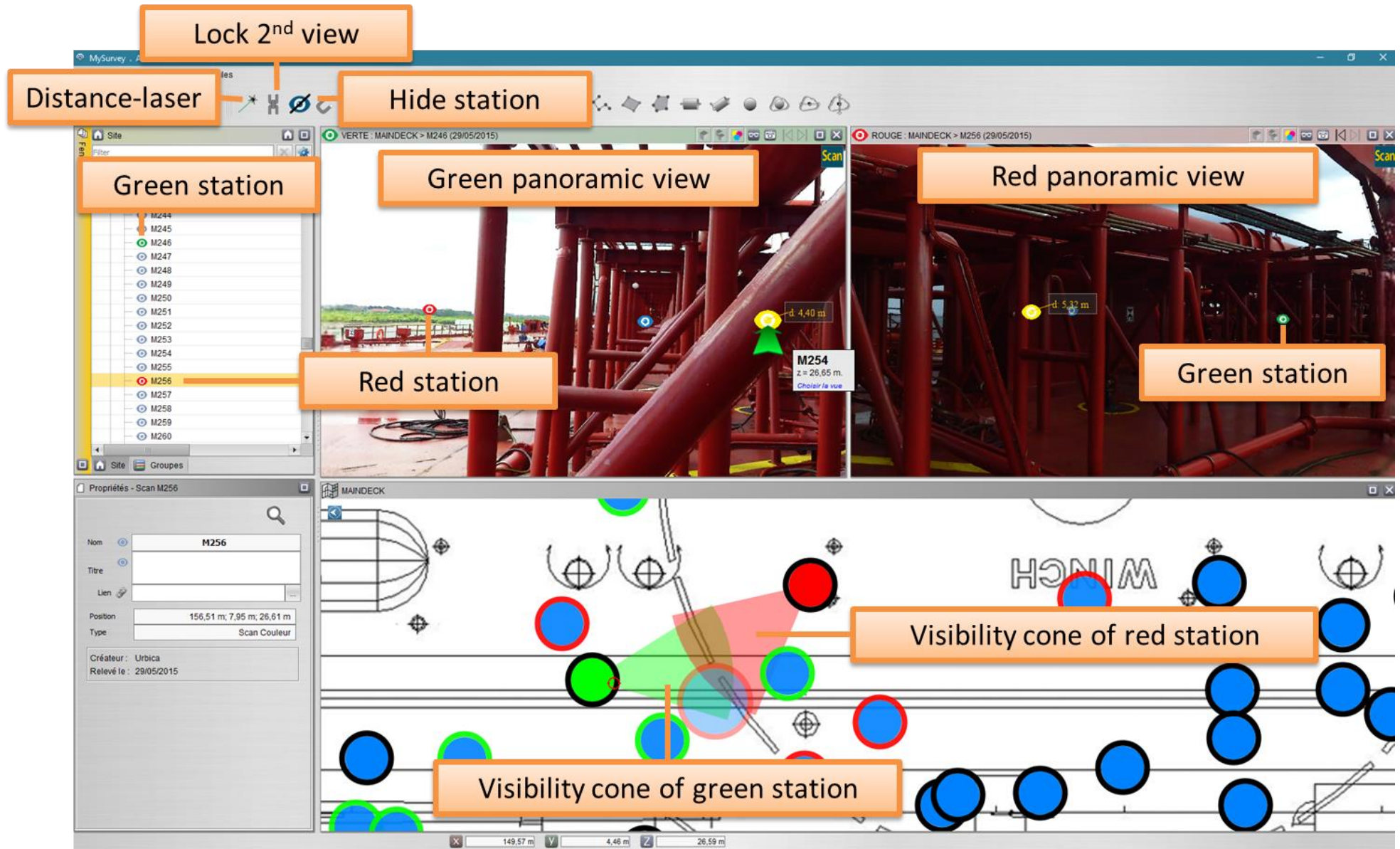
- The **layout view** is also displayed in a **keyplan** integrated into the panoramic view. The toolbar at the top of the keyplan allows you to:
 - make the keyplan smaller
 - change the size of the keyplan (3 pre-set sizes)
 - perform an extended zoom so the whole map becomes visible
 - focus the view of the keyplan on the corresponding station.
- In **panoramic view**, the locations of the adjacent stations are symbolized by eye-shaped icons whose size varies according to their distance.
- These icons representing the stations have a colour code indicating whether or not they are visible from the current viewpoint:
 - a grey eye:  the adjacent station is hidden by a physical element
 - a blue eye:  the adjacent station is visible from the current viewpoint.
- Hovering the mouse over a station bullet point in **layout view** changes the corresponding icon in panoramic view to yellow  and the distance to the active viewpoint is displayed.
- Hovering the mouse over a station makes a "tooltip" appear next to the icon and gives information about the station, such as its name and altitude. The link at the bottom of the tooltip opens the station in another view without overriding the one already opened.

8. PANORAMIC VIEWS 3



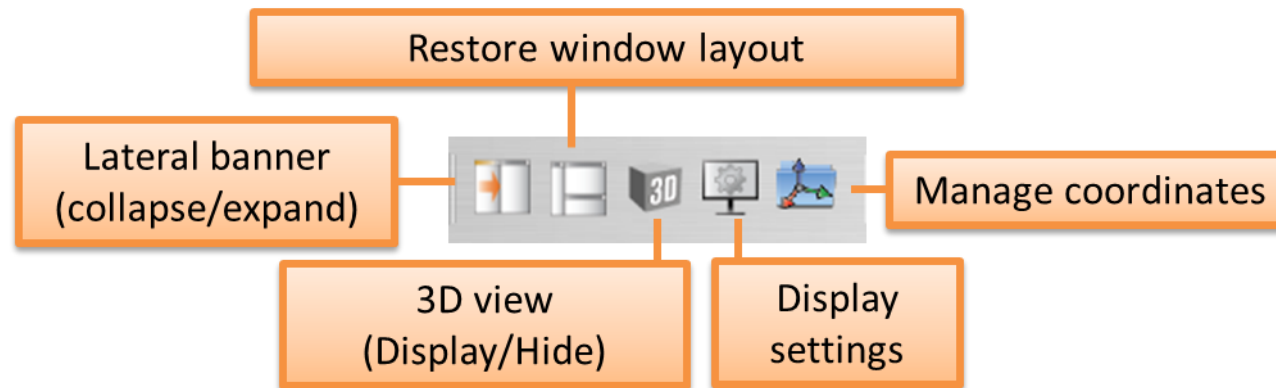
- The upper right corner of the window with the tools for that view offers the following actions:
 - close the viewpoint window
 - enlarge/reduce the window size
 - history: previous station and following station
 - save view: create a snapshot object so you can return to the view with the selected direction and zoom.
 - hidden mode (keyboard shortcut **P**)
 - change colour mode/level of grey (keyboard shortcut **C**)
 - rendering mode: objects cut by view elements (keyboard shortcut **R**)
 - full/transparent mode: this affects the display of objects in the view (keyboard shortcut **T**)
- By moving the mouse in panoramic view, a cursor  is displayed in map views and indicates the position of the mouse pointer.
- When the mouse pointer hovers over a cloud point, the coordinates for that point appear in the information bar.
- Shortcut key **D** displays the cursor distance from the current viewpoint and a laser in the second view pointing to the cursor of the first view.
- Reading the coordinates of a point requires the presence of an existent 3D point within the panoramic image. Shortcut **P** displays the panoramic view in Points Mode: the absence of 3D points is thereby characterized by a blank image background.

9. PANORAMIC VIEWS 4



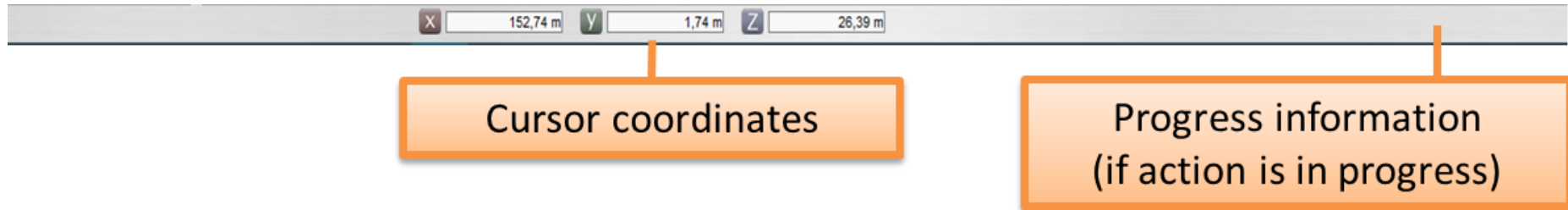
- MySurvey allows two **panoramic views** to be opened simultaneously (notwithstanding limitations regarding computer capacity). The green and red colour codes associated with the views enable visual recognition in the rest of the application.
- These colour codes are used in the title bars of the panoramic view windows, in the **site structure** tree view, in views when stations are adjacent and in map view via visibility cones. Moreover, in **layout view**, stations visible from the open view are surrounded by the colour thereof.
- The yellow colour code identifies which station the mouse is hovering over in map view or panoramic view.
- The toolbar contains features designed to facilitate your understanding of this multi-view space.
 - Laser pointer and distance. In the current view, the distance to the pointer is displayed while in the other view, the laser represents the direction towards the pointer (shortcut **D**).
 - Block second view: this synchronizes the display of two views so pointer movement can be tracked in the second view (shortcut **L**).
 - Hide adjacent stations by pressing the **ALT** key

10. TOOLBAR - DISPLAY



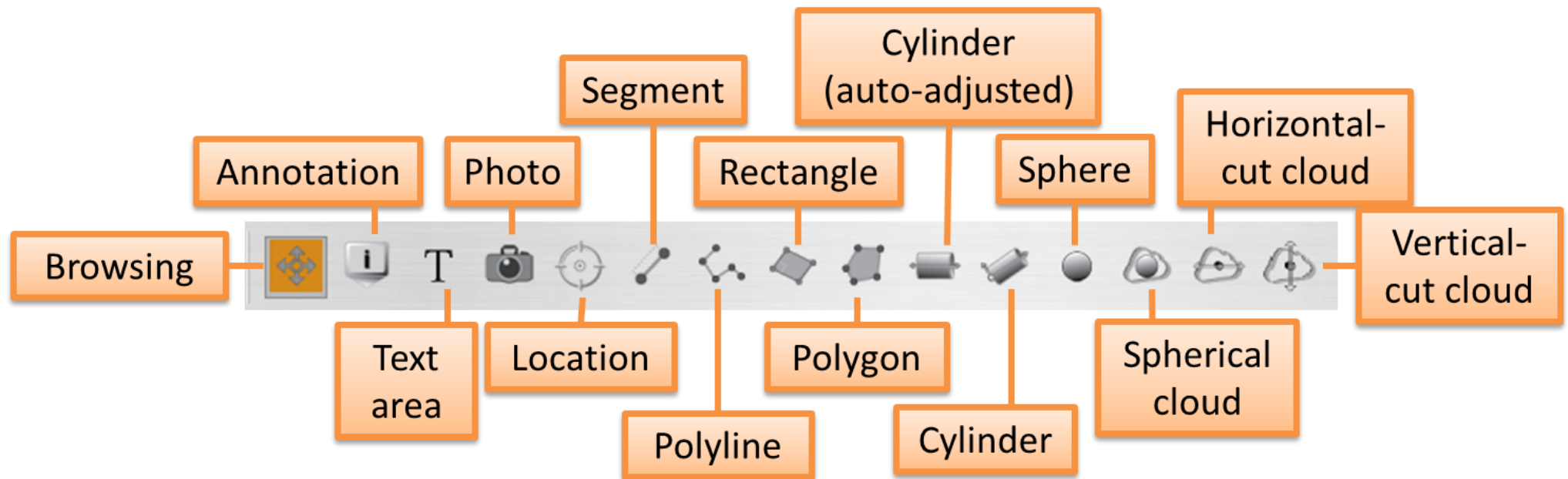
- The Display toolbar has the following functions:
 - expand or collapse the side panel (keyboard shortcut **B**)
 - restore the windows to their default layout (keyboard shortcut **O**)
 - show or hide the 3D viewing window (available depending on licence and computer capacity)
 - show or hide view display settings (keyboard shortcut **A**)
 - manage coordinates (see section [Coordinates](#))
- Toolbars can be moved and can become "floating" tool bars. To return them to the bar (the end of the bar) at the top of the main window, close them (red cross at the top right of the floating toolbar).

11. INFORMATION BAR





- The information bar at the bottom of the screen shows the progress status of certain operations:
 - the coordinates of the cursor in panoramic view
 - a progress bar indicating the progress of a time-consuming operation.

12. TOOLBAR - OBJECTS



General information applying to all objects:

- To begin creating an object, click the corresponding button in the toolbar. To stop or cancel, click the button  or press the **ESC** key.
- To enter an object, you can start in a view and extend it to another panoramic or 3D view. However, this object will be linked to the tree view of the site with the first view used when entering the object (or the nearest station when entering the 3D view).
- An object can only be entered on existing 3D points within the panoramic image. If no 3D points are found under the mouse cursor, it will change to an icon: . Shortcut **P** displays the **panoramic view** in Points Mode: the absence of a 3D point is thus characterized by a blank image background.
- The newly created object will have the name of the object type followed by an incremental number.
- Each new object is automatically stored in the user's database and does not need to be backed up.

13. OBJECT PROPERTIES

The diagram illustrates the 'Object Properties' dialog box, which is used to configure and manage objects within a survey project. The dialog box is divided into several sections, each with specific fields and controls. The following table summarizes the components and their functions as indicated by the callouts:

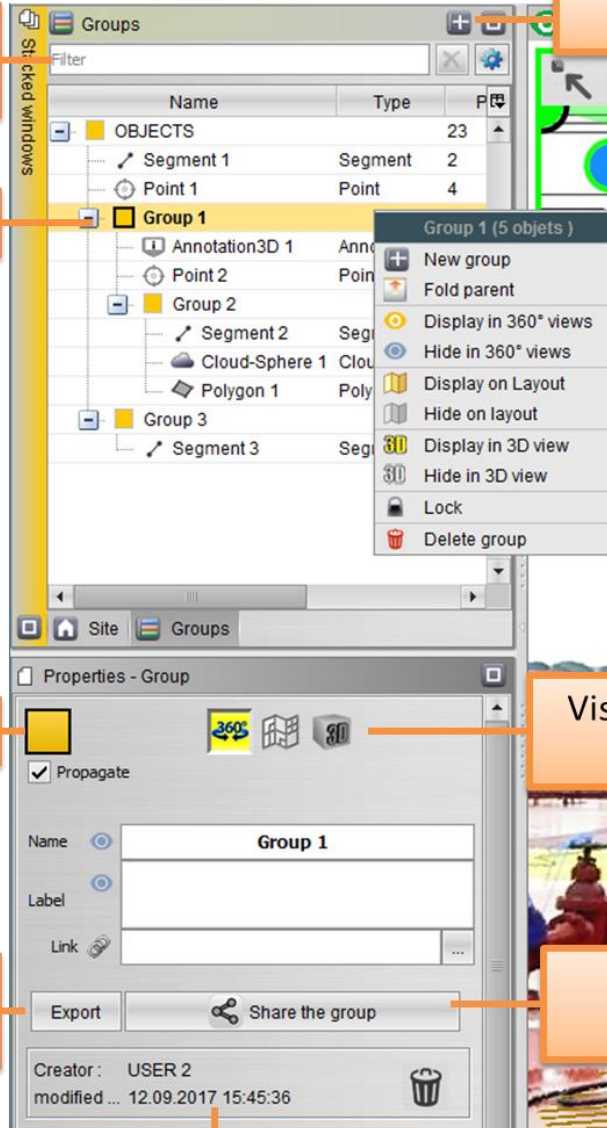
Field/Control	Function/Description
360° View Icon	Display panoramic, layout or 3D view
Location Icon	Location in view
Group Dropdown	Change group object
Name Field	Object name
Station Field	Station linked
Label Field	Object comment
Link Field	Open related document
Coord. Field	Hyperlink to document
Creator/Modified	Information creator and date of creation
Search Icon	Change group object
Object Group Dropdown	Object group
Station Field	Station linked
Browse Button	Browse
Subject-related Properties	Subject-related properties
Delete Button	Delete

The dialog box contains the following fields and controls:

- Group:** A dropdown menu showing 'OBJECTS/Groupe 2'.
- Name:** A text field containing 'Point 1'.
- Station:** A text field containing 'M246'.
- Label:** A text field for object comments.
- Link:** A text field for linking to related documents.
- Coord.:** A text field showing coordinates: '149.61 m; 5.21 m; 26.44 m'.
- Creator/Modified:** A section showing 'Creator: USER 2' and 'modified ... 11.09.2017 09:38:33'.
- Buttons:** Includes a 'Browse' button for the link field and a 'Delete' button (trash icon) for the object.
- Icons:** Includes a 360° view icon, a location icon, and a search icon.

- The object selected or being created is displayed in the Properties Window. This section outlines features common to all objects.
- The 3 push buttons at the top of the window activate or deactivate the display of the object in **panoramic views**, **layout view** or **3D view** (*Design* or *Decide* licences and according to computer capacity).
- The **magnifying glass** on the right enables the object to be located in panoramic view from the station where it was created.
- The **group** drop-down list is used to assign the object to a group, and the **name** and **label** text areas allow you to rename the object and link a comment to it (see section [Labels](#)).
- The **link** field allows you to link a document via the button to the right of the field allowing you to browse the contents of the computer when searching for documents or to drag-and-drop from the file explorer to the hyperlink field.
- The lower part of the window shows the name of the user who created the object and the date it was last modified. The **trash** icon is used to delete the object.
- Object-related properties are specific to each object type.
- Text fields can be copied by right-clicking in the field.

14. OBJECT GROUPS



Group and object filter

Active group in bold

Add a group

Contextual menu

Group colour

Visibility of group objects

Export objects from the group

Share group objects

Date the group was last modified

Name	Type	P
OBJECTS		23
Segment 1	Segment	2
Point 1	Point	4
Group 1		
Annotation3D 1	Annotation3D	
Point 2	Point	
Group 2		
Segment 2	Segment	
Cloud-Sphere 1	Cloud	
Polygon 1	Polygon	
Group 3		
Segment 3	Segment	

Group 1 (5 objects)

- New group
- Fold parent
- Display in 360° views
- Hide in 360° views
- Display on Layout
- Hide on layout
- Display in 3D view
- Hide in 3D view
- Lock
- Delete group

Properties - Group

Group colour:

☒ Propagate

Name:

Label:

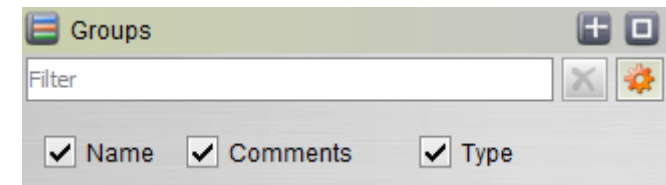
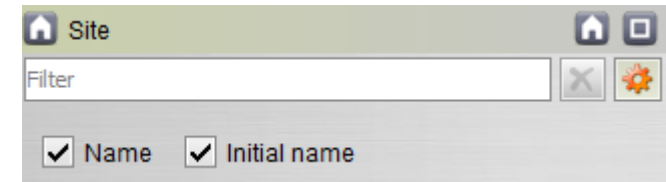
Link:

Creator: USER 2
modified: 12.09.2017 15:45:36

- Groups are used to collect and organize objects like layers.
- If there is no active group, the objects are created under the root node OBJECTS. To make a group active (in which created objects will be placed), double-click its name in the tree view or right-click **Set as active group**.
- Use the contextual menu to create a group in the Group Window, then **New Group**, or use the **+** button at the top right of the Group Window.
- There are two ways to assign an object to a group:
 - drag the node of the object into the group in the tree view
 - select the group from the drop-down list in the object properties window.
- The available actions for a group from its properties window are:
 - define a colour for all objects belonging to the group
 - show/hide all group objects in panoramic views
 - show/hide all group objects in the associated layout view
 - show/hide all group objects in 3D view
 - export group objects (see section [Exporting Objects](#))
 - share the group and related objects (see section [Sharing Objects](#))
- It is also possible to lock a group in the contextual menu. Objects in a locked group cannot be deleted or modified.

15. FILTERING OBJECTS


- The **site structure** and **group** windows have an editable field used to filter the listed objects. Entering characters allows you to filter objects in real time.
- The filter does not include uppercase or accented characters.
- To cancel the filter, click the X button to the right of the filter field or press the **ESC** key
- The cogwheel is used to select or hide the fields used in the filter.



16. OBJECT: ANNOTATION



Annotation allows you to place a 3D icon in panoramic view. Like all objects, this icon can be seen from all nearby panoramic views.

The note's icon can be changed through the category button in the object property window: 

The folder containing the default images can be modified via the **Symbol Library** System Configuration Menu.

The size of icons in panoramic views and map views can be set in display options:

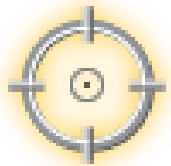


The location of annotations can be shifted by the user's mouse so it is more in line with the annotation image (see the detailed documentation *MySurvey - Annotation.pdf*).

17. OBJECT: TEXT AREA

T The text area object only allows you to place a comment in panoramic views. There is no icon associated with this object. The text area has the distinctive feature of being visible only from the station where it was created.

18. OBJECT: POINT



The point object can be used to see the coordinates of a point in the panoramic image. Like all objects, this point can be seen from all nearby panoramic views and can be modified in a different view to the one in which it was created: this means it can be repositioned more precisely at a different viewing angle.

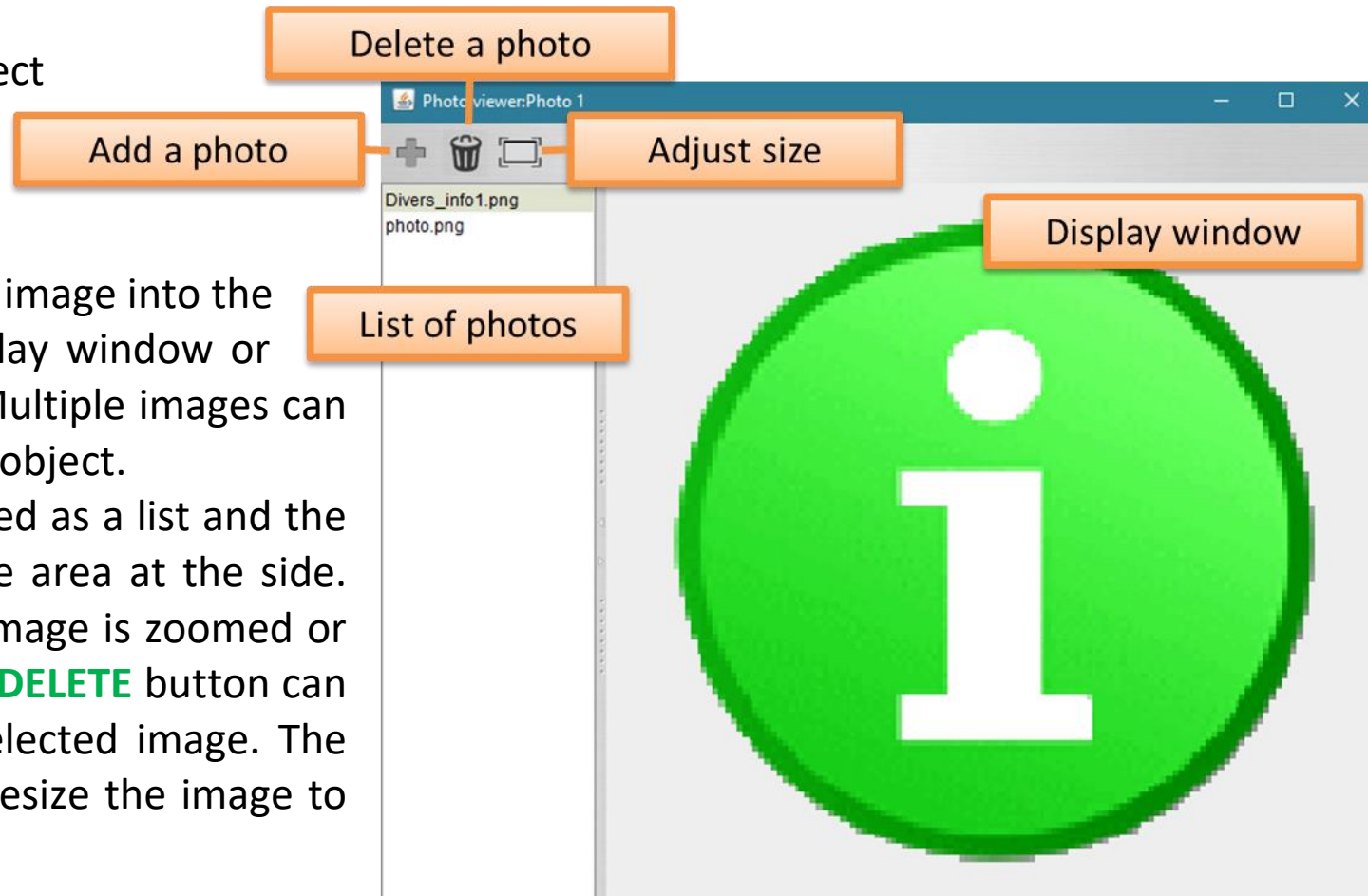
19. OBJECT: PHOTOS



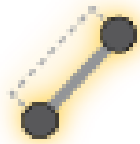
The photo viewer object is a particular type of annotation that allows you to link photos to a specific point.

To add photos you can drop an image into the list of images or into the display window or by clicking **+** (Add an image). Multiple images can be assigned to the same photo object.

The various images are displayed as a list and the selected image is shown in the area at the side. This area responds when the image is zoomed or moved. The **Trash** button and **DELETE** button can both be used to delete the selected image. The **Adjust Size** button is used to resize the image to the size of the view.



20. OBJECT: SEGMENT



The segment allows you to take a measurement between two points.

The first point can be from a panoramic image and the second from another image or from 3D view. It is thereby possible to precisely measure the thickness of a wall or mass by choosing two views on either side of the target in question.

The coordinates of the points and the deltas in the 3 axes can be found in properties.

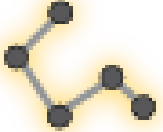
Segment points can be changed in any view where the segment appears. To do this, first click on the point so it becomes "big and green". Only then can it be moved by pressing and holding the mouse button.

The point appears surrounded by a circle when it is visible from the view where it was created or modified. The circle does not appear in the other views, it is merely an indication to determine in which view the point was entered.

A segment can be created by constraining its input according to one of the coordinate axes or a map (see section [Constrained Measurements](#)).

A segment can also be extruded to form a cylinder (see section [Extrusion](#)).

21. OBJECT: POLYLINE



The polyline is used to draw a set of several points. When the input of the points is complete, press the **ESC** key to exit creation mode.

The main aim is to know the total length of the line that has been created.

Each section of the polyline can be constrained along a different axis or different map (see section [Constrained Measurements](#)).

The polyline can also be extruded into a set of cylinders and parts of circular tori (bends) (see section [Extrusion](#)).

22. OBJECT: RECTANGLE



The rectangle requires 3 input points. The first 2 points are chosen by the user. The third point of the rectangle is defined by the projection of the cursor onto the plane defined by the first side. Like the previous objects, the input of the second point of the rectangle can be constrained on an axis or a plane. (see section [Constrained Measurements](#)).

A rectangle can be extruded to form a rectangle parallelepiped (a box) (see section [Extrusion](#)).

The perimeter and surface of the rectangle appear in the properties window.

23. OBJECT: POLYGON

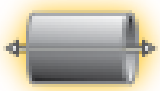


The polygon makes it possible to draw several points forming a closed and flat surface. The first 3 points can be created freely (or by using constrained measurements). The following points will be on the plane formed by these three points.

When the points are input, press the **ESC** key to exit creation mode or complete the creation using the contextual menu.

It is possible to extrude a polygon (see section [Extrusion](#)).

24. OBJECT: CYLINDER AUTO-FIT



The cylinder offers the possibility of determining the diameter of a cylindrical structure.

Recognition requires two points captured on the axis of the cylindrical structure visible in the panoramic image. At the end of the second point entered for the cylinder, the algorithm will extract the 3D points contained between the two points entered by the user and determine the best diameter and positioning of the modelled cylinder. The operation may require a few seconds; the progress bar of the information bar indicates the progress of the calculation.

At the end, if the recognition is considered acceptable, the cylinder is visually adjusted to the point cloud.

It is possible that the calculation will not lead to a conclusive result: a dialogue box warns that adjustments are disregarded and the cylinder is not created.

The axis of the created cylinder can then be modified to increase it or reduce its length: click on a point representing the end and once it has turned green, place the point in the desired place.

Caution, moving a point can disassociate the cylinder from the point cloud.

25. OBJECT: "FREE" CYLINDER



The free cylinder requires 3 points to be entered by the user:

The first two points must be in the axis of the cylindrical structure visible in the panoramic image (**not necessarily on the axis** as points can be on the edge of the object). The third point **visually** determines the diameter of the cylinder.

The axis of the created cylinder can then be modified to increase it or reduce its length: click on a point representing the end and once it has turned green, place the point in the desired place by using the properties window to edit the various values characterizing it.

26. OBJECT: SPHERE



The sphere makes it possible to create a spherical volume around a point. For the creation of the sphere, the first click is for the centre and the second defines its radius.

27. OBJECT: SPHERICAL CLOUD EXTRACT

(Design and Decide licences)



The spherical point cloud extract requires 2 points to be entered in panoramic view: the first point determines the centre of the extraction sphere and the second the radius of the sphere.

The object properties window then displays the **Extract Points** button. Clicking this button opens a dialogue box to choose the resolution of the cloud being extracted.

The progress bar at the bottom right indicates the progress of the cloud extraction calculation. Once completed, the **3D** button in the property window becomes available and the object can be displayed in 3D view. It is possible to cancel the creation of the cloud while in progress.

If **3D view** is not displayed, click the button on the main toolbar or in the 3D View Window Menu to make it appear. (See [3D Window](#)).

The 3D MySurvey engine can manage clouds of up to 10 million points. The number of points displayed in the 3D Window can be set in the Display Properties Window (see section [Display Settings](#)).

28. OBJECT: "POLYGONAL" CLOUD EXTRACT

(as per the version)



The polygonal point cloud extract functions as a polygon object.
Press the **ESC** key to complete the object.

The Object Properties Window displays the **Extract Dots** button, which displays a dialogue box for choosing the resolution of the cloud being extracted as well as the depth of the extraction with respect to the active viewpoint.

The progress bar at the bottom right indicates the progress of the cloud extraction calculation. Once completed, the **3D** button in the property window becomes available and the object can be displayed in 3D view. It is possible to cancel the creation of the cloud while in progress.

If 3D view is not displayed, click the button on the main toolbar or in the **3D View** window menu to make it appear. (See [3D Window](#)).

The 3D MySurvey engine can manage clouds of up to 10 million points.

29. OBJECT: "HORIZONTAL-CUT" CLOUD EXTRACT



(Design and Decide licences)

The horizontal-cut cloud extract performed in layout view.

This involves extracting a horizontal section from the point cloud according to a geometrical shape drawn on layout view and according to a thickness given by the minimum and maximum altitude by means of a dialogue box.

When creating the object you can draw a polygonal shape on the desired map view. Pressing the **ESC** key or using the contextual menu completes the construction of the object.

Then, when you click the **Extract Points** button in the properties window, you will be asked to specify the minimum and maximum altitudes for the extraction and the desired cloud density.

The progress bar indicates the progress of the procedure. The larger the cut, the higher the calculation time. The creation of the cloud can be cancelled while in progress, which means changes will be lost. Please note that if data prior to 2017 have not been updated by Quadrica, any attempt to extract more than 10 million points may not be successful.

30. OBJECT: "VERTICAL-CUT" CLOUD EXTRACT

(Design and Decide licences)



The vertical-cut cloud extract performed in layout view.

This involves extracting a vertical section from the point cloud according to a polyline shape drawn on layout view and according to a thickness given by the minimum and maximum altitude by means of a dialogue box.

When creating the object, you can draw a polyline shape on the desired map view. Pressing the **ESC** key or using the contextual menu completes the input.

Then, when you click on the **Extract Cloud** button in the properties window, you will be asked to specify the thickness of the polyline, the minimum and maximum altitude and the cloud density desired for extraction.

Once validated, the progress bar indicates the progress of the procedure. The larger the cut, the higher the calculation time. The creation of the cloud can be cancelled while in progress. Please note that if data prior to 2017 have not been updated by Quadrica, any attempt to extract more than 10 million points may not be successful.

31. CONSTRAINED MEASUREMENTS

Entering a constraint allows the line to be forced in a specified direction or a given plane. The constraint is calculated by taking the previously created point as a starting point. By pressing the **X**, **Y** or **Z** keys, the constraint on one of these axes is activated and the next point projected onto it (see section [Coordinates](#) for changing coordinates and altering the orientation of the axes). In order to constrain the input of the point on a plane, a combination of keys can be used. For example, by pressing **X** then **Y**, the point will be constrained on the XY plane of the current coordinate. Pressing one of these keys a second time will deactivate the constraint on this axis. These actions can be overridden by clicking the **X**, **Y** or **Z** buttons in the information bar.

The input of a constrained measurement enables points that are not on the 3D point cloud to be input. The actual point entered is displayed in white and its projection is represented by a white dotted line.

Constrained measurements can be performed during creation:

- of the second point of a segment
- of the points of a polyline (excluding the first)
- of the second point of a rectangle
- of the second point of a polygon
- of the second point of a free cylinder

32. EXTRUSION

Object extrusion makes it possible to modify the previous object to make it volumic. The type of extrusion varies according to the type of extruded object. Extrusion is done via the object's contextual menu (by right clicking on it), and then by clicking **Extrude**. A window appears for selecting the diameter or height of the extrusion.

- Line extrusion: this gives you a cylinder.
- Polyline extrusion: this creates a group containing a set of cylinders and circular tori.
- Rectangle extrusion: this gives you a cube.
- Polygon extrusion: this gives a volume formed by two identical parallel sides (as drawn) separated by the extrusion height. The drawn side will be the underside.

33. MAGNETISM



When creating an object, magnetism means a point can hang on another object or on a plane. To do this, simply click the button on the middle toolbar. The first point cannot be affected by this mechanism. The elements affected by this magnetism are the sides, edges or vertices of the objects already created, as well as the axes of the cylinders.

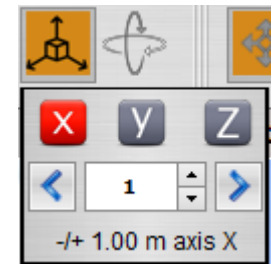
34. TRANSLATION/ROTATION



This tool allows an object to be translated according to each axis of the coordinate (see section [Coordinates](#) for changing coordinates and altering the orientation of the axes).

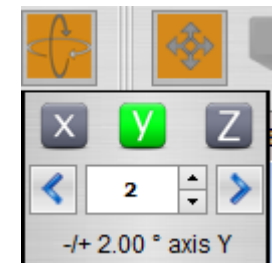
When this tool is selected along with an object, the axes of the coordinates appear at the location of the clicked point. The object can be moved on an axis by clicking on the axis and sliding it along the axis without releasing the mouse button. A small frame will provide the difference from the previous position.

The object can also be moved using the small translation window. In the example opposite, clicking on the left or right arrows will move the object more or less 1m on the X axis. The unit can be changed (see section [Configuration Window](#)).




This tool is used to rotate an object. When this tool is selected, a rotation sphere appears at the clicked location. By clicking on one of the sides of a polyhedron or one of the edges of a polygon, the sphere is placed at its centre or it can be placed on the object vertex. It is rotated by turning the various circles.

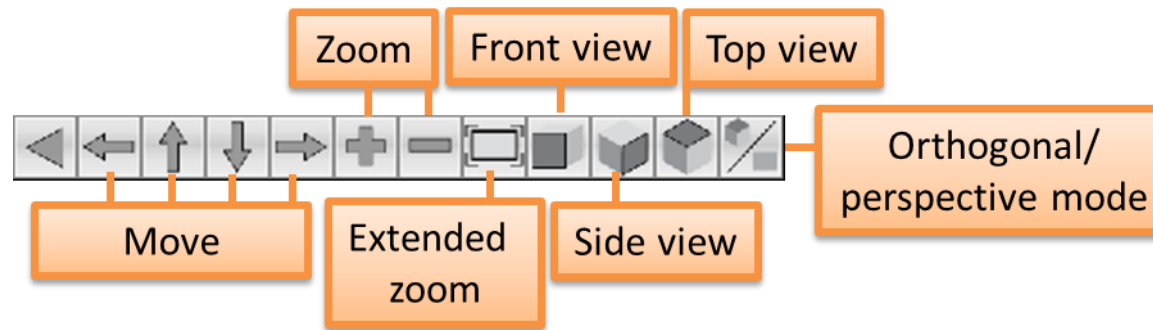
As for translation, the rotation window is used to select an axis and a rotation step. In the example opposite, the object will be rotated by more or less 2° along the Y axis.



35. NAME AND COMMENT LABELS

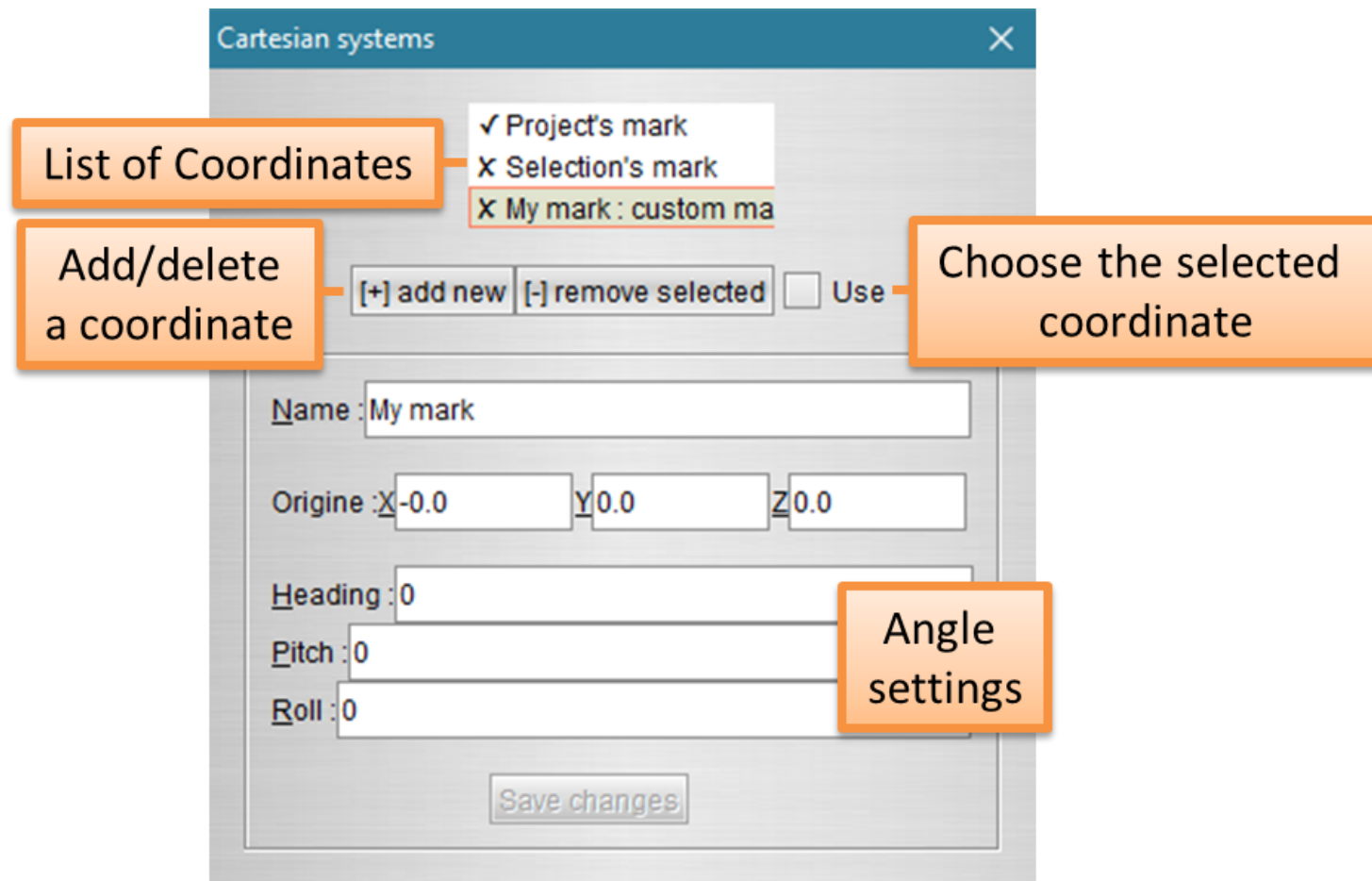
- Names and comments are displayed by clicking on the eye  in front of the names or comments field in the object Properties Window. When both are displayed, this happens in succession on the same label.
- Name and comment labels are visible from all surrounding stations but the position of labels is specific to each station.
- The label adjusts to the size of the text it contains by default.
- The label can be moved using the small ring at the top left.
- The small ring at the bottom right is used to resize the label.

36. THE 3D WINDOW (Design and Decide licences)



- The centre of the 3D view rotation is the centre of the 3D view.
- Double-clicking in the 3D window focuses the view on this point. This also makes it possible to redefine the rotation centre.
- Movement using the mouse in the 3D window rotates the view around the central point. Movement with the arrow keys performs a translation of the 3D view. These two actions can be reversed by changing a parameter in the configuration window (see section [Configuration Window](#)).
- The box at the top shows the number of points displayed (points of the point cloud or the vertices of the different objects), the number of triangles created to display the objects and the number of objects present in the 3D view.

37. COORDINATES



The screenshot shows the 'Cartesian systems' dialog box with the following elements and annotations:

- List of Coordinates:** A list containing three items:
 - ✓ Project's mark
 - X Selection's mark
 - X My mark : custom ma
- Add/delete a coordinate:** Buttons for '[+] add new' and '[-] remove selected'.
- Choose the selected coordinate:** A checkbox labeled 'Use'.
- Angle settings:** Input fields for 'Heading : 0', 'Pitch : 0', and 'Roll : 0'.
- Other fields:** 'Name : My mark' and 'Origine : X -0.0 Y 0.0 Z 0.0'.
- Save changes:** A button at the bottom.

To activate this setting window, click on the  button.

- This window is used to select a coordinate from existing coordinates and create new ones.
- To select a coordinate, check the **Use** box. This then changes to **Current**.
- The **[+] new** button adds a new coordinate.
 - Select the origin of the new coordinate in the general project coordinate system. Values given are in meters.
 - Select an angle around one or two of the axes.
 - The cap is a rotation around the blue axis (vertical axis).
 - The pitch is a rotation around the green axis (Y axis).
 - The roll a rotation around the red axis (X axis).
- Only the coordinates created by the user can be removed.

38. DISPLAY SETTINGS

The screenshot shows the 'Display Settings' dialog box with the following annotations:

- Location of stations represented by name**: Points to the 'Texts' radio button in the 'Station display' section.
- Location of stations as coloured bullet points**: Points to the 'Bullets' radio button in the 'Station display' section.
- Do not display stations**: Points to the 'Hide stations' radio button in the 'Station display' section.
- Size of bullet points or text**: Points to the 'Size' slider in the 'Station display' section.
- Outline of bullet points or text**: Points to the 'Outline' slider in the 'Station display' section.
- Size of coloured sectors (in metres)**: Points to the 'Sector' slider in the 'Station display' section.
- Scale of icons
Thickness of lines
And scale of text on map.**: Points to the 'Objects scale' section, specifically the 'Icons', 'Thickness', and 'Texts' sliders.
- Propagate parameters to all other map views**: Points to the 'Apply to all layouts maps' button at the bottom right.

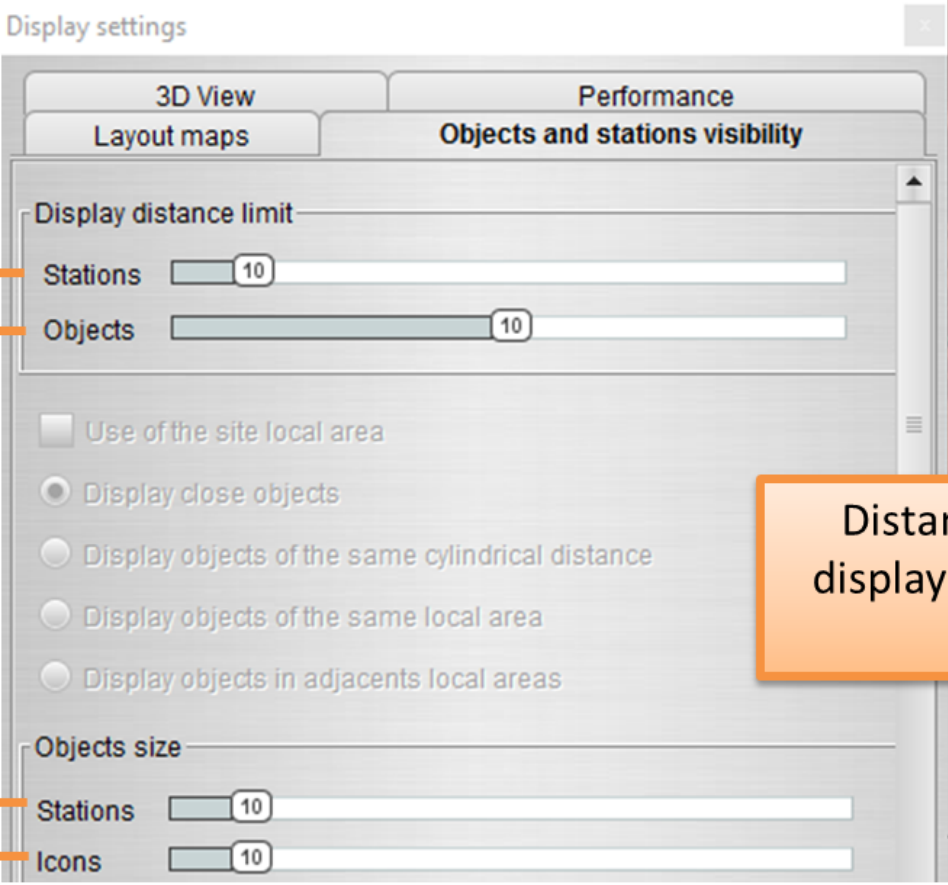
The dialog box itself contains the following elements:

- Tabs**: '3D View' (selected), 'Performance'.
- Sub-tabs**: 'Layout maps' (selected), 'Objects and stations visibility'.
- Station display**:
 - ☒ Bullets
 - ☐ Texts
 - ☐ Hide stations
- Size**: Slider set to 10.
- Outline**: Slider set to 2.
- ☐ Display and activate automatically the layout of the current stat...
- Sector**: Slider set to 5.
- Objects scale**:
 - Icons**: Slider set to 1.
 - Thickness**: Slider set to 1.
 - Texts**: Slider set to 5.
- map (WxH):** 5085x950 (72)
- Apply to all layouts maps**: Button.



- Clicking on the button on the toolbar or hitting shortcut key **A** accesses the dialogue box for modifying the display parameters of objects.
- In the **Layout Maps** tab, station locations can be displayed as text or bullets or not displayed at all. You can set the size and thickness of icons and objects.
- The size of the coloured sectors is expressed in meters.
- The scale of the icons is a factor multiplying the base size defined in the Objects and stations visibility Tab.
- Thickness affects the representation of linear objects (segments, polylines, etc.) on the layout.
- The button **Apply to all layouts maps** affects the parameters of all other maps, taking into account their respective size.

- **Objects and stations visibility Tab**



Maximum visibility distance of bordering station (in m)

Maximum visibility distance of objects

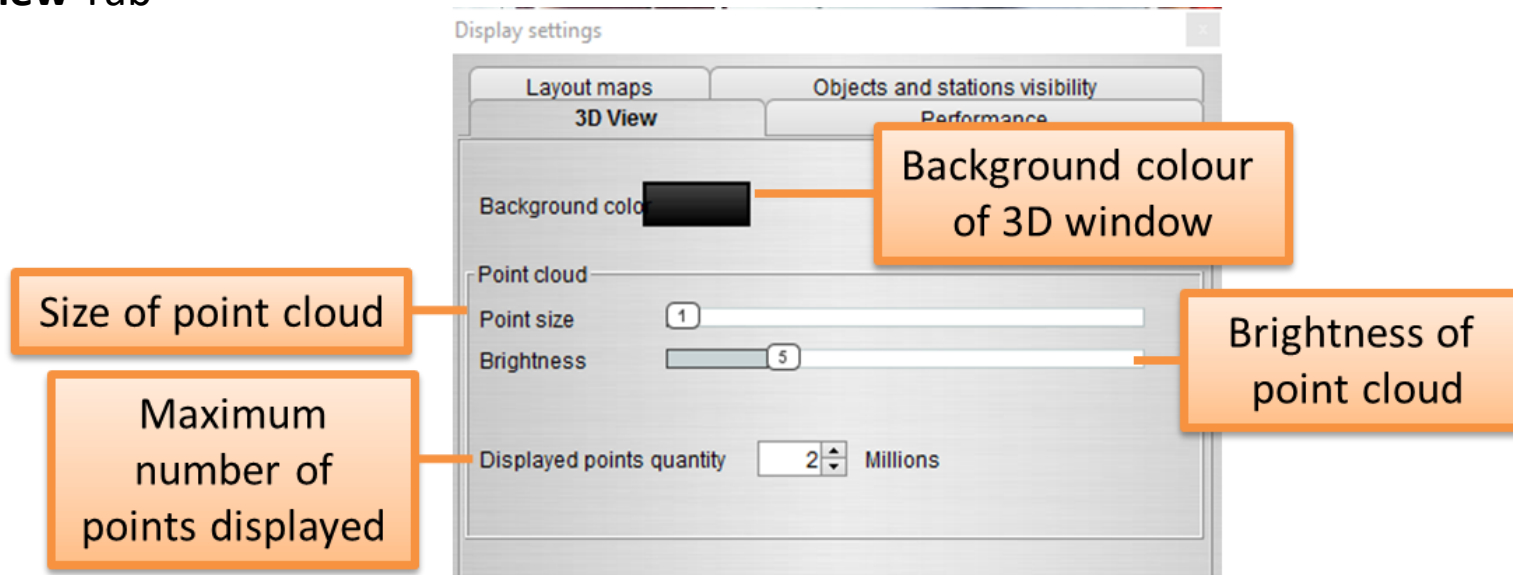
Size of station icons in panoramic views

Size of annotation icons in panoramic views

Distance used to display stations and items

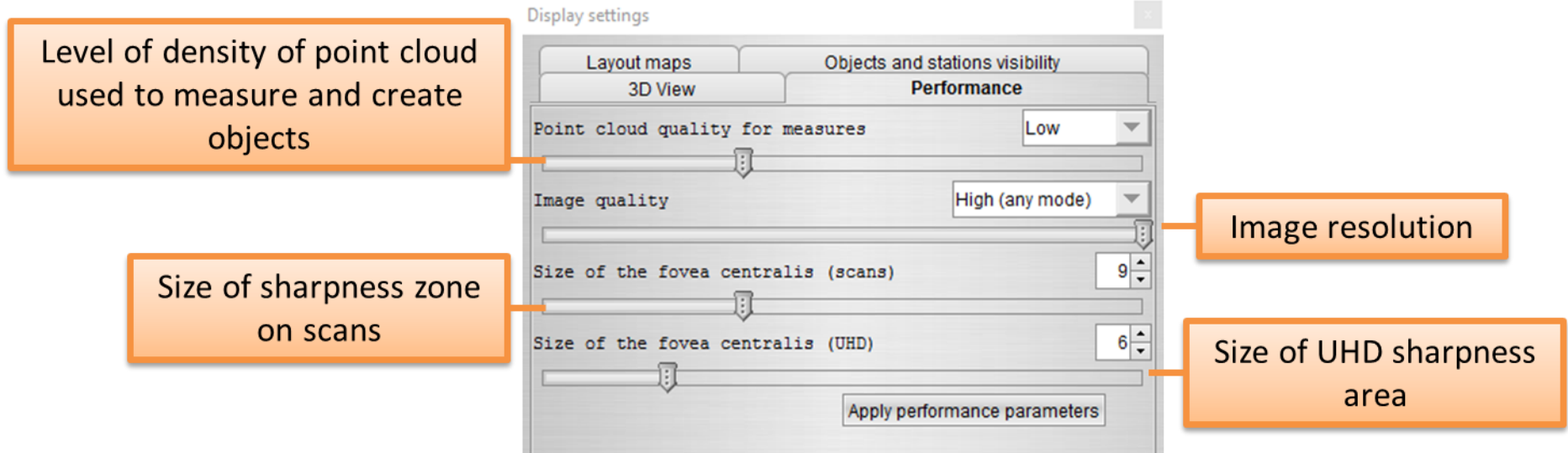
- Parameters allow the maximum distance of visibility of adjacent stations and created objects to be defined. The limits of the display distances vary according to the power of the computer.
- This tab tells you if a local file is loaded and what type of distance is used for the stations and other objects (if they are not hidden by the point cloud or when in no rendering mode).
 - The **Display close objects** box is the default distance showing only stations that are less than X metres in all directions, with X the value selected above.
 - The **Display objects of the same cylindrical distance** box is a variant of the first distance. It displays only the stations within X metres and belonging to the current floor as well as to the one above and the one below.
 - The **Display objects of the same local area** box requires a location file to have been loaded. Only stations in the same local area as the current station will be displayed.
 - The **Display objects in adjacent local areas** box requires location file to have been loaded. The stations at the current local area and those at adjacent locations are displayed.
- The size of the eye icons symbolizing the stations can be adjusted in the station size settings.
- The size of the annotation icons or point icons can be adjusted in the icon size settings.

- **3D View Tab**




- The background colour of the 3D window can be changed.
- The display size and brightness of the points can be changed.
- It is also possible to select the maximum number of points displayed in the window.

- **Performance Tab**

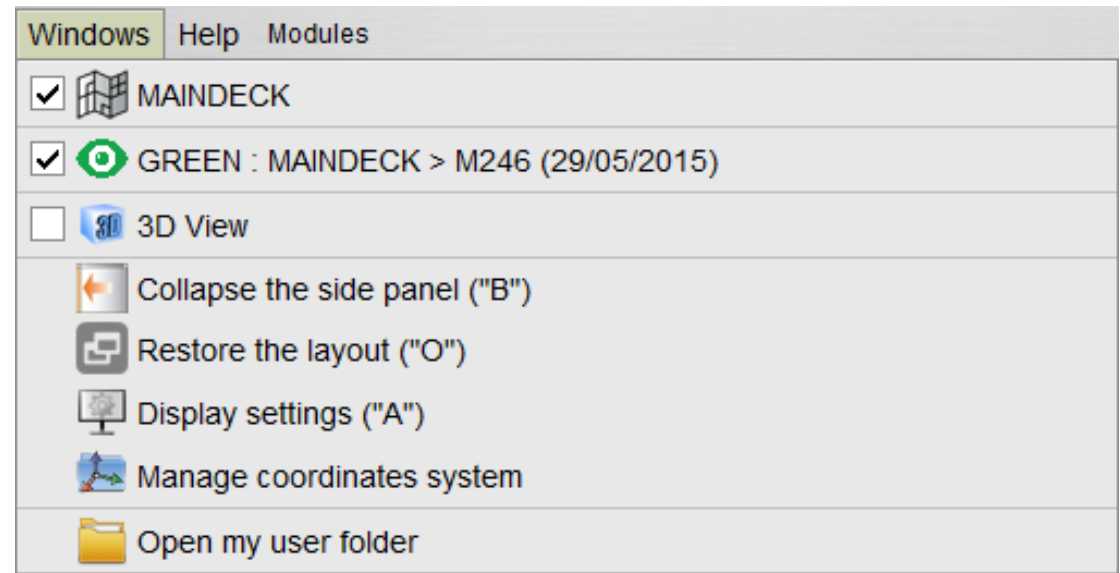


- Performance tools can slightly degrade cloud quality in terms of measurements in panoramic views or quality (for scanning or UHD) in order to speed up loading times when switching from one station to another.
- The size of the fovea is the number of high resolution squares displayed in the centre of the image (while the rest of the image is degraded). The smaller the fovea, the better the performance.

39. MANAGE WINDOWS

- MySurvey windows can be organized in several ways to suit the user's work habits.
- You can restore the default layout at any time by pressing the button: 
- A window can become a "floating" window and be moved out of the MySurvey workspace, or even be used on a second screen.
- The window can be "anchored" to another by using the title bar to move it and then dropping it into the destination window. Depending on the location chosen in the destination window (left or right part of the window, upper or lower part), the moved window will occupy the corresponding space.
- If the moved window is "dropped" onto the title bar of a destination window, these two windows will become "stacked". They can be selected via a tab below the two windows (as is the default for the Site Structure and Group windows).
- The layout of the windows will be preserved between one MySurvey session and another.

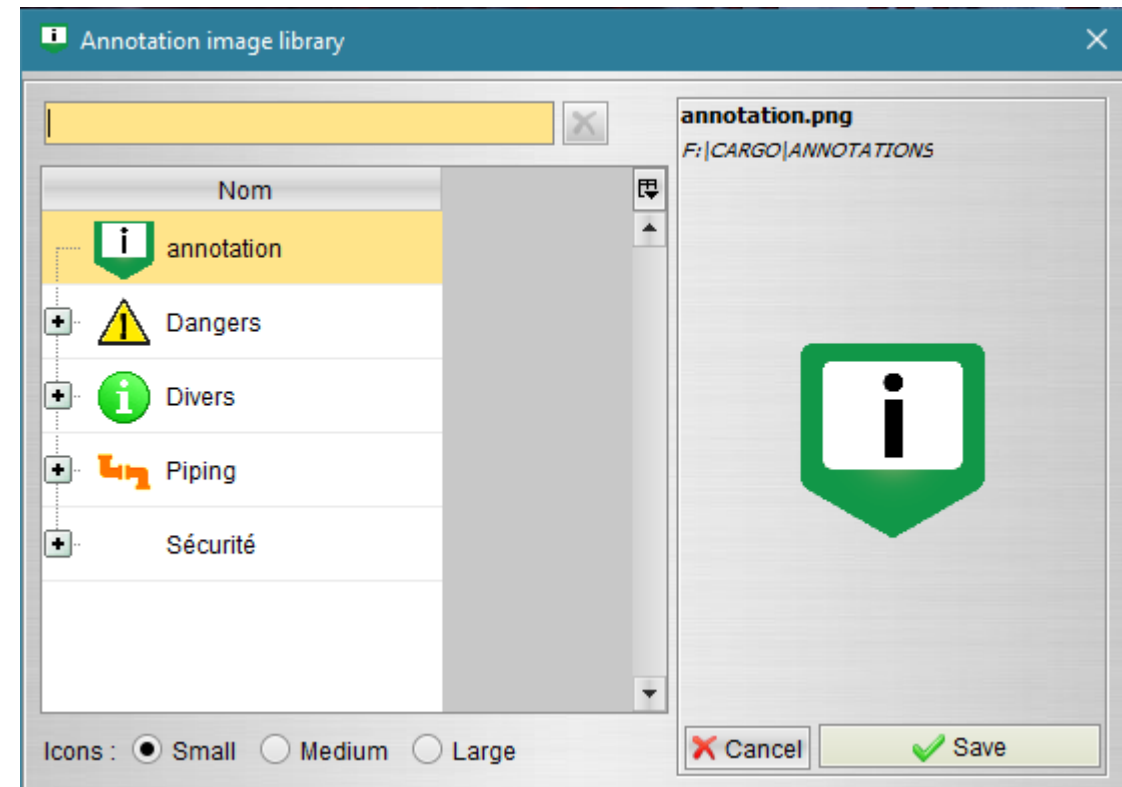
- When a window is maximized in the workspace, it hides the other windows present. The **Windows** menu allows access to a hidden window without having to reduce the foreground window. Click on the menu on the desired window to make it reappear.



- When one of the masternodes of the **Site Structure** tree view is selected, the corresponding map is activated in the window that moves to the foreground.

40. SYMBOL LIBRARY

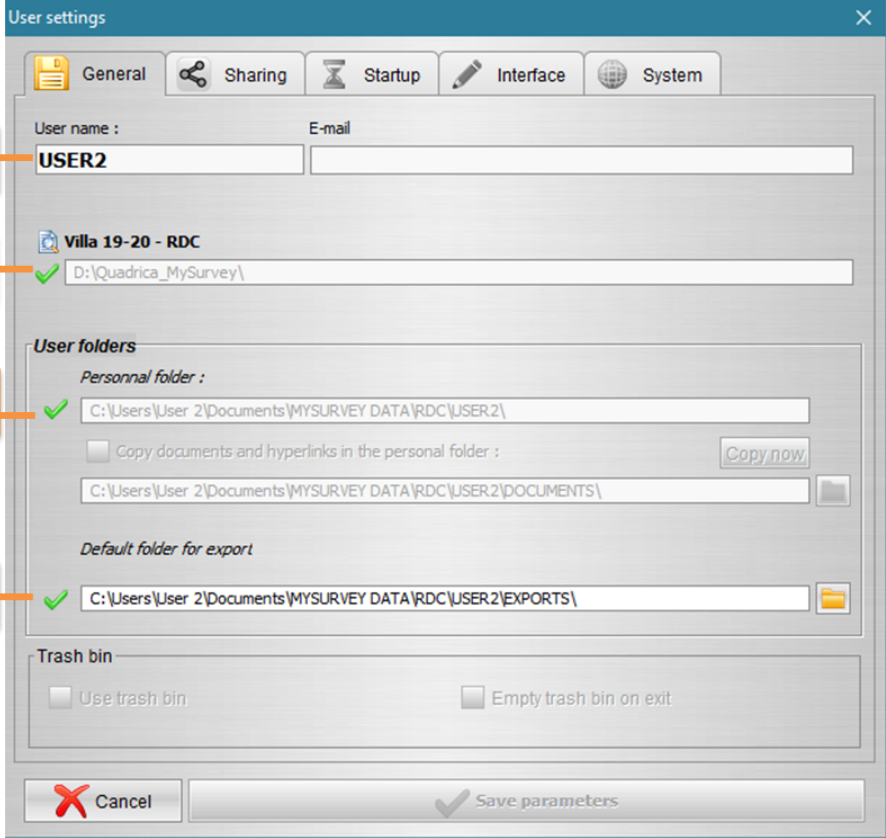
- The System/Symbol Library menu is used to establish a folder containing images that can be used as an icon for Annotation objects.
- The default folder, containing a library provided with MySurvey, is located in the executable file in an **Annotation Directory**.
- **Warning:** changing the folder is likely to affect previously created annotations. If the image used for an annotation no longer exists (with an identical relative pathway), the annotation icon is replaced by the default image.



41. CONFIGURATION WINDOW

The general Configuration Window can be found by selecting **Settings** in the **System** menu.

- **General Tab**



The screenshot shows the 'User settings' window with the 'General' tab selected. The window contains the following fields and options:

- User name:** USER2
- E-mail:** (empty field)
- Project data folder:** D:\Quadrica_MySurvey\ (indicated by a green checkmark)
- User folders:**
 - Personal folder:** C:\Users\User 2\Documents\MYSURVEY DATA\RDC\USER2\ (indicated by a green checkmark)
 - ☐ Copy documents and hyperlinks in the personal folder : [Copy now](#)
 - Default folder for export:** C:\Users\User 2\Documents\MYSURVEY DATA\RDC\USER2\EXPORTS\ (indicated by a green checkmark)
- Trash bin:**
 - ☐ Use trash bin
 - ☐ Empty trash bin on exit

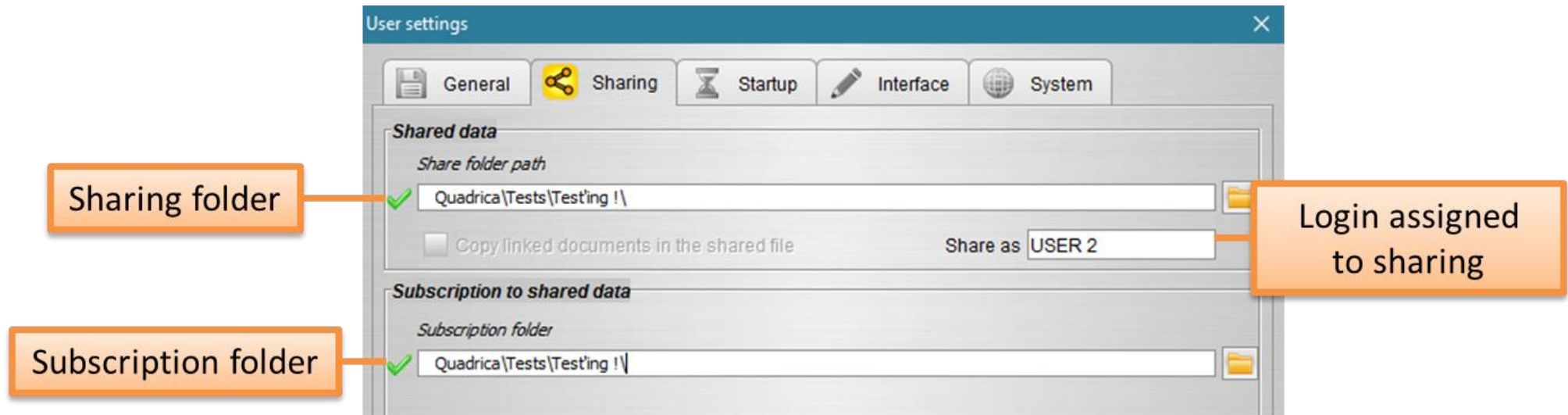
Annotations on the left side of the window point to specific fields:

- User identification** points to the 'User name' field.
- Project data folder** points to the 'Project data folder' field.
- User folder** points to the 'Personal folder' field.
- Data export folder** points to the 'Default folder for export' field.

At the bottom of the window are two buttons: 'Cancel' (with a red X icon) and 'Save parameters' (with a green checkmark icon).

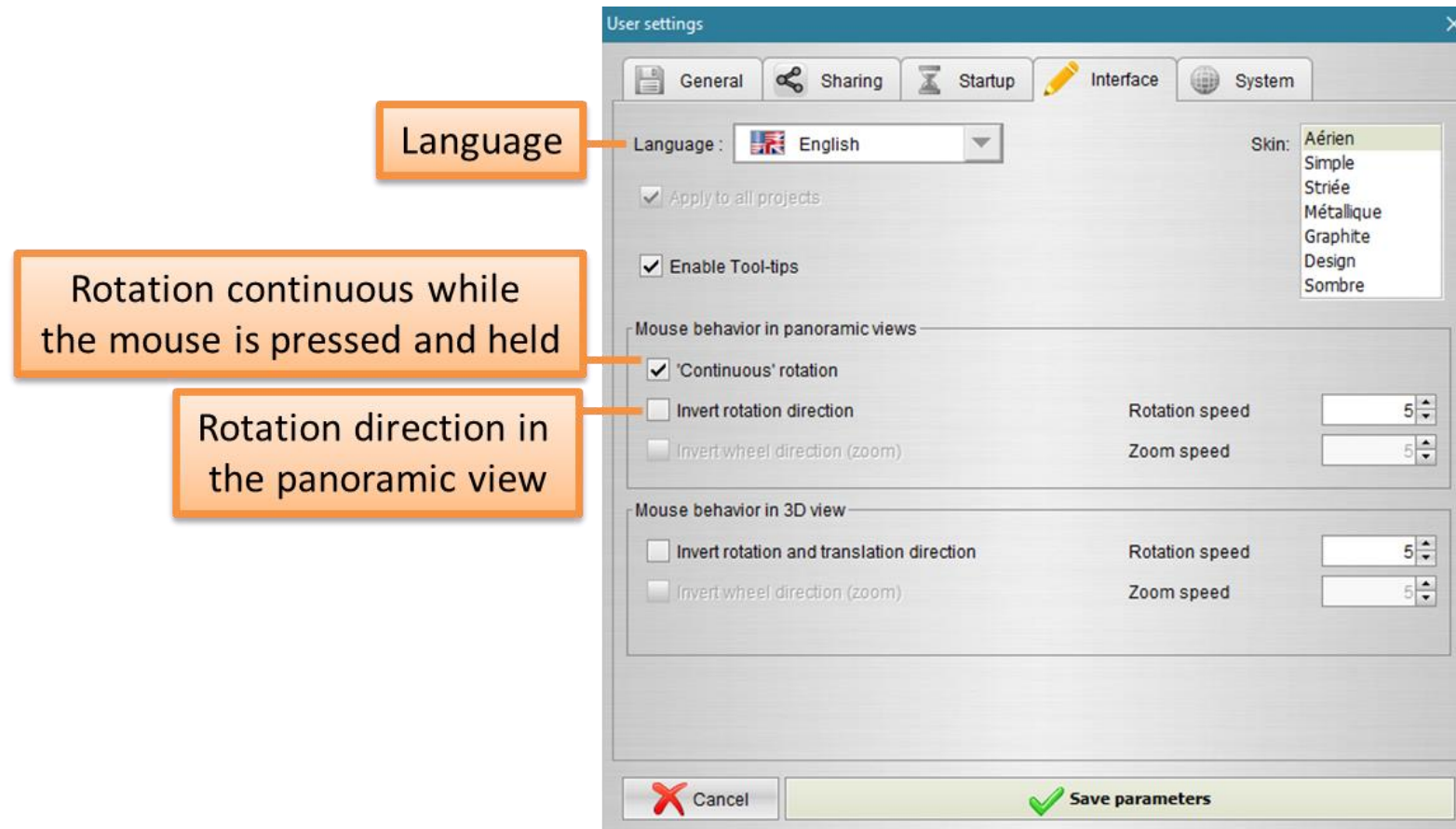
- This window shows the name of the MySurvey user, their email address if provided and the location of the project and folder where the data entered by the user will be stored.
- The default folder for exports can be configured in this tab.

- **Sharing Tab**



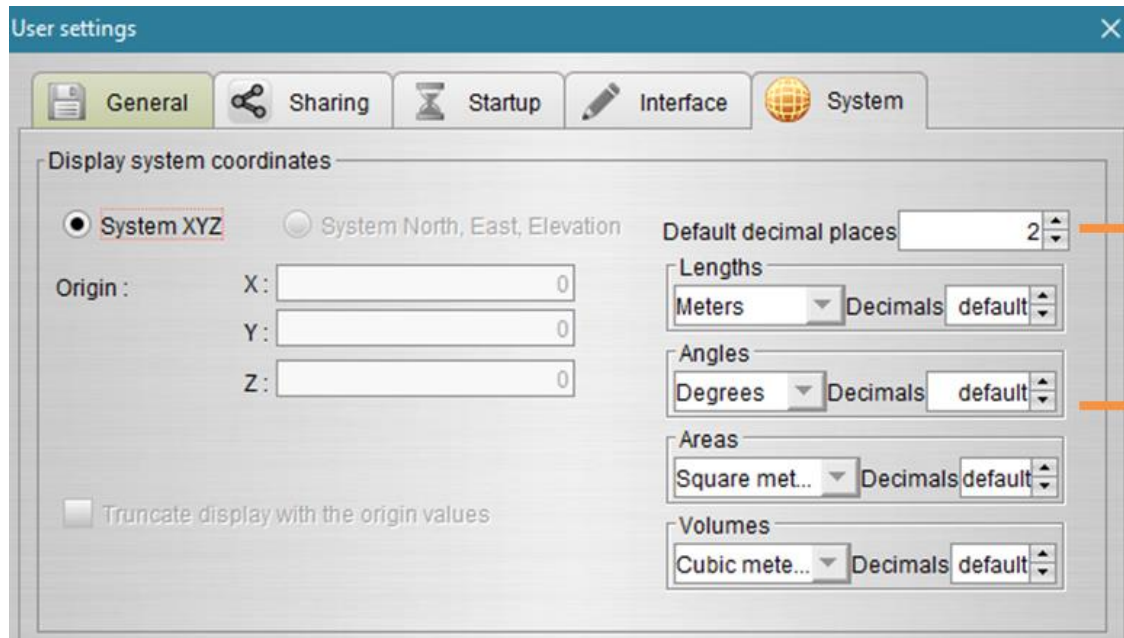
- The folder from which the user can subscribe to groups and the folder to which the user is able to share can both be configured in this tab.

- **Interface Tab**



- The user can change the language they wish to use in MySurvey.
- The rotation parameters in the panoramic and 3D views can be configured. Continuous rotation allows the view to continue rotating until the mouse is released. The direction of rotation can be selected.

- **System Tab**



User settings

General Sharing Startup Interface **System**

Display system coordinates

☒ System XYZ ☐ System North, East, Elevation

Origin : X: 0 Y: 0 Z: 0

☐ Truncate display with the origin values

Default decimal places 2

Lengths
Meters Decimals default

Angles
Degrees Decimals default

Areas
Square met... Decimals default

Volumes
Cubic mete... Decimals default

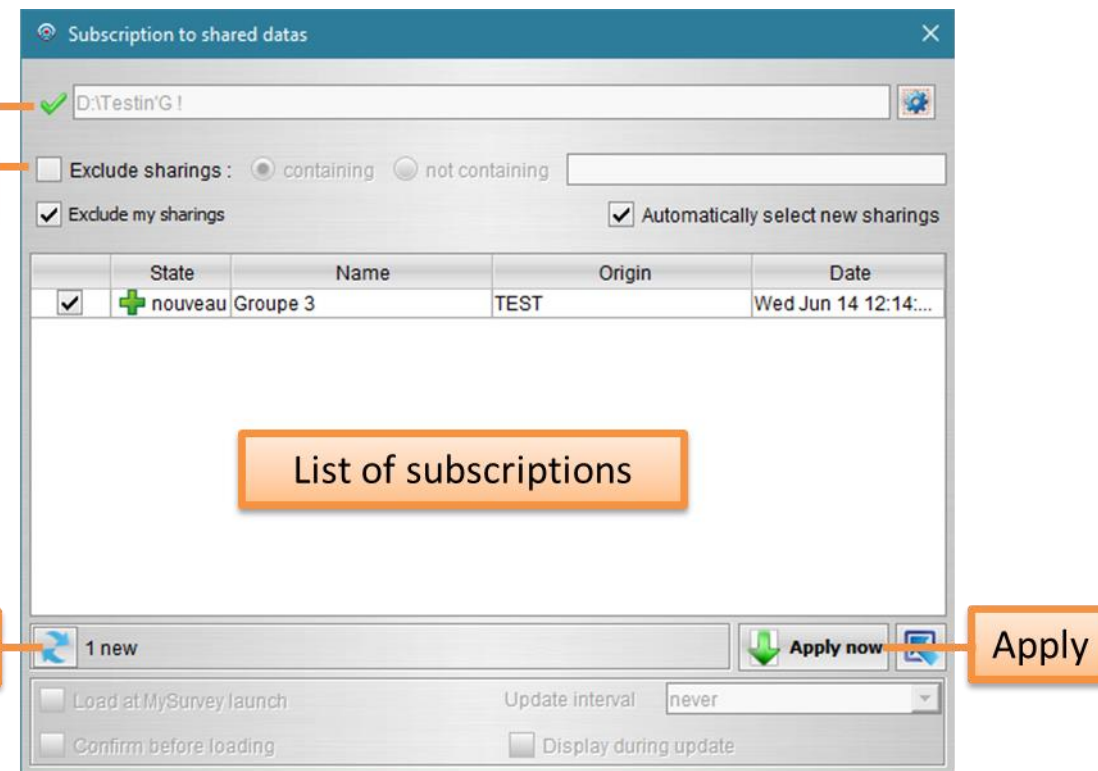
Number of decimals
by default

Choice of units

- For each type of unit (length/angle/area/volume), the default unit and the number of decimal places can be set. All units in MySurvey are affected by this change.

42. DATA SHARING (Design and Decide licences)

- Data Sharing allows groups and group objects to be exported so they can be loaded into another user's MySurvey session.
- The share folder must first be configured via the Configuration Window.
- Selecting a group object then displays a **Share Group** button. Activating this button saves the group objects to the defined location.
- Users can set up a subscription to the shared folder to import objects shared by other users. Subscription is done through the menu **System/Subscription to Shared datas**.
- See the external *mySurvey - Shares* documentation for more details on how sharing and subscription work.



43. DATA EXPORT (Design and Decide licences)

The screenshot shows the 'Export MySurvey data' dialog box with the following elements and annotations:

- Name of exported group:** Points to the 'Group: Groupe 2' field.
- Export object:** Points to the 'Format: MSZ - MySurvey (Native)' dropdown menu.
- Choice of format:** Points to the 'formatMSZ (Native) - MySurvey' text, which is part of the format selection options.
- Export point cloud:** Points to the 'Format: PTS - Leica (flat Cloud)' dropdown menu.
- Choice of format:** Points to the 'formatPTS (flat Cloud) - Leica Infos' text, which is part of the format selection options.
- Validation:** Points to the 'Export objects and clouds' button.

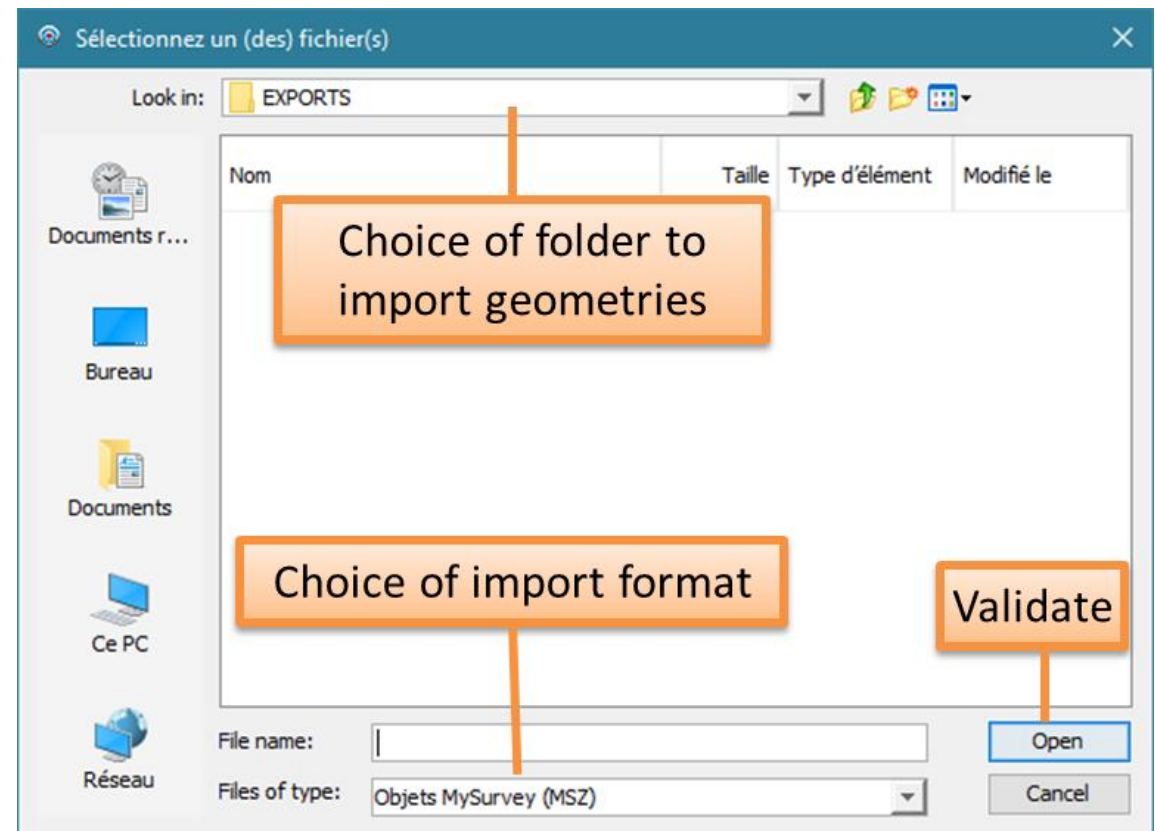
Additional visible elements in the dialog box include:

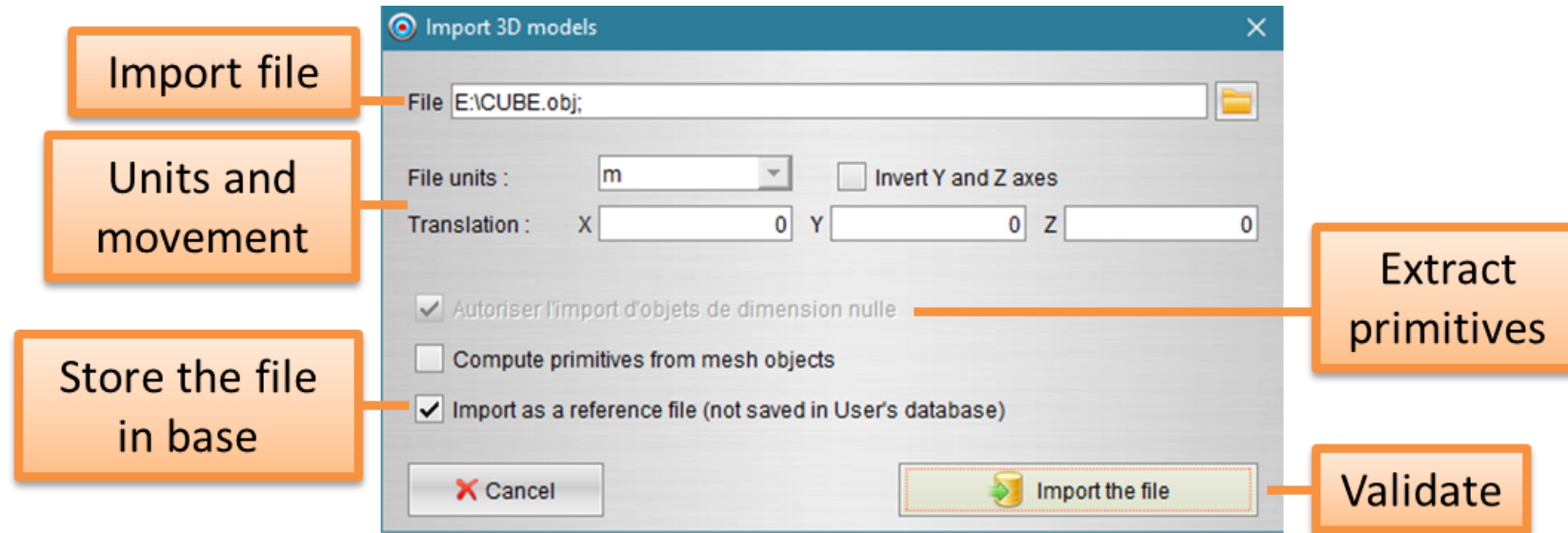
- ☒ **Export objects and measures**
Objects: 8 objects (26 points or 10 triangles)
- ☐ **Export clouds associated with objects**
- ☒ **Export points cloud**
Objects: 1 pointclouds (0 points)
- Units: meters
- Offset: X: 0 Y: 0 Z: 0
- Buttons: Cancel, Export objects and clouds

- The export window can be accessed by clicking the **Export** button located in the property window of the group you wish to export.
- The first part of the data export box is used to export the data entered in MySurvey. Several export formats are possible:
 - MSZ: this is the specific MySurvey format. It can only be read by MySurvey.
 - OBJ: this format converts exported objects into a mesh.
 - CSV: this format allows group objects to be exported by creating a file for each type of object so their characteristics can be manipulated in a spreadsheet.
 - RMV: this is for exporting volumetric objects into a 3D model format.
- The second part of the export box allows point clouds extracted from MySurvey to be exported. Several export formats are available:
 - PTS: this format exports cloud points as a list.
 - XYZ: this format exports cloud points as a list.

44. 3D MODEL IMPORT (Decide licence with options)

- Import is done through the System Menu by selecting **Import Geometries**.
- Format is selected via the bottom line **File Type**. Only files of this type are displayed in this window.
- The different formats that can be imported into MySurvey are:
 - MSZ: the format specific to the software.
 - OBJ
 - RVM





- Once the file is selected, an import settings window appears. The following can be done via this window:
 - provide the file unit
 - invert the X and Y axes
 - move the import in translating it
 - for the OBJ format, it is possible to **Rebuild primitives from meshes**. This is the recognition of some shapes in the model so that several objects can be created from a single object in OBJ format.
 - import the file as a reference. The file will not be stored in the database. Loading and manipulation are faster in this mode.

45. TAG IMPORT (Decide licence)

- Tags are lists of geo-referenced annotations in the project that have a name and comment.
- This import allows the user to import a large number of tags at once.
- *Full documentation: mySurvey - Import tags.*

46. PANORAMIC IMAGE IMPORT (Decide licence)

Add panoramics

1 Path: A:\STRUCTURE\VILLA19-20\Stations\F_2\IMG\F_2_C.jpg

2 Name: F_2_C

3 Information

Comment:

Hyperlink:

4 Center coordinates

X:

Y:

Z:

5 Location

North direction: 251,36 °

6 Attached to:

7 Panoramic photo preview showing a curved interior space with a vaulted ceiling and a large window.

- Generate a panoramic image as a full station without its point cloud.
- The panoramic image, spatially referenced, is linked to a floor of the site.
- It can open in a panoramic view and used in interactive navigation.
- Current restrictions and behaviours:
 - Referencing is done exclusively through keyboard input (X, Y, Z)
 - Imported images cannot be deleted.
 - Imported images are unique to each user.
 - Entered images must cover 360° across the width of the image.
- Option available from the System tab by selecting Import Panoramic Photos.

- Operation (import from the System Tab):
 - **1:** Select the image you want to import. You can do this by dropping the image file into the pathway area or by searching for the file via the side button. The window will expand and display the selected image.
 - **2:** Selecting the name of the new panoramic "station". The image name is set by default.
 - **3:** Additional information for the panoramic image. This information (comment and hyperlink) is optional.
 - **4:** Coordinates of the centre of the panoramic "station" to be entered into the coordinates of the site. This is where the image will be positioned.
 - **5:** The north direction is displayed by moving the red cursor over the image (**7**). The cursor is positioned over the location to the north. The result is displayed in zone 5 in degrees relative to the left edge of the image. The left edge is at 0° and the right edge is at 360°.
 - **6:** Selection of the floor to which the panoramic image is linked.

47. MANAGE BULLETS














- The settings for the shape of the bullets representing stations on maps can be adjusted.
- The configuration file for these bullets is the file *station-shapes.conf*.
- It is possible to describe the desired polygonal shape to make it a bullet.
- The changes are made in real time so they can be done with MySurvey open to see the changes made.
- It is possible to define different bullet shapes for scan stations, solely for scanning stations with UHDs and for UHDs.
- See detailed documentation *mySurvey - Configuration Files - Bullet Style.pdf* for instructions on how to configure bullets.

48. Shortcut keys


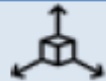








Keyboard shortcuts

v 1.4 / september 2017

Context	Shortcut	Button	Description
Application	O rganisation		Organize the windows with the default layout
Application	A ffichage		Show / Hide the display settings
Application	B andeau		Show / Hide the side panel
Application	CTRL F5		Show / Hide the subscription dialog
Application	F5		Update all subscriptions to the shared files
Application	CTRL +		Increase panoramic image brightness
Application	CTRL -		Decrease panoramic image brightness
Active panoramic view	D istance(& Laser)		Show / Hide the distance value under the cursor , and activate the 'laser' in the other view
Active panoramic view	P oints		Toggle the "no point" view mode
Active panoramic view	C ouleur		Toggle the gray scale view and the color view (if available)
Active panoramic view	R endering		Activate / disable the 3D rendering insed panoramic view
Active panoramic view	T ransparent		Activate / disable the transparent rendering on objects
Active panoramic view	H (UHD)		Toggle SCAN / UHD (Ultra Hight Def Image) (if available)
Active panoramic view	L		Synchronize the second view to the cursor in the first view, with the laser turned on (while pressing the key)
Active panoramic view	ALT		Hide the nearest stations (while pressing the key)
Active panoramic view	Backspace or Page down		History : previous
Active panoramic view	Maj + backspace or Page up		History : next
Active panoramic view	Arrows		Rotate the view
Active panoramic view	+ / -		Zoom in / zoom out

49. Shortcut keys (contd.)

2D layout view	Arrows		pan the map
2D layout view	+ / -		Zoom in / zoom out
Polyline edition	INSERT		Insert a vertex
Polyline edition	SUPPR <i>(with a selected vertex)</i>		Delete the selected vertex
Item selected	X / Y / Z		Activate / disable the constraints on axis
Item selected	Q		Activate / disable the translation mode on objects
Item selected	W		Active / désactive the rotation mode on objects
Item selected	ECHAP		Escape or finish the creation of the current object
Item selected	SUPPR		Delete the selected object
3D view	F1		Front view
3D view	F2		right view
3D view	F3		top view
3D view	F4		Toggle the perspective view and the isometric view
3D view	HOME		Extended zoom
3D view	Flèches		Pan in the view
3D view	+ / -		Zoom in / zoom out

50. List of related documents

mySurvey_00 - Glossary
mySurvey_01 - Keyboard shortcuts
mySurvey_02 - Version Tracking
mySurvey_03 - Initial Startup – Licence
mySurvey_04 - Modify your licence
mySurvey_05 - Configuration files
mySurvey_06 - Configuration files - System
mySurvey_07 - Configuration files - Graphical
mySurvey_08 - Configuration files - Bullet styles
mySurvey_09 – Operators
mySurvey_10 – Sharing
mySurvey_11 - Tag import
mySurvey_12 – Export
mySurvey_13 - Import

51. NOTES

