



**Eddyfi
Technologies**
—
Beyond current

Getting Started with
ICON SOFTWARE



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About This Manual

ICON is updated periodically. This manual describes the general functionality of the software; specific features and workflows may vary by release, license, and configuration.

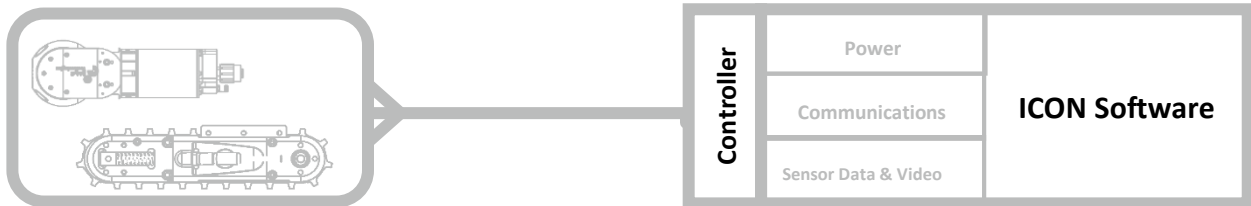
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Software Overview

ICON software controls Eddyfi Robotics cameras, modules, and vehicles. It provides an extensible platform for configuring control interfaces, parameters, reporting formats, and related functions across a range of applications. ICON runs on a computer or ICON controller and communicates with connected devices through a tether or other wired connection.



Each system uses an Eddyfi-provided configuration file that contains the information required to tailor ICON to a specific application. For instructions on loading configuration files, see **Initial Setup**. After the configuration is loaded, ICON is ready for operation.

ICON is licensed software. The license key determines which features are available. Licenses can be activated online or through a file-based offline workflow, allowing ICON to operate in connected or disconnected environments. For more information, see **License Manager**.

Hardware Specifications

ICON runs on Microsoft® Windows. If the system uses an ICON controller supplied by Eddyfi Robotics, the Windows computer is built into the controller. If ICON is installed on a third-party Windows PC, the PC must meet the minimum specifications listed below.

Processor	6th Generation Intel® Core i7 or better
Graphics	Intel UHD 620 or better, with Intel Quick Sync enabled; DirectX 11 or higher compatible
RAM	16 GB
Application Disk Space	10 GB
Project Data Disk Space	>500 GB for visual inspections >3.0 GB/s access speed
Operating System	Windows™ 11 Professional (recommended)
Screen Resolution	1920 x 1080 (HD) or better recommended

Licensed Feature Table

ICON provides control and operational support for Eddyfi Robotics systems and integrated equipment. The table below lists the features available in each license tier.

License Tier	ICON RVI	ICON STD	ICON PRO
Video Recording	✓	✓	✓
Video Snapshots	✓	✓	✓
Data Management	✓	✓	✓
Video Overlay	✓	✓	✓
Eddyfi Plugins	✓	✓	✓
Gamepad Control		✓	✓
User Access Management		✓	✓
Custom Metadata		✓	✓
ICON API			✓
Automation Rules			✓
Customized Control Screens			✓
Custom Plugins			✓
Multiple System Support			✓
Custom Gamepad Maps			✓
User Defined Parameters			✓

Software Updates

Software updates are typically released twice per year, although the schedule may vary based on operational requirements. The latest version is available on the Eddyfi website. To update ICON 5, run the installer for the new version. Automatic updates from ICON 4 or earlier are not supported; contact Eddyfi Support if you need to upgrade from an older version. Some plugins are not backward compatible. If plugins are installed, update them to versions compatible with the new ICON release before upgrading.

Initial Setup

Before setting up ICON for the first time, ensure the following items are available:

- Installation media (required when installing ICON on a third-party PC)
- License key
- Internet connection
- System configuration file

Installation

To install ICON on a PC:

1. Obtain the ICON installation media.
2. Using an account with administrator privileges, launch the ICON installer.
3. Select PC as the installation type.
4. Select any required component drivers. When the installation is complete, click Finish.

Activating ICON

You can activate an ICON license online (recommended) or offline. If ICON does not detect a valid license, an activation dialog opens during startup. License maintenance is available from Backstage > License Manager.

To activate ICON online from the startup dialog:

1. Enter the license key in the field provided.
2. Select the checkbox to accept the license terms and conditions.
3. Click Submit. If activation is successful, the dialog closes and ICON continues loading. If the system is offline, ICON creates an activation request certificate. To complete offline activation, continue with Step 4.
4. Click Save to save the generated certificate to a flash drive or other portable media.
5. On a computer with Internet access, go to <https://licensemanagement.eddyfi.com/>
6. Click Activate License on the website.
7. Connect the portable media containing the activation request certificate. Drag the file to the upload area in Step 2, or click Browse and select the file.
8. Click Upload.
9. When the activation response certificate is generated, click Download and save the file to a flash drive or other portable media.
10. On the computer where ICON will be activated, connect the portable media that contains the activation response certificate.
11. In the ICON activation dialog, click Import Certificate.

12. Select the activation response certificate, and then click Open. If activation is successful, the dialog closes and ICON continues loading.

Load a Configuration File

A configuration file is provided with each ICON system. To load a configuration file:

1. Launch ICON.
2. Open Backstage > Configuration Manager.
3. Click Import.

Note: Some configurations require specific licensed features before they can be imported.

Operations

ICON controls and operates a range of standard and OnSpec robotic and Remote Visual Inspection (RVI) systems. For handling, operational, and safety requirements for the physical system, refer to the operation manual for that system.

The application interface is organized into the Main Screen and Backstage view. This structure separates operational controls from application-level functions so that operators can perform routine operation, configuration, and data management tasks from the appropriate workspace.

The Main Screen is the primary operating interface. It contains the controls and indicators required for system interaction and monitoring. The Backstage view provides access to application-level functions such as configuration, project management, and system settings. To open Backstage, use the application menu in the upper-left corner of the screen.

Main Screen

The Main Screen includes the following panels and bars:

Control Bar: Located at the top of the screen. Provides high-priority controls that are used frequently or require immediate access. See **Control Bar** for more information.

Control Panel: Occupies most of the screen. Provides device controls and displays video, sensor data, device parameters, and auxiliary information. The Control Panel consists of tiles configured for the functions required by the system. See **Control Panel** for more information.

Flyout Bar: Located on the right side of the screen. Displays real-time warnings and events, communication status, project items, and extended controls for selected Control Panel tiles. See **Flyout Bar** for more information.

Control Bar

The Control Bar is located at the top of the screen and remains visible when Backstage is open or Focus Mode is active. The following elements are arranged from left to right:

Backstage Toggle: Switches between the Main Screen and Backstage view.

License and Configuration Bar: Displays the ICON software trademark and information about the active license and loaded system configuration.

Operation Surface Control Panel: Displays the active control surface title and the Undock Surface button, when available. The button allows the operator to undock a surface and move it to another monitor. Availability depends on the configuration. See **Control Surfaces** for more information.

Focus View Mode Toggle: Switches between the standard surface view and Focus Mode, when available. Availability depends on the configuration and pinned tiles. See **Focus Mode** for more information.

Project Control Bar: Displays project and recording controls. The Job toggle starts or stops a project job. The status area displays the active project and job. The Reopen Tag toggle reopens a previously created tag and is hidden when no tags exist. Stop Recording buttons stop active camera

recordings and are hidden when no recording is in progress. See **Project Manager** for more information about projects, jobs, tags, and video recording.

Lock System Multifunction Button: Provides an emergency stop function to support operator safety. When activated, it immediately stops movement of all system devices while maintaining communication and limited non-motion control. ICON starts in a locked state. When the system is unlocked, the button indicates whether any system device is moving.

Control Panel

The Control Panel is the primary interface for system interaction. It hosts the active control screen, which may contain one to eight control surfaces. Each system configuration can include multiple control screens, depending on customer requirements. See **Screen Layouts** for information about configuring control screens, surfaces, and tiles.

Control Surfaces

Control surfaces use a grid-based layout and contain tiles. The number, type, size, and position of tiles are configured in Screen Designer, depending on the software license. All surfaces belong to the active control screen and are displayed one at a time. Use the Up and Down arrow buttons on the right side of the screen to cycle through the available control surfaces.

Some surfaces can be configured to float. When one or more floating surfaces are available, the Undock Surface button appears on the Control Bar. Clicking this button removes the current surface from the control screen and opens it as an independent window. The window can be minimized, maximized, or moved to another monitor. It includes its own Control Bar, synchronized with the Main Window, and provides a Dock button to return the surface to the Control Screen.

Surface Tiles (Operational States)

All surface tiles are divided into three main groups: background, instrumentation, and control. Background tiles are used for grouping, visual separation, and displaying background images. Instrumentation tiles display sensor data, real-time device parameters, and auxiliary annotations. Control tiles provide direct device control and user interaction.

Each group belongs to a corresponding layer, with the control layer positioned on top. Tiles in higher layers can overlap tiles in lower layers, but tiles within the same layer cannot overlap.

An operator can interact only with control tiles. A control tile is disabled if one or more tile settings are invalid, indicated by a red border, or if the tile is locked by the system safety mechanism. When a tile is disabled, hovering over it displays a tooltip that explains the reason.

A control tile may be selectable if it supports keyboard control or provides extended features through the Extended Parameter Flyout Bar. See **Extended Parameters** for more information. A selected tile is indicated by a bold white border. Only one tile can be selected at a time. Selection is cleared when surfaces are switched, a surface is undocked, or Focus Mode is activated.

When keyboard control is active, the arrow keys (Up, Down, Left, Right) are typically used to adjust sliders, and the Spacebar is used to activate buttons.

Control tiles can interact with devices in multiple modes. The current interaction mode is indicated by the border of the tile's interactive components. In some modes, tiles may be disabled.

The following modes are available:

Standard: The tile is enabled, uses the default control algorithm, and is indicated by an orange border.

Manual: The tile is enabled, uses direct operator control, and is indicated by a green border.

Locked: The tile is disabled because it is locked by the system safety mechanism, regardless of its previous mode. It is indicated by a blue border.

Automation: The tile is disabled because it is controlled by an external system. It is indicated by a pink border.

Disabled: The tile is disabled because of invalid configuration or another condition. It is indicated by a gray border.

Focus Mode

Focus Mode displays up to four tiles from different control surfaces on a shared overlay layer. If a tile supports Focus Mode, a Pin/Unpin icon appears in its upper-left corner. When more than four tiles are pinned, the newly pinned tile replaces the oldest pinned tile.

When at least one tile is pinned, the Focus Mode toggle becomes available in the Control Bar. Click the toggle to open or close Focus Mode.

ICON generates the initial tile arrangement automatically. In Focus Mode, tiles can be rearranged and resized by dragging their headers and resize handles. Tile size and position are preserved.

Available layouts depend on the number of pinned tiles and may include single-tile, multi-row, multi-column, and quadrant arrangements. Tiles can be unpinned directly in Focus Mode, and the layout updates automatically.

Flyout Bar

The Flyout Bar is located on the right side of the screen and contains four panels:

Notification Panel: Displays real-time warnings and events.

System Status Panel: Displays system communication status.

Project Data Cards Panel: Allows the operator to review and edit project items.

Extended Parameter Panel: Provides additional controls for selected Control Panel tiles.

When unread notifications, system status issues, or project data card updates are present, the corresponding panel flashes to alert the operator. The flash duration for each panel is configured in Preferences in Backstage.

Notifications

The Notification Panel displays real-time system warnings and events. Notifications are grouped by category, such as Vehicle, and include a brief description and timestamp.

Each notification can be dismissed individually. The Clear All button in the upper-right corner removes all current notifications.

After notifications are removed from the Notification Panel, they remain available in Notification Viewer in Backstage. See Notification Viewer for more information.

System Status

The System Status Panel provides an overview of system communication and device status. It lists communication channels and system components in a hierarchy so that the operator can quickly assess the current system state.

Each entry is accompanied by status indicators that reflect its current condition. Color-coded icons represent communication status, which may be normal, warning, error, or unknown. Additional symbols, such as disabled or lock icons, indicate whether a device is currently disabled by the operator or locked by the system safety mechanism.

The Restart Communication button in the upper-right corner reinitializes system communication. The Unlock Operation button at the bottom of the panel is visible only when the system is locked and releases the system safety lock when operating conditions allow.

Detailed system component status is available in Status Viewer in Backstage. See Status Viewer for more information.

Project Data Cards

The Project Data Cards Panel allows the operator to review and edit project-related items in a structured hierarchy. Projects, jobs, videos, tags, and images are displayed as expandable cards, each identified by a name and timestamp.

If an active project is present, it is always displayed at the top. Below it, the current or most recent job data is shown. When a new job starts, this section is updated accordingly.

Cards can be expanded or collapsed to show or hide their associated content. When expanded, a card may display additional details such as preview content (e.g., video, snapshots, UT data) and editable fields, including title, description, and metadata.

For certain preview types (e.g., snapshots and UT data), clicking the preview expands it to a higher-resolution view. Clicking the expanded preview collapses it back.

The panel supports quick navigation through project elements for efficient review and editing of recorded data and annotations. The number of visible items is limited to eight at the job level, such as tags or videos, and four at the tag level, such as snapshots or UT data. Older items are replaced automatically as new items are created.

Detailed information about projects and their items, including items that are not visible in the Project Data Cards Panel, is available in Project Manager in Backstage. Project Manager also provides additional functions for item management and data collection. See **Project Manager** for more information.

Extended Parameters

The Extended Parameter Panel provides access to additional settings and controls for the currently selected control tile. Its content is dynamic and updates based on the type and capabilities of the selected tile.

Parameters are organized into collapsible sections, allowing the operator to expand or collapse groups of related settings as needed. These sections may include configuration options, calibration settings, display parameters, or other advanced controls specific to the selected device or function.

Changes made within the panel are applied directly to the selected tile, enabling fine control and adjustment beyond the standard tile interface. The panel is intended for advanced interaction and provides extended functionality that is not available directly on the control tile.

Gestures

Gestures can be used on touch-enabled systems to streamline interaction with ICON. The following gestures are available on the Control Panel when control surfaces and tiles are displayed:

Gesture	Action / Behavior
2-Finger Surface Swipe	Swipe with two fingers on a control surface to move between control surfaces. Swipes can be vertical, diagonal, or horizontal.
Camera Zoom Pinch	Within a video tile, pinch two fingers in or out to decrease or increase camera zoom, if the camera supports zoom.
Angular Speed Twist	Use two fingers on a circular control slider to adjust device angular speed. Rotate clockwise or counterclockwise to move the corresponding control thumbs and increase or decrease rotational speed in the selected direction.

Backstage

ICON Backstage is used to manage settings, resources, data, and reports. Open Backstage from the Main Screen by clicking the button in the upper-left corner. Click the button again to return to the Main Screen. Backstage sections are available from the menu on the left. Use the button at the top of the menu to expand or collapse menu details. Use the power button in the menu footer to close the application.

The Main Screen header remains visible in Backstage and displays the current vehicle configuration, project, and recording status. The job recording and operational status buttons function the same way in Backstage as they do on the Main Screen.

Notification Viewer

Notification Viewer displays and manages the complete ICON notification list. It is divided into Notifications and Preferences. Unlike the Notification flyout on the Main Screen, Notification Viewer retains all notifications and displays additional detail.

Notifications

In the Notifications section, selecting a notification displays the source, user, timestamp, title, and description in the details panel. The notification count appears in the header. Use the type filter in the header to limit the displayed notifications. The header also includes buttons to refresh notifications, save them to a file, or clear them.

Preferences

The Preferences section provides notification settings, including warning level, notification alert timer, and system status alert timer.

Status Viewer

Status Viewer displays information about the health and completeness of vehicle communication and video processes. It is divided into three tabs: Communication Viewer, Video Capture Viewer, and Video Export Viewer.

Communication Viewer

Communication Viewer displays vehicle and device communication statistics for the active configuration. A status indicator next to each device shows the general communication condition. Expanding a device displays communication traffic, including the number of packets sent and received successfully and the number of errors. The health bar represents overall communication health.

The buttons in the upper-right header provide communication management and display options. The operator can expand or collapse details for all devices, reset communication statistics, or restart vehicle communication. Restarting communication contacts all devices and reestablishes communication, which may be required after a configuration change or physical vehicle change.

Video Capture Viewer

Video Capture Viewer displays recording statistics while a video recording is running. For each video channel, it shows the number of captured and dropped frames and the recording process status. These values help indicate final video quality.

Video Export Viewer

Video Export Viewer displays export progress and status while a video is being exported. The export can be canceled at any time by clicking Cancel. The section tracks progress and duration and indicates whether the export completed successfully or failed because of an error.

Project Manager

Project Manager provides centralized access to project and project-item management, export functions, data management, and project-related application settings. It is organized into tabs that allow the operator to navigate between functional areas.

Projects

All data collected by the software is organized hierarchically.

Projects are the top level of the data hierarchy. Each project is an independent container that can be managed separately. A project can be created, activated, reactivated, closed, edited, removed, transferred between PCs, and used as a source for report generation. See **Project View** for more information.

Jobs are the next level of the hierarchy. Unlike projects, a job can be created and closed only once. A project can contain any number of jobs. ICON collects and stores device and sensor data only while a job is active. A job cannot be exported independently, but it can be edited or removed. See **Job View** for more information.

Each job contains three types of data: videos, tags, and sensor/device parameter data, which form the next level in the hierarchy.

Videos can be edited, removed, and exported as AVI files with or without overlays. See **Videos** for information about managing videos. See **Export and Overlay Templates** for information about video export.

Tags are created automatically when a snapshot is captured or UT data is saved and no active tag exists. After a tag is created, it remains active for a configurable period. The tag activation duration is configured in Preferences in Backstage.

Each tag acts as a container and may include multiple items. If additional screenshots or UT data are captured while a tag is active, they are added to the same tag, and the activation timer is reset. The most recent tag can be manually closed or reopened using the Control Bar.

A tag cannot be exported independently, but it can be edited or removed along with all associated items.

Tag items represent the next level in the hierarchy and may include different data types. A tag item can be edited, removed, and, depending on its type, exported as a file. See Tags for information about managing tags. See **Export and Overlay Templates** for information about exporting tag items.

Sensor and device parameter data includes all data collected during a job. This information can be reviewed and used as a source for report generation. It cannot be edited or deleted independently and can be removed only as part of the parent job. See **Sensor Data** for more information.

Project View

The Project view provides a high-level overview of a selected project and its associated data. It displays general project information, including title, description, comments, creation and modification timestamps, and the overall size of the project files. Metadata defined for the project is shown alongside the main information and can be reviewed, edited, or removed as needed. Refer to the **Metadata Definitions** section for more details.

The navigation panel on the left lists all available projects and their associated jobs in a hierarchical structure. The currently active project (if any) is indicated by a green circle.

Selecting a project displays its summary information and enables project-level actions such as activation or deactivation, import, export, and removal.

To transfer a project between PCs, it must first be exported and saved as a file. On another PC, the project can be imported from this file and will then appear alongside other projects.

Projects can be activated, reactivated, or closed at any time; however, only one project can be active at a time. An active project cannot be activated again, removed, or exported. A project also cannot be exported if it contains items in the Recycle Bin. See **Recycle Bin** for more information about removing, clearing, and restoring projects and their items.

Job View

The Job view provides detailed information about a selected job within a project. It displays general job information, including title, description, comments, creation timestamp, and data size. Metadata associated with the job is shown alongside the main information and can be reviewed, edited, or removed as needed. Refer to the **Metadata Definitions** section for more details.

The navigation panel on the left lists all jobs within the selected project. The active job (if any) is indicated by a green circle.

Additional tabs in the Job view provide access to job-related data, including Videos, Tags, and Sensor Data. These sections allow the operator to review and manage all data collected during the job.

Selecting a job displays its summary information and enables job-level actions, such as removal.

Videos

The Videos view provides access to all video recordings associated with the selected job. Videos are displayed in a list ordered by creation time, with the most recent videos shown at the top. Thumbnail previews, names, and timestamps allow quick identification and selection.

Selecting a video displays its content in the preview area, along with detailed information such as title, description, creation timestamp, bitrate, duration, resolution, and file size. Metadata associated with the video is shown alongside the main information and can be reviewed, edited, or removed as needed.

The view supports multi-selection with a select-all checkbox, allowing multiple videos to be selected for batch operations. In multi-select mode, the preview area is hidden. Selecting one or more videos

enables actions such as export and removal. Refer to the **Export and Overlay Template** sections for more information about video export.

Tags

The Tags view provides access to all tags associated with the selected job. Tags are displayed in a hierarchical list, where each tag acts as a container for its associated items (e.g., snapshots or UT data). Tags are ordered by creation time, with the most recent tags shown at the top.

Each tag can be expanded or collapsed to show or hide its items. Tag items are displayed with thumbnail previews, names, and timestamps, allowing quick identification and selection.

The view supports multi-selection with a Select All option, enabling batch operations on multiple tags or tag items. In multi-select mode, the preview area is hidden. Filters, such as Images, can be used to limit the visible item types.

When a tag is selected, its summary information is displayed. Metadata associated with the tag appears alongside the main information and can be reviewed, edited, or removed as needed. When a tag item is selected, its content is shown in the preview area along with detailed information. The displayed content depends on the item type.

Selecting one or more tags or tag items enables actions such as removal or export. Exported items are saved as files according to tag item data type. See **Export and Overlay Templates** for more information.

Sensor Data

The Sensor Data view provides access to all device and sensor parameter data collected during the selected job. It allows the operator to configure, review, and organize recorded data into data sets for analysis and export.

The view is divided into three main areas:

- **Data Source Panel (left):** Displays all available data channels and parameters in a hierarchical structure, grouped by device or subsystem (e.g., tracks, cameras, user-defined parameters). Each parameter can be selected and assigned a unit where applicable.
- **Current Data Set Panel (center):** Shows the currently configured data set. Selected parameters from the Data Source panel can be added or removed using the arrow control buttons. The data set includes configurable properties such as title and sampling frequency.
- **Data Sets Panel (right):** Lists all saved data sets for the selected job. Each data set represents a collection of parameters configured for review, visualization, or export.

When no data set is selected, the current data set is temporary and is not saved. It remains fully functional and can be previewed or exported. Use the arrow control buttons to save the current data set.

Selecting a data set loads its configuration and associated parameters into the Current Data Set panel. Any modifications made at this time are saved automatically.

When the Current Data Set is not empty, the Preview button allows visualization of the data set, and the Export button allows it to be exported. The Remove button deletes the selected data set. Refer to the **Export** section for more details about exporting data sets.

Recycle Bin

The Recycle Bin provides access to items that have been removed from projects but not permanently deleted. It allows the operator to review, restore, or permanently delete these items.

The Recycle Bin toggle button is located in the top-right corner. Clicking it switches between the standard Project view and the Recycle Bin view. The button includes a status indicator: green when the bin is empty and red when it contains items.

Items in the Recycle Bin are displayed in a list with their names and creation timestamps. Different item types (e.g., projects, jobs, videos) are shown together, allowing centralized management of deleted data. The view supports multi-selection with a select-all option, enabling batch operations on multiple items.

The Restore button returns the selected items to their original location within the project hierarchy. The Delete button permanently removes the selected items from the system.

Items remain in the Recycle Bin until they are restored or permanently deleted. If the Recycle Bin is not empty when the application closes, a dialog prompts the operator to empty the bin or keep its contents for later.

Export

The following project items can be exported: projects, videos, tag items, and sensor data sets.

Project export uses a standard Save File dialog, prompting the operator to select a location and save the project file.

Videos and tag items can be exported individually or in batches when multiple items are selected. The Export Panel allows exporting the selected items to external files.

For video and snapshot exports, an optional Template can be selected to apply predefined overlays or formatting. If no template is selected, the data is exported in its original form. Refer to the Overlay Templates section for more details about managing overlays.

The Output section allows selecting the destination location for the exported files. The Export button starts the export process using the selected settings, and the Cancel button closes the panel without exporting.

When multiple videos are exported, progress and status can be tracked. Refer to the **Video Export Viewer** section for more details.

Sensor data sets can be exported as Microsoft Excel files. This process uses a standard Save File dialog that prompts the operator to select a location and save the file.

Metadata Definitions

The Metadata Definitions section allows configuring custom metadata fields that can be applied to project items. These definitions determine what additional information can be recorded and associated with projects, jobs, videos, or tags.

Metadata definitions are displayed in a list on the left. Selecting a definition displays its configuration in the main panel.

Each metadata definition includes general properties such as Name and Value Type. The value type defines the data format, including numeric values with units, selectable options, fractional and whole numbers, logical values, text, and GPS coordinates. The Application settings determine which item

types, such as Project, Job, Video, or Tag, the metadata field applies to. Multiple selections are allowed.

Depending on the selected value type, additional configuration options are available:

- For numeric values, unit settings can be defined, including unit type and specific units.
- For selectable values, a list of options can be created, edited, or removed. Options can also be imported from external sources.

The Add button allows creating a new metadata definition. The Remove button deletes the selected definition.

This section enables flexible customization of metadata to support project-specific data organization and reporting.

Overlay Templates

The Overlay Templates section allows creating and managing visual overlays that can be applied to exported videos and images. Each overlay consists of a single configurable surface that defines the layout and content of displayed information.

Templates are listed on the left. Selecting a template displays its layout in the main workspace. The Add button creates a new template, the Duplicate button creates a copy of the selected template, and the Remove button deletes it.

Each template contains one surface, which acts as a design canvas. It defines the overall layout, including dimensions and grid structure. The desired surface resolution can be selected from a predefined list.

Overlays are built using tiles, which represent individual visual components. Tiles can display various types of information, such as instrumentation data, metadata values, text, or graphical elements. Available tile types are organized in a library and can be added to the surface as needed.

When editing is enabled, tiles can be placed, moved, resized, and removed. Tiles are added by dragging them from the tile palette onto the surface; the target location is highlighted during placement.

All tiles are divided into two groups: background and instrumentation. Each group belongs to a corresponding layer, with the instrumentation layer positioned on top. Tiles in higher layers can overlap tiles in lower layers, while tiles within the same layer cannot overlap. Layer visibility can be temporarily toggled to simplify the design process.

To modify a tile, it must first be selected. Once selected:

- Move the tile by dragging it with the mouse. Holding the Ctrl key while dragging creates a copy.
- Resize the tile using the resize handles.
- Remove the tile by pressing the Delete key or using the Delete button in the top-right corner.

Each tile has configurable properties that vary depending on its type. These properties may include data source selection, formatting, behavior, and visual appearance.

The Properties panel provides access to settings at different levels, including data source configuration, surface properties, and tile-specific options. The design data source can be set to the current configuration or to a previously created project.

This section enables flexible design of overlays to support customized data visualization in exported content.

Report Generator

Report Generator allows the operator to create, manage, and generate structured reports based on project data. Reports are defined by templates that determine layout, included data, and formatting.

Report templates are listed on the left. Selecting a template displays its general information and configuration in the main panel, including title and description.

The Data Source panel allows selecting the project and one or more jobs to be included in the report. Use the Select All option for quick selection. The selected data defines the content used during report generation.

The Parameter Settings panel provides additional configuration for report content and formatting, depending on the selected template.

The Preview button generates a visual representation of the report using the selected data and template. The preview is displayed in the main workspace and reflects the final report layout.

The Save button allows saving the generated report, while the Close button exits the preview mode.

Template management actions are available on the right:

- Design opens the report template in an external editor for advanced layout and logic configuration. Refer to the Fast Report documentation for more details about the designer.
- Export saves the selected template to an external file.
- Duplicate creates a copy of the selected template.
- Remove deletes the selected template.

The Add and Import buttons allow creating new report templates or importing existing ones.

This section enables flexible generation of structured reports for analysis, documentation, and sharing.

Configuration Manager

Configuration

Each ICON configuration defines how the associated vehicle is connected, controlled, recorded, and displayed. A valid configuration is required for vehicle operation. In Configuration Manager, the Configuration section manages general configuration information. To access this section, go to Backstage > Configuration Manager > Configuration.

Configuration files can be imported from the system by clicking Import in the upper-right corner.

The body of the Configuration section is divided into two columns.

In the left column, the title and description of the configuration can be edited.

The right column contains buttons for managing the configuration:

- **Activate/Deactivate** - Sets the current configuration to active or inactive. The active configuration determines which display screens are shown on the Main Screen and which vehicle is controlled.
- **Duplicate** - Creates a copy of the current configuration.
- **Remove** - Deletes the current configuration. The configuration must be inactive before it can be removed.
- **Export** - Exports the current configuration to a configuration file and saves it on the system.
- **Export Resources** - Exports stored resources, such as plugins or images, and saves them on the file system.

Screen Layouts

The Screen Layouts section allows creating and managing control screen configurations used during system operation. Screen layouts define how control surfaces and tiles are arranged and how the operator interacts with the system.

Layouts are listed on the left. Selecting a layout displays its configuration in the main workspace. The Add button creates a new layout, the Duplicate button creates a copy of the selected layout, and the Remove button deletes it. A layout can be set as active for use during operation. The active layout is displayed on the control screen.

Each layout consists of one or more surfaces (up to 8), which act as design canvases. Surfaces define the structure of the control interface and can represent different operational contexts (e.g., primary, secondary, or specialized views). Surfaces can be added, switched, duplicated, removed, and rearranged using tabs and corresponding buttons.

Each surface defines properties such as display resolution, orientation, and grid structure. The layout adapts to the selected display configuration and controller type. A surface can also be configured to float independently so that it can be moved to another monitor.

Screen layouts are built with tiles, which represent individual interface elements. Tiles can provide device control, display instrumentation data, or act as backgrounds for grouping and visual organization. Available tile types are organized in a library and can be added to a surface as needed.

When layout editing is enabled, tiles can be placed, moved, resized, and removed. Tiles are added by dragging them from the tile palette onto the surface; the target location is highlighted during placement.

Tiles are organized into three layers: background, instrumentation, and control. The control layer is positioned on top, followed by instrumentation, with the background layer at the bottom. Tiles in higher layers can overlap tiles in lower layers, while tiles within the same layer cannot overlap. Layer visibility can be temporarily toggled to simplify layout design.

To modify a tile, it must first be selected. Once selected:

- Move the tile by dragging it with the mouse. Holding the Ctrl key while dragging creates a copy.
- Resize the tile using the resize handles.
- Remove the tile by pressing the Delete key or using the Delete button in the interface.

Each tile has configurable properties that vary depending on its type. These properties may include control behavior, data source configuration, formatting, and visual appearance.

The Properties panel provides access to settings at different levels, including layout, surface, and tile-specific options.

This section enables flexible configuration of the operator interface to match system requirements and operator preferences.

User Parameters

The User Parameters section allows creating and managing custom parameters derived from system data. These parameters can be used to define calculated values, simplify data access, or combine multiple data sources into a single logical variable.

Parameters are listed on the left. Selecting a parameter displays its configuration in the main panel. The Add button creates a new parameter, the Duplicate button creates a copy of the selected parameter, and the Remove button deletes it.

Each parameter includes a Name and an Expression. The expression defines how the parameter value is calculated. It can reference system variables, other user-defined parameters, and constants, enabling flexible data processing.

Variables can be inserted into the expression using the variable selector. To insert a variable, type @ to open the Input Dialog. Each variable has a name and references a specific data provider, parameter, and optional unit. After configuring the variable, press Enter or Apply to insert it into the expression. Inserted variables are listed in the Variables panel for reference.

Expressions are defined using the Flee (Fast Lightweight Expression Evaluator) syntax. They support arithmetic operations (e.g., addition, subtraction, multiplication, division), logical comparisons, and basic functions. Variables can be combined with constants to compute derived values dynamically.

To remove a variable, delete it directly from the expression using the Delete or Backspace keys.

Variables can be reused within the same expression. Typing the name of an existing variable in the Input Dialog automatically restores its configuration.

An optional Output Unit can be defined to specify the unit of the resulting parameter value.

This section enables customization of system behavior and data representation through reusable, computed parameters.

Note: Some user parameters come as part of the supplied configuration and cannot be removed or modified.

Handheld Controller

The Handheld Controller section of Configuration Manager is used to configure and map physical controller inputs, such as gamepads, to system functions and device behaviors. This allows operators to control the system using a standard or customized control scheme. To access this section, go to Backstage > Configuration Manager > Active Configuration > Handheld Controller.

The Handheld Controller configuration is divided into three primary areas:

- Controllers - Defines connected input devices and assigns action maps.

- Action Maps - Defines mappings between controller inputs and system actions.
- Preferences - Defines controller behavior, such as joystick shape.

Controllers

The Controllers tab displays all configured handheld controllers.

Each controller includes:

- Name - User-defined identifier for the controller.
- Connection Status - Indicates whether the controller is currently connected.
- Assigned Action Map - The action map currently applied to the controller.
- Deadzone Settings - Defines how joystick input is interpreted.
 - Axial - Creates a deadzone along the joystick axes.
 - Radial - Creates a circular deadzone around the joystick origin.

To assign an action map:

1. Go to Handheld Controller > Controllers.
2. Select the controller from the list.
3. In the Settings section, locate the Action Map drop-down.
4. Select the action map from the list.

The selected action map is applied immediately and defines how controller inputs interact with the system.

Action Maps

An Action Map defines how controller inputs, such as buttons, triggers, and thumbsticks, are mapped to system functions.

Each action entry consists of:

- Target - The device or subsystem being controlled, such as Chassis or Camera.
- Function - The control function, such as Speed Control or Focus.
- Action - The interaction type, such as Increase Value, Toggle, or Execute.
- Button - The physical controller input, such as A, B, or Left Trigger.
- Modifier - Defines alternate input layers, such as Primary or Secondary.

Note: Some action maps are included in the supplied configuration and cannot be removed or modified.

CREATING AN ACTION MAP

To create a new action map:

1. Go to Handheld Controller > Action Maps.
2. Click Add.
3. Enter a Name for the new action map.
4. In the Actions section, click Add to create an action entry.
5. Configure the action parameters:
 - Select Target
 - Select Function
 - Select Action

- Assign a Button
 - Select a Modifier
6. Repeat Steps 4 and 5 for additional mappings, as required.

MODIFYING AN ACTION MAP

To modify an existing action map:

1. Go to Handheld Controller > Action Maps.
2. Select the desired action map from the list.
3. Edit the Name if required.
4. In the Actions table:
 - Select an existing entry to modify its parameters.
 - Update any of the following fields:
 - Target
 - Function
 - Action
 - Button
 - Modifier
5. To add new actions, click Add.
6. To remove an action, select it and click Remove.

DUPLICATING AN ACTION MAP

To duplicate an existing action map:

1. Select the desired action map.
2. Click Duplicate.
3. Modify the duplicated map as required.

REMOVING AN ACTION MAP

To remove an action map:

1. Go to Handheld Controller > Action Maps.
2. Select the action map to remove.
3. Click Remove.

Device Settings

The Device Settings section of Configuration Manager provides parameters for connecting to each device in the vehicle and controls for adjusting device settings. To access this section, go to Backstage > Configuration Manager > Active Configuration > Device Settings.

The left navigation pane is organized into two sections:

1. Channel Settings - Contains the channel parameters. Each channel associated with the configuration can be assigned a name, a port, and can be enabled or disabled. Multiple channels cannot be assigned the same port.
2. Device Settings - Each device on the vehicle has parameters organized into sections that concern certain aspects of its operation and control based on different interfaces. Some

devices may be grouped such that they are treated as a single device, while still requiring their individual definition and operational parameters.

The following device control interface settings may be available:

- Device Administration - Determines the name and serial number of the device to connect to. The device can be enabled or disabled, and the communications priority can also be set here.
- Operation - Sets the mode of the different operation controls.
- Position Control - Settings for operating a device by position.
- Position Control Max Speed - Settings for operating a device by position at a set speed.
- Pan Position Control - Settings for operating device pan by position.
- Tilt Position Control - Settings for operating device tilt by position.
- Tilt Speed Control - Settings for operating device tilt by speed.
- Speed Control - Settings for operating a device by speed.
- Pan Speed Control - Settings for operating device pan by speed.
- Steering Control - Settings for a chassis's steering operations.
- Zoom Control - Settings for camera zoom.
- Focus Control - Settings for camera focus.
- Exposure Value - Settings for camera exposure.
- Light Intensity - Settings for lights.

Operational Notes

- A device displays only the control settings that apply to that device.

Video Settings

The Video Settings section of Configuration Manager defines the video input source, or Capture Device, for each channel and configures recording parameters such as quality. These settings determine how video is acquired, displayed, and stored during operation. To access this section, go to Backstage > Configuration Manager > Active Configuration > Video Settings.

The Video Settings interface is divided into two primary areas:

- Source Configuration - Defines the video capture device (grabber) and its input parameters.
- Recording Settings - Defines how video is encoded and stored during recording.

Each video channel is configured independently using the navigation panel on the left side.

Configuring a Video Grabber (Source)

The Source tab is used to assign a video capture device to the selected channel.

If no grabber is configured, the preview area will display "No Grabber", indicating that no video input is available.

To configure a Capture Device:

1. Select the channel from the left navigation panel.
2. Click Source.
3. Configure the required parameters:

- Capture Device
 - Select the installed video capture hardware, such as a frame grabber or camera interface.
 - If set to <None>, no video input is available.
- Input Line
 - Select the physical or logical input on the capture device, such as HDMI, SDI, or composite.
 - Available options depend on the selected capture device.
- Format
 - Select the video format, such as resolution, frame rate, or encoding type.

Available options depend on the capture device and input line.

1. Verify that video appears in the preview window.

Recording Settings

The Recording Settings tab controls how video is encoded during recording.

- Quality (%)
 - Defines the compression level used when recording video.
 - Lower values, such as 20%:
 - Reduce file size.
 - Increase compression.
 - Reduce image quality.
 - Higher values, such as 80-100%:
 - Increase file size.
 - Reduce compression.
 - Increase image quality.

To adjust recording quality:

1. Select the channel.
2. Click Recording Settings.
3. Adjust the Quality slider to the required value.

Changes are applied when video recording starts on the corresponding channel.

Calibration

The Calibration module defines and stores reference positions for system devices, such as cameras and actuators. These reference points establish valid operating ranges and neutral positions for accurate, repeatable operation.

Calibration is performed by device and parameter. All calibration actions are available from Configuration Manager > Calibration.

Interface

The Calibration workspace is divided into two main areas:

- System Devices (left panel)
 - Lists all configurable devices, such as Front Camera and Raise Actuator. Selecting a device loads its available calibration parameters.

- Calibration Panel (right panel)
Displays the selected parameter, its description, and available calibration actions.

A Parameter drop-down allows switching between different calibration types for the selected device (e.g., Position, Tilt Zero, Tilt Minimum, Tilt Maximum).

Calibrated parameters and calibration actions display status using the following icons:

- Not Applicable (blue) - Calibration is not required for this action. The action can be performed regardless of calibration state.
- Calibrated (green) - Calibration has been completed and remains valid.
- Not Calibrated (red) - Calibration has not been completed or is no longer valid.

Calibration Workflow

Calibration follows a consistent workflow for each device and parameter:

1. Select Device

Choose a device from the System Devices list:

- Front Camera
- Raise Actuator
- (Other devices as configured)

2. Select Parameter

Use the Parameter drop-down to select the calibration target. Examples include:

- Position (actuator range)
- Tilt Zero (camera center position)
- Tilt Minimum / Maximum (camera limits)

3. Move Hardware to the Desired State

Physically or programmatically position the device to the intended calibration point.

4. Execute Calibration Action

Use the available action button(s) to store or apply the calibration value.

5. Repeat as Required

Complete all required calibration points, such as minimum, maximum, and zero, before normal operation.

Calibration Actions

Save Current Position

- Stores the device's current physical position as the selected calibration reference.
- Available for parameters such as Tilt Zero.
- Requires the device to be manually positioned beforehand.

Reset Calibration

- Clears all stored calibration values for the selected parameter.
- Re-enables the ability to recalibrate from scratch.
- Does not move hardware; it only resets stored references.

Go to Zero

- Moves the actuator to its hardware-defined zero position.
- Typically used as a reference before setting limits.

Set Minimum

- Saves the current actuator position as the minimum bound.
- Establishes the lower limit of motion.

Set Maximum

- Saves the current actuator position as the maximum bound.
- Establishes the upper limit of motion.

Calibration Examples

Position Calibration (Actuator)

Defines the operating range of an actuator.

- Go to Zero
 - Moves the actuator to its hardware-defined zero position.
 - Typically used as a reference before setting limits.
- Set Minimum
 - Saves the current actuator position as the minimum bound.
 - Establishes the lower limit of motion.
- Set Maximum
 - Saves the current actuator position as the maximum bound.
 - Establishes the upper limit of motion.

Together, minimum and maximum define the safe operating range.

Tilt Calibration (Camera)

Defines angular reference points for camera positioning.

- Tilt Zero
 - Represents the centered or neutral orientation.
 - Save Current Position stores the current tilt as the zero reference.
- Tilt Minimum
 - Defines the lowest allowable tilt angle.
- Tilt Maximum
 - Defines the highest allowable tilt angle.

Proper tilt calibration ensures accurate directional control and helps prevent mechanical overtravel.

Operational Notes

- Calibration actions may be restricted when the system is in a locked state (e.g., Operation Locked).
- Some actions (e.g., Set Minimum, Set Maximum) may be disabled until prerequisite steps are completed.
- Calibration values persist and are used by control systems to enforce limits and reference positions during operation.

Best Practices

- Always begin with a known reference (e.g., Go to Zero) when available.
- Define limits (Minimum and Maximum) before relying on automated motion.
- Verify physical movement after calibration to confirm expected behavior.
- Use Reset Calibration when reconfiguring hardware or after mechanical changes.

Plugin Settings

Plugin Settings displays configuration-specific options for active plugins that expose configurable parameters. Each plugin that provides configuration settings appears as a separate item in the left navigation pane. Selecting a plugin displays its settings in the main panel. Changes are saved immediately; however, when they take effect depends on the plugin.

Settings modified in this section apply only to the active configuration. Changes do not affect other configurations and are saved with the active configuration file.

For information on importing, activating, or managing plugins, refer to the Plugin Manager section of this manual.

Automation Actions

Automation Actions allows the operator to configure rule-based behaviors that respond automatically to system conditions. Each automation action consists of a condition and a list of actions that execute when the condition is met.

Automation actions are listed on the left. Selecting an action displays its configuration in the main panel. The Add button creates an automation action, the Duplicate button creates a copy of the selected action, and the Remove button deletes it. Each action can be enabled or disabled using the corresponding toggle.

The Condition field defines when the automation action is triggered. It uses the same expression editor as User Parameters, allowing variables, constants, and system data to be combined. The condition expression must evaluate to a Boolean value, true or false.

Variables can be inserted into the condition expression in the same way as in User Parameters, using the @ symbol and the Input Dialog. Inserted variables are listed in the Variables panel for reference. Refer to the User Parameters section for more details.

The Actions section defines what happens when the condition is satisfied. Multiple actions can be added to a single automation rule. Each action has a specific type (e.g., notification, device interaction), and its configuration depends on that type.

Action settings may include parameters such as trigger behavior, messages, target devices, interaction types, or values. Actions can be added or removed dynamically, allowing flexible definition of automated workflows.

Automation Actions enables system behavior to be automated based on real-time conditions, reducing manual intervention and improving operational efficiency.

Plugin Manager

ICON supports plugins that extend application functionality, including automation routines, integration with specialized sensors, and custom control tiles.

The Plugin Manager allows users to view, import, activate, deactivate, and manage plugins within ICON. Each plugin adds optional capabilities and must be explicitly activated before it becomes available for use.

Adding Plugins

To add a plugin, select Import in the upper-right corner of Plugin Manager and choose the appropriate .zip plugin package. ICON imports the plugin and adds it to the available plugin list.

Managing Plugins

The left pane of the Plugin Manager displays all plugins currently loaded into ICON. Loaded plugins are not active by default.

To enable a plugin, toggle its activation switch to On. Only activated plugins are available for use within ICON.

When a plugin is active, any configurable parameters are displayed in the center panel under Settings. Some plugins may also expose additional configuration options within the Configuration Manager. For more information, refer to the **Plugin Settings** section.

Removing Plugins

Plugins cannot be removed automatically from ICON and must be deleted manually. To remove a plugin:

- Ensure ICON is not running.
- Navigate to C:\ProgramData\ICON 5\Plugins
- Remove the directory that contains the plugin to be removed.

User Manager

User Manager allows administrators to manage permissions for each user group. ICON sections and functions, such as managing system preferences or deleting a configuration, can be enabled or disabled by group. User group names can be edited in the right pane, and access permissions can be changed by clicking the toggle next to each permission. Group priority can be changed using the up and down buttons next to the group name.

To add a user group, click Add in the upper-right corner. In the Members tab, add group members from the menu by selecting them and clicking the right-arrow button. Users can search local users, local groups, domain users, and domain groups. To remove members, select them in the member list and click the left-arrow button.

Set ICON permissions in the Permissions tab. The members list and permissions can be edited at any time.

To delete a non-default user group, click Remove next to the user group name field.

Preferences

The Preferences window displays all configurable preferences available in ICON. These preferences may also appear in other areas of the application; changing a preference from any location has the same effect.

Each preference includes a tooltip describing its function. Individual preferences are not documented in this manual; users should refer to the tooltips for detailed information.

Preferences are designated as system-wide or per-user in their tooltips. All preference changes are saved automatically and apply immediately. Some software updates may reset certain preferences. Review preferences after updating ICON to confirm that they are set as expected.

Access to preferences is permission-based. Some users may not be able to view or modify preferences. For more information, refer to the **User Manager** section.

License Manager

License Manager provides tools to view license status and activate or deactivate the application license. It supports online and offline workflows so ICON can operate in environments with or without Internet access.

License Manager displays the following application and license information:

- License Code - Unique identifier for the installed license.
- Computer ID - Hardware-specific identifier used for node-locked licensing.
- License Type - Indicates the license model, such as Permanent (node-locked).
- Connection to Internet Required By - Deadline for periodic validation, if applicable.
- Build - Software version associated with the license.

A valid, active license is indicated by green checkmarks next to each field.

Additional Controls

- Refresh - Updates the displayed license status.
- After a license activation or deactivation change, ICON may require a restart before the change takes effect.
- Import Certificate - Imports activation or deactivation certificates for offline workflows.
- Save - Saves generated request files for offline processing.

Notes

- Offline workflows require careful handling of request and certificate files to ensure successful activation or deactivation.
- Periodic Internet validation may be required depending on the license configuration.

License Activation

License activation binds a valid license to the current machine. Activation can be completed online or offline.

Online Activation

Use online activation when the system has Internet access.

1. Open License Manager.
2. Click Activate.
3. Enter the License Code, if prompted.
4. Accept the terms and conditions.
5. Click Submit.

ICON communicates with the licensing server and activates the license automatically. When activation is successful, the license status indicators update to show an active state.

Offline Activation

Use offline activation when the system does not have Internet access.

1. Open License Manager.
2. Click Activate.
3. Click Save to save the generated activation request file.
4. Transfer the request file to a computer with Internet access.
5. Go to the licensing portal: <https://licensemanagement.eddyfi.com/>
6. Upload the request file and generate a certificate file.
7. Transfer the certificate file back to the offline machine.
8. In License Manager, click Import Certificate.
9. Select the certificate file to complete activation.

After the certificate is imported, the license becomes active and is bound to the system.

License Deactivation

License deactivation releases the license from the current machine so that it can be transferred or reused.

Online Deactivation

1. Open License Manager.
2. Click Deactivate.
3. Confirm the operation.

ICON connects to the licensing server and removes the license binding. The application returns to an unlicensed state.

Offline Deactivation

Use offline deactivation when the system does not have Internet access:

1. Open License Manager.
2. Click Deactivate.
3. Save the generated deactivation request file.
4. Transfer the request file to a computer with Internet access.
5. Go to the licensing portal: <https://licensemanagement.eddyfi.com/>
6. Upload the request file to the licensing portal to process the deactivation.
7. If required, import any returned confirmation certificate using Import Certificate.

After deactivation is complete, the license is released and can be activated on another system.

Manual Viewer

In Manual Viewer, operators can browse and view the vehicle manuals associated with imported ICON vehicle configurations and systems. Each manual item may contain multiple manuals for vehicle devices and related operating equipment.

Operators cannot add manuals. Not all vehicle operating details may be included. If required information is missing, contact Eddyfi Support.

Limited Warranty Policy

Refer to the Eddyfi Technologies website for warranty terms for this product.
(<https://www.eddyfi.com/en/salesterms>)

Glossary

Term	Definition
Action Map	A defined set of controller actions or behaviors that can be assigned to a handheld controller.
API	Application Programming Interface. A defined set of rules and protocols used to read information from ICON or control ICON behavior. ICON currently supports a gRPC API.
Automation Actions	Rule-based actions that ICON executes when a defined condition expression is satisfied.
Automation Routine	A non-native ICON function or behavior that can run within ICON.
Backstage	The ICON workspace used to manage configuration, project data, exports, reports, preferences, licenses, and related application settings.
Behavior	An action or interaction that can be started, stopped, or controlled within ICON.
Calibration	The process of setting device limits or readings against known reference positions or standards.
Channel	A virtual communication pathway used to communicate with devices connected to ICON.
Configuration	A set of devices, screens, behaviors, and actions applied to ICON. A configuration typically defines the modules or devices that make up a crawler or system controlled by ICON.
Configuration File	A file that defines a crawler or system and how ICON displays and interacts with it. Configuration files are imported through Configuration Manager in Backstage.
Configuration Manager	The Backstage section used to import, activate, edit, duplicate, export, and manage ICON configurations.
Continuous Data	Data measured at intervals and recorded within an ICON job or project.
Control Bar	The area at the top of the ICON interface. The Control Bar remains visible on ICON displays, including undocked surfaces and additional windows.
Control Panel	The main operating area that contains the active control surface. If configured, the Control Panel can display different control surfaces.
Control Surface	A grid-based surface containing tiles used to display information and control ICON devices and behaviors. Surfaces are named and can be docked to the Main Screen or floated on another display.
Datacard	A software card that displays project, job, tag, or recording information captured during operation.
Device	A physical module or device connected to ICON through a communication channel and protocol.
Discrete Data	Data recorded as distinct project or job items, such as tagged images, NDT scans, or video recordings.
Display	The physical screen or monitor on which ICON is shown.

Term	Definition
Expression	A formula made up of variables, constants, operators, and functions that evaluates to a specific value.
Flyout	A panel on the Flyout Bar that displays additional information or controls. Flyouts open over the control surface and close when another area is selected.
Flyout Bar	The bar on the right side of the primary ICON display that contains flyouts, surface navigation buttons, and diagnostic information. On systems with multiple undocked surfaces, the Flyout Bar appears only on the primary screen.
Front Stage	The primary ICON operating screen, also referred to as the Main Screen.
Gesture	A finger motion used on a touch-sensitive display to perform a function. For example, pinching a video tile connected to a camera that supports zoom changes the camera zoom.
gRPC	A cross-platform remote procedure call framework that allows applications on remote computers to read from or control ICON. Available API functions depend on the ICON version and license.
ISP	The proprietary serial protocol used to communicate with Eddyfi Robotics modules. The protocol typically runs on an RS-485 serial channel within the system tether.
Job	A data collection container within a project. A job stores continuous and discrete data collected by ICON.
Layer	A control surface level used to organize tiles and prevent unintended overlap or interaction. ICON uses layers to maintain control integrity.
Layout	A collection of control surfaces configured for a specific display type and resolution.
Locked	A software safety state that prevents motion of controlled devices. The lock button at the far right of the Control Bar displays and controls the system lock state.
Metadata	Additional information that describes or provides context for projects, jobs, and discrete data items.
Notification	An error, alert, or status message shown to the operator. Notifications appear on-screen, are aggregated in the Notification flyout, and remain available in Notification Viewer after acknowledgement.
Operational Mode	The current control mode that determines how device values and behaviors can be adjusted. Operational modes include Standard, Manual, Locked, and Automation.
Overlay	A set of tiles applied to exported video or image content to display additional information.
Parameter	A value that can be set, read, calculated, or changed within ICON.
Parameter - Extended	A parameter displayed in the Extended Parameter flyout. Not all control tiles provide extended parameters.
Plugin	Software loaded into ICON to add functionality, such as custom sensor interfaces, behaviors, automation sequences, or tiles.
Preference	A configurable ICON setting that can be changed by users with the required permissions.

Term	Definition
Project	A data collection container that holds jobs and associated metadata.
Report Manager	A reporting feature used to create and export documents that include project, job, discrete, and continuous data.
SDK	Software Development Kit. A collection of executables, documentation, and code samples used to create custom plugins.
Sensor	A device that provides information to ICON for display, recording, or processing.
Setting	A configurable value within ICON. Access depends on user permissions.
Snapshot	A still image captured and recorded within ICON.
State Control Mode	A condition or mode that changes how controllable elements appear and behave. Device states may include Error, Disabled, Remote, Locked, Operational, Standard, or Manual.
Tag	A discrete data container that can include snapshots and other information, such as NDT or UT scan data.
Tile	An element placed on a control surface. A tile can be static, display real-time information, or provide interactive control. Surface parameters determine the grid used to place tiles.
Tooltip	Descriptive text that provides additional information about a function or feature within ICON.
User Parameter	A configured parameter that can be static or dynamically calculated using an expression.
User Permission	The set of ICON features available to a user or user group. Administrators, whether local or domain, typically have all features enabled.
Variables	Named values used in expressions. Variables can be bound to other parameters and are created for use within a specific expression.
Video	Moving images displayed or recorded within ICON. ICON video frame rate and image quality are configurable.

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Beyond current