zymDev

SOFTWARE FACTORY

Quattrol 365

Specialized quality control software with real-time peer group comparison.

Official User Manual

zymDev Core Platform v5.5.2

Issue Date: 2026-09-13

Table of Contents

Specialized quality control software with real-time peer group comparison.

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📚 Available Modules & Functionalities

Below are the modules and views available in **Quattrol 365**:

📂 System Configurations

View	Submodule	Description	Link
Comments	-	The Comment Management view is the module responsible for consulting, sorting and exporting the system's general comment record (M...	Open Manual

📂 General

View	Submodule	Description	Link
Constants & Enums	-	The Constants (or Enums) Management view is the platform's technical module designed to manage lists of predefined values that f...	Open Manual
Contact Information	-	The Contact Information view in the CMS is the module where the customer service channels, institutional telephone numbers, WhatsA...	Open Manual
Default Options	-	The Default Options view is the system's analytical configuration section that allows coordinators and administrators to define de...	Open Manual
Release Notes & Changelogs	-	The Release Notes (or Changelogs) view is the official communication channel within the platform that details updates, improvement...	Open Manual
Work Shifts	-	The Shift Configuration view (or Shifts) is the administrative module responsible for delimiting and structuring the work schedule...	Open Manual

Charts and Reports

View	Submodule	Description	Link
Advanced Charts & Reports	-	The Advanced Charts and Reports suite is the analytical intelligence and management audit console of the Quattrol platform. Its pu...	Open Manual
General Charts & Reports	-	The General Charts and Reports suite is the centralized module for visual analysis and diagnosis of analytical quality in Quattrol...	Open Manual

System Tools

View	Submodule	Description	Link
Audit Log	-	The Audit Log view (or Logs) is the system's security and traceability tool responsible for chronologically recording all operatio...	Open Manual
Communication Templates	-	The Template Management view is the system tool designed to centralize, design and manage the communication formats and documents...	Open Manual
Data Mapping & Homologation	-	The Data Mapping and Homologation view (Mapper) is the integration engine designed to configure bidirectional file translation tem...	Open Manual
Incidents & Support	-	The Incident Management view is the centralized module for recording, reporting and tracking incidents, errors or requests for new...	Open Manual
Laboratory Migration	-	The new Quattrol365 Laboratory Migration console is an administrative tool designed to restructure, standardize and securely trans...	Open Manual
Maintenance Scripts	-	The Script Console is an advanced level maintenance and support tool within the ERP, designed for the controlled execution of sche...	Open Manual

CMS Modules

View	Submodule	Description	Link
About Us	-	The About Us view in the CMS is the administrative module in charge of managing the main institutional content displayed on the pu...	Open Manual
Consumers & Success Stories	-	The Consumer view in the CMS is the module in charge of managing the list of featured clients, success stories and institutional t...	Open Manual
Contact Information (CMS)	-	The Contact Information view in the CMS is the module where the customer service channels, institutional telephone numbers, WhatsA...	Open Manual
Digital Products (CMS)	-	The Digital Products view in the CMS is the module that manages the catalog of software, applications, licenses or digital solutio...	Open Manual
FAQs	-	The Frequently Asked Questions (FAQs) view in the CMS is the manageable module designed to parameterize the common questions, quic...	Open Manual
Partnerships & Alliances	-	The Associations and Alliances view in the CMS is the module in charge of managing the catalog of agreements, strategic allies and...	Open Manual
Published Services (CMS)	-	The Published Services view in the CMS is the module where the offer of technological, professional or consulting services display...	Open Manual

General Modules

View	Submodule	Description	Link
Countries & States	-	The Country and State Configuration view is the module in charge of parameterizing the territorial division and geographic locatio...	Open Manual
Memberships & Licenses	-	The Membership Administration view is the module in charge of managing the licensing and payment plans applied to the different or...	Open Manual
Organizations	-	The Organization Administration view is the centralized module where the different legal or commercial entities registered in the...	Open Manual

View	Submodule	Description	Link
Roles & Permissions	-	The Roles and Permissions Management view is the security module that allows you to define the access levels and privileges of use...	Open Manual
System Attributes	-	The Custom System Attributes view is the advanced management console designed to structure, customize, and manage the general dyna...	Open Manual
System Languages	-	The System Languages view is the internationalization administrative console (i18n) in charge of creating, consulting, editing a...	Open Manual
System Menus & Navigation	-	The System Menus view is the navigation architecture console responsible for configuring, creating, editing, deleting and exportin...	Open Manual
System Products	-	The System Products view is the administrative console in charge of the general administration of platform products and applicatio...	Open Manual
System References	-	The System References view is the administrative console in charge of consulting, registering, editing and deleting global system...	Open Manual
Tag Management	-	The Tag Management view is the module in charge of creating, consulting, editing, deleting and exporting visual tags for general s...	Open Manual
User Management	-	The User Administration view is the section of the platform that allows you to control the access of staff and collaborators to th...	Open Manual

📂 Control Panel

View	Submodule	Description	Link
Comparative QC Groups	-	The Comparative Quality Control Groups (or CC Groups) view is the module responsible for grouping multiple CC Tests under the same...	Open Manual
Configuration Wizard	-	The Wizard view is the guided module designed to facilitate rapid platform parameterization, mass creation of control tests, and a...	Open Manual

View	Submodule	Description	Link
Control & Reagent Lots	-	The Control Lots and Reagents view is the quality control module responsible for recording, classifying and monitoring the life cy...	Open Manual
Instruments & Analyzers	-	The Instrument Configuration view (or Instruments) is the module in charge of registering, cataloging and integrating the physical...	Open Manual
Master Test Catalog	-	The Test Master Catalog (or Test) view is the fundamental quality control module responsible for defining the analytical parameter...	Open Manual
Means & Standard Deviations	-	The Means and Standard Deviations (or Means/SD) view is the mathematical quality control module responsible for establishing the r...	Open Manual
Multi-Rule Configuration	-	The Multi-Rule Configuration view is the statistical control panel designed to bulk define and apply analytical quality control ru...	Open Manual
Performance Limits	-	The Performance Limits view is the quality control module responsible for defining the quality requirements and maximum tolerable...	Open Manual
Quality Control Tests	-	The QC Testing (or QC Testing) view is the operational core of the quality module. Its function is to logically integrate all the...	Open Manual
Repeatability & Uncertainty	-	The Repeatability Record view is the quality control module responsible for documenting and calibrating the short-term precision (...	Open Manual

Views and Functionalities Catalog

Management of Comments and Analytical Observations

Description, Purpose and Objective

> **NOTE:** The **Comment Management** view is the module in charge of consulting, sorting and exporting the system's general comment record *(Module in Beta version)*.
>
> A **Comment** records the observations and explanatory notes entered by users and is parameterized by the following components:
>
> - **Registration Date:** Exact time stamp of the insertion.
> - **User:** Name of the analyst or operator issuing the comment.
> - **Comment:** Descriptive text or recorded observation.
>
> The purpose of this view is to provide centralized access to feedback history and operational notes using data export and filtering tools.

Context of Use

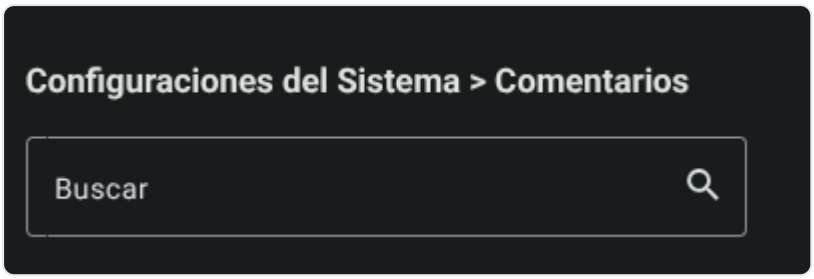
This module is used by technical directors, coordinators and auditors to:

- **See observation history:** Filter notes recorded by specific users or by date.
- **Export consolidated notes:** Download the complete record of system observations for auditable support.

Possible Actions

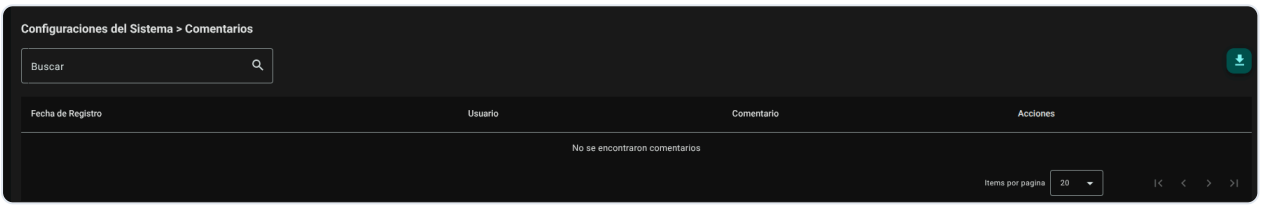
1. Search Comments

1. Enter keywords or names in the search bar (**Search**) to filter the available comment history in real time.



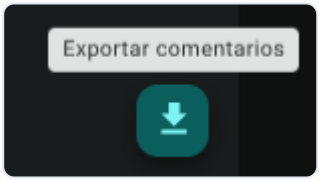
2. Sort the Table

1. Click on the column headers (**Registration Date**, **User** or **Comment**) to toggle the display in ascending or descending order.
2. The view updates data in real time by filtering by text or changing the order of columns.



3. Export Comments

1. Click the button **with the download icon (**Export Comments**) located in the upper right corner. The export action will directly generate and download the document with the comment records.



Roles and Permissions Required

The roles enabled to record and report data are **Laboratory Analyst**, **Quality Director** and **Operator**. The specific permissions required are:

- **Entry of Results:** `data_entry_read` (for individual registration) and `data_entry_group_read` (for mass registrations by group).
- **Modification / Edition:** `data_entry_update` (to correct results entered within the enabled shift).
- **Point Comments:** `comments_read` and `comments_create` to add justifications or corrective actions in the control charts.

Release Notes and Changelogs

Description, Purpose and Objective

> **NOTE:** The **Release Notes** (or Changelogs) view is the official communication channel within the platform that details updates, improvements, bug fixes and new functionalities implemented in the system.
>
> A **Changelog** (or Change Log) is a structured document that chronologically compiles the modifications made to a specific version of the software. It is classified by **Category** (which corresponds to the platform product affected by the update, for example, PEEC or Quattrol 365) and indicates the **Version** number of the system.
>
> The objective of this view is to keep users and administrators informed about the technical evolution of the platform, guaranteeing visibility of the optimizations and new tools made available to your organization.

Context of Use

This module is used by:

- **Super Administrators:** To record and publish detailed release notes when updates are released to production.
- **General Users:** To consult the history of improvements implemented in your product and understand how the new features of the platform work.

Possible Actions

1. View and Search Release Notes

Allows all users to view the general table of updates published in the system, which details:

- **Name:** Administrative identifier of the change (e.g. `Update Auth Flow`).
- **Title:** Public header visible to the user (e.g. `Mejoras en el inicio de sesión`).
- **Category:** Specific product affected by the update.
- **Description:** Narrative detail of the included optimizations or corrections.
- **Version:** Build version number code.
- **Registration Date:** Day the release note was published.

The top search bar lets you enter keywords (such as a product, version number, or concept) to instantly filter table rows.

> *[Imagen ilustrativa: Listado de Notas de Versión]*

2. Add a New Release Note

To publish a system update:

1. Click the **"Add changelog"** button at the top right of the table.
2. Complete the information requested in the side form:
    - **Name:** Technical name of the change.
    - **Title:** Explanatory title that users will see.
    - **Category:** Select the product from the autocomplete list.
    - **Version:** Enter the version number.
    - **Description:** Write exhaustively the list of changes made.
3. Click **"Add"** to publish the note.

> *[Imagen ilustrativa: Formulario Agregar Notas de Versión]*

3. Edit a Release Note

If you need to correct the wording or update the data of an existing release note:

1. Click **"Edit"** (pencil icon ✏️) in the corresponding row.
2. The side form will open with the data pre-filled. Make the necessary changes.
3. Click **"Update"** to apply the changes immediately to the users' display.

> *[Imagen ilustrativa: Formulario Editar Notas de Versión]*

4. Delete a Release Note

To delete a post from history:

1. Click **"Delete"** (trash icon 🗑️) in the action column of the release note.
2. Confirm the action in the security popup modal.

> **WARNING:** Deleting a release note is permanent and irreversible in the system database.

> *[Imagen ilustrativa: Modal Confirmación de Eliminación de Nota de Versión]*

5. Export Release Notes

Allows you to download the complete history of released release notes in **.CSV** format by clicking the download icon at the top right of the table.

> *[Imagen ilustrativa: Exportación de Notas de Versión]*

Required Technical Permits

Access to this module is controlled by the following permissions in the user's role profile:

- `changelog_read` : Allows access to view and read the release notes table.
- `changelog_create` : Enables the action of adding new release notes.
- `changelog_update` : Allows you to edit and update the content of already published notes.
- `changelog_delete` : Authorizes deletion of records from the release notes database.
- `changelog_export` : Enables downloading changelog data in `.CSV` format.

Constant Management

Description, Purpose and Objective

> **NOTE:** The **Constant Management** (or Enums) view is the platform's technical module designed to manage the lists of predefined values that feed the drop-down menus and static parameters of the entire system (such as currency types, billing frequencies, identification types or statuses).
>
> A **Constant** (or Enumerator) is a predefined and static data value within the system. It consists of a **Value** (the main data, such as `USD`) and, optionally, a **Complement** (complementary information associated with the value, such as the symbol `$$` or a translation).
>
> The goal of this view is to allow super administrators to add and update these master lists in real time without requiring changes at the code or database level.

Context of Use

This module is used by Product Managers and Super Managers to:

- **Update currencies and currencies:** Enable new types of currencies in the system for membership payments (e.g. enter the currency `EUR` with its symbol `€` in the `currencies` list).
- **Add payment frequencies:** Add operating frequencies for contracts or payroll (e.g. add `Semi-annual` to the `frequencies` list).
- **Parameterize dynamic lists:** Configure types of identification documents or geographic states enabled for user registration.

Possible Actions

1. View and List Constants by Category

Allows administrators to list all registered enumerators under a specific list:

1. Select the required constant category from the **Menu/Constant List** drop-down menu (for example, `currencies` or `frequencies`).
2. The system will immediately list all registered values on the screen, showing their code, name and associated plugins.

> *[Imagen ilustrativa: Listado de Constantes por Categoría]*

2. Add a New Constant

To add a new value to one of the master lists:

1. Select the destination list from the **Menu/Constant List** drop-down field.
2. Fill out the required fields:
    - **New Element (Value):** Enter the primary key or value of the constant (e.g. `USD` or `Weekly`).
    - **Complement or subitem (Optional):** Enter the additional information required depending on the type of list (e.g. the symbol `$$` for the currency or a translation code).
3. Click the **"Add"** button to save the new item to the list. It will be reflected immediately in all the forms in the system that consume that enumerator.

> *[Imagen ilustrativa: Formulario Agregar Constante]*

3. Delete a Constant

To remove an item from the list:

1. Locate the item and click the delete action (trash icon 🗑 or remove button).
2. Confirm the action in the pop-up window.

> **CAUTION:** Do not delete constants that are being used in historical records (such as membership transactions, user profiles or active processes), as this would cause system loading failures when trying to recover the deleted value.

> *[Imagen ilustrativa: Modal Confirmar Eliminación de Constante]*

Required Technical Permits

Access to this panel requires that the user's role has the following privileges:

- `enums_read`: Grants access to view, list selection, and reading constants.
- `enums_update` or `enums_create`: Allows the addition of new elements and plugins to constant lists.
- `enums_delete`: Allows you to delete elements from the system constant lists.

Communication and Contact Channels (CMS)

Description, Purpose and Objective

> **NOTE:** The **Contact Information** view in the CMS is the module where the customer service channels, institutional telephone numbers, WhatsApp links, physical addresses and support emails displayed on the public front page are managed.
>
> A **Contact Channel** defines the name of the channel, descriptive title, representative icon (Material Icons), type of contact (e.g. Telephone, Email, WhatsApp, Location), descriptive text or value of the contact data, direct web link (URL) and sorting priority.
>
> The objective of this module is to offer visitors to the public portal immediate and updated means of communication with the company's support, sales and administration staff.

Context of Use

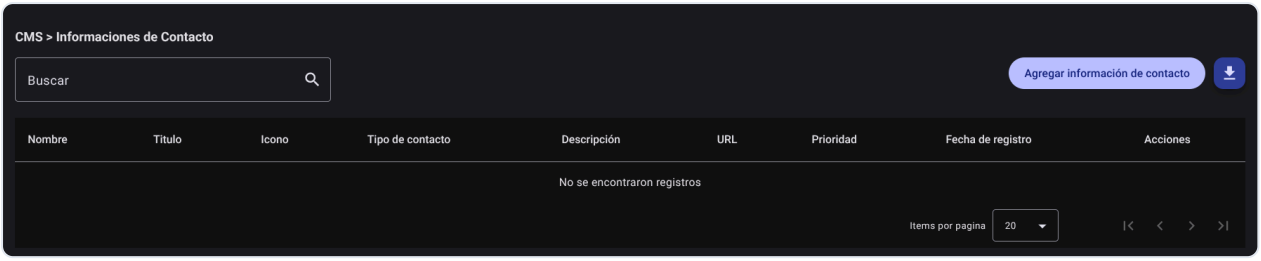
This module is used by:

- **Operations and Customer Service Administrators:** To update phone lines, support chat links or institutional emails.
- **System Administrators:** To enable or suspend service channels according to operational availability.

Possible Actions

1. Consult the List of Contact Channels

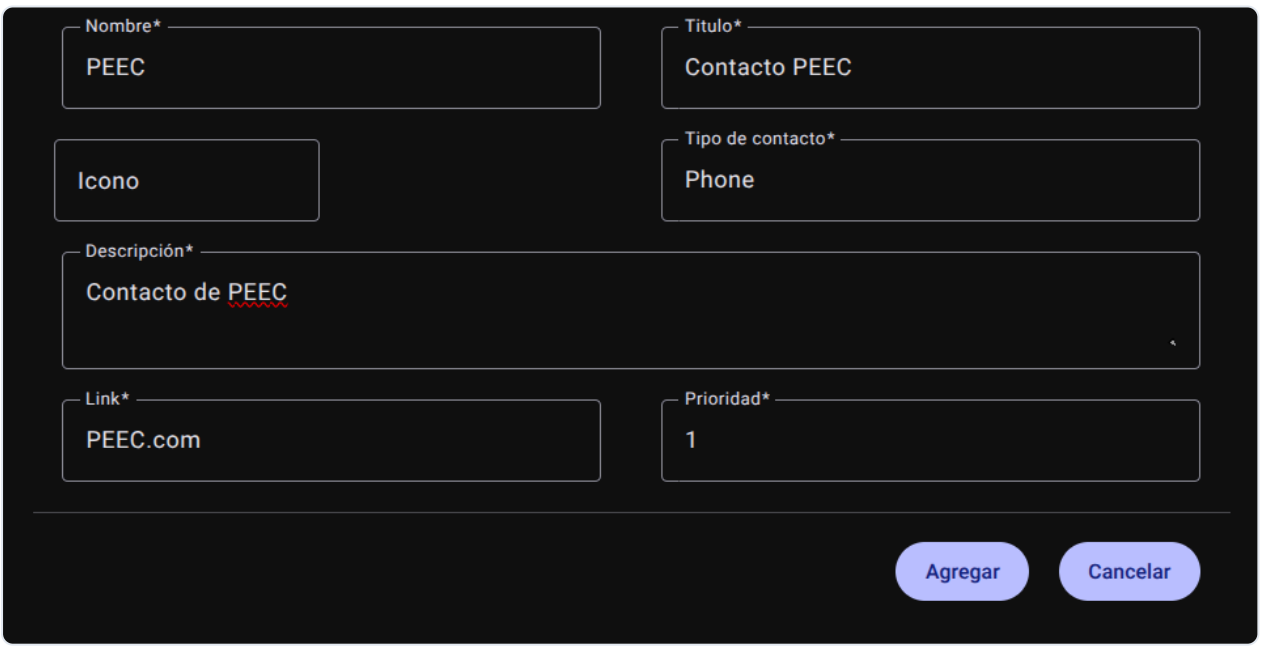
1. In the main administration table, display the contact channels with the columns: Name, Title, Icon, Contact Type, Description, URL, Priority, Registration Date and Actions.
2. Use the **"Search"** field to filter channels by type (e.g. WhatsApp, Email), name or description.
3. Sort the rows according to the level of attention priority.



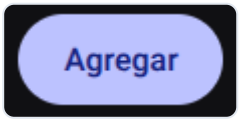
2. Register a New Contact Channel

1. Click the **"Add Contact Information"** button.

2. Fill out the required fields on the side panel form:
    - **Name:** Channel identifier (e.g. WhatsApp Attention, Support Email, National Line).
    - **Title:** Explanatory header of the channel.
    - **Icon:** Name of the icon from the Material Icons library (e.g. `phone`, `email`, `whatsapp`).
    - **Type of contact:** Classification of the communication channel (Phone, Email, Social Network, Location).
    - **Description:** Telephone number, email address or informative text of the channel.
    - **URL:** Direct action link (e.g. `https://wa.me/...` or `mailto:...`).
    - **Priority:** Integer to determine the position of the channel in the footer or contact section.

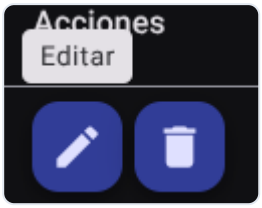


3. Save the record by clicking **"Save"**.



3. Edit a Contact Channel

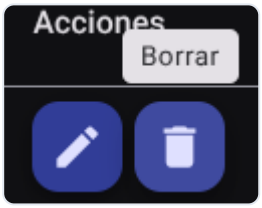
1. Locate the channel in the table and click the edit button (pencil icon✏️) in the actions column.



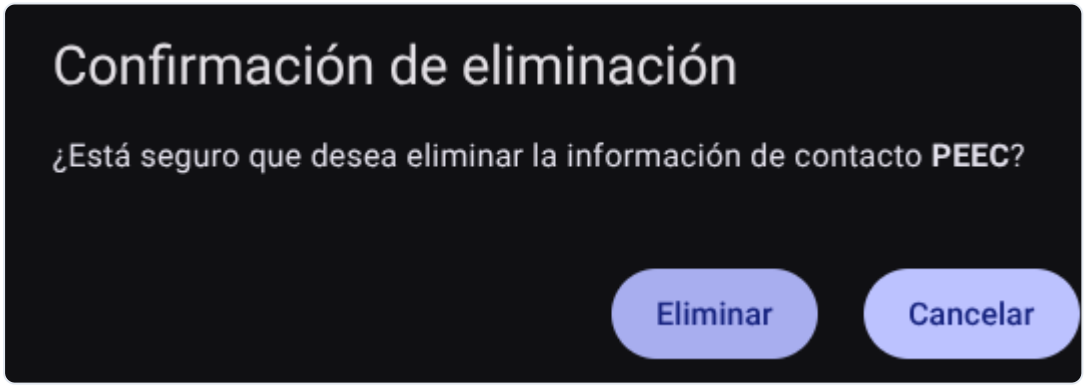
2. Modify the desired fields and save the changes to the **Save** button.

4. Delete a Contact Channel

1. To delete a channel, use the delete button (trash can icon🗑️) in the actions column.

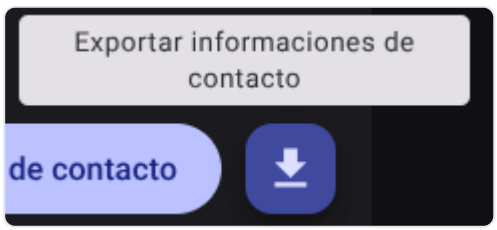


2. Confirm the action.



5. Export the Contact Channel Catalog

1. Click the **Export contact information** button (download icon). You will obtain a report in CSV/Excel format with the complete inventory of configured contact channels.



Required Technical Permits

- `contact_info_read`: Allows you to consult the configured contact channels.
- `contact_info_create`: Authorizes the addition of new service channels on the platform.
- `contact_info_update`: Enable updating phone data, emails, icons and priorities.
- `contact_info_delete`: Allows you to unpublish or delete contact channels.
- `contact_info_export`: Allows downloading of the complete contact information report.

Default Options Settings

Description, Purpose and Objective

> **NOTE:** The **Default Options** view is the system analytic configuration section that allows coordinators and administrators to define default responses or preferred methods for different proficiency evaluation events (PEEC/POQTROL).
>
> A **Default Option** (or Default Response) is a pre-loaded value in dynamic forms that is automatically presented to the user when they are going to enter their results. This data may include methods of analysis, preferred units of measurement, or common reagents.
>
> The objective of this view is to optimize the data entry flow for participating organizations, reducing typographical errors and reducing the time required to complete reports.

Context of Use

This module is used by support staff or event coordinators to:

- **Preload common methods:** Establish the most used analytical methods for analytes in Clinical Chemistry, Hematology or Urinalysis events.
- **Clone configurations:** Copy the responses and parameters defined in a previous event to the current event to avoid manual re-entry of information.
- **Set up dynamic quizzes:** Link predefined questions and answers that participants will find on their entry forms.

Possible Actions

1. View Configuration by Event Type

The system organizes the interface into interactive tabs, each tab corresponding to a type of active event on the platform (for example, *Clinical Chemistry*, *Hematology* or *Uroanalysis*). Clicking on a tab loads the questions configured for that specific event.

> *[Imagen ilustrativa: Opciones por Defecto por Evento]*

2. Configure Default Responses and Methods

To assign the default values that participants will see:

1. Select the tab of the event you want to configure.
2. For each question or analyte listed:
    - Select the recommended or default scanning method from the drop-down list.
    - Specify the instrument or unit if the form requires it.
    - Fill in numeric or text fields with the organization's standard responses.
3. Click the save button to register the default response template.

> *[Imagen ilustrativa: Configuración de Respuestas por Defecto]*

3. Copy Options from Previous Events

To speed up the parameterization of a repetitive event:

1. Click the **"Copy from previous event"** or **"Copy previous responses"** button.
2. Select the historical event for which you want to import configuration data.
3. The system will overwrite the current fields with the imported information.
4. Make specific settings and save.

> *[Imagen ilustrativa: Copiar Opciones de Evento Anterior]*

Required Technical Permits

The default response configuration is regulated by the following access keys:

- `default_options_read` : Allows you to enter the view and display the configured events.
- `default_options_update` or `default_options_create` : Enables field editing, default method assignment, and copying previous event configurations.

Work Shift Configuration

Description, Purpose and Objective

> **NOTE:** The **Shift Configuration** (or Shifts) view is the administrative module in charge of delimiting and structuring the work schedules of the organization's technical staff to correlate analytical quality with the time of day and the operator in charge of the instrument.
>
> A **Work Shift** in the system represents a work day defined by:
>
> - **Name:** Name of the shift (e.g. *Morning Shift*, *Night Shift*).
> - **Entry time:** Time the shift starts.
> - **Departure time:** Time at which the analytical day ends.
>
> The objective of this view is to record the distribution of the personnel's operating time, allowing the platform to automatically identify in which shift the quality controls were reported to issue traceability reports organized by time slots and operators.

Context of Use

This panel is operated by analytical coordinators and directors to:

- **Record the schedule:** Enter the laboratory shifts for purposes of assigning responsibilities.
- **Control time overlaps:** Prevent two shifts from being configured that coincide in the same time range (the system will automatically block overlapping schedules).
- **Analyze analytical performance by shift:** Filter reports and Levey-Jennings graphs by time slots to audit whether analytical derivations are concentrated in a specific shift (e.g. due to environmental thermal variations, operational fatigue or lack of homogenization of controls in night slots).

Possible Actions

1. Consult and Search Shifts

Displays a table with the catalog of shifts configured in the organization: Name, Start time, End time and Registration date. The search engine instantly filters by the shift name.

> *[Illustrative image: Work Shifts Catalog Table]*

2. Create a Work Shift

1. Click **"Add shift"** in the upper right corner.
2. The form will be displayed in the side panel:
    - **Name:** Enter the descriptive name of the shift (e.g. *Afternoon Shift*).
    - **Entry time:** Indicate the start time of the analytical day with the clock.
    - **Departure time:** Please indicate the end time.
3. Click **"Add"** to save.

> **WARNING: Overlapping Schedule Rule:** If the entry or exit times of the new shift coincide with any schedule already saved in the organization, the system will display an **Overlapping Shift** warning and will block the creation of the record until you correct the hours.

> *[Illustrative image: Shift Creation Form]*

3. Edit a Shift

1. Click **"Edit"** (pencil icon ✏️) in the shift row.
2. Modify the name or times in the side panel.
3. Click **"Update"** to apply the changes to the organization.

> **IMPORTANT:** If the shift has already been used to classify historical quality control results or schedules, the system could restrict its time editing to safeguard the integrity of previous statistical reports.

4. Delete a Shift

1. Click **"Delete"** (trash icon 🗑️).
2. Confirm in the pop-up security dialog. The system will perform a logical deletion of the shift (`deleted: true`).

5. Export Shift Catalog

Click the download button in the table header to download the workdays and schedules in a **.CSV** file.

Required Technical Permits

Shift management is subject to the following permissions:

- `shifts_read`: Access to the panel and visualization of the shift table.
- `shifts_create`: Enables the action of adding shifts and time overlap validation.
- `shifts_update`: Grants permission to edit names and modify time ranges in the panel.
- `shifts_delete`: Enables logical removal of a shift.
- `shifts_export`: Authorizes the download of the catalog in `.CSV` format.

Advanced Quality Control Charts and Reports

Description, Purpose and Objective

> **NOTE:** The **Advanced Charts and Reports** suite is the analytical intelligence and management auditing console of the Quattrol platform. Its purpose is to provide higher level mathematical and data mining tools (Six Sigma metrics, quartile scatter plots, technical performance indices and compilation of executive compliance reports).
>
> The objective of this module is to provide management and quality assurance personnel with consolidated indicators of the capacity of the analytical process, allowing the design of preventive control schemes and the evaluation of inter-site variability and inaccuracy in a robust manner before issuing official reports.

Context of Use

This advanced panel is operated by:

- **Laboratory Directors and Quality Managers:** To carry out quality control planning based on Sigma, evaluate the consistency of the reagent catalog (lots) and justify methodological decisions before accreditation auditors.
- **Auditors and Laboratory Network Administrators:** To compare the dispersion between multiple locations and export the unified executive report of analytical performance.

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1. Decision Chart (Westgard / Six Sigma)

Purpose

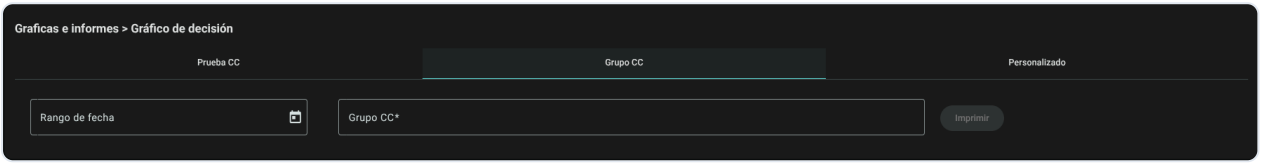
Evaluation of analytical quality metrics based on the Six Sigma scale (σ). It serves as an objective criterion for the selection and optimization of the Westgard control rules required for each assay, reducing false rejections and optimizing analytical costs.

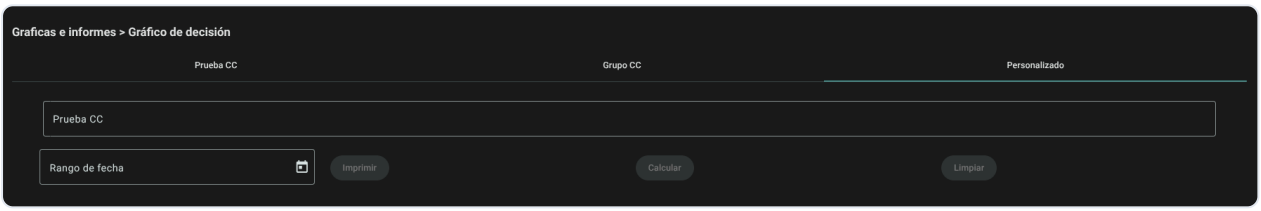
Tabs and Modalities

- **CC Test:** Plots the Sigma status of an individual assay.
- **Group CC:** Plot and position multiple group trials on the same decision diagram.
- **Custom:** Simulation environment where the user enters hypothetical values of Total Allowable Error (ET%), Bias, and Coefficient of Variation (CV%) to model the resulting Sigma without altering the actual data.

Input Parameters

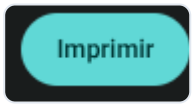
- **Date range:** Time window selector being evaluated.
- *CC Test / CC Group*:** Autocomplete fields to choose the essay or group template.

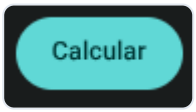




Actions

- **Calculate:** Processes the data and draws the points on the Sigma zones (World Class, Excellent, Good, Marginal, Unacceptable).
- **Clear:** Resets the variables and initializes the simulation quadrant.
- **Print:** Compiles the decision graph along with the imprecision/bias table into a downloadable file.





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2. Analytical Performance Indices

Purpose

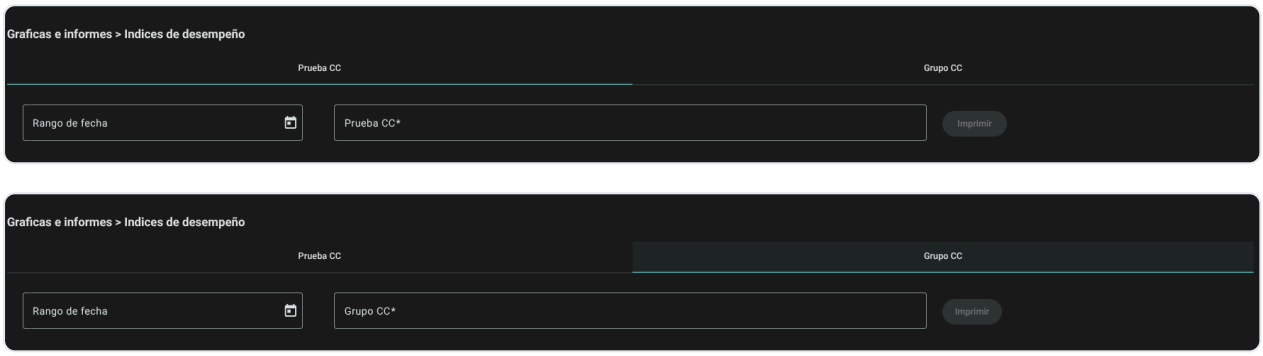
Automated calculation and consolidation of key operational capacity metrics of the method. It measures the methodological robustness by correlating the Coefficient of Variation (CV%), the Bias%, the Global Quality of the trial and the Analytical Performance Index (ADI).

Tabs and Modalities

- **CC Test:** Unitary focused calculation for a test.
- **CC Group:** Consolidated matrix of indices for the entire analytical profile.

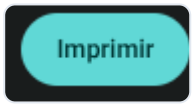
Input Parameters

- **Date range:** Time range for statistical calculation.
- *CC Test / CC Group*:** Selection of the entity under analysis.



Actions

- **Print:** Download the detailed report with analytical performance tables.



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3. Whisker Plot (Box Plot)

Purpose

Graphic representation that describes the dispersion and symmetry of the results through the use of the median, the limits of the first and third quartiles (scatter box), and the whiskers that indicate the upper and lower limits, automatically identifying outliers (*outliers*).

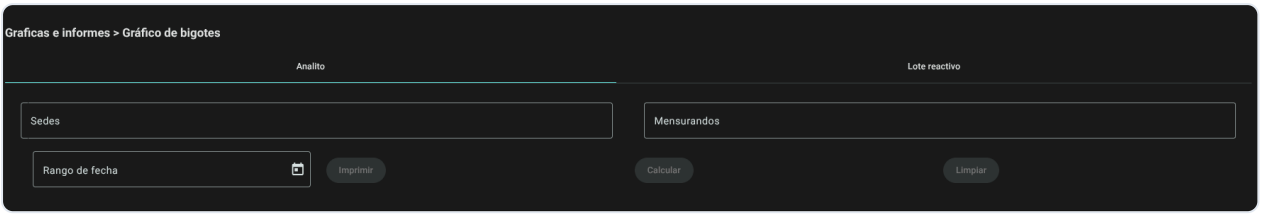
Tabs and Modalities

- **Analyte:** Graphically compares the dispersion of the same measurement across multiple locations in the laboratory.
- **Reagent lot:** Evaluates the consistency of the results by contrasting the variability of different reagent lots from the same assay.

Input Parameters

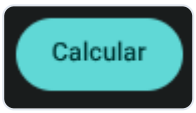
- **Headquarters:** Multiple selection of physical locations or branches to compare.

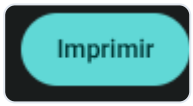
- **Measurands:** Specification of the analyte under analysis.
- **Date range:** Collection period of the represented data.



Actions

- **Calculate:** Runs the queries against the database and renders the boxplot.
- **Clear:** Resets the general filter boxes.
- **Print:** Download the case variability and comparison report.





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4. Performance Report

Purpose

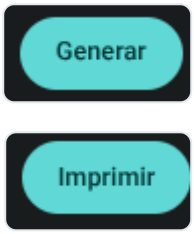
Unified and consolidated report that synthesizes the laboratory's analytical quality audit, compiling the Sigma status, compliance with error goals and rule violations reported by analyzer in a single report ready for printing or institutional filing.

Input Parameters

- *Laboratory:** Selector of the headquarters or entity connected in session.
- *Instrument:** Filter to limit the report to a specific analyzer at the headquarters.
- *Level:** Degree of depth of the statistical contrast (e.g. *Level 3: Measuring - Batch - Method - Instrument*).
- **Area** and **Lots:** Specific filters for classification of the analytical catalog.
- **Date range:** Audited time frame.

Actions

- **Generate:** Compiles and processes the historical information to render the report on the screen.
- **Print:** Processes the physical print or PDF export version of the unified document.



Viewing and Downloading

To get any of the advanced analytics:

1. Enter the required filtering parameters.
2. Click the **Calculate** or **Generate** buttons as appropriate. The platform will process the historical data from Firestore and display a real-time visual draft at the bottom of the screen.
3. Once the interactive draft is verified, press the **Print** button to export the final file in high resolution.

Roles and Permissions Required

Access to the advanced statistical analysis and management report generation functions is governed by the following roles and permissions:

Due to its strategic impact, this panel is limited to the profiles of **Laboratory Director**, **Quality Coordinator** and **System Auditors**.

- **Sigma Decision Graphs:**
  - `sigma_graphics_read`: Allows you to enter the view, graph the Six Sigma scale and use the interactive simulator.
  - `sigma_graphics_create`: Allows you to attach monthly notes and comments to the decision report.
- **Analytical Performance Indices:**
  - `report_statistical_read`: Enables querying and rendering of method capacity tables.
- **Whisker Plot (Box Plot):**

    - `boxplot_graphic_read`: Allows access to the Box Plot route and comparisons by Sites and Reactive Batch.
- **Executive Performance Report:**
    - `performance_report_read`: Grants authorization to interact with the filters and enable the global executive report generation button.
- **General Printing Actions:**
    - `performance_report_read` / `report_statistical_read`: Mandatory to execute the export actions and **Print** the reports.

General Quality Control Charts and Reports

Description, Purpose and Objective

> **NOTE:** The **Graphics and General Reports** suite is the centralized module for analysis and visual diagnosis of analytical quality in Quattrol. Its purpose is to structure, process and graphically present the behavior and trend of the laboratory's quality control results.
>
> The objective of this console is to offer analysts, bacteriologists and quality managers advanced statistical tools (Levey-Jennings curves, frequency distribution histograms and Peer Group interlaboratory comparisons) that allow them to preview analytical anomalies in real time and export physical or digital reports ready for external accreditation audits.

Context of Use

This panel is operated by:

- **Directors and Quality Coordinators:** To monthly audit the dispersion of the data, check the consistency against the peer group and certify compliance with the tolerable margins of inaccuracy and bias.
- **Bacteriologists and Technical Personnel:** To visually verify if there are systematic (trends) or random derivations that require corrective calibrations.

---

1. Levey Jennings (Traceability and Trends)

Purpose

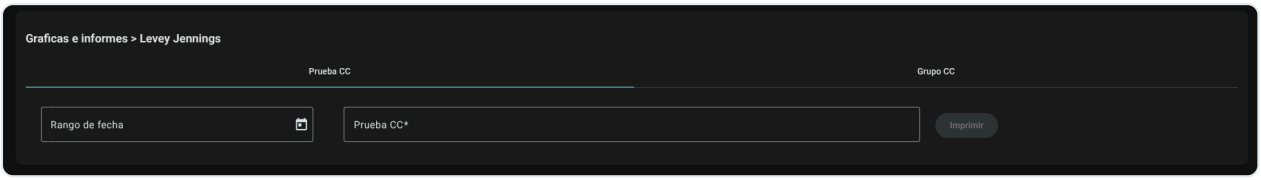
Graphical evaluation of the precision and stability of the analytical system over time. It allows you to identify systematic deviations (shifts from the mean) or random deviations (violations of control limits $\pm 1s, \pm 2s, \pm 3s$) and control the margin of the **Maximum Allowable Total Error (ET+)**.

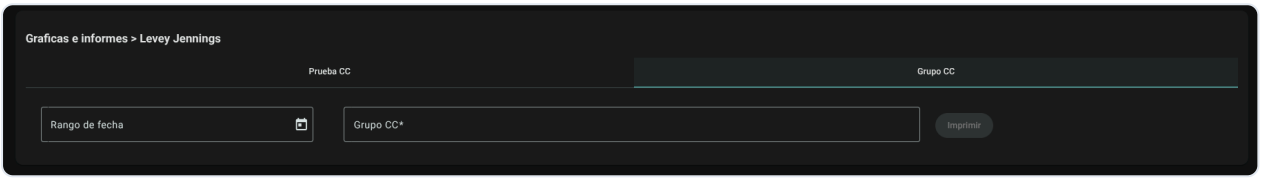
Tabs and Modalities

- **QC Test (Individual):** Evaluates the performance of a specific quality control test.
- **CC Group (Consolidated):** Generates and superimposes in a single coordinate graph the curves of multiple related tests in the same analytical profile.

Input Parameters

- **Date range:** Start date and End date selector to limit the history of points evaluated in the graph.
- *CC Test / CC Group*:** Drop-down lists to choose the specific test (includes measurand, instrument, method and control lots) or the control group configured in the system.





Actions

- **Print:** Processes the Levey-Jennings curve on screen and generates a physical version or a downloadable PDF document.

---

2. Histogram (Frequency Distribution)

Purpose

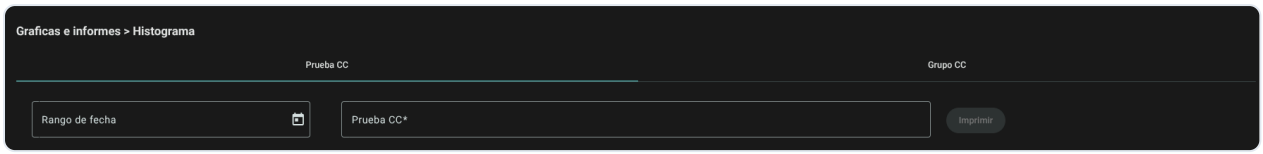
Visual representation that groups the quality control results into class intervals, allowing you to evaluate the symmetry of the distribution, the dispersion of the measurements and to visually verify whether the control data follow a Gaussian behavior (normal distribution curve).

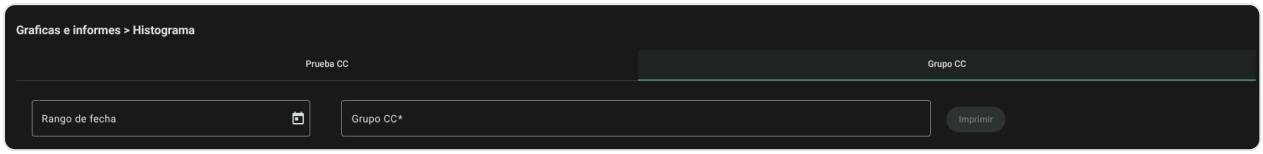
Tabs and Modalities

- **CC Test:** Frequency analysis applied to an individual analytical test.
- **CC Group:** Consolidated frequency distribution graph for a set of associated tests.

Input Parameters

- **Date range:** Time interval for filtering numerical readings.
- *CC Test / CC Group*:** Drop-down field for selecting the test or profile to be evaluated.





Actions

- **Print:** Export the frequency graph formatted in high resolution for quality reporting.

---

3. Pair Group (Interlaboratory Comparison)

Purpose

It consists of an external comparative evaluation that contrasts the laboratory's own statistics against a global database of peer laboratories that process under identical analytical conditions, allowing the identification of persistent systematic errors (analytical bias).

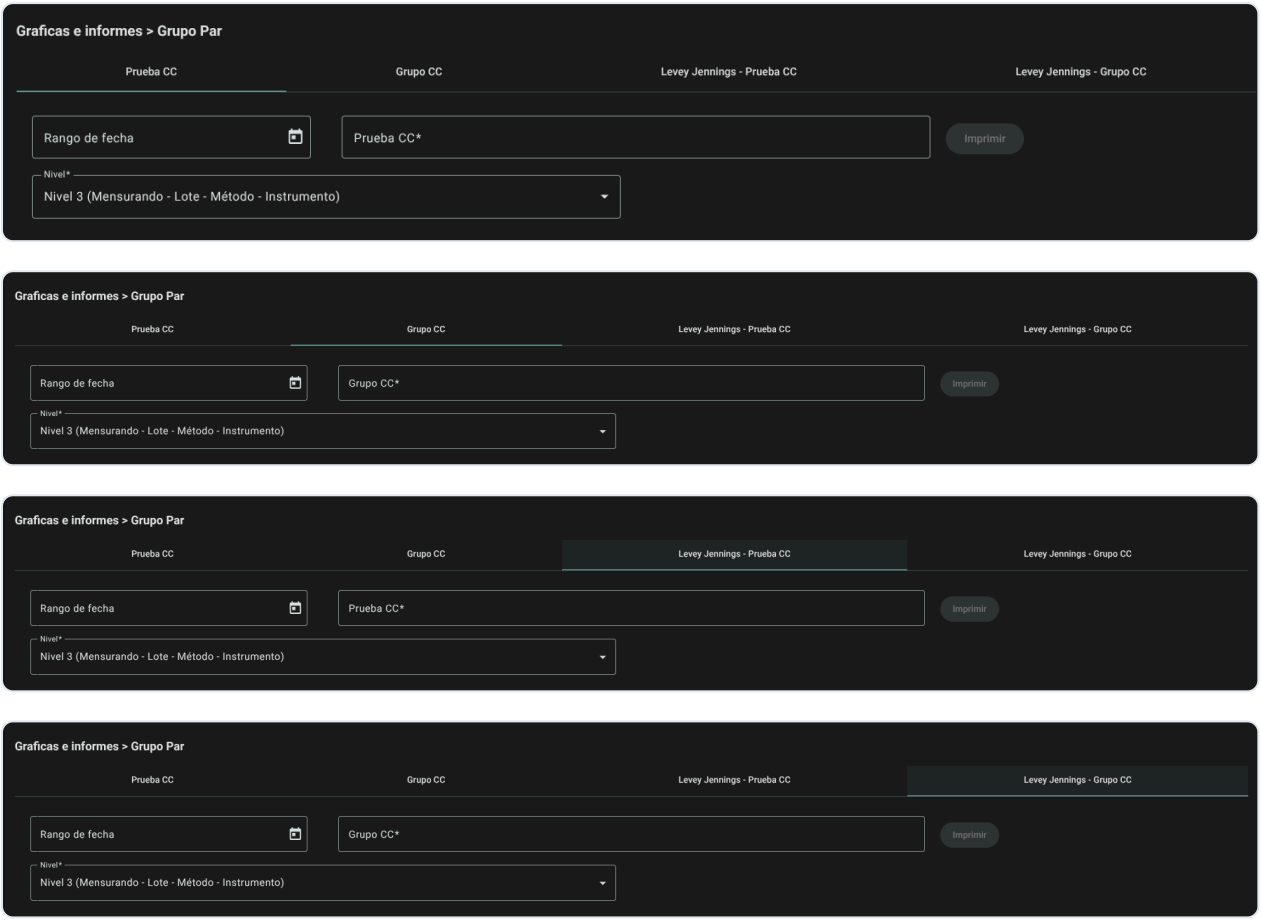
Tabs and Modalities

- **CC Test:** Individual comparison per trial against the peer community.
- **Group CC:** Consolidated data plot for a comparative test profile.
- **Levey Jennings - CC Test:** Laboratory Levey-Jennings curve overlaid with the statistical limits of means and standard deviations reported by the Pair Group.
- **Levey Jennings - CC Group:** Overlay of Levey-Jennings graphs with the Peer Group metrics at the group template level.

Input Parameters

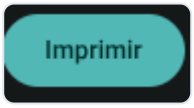
- **Date range:** Evaluation period for calculating group statistics.
- *CC Test / CC Group*:** Selection of the test or template to be contrasted.
- *Level:** Drop-down menu to define the statistical rigor filter for interlaboratory comparison:
    - *Level 1 (Measuring - Batch):* Broad comparison level. Compare data sharing the same assay and batch, regardless of the method or equipment.
    - *Level 2 (Measuring - Batch - Method):* Requires that the peer group coincide in the analyte, physical batch and chemical method used.
    - *Level 3 (Measuring - Batch - Method - Instrument):* The strictest level of comparison. Requires peer group laboratories to use the exact same manufacturer, analyzer model,

control lot, and chemical methodology.



Actions

- **Print:** Generates the formal Par Group comparative report and consolidated SDI calculation for quality audits.



Viewing and Generation of Reports

When completing the mandatory parameters (date range, trial or group selection and level if applicable) in any of the sections, the platform immediately renders an interactive preview of the graph at the bottom of the screen.

Once the user verifies the consistency of the interactive graph, they must press the **Print** button to process and download the official report formatted in high quality.

Interpretation of Clinical Metrics and Peer Group Indicators

> **TIP: Statistical Interpretation Guidelines for the Bacteriologist:**
>
> - **Standard Deviation Index (SDI / Z-Score):** Quantifies the distance between your laboratory average ($ar{X}_{lab}$) and the consensus average of the peer group ($ar{X}_{par}$), normalized by the group dispersion (s_{par}): $$SDI = \frac{\bar{X}_{lab} - \bar{X}_{par}}{s_{par}}$$
> - **$|SDI| \le 1.0$:** Excellent performance; full agreement with the peer analytical community.
> - **$1.0 < |SDI| \le 1.5$:** Desempeño aceptable; vigilar posibles derivas del reactivo o calibrador.
> - **$1.5 < |SDI| \le 2.0$:** Alerta metrológica; existe un sesgo incipiente que requiere investigación técnica preventiva.
> - **$|SDI| > 2.0$:** Unacceptable or out of control performance; clinically significant bias requiring mandatory corrective actions (recalibration, batch change or equipment maintenance).
> - **Quotient of Variation Coefficients (CVR):** Evaluates the relative imprecision of the laboratory compared to the peer group: $$CVR = \frac{CV_{lab}}{CV_{par}}$$
> - **$CVR \le 1.0$:** The laboratory is more accurate or the same as the average peer group.
> - **$CVR > 1.5$:** Excessive imprecision; Greater dispersion than comparable laboratories.

Roles and Permissions Required

The entry and use of general graphics and reports is governed by the following security profiles and permissions:

The roles authorized to consult and download these analyzes are **Director / Quality Coordinator**, **Bacteriologist / Analyst** and **Technical Auditor**.

- **Levey-Jennings plots:**
  - `lv_graphics_read`: Allows read access to the Levey-Jennings plot path by trial and group, and viewing the interactive preview.
- **Frequency Histogram:**
  - `histogram_read`: Allows you to load the histogram module and interact with the frequency distribution.
- **Pair Group Charts:**
  - `peer_group_graphic_read`: Allows you to access the peer group interlaboratory comparison module and apply the filters by Level 1, 2 and 3.
- **Common Shares:**
  - `performance_report_read` / `report_statistical_read`: Authorizes the execution of the **Print** function to generate and download official quality reports in PDF or physical format.

Audit Log

Description, Purpose and Objective

> **NOTE:** The **Audit Log** (or Logs) view is the security and traceability tool of the system in charge of chronologically recording all operations and history of modifications made to the platform.
>
> An **Audit Log** (or Traceability Record) is a computer file or record generated automatically by the system every time a user performs a creation, update or deletion action in the organization's database.
>
> The goal of this view is to ensure information transparency and security, allowing auditors and administrators to track exactly what changes were made, when, and by whom.

Context of Use

This module is mainly used by auditors, information security officers and general administrators to:

- **Investigate bugs or inconsistencies:** Track suspicious or erroneous modifications to quality control settings or court files.
- **Comply with quality regulations:** Maintain complete traceability required by regulatory entities in health or legal management.
- **Compare data states:** Compare the previous state (**Before**) and the after state (**After**) of a modified record.

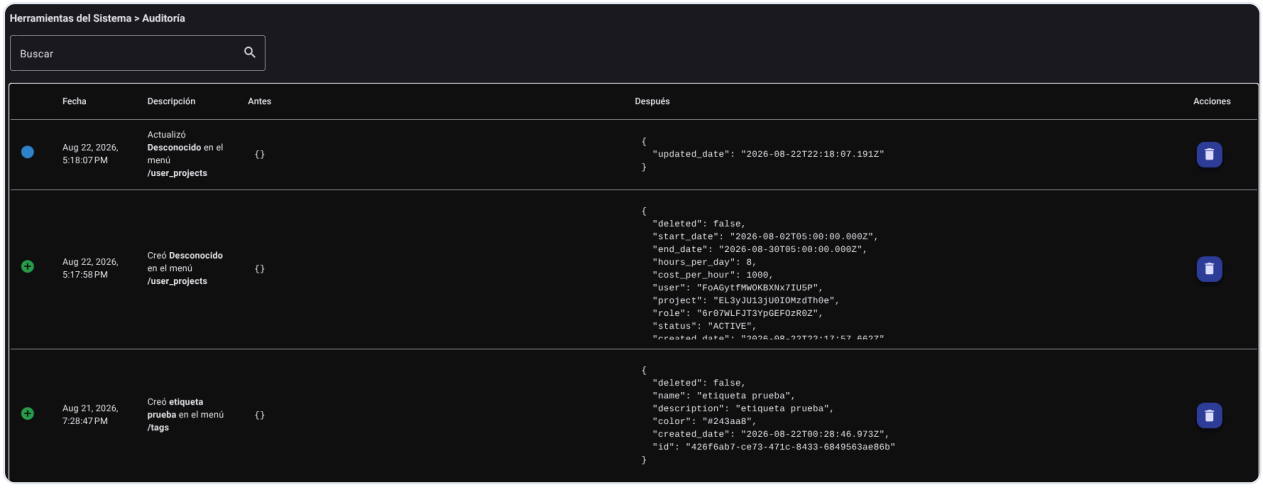
Possible Actions

1. Consult and Filter Audit Traces

Allows access to the complete history of events registered for the organization. The interactive table exposes the following details for each trace:

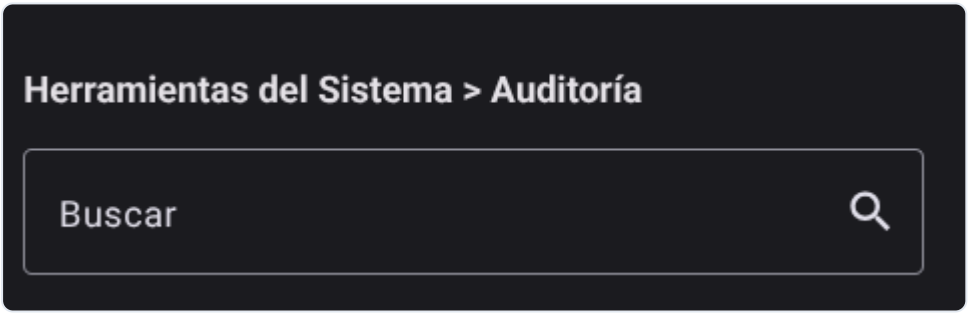
- **Visual Indicator:** A colored icon that summarizes the category of the operation:
  - **Green:** Creation of a new element.
  - **Blue:** Modification of an existing record.
  - **Red:** Deletion of system information.
- **Date:** Exact timestamp (day, month, year and hour) when the action was executed.
- **Description:** Detail that specifies the action performed, the name of the affected element and the menu or database collection where the event occurred.

- **Before:** Data structure in **JSON** (JavaScript Object Notation, a lightweight structured data exchange format) format that shows the values that the record had before the change.
- **After:** Data structure in **JSON** format that details the new values after the update is applied.



2. Search Specific Events

In the top bar, enter any term (such as the name of a menu, the name of a user, or a particular action). The table will update in real time showing only the records that match the search.

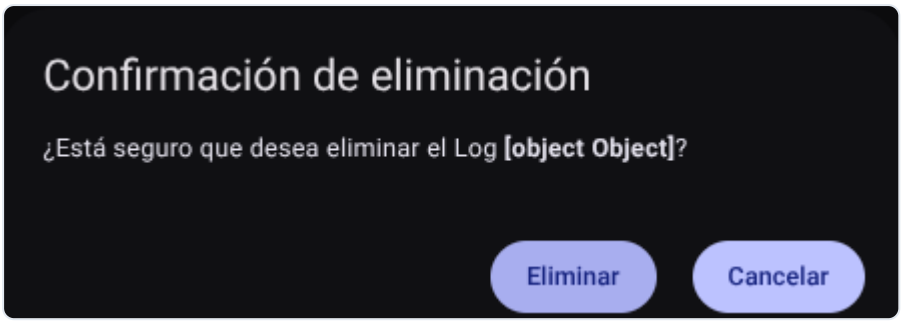


3. Delete a Log Record (If applicable)

If the administrator user has advanced log debugging permissions:

1. Locate the log trace you want to remove from the list and click the **"Delete"** button (trash icon 🗑️).

2. Confirm the deletion in the security pop-up modal. The record will be permanently deleted from the display table.



> **WARNING:** Deleting audit logs is a critical security action. It is recommended to restrict this permission to the minimum possible staff to keep the chain of custody of the information intact.

Required Technical Permits

Access to and management of the audit log is controlled by the following privileges:

- `logs_read`: Allows you to enter the audit menu, list the traces and search among the events.
- `logs_delete`: Enables the action of deleting specific audit history entries.

Incident Management and Technical Support

Description, Purpose and Objective

> **NOTE:** The **Incident Management** view is the centralized module for recording, reporting and tracking incidents, errors or requests for new features, with automatic synchronization to the development team's repository (GitHub).
>
> An **Incident** is parameterized through the following sections:
>
> - **1. Rating:**
> - **Visibility***: *Organizational* (visible for the entire organization) or *Personal* (visible only by whoever creates it).
> - **Issue Type***: *Bug*, *Feature* or *Task* (automatically assigns the corresponding tag in GitHub).
> - **2. Detail:**
> - **Title***: Short summary of the reason or failure (minimum 5 characters).
> - **Description***: Detailed explanation of the case (supports Markdown format).
> - **Steps to reproduce**: Optional indication of the exact sequence to replicate the bug.
> - **Attachments**: Supporting evidence or screenshots.
>
> The goal of this view is to allow users to report requests and continuously track the resolution status (*Open* or *Closed*).

Context of Use

This module is used by:

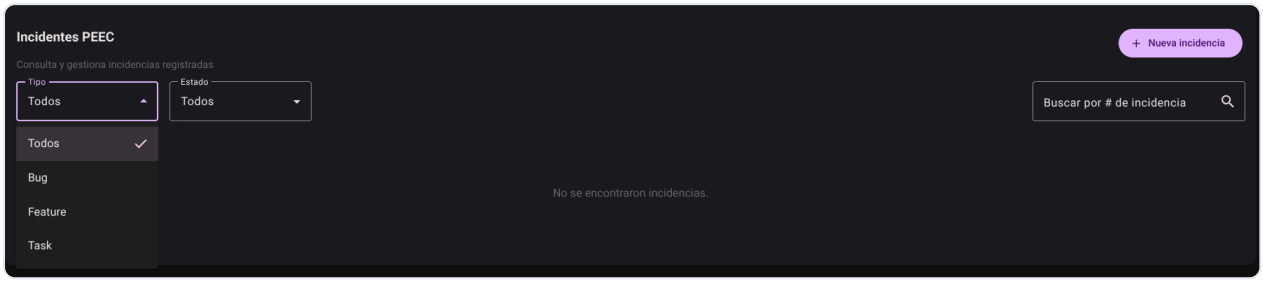
- **Users or Organization Operators:** To report technical non-conformities, screen errors or request improvements.
- **Technical Support Agents and Developers:** To audit, diagnose and track the progress of the registered ticket.

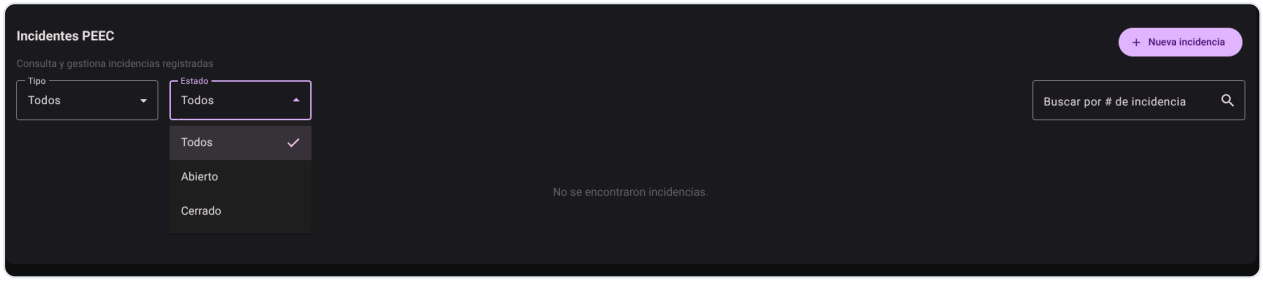
Possible Actions

1. Consult and Filter Incidents

1. Use the drop-down menus at the top to filter by **Type** (*Bug*, *Feature*, *Task*) or by **Status** (*Open*, *Closed*).

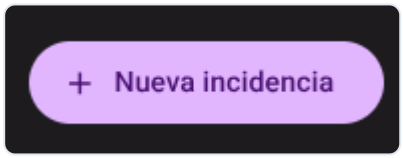
2. Enter the code in the **"Search by Issue #"** field to find a specific ticket and check the progress status of its review.



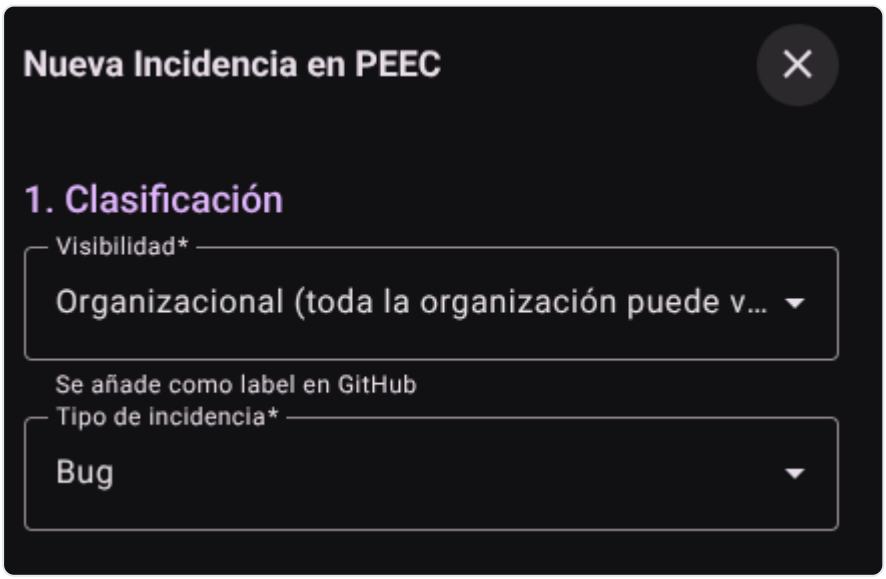


2. Register a New Incident

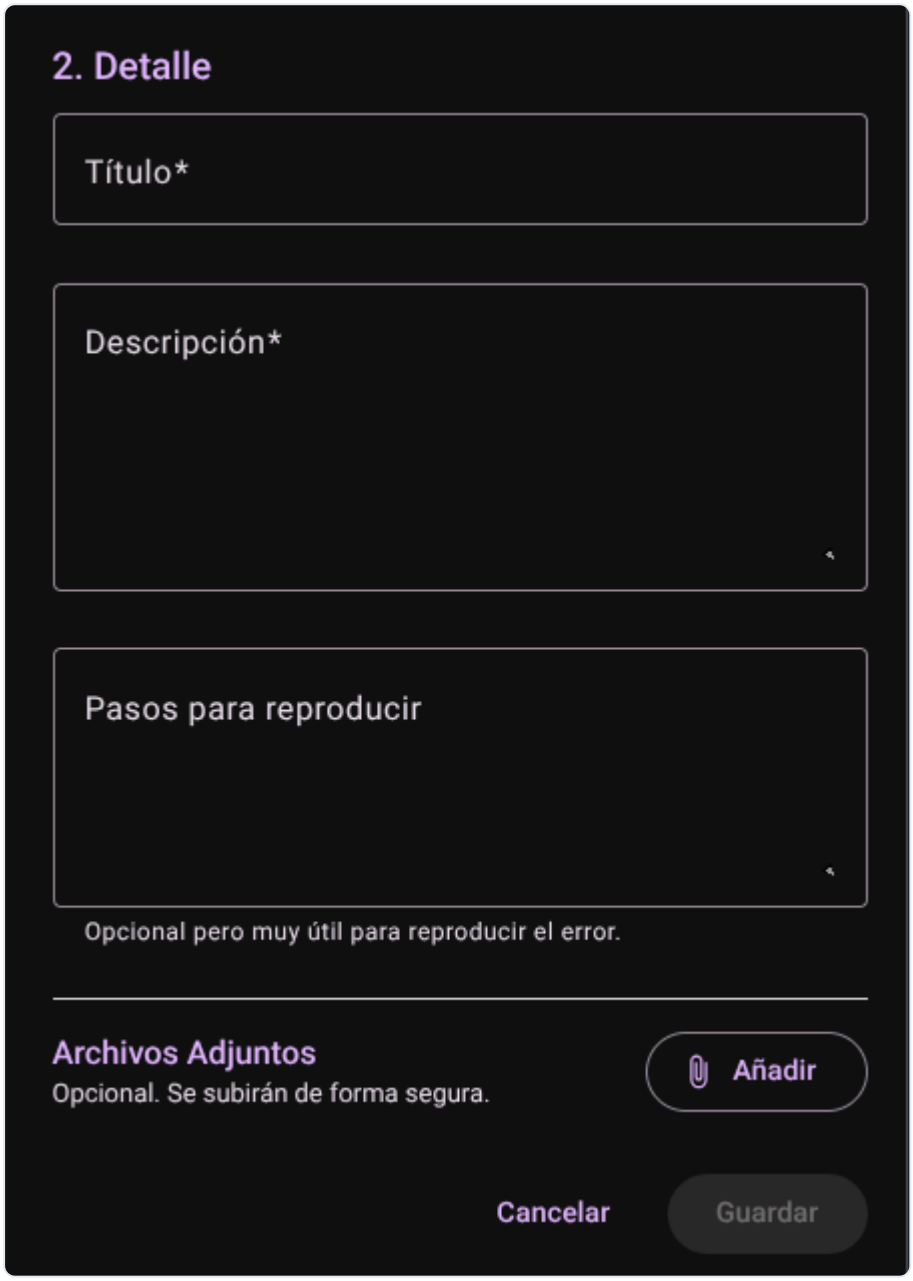
1. Click the *++New Incident"** button located in the upper right corner.



2. In the side panel that appears, define section **1. Rating**:
    - *Visibility:** Choose between *Organizational* (visible to the entire organization) or *Personal* (visible only by whoever creates it).
    - *Issue Type:** Select between *Bug*, *Feature* or *Task* (this option automatically assigns the corresponding tag in GitHub).



3. Complete section **2. Detail**:
    - *Title:** Briefly summarize the reason or failure (minimum 5 characters).
    - *Description:** Explains the case in detail (supports Markdown format).
    - **Steps to reproduce:** (Optional) Indicates the exact sequence to replicate the failure in the system.
    - **Attachments:** click the ****Add** button if you need to attach screenshots or supporting evidence.



4. Press the **"Save"** button to submit the report (or **"Cancel"** to close the panel without keeping the changes). When you click Save, the ticket is recorded in the list and automatically creates the corresponding task/issue on GitHub for the development team.

Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Data Mapping and Homologation

Description, Purpose and Objective

> **NOTE:** The **Data Mapping and Homologation** view (Mapper) is the integration engine designed to configure bidirectional file translation templates, allowing the organization to connect the reports generated by any analyzer or external laboratory computing system (LIS) without altering the platform's internal catalogs.
>
> The mapping and homologation process is divided into integrated phases:
>
> - **Input Mapping:** Defines which column of the imported file contains each data (e.g. Column 1 = Date, Column 2 = Test Code, Column 3 = Result). Allows you to apply **Cleaning** rules to remove unwanted characters (periods, spaces, letters).
> - **Homologation:** It is the translation or equivalence table of vocabularies (e.g. translating the code `"GLU"` from the file to the `"Glucosa"` measurand in the database).
> - **Output Mapping:** Defines the format and order in which a file exported by the system will be structured.
> - **Converter and Import Module:** Diagnostic tools to test translations and import the resulting results to quality control directly.
>
> The objective of this view is to automate the reception of external quality control data, eliminating manual typing and allowing flexible approval of multiple analytical codings centrally.

Context of Use

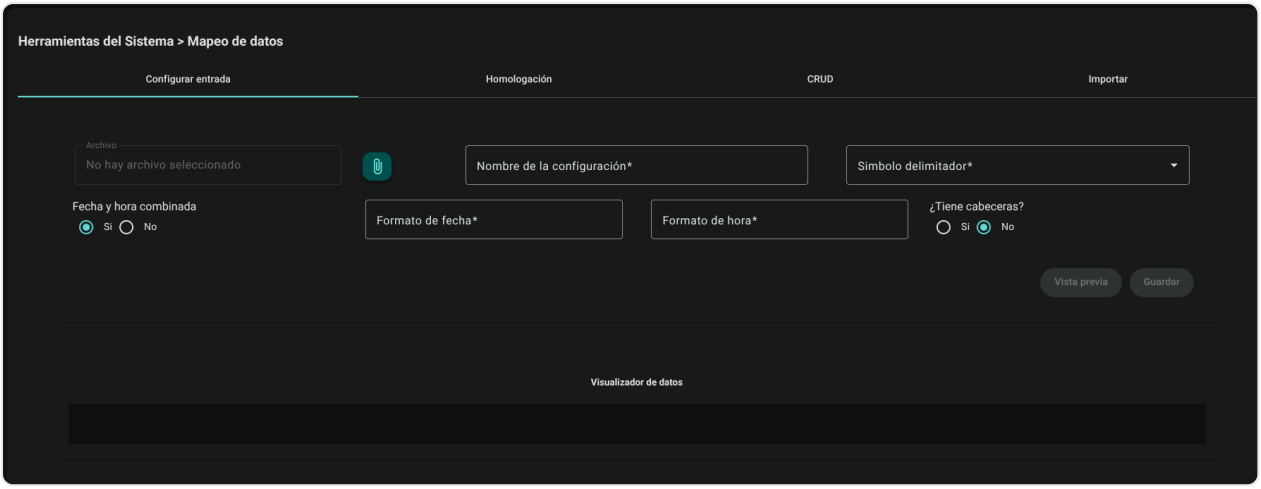
This panel is operated by systems engineers or quality assurance coordinators during:

- **Connection of Analyzers:** Interconnect an automated device that exports its results in a specific CSV file.
- **LIS Systems Integration:** Configure input mapping for the organization's laboratory software.
- **Standardization of Reports:** Generate files with specific structures required by the quality audits of the headquarters.

Possible Actions through your Tabs

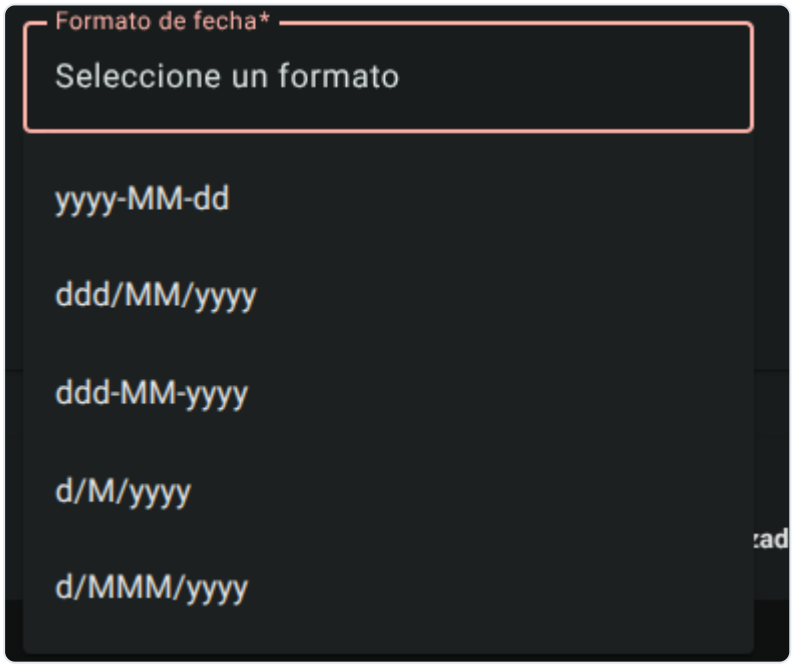
1. Configure Input (Tab)

Allows you to define how the uploaded results file will be read:



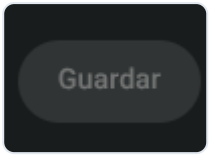
1. **Upload and Delimitation:** Upload a test file by clicking the paperclip icon 📎, define a name for the configuration and the file delimiter symbol (e.g. comma `,`, semicolon `;` or tab).

2. **Date and Time Format:** Type or select the temporary format of the file (e.g. `dd/MM/yyyy HH:mm:ss`).



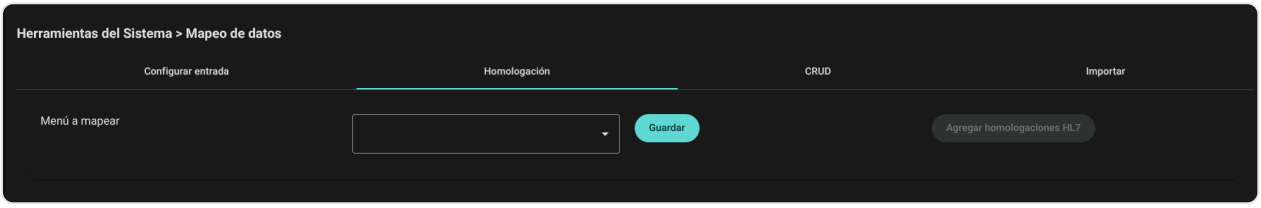
3. **View and Organize Data:**
   - Click **"Preview"** to open the file content viewer.
   - In the table below, associate each system field (e.g. *Result*, *Test*, *Instrument*) to the column number of the file.
   - **Character Cleaning:** If the file contains foreign characters attached to the number (e.g. `12.5 mg/dL`), set the discard positions (counting from the right) to extract only the clean number.

4. Click **"Save"**.

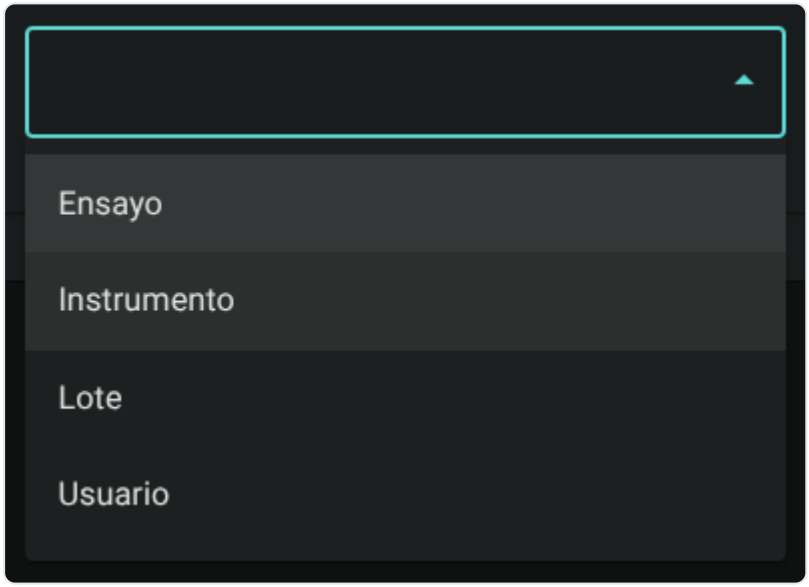


2. Homologation (Tab)

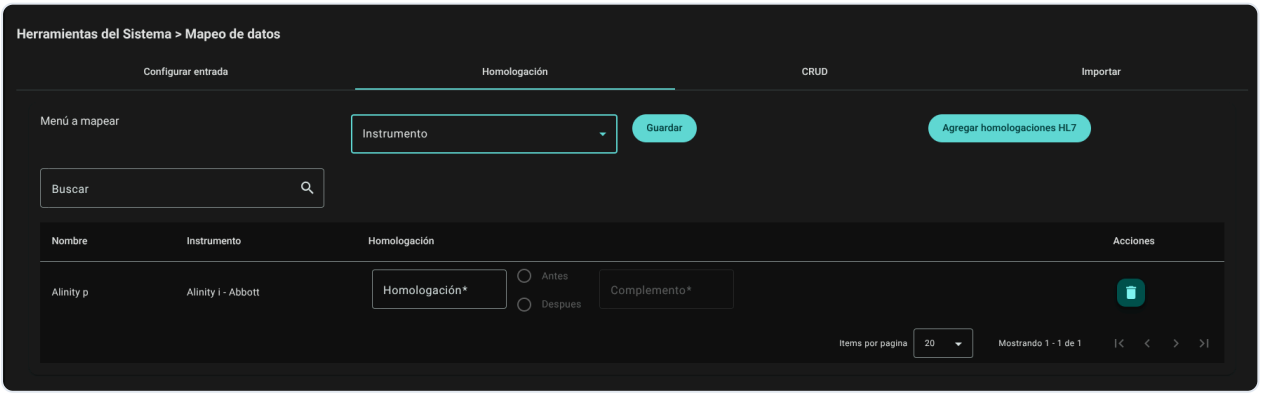
This section translates the terms in the uploaded file to the equivalents in the organization's master catalog:



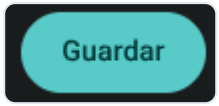
1. Select the mapping type at the top: **Per Assay**, **Per Instrument**, **Per Lot**, **Per Reagent Lot** or **Per User**.



2. The system will list the names found in the uploaded file below and a drop-down menu to the right to assign the approved element of the organization.



3. **Prefixes and Suffixes:** Optionally, configure a "plugin" to automatically add words before or after a mapped value (e.g. prepend a venue code).
4. Click **"Save"**.

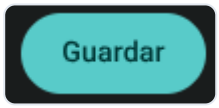


3. Configure Output (Tab)

Configure how the exported reports will be structured:

1. Define the name of the configuration, the output delimiter, and whether to include a header row.
2. Indicate whether you want to consolidate the date and time into a single column.
3. Map the columns in the desired order for the resulting CSV file.

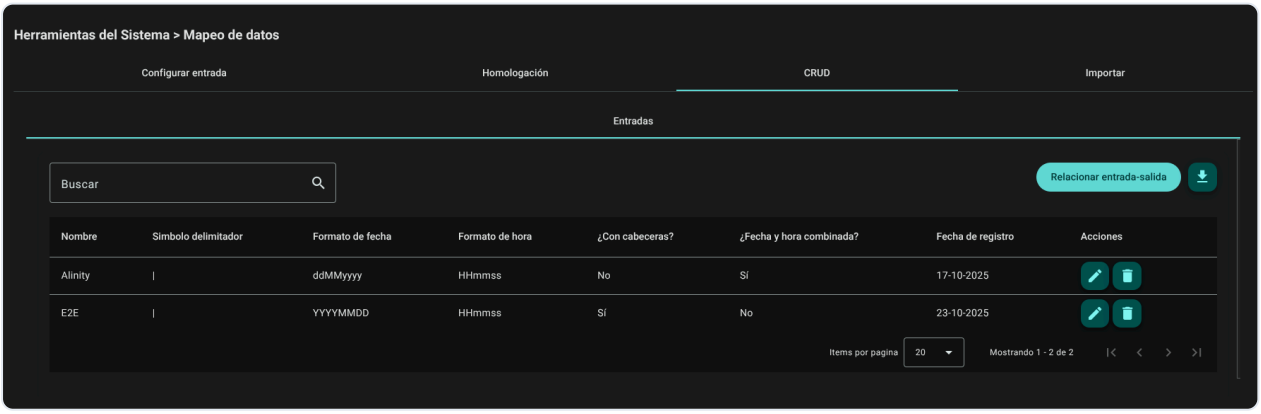
4. Click **"Save"**.



4. CRUD (Tab)

Allows you to manage the database of input and output mappings saved in the organization:

- Shows the list of configurations.
- Allows you to edit its properties or delete obsolete configurations directly.

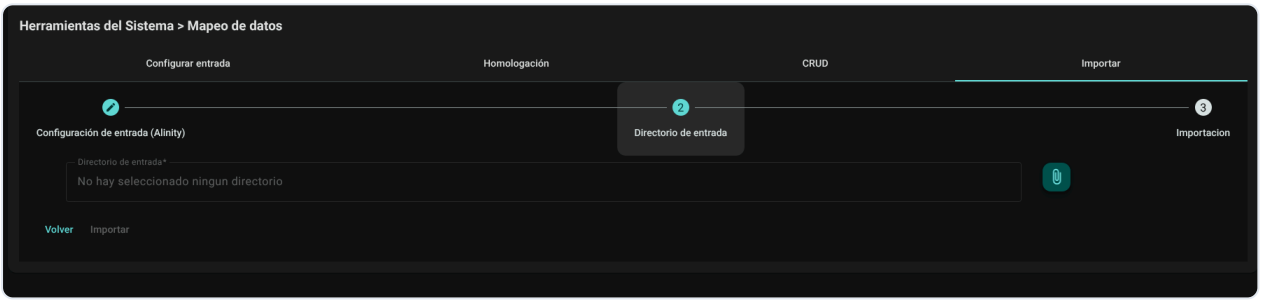


5. Import (Tab)

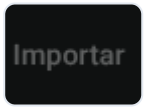
Once the mapping is configured and tested, this tab allows bulk input of the file results to the active database:

1. Select the corresponding entry and approval configuration.

2. Upload the team file.



3. Click **"Import"**. The system will process the file, validate the Westgard rules and upload the results to the logs corresponding to each CC Test.



Technical Recommendations for Interoperability and Data Validation (LIS / Middleware)

> **TIP: Guidelines for Automation of Analytical Interfaces:**
>
> - **Standardization of Units and Factors in Homologation:** When connecting an automated analyzer via flat file (CSV/ASTM), verify that the internal coding of the instrument matches the unit of the master catalog in Quattrol. If the analyzer outputs measurements in alternative units or unconverted indices, apply appropriate approval to avoid artificial biases.
> - **Validation of Sample Identifiers and Control Level:** Configure cleaning rules to discard control characters or alphanumeric rack prefixes that may prevent accurate assignment to Lot 1, Lot 2, or Lot 3 of the QC Test.

Required Technical Permits

Access to the integrator console requires:

- `data_mapping_setup_read` / `data_mapping_setup_create` / `data_mapping_setup_delete` (Tab Entry and CRUD).
- `data_mapping_homologation_read` / `data_mapping_homologation_create` (Homologation Tab).
- `data_mapping_output_read` / `data_mapping_output_create` (Configure Output Tab).
- `data_mapping_conversor_read`: (Converter Tab).
- `data_mapping_import_read` / `data_mapping_import_create`: (Import Tab).

New Quattrol365 Laboratory Migration

Description, Purpose and Objective

> **NOTE:** The **Quattrol365 New Laboratory Migration** console is an administrative tool designed to restructure, standardize and securely transfer the entire configuration and analytical history of a laboratory from the previous architecture (version 1) to the new optimized database model (version 2) on the Quattrol platform.
>
> The purpose of this module is to allow a transparent transition for the end user without loss of information, offering a controlled environment to simulate data transfer and validate the integrity and logical mappings (tests, measurands, methods, instruments, batches, calibrations and historical results) before consolidating the changes in the production environment.

Context of Use

This panel is operated exclusively by authorized system administrators, IT support personnel, or quality managers during the client upgrade process. It is used when:

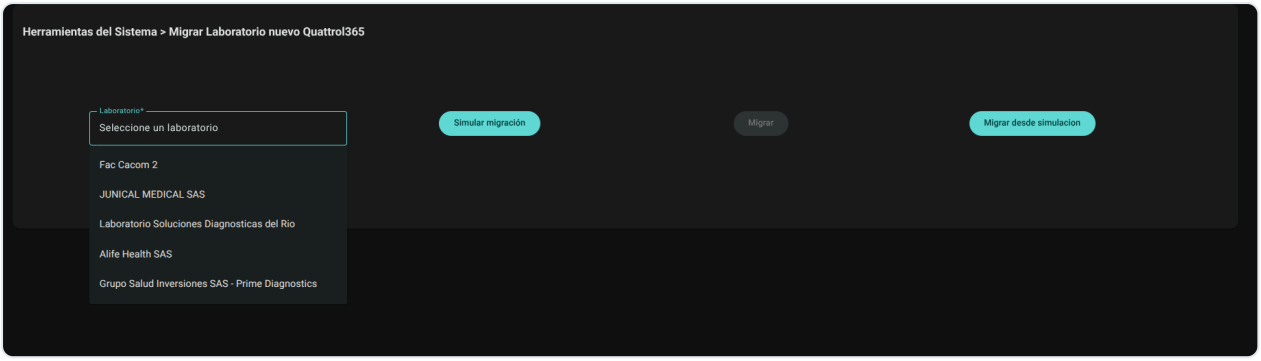
- Migrating a lab whose Quattrol membership version is registered to the old model (`version: 'v1'`) is required.
- A preventive audit of analytical data through technical simulations is needed to mitigate database inconsistencies before an update deployment.

Step by Step for Migration

To safely transfer laboratory data, follow the following operating instructions:

1. Select the Laboratory to Migrate

1. Go to the **Quattrol365 New Laboratory Migration** module screen.
2. Locate the **Laboratory*** text field and drop-down list.
3. Type the name of the laboratory or select it directly from the autocomplete list.
    - *Note:* The list will automatically filter only organizations that have their Quattrol membership configured in the previous version (`v1`).



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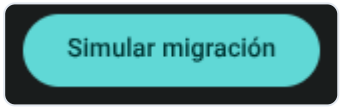
2. Choose and Execute the Migration Mode

Depending on the level of validation required in the procedure, click one of the available action buttons:

Option A: Simulate migration

This action performs a test or technical simulation of the complete transfer of information without altering the production operation of the laboratory.

1. With the lab selected, click the **Simulate Migration** button.



2. The system will begin the extraction of assays, measurands, methods, instruments, reagent lots, calibrations, averages and analytical results.
3. The simulated data will be temporarily stored in a sandbox (`/migration/[ID-Organización]`).
4. Wait for the notification to appear on the screen: **"The simulation has completed successfully."**

Option B: Migrate from simulation

Use this two-step flow after verifying that the presimulation process completed without integrity errors.

1. With the lab selected and having successfully run the previous simulation, click **Migrate from simulation**.

2. The database engine will take as a source the isolated backup generated in the simulation and inject it directly into the final productive collections.
3. Upon completion, the organization membership will be automatically updated to the new version (`v2`).
4. Check the confirmation: **"The migration has completed successfully."**

Option C: Migrate

This action executes the migration directly, immediately and definitively towards the new model.

1. Make sure the selected lab is not currently operating critical transactions.
2. Click the **Migrate** button.
3. The system will extract and transform historical records in real time, writing them in direct block to the new database architecture.
4. Wait for the console to process all batches of data and display the notification: **"The migration has completed successfully."**

Roles and Permissions Required

To access and interact with this advanced administration module, the user must have a **IT Support** or **Super Administrator** role and have the following specific permissions active:

- **Access and display:** `data_migration_read` (for general restructuring consoles) or `migrate_lab_new_model_read` (for updating laboratories to v2).
- **Write and execute operations:** `data_migration_create` / `data_migration_update` or `migrate_lab_new_model_create` / `migrate_lab_new_model_update` that allow scripts to be launched on the production database.

Template Management

Description, Purpose and Objective

> **NOTE:** The **Template Management** view is the system tool designed to centralize, design and manage the communication formats and documents automatically sent to users (such as welcome emails, news notifications and system alerts).
>
> A **Template** is a predefined design that structures the content of a communication. It supports HTML (**innerHtml**) formatting to structure and style the design, and can include dynamic variables or parameters that the platform auto-populates with organization or user data upon submission.
>
> The goal of this view is to allow administrators to maintain consistency in the design and content of all automated communications on the platform.

Context of Use

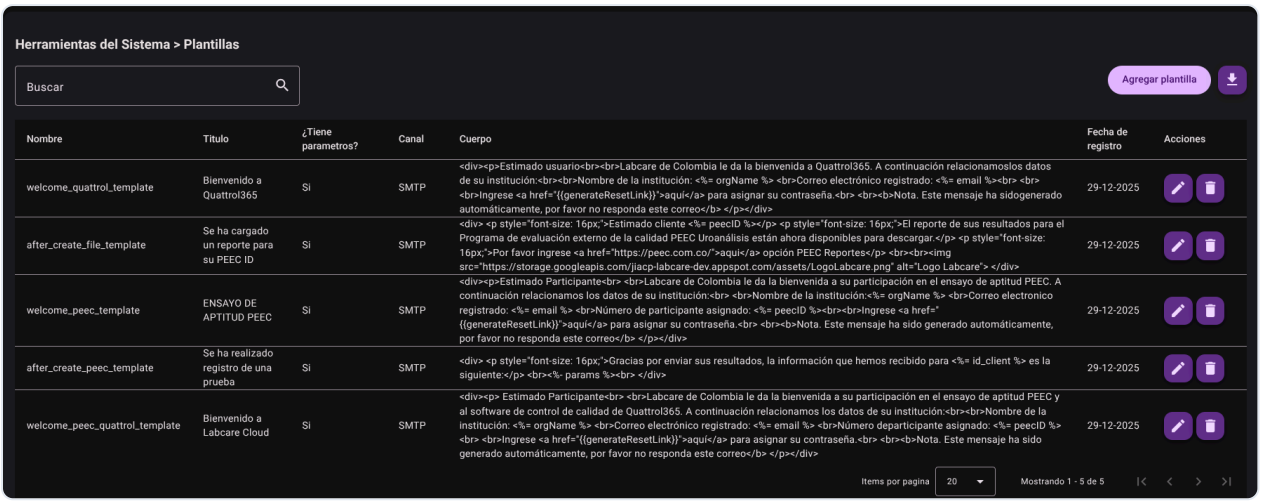
This module is used by Product Managers to:

- **Configure automatic notifications:** Design the system's official emails (for example, the confirmation email for entering quality control results or the notification email for a new judicial action).
- **Parameterize dynamic content:** Define fixed texts combined with variables that adapt in real time to each organization or user.
- **Validate visual rendering:** Use the real-time viewer to verify that the HTML code is displayed correctly before publishing or activating the template in production.

Possible Actions

1. View and List Templates

It allows administrators to consult the complete list of formats saved in the database through a table that details the name of the template, the title that users will see, the associated communication channel, the body of the template and the entry date.

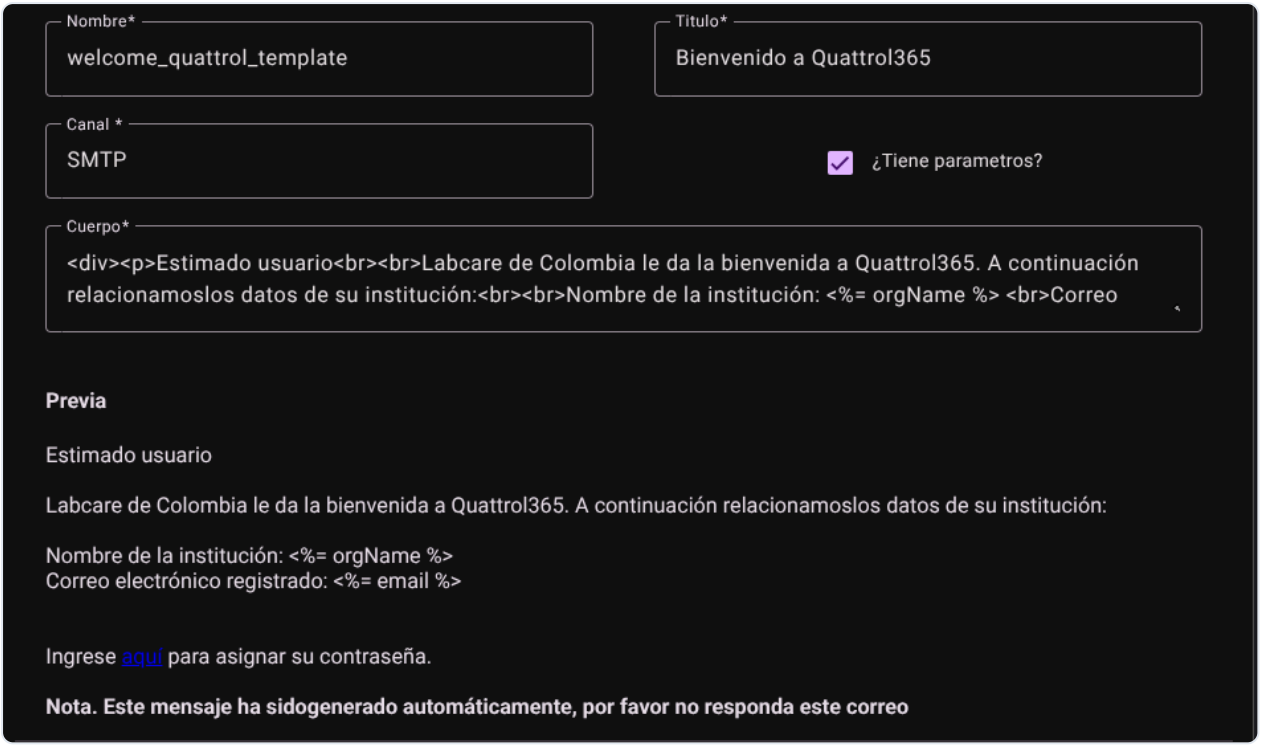


2. Add a New Template

To design and incorporate a new template into the system:

1. Click the **"Add Template"** button at the top right of the table.

2. Fill out the form with the required fields:
    - **Name:** Internal administrative name to identify the file (e.g. `email_bienvenida_usuario`).
    - **Title:** Subject of the email or header of the message that the end user will receive (e.g. `Bienvenido a la Plataforma`).
    - **Channel:** Communication medium through which the message will be sent (e.g. `Email`, `SMS`, `Notificación Interna`).
    - **Does it have parameters?:** Check this box if the template will use structured dynamic variables.
    - **Body (innerHtml):** Enter the template content written in HTML code to configure the styles, tables and images.
    - **Display Preview:** At the bottom of the HTML editor, check the real-time preview section to check the layout of the elements.

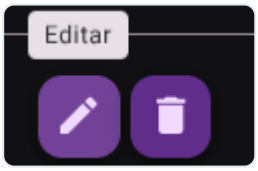


3. Click **"Add"** to register the template.

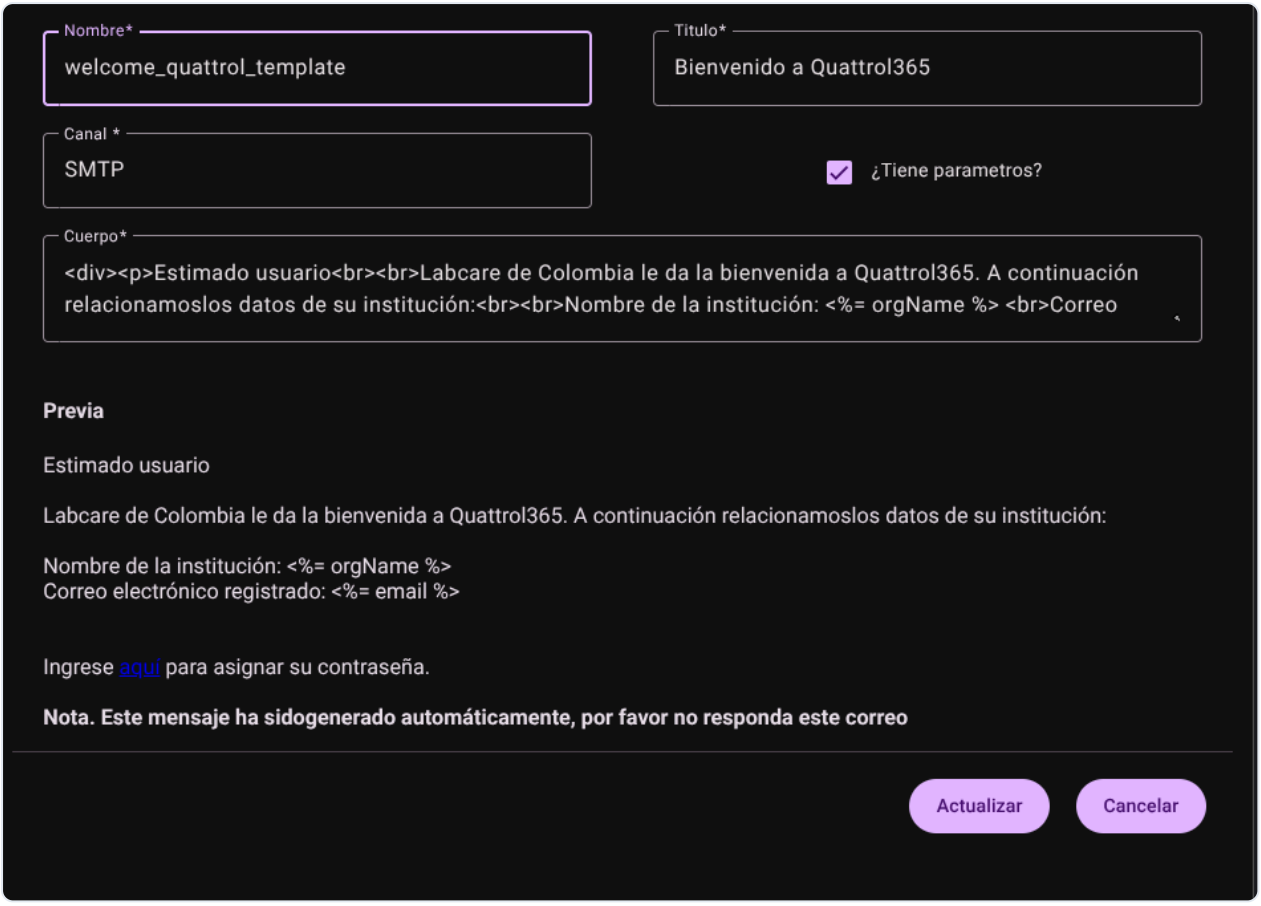
3. Edit a Template

To modify the layout or subject of a saved template:

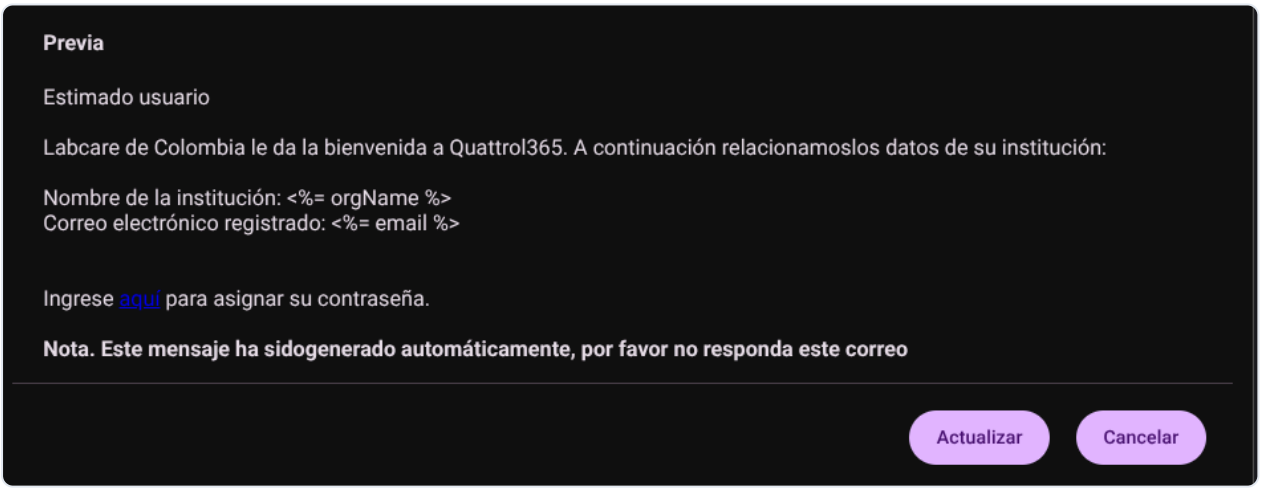
1. Find the corresponding record and click **"Edit"** (pencil icon ✏️).



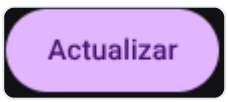
2. The code and fields editor will load with the existing information. Make any desired modifications to the HTML code, parameters, or title.



3. Use the interactive preview to validate your changes.



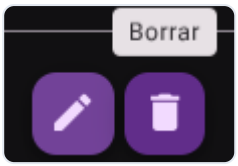
4. Click **"Update"** to apply the changes immediately to system notifications.



4. Delete a Template

To permanently delete a template:

1. Click the trash icon ( ) of the record in the table.

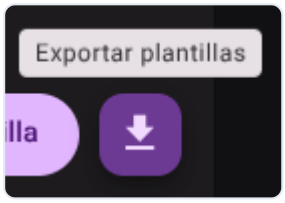


2. confirm the action in the popup modal.

> **CAUTION:** Deleting a template is irreversible. The system will restrict deletion if the template is actively assigned to automated shipping flows configured in other menus.

5. Export Templates

Allows administrators to download the list of templates in **.CSV** format to perform external audits of channels and formats enabled on the platform.



Required Technical Permits

Access to this module requires that the administrator role has the following authorizations:

- `templates_read` or `templates_list`: Allows you to list and consult the template catalog in the table.
- `templates_create`: Enable the editor and the button to register new formats.
- `templates_update`: Grants access to modify the HTML code and fields of existing templates.
- `templates_delete`: Authorizes the definitive deletion of templates from the system.
- `templates_export`: Enables export of templates in data format.

Repair Scripts Console

Description, Purpose and Objective

> **NOTE:** The **Script Console** is an advanced level maintenance and support tool within the ERP, designed for the controlled execution of routines and programmed commands that operate directly on the organization's databases in real time.
>
> A **Repair Script** (or Maintenance Script) is a previously compiled and tested code routine that performs tasks of mass data correction, index restructuring, recalculation of historical accumulations or forced activation of services that cannot be performed through standard user interfaces.
>
> The goal of this view is to provide the development support team and super administrators with a unified console to perform immediate technical repairs and deployments without the need for service outages or application updates.

Context of Use

This advanced dashboard is restricted exclusively to Senior Support Engineers and Super Administrators to:

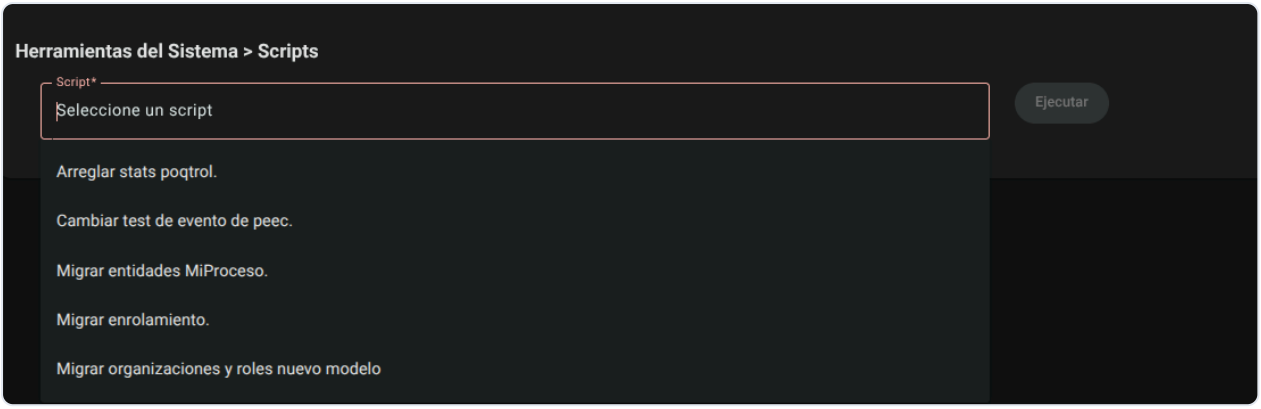
- **Fix massive inconsistencies:** Repair damaged or orphaned records generated by random network failures.
- **Recalculate reports:** Force manual recalculation of metrics on historical quality events.
- **Hot Updates:** Run database patches directly from the administration web frontend securely.

Possible Actions

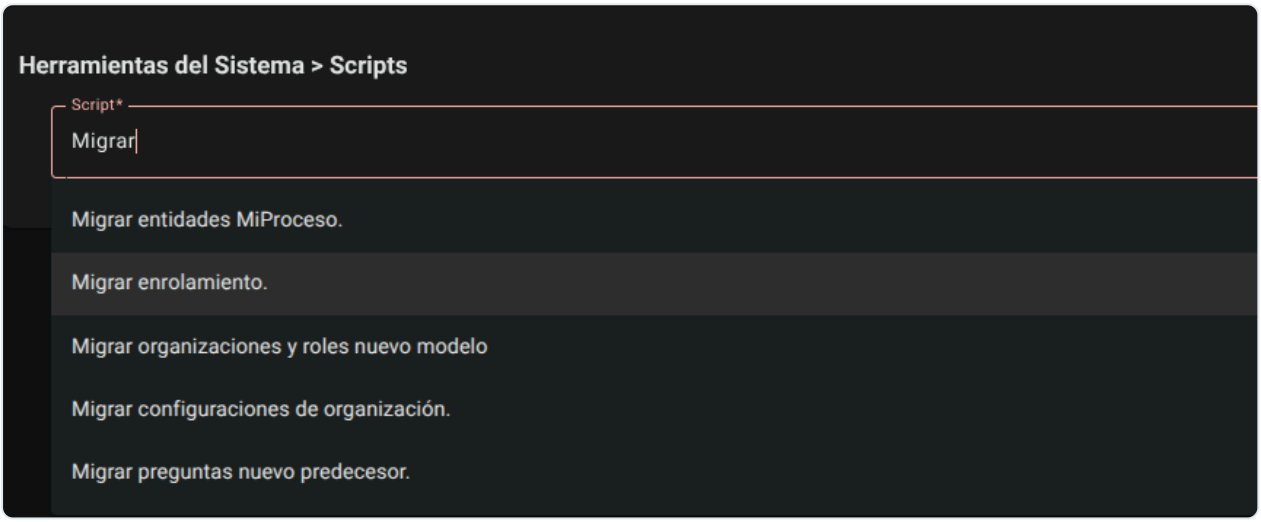
1. Select a Script from the Gallery

The system has a catalog of predefined scripts.

1. Click the **Script** field.



2. Type keywords for the script you want to run or view the autocomplete list.

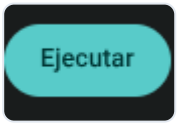


3. Select the required script.

2. Run Maintenance Script

Once the script is selected:

1. Click the **"Run"** button.



2. The button will change to a loading spinner while the code routine runs on the database server.
3. Upon completion, the system will display a pop-up notification message confirming the success of the operation or detailing the modified records.

> **CAUTION:** Running database scripts hot is a high risk operation. Make sure you make a backup and have validated the script in test environments before proceeding with its execution in production.

Roles and Permissions Required

To access and interact with this advanced administration module, the user must have a **IT Support** or **Super Administrator** role and have the following specific permissions active:

- **Access and display:** `data_migration_read` (for general restructuring consoles) or `migrate_lab_new_model_read` (for updating laboratories to v2).
- **Write and run operations:** `data_migration_create` / `data_migration_update` or `migrate_lab_new_model_create` / `migrate_lab_new_model_update` that allow scripts to be launched on the production database.

Partnership and Alliance Management (CMS)

Description, Purpose and Objective

> **NOTE:** The **Associations and Alliances** view in the CMS is the module in charge of managing the catalog of agreements, strategic allies and linked brands that are displayed on the platform's public portal.
>
> An **Association** is an institutional record composed of the name of the ally, descriptive title, official logo, summary of the alliance and link to its website or information page.
>
> The objective of this module is to provide visibility to the organization's institutional and commercial alliances in a dynamic and centralized way.

Context of Use

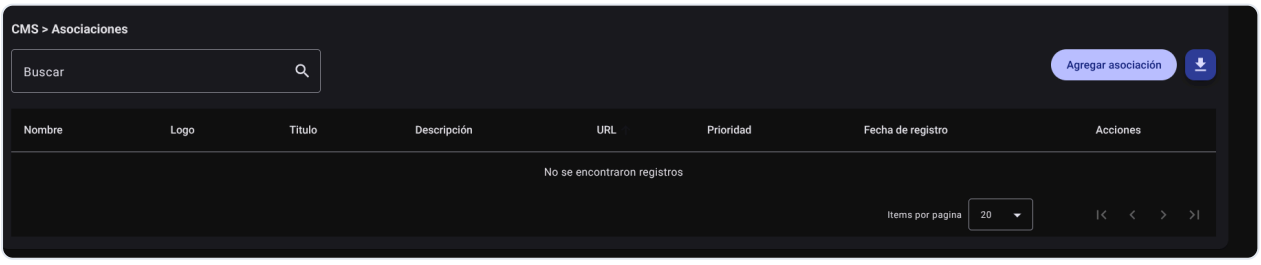
This module is used by:

- **Content and Marketing Administrators:** To publish new agreements, update institutional logos or adjust the official links of allies.
- **System Administrators:** To enable or disable associations in the institutional portal.

Possible Actions

1. Consult the Catalog of Associations

1. In the main table, display the list of registered associations.
2. Use the **"Search"** search field to filter by ally name, title, or description.
3. Sort the table columns (Name, Title, State) as necessary.

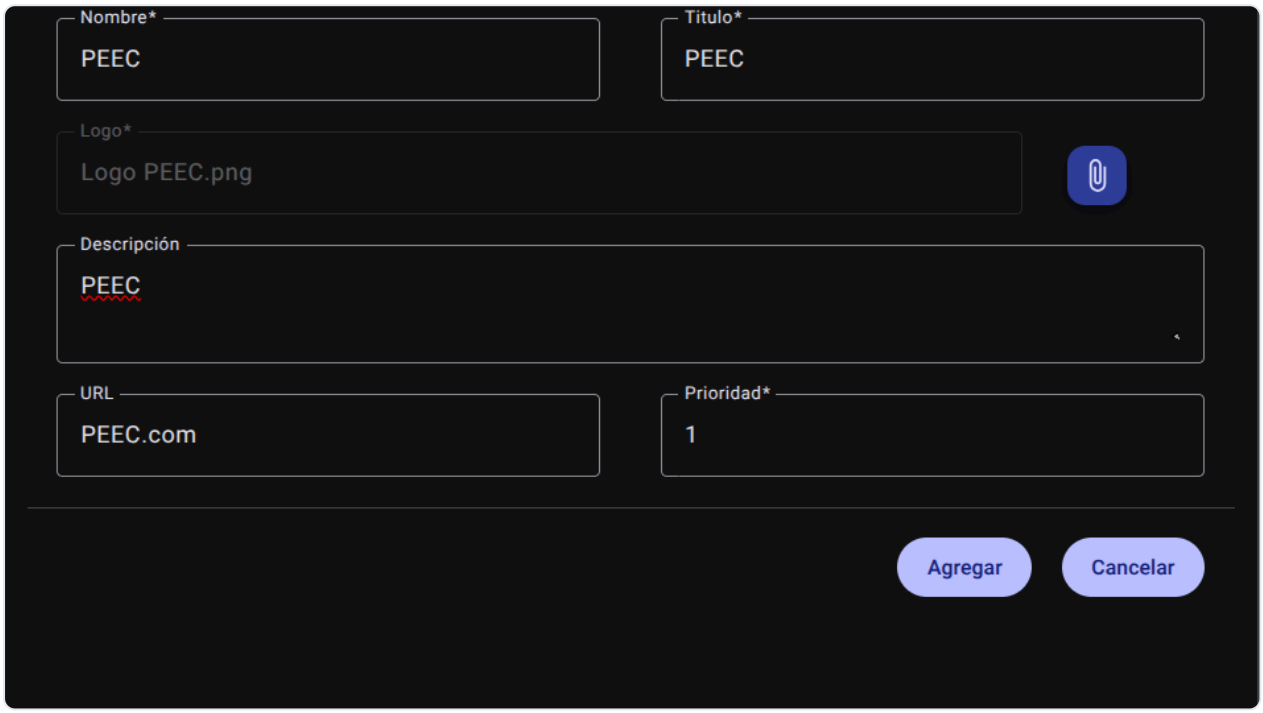


2. Register a New Association

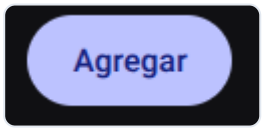
1. Click the **"Add Association"** button.

2. Complete the data in the drop-down side form:

    - **Name of Ally:** Commercial or institutional identifier of the entity.
    - **Title:** Slogan or short title of the alliance.
    - **Logo (URL / File):** Direct link or upload of the official logo.
    - **Description:** Brief summary of the benefits or scope of the agreement.
    - **Destination URL:** Official website link of the ally.
    - **Status:** Active/Inactive.



3. Click **"Add"**.



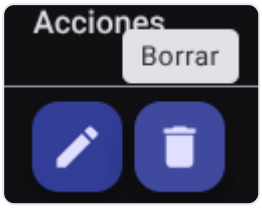
3. Edit or Delete an Association

1. Locate the association in the table and click the edit button (pencil icon✏️) in the actions column.

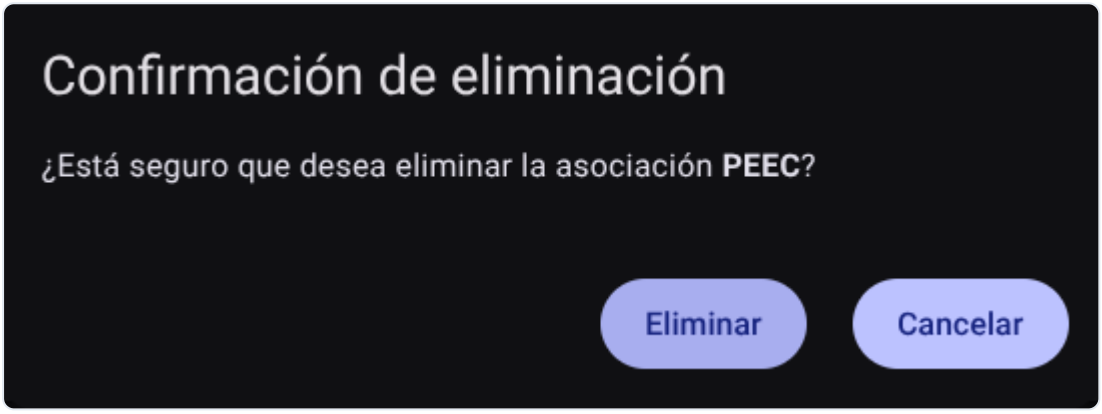
2. Modify the desired fields and save the changes to the **Save** button.

4. Delete an Association

1. To unsubscribe from an alliance, use the delete button (trash can icon) in the actions column.

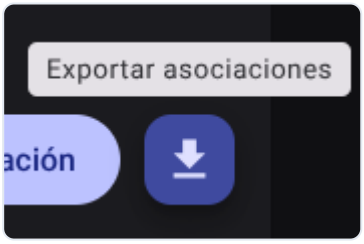


2. confirm the action.



5. Export the Association Catalog

1. Click on the button with the download icon (**Export associations**), a file in Excel/CSV format will be generated and downloaded with the complete list of registered agreements.



Required Technical Permits

- `partnership_read` : Allows you to view the list of associations and alliances.
- `partnership_create` : Authorizes the registration of new alliances in the CMS.
- `partnership_update` : Enables updating logos, links and descriptions.
- `partnership_delete` : Allows you to remove or inactivate agreements from the catalog.
- `partnership_export` : Allows you to download the massive association report.

Consumer Management (CMS)

Description, Purpose and Objective

> **NOTE:** The **Consumers** view in the CMS is the module in charge of managing the list of notable clients, success stories and institutional testimonials that are displayed on the public portal (*landing page*) of the platform.
>
> A **Consumer** is a record that represents an entity or corporate user that is a client of the platform, and includes its name, official logo, representative title, description of the impact or testimonial, web link and order of display priority.
>
> The objective of this module is to manage the elements of social proof and institutional credibility shown to visitors to the web portal.

Context of Use

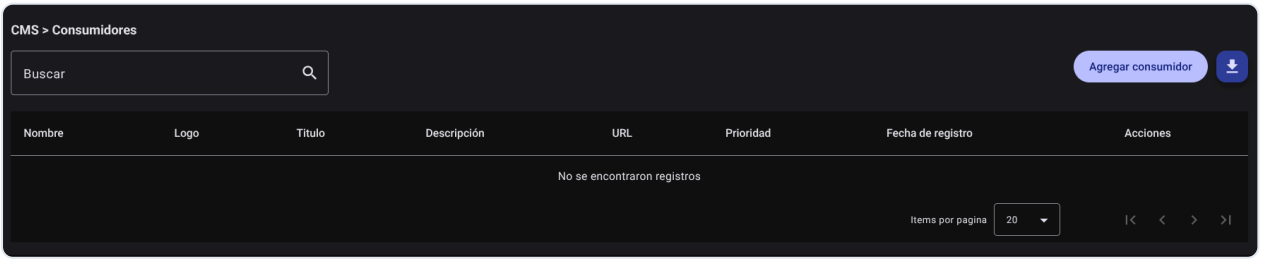
This module is used by:

- **Content and Marketing Administrators:** To publish new logos of corporate clients, update usage testimonials and define the order of visual relevance of success stories.
- **System Administrators:** To keep the list of platform clients updated.

Possible Actions

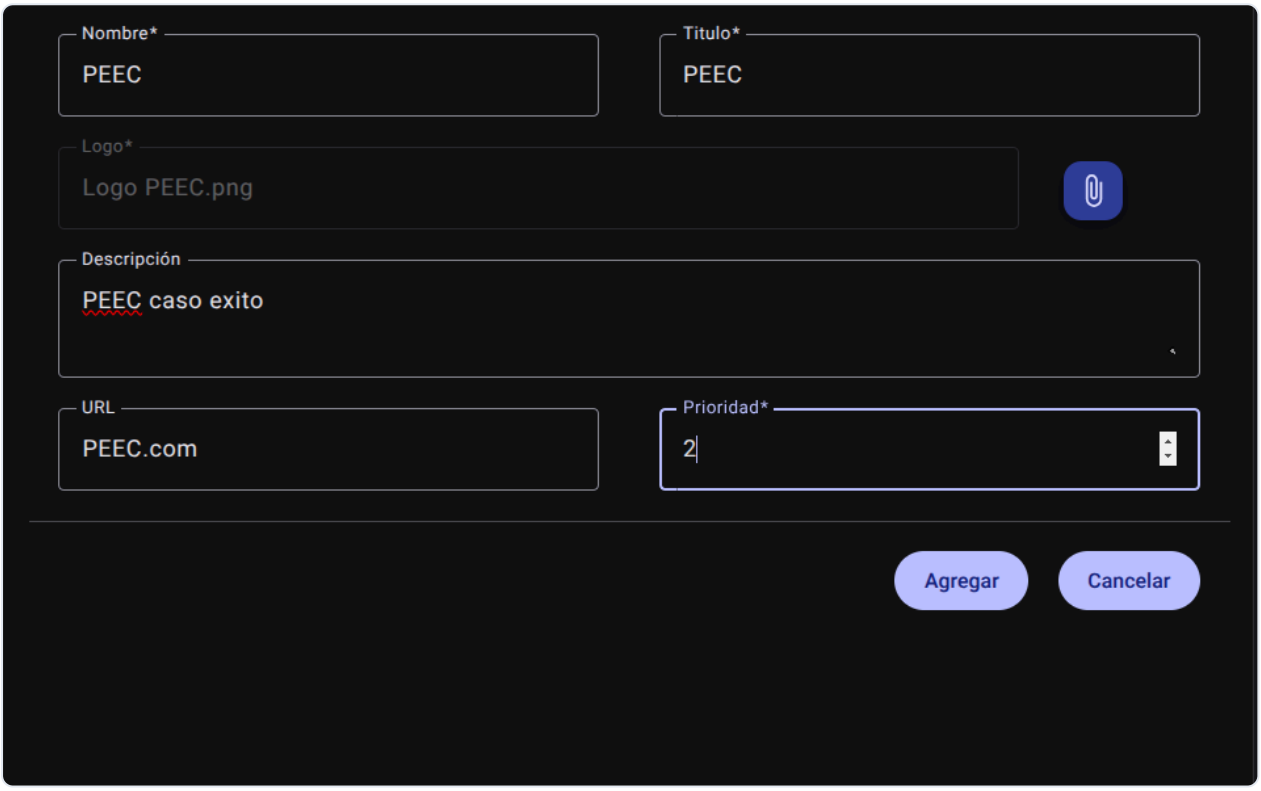
1. Consult the List of Consumers and Clients

1. In the main table, see the registered customers with the columns: Name, Logo, Title, Description, URL, Priority, Registration Date and Actions.
2. Use the **"Search"** field to filter the listing by customer name, title, or description.
3. Click the column headings to sort alphabetically or by priority.

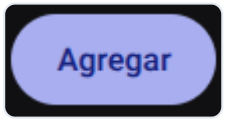


2. Register a New Consumer or Client

1. Click the **"Add Consumer"** button.
2. Fill in the requested information on the side panel:
    - **Name:** Company name or commercial name of the client.
    - **Title:** Descriptive heading or title of the reference.
    - **Logo (URL / File):** Official logo link or upload.
    - **Description:** Customer testimonial or success story.
    - **Link:** Official client web link (optional).
    - **Priority:** Integer number that defines the order of appearance on the public front page.

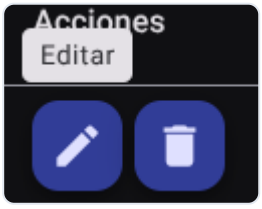


3. Click **"Add"**.

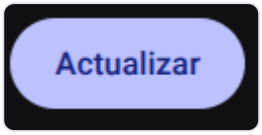


3. Edit or Delete a customer

1. Locate the consumer in the table and click the edit button (pencil icon✏️) in the actions column.

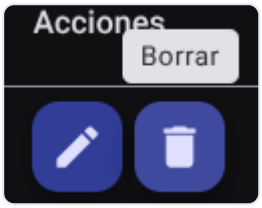


2. Modify the desired fields and save the changes to the **Save** button.



4. Delete a consumer

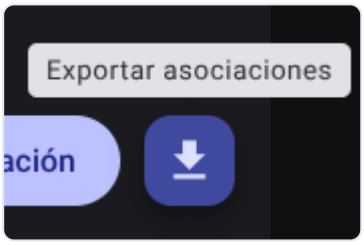
1. To unsubscribe a consumer, use the delete button (trash can icon) in the actions column.



2. confirm the action.

5. Export the Consumer Catalog

1. Click the download button (**Export Consumers**). A CSV/Excel file will be generated and downloaded with the complete list of clients and parameterized testimonials.



Required Technical Permits

- `consumer_read` : Allows you to view the catalog of registered consumers and clients.
- `consumer_create` : Authorizes the registration of new customer testimonials and logos.
- `consumer_update` : Enables editing of data, logos and appearance priorities.
- `consumer_delete` : Allows the removal of clients from the catalog.
- `consumer_export` : Allows the download of the consumer report.

Frequently Asked Questions and Help Center (CMS)

Description, Purpose and Objective

> **NOTE:** The **Frequently Asked Questions (FAQs)** view in the CMS is the manageable module designed to parameterize the common questions, quick guides and official answers presented in the support section of the public portal.
>
> A **Frequently Asked Questions (FAQ)** consists of a category or topic name, an identifying icon (Material Icons), the question asked by the user, the official response written by the organization and the priority level for its ordering on the screen.
>
> The objective of this module is to provide self-service information to end users, reducing the volume of repetitive requests to the help desk.

Context of Use

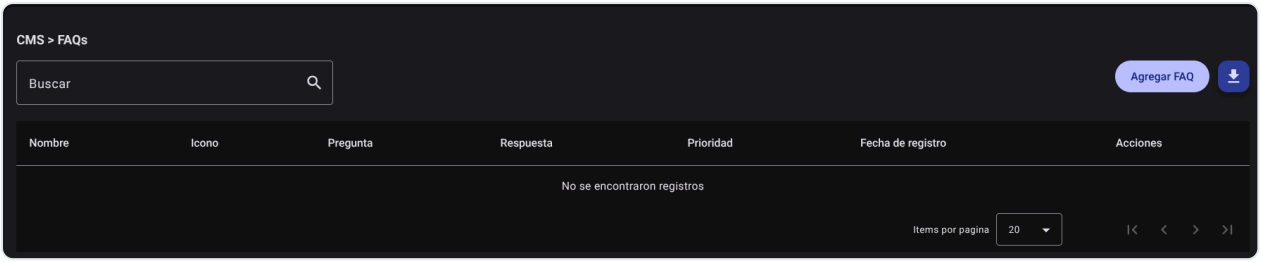
This module is used by:

- **Technical Support and Customer Service Agents:** To document responses to recurring questions raised by users.
- **Content and Communication Managers:** To structure and prioritize the most relevant help topics according to the season or product update.

Possible Actions

1. Consult the List of Frequently Asked Questions

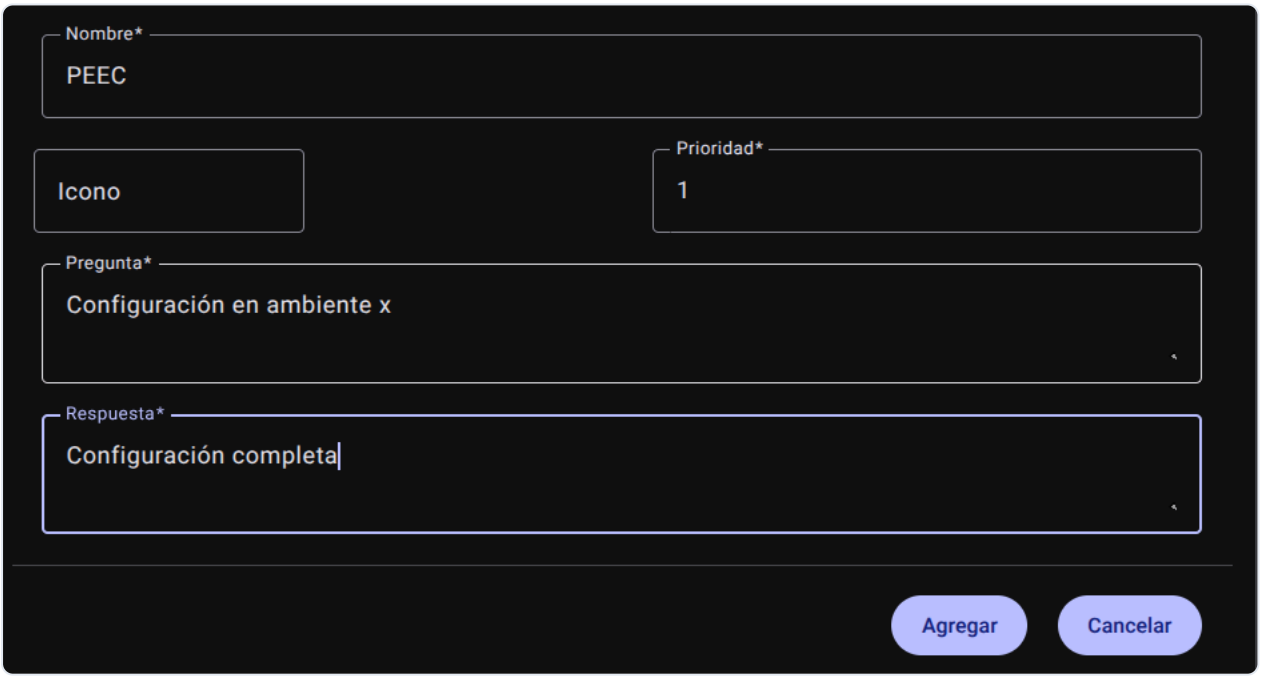
1. In the main FAQs table, view the records stored with the columns: Name (Category), Icon, Question, Answer, Priority, Record Date and Actions.
2. Use the **"Search"** field to filter questions or answers by keywords.
3. Sort columns by topic or display priority.



2. Register a New FAQ

1. Click the **"Add FAQ"** button.

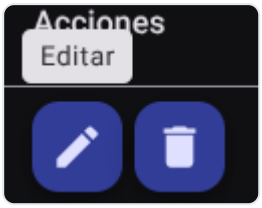
2. Complete the information requested in the form on the side panel:
    - **Name:** Topic or category to which the question belongs (e.g. Account, Payments, Technical Support).
    - **Icon:** Name of the Material Icons icon to visually accompany the category.
    - **Question:** Clear and concise formulation of the user's concern.
    - **Answer:** Detailed explanation and step by step solution.
    - **Priority:** Numeric value to define the order in the portal drop-down list.



3. Click **"Add"**.

3. Edit an FAQ

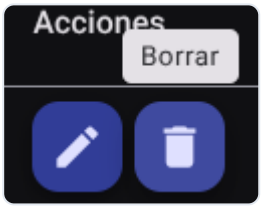
1.Locate the FAQ in the table and click the edit button (pencil icon✏️) in the actions column.



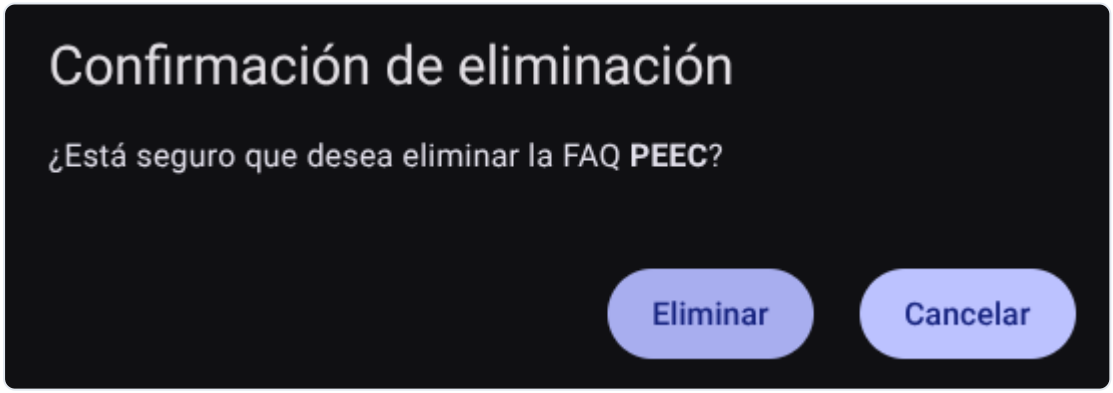
2. Modify the desired fields and save the changes to the **Save** button.

4. Delete an FAQ

1. To unsubscribe from an FAQ, use the delete button (trash can icon🗑️) in the actions column.

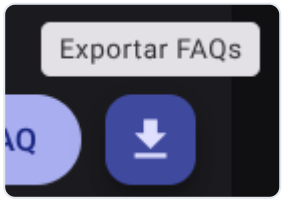


2. confirm the action.



5. Export the FAQ Registry

1. Click the **Export FAQs** button (download icon). A CSV/Excel file will be generated and downloaded with all the questions and answers configured.



Required Technical Permits

- `faq_read` : Allows you to consult the frequently asked questions catalog.
- `faq_create` : Authorizes the registration of new FAQs.
- `faq_update` : Enables editing of questions, answers, icons and priorities.
- `faq_delete` : Allows the removal of FAQs from the portal.
- `faq_export` : Allows downloading of the complete FAQ report.

Communication and Contact Channels (CMS)

Description, Purpose and Objective

> **NOTE:** The **Contact Information** view in the CMS is the module where the customer service channels, institutional telephone numbers, WhatsApp links, physical addresses and support emails displayed on the public front page are managed.
>
> A **Contact Channel** defines the name of the channel, descriptive title, representative icon (Material Icons), type of contact (e.g. Telephone, Email, WhatsApp, Location), descriptive text or value of the contact data, direct web link (URL) and sorting priority.
>
> The objective of this module is to offer visitors to the public portal immediate and updated means of communication with the company's support, sales and administration staff.

Context of Use

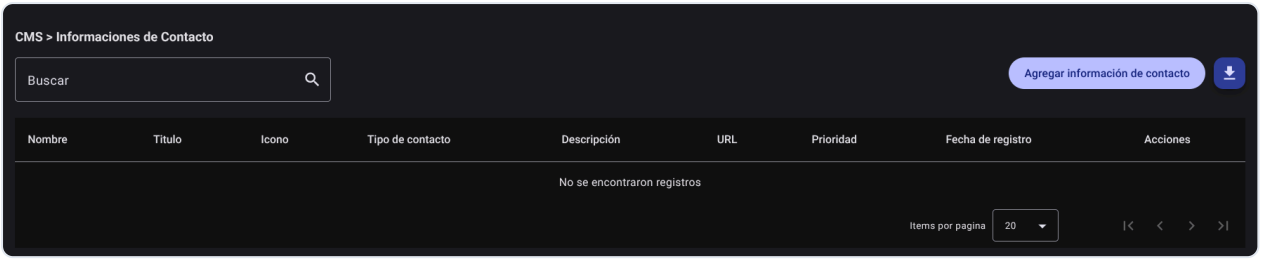
This module is used by:

- **Operations and Customer Service Administrators:** To update phone lines, support chat links or institutional emails.
- **System Administrators:** To enable or suspend service channels according to operational availability.

Possible Actions

1. Consult the List of Contact Channels

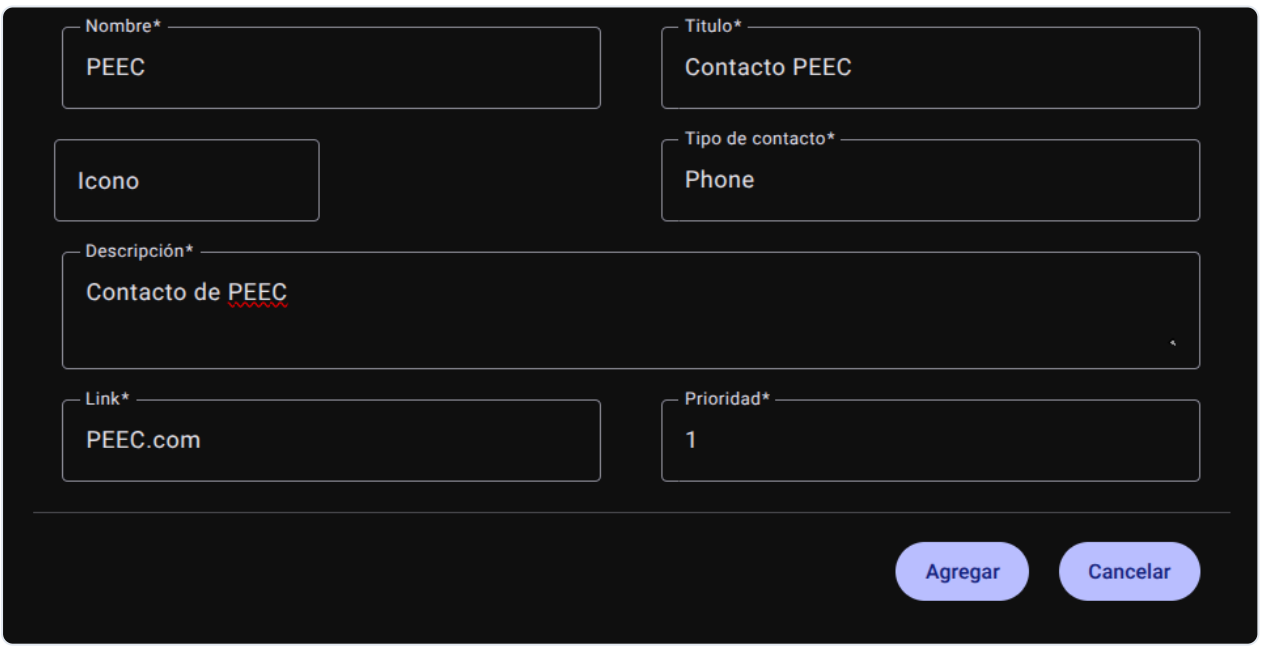
1. In the main administration table, display the contact channels with the columns: Name, Title, Icon, Contact Type, Description, URL, Priority, Registration Date and Actions.
2. Use the **"Search"** field to filter channels by type (e.g. WhatsApp, Email), name or description.
3. Sort the rows according to the level of attention priority.



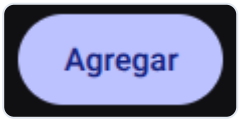
2. Register a New Contact Channel

1. Click the **"Add Contact Information"** button.

2. Fill out the required fields on the side panel form:
    - **Name:** Channel identifier (e.g. WhatsApp Attention, Support Email, National Line).
    - **Title:** Explanatory header of the channel.
    - **Icon:** Name of the icon from the Material Icons library (e.g. `phone`, `email`, `whatsapp`).
    - **Type of contact:** Classification of the communication channel (Phone, Email, Social Network, Location).
    - **Description:** Telephone number, email address or informative text of the channel.
    - **URL:** Direct action link (e.g. `https://wa.me/...` or `mailto:...`).
    - **Priority:** Integer to determine the position of the channel in the footer or contact section.

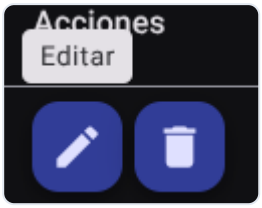


3. Save the record by clicking **"Save"**.



3. Edit a Contact Channel

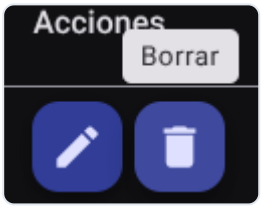
1. Locate the channel in the table and click the edit button (pencil icon✏️) in the actions column.



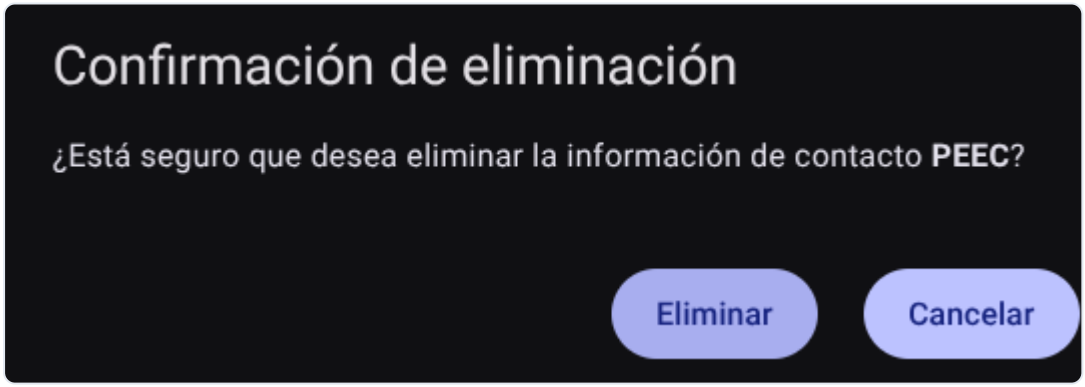
2. Modify the desired fields and save the changes to the **Save** button.

4. Delete a Contact Channel

1. To delete a caal, use the delete button (trash can icon🗑️) in the actions column.

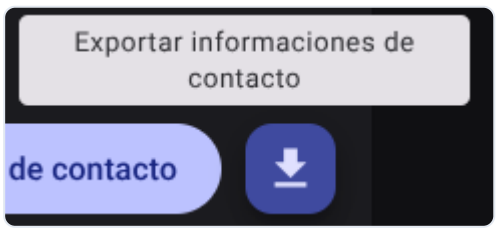


2. confirm the action.



5. Export the Contact Channel Catalog

1. Click the **Export contact information** button (download icon). You will obtain a report in CSV/Excel format with the complete inventory of configured contact channels.



Required Technical Permits

- `contact_info_read` : Allows you to consult the configured contact channels.
- `contact_info_create` : Authorizes the addition of new service channels on the platform.
- `contact_info_update` : Enable updating phone data, emails, icons and priorities.
- `contact_info_delete` : Allows you to unpublish or delete contact channels.
- `contact_info_export` : Allows downloading of the complete contact information report.

Institutional Information (About Us)

Description, Purpose and Objective

> **NOTE:** The **About Us** view in the CMS is the administrative module in charge of managing the main institutional content that is displayed on the public landing page (*landing page*) of the platform.
>
> The **About Us** section defines the organizational identity through a representative name, a title or main slogan, an institutional descriptive text and an external link to additional corporate resources.
>
> The objective of this module is to allow an agile and centralized update of the official presentation of the company without requiring modifications to the source code.

Context of Use

This module is used by:

- **Content and Communication Managers:** To update the value proposition, institutional mission or general description of the organization.
- **System Administrators:** To adjust the official corporate links presented on the public front page of the portal.

Possible Actions

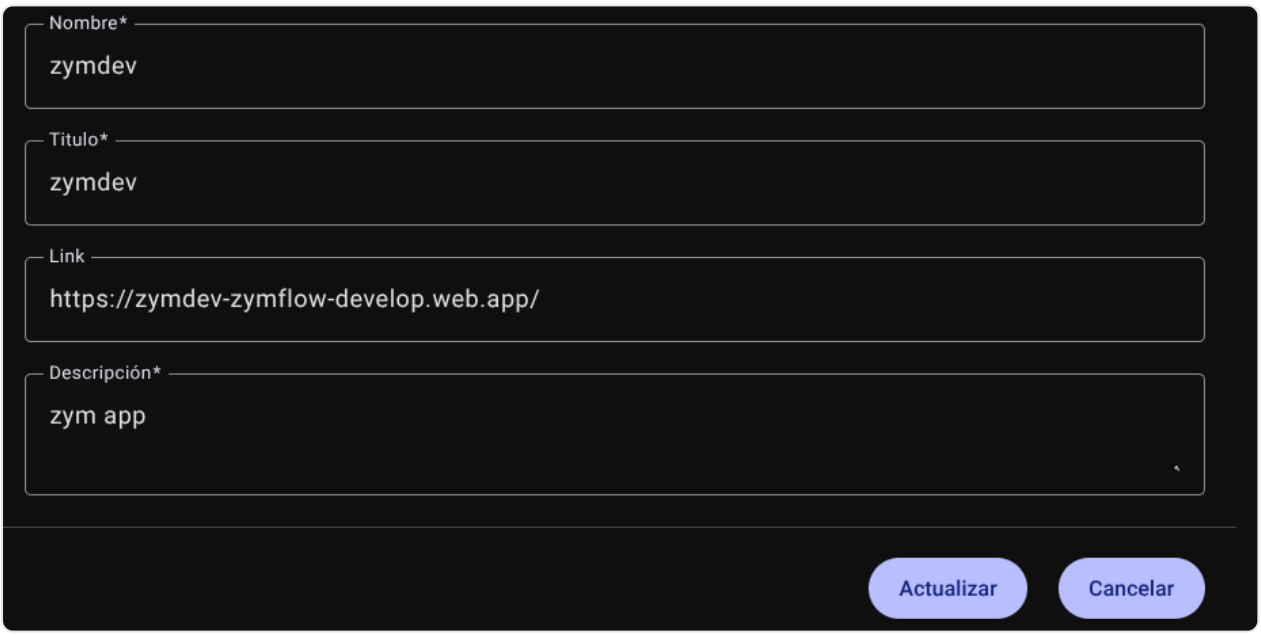
1. View Current Institutional Information

1. Upon entering the module, a central information card is presented with the data currently published:
    - **Name:** Official name of the entity or product line.
    - **Title:** Slogan or main heading visible on the cover.
    - **Description:** Detailed institutional text (up to 140 characters).
    - **Link:** External web link configured to expand the information.

2. Modify Institutional Information

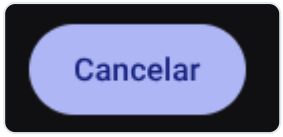
1. In the upper right corner of the card, click the edit button (pencil icon).

2. The **Edit Form** side panel will be displayed with the following fields:
    - **Name:** Required text field.
    - **Title:** Required text field.
    - **Link:** Optional corporate redirect URL.
    - **Description:** Text area required for the institutional description (maximum 140 characters).



3. Click the **"Update"** button to apply the changes to the public front page.

4. If you want to discard the modifications without saving, click **"Cancel"**.



Required Technical Permits

- `about_us_read` : Allows reading and viewing current institutional information.
- `about_us_update` : Authorizes the modification and update of the text, title and link of the About Us section.

Digital Product Catalog (CMS)

Description, Purpose and Objective

> **NOTE:** The **Digital Products** view in the CMS is the module that manages the catalog of software, applications, licenses or digital solutions displayed on the organization's public website.
>
> A **Digital Product** includes the name of the system or application, commercial title, distinctive icon (Material Icons), detailed description of features, access link or landing of the product, demonstration video URL and ordering priority.
>
> The objective of this module is to position the company's suite of technological products, making it easier for visitors to explore its functionalities and access demos or official sites.

Context of Use

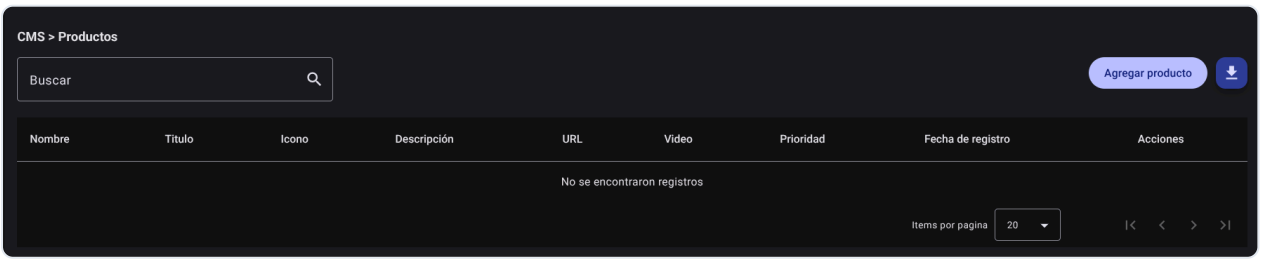
This module is used by:

- **Product and Marketing Managers:** To add new digital products to the web catalog, update features from recent versions or embed demo videos.
- **System Administrators:** To define the visual priority and availability of products on the cover.

Possible Actions

1. Consult the Product Catalog

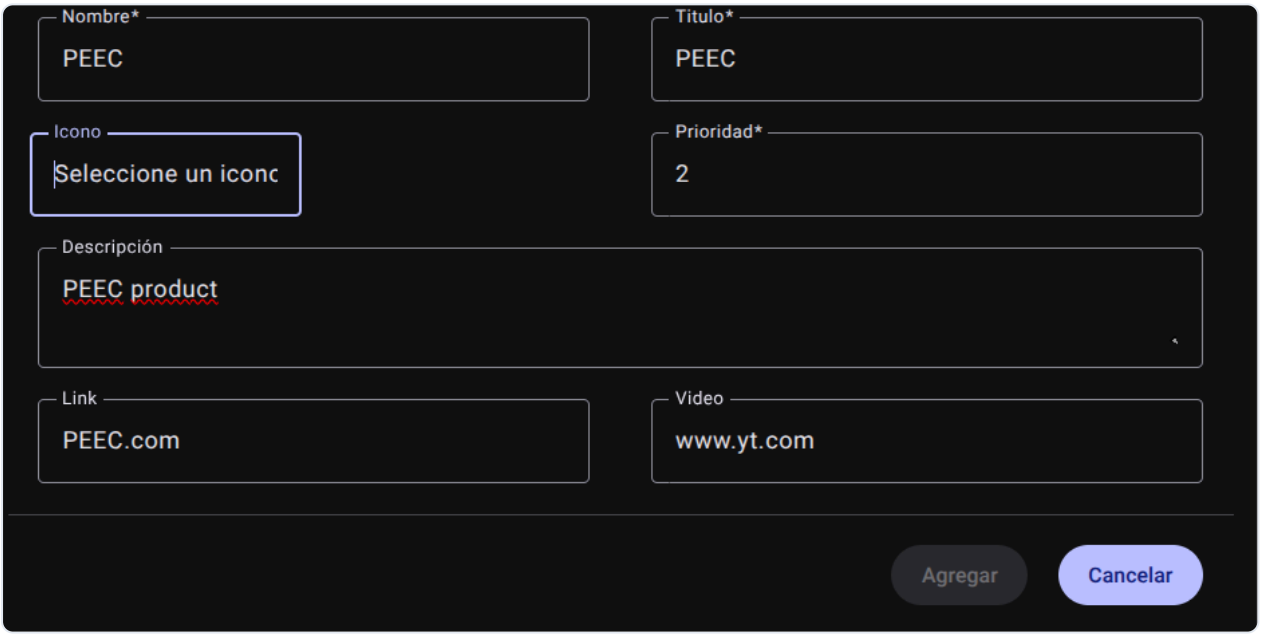
1. In the product management table, review the columns: Name, Title, Icon, Description, URL, Video, Priority, Registration Date, and Actions.
2. Filter using the **"Search"** text box for any product term.
3. Sort the rows by display priority or by creation date.



2. Register a New Digital Product

1. Click the **"Add Product"** button.

2. Fill in the required information on the side panel:
    - **Name:** Commercial name of the digital product (e.g. Labcare Cloud, My Process, PEEC).
    - **Title:** Slogan or main value proposition of the product.
    - **Icon:** Icon identifier for the Material Icons library.
    - **Description:** Detailed descriptive text with the modules and scope of the product.
    - **URL:** Link to the specific page or product login (optional).
    - **Video:** Promotional or tutorial video URL (optional).
    - **Priority:** Integer number that defines the positioning order in the public portal.

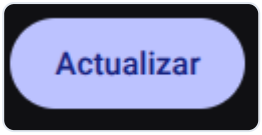


3. Click **"Add"**.

3. Edit a Product

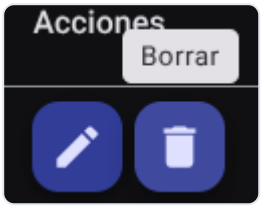
1. Locate the product in the table and click the edit button (pencil icon✏️) in the actions column.

2. Modify the desired fields and save the changes to the **Save** button.



4. Delete a Product

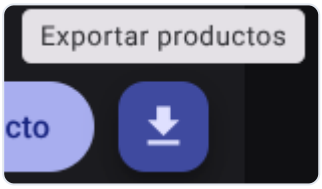
1. To delete a product, use the delete button (trash can icon🗑️) in the actions column.



2. Confirm the action.

5. Export the Product Catalog

1. Click on the button with the download icon (**Export products**), a file in CSV format will be generated and downloaded with the complete list of registered digital products.



Required Technical Permits

- `product_read` : Allows you to consult the digital product catalog.
- `product_create` : Authorizes the registration of new products on the platform.
- `product_update` : Enables updating product data, links, videos and icons.
- `product_delete` : Allows you to remove products from the public catalog.
- `product_export` : Allows downloading of the massive product report.

Catalog of Published Services (CMS)

Description, Purpose and Objective

> **NOTE:** The **Published Services** view in the CMS is the module where the offer of technological, professional or consulting services displayed on the platform's public portal is managed.
>
> A **Published Service** includes the name of the service, descriptive title, representative icon (Material Icons), detailed description of the scope, explanatory web link, URL of the demonstration video and order of visual priority.
>
> The objective of this module is to offer a configurable digital showcase of the solutions and services offered by the organization to its clients and users.

Context of Use

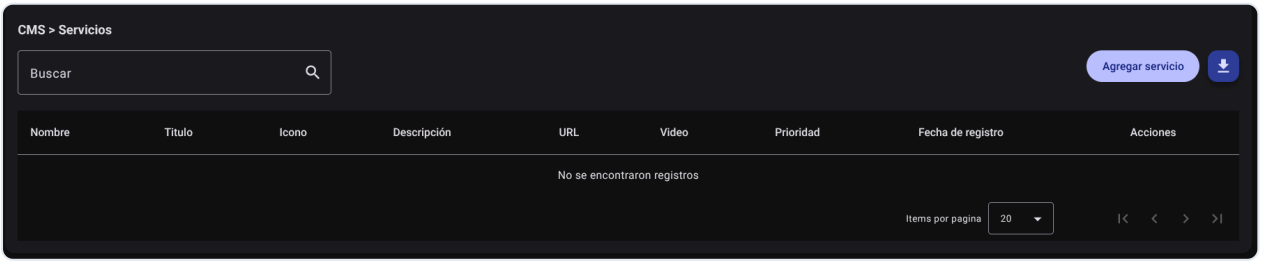
This module is used by:

- **Product and Marketing Managers:** To publish new services, update commercial descriptions or link demo videos and explanatory resources.
- **System Administrators:** To order or disable services according to the current commercial strategy.

Possible Actions

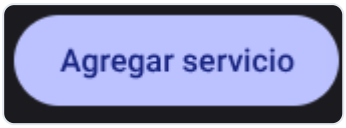
1. Consult the Service Catalog

1. In the service management table, see the columns: Name, Title, Icon, Description, URL, Video, Priority, Registration Date and Actions.
2. Filter using the **"Search"** text box by service name, title, or key terms.
3. Sort the rows by priority level or registration date.

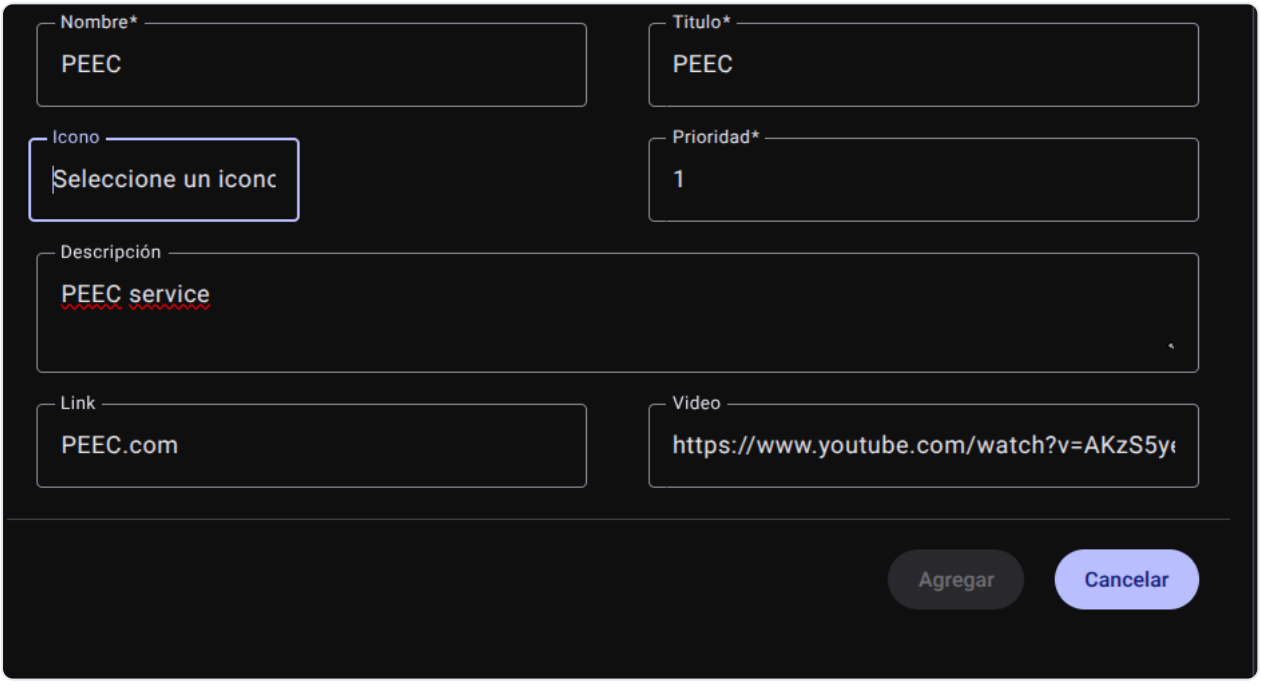


2. Register a New Service

1. Click the **"Add Service"** button.



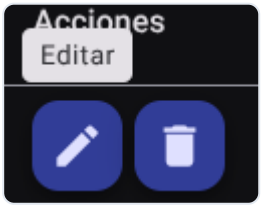
2. In the drop-down side panel, fill out the form fields:
    - **Name:** Service identifier name.
    - **Title:** Slogan or short heading of the service.
    - **Icon:** Name of the Material Icons icon for the cover.
    - **Description:** Explanatory detail of the value proposition of the service.
    - **URL:** Link to the detailed or service contracting page (optional).
    - **Video:** Explanatory video URL (YouTube/Vimeo) (optional).
    - **Priority:** Number assigned to order the appearance on the public front page.



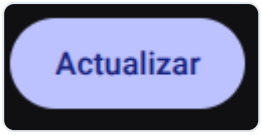
3. Save the changes using the **"Add"** button.

3. Edit a Service

1. Locate the service in the table and click the edit button (pencil icon✏️) in the actions column.

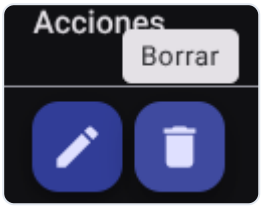


2. Modify the desired fields and save the changes with the **Actualizar** (Update) button.



4. Delete a Service

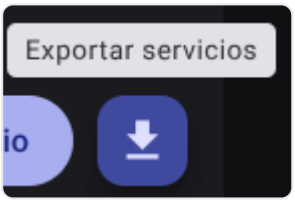
1. To delete a service, use the delete button (trash can icon 🗑) in the actions column.



2. Confirm the action.

5. Export the Service Catalog

1. Click on the button with the download icon (**Exportar servicios**), a CSV file will be generated and downloaded with the complete list of registered services.



Required Technical Permits

- `services_read` : Allows you to consult the catalog of published services.
- `services_create` : Authorizes the registration of new services in the portal.
- `services_update` : Enables editing of names, descriptions, icons, videos and priorities.
- `services_delete` : Allows you to remove services from the official catalog.
- `services_export` : Authorizes the download of the service report in CSV.

Setting Custom System Attributes

Description, Purpose and Objective

> **NOTE:** The **Custom System Attributes** view is the advanced management console designed to structure, customize and manage the general dynamic attributes and configuration parameters (`config`) assigned to each product in the system.
>
> The purpose of this module is to allow administrators to make the platform forms more flexible, allowing metadata and global variables to be added without altering the source code of the application. Its objective is to enable each product (such as LABCARE_CLOUD, PEEC or QUATTROL) to inherit dynamic behaviors, custom validations and specific controls adapted to the operational needs of the organization.

Context of Use

This panel is operated in the system control routine by:

- **Product and Platform Support Administrators:** To add control fields to standard modules (e.g. add mandatory attributes in the registration of users or organizations) and define global variables for the behavior of the tools.
- **System Coordinators:** To audit the data types assigned to each menu, configure initial licensing defaults, and disable obsolete legacy structures.

Possible actions

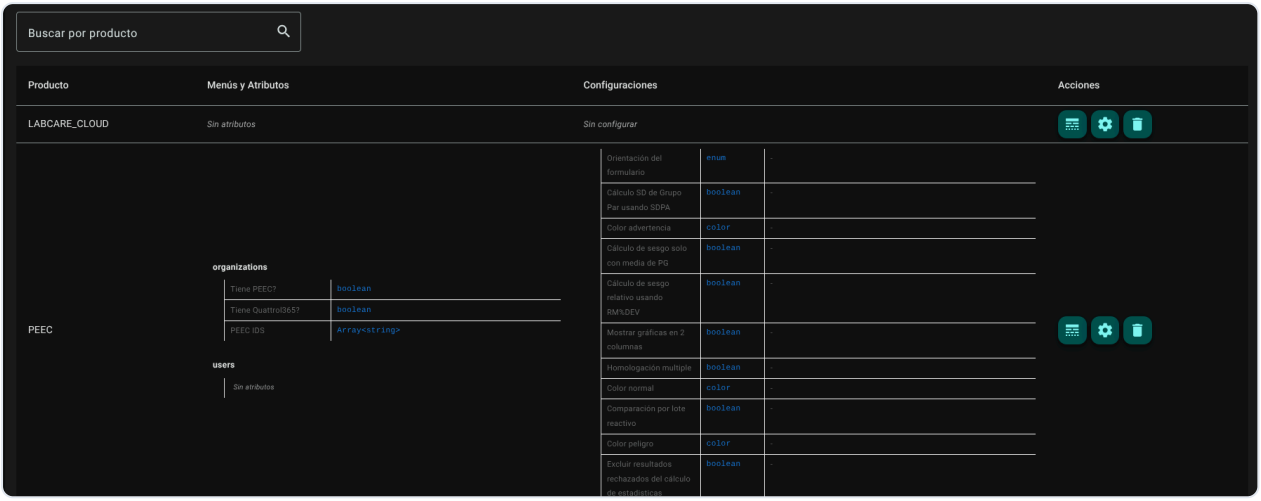
Follow the operation procedures to manage the system parameter grid:

1. Query and Display of Attributes by Product

To examine custom properties for applications:

1. **Filter by Product:** Locate the top search bar **Search by product...** and enter the name of the product of interest to isolate its records in the table.
2. **Table structure:** The main grid organizes the information into three control columns:
    - **Product:** Displays the technical identifier name of the application (e.g. *LABCARE_CLOUD*, *PEEC*, *QUATTROL*).
    - **Menus and Attributes:** Displays the menu folders hierarchically (e.g. *organizations*, *users*) detailing the field identifier, visual label and the assigned data type (*boolean*, *Array*, etc.).

- **Settings:** Presents the global behavior parameters defined under the



---

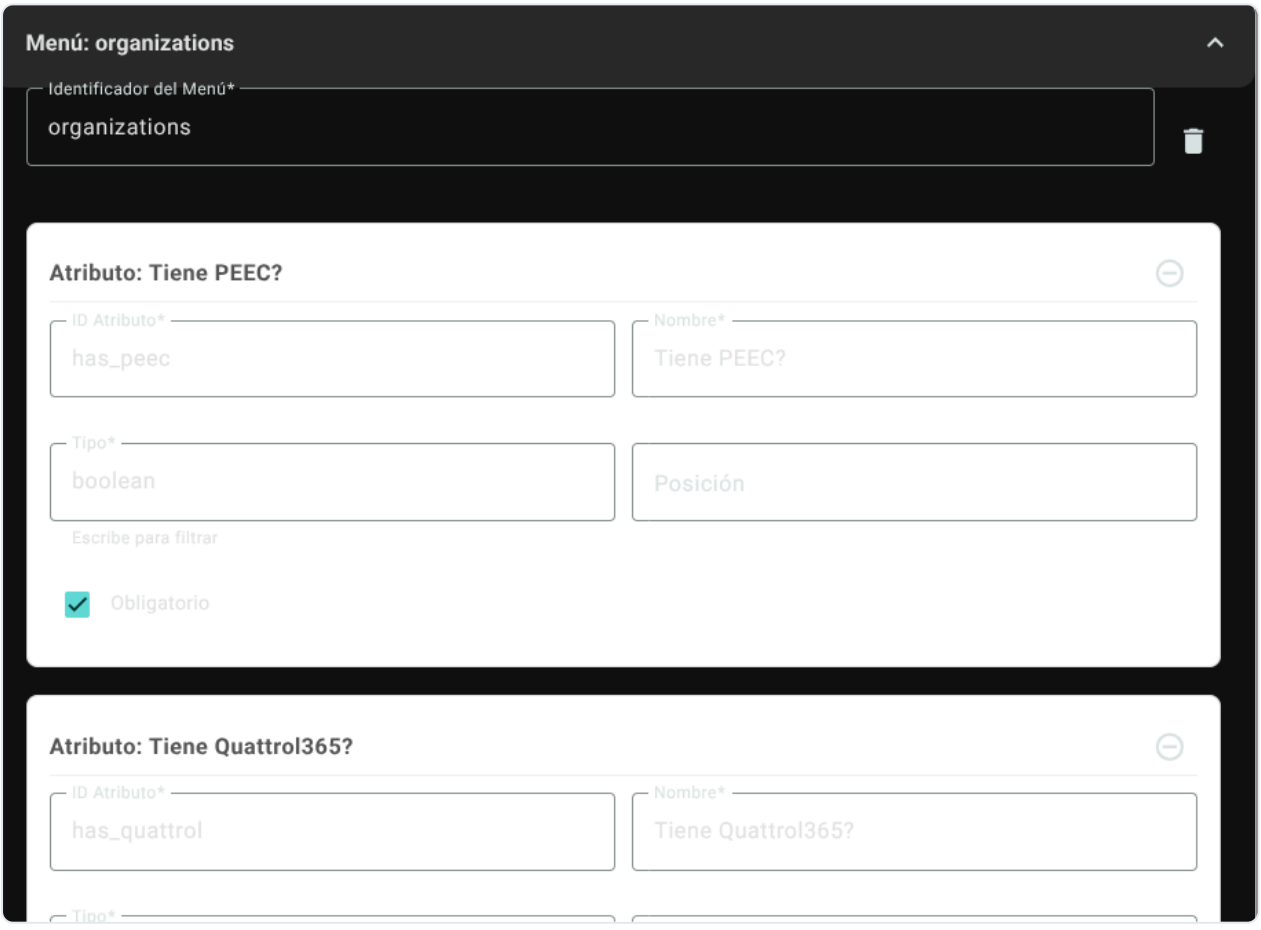
2. Edit General Attributes (Table/Menu Icon)

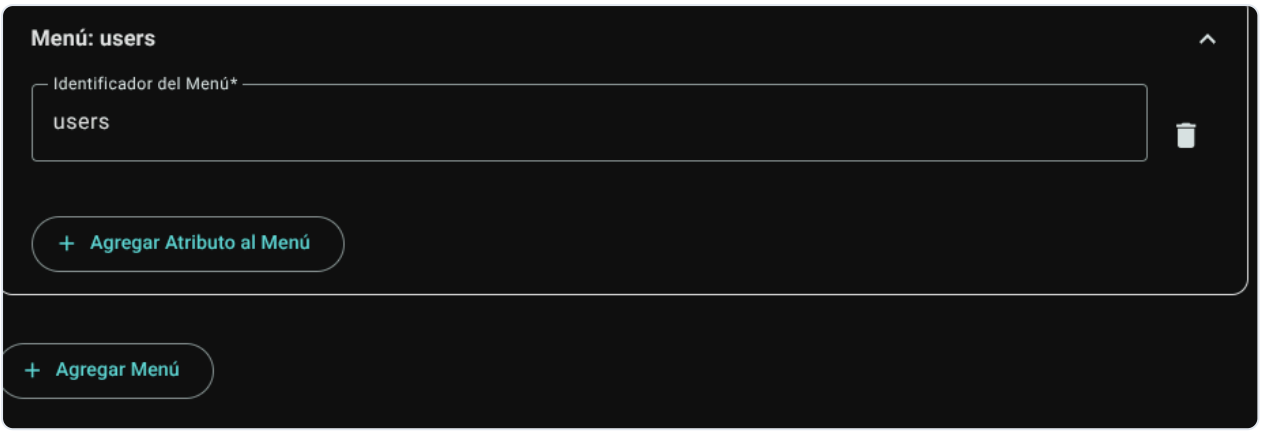
Allows you to modify the structure of custom fields that are injected into the product forms:

1. In the row of the desired product, locate the **Actions** column and click on the **Edit general attributes** table/menu icon.

2. The system will display the **Edit general attributes — [Product Name]** side panel. Configure the following sections:
    - *Menu Identifier:** Define or modify the technical name of the application menu (e.g. *organizations*, *users*).
    - **Menu attributes:** For each parameter in the list, set:
        - *Attribute ID*: Unique technical identifier of the field.
        - *Name*: Text label visible to the user.
        - *Type*: Type of form input (e.g. *boolean*, *text*, *number*, *select*).
        - *Position*: Numerical display order.
        - *Mandatory*: Check box to mark the mandatory completion.
    - **Add Attribute to Menu:** Click on this option to add a new attribute row within the selected menu block.
    - **Add Menu:** Press the button at the bottom of the panel if you require to create an additional menu folder.


Editar atributos generales — PEEC
El menú config se edita por separado.
Menús:
Menú: organizations
Menú: users
+ Agregar Menú
Guardar Cambios
Cancelar


Menú: organizations
Identificador del Menú*
organizations
Atributo: Tiene PEEC?
ID Atributo*
has_peec
Nombre*
Tiene PEEC?
Tipo*
boolean
Posición
Escribe para filtrar
Obligatorio
Atributo: Tiene Quattrol365?
ID Atributo*
has_quattrol
Nombre*
Tiene Quattrol365?
Tipo*



3. Once the parameters are completed, click the **Save Changes** button to apply and consolidate the product forms.

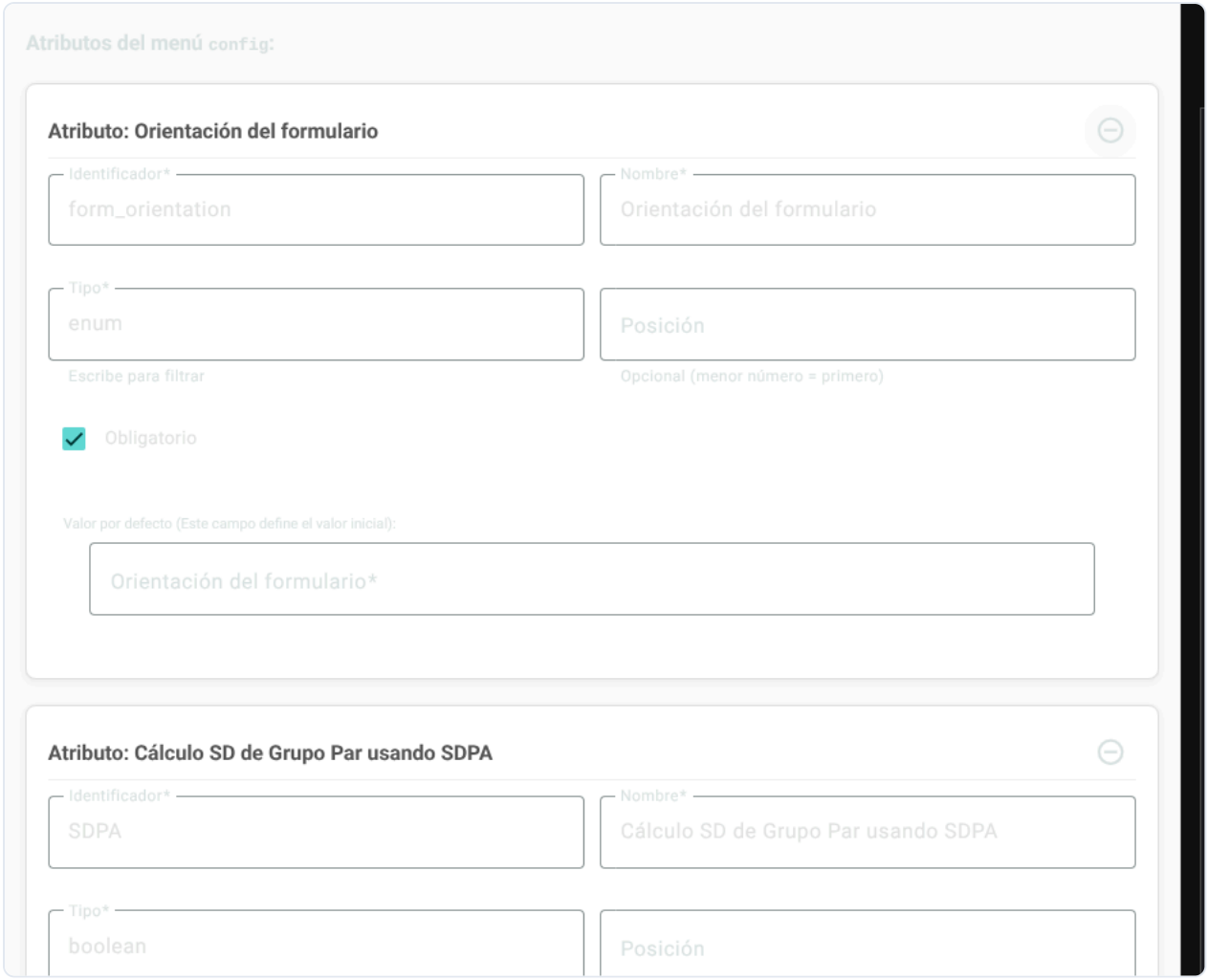
---

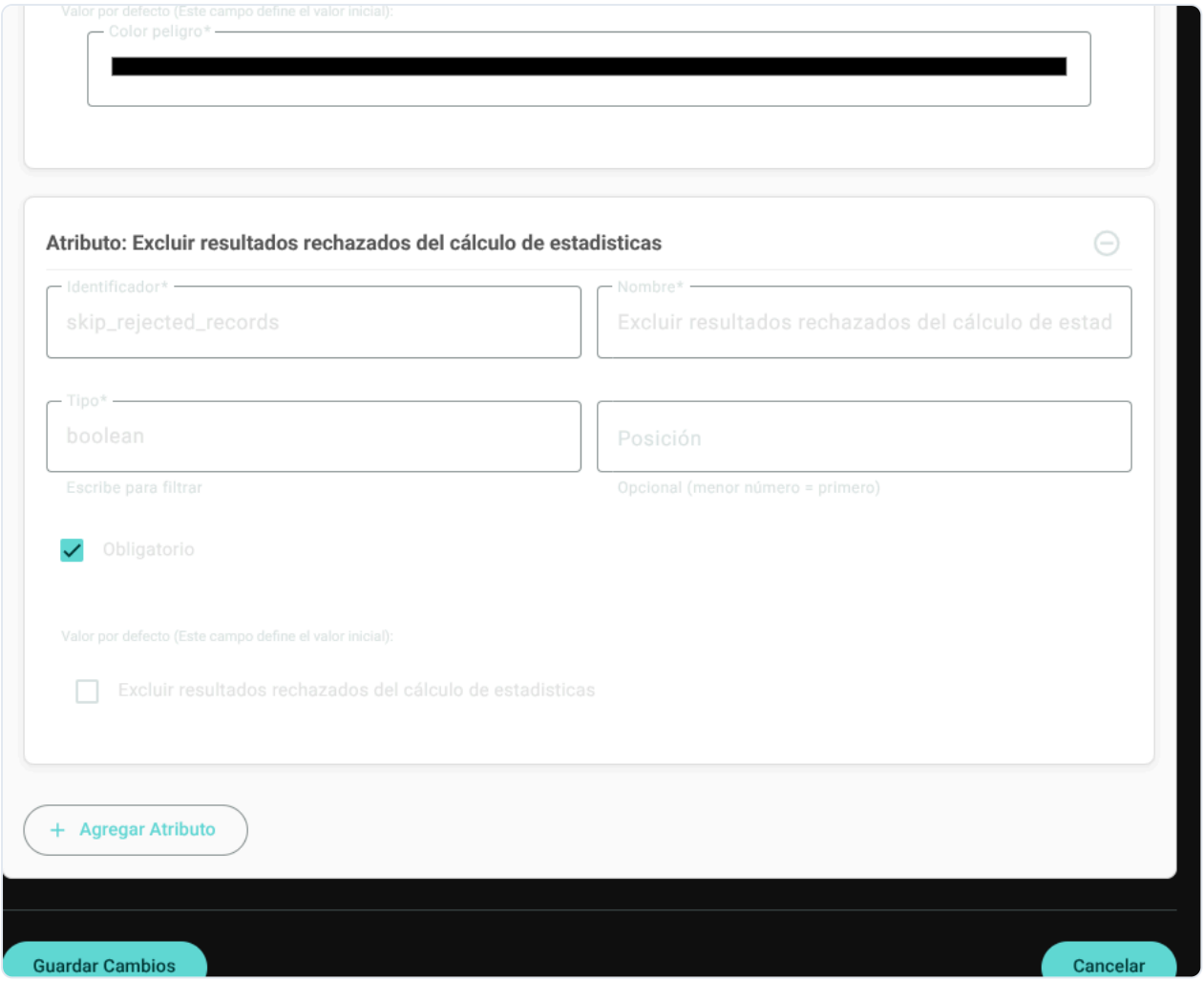
3. Edit Config Settings (Gear Icon)

To parameterize system behavior variables and product default values:

1. In the corresponding product row, go to the **Actions** column and click the **Edit settings (config)** gear icon.

2. The **Edit configurations (config) — [Product Name]** side panel will be displayed:
   - Configure or edit the fields corresponding to each global variable (*Identifier*, *Name*, *Type*, *Position*, *Required*).
   - **Default Value:** Assign in the interactive cell the data with which the parameter will be initialized for the new organizations created.
   - **+ Add Attribute:** Press this button if you require to register an additional global configuration variable for the product.


Atributos del menú config:
Atributo: Orientación del formulario
Identificador*
form_orientation
Nombre*
Orientación del formulario
Tipo*
enum
Escribe para filtrar
Posición
Opcional (menor número = primero)
Obligatorio
Valor por defecto (Este campo define el valor inicial):
Orientación del formulario*
Atributo: Cálculo SD de Grupo Par usando SDPA
Identificador*
SDPA
Nombre*
Cálculo SD de Grupo Par usando SDPA
Tipo*
boolean
Posición



3. Click the **Save Changes** button in the footer to confirm the restructuring.

---

4. Delete Product / Attributes (Caneca Icon)

If you need to completely remove the customization assigned to a product from the system:

1. In the **Actions** column of the product row, click the **Delete Product** bin icon.

> **CAUTION:** Removing attribute settings from a product is a destructive and irreversible action. It can cause display failures or loss of metadata on organizational forms already in production using these fields.

Roles and Permissions Required

Management of dynamic system attributes and global variables is restricted under the following security profiles:

The roles authorized to interact with this panel are **General System Administrator** and **IT Support**.

- **Access and Viewing:**
  - `system_custom_attributes_read` : Allows read access to the `/general/system-custom-attributes` console and display of the table.
- **Management and Writing:**
  - `system_custom_attributes_create` /
- **Elimination:**
  - `system_custom_attributes_delete` : Grants privileges to permanently delete a product's custom attributes template using the can icon.

Tag Management (Tagging)

Description, Purpose and Objective

> **NOTE:** The **Tag Management** view is the module in charge of creating, consulting, editing, deleting and exporting visual tags for general system configuration.
>
> A **Tag** consists of the following key attributes:
>
> - **Name***: Label identification text.
> - **Description***: Detail of the purpose or rule for assigning the label.
> - **Color***: Sample or chromatic tone selected using a color palette to visually highlight the badge.
>
> The purpose of this view is to categorize and classify system logs using color visual badges.

Context of Use

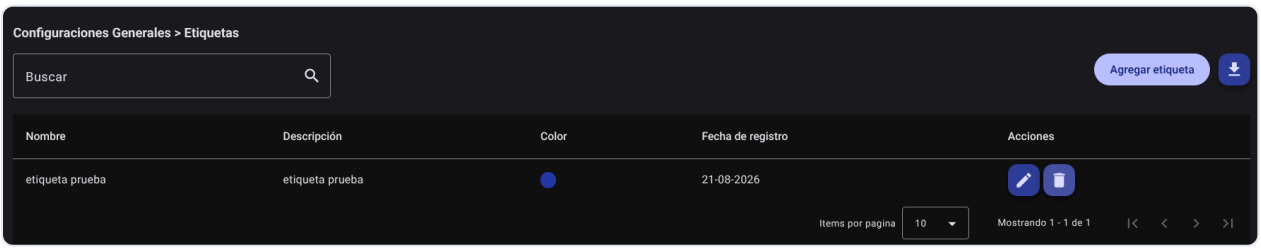
This module is used by system administrators to:

- **Create visual categories:** Define color badges to label records or entities.
- **Standardize visual identifiers:** Maintain an institutional color code for quick filtering and recognition.

Possible Actions

1. View and Filter Tags

1. Use the search bar (**Search**) to locate specific tags by name or description.
2. Click on the column headers (**Name**, **Description**, **Record Date**) to sort the table in ascending or descending order.



2. Create a New Tag

1. Click the **Add Tag** button in the upper right corner.

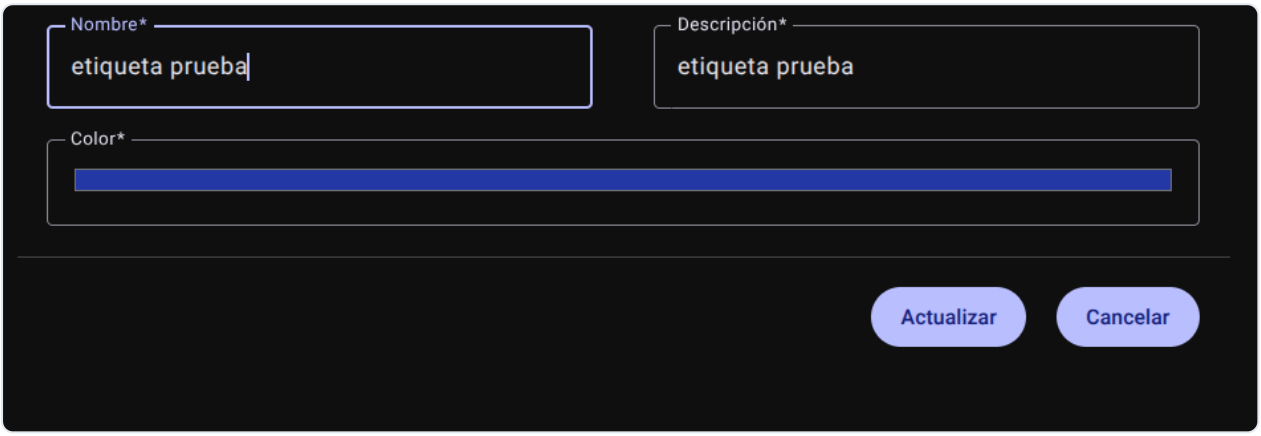
2. In the drop-down side panel, fill out the required fields:
    - **Name***
    - **Description***
    - **Color*** (Click on the bar to open the color selector/palette and define the tone).

3. Press **"Add"** to save the record (or **"Cancel"** to close the panel without keeping the changes). The new label will be incorporated into the table showing a circular indicator with the chosen color.

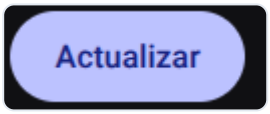
3. Edit an Existing Tag

1. In the row of the desired label within the main table, locate the **Actions** column. click **pencil (**Edit**).

2. Open the side panel with the loaded information to modify the data or the assigned color.

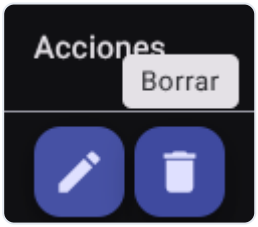


3. Press the **Update** button to save the changes to the system.

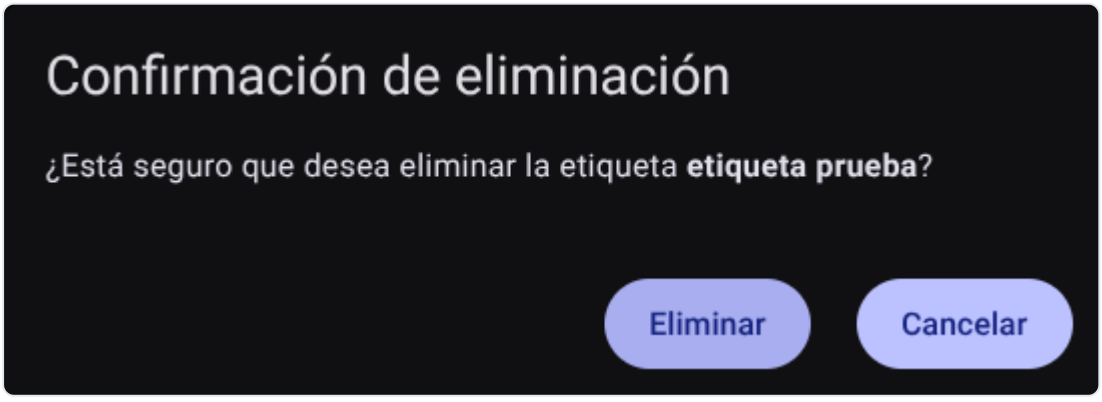


4. Delete a Tag

1. In the **Actions** column of the corresponding row, click **Trash Bin (**Delete**).

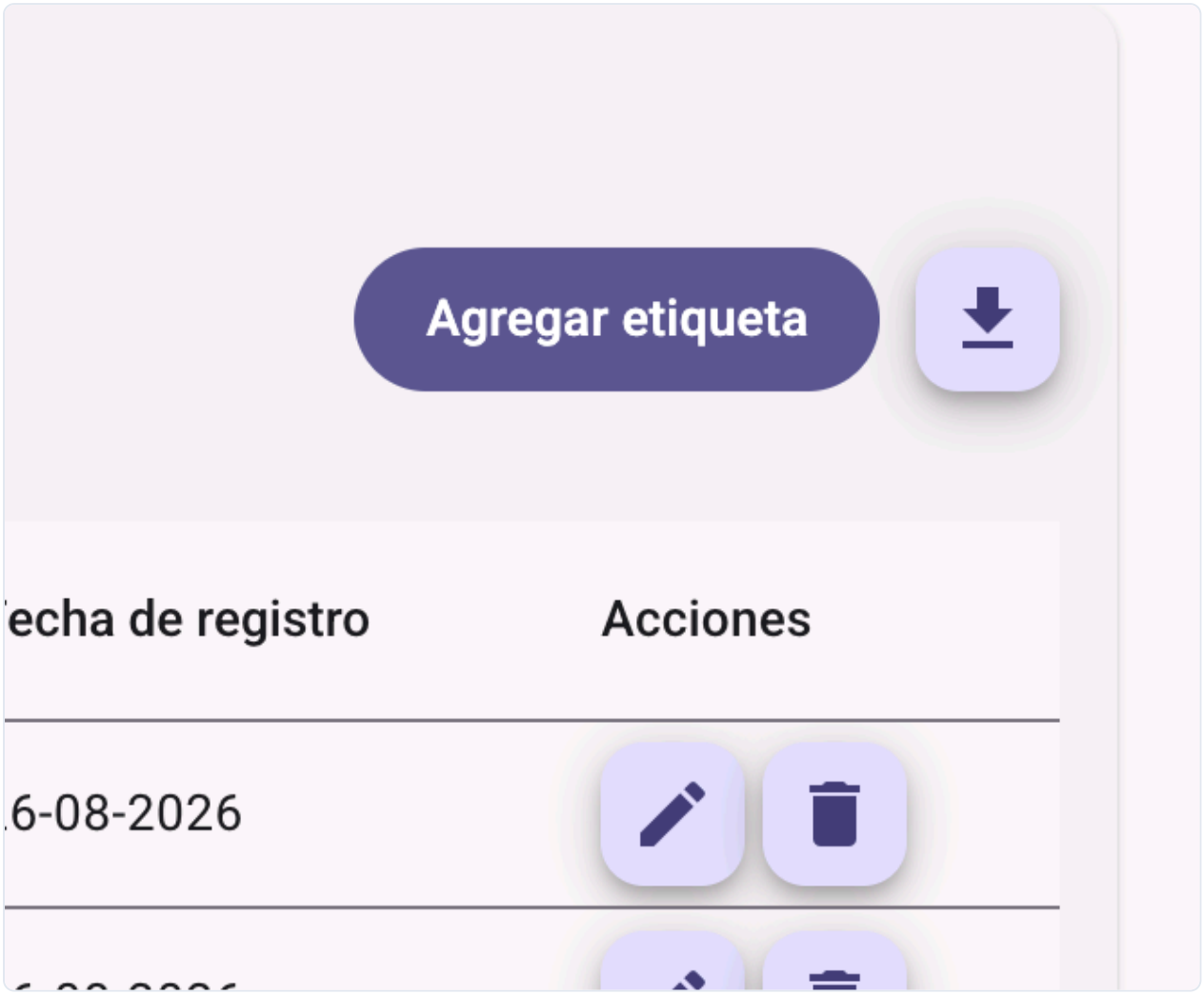


2. The system will display a direct confirmation box.



5. Export Tags

1. Click the blue button with download icon (**Export Tags**) located at the top right of the view.



2. The system will download the .csv file with the complete list of tags and chromatic settings.

Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

System Languages (Internationalization)

Description, Purpose and Objective

> **NOTE:** The **System Languages** view is the internationalization administrative console ($i18n$) in charge of creating, consulting, editing and deleting official languages supported in the platform's user interface.
>
> A **System Language** is made up of the following required fields:
>
> - **Name***: Official name of the language (e.g. *Spanish*, *English*).
> - **Abbreviation***: ISO language code of two or four characters (e.g. *es-es*, *en-us*).
>
> The objective of this module is to allow multilingual expansion of the system by managing the official localization options of the platform.

Context of Use

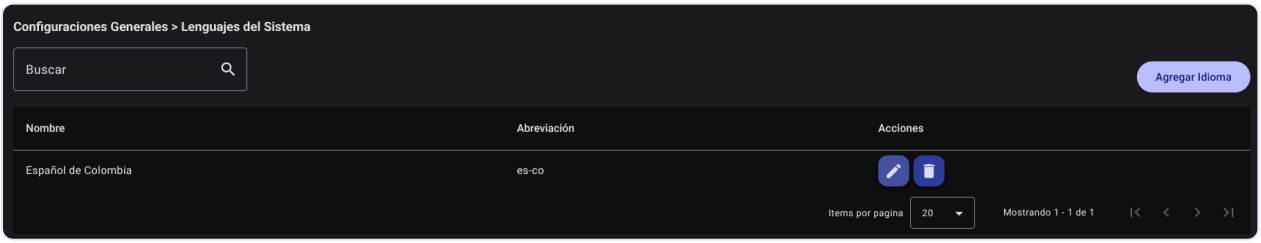
This module is used by system administrators to:

- **Activate new languages:** Register official languages and their ISO codes for platform localization.
- **Edit abbreviations:** Update localization codes and translation identifiers.

Possible Actions

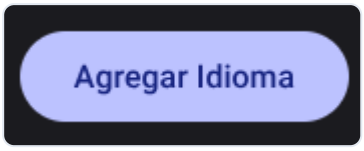
1. Check and Filter Languages

1. Use the search bar (**Search**) to locate specific languages by name or abbreviation.
2. Click on the column headers (**Name**, **Abbreviation**) to sort the table in ascending or descending order.

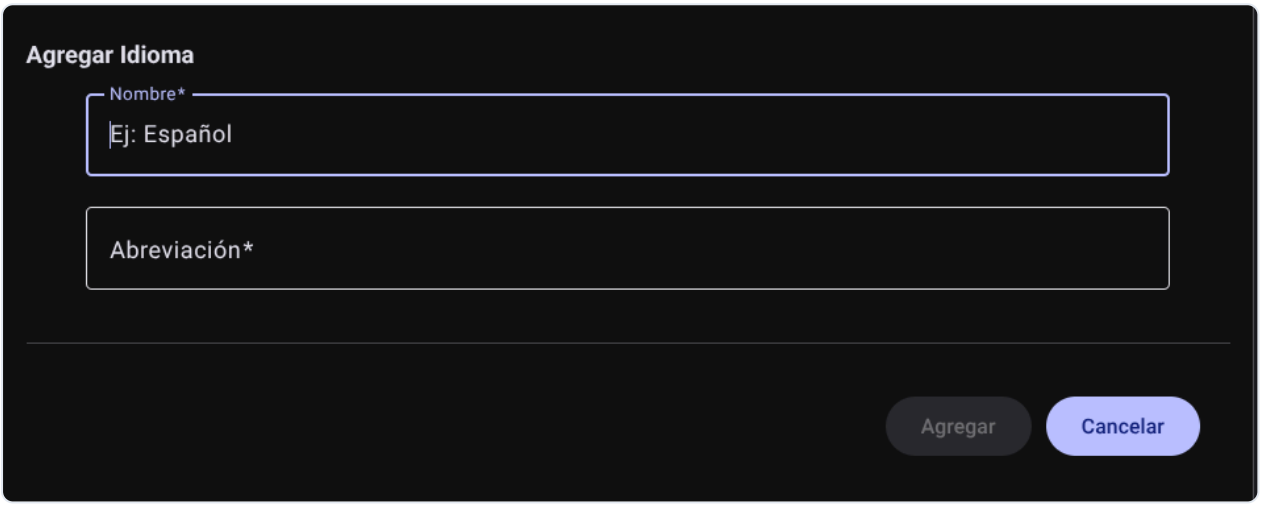


2. Create a New Language

1. Click the **"Add Language"** button in the upper right corner.



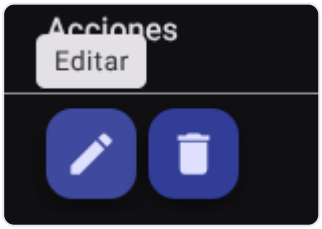
2. In the drop-down side panel, fill out the required fields:
    - **Name*** (Ex: *Spanish*).
    - **Abbreviation*** (Ex: *es-es*).



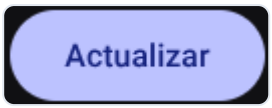
3. Press **"Add"** to save the record (or **"Cancel"** to close the panel without keeping the changes). The new language will be incorporated into the table list.

3. Edit an Existing Language

1. In the desired language row within the main table, locate the **Actions** column and click the pencil (**Edit**).

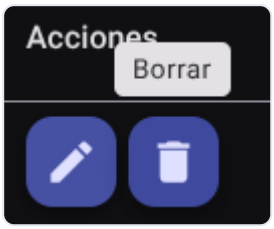


2. Open the side panel with the loaded information to modify the language name or abbreviation.
3. Press the **"Update"** button to save the changes to the system.

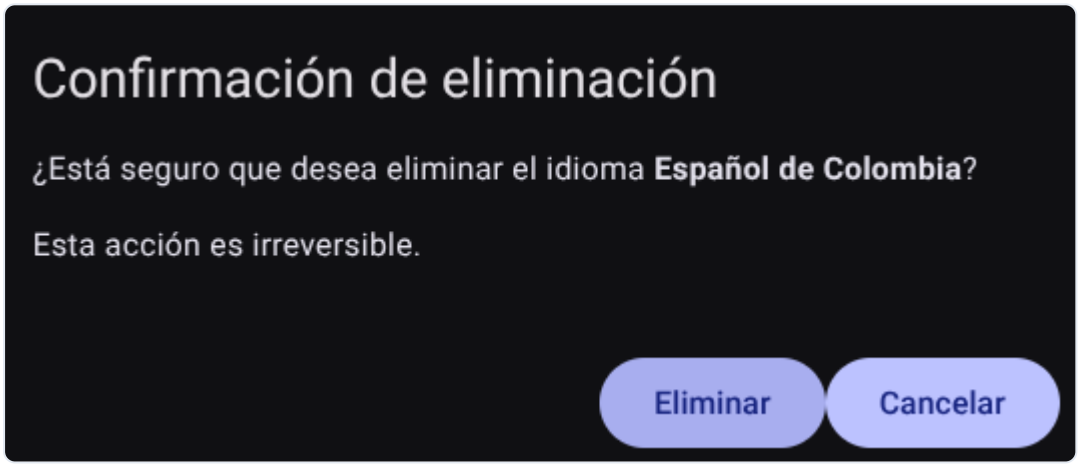


4. Delete a Language

1. In the **Actions** column of the corresponding row, click the trash bin (**Delete**).



2. The system will display a direct confirmation box



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Membership Administration

Description, Purpose and Objective

> **NOTE:** The **Membership Management** view is the module in charge of managing the licensing and payment plans applied to the different organizations registered on the platform.
>
> A **Membership** is a commercial subscription agreement that defines the duration of the service, trial days, cost, currency, billing period in days and the limits or products that the customer can use.
>
> The objective of this module is to centralize the management of plans and collections, allowing administrators to create, modify, apply or remove memberships, in addition to exporting organizational billing history.

Context of Use

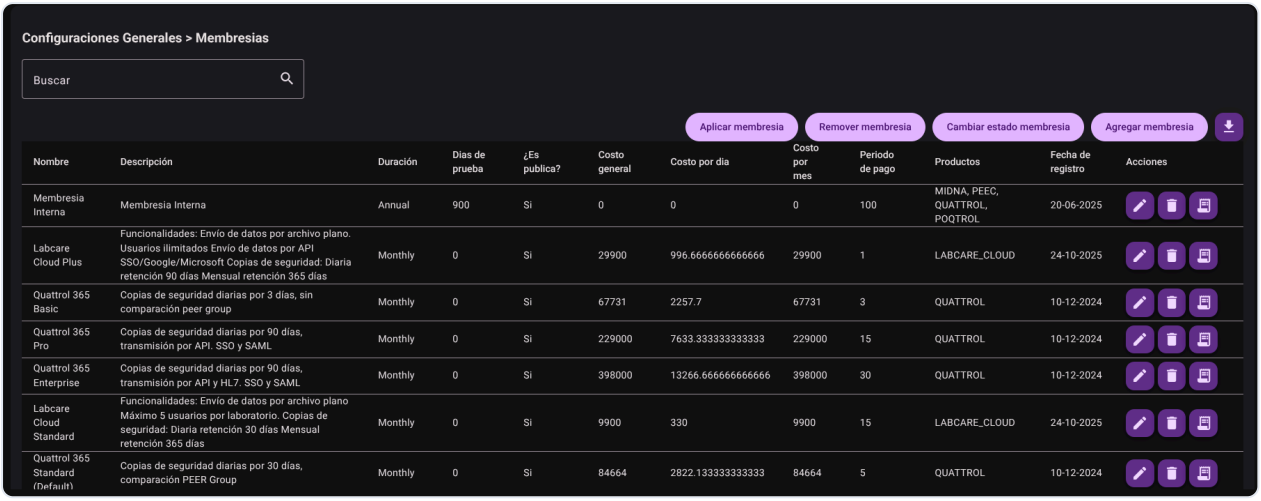
This module is used exclusively by global licensing administrators to:

- **Create new subscription plans:** Define standard rates (for example: Basic Plan, Pro Plan, Annual Plan) with parameterized costs and payment periods.
- **Assign licenses to clients:** Link a membership to one or more organizations to enable them access to the platform.
- **Control collections and billing:** Consult the amounts to be billed per month and export detailed reports for reconciliation with the accounting area.
- **Manage membership statuses:** Activate, deactivate or temporarily suspend organizations' access to services.

Possible Actions

1. View and List Memberships

Allows administrators to consult the catalog of memberships configured in the system, showing commercial details such as name, description, duration, trial days, whether it is public, cost per day and month, assigned products and registration date.

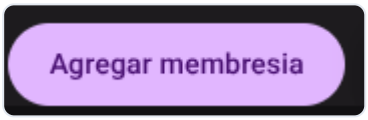


Nombre	Descripción	Duración	Dias de prueba	¿Es publica?	Costo general	Costo por dia	Costo por mes	Periodo de pago	Productos	Fecha de registro	Acciones
Membresia Interna	Membresia Interna	Annual	900	Si	0	0	0	100	MIDNA, PEEC, QUATTROL, POQTROL	20-06-2025	
Labcare Cloud Plus	Funcionalidades: Envío de datos por archivo plano. Usuarios ilimitados Envío de datos por API SSO/Google/Microsoft Copias de seguridad: Diaria retención 90 días Mensual retención 365 días	Monthly	0	Si	29900	996.6666666666666	29900	1	LABCARE_CLOUD	24-10-2025	
Quattrol 365 Basic	Copias de seguridad diarias por 3 días, sin comparación peer group	Monthly	0	Si	67731	2257.7	67731	3	QUATTROL	10-12-2024	
Quattrol 365 Pro	Copias de seguridad diarias por 90 días, transmisión por API. SSO y SAML	Monthly	0	Si	229000	7633.333333333333	229000	15	QUATTROL	10-12-2024	
Quattrol 365 Enterprise	Copias de seguridad diarias por 90 días, transmisión por API y HL7. SSO y SAML	Monthly	0	Si	398000	13266.666666666666	398000	30	QUATTROL	10-12-2024	
Labcare Cloud Standard	Funcionalidades: Envío de datos por archivo plano Máximo 5 usuarios por laboratorio. Copias de seguridad: Diaria retención 30 días Mensual retención 365 días	Monthly	0	Si	9900	330	9900	15	LABCARE_CLOUD	24-10-2025	
Quattrol 365 Standard (Default)	Copias de seguridad diarias por 30 días, comparación PEER Group	Monthly	0	Si	84664	2822.133333333333	84664	5	QUATTROL	10-12-2024	

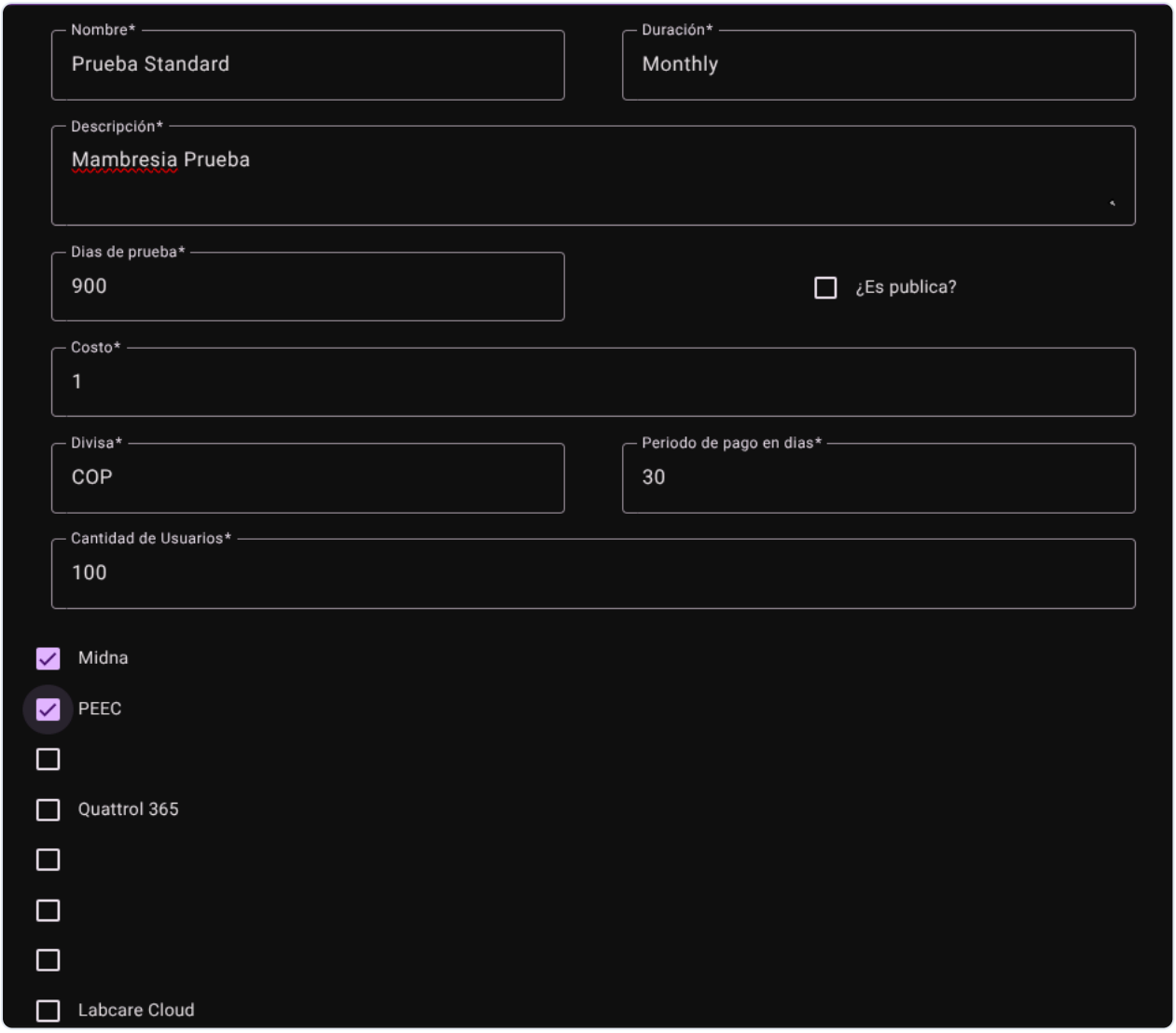
2. Add a New Membership

To create a new plan or subscription type:

1. Click the **"Add Membership"** button at the top right of the table.



2. Fill out the required fields in the creation form:
    - **Name:** Identification name of the membership (e.g. `Plan Premium Mensual`).
    - **Duration:** Name of the plan period (e.g. `Mensual`, `Anual`).
    - **Description:** Detail of what the subscription includes.
    - **Trial days:** Number of days of free access granted before the first charge.
    - **Is it public?:** Box that defines whether clients can view and select it autonomously from their panels.
    - **Cost:** Monetary value of the plan.
    - **Currency:** Type of currency in which the payment is made (e.g. `USD`, `COP`).
    - **Payment period in days:** Exact frequency with which the payment is calculated (e.g. `30` for monthly, `365` for annual).
    - **Number of users:** Maximum number of users allowed on the plan.
    - **Product management:** You can select the products associated with the subscription and add them to the + button.

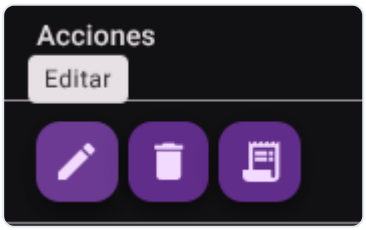


3. Click **"Add"** to register membership on the platform.

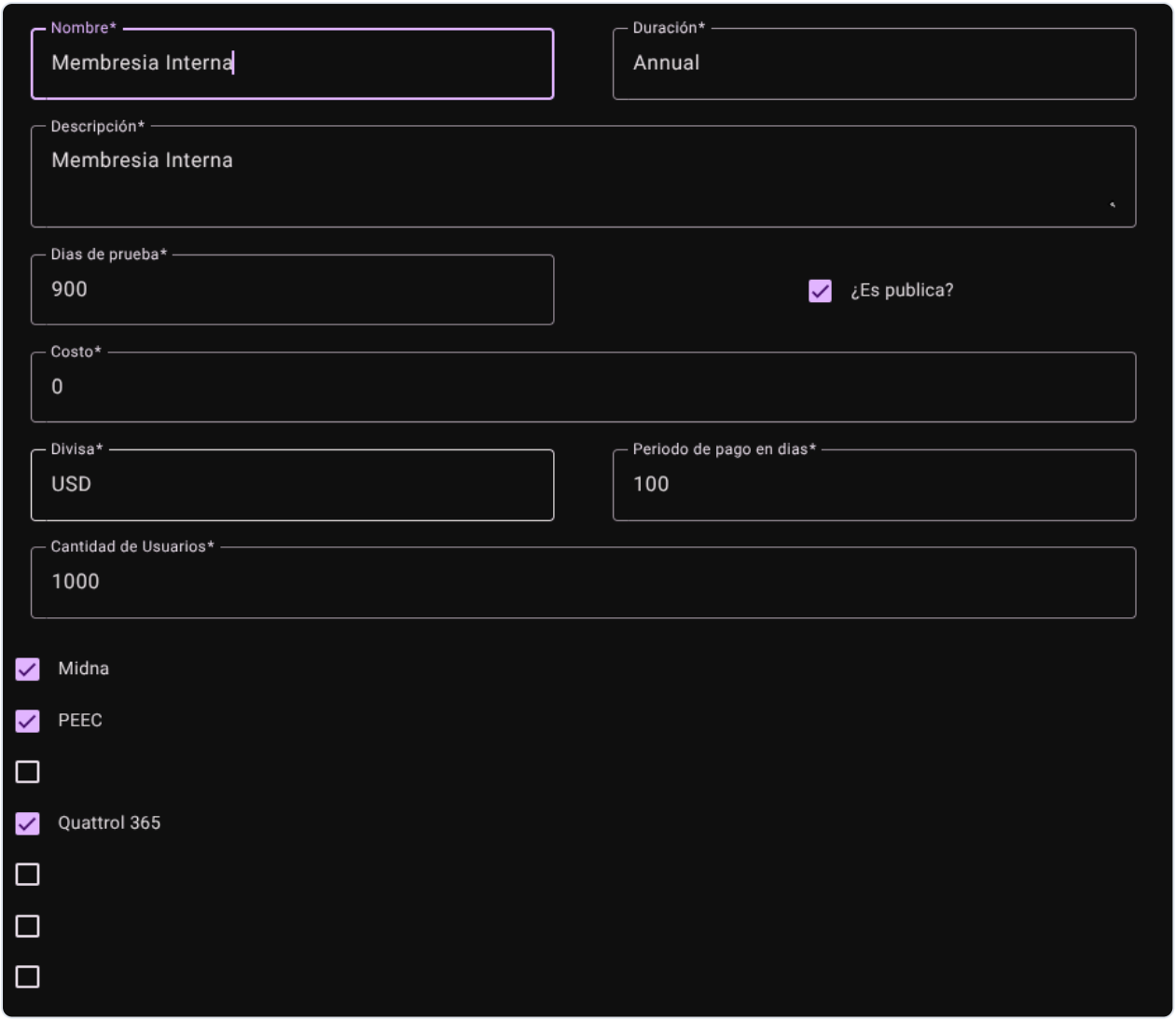
3. Edit a Membership

To update the trading terms of an existing membership:

1. Find the plan in the table and click **"Edit"** (pencil icon ✏️).



2. Modify the corresponding fields. There are no restrictions on changing the cost, description or duration.

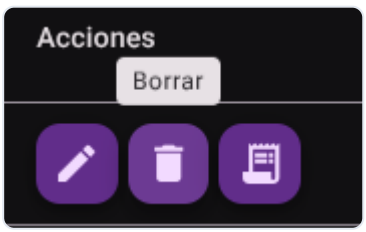


3. Click **"Update"** to apply the changes immediately.

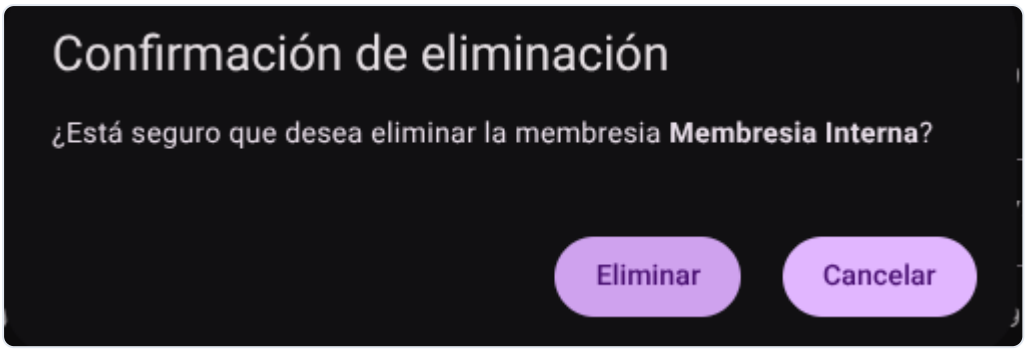
4. Delete a Membership

To definitively remove a subscription plan from the system catalog:

1. Click the trash icon ( ) for the corresponding plan.



2. Confirm the deletion in the pop-up warning modal.

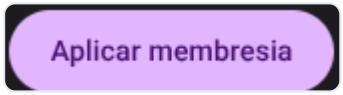


> **WARNING:** The deletion action is irreversible and will be rejected by the system if the membership is currently assigned to any active organization on the platform.

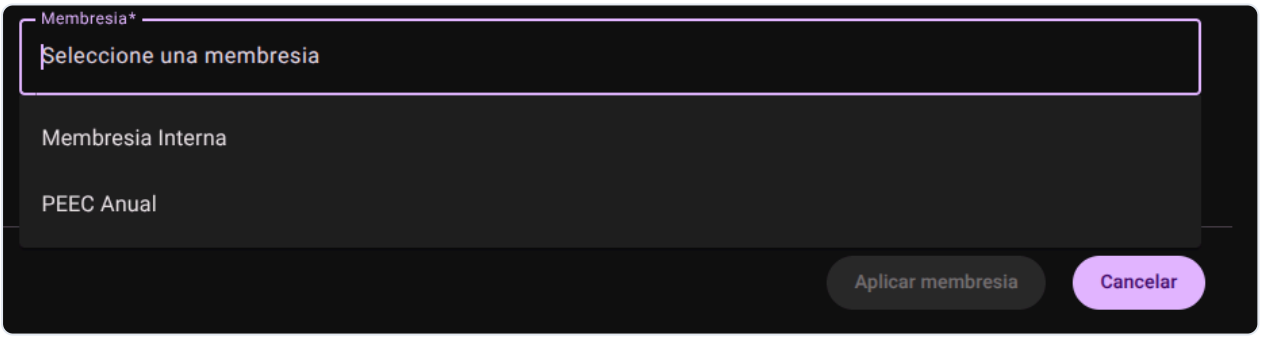
5. Apply Membership to Organizations

To associate a subscription with one or more client organizations:

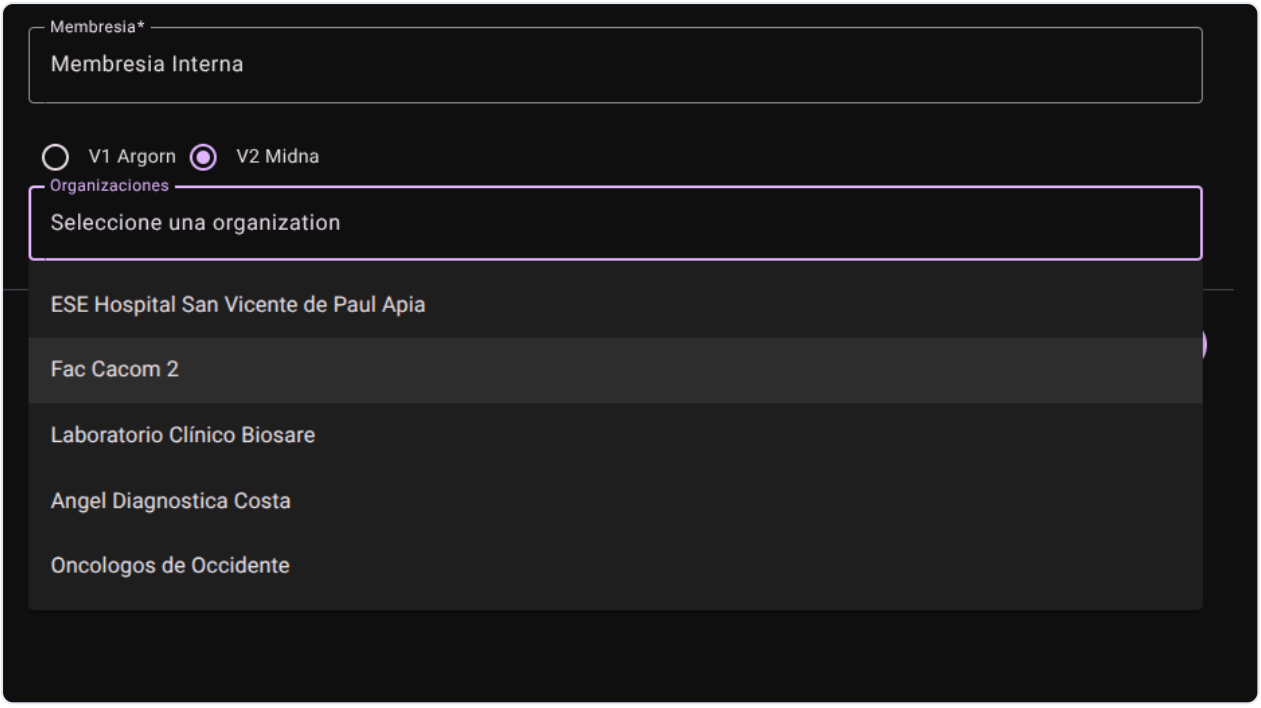
1. Click the **"Apply Membership"** button at the top of the panel.



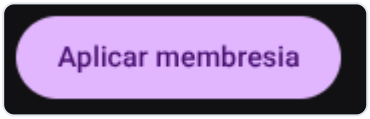
2. Select the desired membership from the drop-down list.



3. Search and select one or more recipient organizations from the list.



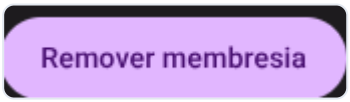
4. Click **"Apply Membership"** to grant access to the platform.



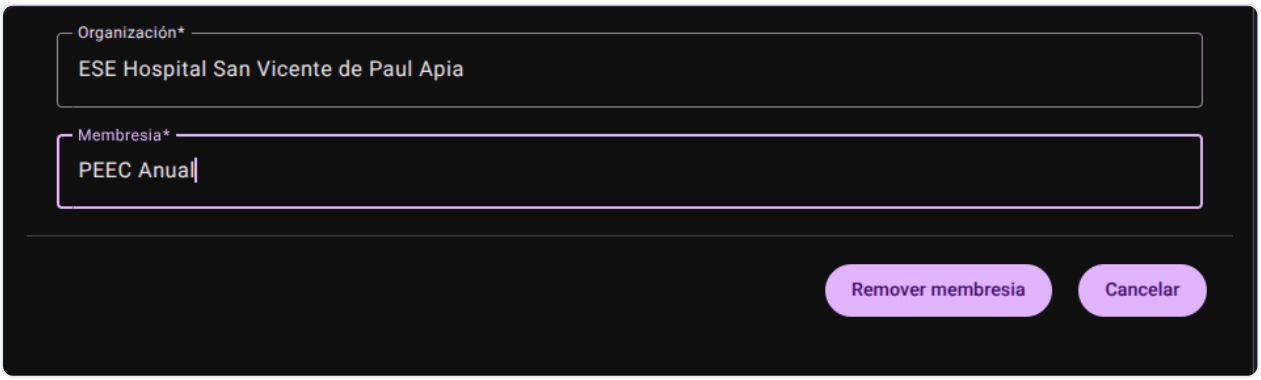
6. Remove Membership

If you want to remove access or unsubscribe from a specific organization:

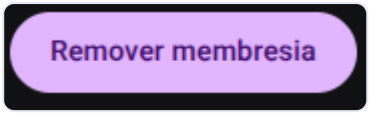
1. Click the **"Remove Membership"** button.



2. Select the organization and membership plan you want to withdraw.



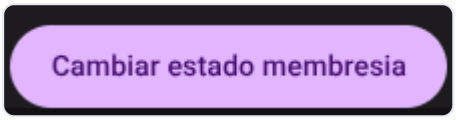
3. Press the **"Remove Membership"** button to unlink it.



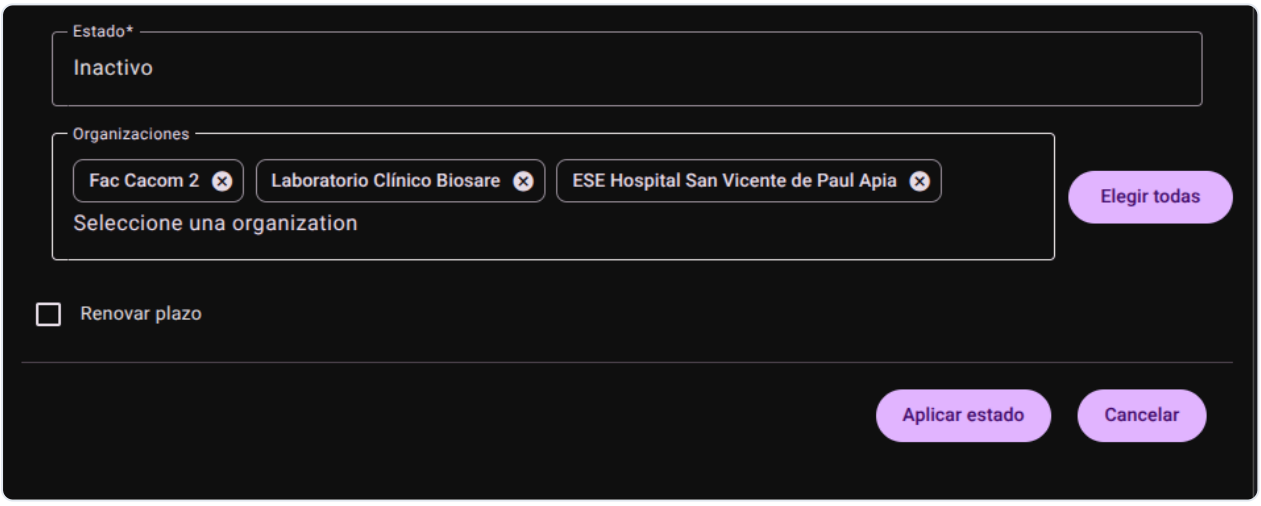
7. Change Membership Status

Enables manual subscription administrative status change for linked organizations:

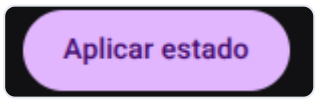
1. Click **"Change membership status"**.



2. Select the new business status:
    - **Active:** Service fully enabled and functional.
    - **Inactive:** Access temporarily denied.
    - **Suspended:** Access paused due to non-payment or other administrative causes.
    - **Trial period (Free Trial):** Access enabled for a limited duration at no associated cost.
3. Select the organizations to which you want to apply this status change.



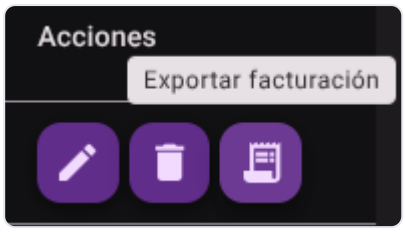
4. Press **"Apply Status"** button to apply.



8. Export Membership Billing

This function allows you to generate detailed collection reports for the accounting department:

1. Locate the plan in the table and click the **"Export Billing"** action (report/invoice icon).

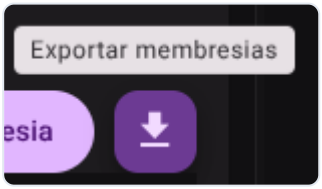


2. In the pop-up window, select the specific **Month** and **Year** of the billing you want to view.

3. Click **"Export"** to download a file in **.CSV** format with the information on amounts and collections from the organizations in that time range.

9. Export Membership List

Allows you to download the complete database of memberships configured in the system by clicking on the general download icon in the table. The system will export a **.CSV** file structured with all the information.



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.

- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

System Menus and Navigation

Description, Purpose and Objective

> **NOTE:** The **System Menus** view is the navigation architecture console in charge of configuring, creating, editing, deleting and exporting the system menu options and navigation paths associated with each product.
>
> A **System Menu** is made up of the following key parameters:
>
> - **Name***: Visible name of the option in the side menu.
> - **Identifier***: Unique identification technical key or code.
> - **Path***: URL address or internal navigation path.
> - **Level***: Hierarchical level of the menu (Level 1 for main menu, Level 2 or 3 for submenus).
> - **Additional Fields**: Extra configuration parameters if applicable.
> - **Products***: Mandatory selection of at least one product to which this menu will be associated.
>
> The objective of this view is to allow the dynamic structuring of the navigation tree and to associate the access paths to the licensed products.

Context of Use

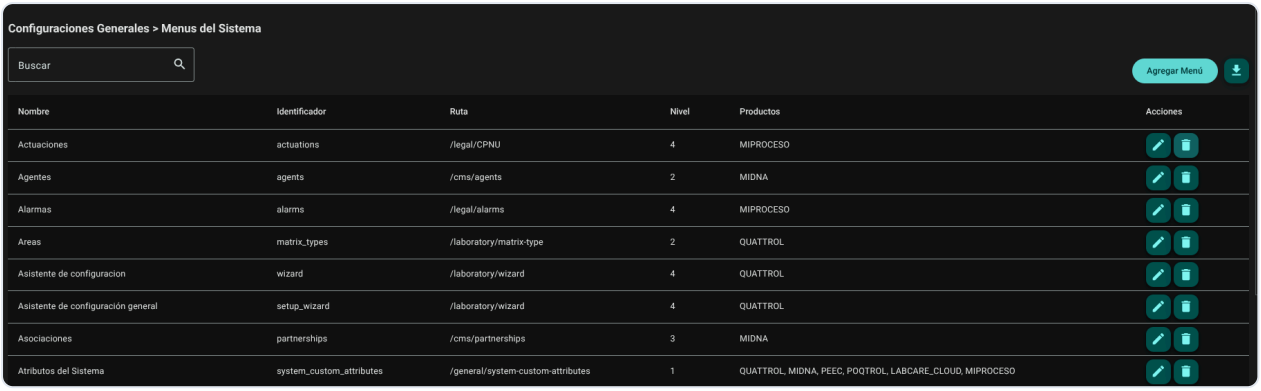
This module is used by system infrastructure administrators to:

- **Create and link navigation routes:** Create menus and associate them with authorized products.
- **Edit and structure the visual hierarchy:** Modify levels, identifiers and names of the side menu.
- **Export navigation structures:** Obtain the script file with the complete menu definition.

Possible Actions

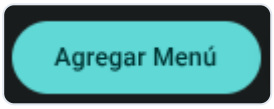
1. Consult and Filter Menus

1. Enter text in the search bar (**Search**) to filter the menu list in real time.
2. Click on the column headers (**Name**, **Identifier**, **Path**, **Level**, **Products**) to change the table sorting.

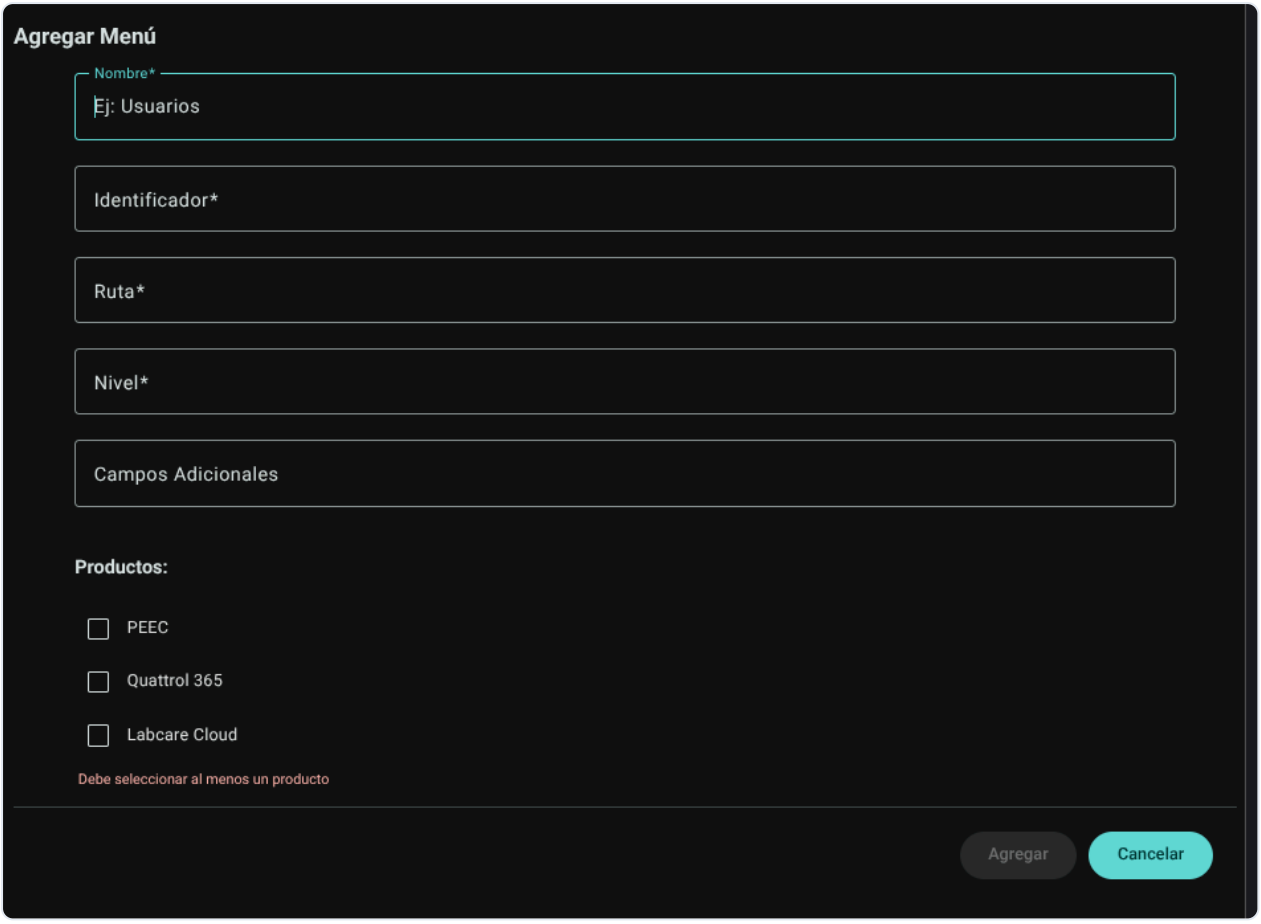


2. Create a New Menu

1. Click the ****Add Menu"** button in the upper right corner.



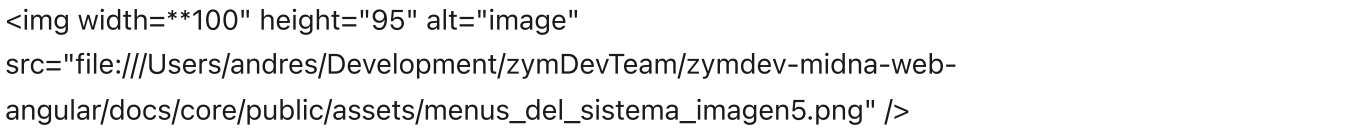
2. In the drop-down side panel, complete the required fields:
    - **Name*** (Visible name of the option in the `Ej: Usuarios` menu).
    - **Identifier*** (Key or technical identification code `Ej: users`).
    - **Path*** (URL address or internal navigation path `Ej:/general/users`).
    - **Level*** (Hierarchical level of the menu).
    - **Additional Fields** (Extra configuration parameters, if applicable).
    - **Products*** (select the box for at least one product to which this menu will be associated). The form requires mandatory selection of at least one product before allowing registration.



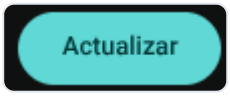
3. Press the ****Add"** button to register the menu (or **"Cancel"** to close the panel without keeping changes).

3. Edit an Existing Menu

1. In the desired menu row within the main table, locate the **Actions** column and click on **pencil (**Edit**).



2. The **Edit Menu** side panel will be displayed; modify the linked information or products and save using the **"Update"** button.

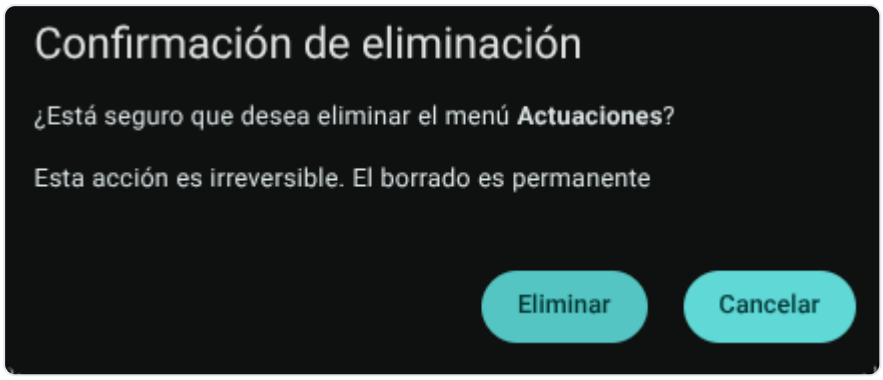


4. Delete a Menu

1. In the **Actions** column of the corresponding row, click **Trash Bin (**Delete**).

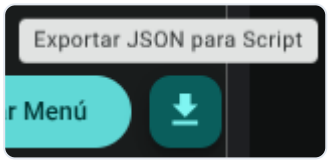
<img width=**108" height="87" alt="image"
src="file:///Users/andres/Development/zymDevTeam/zymdev-midna-web-angular/docs/core/public/assets/menus_del_sistema_imagen7.png" />

2. The system will display a direct confirmation.



5. Export Menu for Script

1. Click the button **with download icon located next to **Add Menu" in the upper right corner.



2. The system will generate and download an `.json` file with the navigation structure to integrate or execute in deployment scripts.

Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Organization Administration

Description, Purpose and Objective

> **NOTE:** The **Organization Administration** view is the centralized module where the different legal or commercial entities registered in the system are configured and controlled.
>
> An **Organization** is the independent workspace within the platform that groups and isolates users, roles, custom configurations and product access (completely replacing the concept of *labs*).
>
> The objective of this view is to allow organized and hierarchical management of these entities, facilitating the creation of branches or dependencies and associating specific access rules and domains with them.

Context of Use

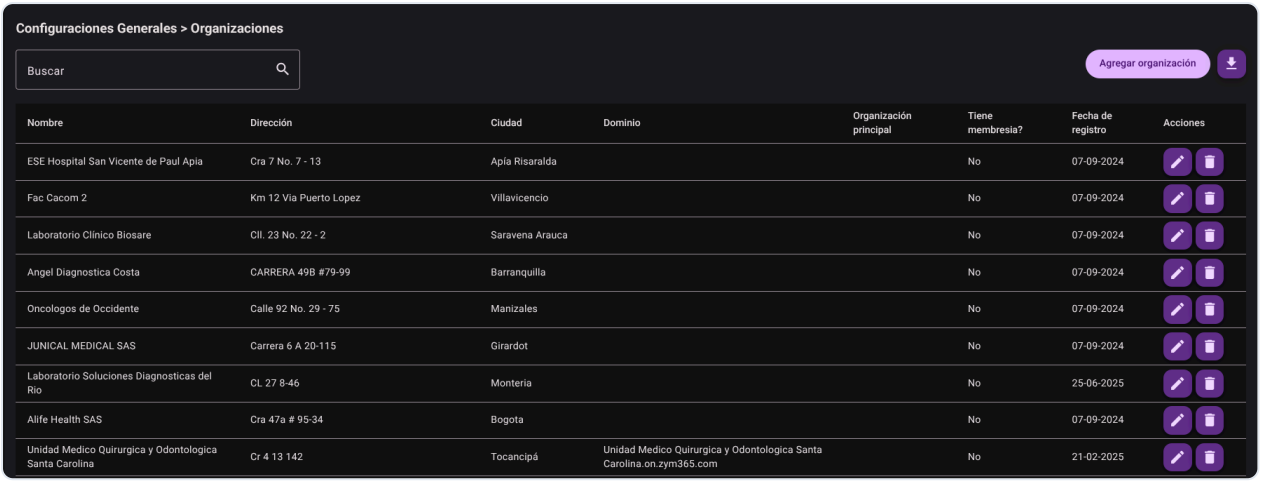
This module is for exclusive use by high-level administrative profiles (such as Product Administrators or Super Administrators). It is mainly used in the following scenarios:

- **Registration of new clients:** Registration of a new company that acquires the platform services.
- **Branch Management:** Modeling of the corporate structure through the relationship of a secondary organization with a **Parent Organization** (a higher-level entity in the system that centralizes and acts as a root node for dependencies or areas).
- **Organizational domain management:** Definition of the **Domain** (network identifier or email extension, for example `@empresa.co`) that the platform will use to verify the corporate identity of users and autolink them to the correct organization.
- **Purge records:** Removal of test or inactive organizations that no longer have contracted services.

Possible Actions

1. View and List Organizations

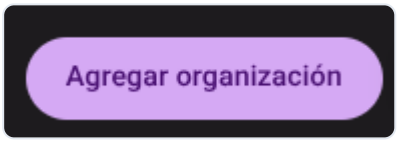
Allows administrators to examine the entire database of registered organizations. The records are presented in a table organized with the name, location, domain and hierarchical organization of each entity, whether or not it has membership and its joining date.



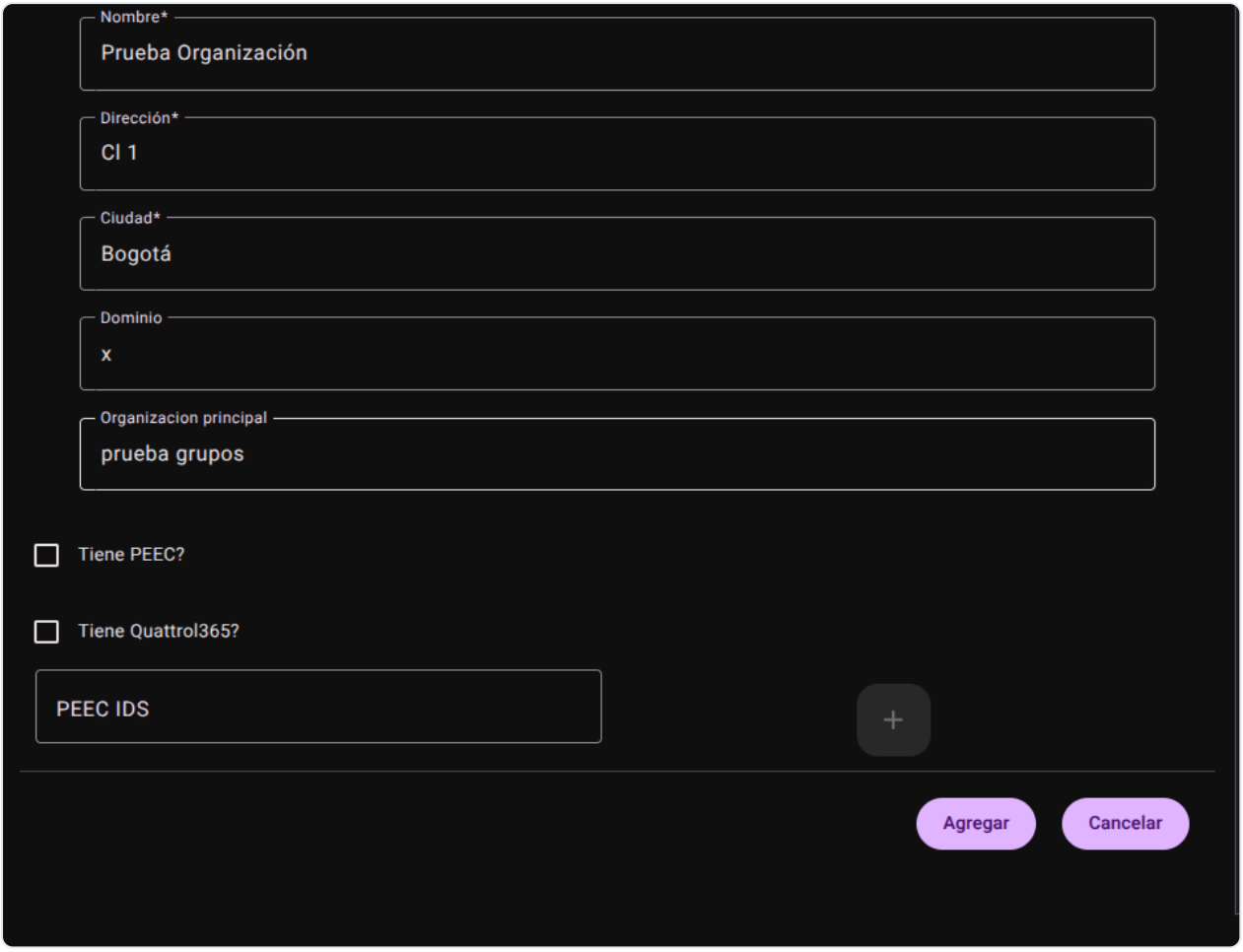
2. Add a New Organization

To add a new entity to the system:

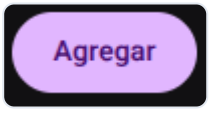
1. Click the **"Add Organization"** button located in the upper right corner of the panel.



2. Accurately complete the following requested fields on the side form:
    - **Name:** Enter the legal or business name by which the entity will be identified in all reports and configurations.
    - **Location (Location Data):** Indicate the address, city and country of the physical headquarters for billing and location reporting purposes.
    - **Domain:** Specify the unique domain (for example, `miempresa.com`). This allows any user who signs up with an email from that domain to be automatically associated with this workspace.
    - **Parent Organization (Optional):** If the entity to be created is a division, external department or branch, select it from the drop-down list. If you are a parent or root entity, leave this field empty.



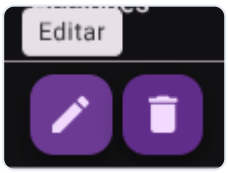
3. Press the **"Add"** button to save the record.



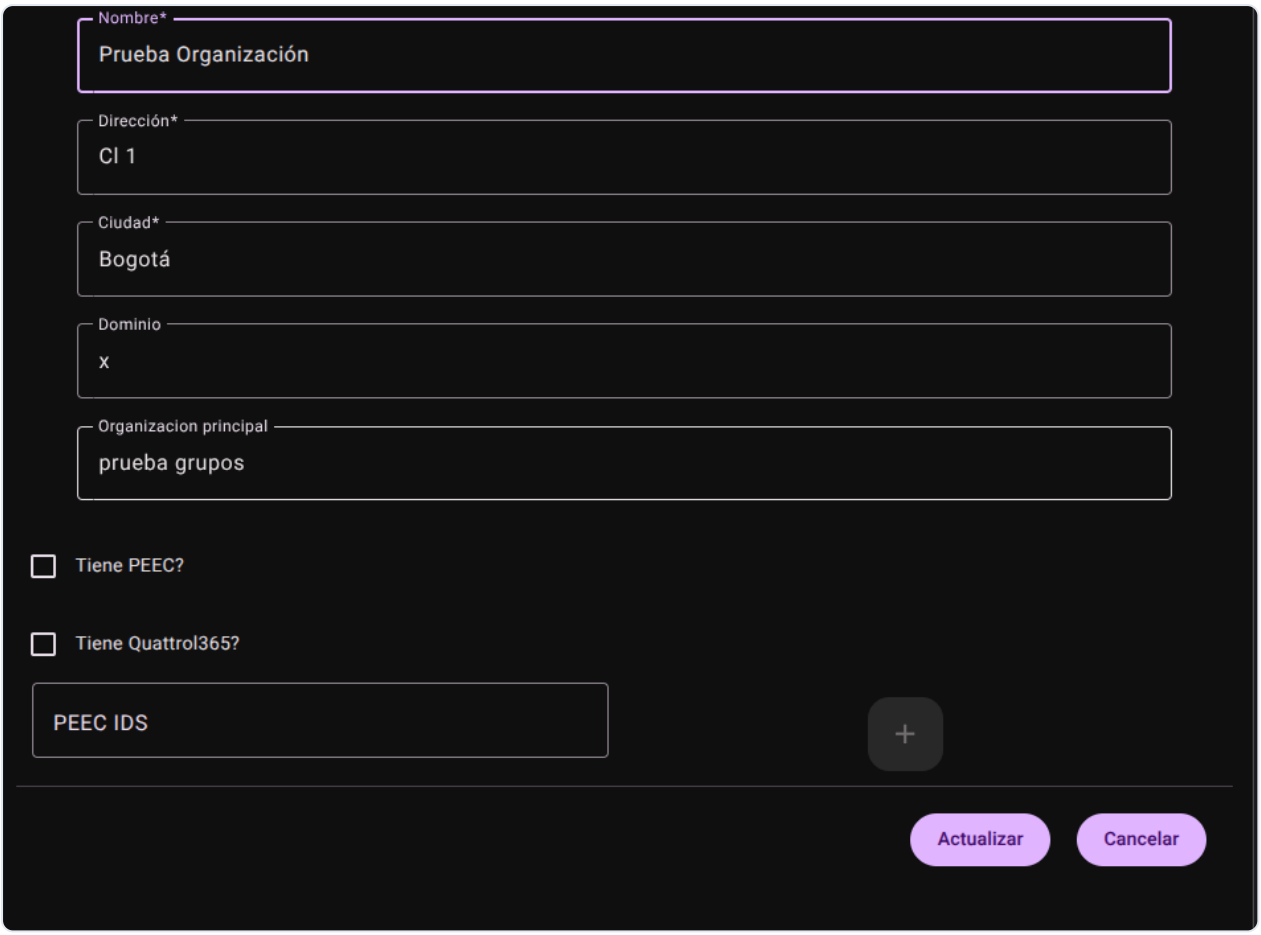
3. Edit an Organization

If you need to update pre-existing information of any entity:

1. Locate the organization in the table and click the **"Edit"** action (represented by the pencil icon ✏️).



2. The form will be pre-filled with the current information.

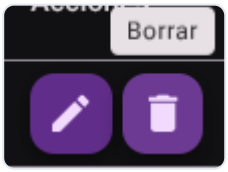


3. Make any necessary changes to the name, location, domain, or mapping of your parent hierarchical organization. There are no technical restrictions for updating these fields.
4. Click **"Update"** to apply the changes to the database.

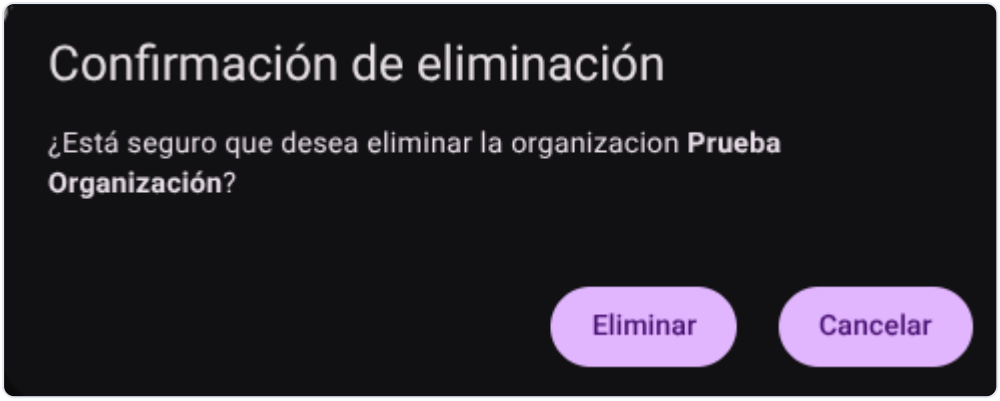
4. Delete an Organization

To permanently remove an entity from the platform:

1. Find the organization and click the **"Delete"** button (trash icon 🗑).



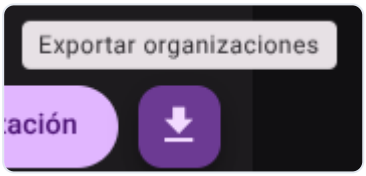
2. A confirmation modal will open warning that the action is irreversible and will affect the related data.



> **CAUTION:** To ensure the referential integrity of the data, the system will block deletion if the organization is in use by another view or module.

5. Export Organizations

Allows administrators to generate an export file (typically in structured format) that compiles all registered organizations with their respective domains and locations for corporate audits or backups.



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Country and State Settings (Geographic Location)

Description, Purpose and Objective

> **NOTE:** The **Country and State Configuration** view is the module in charge of parameterizing the territorial division and geographic location of the headquarters, organizations, employees and clients within the platform.
>
> The parameterization of **Geographic Location** manages two territorial levels:
>
> - **Countries:** Name of the country and its ISO standard code (e.g. *Colombia / COL*, *Mexico / MEX*).
> - **States / Departments / Provinces:** Territorial subdivision associated with a registered country.
>
> The objective of this view is to standardize the geographical classification of entities in the database, guaranteeing the consistency of addresses in reporting and billing.

Context of Use

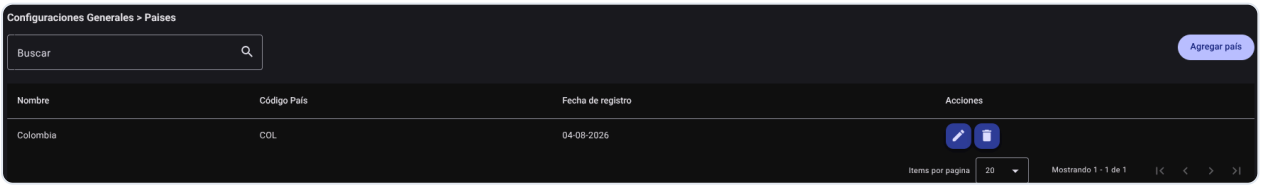
This module is used by system administrators to:

- **Open new regions:** Register countries or departments in which the organization begins operations.
- **Standardize address forms:** Ensure that location selectors in headquarters and customer records display an official geographic list.

Possible Actions

1. Register and Manage Countries

1. Enter the **Countries** view (`/erp/countries`).



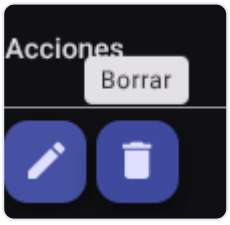
2. In the main table, consult the list of registered countries with their codes.
3. To register a new country, click **"Add Country"** and enter the Official Name and Code.

4. To add the country you must click the **Add** button

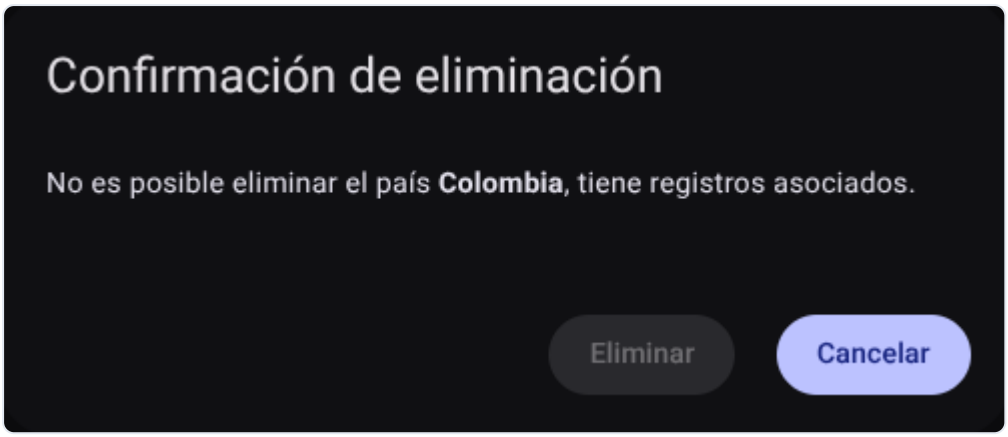
4. To modify an existing record, use the edit button (pencil icon).

5. To save, click on the **Update** button at the bottom.

6. To Delete an existing record, use the delete button (trash icon).



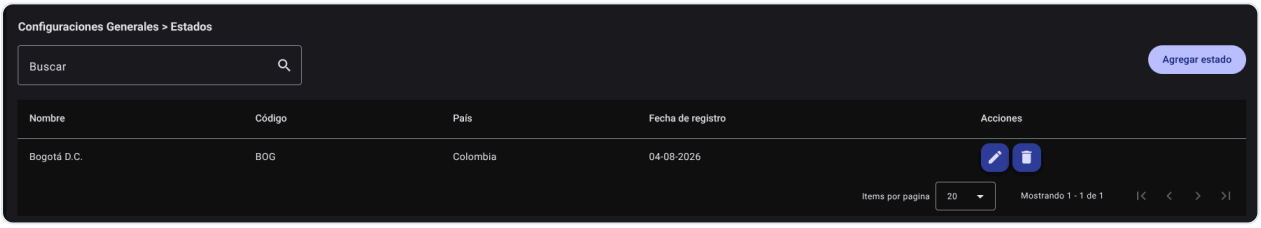
7. The system will display a direct confirmation box.



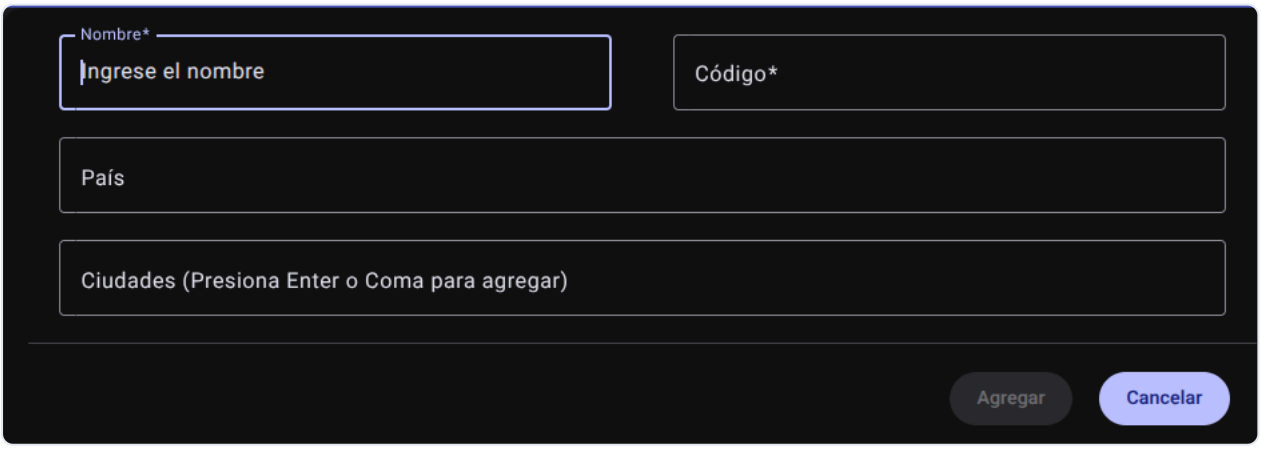
> **CAUTION:** The system blocks the deletion of any country that is being used or that has associated records.

2. Register and Manage States / Departments

1. Enter the **States** view (`/erp/states`).
2. In the main table, consult the list of **states** registered with their codes.

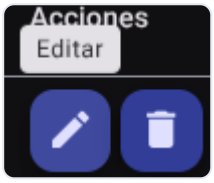


3. To register a new **state**, click on **"Add state"** and enter the Name, Official Code, Country and cities (to do this, press the Enter or Comma (,) keys to add, they will be placed in a small box and if removal is required, click the (x) in the same box.

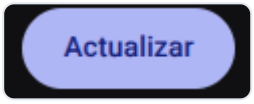


4. To add the **state** you must click the **"Add"** button.

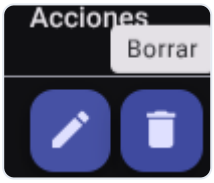
5. To modify an existing record, use the edit button (pencil icon).



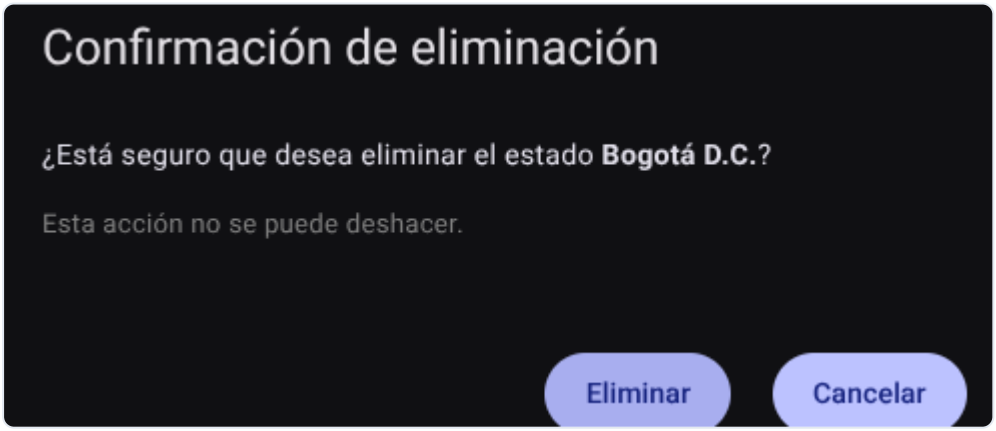
6. To save your changes, click the **"Refresh"** button at the bottom.



7. To delete an existing record, use the delete button (trash icon).



8. The system will display a direct confirmation box.



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

System Products and Licensing

Description, Purpose and Objective

> **NOTE:** The **System Products** view is the administrative console in charge of the general administration of platform products and applications, allowing you to define visual themes, file limits, downtime and support access.
>
> A **System Product** includes the following configuration parameters:
>
> - **General Data:** Product*, Product Name* and Organization.
> - **Times and Limits:** Idle time (minutes)* and General size limit (MB)* (must be greater than 5 MB).
> - **Visual Themes:** Default theme* and selection of Available Themes using the add button (**+**).
> - **Texts and Links:** Welcome message*, Logo URL, Support Link and Incident Link.
> - **View Customization:** Switches (*Show tax information in profile*, *Show all global memberships*).
>
> The objective of this view is to centralize the global operating parameters, technical limits and white label of the licensed applications.

Context of Use

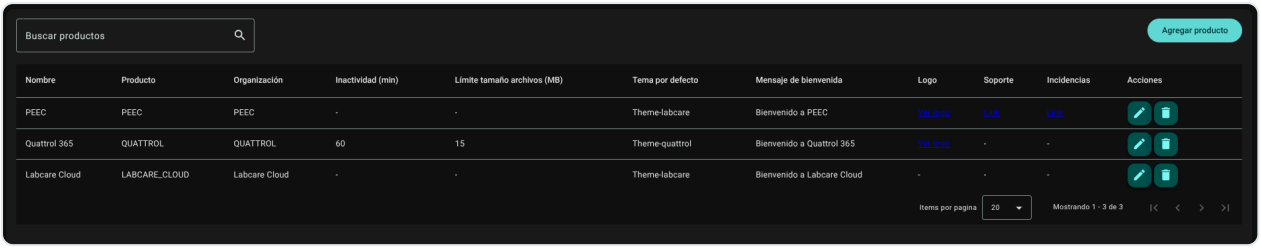
This module is used by platform administrators to:

- **Configure new products:** Define storage limits, session times and visual identities.
- **Manage topics and support access:** Customize help links and issue hyperlinks.

Possible Actions

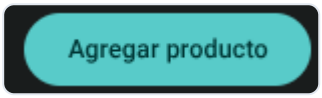
1. Consult and Filter Products

1. Enter terms in the search bar (**Search products**) to filter records in real time.
2. Click on the column headers (**Name**, **Product**, **Organization**, **Inactivity**, etc.) to sort the list in ascending or descending order.
3. The **Logo**, **Support** and **Issues** columns show shortcuts configured for each product.

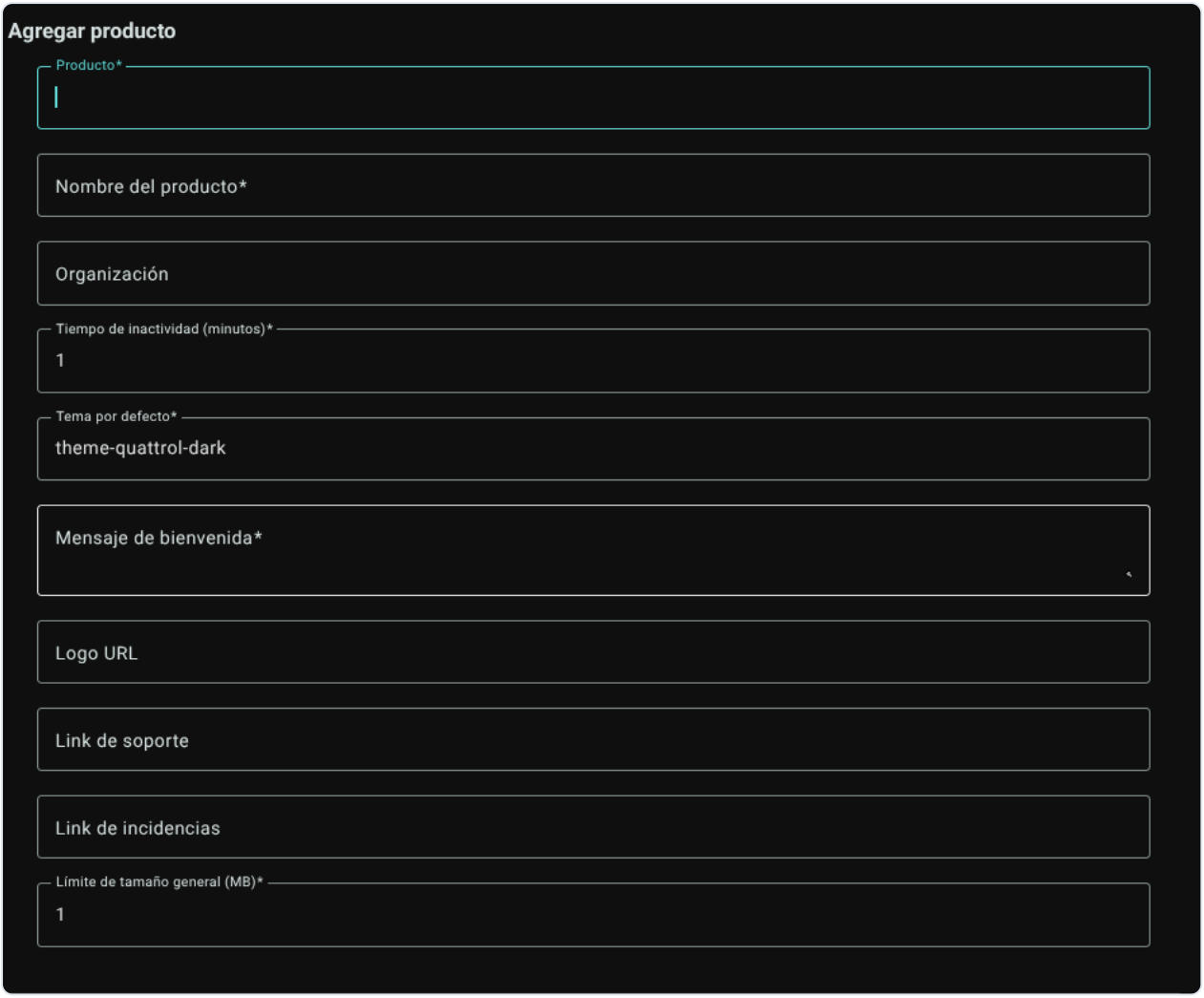


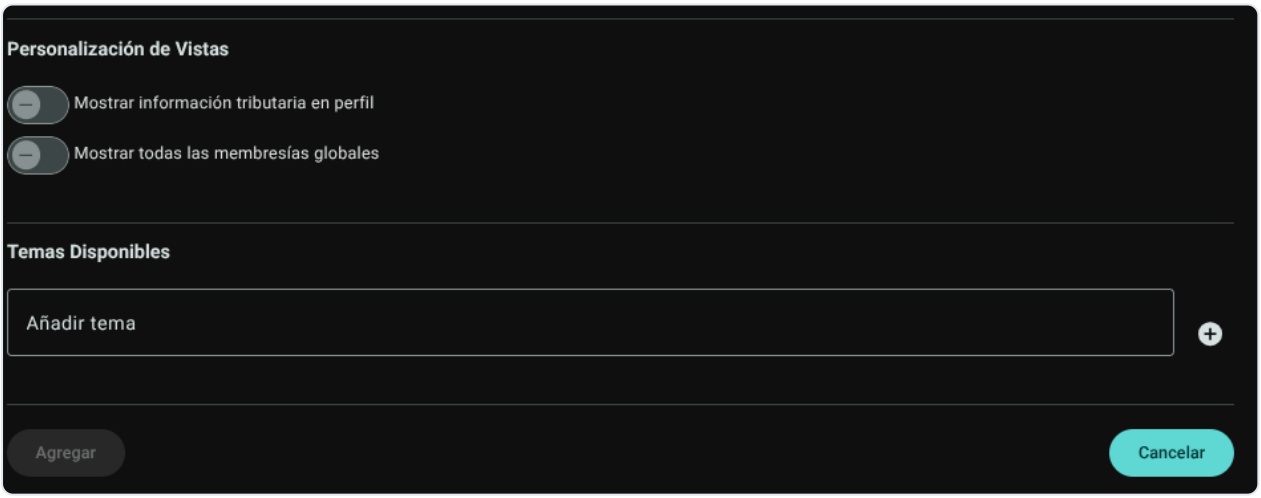
2. Create a New Product

1. Click the **Add Product** button located in the upper right corner.



2. In the side panel that appears, complete the required information:
    - **Product*** and **Product name***
    - **Organization**
    - **Downtime (minutes)***
    - **Default theme*** (select the primary visual theme from the listing).
    - **Welcome message***
    - **Logo URL**, **Support link** and **Incident link**
    - **General size limit (MB)*** (Note: must be a value greater than 5 MB; the system automatically validates this minimum).
    - **View Customization:** Turn the switches on or off (*Show tax information in profile*, *Show all global memberships*).
    - **Available Themes:** Choose a theme from the drop-down menu and press the ****+** (*Add Theme*) button to enable several alternative themes. Added topics appear as labels below the selector.

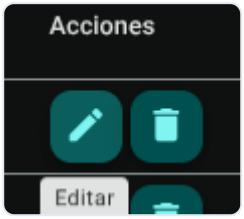




3. Click ****Add"** to save the settings (or **"Cancel"** to discard them without keeping changes).

3. Edit an Existing Product

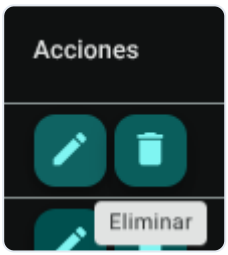
1. In the row of the desired product within the main table, locate the **Actions** column and click on **pencil (**Edit**).



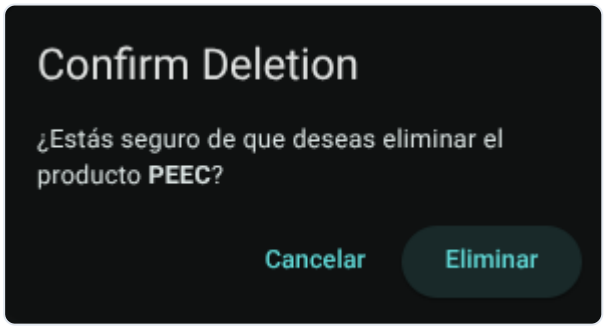
2. The panel with the loaded product information will be displayed, make the necessary adjustments and save using the **"Update"** button.

4. Delete a Product

1. In the **Actions** column of the corresponding row, click **Trash Bin (**Delete**).



2. The system will display a floating confirmation message.



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.

- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

System References (Key-Value Parameters)

Description, Purpose and Objective

> **NOTE:** The **System References** view is the administrative console in charge of consulting, registering, editing and deleting global system references (URLs or database references) used in the general configuration.
>
> A **System Reference** consists of the following key attributes:
>
> - **Key***: Unique identifier without spaces (e.g. `API_TIMEOUT`, `STORAGE_LIMIT`).
> - **Reference type**: Parameterization mode:
> - **URL**: Enables the **Value or URL*** field to enter the web address.
> - **DB Reference**: Enables the **Document Path*** field (must be entered in the *collection/ID* format).
>
> The goal of this view is to allow dynamic updating of external service URLs and database pointers without the need for code deployments.

Context of Use

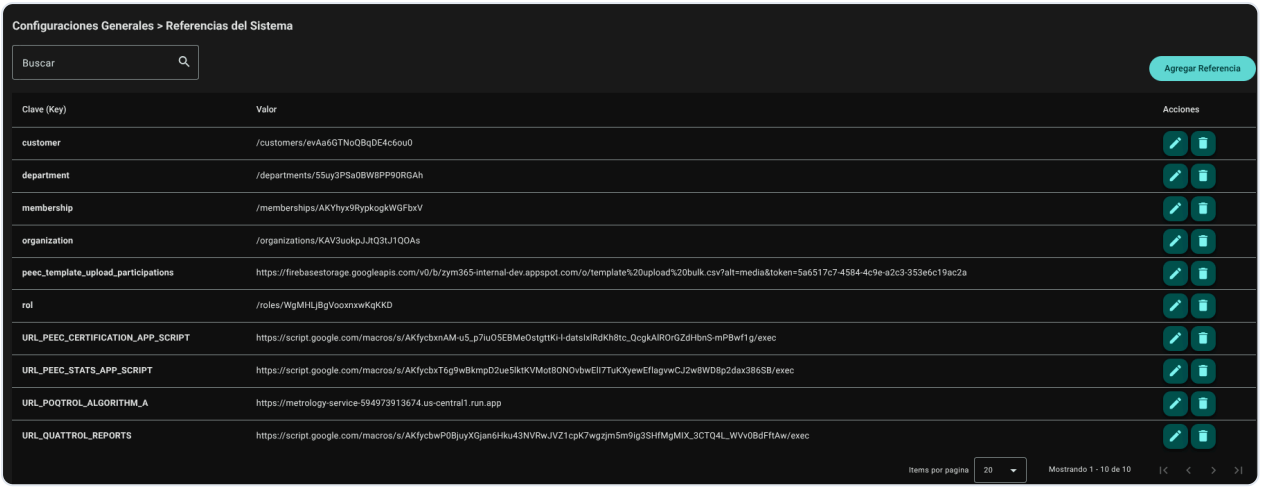
This module is managed by the architecture and infrastructure team to:

- **Adjust dynamic configurations:** Modify external service endpoints and integrations.
- **Link database references:** Store document paths with the *collection/ID* syntax.

Possible Actions

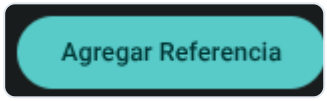
1. Consult and Filter References

1. Use the search bar (**Search**) to locate specific keys or values in real time.
2. Click on the column headers (**Key** or **Value**) to change the sorting of the list in ascending or descending order.

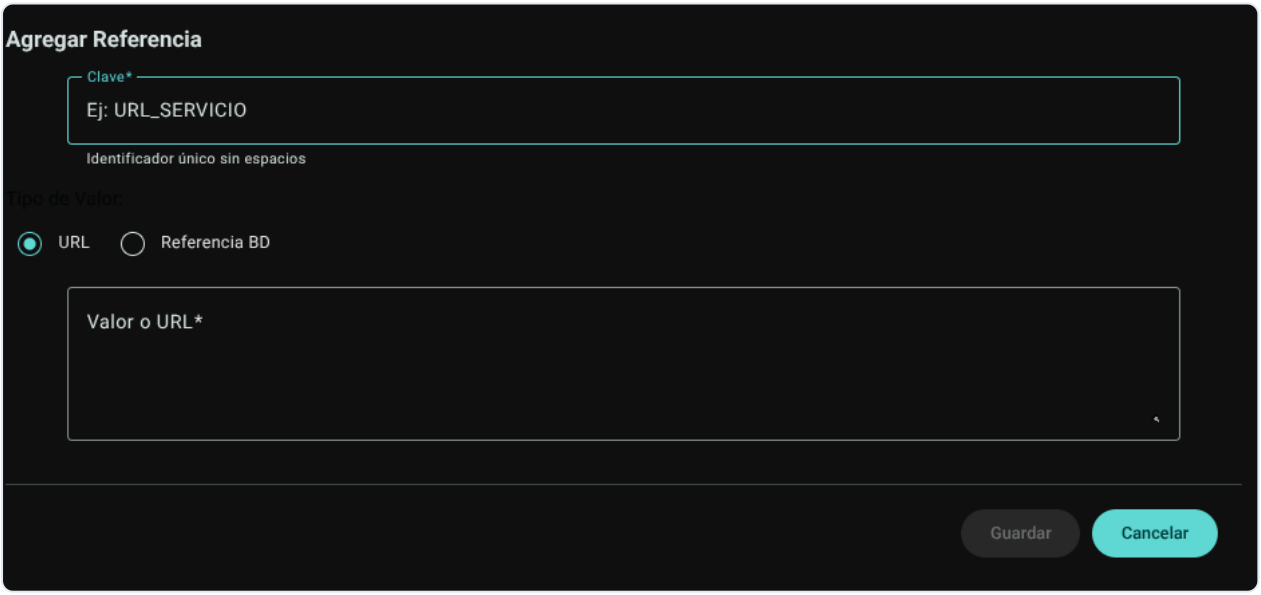


2. Create a New Reference

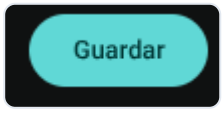
1. Click the **Add Reference** button located in the upper right corner.



2. In the side panel that appears, complete the required fields:
    - **Key*** (enter the unique identifier without spaces).
    - **Reference type**: select the corresponding option:
        - **URL**: Enables the **Value or URL*** field to enter the link.
        - **DB Reference**: Enables the **Document Path*** field (must be entered with the *collection/ID* format).



3. Click the **Save** button to register the reference. The form will dynamically change the input field based on the selected type.



3. Edit an Existing Reference

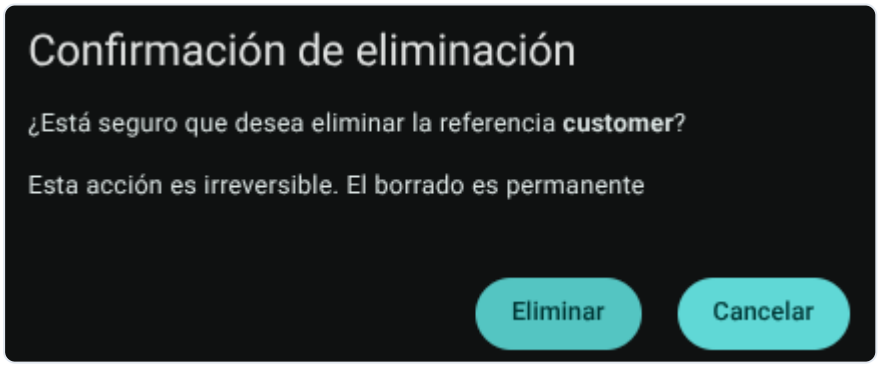
1. In the desired reference row within the main table, locate the **Actions** column and click **pencil (**Edit**).

2. The **Edit Reference** panel will be displayed; Modify the key, change the mode (URL / BD) or update the route and save the changes using the **"Update"** button.

4. Delete a Reference

1. In the **Actions** column of the corresponding row, click **Trash Bin (**Delete**).

2. The system will display a direct confirmation box.



Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).

- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Role and Permission Management

Description, Purpose and Objective

> **NOTE:** The **Roles and Permissions Management** view is the security module that allows you to define the access levels and privileges of users within the platform.
>
> A **Role** is a profile or set of authorizations assigned to a user that defines what views they can open and what operations they can perform. Privileges are controlled by **Permissions**, which are granular technical authorizations associated with specific actions (such as reading, creating, updating, deleting, or exporting information).
>
> The objective of this view is to ensure data security and privacy, limiting user access exclusively to your organization's tools and data that are strictly necessary for its functions.

Context of Use

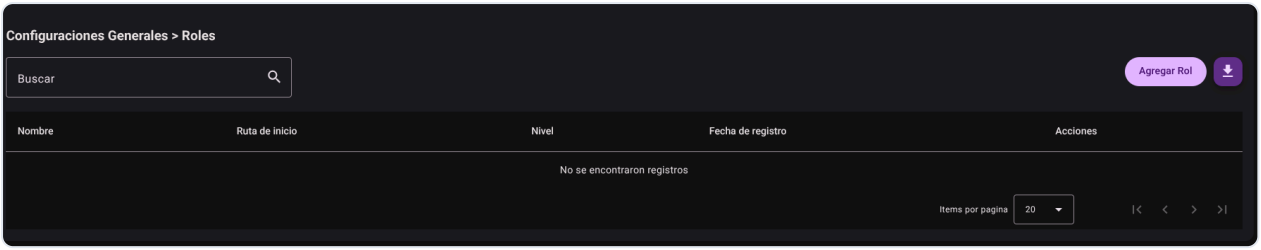
This module is used critically by Platform Administrators to:

- Configure user profiles according to the organizational structure of the company (for example: Administrator, Lawyer, Judicial Clerk, Technical Quality Manager, Auditor or Patient).
- Define the **Initial Route** (the default view to which the user is redirected immediately after successfully logging into the system).
- Configure access and editing permissions for each functional menu enabled in the organization.
- Retire or delete roles that are no longer valid or deprecated, as long as they are not assigned to active users.

Possible Actions

1. View and List Roles

Shows the list of roles configured in the system with their essential data: the name of the role, its initial assigned path, the level and the entry date.

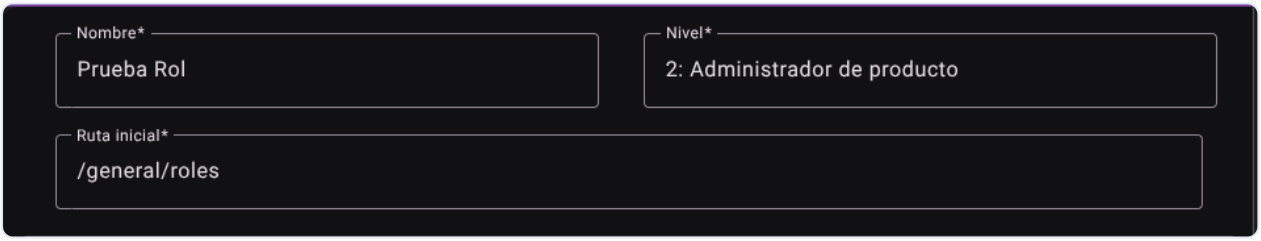


2. Add a New Role

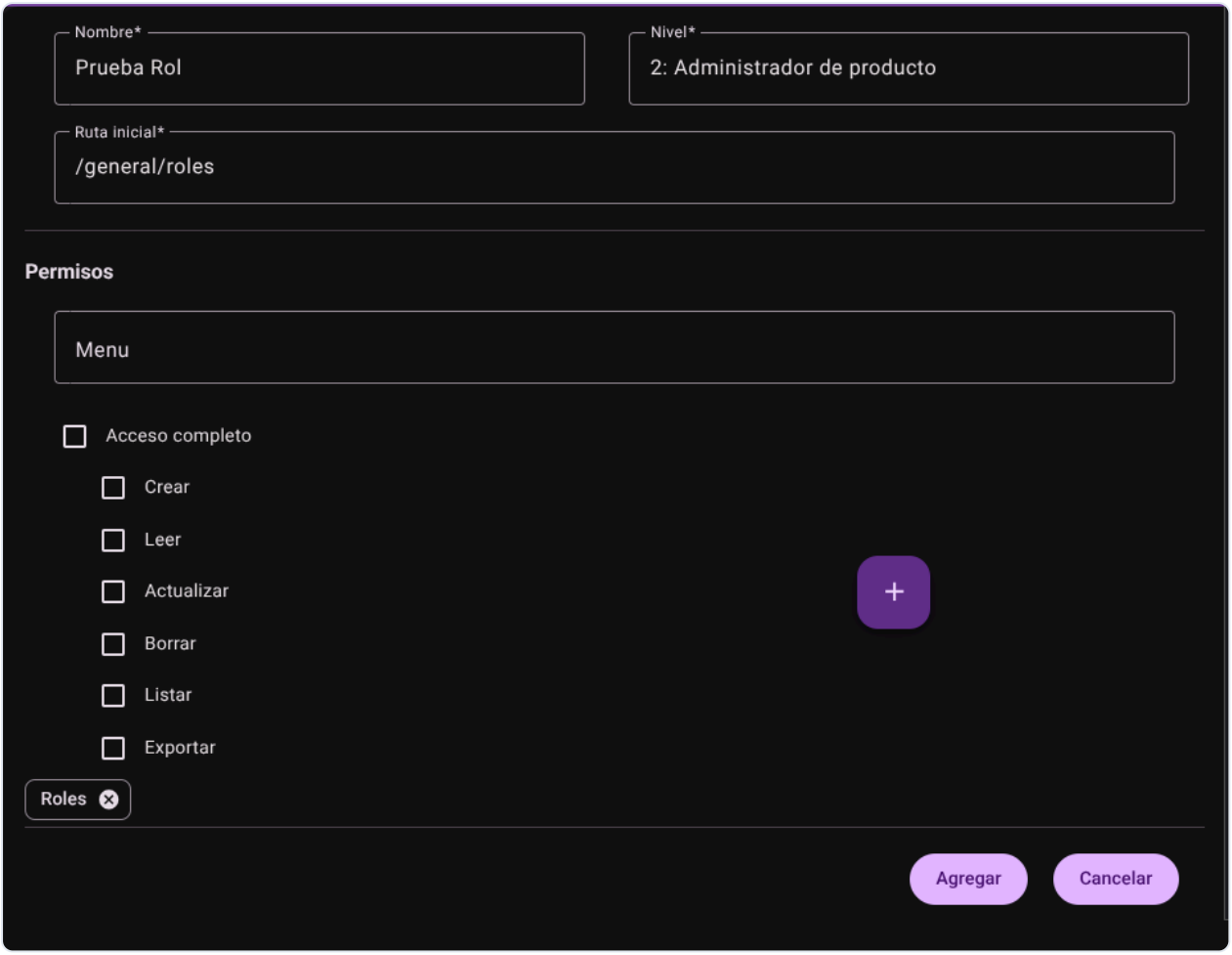
To create and configure a role in the system:

1. Click the **"Add Role"** button in the upper right corner of the screen.

2. Fill out the basic fields of the form:
    - **Name:** Enter the friendly name of the role (e.g. `Auditor Interno`).
    - **Level:** Enter the desired level of the role. (ex. `2. Administrador del produto`)
    - **Initial Path:** Enter the system path that the user will access by default (e.g. `/general/roles`).



3. Configure the **Permissions per Menu** matrix by clicking the **Add Menu** button (`+`):
    - Select the functional **Menu** you want to grant access to.
    - Check the boxes for the required granular permissions:
        - **Full Access:** Grants all available permissions for the selected menu.
        - **Create:** Authorizes the registration of new information.
        - **Read:** Enables display of log details.
        - **Update:** Allows you to modify or edit existing data.
        - **Delete:** Allows permanent deletion of records.
        - **List:** Enables the display of general data tables.
        - **Export:** Enables the option to download reports and data to external files.

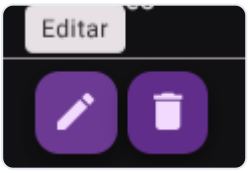


4. Click **"Add"** to save the role.

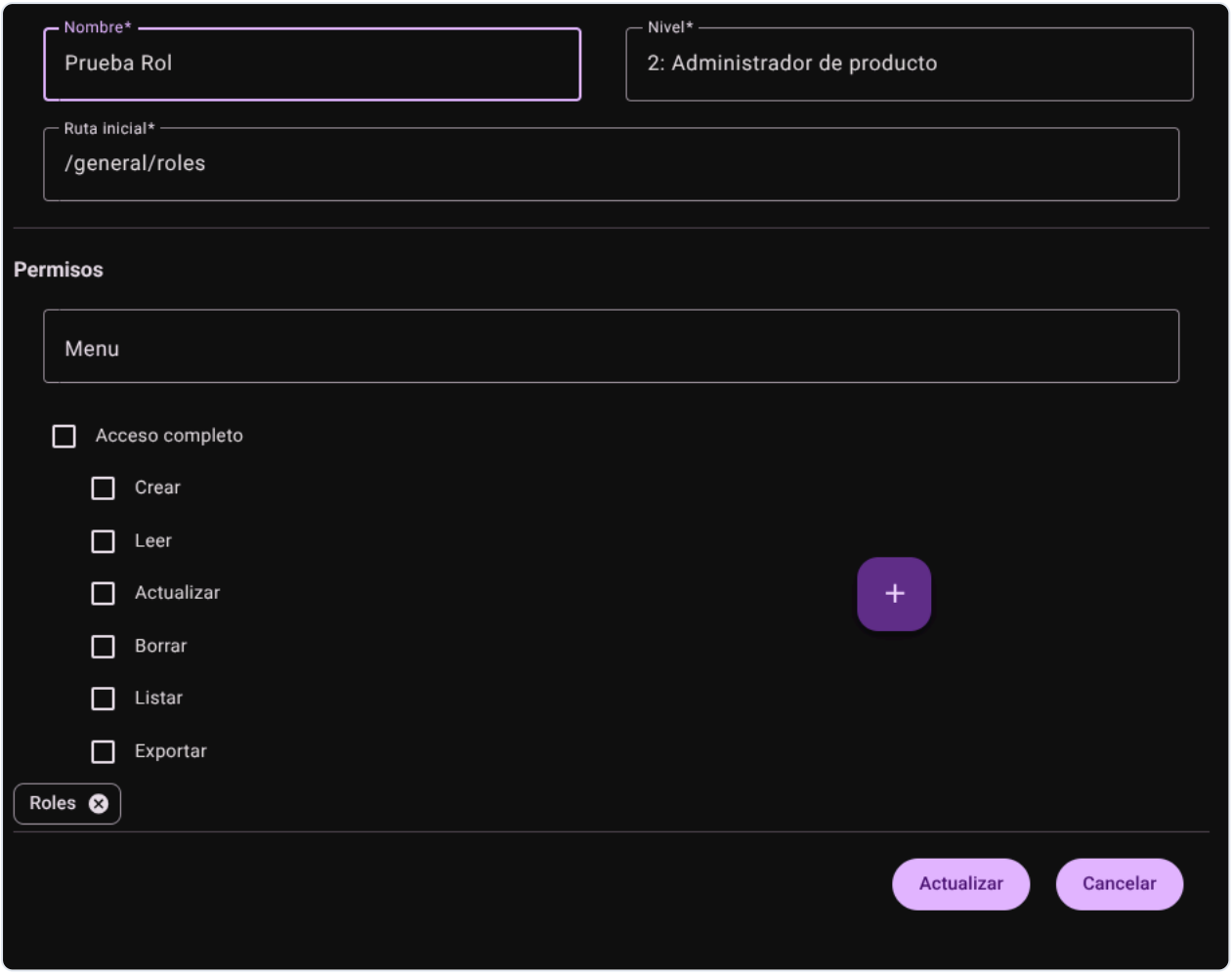
3. Edit a Role

To modify the privileges or settings of a role:

1. Locate the role in the list and click **"Edit"** (pencil icon ✏️).



2. Modify the initial path or add/remove specific menus and permissions from the access array. There are no restrictions on changing the permissions assigned to a role.

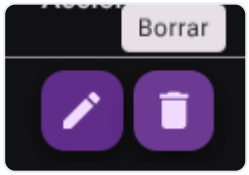


3. Click **"Update"** to apply the changes immediately.

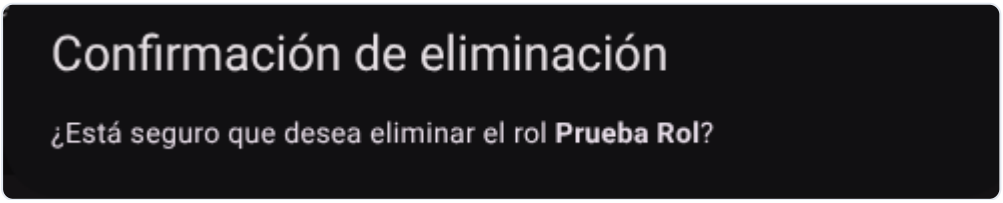
4. Delete a Role

To permanently delete a profile from the system:

1. Find the role and click the **"Delete"** action (trash icon).



2. Confirm the action in the confirmation popup modal.



> **CAUTION:** The system preventively blocks the deletion of any role that is being used by an active user in an organization.

Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).
- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

User Administration

Description, Purpose and Objective

> **NOTE:** The **User Administration** view is the section of the platform that allows you to control the access of staff and collaborators to the system, managing their credentials, personal data and security profiles.
>
> A **User** is any account with active credentials that logs into the system under a given role. The platform classifies accounts into three main types: **Internal User** (direct collaborator who has a supervisor and assigned office), **External User** (staff or indirect client) and **Patient User** (final recipient of health services with clinical metrics such as weight and height).
>
> The objective of this module is to centralize account management, guaranteeing that each person is correctly identified and has only the access that corresponds to them.

Context of Use

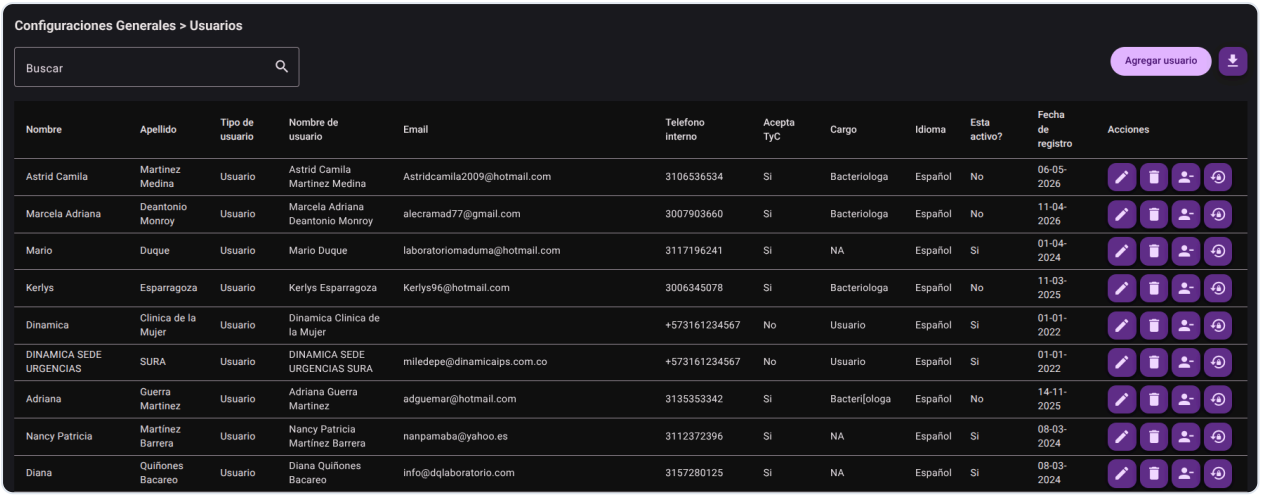
This module is used by organization Administrators to:

- **Register new collaborators:** Register employees (internal users) with their respective contractual information and supervision.
- **Create accounts for clients or contractors:** Enable external users.
- **Register patients:** Register health users (patients) linked to service providers.
- **Credential support:** Change forgotten passwords or temporarily suspend access (deactivate) accounts for security or job separation reasons.

Possible Actions

1. View and List Users

Displays a table with all the users registered for the organization, detailing their name, email, role, user type (internal, external or patient) and activity status.

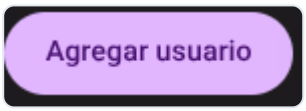


2. Add a New User

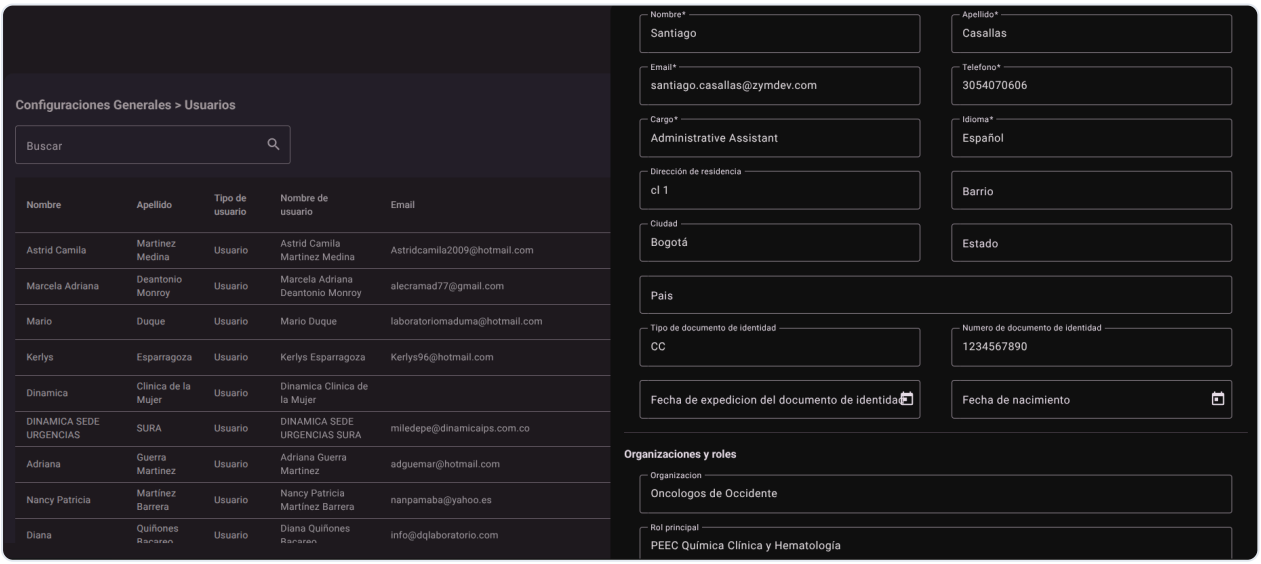
To create an account, click the add button corresponding to the required user type:

Add User

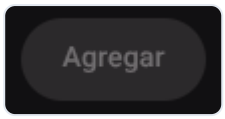
1. Click **"Add User"**.



2. Fill out the form with the basic information:
    - **Personal Information:** Name, surname, email, telephone, address, neighborhood, city, country and preferred language.
    - **Identification:** Type, number and date of issue of the document, and date of birth.
    - **Security:** Status, position and assignment of the corresponding **Role**.



3. Click **"Add"** to create the account.



Add Internal User

1. Click **"Add internal user"**.
2. Complete the form information (includes the same external user data plus organization-specific fields):
    - **Corporate Structure:** Assigned office, direct supervisor and department to which it belongs.
    - **Travel Documentation:** Passport and date of issue of the passport.
3. Click **"Save"** to create the record.

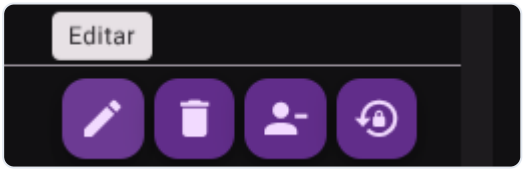
Add Patient

1. Click **"Add Patient"**.
2. Complete the form with the specific clinical and identification fields:
    - **Clinical Data:** Weight (in kilograms), height (in centimeters) and profession of the patient.
    - **Service:** Associated health service provider and corresponding role on the platform.
3. Click **"Save"** to confirm.

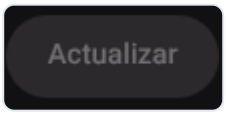
3. Edit a User

To modify the contact or work information of a registered user:

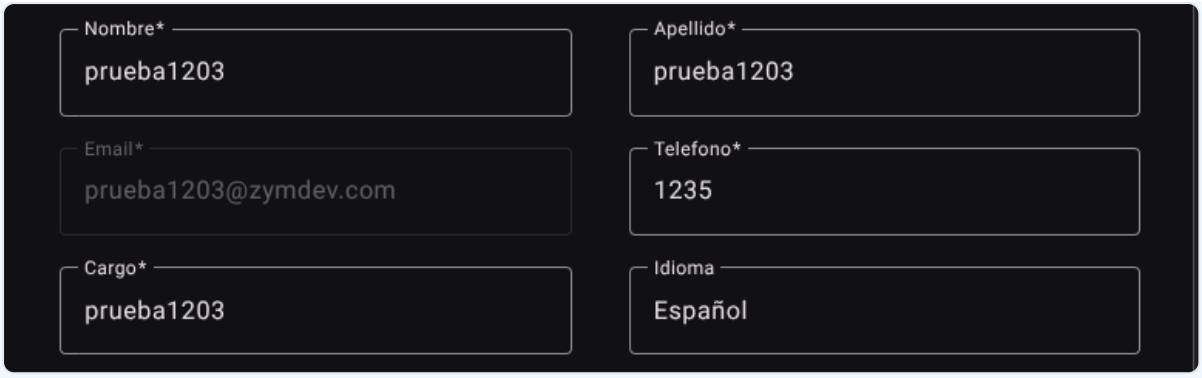
1. Locate the user in the table and click **"Edit"** (pencil icon ✏️).



2. The form will load with the current information. Make any necessary changes to the address, title, phone number or role.
3. Click **"Update"** to save.



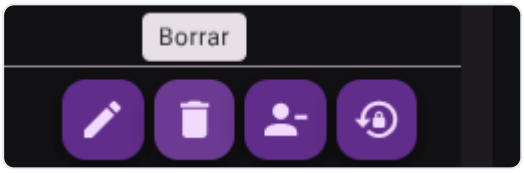
> **WARNING:** For security and login integrity (authentication) reasons, the email address cannot be modified once the account has been created.



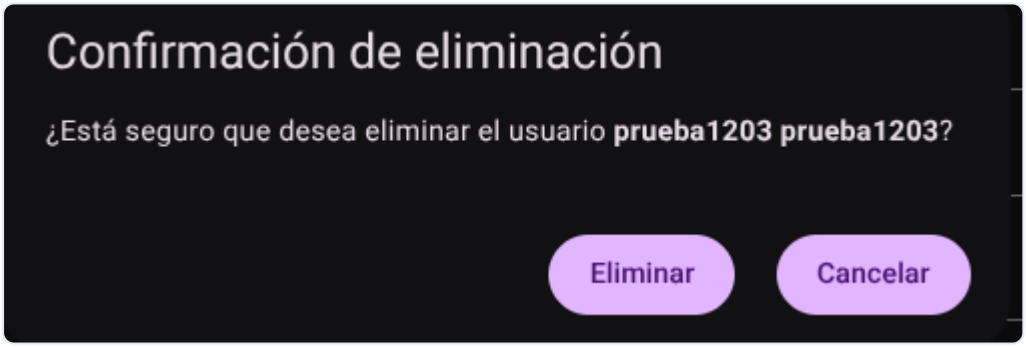
4. Delete a User

To permanently delete a user account:

1. Locate the record and click **"Delete"** (trash icon).



2. confirm the action in the confirmation modal.

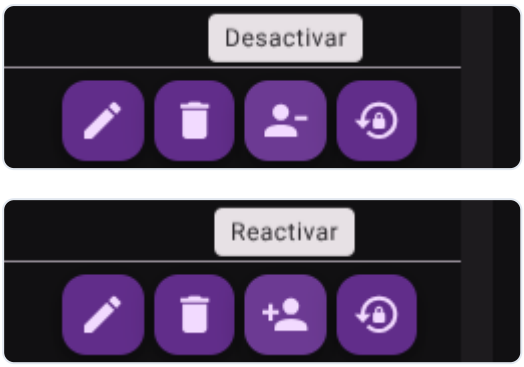


> **CAUTION:** Deleting a user is permanent and will erase their direct connection with the organization. If the user has associated historical records (such as process uploads or results entries), it is recommended to change their status to **Inactive** instead of deleting the account to preserve data traceability.

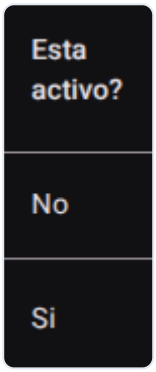
5. Activate or Deactivate User

Allows you to quickly suspend or restore access to the platform without having to delete the user's historical data:

1. Click the status switch or icon in the corresponding user's row.



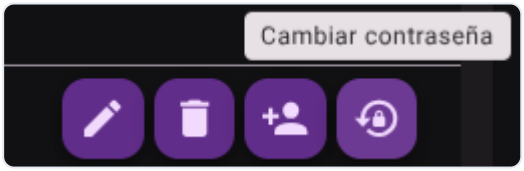
2. The system will toggle the **Are You Active?** between **Yes** (access allowed) **No** (access temporarily denied).



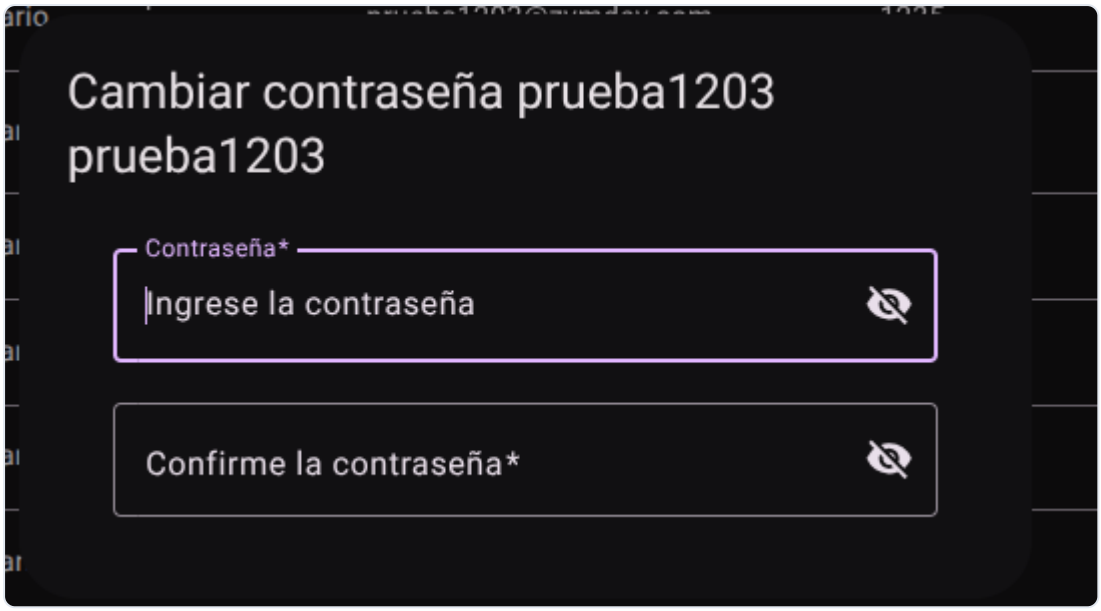
6. Change Password from the Administrator

Allows you to safely redefine the password of a user who has forgotten their access credentials:

1. Click the key icon or **"Change Password"** in the actions column.



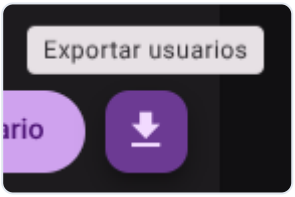
2. In the pop-up form, enter the new password and confirm it in the corresponding verification field.



3. Click **"Change Password"** to save.

7. Export User List

To download the organization's user database, click the download icon in the upper right corner. A file in **.CSV** format will automatically download with the account information.



8. Search User

To search for any user by name or other character, type the first name, last name, username, email, phone number, etc., in the search bar

Roles and Permissions Required

Access to these global system parameters is restricted to the **General Administrator** or **Platform Support** role. Requires the following permissions:

- **Geographic and UI parameters:** `country_read`, `state_read`, `languages_read` and `menus_read`.
- **Entities and Licensing:** `memberships_read`, `system_products_read` and `config_refs_read`.
- **Traceability:** `tags_read` and `incident_tracking_read` (for incident tracking).

- **Write Actions:** Permissions with corresponding `_create` and `_update` suffixes to modify system tables.

Configuration Wizard

Description, Purpose and Objective

> **NOTE:** The **Configuration Assistant** (Wizard) view is the guided module designed to facilitate rapid parameterization of the platform, mass creation of control tests and agile updating of analytical components.
>
> **Setup Wizard** centralizes three critical workflow operations:
>
> - **General Configuration:** Allows you to sequentially select and indicate the type of measurement, area, method, unit, manufacturer, lot assignment and instrument in a single tabular environment.
> - **Change Lots of a CC Test:** Allows mass replacement or cloning of expired control lots with new lots while maintaining the test configuration.
> - **Change QC Test Instrument:** Facilitates the reassignment of analytical tests to new equipment or analyzers without the need to redo the parameterization from scratch.
>
> The goal of this view is to optimize system startup time and simplify periodic operational maintenance tasks.

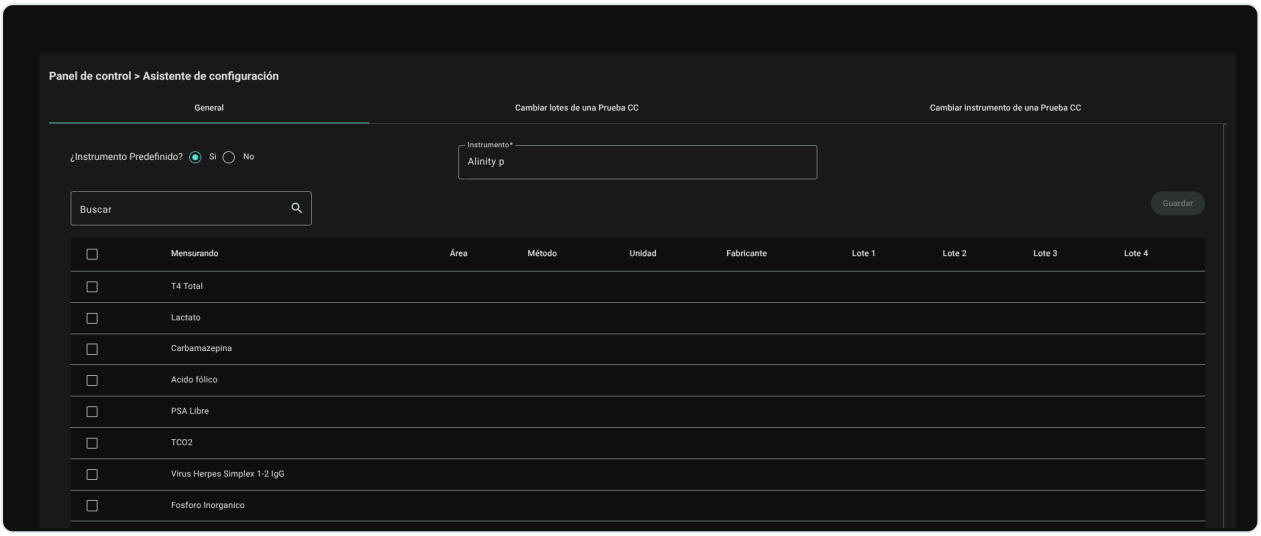
Context of Use

This module is used by technical directors and administrators of the organization to:

- **Initial start-up:** Register the organization's analytical offering step by step through a unified interface.
- **Renewal of Control Lots:** Migrate active tests to new control lots when previous supplies expire.
- **Replacement or Upgrade of Equipment:** Reassign test batteries from a replaced instrument to a new one immediately.

Possible Actions

1. "General" section:

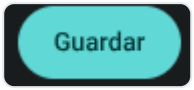


1. **Select the type of measurement:** In the main list, check the box corresponding to the item you want to configure (e.g. a type of test or measurement). Doing so will enable additional fields for that item.

2. **Configure item parameters:** For the selected item, display and select options in the following fields:
    - **Area:** select the application area.
    - **Method:** Choose the analysis method.
    - **Unit:** Defines the unit of measurement.
    - **Manufacturer:** select the corresponding manufacturer.
3. **Assign Lots:** In the "Lot 1", "Lot 2", "Lot 3", etc. columns, drop down the menu and select the specific lot codes that you will apply to this configuration.

4. **Assign Instrument:** At the top right, click on the **Instrument*" field and type or select the name of the equipment or instrument that will be used for these tests.

5. **Save:** Once the row and instrument configuration is complete, click the **Save** button located in the upper right corner of the table. The system will display a brief charging indicator while the initial configuration is recorded.



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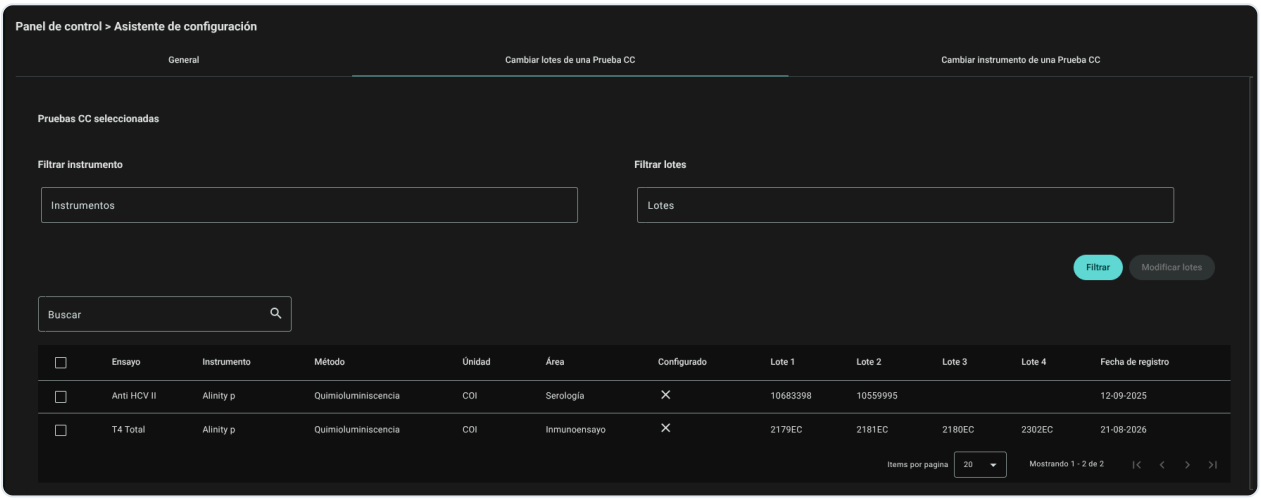
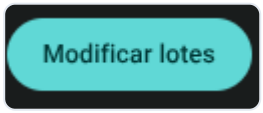
2. Section "Change lots of a CC Test"

1. **Navigate to tab:** click on **top tab ****Change batches of a QC Test"**.
2. **Select test:** In the table below, check the box for the test you want to modify the batches for (the test name will appear as a label at the top).



3. **Filter (Optional):** You can use the “Filter Instrument” and “Filter Batches” fields at the top to search for specific settings. Select the desired options from the drop-down menus.

4. **Modify:** Click the ****Modify Batches"** button to apply the changes to the selected test. The button will be enabled after selecting the corresponding filters and tests.



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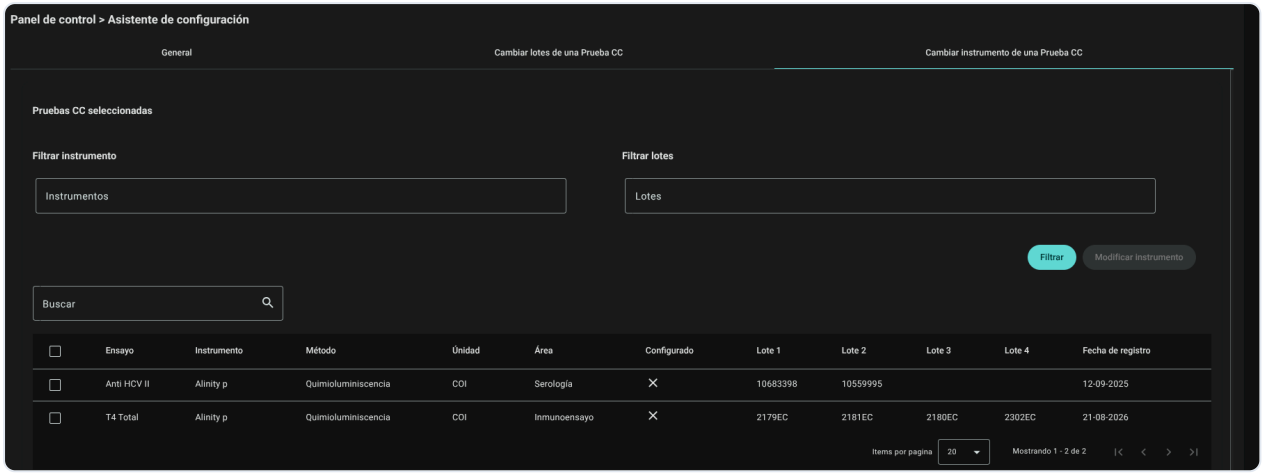
3. Section "Change CC Test instrument"

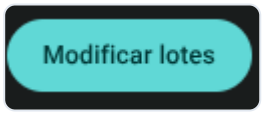
1. **Navigate to tab:** click on **top tab ****Change CC Test instrument"**.

2. **Select the test:** As in the previous step, check the box of the test to modify in the table below.



3. **Filter (Optional):** Use the "Filter instrument" and "Filter batches" fields to find the desired configuration.

4. **Modify:** Click the ****Modify Instrument"** button (or "Filter" if the goal is just searching) to apply the changes. The action button will be enabled after confirming the parameters.



Required Technical Permits

- `setup_wizard_read` : Allows you to view and run the general configuration wizard.
- `copy_qctest_lot_read` : Authorizes the batch migration and change tool in CC tests.
- `copy_qctest_instrument_read` : Authorizes reassignment of instruments in CC tests.

Master Test Catalog

Description, Purpose and Objective

> **NOTE:** The **Master Test Catalog** (or Tests) view is the fundamental quality control module in charge of defining the analytical parameterization and measurement methods applied in the organization.
>
> An **Assay** is the specific methodological combination used to quantify an analyte. It is defined by five key attributes:
>
> - **Measuring:** The analyte or chemical/biological component under analysis (e.g. *Glucose*, *Cholesterol*).
> - **Area:** The clinical processing section (e.g. *Clinical Chemistry*, *Hematology*, *Immunology*).
> - **Method:** The technology or chemical principle of measurement (e.g. *Hexokinase*, *Spectrophotometry*).
> - **Manufacturer:** The commercial company that supplies the reagents (e.g. *Roche*, *Siemens*).
> - **Unit:** The physical unit of measurement in which results are reported (e.g. *mg/dL*, *mmol/L*).
> - **Slide # Gen:** Optional numerical parameter required exclusively for certain analytical methods based on dry chemistry or slides.
>
> The objective of this view is to standardize the organization's analytical library, serving as a mandatory master catalog for the configuration of Quality Control Tests (QC Tests).

Context of Use

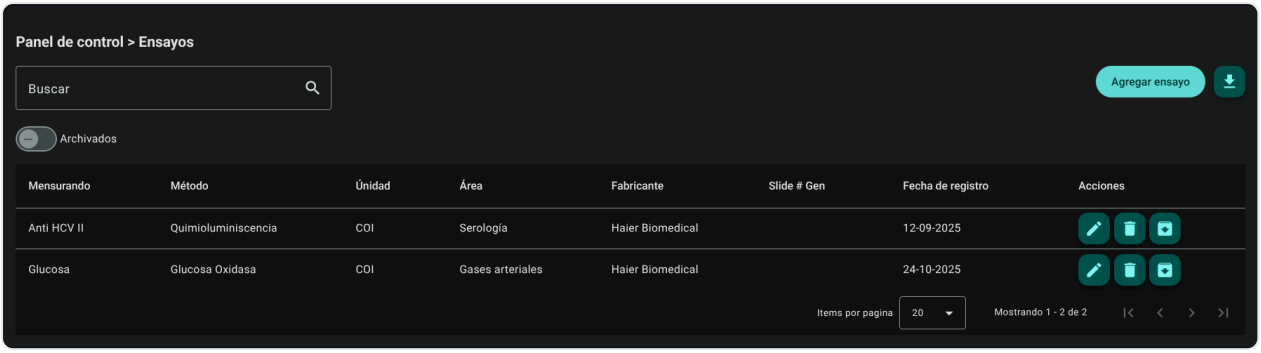
This module is operated by laboratory quality coordinators and technical directors to:

- **Define the analytical offer:** Register the active assays in the organization's analyzers.
- **Standardize methods and units:** Ensure that all results from the same technique use the same method and unit for group analysis (peer group).
- **Purge the catalog:** Hide or archive old methodological combinations that are no longer processed, keeping the catalog clean without losing the history of previous results.

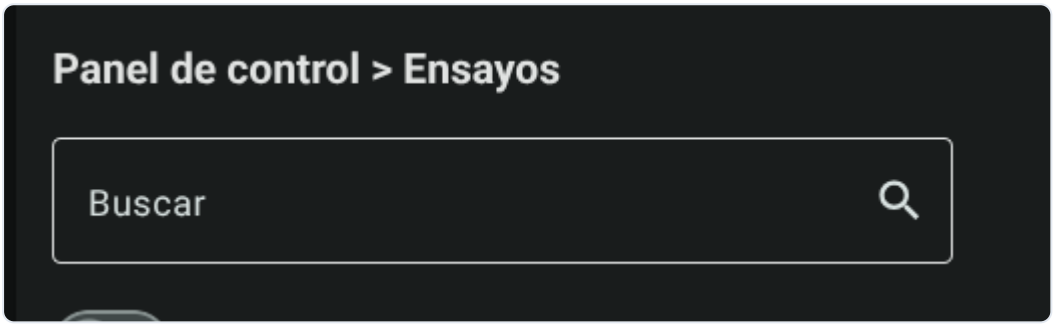
Possible Actions

1. Consult and Filter Test Catalog

Shows an interactive table with all registered assays detailing: Measurand, Method, Unit, Area, Manufacturer, Slide # Gen and Registration Date.



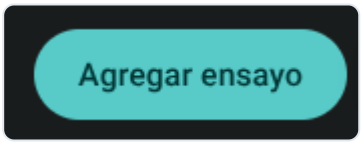
The upper search engine allows you to filter in real time by any of these columns.



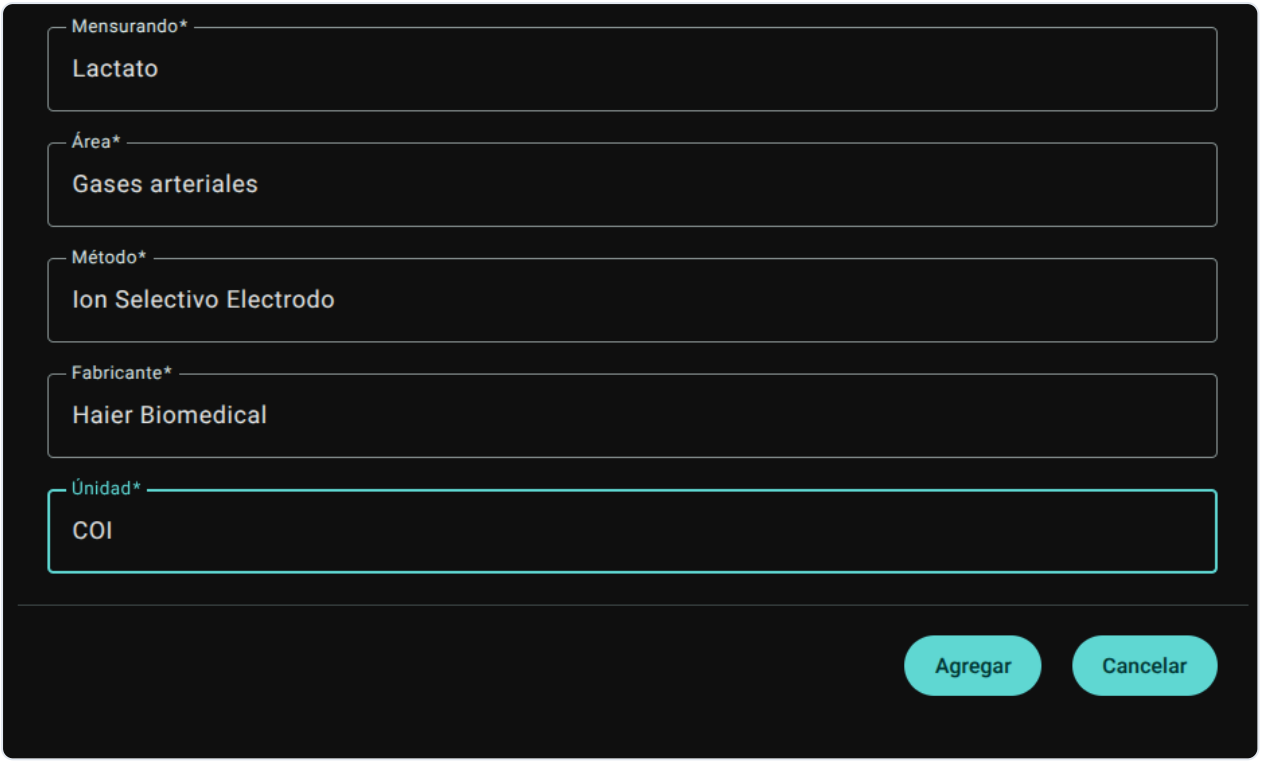
2. Add an Essay

To register a test in the system:

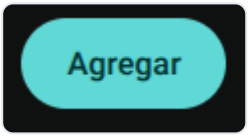
1. Click the **"Add Essay"** button in the upper right corner.



2. Complete the form in the side panel by selecting options from the autocomplete lists (which load system constants):
    - **Measuring:** Select the analyte from the list.
    - **Area:** Specify the clinical area.
    - **Method:** Select the analytical technique.
    - **Manufacturer:** Indicate the commercial brand of the reagent.
    - **Unit:** Define the physical reporting unit.
    - **Slide # Gen (Conditional):** This field will be automatically enabled if the selected method belongs to the dry chemistry category that requires slide or plate identification.



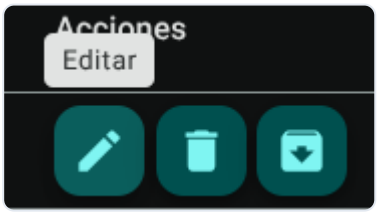
3. Click **"Add"** to save the record. The test will be immediately displayed in the main table.



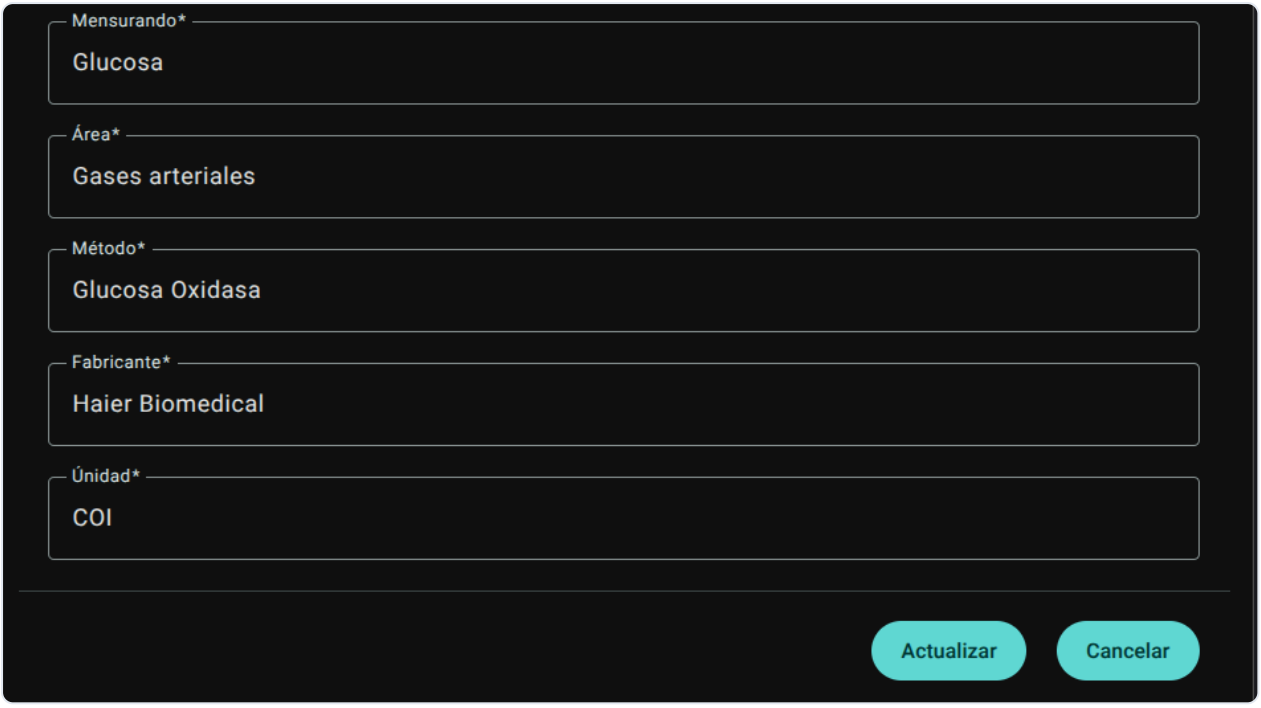
3. Edit an Essay

If you need to adjust the manufacturer, method or correct the unit:

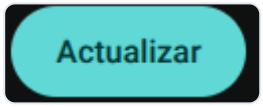
1. Click **"Edit"** (pencil icon ✏️) in the essay row.



2. Adjust the parameters in the preloaded side panel.



3. Click **"Update"** to confirm.

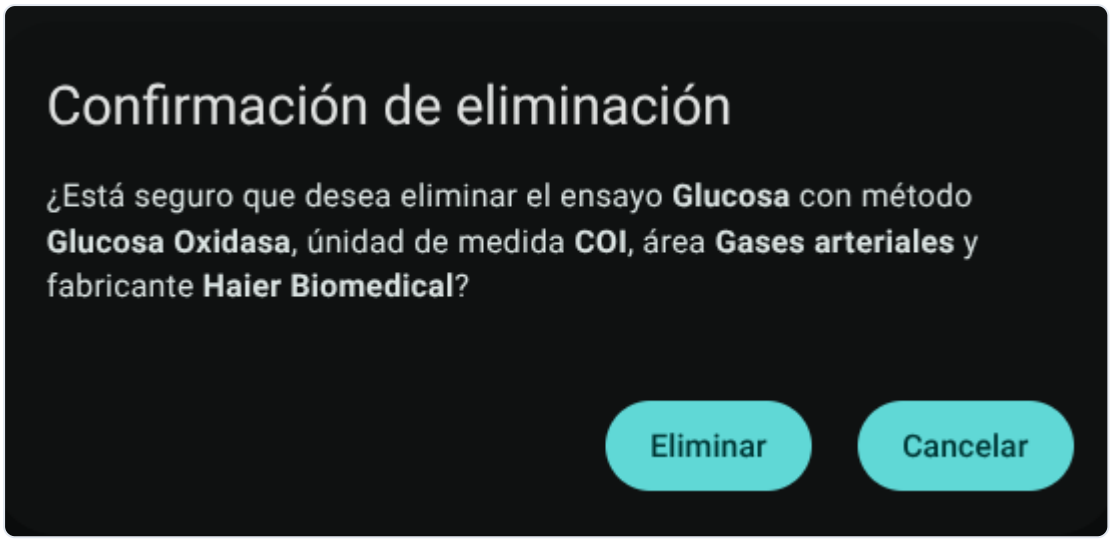


4. Delete an Essay

To permanently delete an essay:

1. Click the trash icon ( ) for the corresponding essay.

2. confirm the action in the modal.

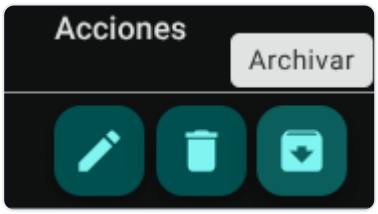


> **WARNING:** The system will automatically block the deletion of any test that is already linked to an active or historical **QC Test** (Quality Control Test) in the organization. For these cases, the correct option to debug the menu is **Archive** the essay.

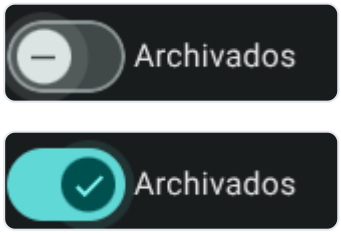
5. Archive and Unarchive Essays

It allows you to visually remove obsolete or inactive tests from the catalog without deleting their historical data associated with previous quality controls:

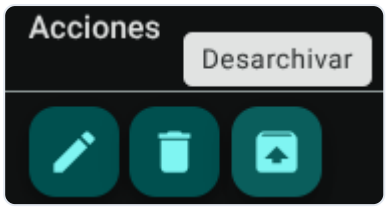
- **Archive:** Click the **"Archive"** button (folder or drawer icon 📥) in the essay row. The record will disappear from the main view and will no longer be presented as an option in the new forms.



- **View Archived:** Turn on the **"Archived"** switch at the top left of the table. The table will change to list only archived trials.

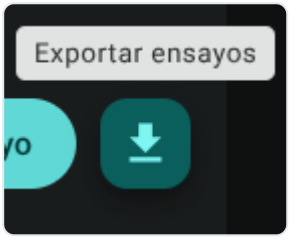


- **Unarchive:** While in the archived view, click the **"Unarchive"** icon (up arrow or restore icon) to return the essay to the active catalog.



6. Export Test Catalog

Click the download button in the header to download the trial database (active or archived depending on the view you are in) in **.CSV** format.



Required Technical Permits

Access to the calibration and measurand library is restricted by the following permissions:

- `assays_read`: Grants access to the module and reading of the test table.
- `assays_create`: Enables the creation of new assays linking analytes and methods.
- `assays_update`: Authorizes modification of test components and archive/unarchive action.
- `assays_delete`: Allows you to delete from the database those trials that do not have records or linked control tests.
- `assays_export`: Allows you to download the lists in `.CSV` format.

Comparative Quality Control Groups

Description, Purpose and Objective

> **NOTE:** The **Comparative Quality Control Groups** (or CC Groups) view is the module responsible for grouping multiple CC Tests under the same logical criterion or clinical profile to facilitate integrated visualization and analysis of massive data.
>
> A **Quality Control Group** (or CC Group) is a group with its own name (e.g. *Lipid Profile*, *General Chemistry*) that associates a set of **CC Tests** configured in the organization.
>
> The goal of this view is to simplify daily analytical management, allowing bacteriologists and quality engineers to enter results from multiple related tests in a single unified form (group entry) and generate integrated analytical reports for complete diagnostic profiles.

Context of Use

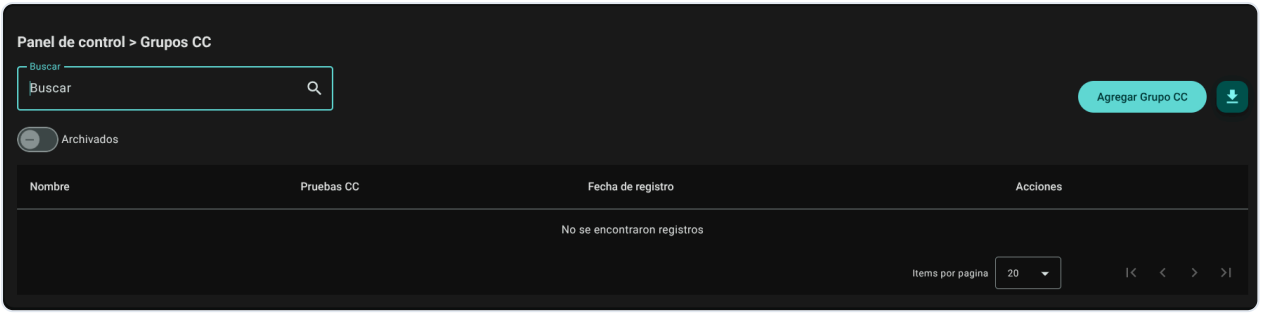
This module is used by analyst staff and quality coordinators to:

- **Organize workflows by areas:** Group exams corresponding to the same section of the laboratory or that are processed on the same instrument.
- **Enable group entry of results:** Allow quick recording of results of controls of several simultaneous analytes (e.g. recording Glucose, Urea and Creatinine from *Renal Profile* in a single stroke).
- **Analyze profile statistics:** Study in a unified way the performance and variability of a set of related diagnostic tests.

Possible Actions

1. Consult and Search CC Groups

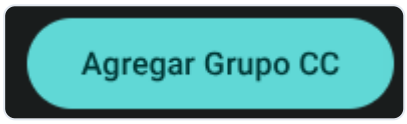
Shows the organization's group catalog with its name, the number of CC tests that make up each group, and the registration date. The search engine allows you to filter groups by name immediately.



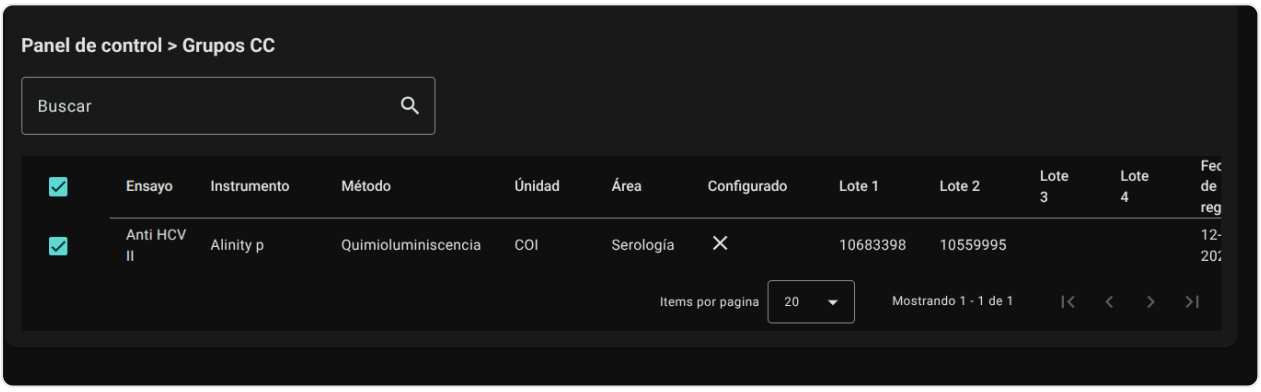
2. Add a CC Group

To configure a unified testing profile:

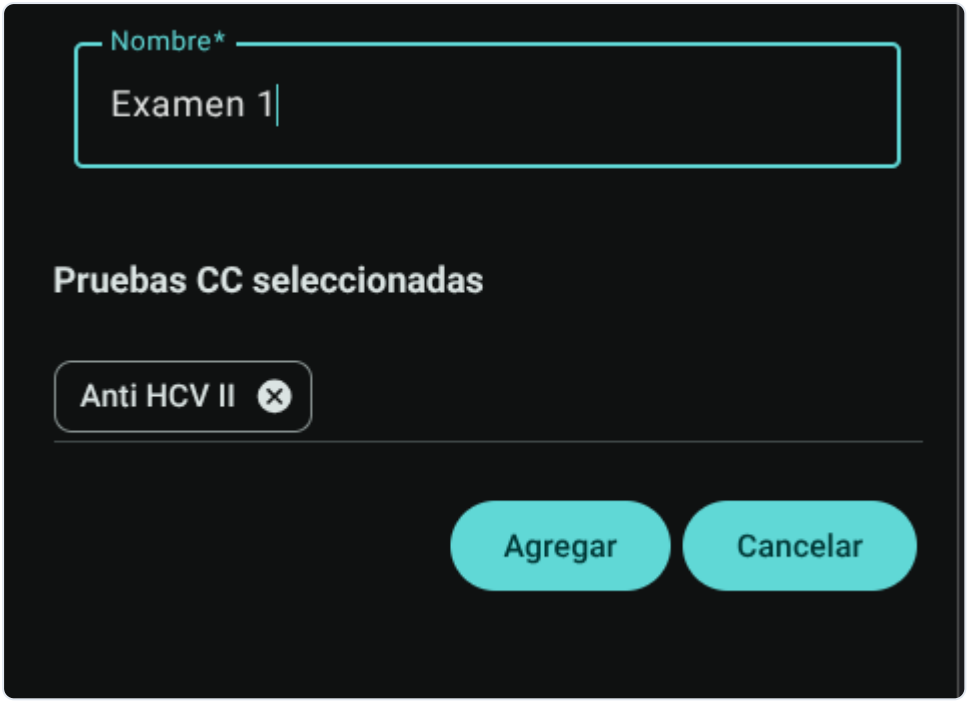
1. Click **"Add CC Group"** at the top right.



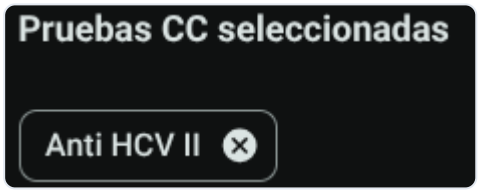
2. The main screen will change to show the **CC Test Selection Table**. Select the check boxes for the tests you want to include in the group.



3. In the right side panel, assign a descriptive **Name** to the group (e.g. *Thyroid Profile*).



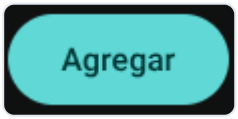
4. Selected tests will be dynamically listed as **Chips** (visual tags) below the name field.



- **View test details:** Position the cursor over any test label in the panel to open a tooltip window detailing the analyzer, lot numbers, and analytical calibration (measurand, method, unit, manufacturer).

  - **Remove a test from the group:** Click the cancel button (❌) inside the corresponding chip on the side panel to remove it from the selection list.

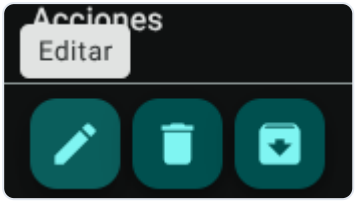
5. Click **"Add"** in the footer to save the group.



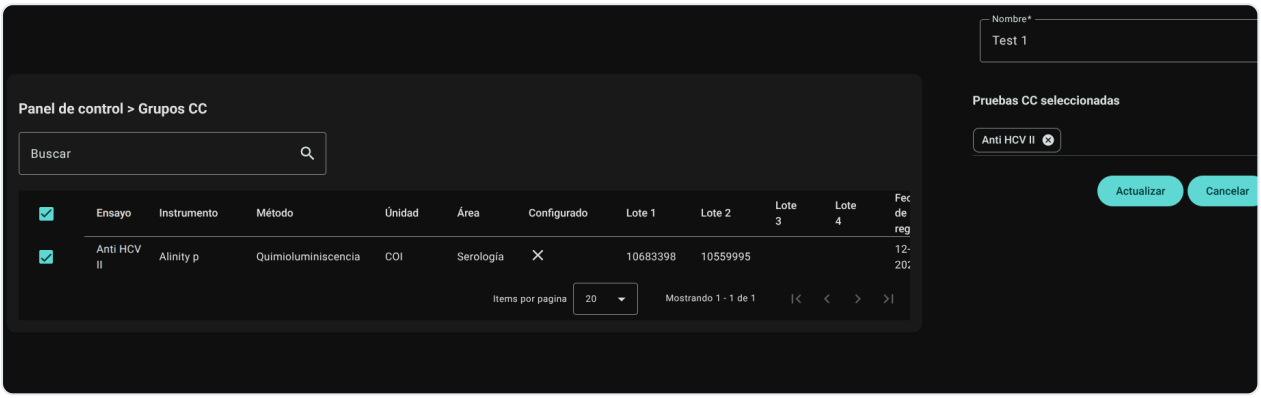
3. Edit a CC Group

To modify the group name or alter the list of integrated QC Tests:

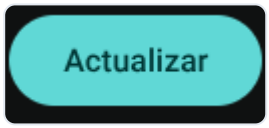
1. Click **"Edit"** (pencil icon ✏️) in the corresponding group.



2. Add or uncheck tests in the main table and adjust the name in the preloaded right side panel.



3. Click **"Update"** to confirm the modifications.

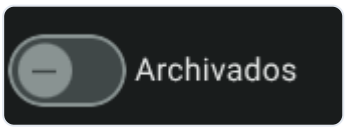


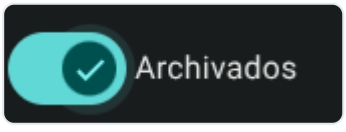
4. Archive and Unarchive CC Groups

Allows you to remove discontinued analytical groups or obsolete profiles from the active menu:

- **Archive:** Click **"Archive"** (📥 icon) in the corresponding group row to hide it.

- **Unarchive:** Use the **"Archived"** switch at the top of the table to list inactive groups, and click **"Unarchive"** in the row for the group that requires reactivation.





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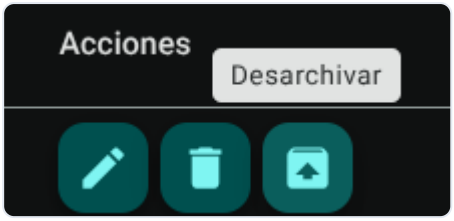
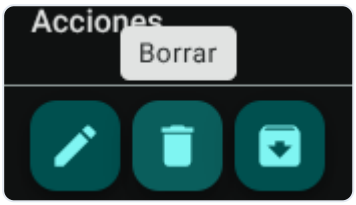


5. Delete a CC Group

To permanently remove the pooling profile:

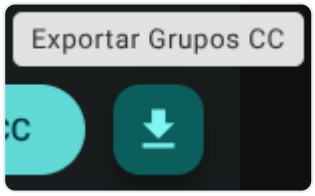
1. Click the trash icon ( ) in the group and confirm the action in the pop-up box.



> **WARNING:** Deleting a CC Group undoes only the logical profile grouping. The associated individual CC Tests and their historical results remain intact in the organization's database.

6. Export CC Groups

Click the download button in the header to download the consolidated list of analytical groups and their relationships in **.CSV** format.



Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `qcgroups_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `qcgroups_create`, `qcgroups_update` and

Instrument and Analyzer Configuration

Description, Purpose and Objective

> **NOTE:** The **Instrument Configuration** (or Instruments) view is the module in charge of registering, cataloging and integrating the physical analyzer equipment and diagnostic readers that operate in the organization's processing centers.
>
> An **Instrument** on the platform represents the digital record of a real medical-analytical device. It is characterized by a personalized **Name** (alias assigned by the organization to identify the equipment, e.g. *Cobas 1 Chemistry Analyzer*) and the base **Instrument Model** selected from the system's global catalogue, which includes brand, manufacturer and communication specifications.
>
> The objective of this view is to create the laboratory's analytical hardware inventory, allowing the Quality Control Tests to be mapped with the corresponding physical analyzers and lay the foundations for the automatic communication of results via API or HL7 protocol.

Context of Use

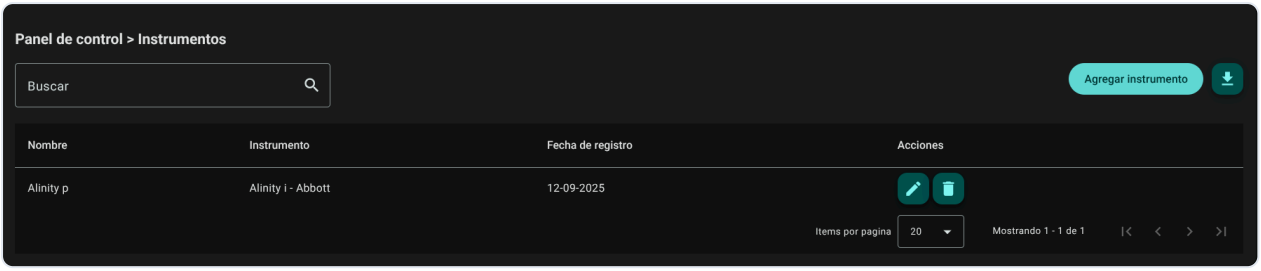
This dashboard is configured by technical directors and systems support engineers to:

- **Register new analyzers:** Add the new machines installed in the laboratory to enable the reporting of results associated with them.
- **Manage data integrations:** Uniquely identify each analyzer to configure file transmission rules and automated mapping from local computer software.
- **Analytical maintenance:** Modify the alias of the equipment in the event of physical section transfers or capacity organization.

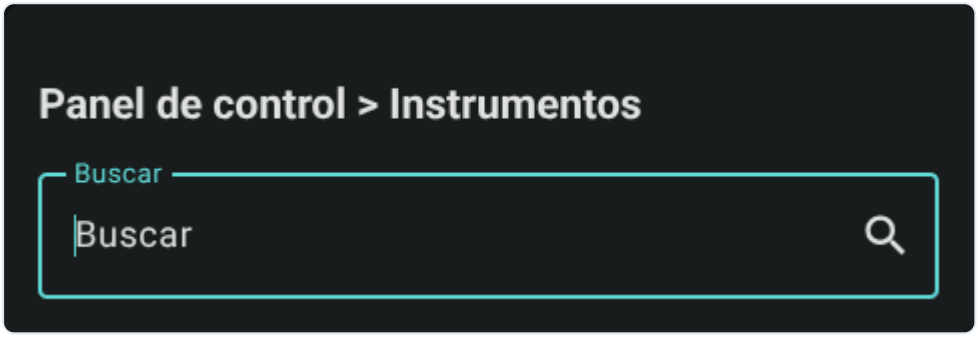
Possible Actions

1. Consult Analyzer Catalog

Shows the list of all analyzers registered in the organization, detailing: Custom name, Instrument (Model and Manufacturer) and Registration date.



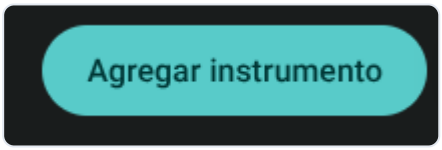
The header search engine quickly filters by equipment alias, model or machine manufacturer.



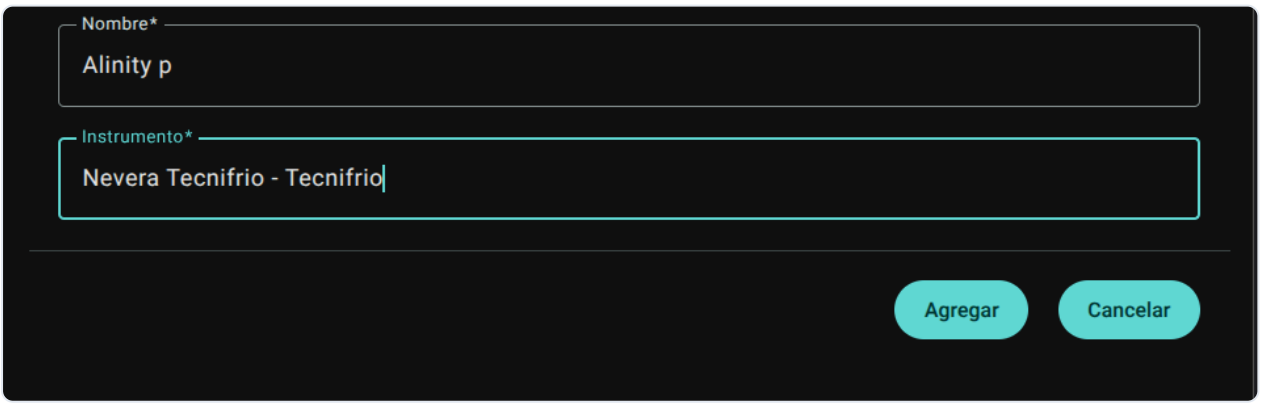
2. Add an Instrument

To register a physical analyzer:

1. Click **"Add Instrument"** in the panel header.



2. Complete the information requested in the side form:
    - **Name:** Assign a unique and descriptive alias to physically identify the equipment in the processing room (e.g. *Sysmex H1 Hematology*).
    - **Instrument:** Select the exact equipment model from the auto-complete drop-down list. The list shows the model and manufacturer (e.g. *XN-1000 - Sysmex*).

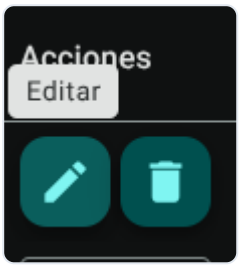


3. Press **"Add"** to register the analyzer.

3. Edit an Instrument

If you need to update the device alias or re-link the base model due to a firmware version change:

1. Click **"Edit"** (pencil icon ✏️) in the corresponding row.

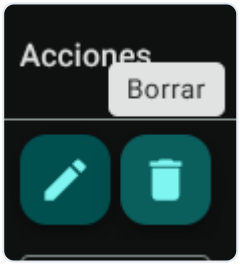


2. Correct the information on the side form and click **"Update"** to apply the changes immediately.

4. Delete an Instrument

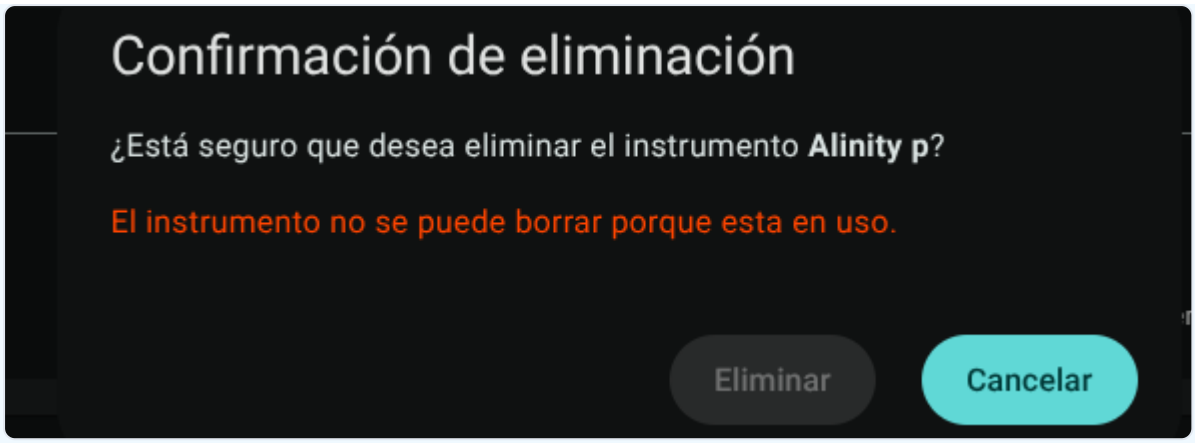
To remove a computer from the organization database:

1. Click on the trash icon ( ) of the desired instrument.



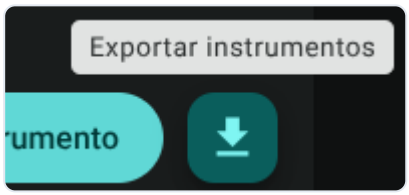
2. Confirm the deletion in the popup modal.

> **WARNING:** The system will automatically restrict and block the deletion of any analyzer that already has **QC Tests** (Quality Control Tests) created or history of QC results linked. This prevents the loss of traceability of the organization's analytical data.



5. Export Instrument Catalog

Click the download button in the header to download the complete inventory of instruments and analyzers in a **.CSV** format file.



Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `instruments_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `instruments_create`, `instruments_update` and

Control Lots and Reagent Lots

Description, Purpose and Objective

> **NOTE:** The **Control Lots and Reagents** view is the quality control module responsible for recording, classifying and monitoring the life cycle of the control materials and reagents used in the organization's analytical processes.
>
> The system organizes these materials into two very different types:
>
> 1. **Control Lot:** Control material or serum of known concentration used to verify that the analyzer measures correctly. It is characterized by a **Lot Number**, a **Description**, an **Expiration Date** (or expiration), the **Manufacturer** of the control and the assigned **Clinical Area**.
> 2. **Reagent Lot:** The chemical compound or biological reagent used to react with the sample and quantify an analyte. It is defined solely by its **Lot Number** and the **Measurand** (analyte) to which it is associated.
>
> The objective of this view is to guarantee the traceability of critical laboratory supplies, allowing patient results to be correlated with the exact batch of reagent and control with which they were processed, detecting drifts due to material degradation.

Context of Use

This panel is operated by clinical laboratory staff and quality coordinators to:

- **Register new batches acquired:** Enter the control and reagent batches of the new shipments before starting to use them in daily processing.
- **Monitor expiration dates:** Avoid processing samples using expired controls that invalidate quality control.
- **Switch lot (Lot Switch):** Archive out-of-stock or expired lots to remove them from active listings and make way for new lots.

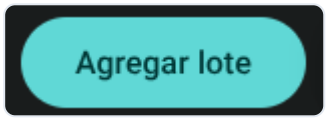
Possible Actions

1. Consult and Search Lots

The interface organizes the batches into two interactive tabs: **Control Batch** and **Reactive Batch**. Upon entering each tab, the corresponding table is presented detailing its characteristics and status. The top search engine filters batches by number, manufacturer or clinical area instantly.

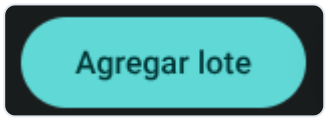
2. Add a New Batch

To register a lot on the platform, go to the corresponding tab and click on **"Add lot"**:

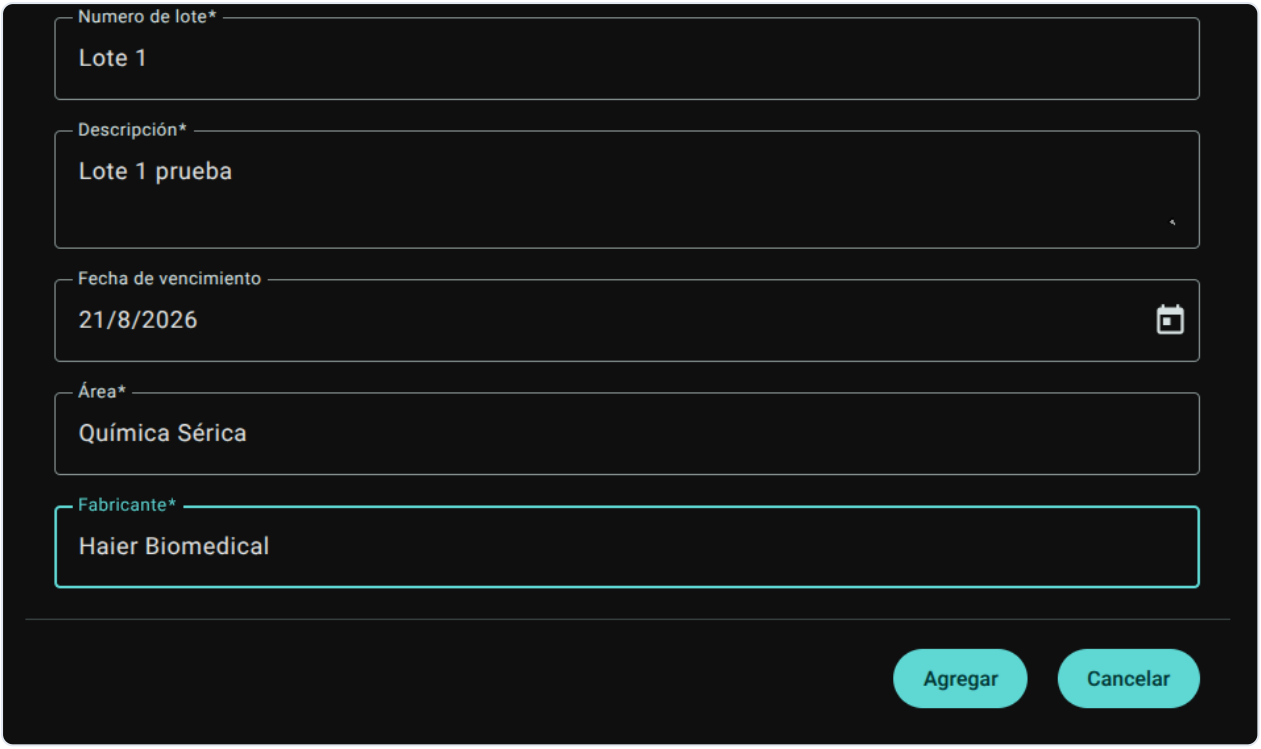


Add Control Lot

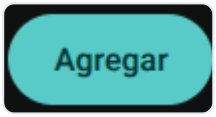
1. Click the **Control Batch** tab and press **"Add Batch"**.



2. Fill out the side form information:
    - **Lot number:** Alphanumeric code printed by the manufacturer.
    - **Description:** Detail or commercial name of the control (e.g. *Multichem Level 1 Control*).
    - **Expiration Date:** Select the expiration date of the material using the calendar.
    - **Area:** Processing area (autocomplete selection, e.g. *Clinical Chemistry*).
    - **Manufacturer:** Manufacturer of the control material (self-completing selection, e.g. *Bio-Rad*).



3. Press **"Add"** to save.



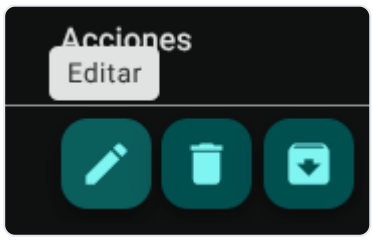
Add Reagent Lot

1. Click the **Reagent Lot** tab and press **"Add Lot"**.
2. Fill out the side form:
    - **Lot number:** Code printed on the reagent cartridge.
    - **Measuring:** Select from the autocomplete list the analyte to which the reagent corresponds (e.g. *Glucose*).
3. Click **"Add"** to save.

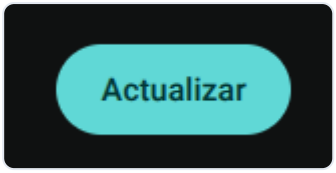
3. Edit a Batch

To modify the description, expiration date or manufacturers of a lot:

1. Click **"Edit"** (pencil icon ✏️) in the appropriate batch row.



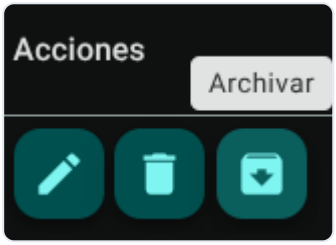
2. Modify the information in the side panel and press **"Refresh"** to apply the changes immediately.



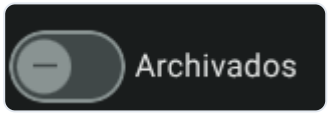
4. Archive and Unarchive Batches

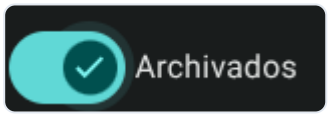
When a reagent or control lot is physically depleted or expires:

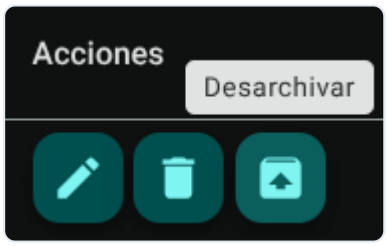
- **Archive:** Click the **"Archive"** button (drawer icon 📥) in the batch row. It will be hidden from the main list and will no longer be displayed in data entry menus.



- **Restore:** Turn on the **"Archived"** switch at the top left of the table to view historical batches. Click **"Unarchive"** in the required batch row to reactivate it in the regular catalog.

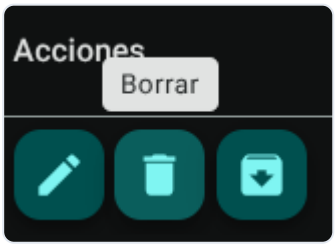


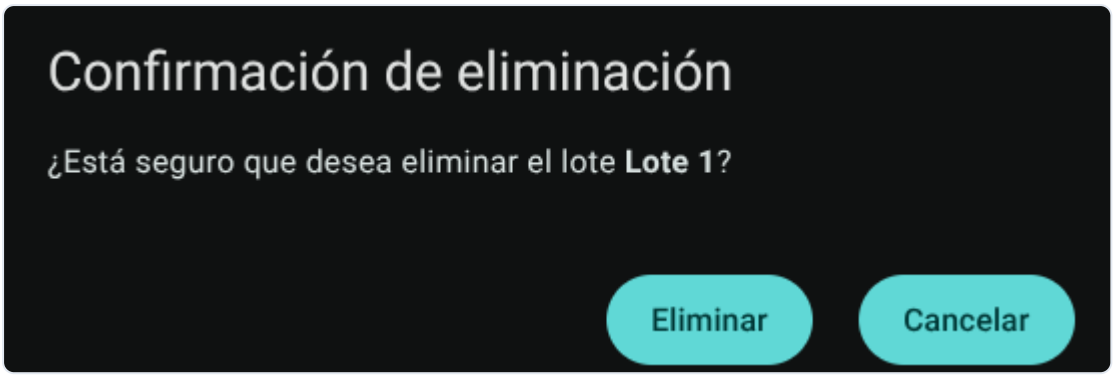




5. Delete a Batch

Click on the trash icon (🗑️) of the batch and confirm the action in the modal.





> **WARNING:** The system will block the deletion of any lot (control or reagent) that is already being referenced in an active or historical **QC Test**. In such a scenario, the batch must be purged using the **Archive** option.

6. Export Batch Catalog

Click the download button in the header of the active tab to export the control lot or reagent inventory in **.CSV** format.

Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `control_lots_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `control_lots_create`, `control_lots_update` and

Configuring Analytical Performance Limits

Description, Purpose and Objective

> **NOTE:** The **Performance Limits** view is the quality control module in charge of defining the quality requirements and the maximum tolerable errors for each test and batch processed in the organization.
>
> A **Performance Limit** is the analytical tolerance parameterization that includes:
>
> - **Maximum Allowable Total Error (TE%):** The percentage of tolerable limit error to declare that the result of a measurand is clinically safe.
> - **Coefficient of Variation (CV%):** Measurement of the expected inaccuracy or percentage dispersion of the equipment.
> - **Bias% (Bias%):** The systematic error or percentage deviation compared to the actual reference value.
> - **Limit Type:** The scientific source of the limit, which can be an international metric (e.g. *CLIA*, *RCPA*, *Ricos*, *SEKK*) or **User Defined**.
>
> The objective of this view is to establish the limits of variability allowed to automatically calculate the Standard Deviation Indices (SDI), the Total Error Indices (TEI) and the Sigma Metric Decisions (σ) of each test.

Context of Use

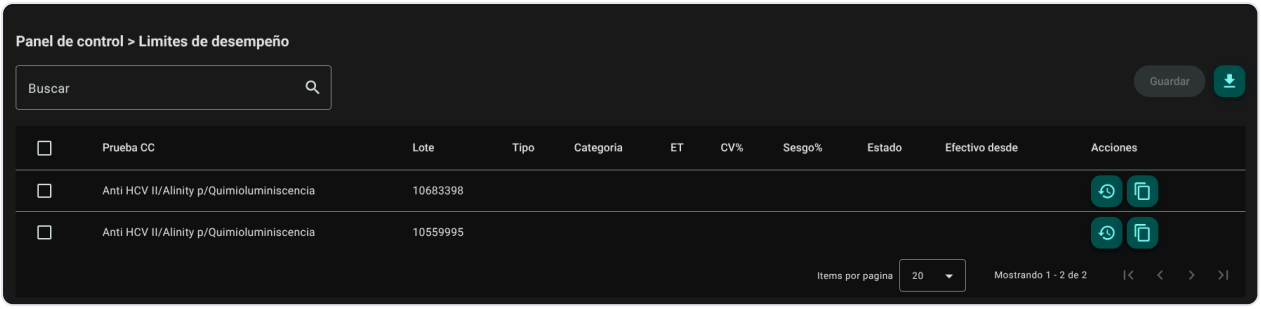
This panel is operated by laboratory quality coordinators to:

- **Meet regulatory specifications:** Configure total error requirements based on mandatory international regulations for accreditation (such as CLIA goals).
- **Customize internal margins:** Establish more demanding internal limits (user-defined limits) for high-precision equipment.
- **Audit historical evolution:** Check how the performance limits applied to a reagent have changed over time.

Possible Actions

1. Consult and Search Quality Requirements

Shows a compact table with the list of limits assigned for each QC Test and Batch. The top search engine instantly filters by test name, analyzer or lot number.

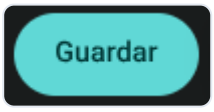


2. Inline Configuration and Editing (Row by Row)

To optimize the operator's time, the table works under **Inline Editing** mode (direct editing on the cell):

1. Check the checkbox (**Checkbox**) in the first column of the row of the test you want to configure.
2. The selected row will change from read-only status to **editable form**:
    - **Type:** Select from the drop-down list (e.g. *User Defined*, *CLIA*, *Rich*, etc.). If you select an international standard, the system will preload the predefined values and lock the numeric fields.
    - **Category:** Classify the level of demand (e.g. *Desirable*, *Minimal*, *Optimal*).
    - **ET% (Total Error):** Enter the maximum tolerable error rate (e.g. `10.0` for 10%). Enabled only if the type is *User Defined*.
    - **CV%:** Expected coefficient of variation. Enabled only if the type is *User Defined*.
    - **Bias%:** Bias or Bias allowed. Enabled only if the type is *User Defined*.
    - **Status:** Set to *Active* or *Inactive*.
    - **Effective From:** Select the effective date of this limit in your organization using the calendar.

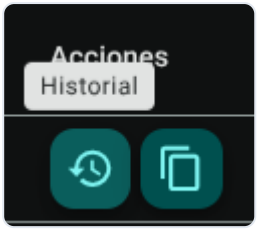
3. Repeat the process selecting other rows if required.
4. Click the general **"Save"** button at the top right of the screen to save all modified rows at once.



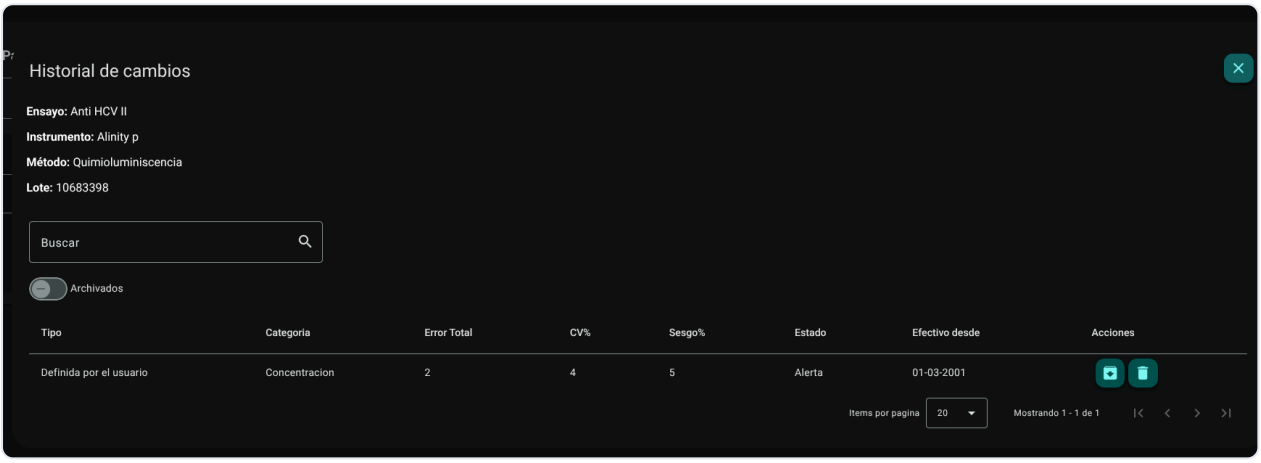
3. Consult Modification History

Due to the importance of limits in validating patient results, the system stores all changes:

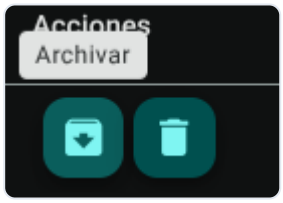
1. Click **"History"** (clock icon with arrow ↩️) in the test actions column.



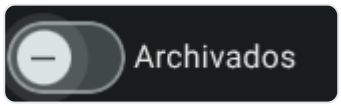
2. A pop-up window will open detailing the history of previously applied limits, showing the user responsible for the edit, previous metrics, and the effective date of the change.

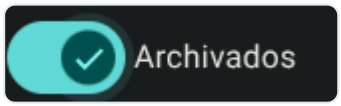


3. To archive historical changes click **Archive** (folder or drawer icon 📥) in the change row. The record will disappear from the main view and will no longer be presented as an option in the histories.

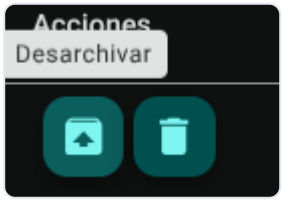


To view archived ones, turn on the **"Archived"** switch at the top left of the table. The table will change to list only archived trials.

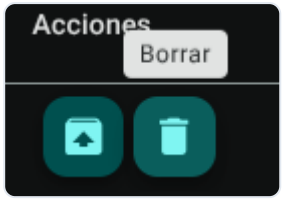




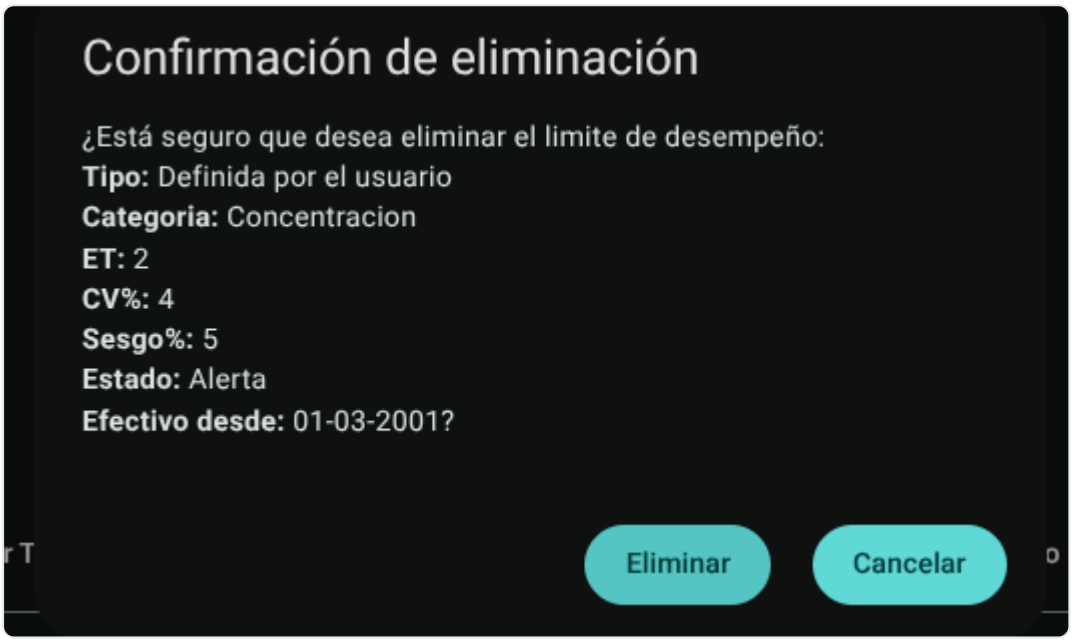
To unarchive, in the archived view, click the **"Unarchive"** icon (up arrow or restore icon) to return the assay to the active catalog.



4. To permanently delete an essay, click the trash icon ( ) for the corresponding essay.



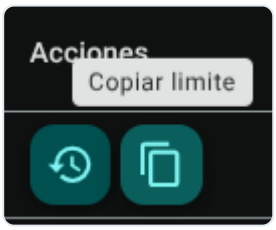
confirm the action.



4. Copy Limit Settings

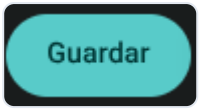
To expedite configuration between sibling lots or twin analyzers:

1. Click **"Copy Limit"** (two overlapping sheets icon) in the configured source test row.



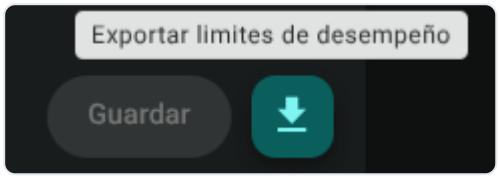
2. Select the compatible target tests to which you want to apply the same limit settings in the pop-up window.

3. Confirm to quickly duplicate the parameters.



5. Export Performance Limits

Click the download button in the table header to download the list of performance limits applied to the entire organization in **.CSV** format.



Quality Fundamentals: Total Error and Six Sigma Metrics

> **NOTE:**
>
> - **Total Analytical Error (ET_a):** In clinical metrology, the Total Error combines the systematic error and the random error of the method according to the formula: $$ET = |\text{Bias}%| + (z \times CV%)$$ *(where typically $z = 1.65$ for a one-way 95% confidence interval)*. For a test to be admissible in clinical routine, the ET obtained empirically by the laboratory must be strictly less than or equal to the Total Allowed Error configured in this module: $$ET_{\text{calculated}} \le ET%_{\text{allowed}}$$
> - **Sigma Metric (σ):** Evaluates the operational capacity of the clinical process according to the relationship: $$\text{Metric } \sigma = \frac{ET%_{\text{allowed}} - |\text{Bias}%|}{CV%}$$
> - **$\ge 6\sigma$ (World Class):** Excellent performance. It requires only a simple control rule (e.g. 1_{3s}) with low frequency of false rejection.
> - **$4\sigma - 5.9\sigma$ (Good to Excellent):** Adequate performance. Requires conventional Westgard multirules ($1_{3s}, 2_{2s}, R_{4s}, 4_{1s}$).
> - **$< 3\sigma$ (Unacceptable):** High risk of medical error in patients. Requires immediate methodological inspection, reagent change or corrective calibration.

Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `performance_limits_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `performance_limits_create`, `performance_limits_update` and

Setting Means and Standard Deviations

Description, Purpose and Objective

> **NOTE:** The **Means and Standard Deviations** (or Means/SD) view is the mathematical quality control module responsible for establishing the reference central tendency and dispersion values to evaluate the daily analytical results.
>
> The statistical configuration of a QC and Batch Test includes:
>
> - **Mean (μ):** The expected or target average value for the analyte at that control level.
> - **Standard Deviation (SD):** The margin of absolute dispersion allowed around the mean, used as the unit of measurement to calculate the control limits ($\pm 1s, \pm 2s, \pm 3s$).
> - **Mean Type:** The source of the statistical values, which can be **Defined by the user** (based on internal historical calculations), the **Manufacturer** (according to the batch insert) or the **Peer Group**.
>
> The objective of this view is to define the center and width of the organization's Levey-Jennings plots, allowing the system to calculate the analytical deviations of each reported result.

Context of Use

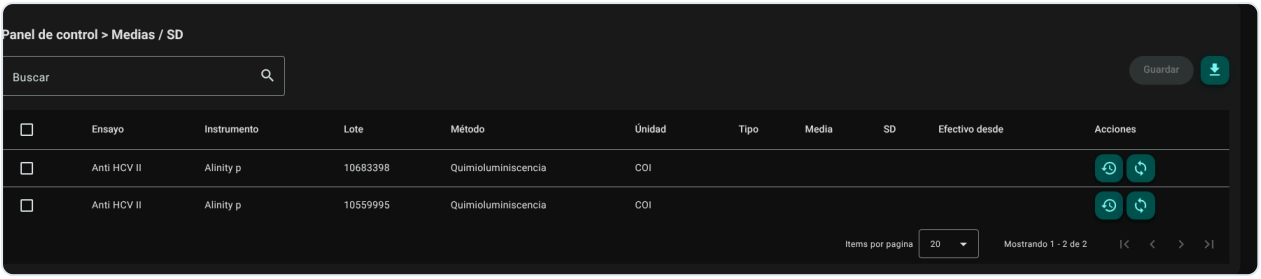
This panel is configured by technical directors and quality specialists of the laboratory to:

- **Set manufacturer averages:** Enter control insert reference values when opening a new lot.
- **Calculate historical means (Own Means):** Configure custom means and SDs after processing 20 or more data in a familiarization phase to improve the precision of internal statistical control.
- **Update parameters for maintenance:** Adjust the reference values after instrument calibrations or changing photometer bulbs.

Possible Actions

1. Consult and Search Averages and SD

It presents a table that details for each QC Test and Lot: Assay, Instrument, Lot, Method, Unit, Media Type, Mean, SD and Effective Date. The top search engine quickly filters by analyte, analyzer or batch.

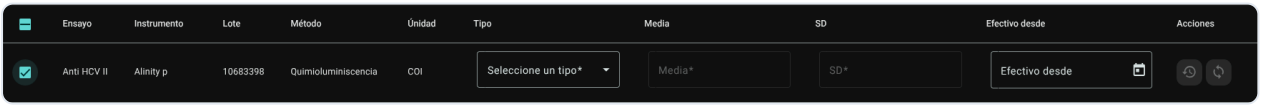


2. Medias and SD Inline Edition

To modify or enter values:

1. Check the checkbox (**Checkbox**) in the first column of the test to configure.

2. The selected row will become an editable form:
    - **Type:** Select from the list (e.g. *User Defined*, *Manufacturer*, *Peer Group*). If you select *Manufacturer*, the numeric fields will be locked to receive the pre-populated lot constant information.
    - **Average:** Enter the target average value of the measurement (e.g. `120.5`). Enabled only if the type is *User Defined*.
    - **SD:** Enter the numerical value of the standard deviation (e.g. `3.2`). Enabled only if the type is *User Defined*.
    - **Effective from:** Indicate using the date selector the day on which these values will begin to apply to evaluate the controls.



3. Click the general **"Save"** button in the upper right corner to store all changes made in batch.

3. Consult Statistical Calibration History

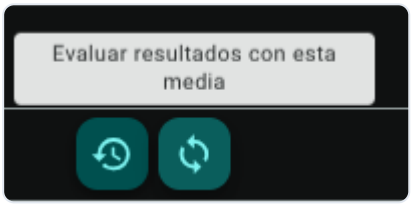
Click the **"History"** button (clock icon ↩️) in the test row to display a pop-up modal that records the chronology of means and SDs that have been current for that batch, indicating the responsible user, the

effective date and the old values.

4. Recalculation and Re-evaluation of Results (Sync)

If the mean or SD was modified and results already entered in the month are required to be evaluated under these new parameters (to recalculate Westgard violations in the Levey-Jennings plot):

1. Click the **"Evaluate results with this average"** button (`sync` sync icon 🔄) in the test row.

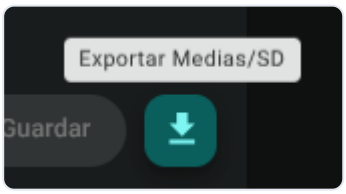


2. The icon will change to a spinner while the server re-validates the multi-rules for the entire history of results for the current batch.

3. Once the synchronization is complete, the alerts in the control chart will be updated automatically.

5. Export Media and SD

Click on the download button at the top right of the table to download the list of configured statistical parameters in **.CSV** format.



Metrological Recommendations and Good Laboratory Practices

> **TIP:**

- **Familiarization Phase (Own Means):** When introducing a new batch of control material, it is recommended to accumulate a minimum of **20 independent data** (obtained on different days and shifts) before setting the laboratory's own cumulative average. This ensures that the standard deviation (s) captures the actual inter-day variability of the analytical system and prevents false statistical rejections.
- **Use of Manufacturer Averages:** The values assigned in the commercial insert should only be used provisionally during the initial start-up of the batch. The insert groups multiple laboratories and instruments together, so its dispersion (s) is typically wider than the intrinsic variability of its analyzer.
- **Recalculation after Major Maintenance:** If the equipment undergoes a major component change (optics, photometer, sampling syringes or laser alignment), audit whether the control average experienced a significant shift before running the re-evaluation function (`sync`).

Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `mean_sd_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `mean_sd_create` , `mean_sd_update` and

Mass Configuration of Multi Control Rules

Description, Purpose and Objective

> **NOTE:** The **Multi-Rules Configuration** view is the statistical control panel designed to bulk define and apply analytical quality control rules (Westgard Rules) to multiple QC Tests or QC Groups in the organization simultaneously.
>
> A **Multi-Control Rule** is a mathematical criterion based on standard deviations ($\pm s$) that evaluates whether the results obtained in daily analytical runs are under control or whether they reflect a systematic or random error. The system evaluates:
>
> - **Deviation ($\pm s$):** The amount of dispersion allowed before triggering the alarm (e.g. $1s$, $2s$, $3s$, $4s$).
> - **Run Type:** Defines whether the analyzed data belongs to the same analytical batch (*Intra-run*), to consecutive runs in time (*Inter-run*) or to *Both* types.
>
> The objective of this view is to streamline laboratory administration, eliminating the need to configure Westgard multi-rules one by one for each assay and allowing control criteria to be standardized globally for complete analytical profiles.

Context of Use

This module is used by scientific management and quality assurance personnel to:

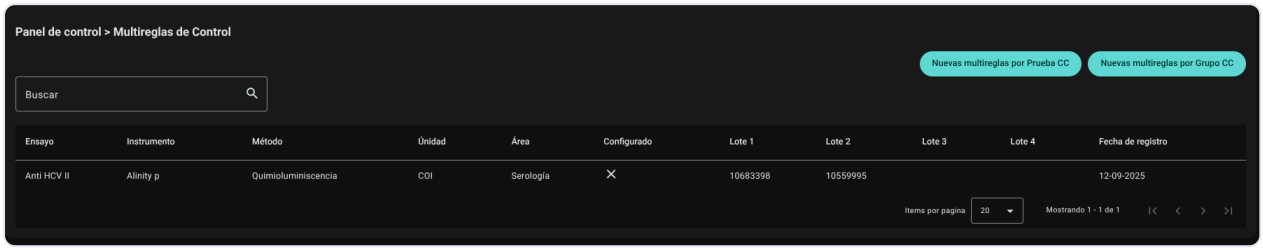
- **Standardize analytical criteria:** Ensure that an entire test profile (e.g. all tests in the *Clinical Chemistry* section) validate the results under the same Westgard rejection limits.
- **Update control sensitivities:** Massively adjust the rules (e.g. move the 1:2s rule from "Rejection" to "Alert") if false rejections are detected in the operation after periodic evaluations.
- **Quick Startup:** Configure control criteria for dozens of new measurands when installing a new clinical instrument.

Possible Actions

1. Select Bulk Configuration Mode

When entering the view, the system presents two main buttons to select the source of application of the rules:

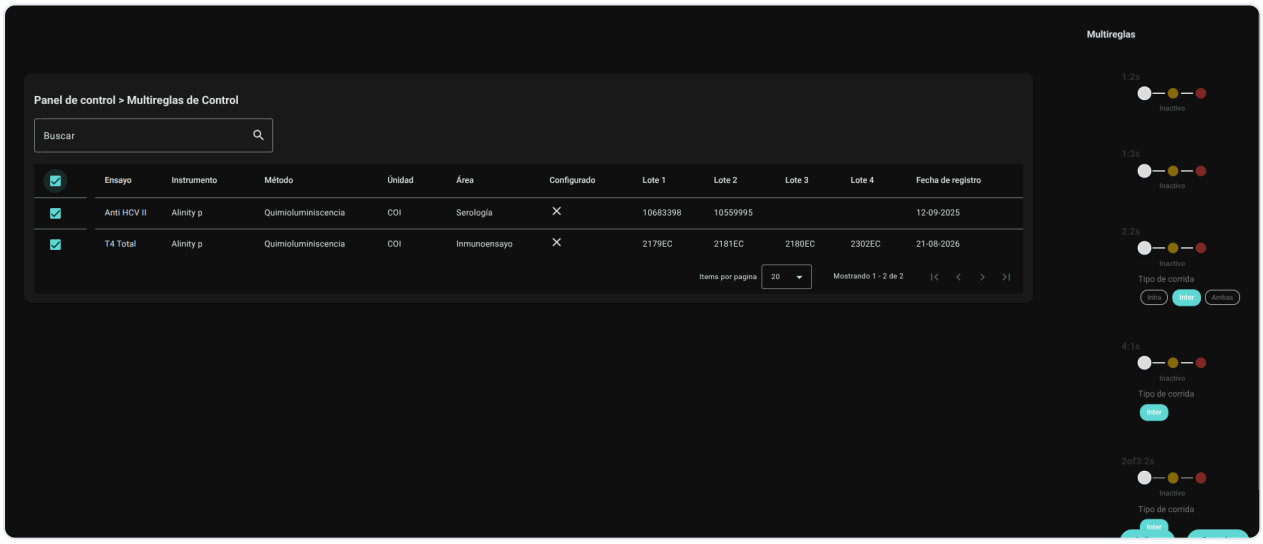
- **New multi-rules per CC Test:** Allows you to select individual tests to configure batch rules for them.
- **New multi-rules per CC Group:** Allows you to select preconfigured profiles (CC Groups) to apply the rules to all the tests that comprise them.



2. Configure Rules by CC Test

If you select the option to configure by CC Tests:

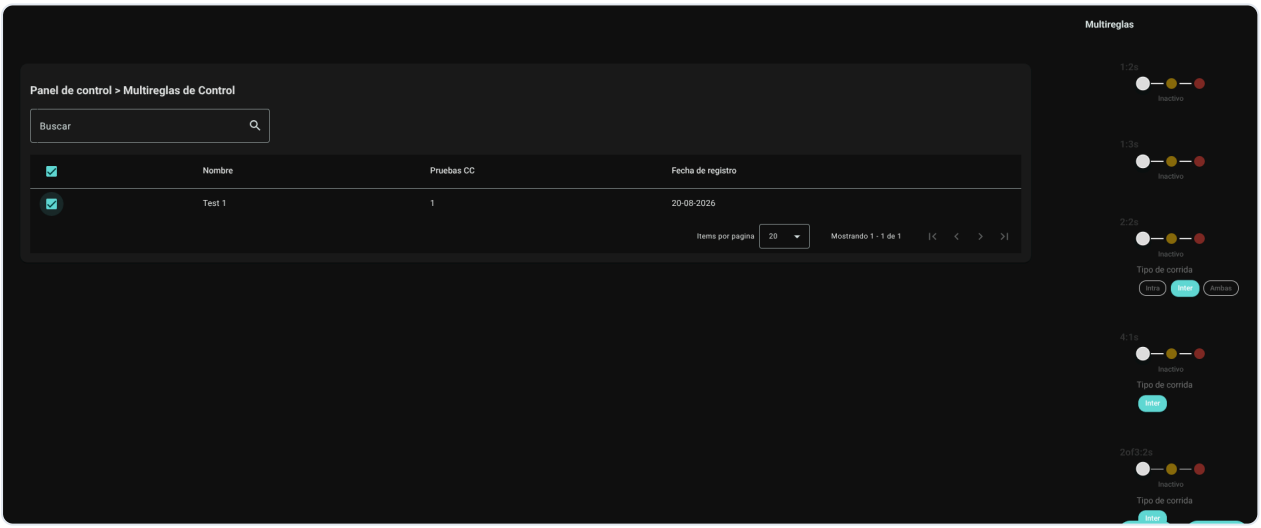
1. Check the boxes of the desired tests in the **CC Test Selection Table** (e.g. *Glucose*, *Urea*, *Creatinine*).
2. In the right side panel, complete the **Multi-rules** configuration matrix:
    - Define for each Westgard rule (1:2s, 1:3s, 2:2s, R4s, 10x, etc.) its status: *Inactive*, *Alert* or *Rejection*.
    - Select the deviations and the type of analytical run (Intra-run, Inter-run, Both).
3. The chosen tests will be displayed at the bottom as **Chips**. When you position the cursor over them, a **tooltip** will detail the analytical file for each test.
4. Click **"Apply"** to inject the multi-rule configuration to all selected tests automatically.

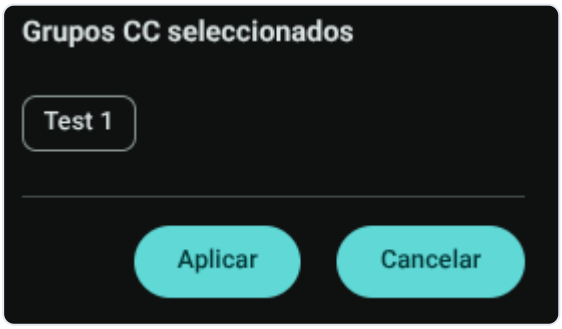


3. Configure Rules by CC Group

If you want to standardize the rules for a complete clinical profile:

1. Click **"New multi-rules by CC Group"**.
2. The system will present the **CC Group Selection Table**. Check the box for the desired group (e.g. *Liver Profile*).
3. Configure the Westgard Multi-Rule Matrix in the side panel. The system will display the label of the selected group.
4. Click **"Apply"**. The platform will search for all CC Tests that belong to the selected group and assign the new control parameterization to them simultaneously.





Westgard Rules Reference Table

The following summarizes the behavior of the Westgard statistical rules available in the selector:

Rule	Error Type	Triggered Condition	Recommended Action if "Reject"
1:2s	Warning Rule	A control data exceeds the limit of $\pm 2s$.	It serves only as a warning. Inspect the graph before rejecting the run; It is not recommended to configure it as rejection to avoid false discards.
1:3s	Random Error	A control data exceeds the limit of $\pm 3s$.	Mandatory rejection. Indicates severe loss of precision or punctual failure; inspect for bubbles, pipetting, temperature, or reagent deterioration.
2:2s	Systematic Error	Two consecutive (same control level) or simultaneous (two levels in the same run) data exceed $+2s$ or $-2s$.	Refusal of the run. Inspect calibration stability, control reconstitution or bias in photometer.
A:4s	Random Error	One data exceeds $+2s$ and the other control level in the same run exceeds $-2s$ (total amplitude of $4s$ intrarun).	Refusal of the run. Indicates acute analytical imprecision in the run; verify reagents and mixing components.
4:1s	Systematic Error	Four consecutive data exceed $+1s$ or $-1s$ in the same direction with respect to the mean.	Alert or rejection according to Sigma metric. Indicates progressive analytical shift or bias; consider corrective calibration.
10x	Systematic Error	Ten consecutive data points fall on the same side of the mean (sustained bias).	Persistent systematic deviation; recalibrate the method or inspect reagent lot change without readjustment.

Action Protocol for Westgard Alerts and Rejections

IMPORTANT: Technical Resolution Route for the Bacteriologist:

1. **Identify the Nature of the Error:**

- If the violated rule corresponds to a **Random Error** ($1_{3s}, R_{4s}$): The failure is associated with unpredictable pipetting variations, air bubbles in cells, voltage fluctuations, rapid evaporation or specific contamination of the vial. Repeat the measurement with a new, freshly thawed control aliquot.
- If the violated rule corresponds to a **Systematic Error** ($2_{2s}, 4_{1s}, 10_x$): The failure indicates a unidirectional bias due to alteration of the calibration curve, degraded reagent, evaporation of the

> calibrator, optical fouling or deviation in incubation temperature. Do not repeat the blind control without first calibrating or replacing reagent.
>
> 2. **Prohibition of Patient Processing:** Any analytical run cataloged in **Rejection** status blocks the issuance and validation of patient results for that measurand until the root cause is documented and the control status is restored.

Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `multi_rules_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `multi_rules_create`, `multi_rules_update` and

QA Test Setup

Description, Purpose and Objective

> **NOTE:** The **Quality Control Tests** (or QC Tests) view is the operational core of the quality module. Its function is to logically integrate all the analytical elements of a measurement to enable the entry of results and statistical monitoring.
>
> A **Quality Control Test** (or QC Test) is the active linking of:
>
> - **Test:** The combination of the measurand, area, method, manufacturer and unit.
> - **Instrument:** The specific analyzer where the sample is processed.
> - **Batch Levels:** The control materials (sera or control matrices of up to 4 different levels) assigned for the analytical run.
> - **Multi-Control Rules:** The set of Westgard statistical rules configured to alert or reject deviant analytical runs.
>
> The objective of this view is to consolidate the analytical matrix of the organization, allowing analytical deviations to be controlled under international Westgard rules for each measurand processed on physical equipment.

Context of Use

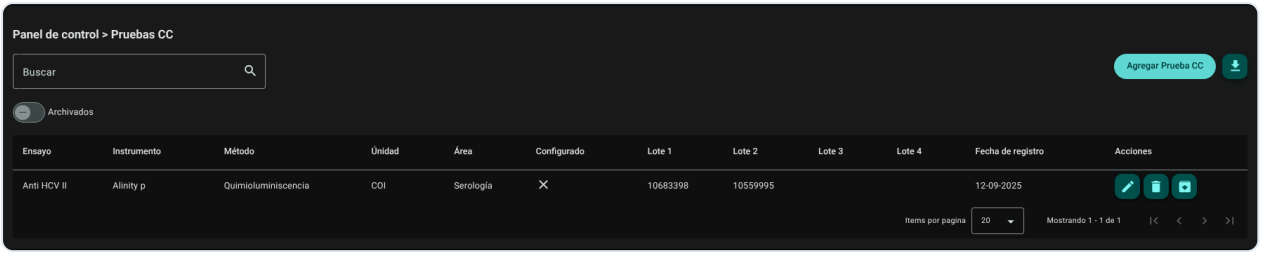
This module is used by the quality manager and analyst specialists to:

- **Design the statistical control of each examination:** Define which control levels (e.g. Level 1 Normal and Level 2 Pathological) will be processed for Glucose on the Cobas 1 analyzer.
- **Parameterize analytical alarms:** Activate deviation alerts and automatic rejections (for example, reject if the 1:3s rule is violated or alert when the 1:2s rule is violated).
- **Enable result entry:** If a QC Test is not configured here, operators will not be able to enter manual results or import files for that measurand.

Possible Actions

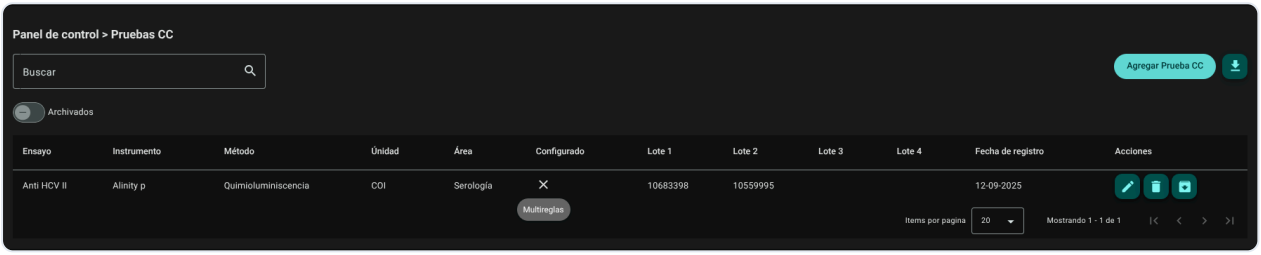
1. Consult CC Tests and View Rules Configuration

Shows a table with all the configured tests detailing: Assay, Instrument, Method, Unit, Area, Record Date and the assigned Lots (Lot 1, Lot 2, etc.).



In the **Configured** column, the system displays a check icon. When you position the cursor over the check icon, a descriptive pop-up window (**tooltip**) is displayed detailing the active Westgard multi-rules for that test.

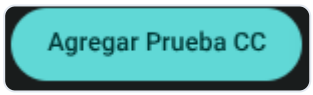
<



2. Create a CC Test

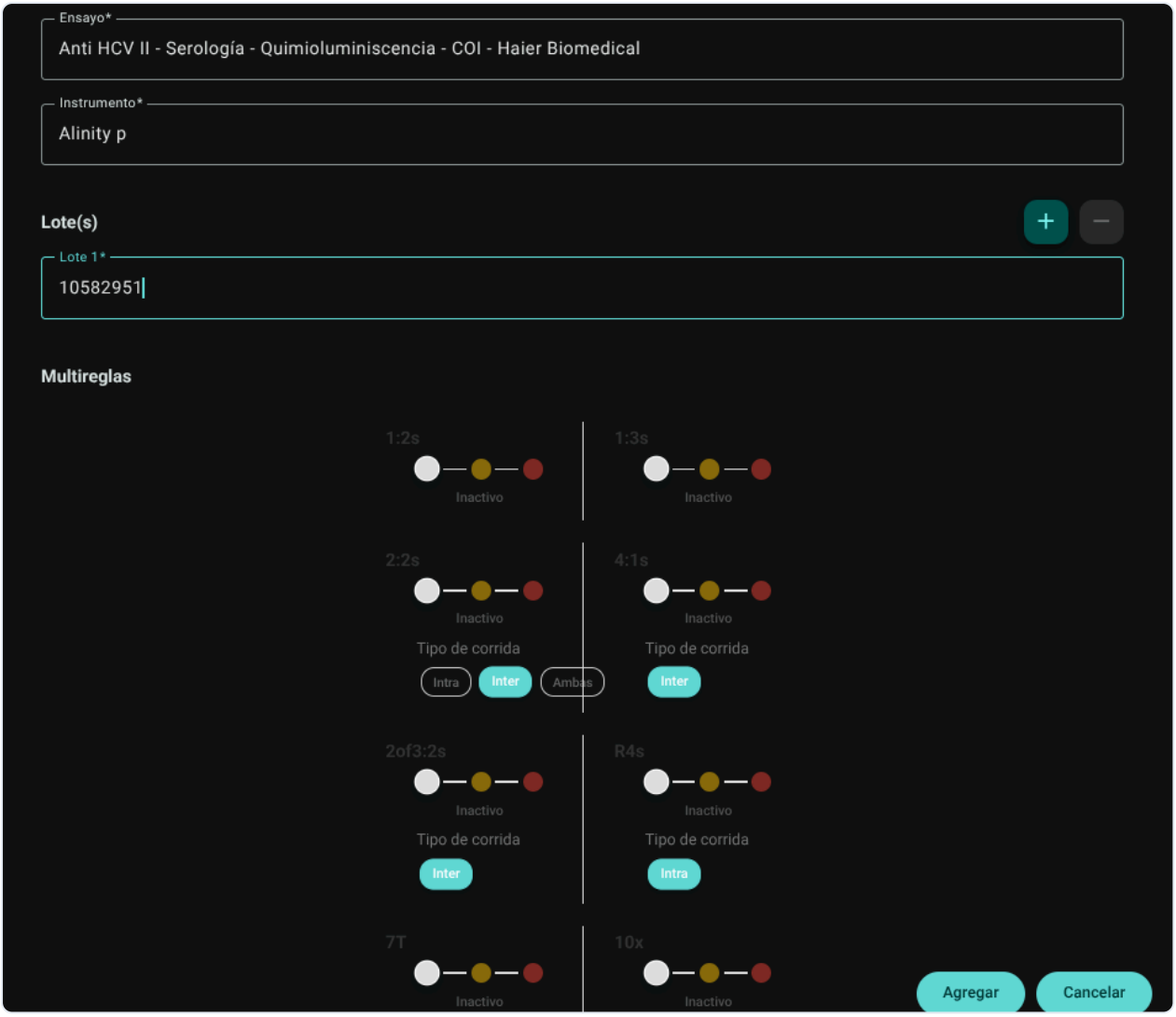
To register a new test:

1. Click **"Add CC Test"** at the top right.



2. Fill out the side form:
    - **Essay:** Select the essay from the auto-complete list.
    - **Instrument:** Indicate the physical analyzer on which the assay will be run.
3. **Configure Batches (Dynamic Level Assignment):**
    - By default, the system displays a selection field for **Lot 1**.
    - To add additional control levels, click the **"+"** (Add Batch) circle button. You can register up to a maximum of **4 simultaneous control batch levels**.
    - To remove a level assigned in error, click the **"-"** circular button (Remove batch).
    - In each lot field, enter the lot number and select it from the autocomplete list compatible with the assay.
4. **Configure Multi Control Rules (Westgard Rules):** The system displays the selectors for each analytical rule. For each rule (e.g. *1:2s*, *1:3s*, *2:2s*, *R4s*, *10x*), define the action to take:
    - **Inactive:** The rule is not validated.
    - **Alert:** Visually warns the operator but processes the data statistically.

- **Rejection:** The data is displayed in red, critical error alert and is excluded from the organization's average and standard deviation calculations.

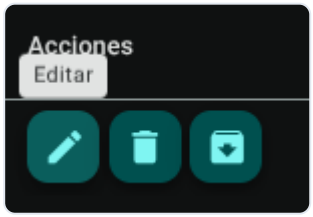


5. Click **"Add"** in the footer to save the settings.

3. Edit a CC Test

To adjust batch levels or modify the sensitivity of Westgard rules:

1. Click **"Edit"** (pencil icon ✏️) on the corresponding record.



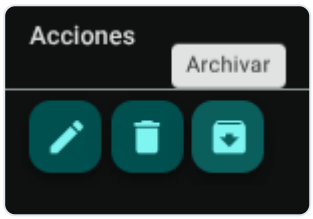
2. Make your changes on the side form and click **"Update"** to apply.

> **WARNING:** The system will prevent editing of any QC Test that already has control results recorded in the system, or that is assigned to a Comparative Quality Control Group.

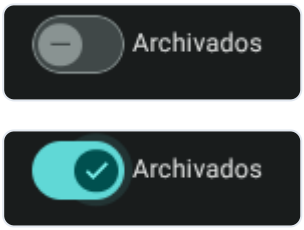
4. Archive and Unarchive CC Tests

When annual quality control batches change or an analyzer is removed from service:

- **Archive:** Click **"Archive"** (📥 icon) in the test row. This will no longer be listed on the ordinary results entry screens.

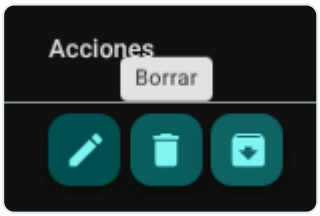


- **Unarchive:** Use the **"Archived"** switch in the header to view historical evidence and press **"Unarchive"** on the corresponding row to reactivate it.

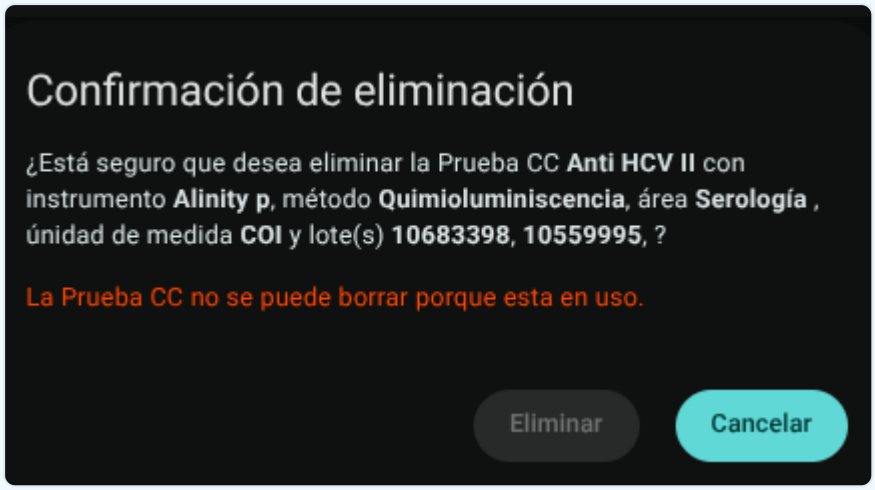


5. Delete a CC Test

Click on the trash icon (🗑) and confirm the action.

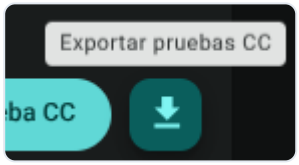


> **WARNING:** The system will prevent the deletion of any QC Test that already has control results recorded in the system, or that is assigned to a Comparative Quality Control Group. In these cases, the **Archive** option must be used to disable it.



6. Export CC Tests

Click the download button above to export the Organization QA Configuration Matrix in **.CSV** format.



Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `qctests_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `qctests_create`, `qctests_update` and

Record of Repeatabilities and Uncertainty

Description, Purpose and Objective

> **NOTE:** The **Repeatability Record** view is the quality control module responsible for documenting and calibrating the short-term precision (repeatability) and calibration uncertainty of the analytical methods used by the organization.
>
> The repeatability and uncertainty of a test includes:
>
> - **Repeatability (SD):** The standard deviation obtained by repeatedly processing the same control sample in a very short period (intra-assay or same-day precision).
> - **Calibrator Uncertainty:** The numerical value of the variability or margin of doubt inherent to the standard calibrator material provided by the reagent manufacturer.
> - **Effective Since:** The effective date from which these values are associated with the analytical calculations.
>
> The objective of this view is to record the initial imprecision variables required to mathematically calculate the **Combined Measurement Uncertainty** and **Expanded Uncertainty** of the laboratory results, ensuring compliance with the international quality standard ISO 15189.

Context of Use

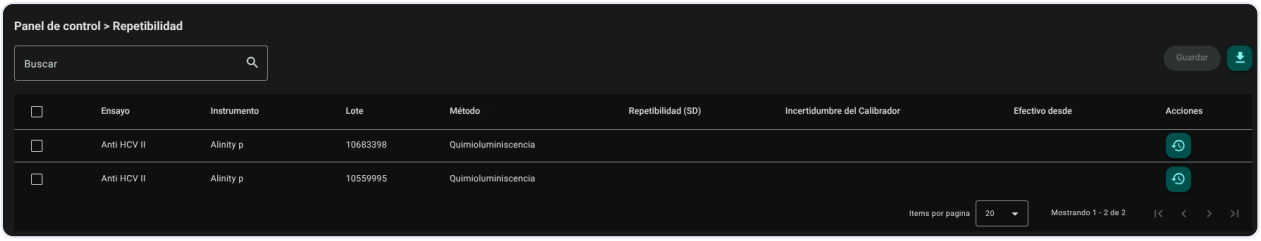
This panel is configured by technical quality coordinators to:

- **Enter data from method verifications:** Record the deviation obtained in the initial repeatability studies (20 consecutive replicates) when installing a new analytical instrument.
- **Record calibrator lot changes:** Update the Calibrator Uncertainty value each time a new calibrator lot is entered from the manufacturer.
- **Calculate Measurement Uncertainty:** Provide the base data that the system will cross-reference with patient results to report uncertainty in the final laboratory reports.

Possible Actions

1. Check Repeatabilities

Displays the list of active QC tests and their control lots, indicating: Assay, Instrument, Lot, Method, the current Repeatability (SD) value, the recorded Calibrator Uncertainty, and the Effective Date (effective from). The search engine filters in real time by analyte, analyzer or lot number.



2. Inline Edition of Repeatability and Uncertainty

To register or update values:

1. Check the checkbox (**Checkbox**) in the first column of the test record you want to configure.
2. The selected row will be transformed into editable form fields:
    - **Repeatability (SD):** Enter the standard deviation calculated on the precision analytical runs (e.g. `0.045`).
    - **Calibrator Uncertainty:** Enter the uncertainty value certified on the manufacturer's calibrator insert data sheet (e.g. `0.12`).
    - **Effective From:** Select the effective date for these securities using the calendar.

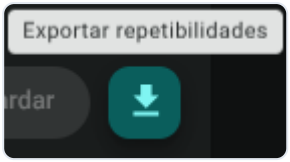
3. Click the general **"Save"** button in the upper right corner of the panel to store all modified records.

3. Consult Repeatability History

Click the **"History"** button (clock icon) in the test row to display a pop-up window detailing the recording of previous repeatability and uncertainty values, facilitating quality audits on the historical performance of the equipment.

4. Export Repeatability Data

Click the download button in the table header to download the list of configured repeatabilities and uncertainties in **.CSV** format.



Clinical Metrology: Uncertainty Estimation according to ISO 15189

> **NOTE:**
>
> - **Combined Typical Uncertainty (u_c):** It quadratically combines the laboratory imprecision (u_{prec} or repeatability) and the uncertainty of the value assigned to the calibrator (u_{cal}): $$u_c = \sqrt{u_{\text{prec}}^2 + u_{\text{cal}}^2}$$
> - **Expanded Uncertainty (U):** Expresses the interval where the true value of the measurement is found with a 95% confidence level (coverage factor $k = 2$): $$U = k \times u_c = 2 \times u_c$$
> - **Clinical Importance:** Knowing U allows the bacteriologist and the treating physician to discern whether a variation in a patient's sequential results reflects a true clinical evolution or whether it corresponds to the metrological variability inherent to the analytical system.

Roles and Permissions Required

Access to this parameterization module is reserved for the roles of **Quality Director**, **Laboratory Coordinator** and **System Administrator**. Requires the following technical permissions:

- **Display and Audit:** `repeatibilities_read` (allows you to consult the list, filter parameters and audit the current configurations).
- **Management and Writing:** `repeatibilities_create` , `repeatibilities_update` and