



# HYRIS System™

## Quick-Start Guide

### (English)

Version 2.1



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bCUBE (REF: bCUBE 2.0)  
bCUBE3 (REF: H0001)  
bAPP (REF: bAPP, H00001)  
bPANEL (REF: H00002)

Visit our website at  
[www.hyris.net](http://www.hyris.net)

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## About this Manual

This manual is referred to bCUBE (REF: bCUBE 2.0) and bCUBE3 (REF: H0001). All references to bCUBE will be referred also to bCUBE3, unless explicitly specified.

For HYRIS bCUBE™ connectivity and functionalities, refer to the [Hyris bCUBE™ – User Manual](#) document.

For HYRIS bPANEL™ offline use, refer to the [Hyris bPANEL™ – User Manual](#) document.

For the online use of the instrument using HYRIS bAPP™, please read the [HYRIS bAPP™ – User Manual](#) guide.

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The information contained in this manual is subject to change/revision without notice.

This Guide has not to be intended as User Manuals substitute.

In the event the Quick Start Guide should be ruined, incomplete or inadequate, please contact Hyris S.r.l. in order to immediately restore or replace the incompliant Guide.

The official version of the Quick Start Guide, of which Hyris S.r.l. is directly responsible, is the English version. For countries in which languages other than English are spoken, the official Guide is the one in the English version. Hyris S.r.l. does not undertake any responsibility for any translations in other languages made by distributors or users.

The observance of the operating procedures and of the warnings described in this Guide is a basic requirement for the correct working of the equipment and to guarantee the operator's safety.

The Guide must be read in every part in front of the equipment before using it, in order to become familiar with the operating procedures, the commands, and the precautions for a correct and safe usage.

The Quick Start Guide should be kept, complete and readable in every part, in a safe place, and, at the same time, it should be rapidly accessible to the user when using the equipment.

## HYRIS bCUBE™

### Packing content

The following items will be found in the provided box:

- **HYRIS bCUBE™** (Figure 1a)
- **Ethernet cable** (Figure 1b)
- **Power Supply** including European and North American power cords (Figure 1c).

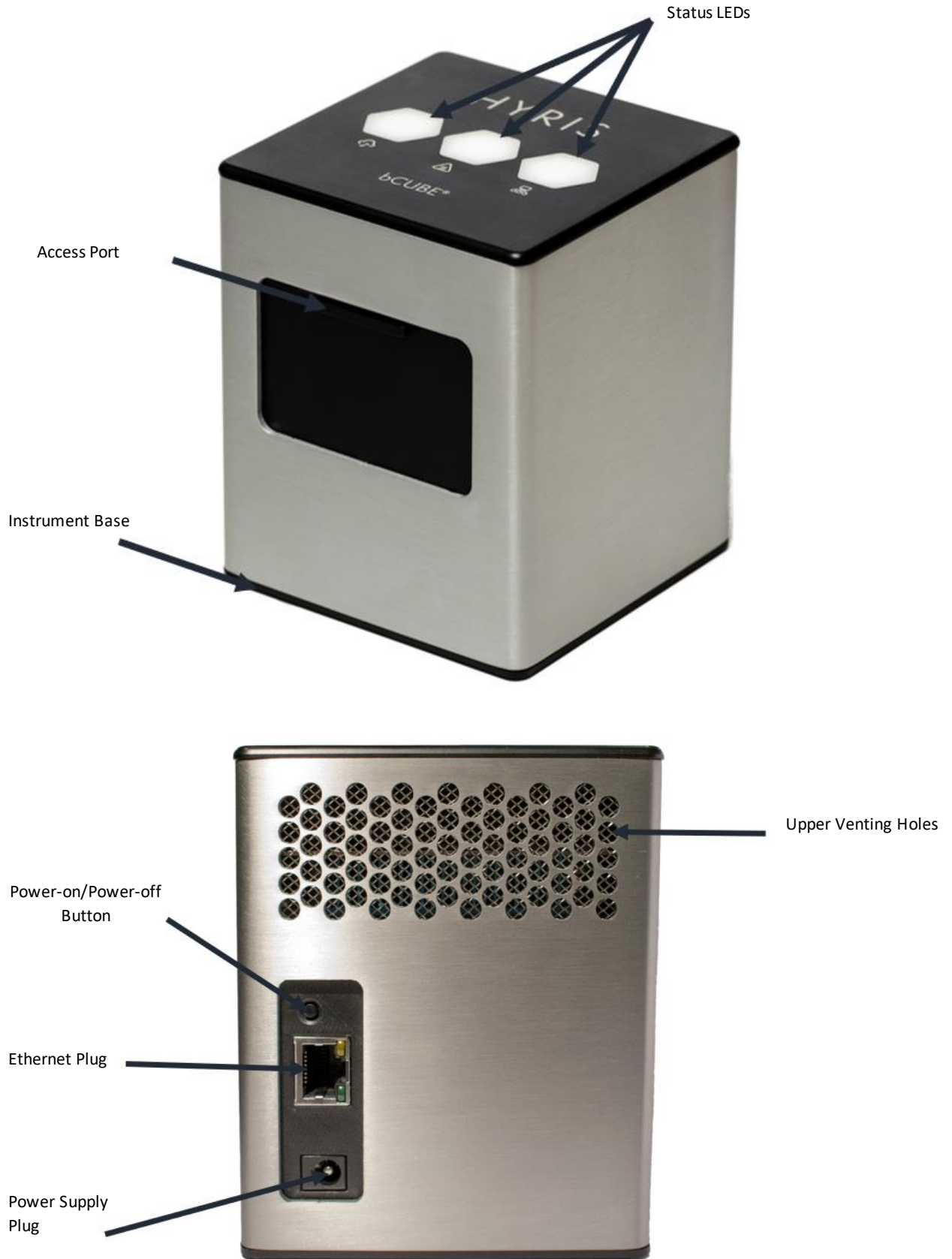
Characteristics:

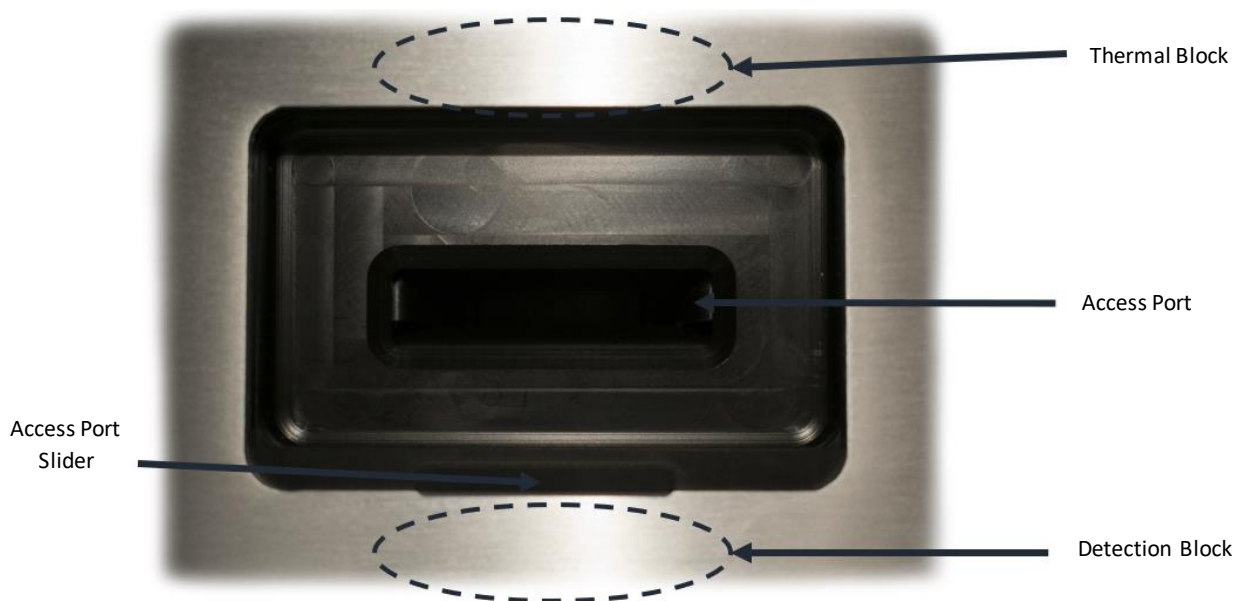
- **Input:** 100 ~ 240 V c.a. 1.4A 50/60Hz
- **Output:** 12V DC 5A
- **Power:** 60W
- **USB stick** with **HYRIS bPANEL™** software installer and User Manuals (Figure 1d)



**Note:** Please check the presence of all these items. Remove the items carefully from the shipping box and inspect them for any external damage. If any of the parts is missing or damaged, contact the manufacturer prior to installation.

## Hyris bCUBE™ Instrument overview











Description of the features highlighted in the pictures above:

- **Access Port Slider:** opened to insert/remove the cartridge inside **Hyris bCUBE™**. To be kept closed during operations.
- **Access port:** insert the cartridge here. Always push the cartridge up to the end of the port.
- **Thermal Block:** precisely controls the temperature of the cartridge and contained samples. Heating/Cooling is obtained with a Peltier element.
- **Detection block:** features high brightness LEDs with dichroic filters for fluorophores excitation. Detection is obtained thanks to a CMOS sensor with dichroic filters matched to fluorophores emission wavelengths.
- **Top venting holes:** allows air exchange between the inside of the **Instrument** and the ambient
- **Power supply Plug:** insert here the 12 VDC adapter jack
- **Power-on/Power-off button:** press shortly to wake up the instrument from Stand-By. When the machine is running, long press (about 5 seconds) to safely power down the **bCUBE**
- **Ethernet Plug:** insert here the Ethernet cable for Windows PC / Network communication
- **Status LEDs:** Give information about the status of the instrument

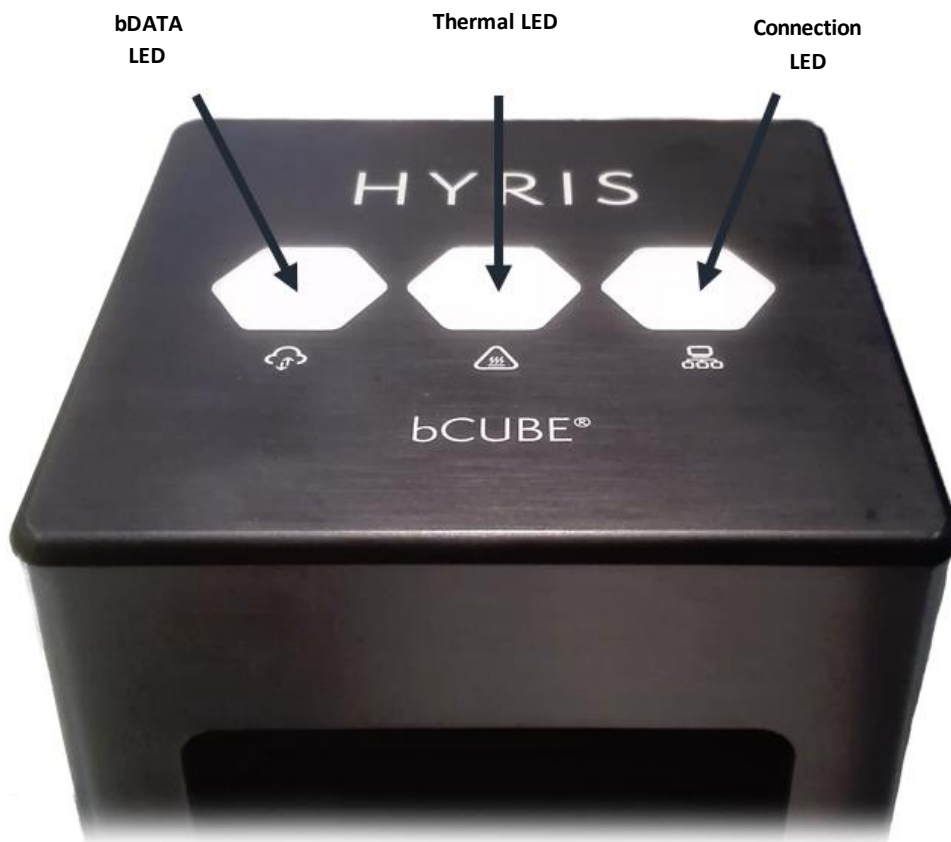
## Status LEDs


The status of the **bCUBE** and its functioning are communicated to the user by the different color combinations of the **Status LEDs** on the top of the device.

- **bDATA LED:** corresponding to the  symbol, it indicates the connection status to Hyris server.  
Ready color: green   
When Ready color is on, **HYRIS bCUBE™** is connected to **HYRIS bDATA™**
- **Thermal LED:** corresponding to the  symbol, it indicates if the cartridge is hot or not.  
Ready color: orange   
When Ready color is on, the internal temperature of the **HYRIS bCUBE™** is not hot. If cartridge is inserted, it can be safely handled.
- **Connection LED:** corresponding to the  symbol, it indicates the internet connection state of the **HYRIS bCUBE™**







Ready color: blue 

When ready color is on, Hyris bCUBE™ is connected to a network



For a graphical representation, the  symbol (from left to right: **bDATA**, **Thermal** and **Connection LEDs**) will be displayed in this document when color code explanation is required.

Some examples are reported in the following table:

LEDs Colours	DESCRIPTION	INTERPRETATION
	<ul style="list-style-type: none"> <li>bDATA LED steady green</li> <li>Thermal LED steady orange</li> <li>Connection LED steady blue</li> </ul>	<ul style="list-style-type: none"> <li><b>HYRIS bDATA™</b> connection OK</li> <li>Cartridge not hot</li> <li>Network connection OK</li> </ul>
	<ul style="list-style-type: none"> <li>bDATA LED steady green</li> <li>Thermal LED blinking orange and red</li> <li>Connection LED steady blue</li> </ul>	<ul style="list-style-type: none"> <li><b>HYRIS bDATA™</b> connection OK</li> <li>WARNING: Cartridge hot</li> <li>Network connection OK</li> </ul>
	<ul style="list-style-type: none"> <li>bDATA LED blinking green and yellow</li> <li>Thermal LED steady orange</li> <li>Connection LED blinking red and yellow</li> </ul>	<ul style="list-style-type: none"> <li>Missing <b>HYRIS bDATA™</b> connection</li> <li>Cartridge not hot</li> <li>Missing network connection</li> </ul>
	<ul style="list-style-type: none"> <li>bDATA LED blinking green and yellow</li> <li>Thermal LED steady orange</li> <li>Connection LED steady blue</li> </ul>	<ul style="list-style-type: none"> <li>Missing <b>HYRIS bDATA™</b> connection</li> <li>Cartridge not hot</li> <li>Network connection OK. <b>HYRIS bCUBE™</b> can be used locally</li> </ul>
	<ul style="list-style-type: none"> <li>bDATA LED multicolour</li> <li>Thermal LED multicolour</li> <li>Connection LED multicolour</li> </ul>	<ul style="list-style-type: none"> <li>Experiment is running on <b>HYRIS bCUBE™</b></li> </ul>
	<ul style="list-style-type: none"> <li>bDATA LED off</li> <li>Thermal LED off</li> <li>Connection LED off</li> </ul>	<ul style="list-style-type: none"> <li><b>HYRIS bCUBE™</b> off</li> </ul>

**Note:** not all the **Status LEDs** colour combinations are shown. For further information, please read the **HYRIS bCUBE - User Manual**.

## FIRST SETUP

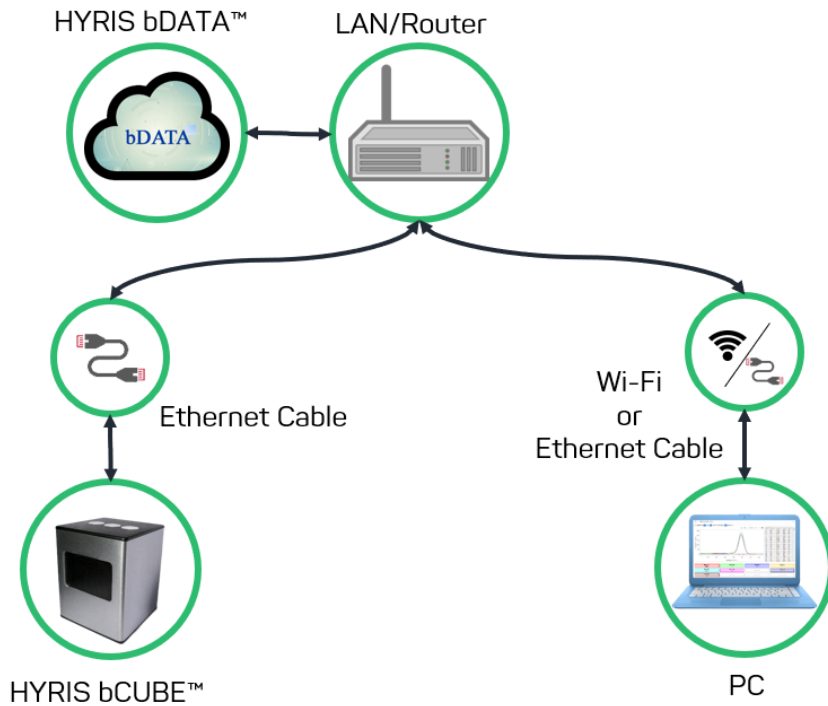
### PC settings









PC has to be connected to a stable internet connection.

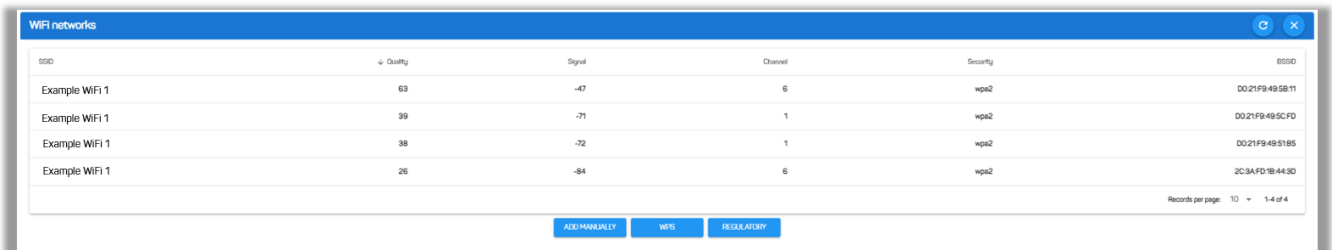
### HYRIS bCUBE™ Connection

In order to properly work, the following steps have to be respected:

1. Make sure the **Hyris bCUBE™** is set on a flat and stable surface
2. Make sure to have correctly provided the condition explained in the [PC settings](#) section
3. Connect **Hyris bCUBE™** and PC to the same LAN according to the following configuration



4. **Power** on the PC. Wait until PC is ready
5. **Connect** the PC to internet. Make sure internet connection is stable
6. Power on the **Hyris bCUBE™**. **Status LEDs** colours: 
7. **bCUBE** will start booting. **Status LEDs** colours: 
8. Wait until **Connection LED** colour is steady blue:  or   
If LEDs colours are different from the above mentioned, try to repeat the steps. Otherwise, check the **HYRIS bCUBE™ - User Manual**
9. Access the **HYRIS bAPP™** (see the [Access the HYRIS bAPP™](#) section) and go to the **bCUBEs** section. Select the desired **bCUBE** by checking the Serial number of the machine (see **the HYRIS bCUBE™ - User Manual**), then click  on the  button and on one of the suggested links to access the **Local settings page**. Go to the **Network** section. Click on the  button to scan the network for available WiFis. Available WiFi and related signal information are shown. Click on the  button to scan the network.

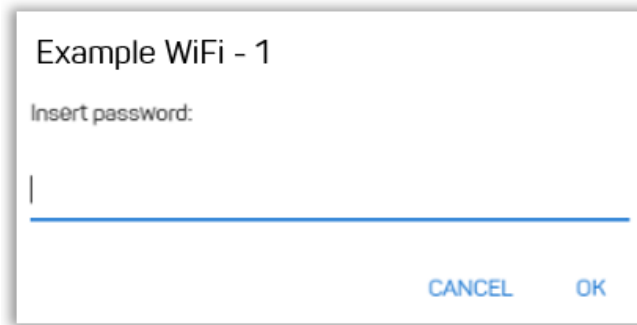


SSID	Quality	Signal	Channel	Security	BSSID
Example WiFi 1	63	-47	6	wpa2	00:21:F9:49:58:11
Example WiFi 1	39	-71	1	wpa2	00:21:F9:49:5C:FD
Example WiFi 1	38	-72	1	wpa2	00:21:F9:49:51:85
Example WiFi 1	26	-84	6	wpa2	2C:3A:FD:1B:44:3D

Records per page: 10 - 1 of 4

Buttons: **ADD MANUALLY** **WPS** **REGULATORY**

Click on the desired WiFi and add the correspondent password.





Example WiFi - 1

Insert password:

|

CANCEL OK

10. When all the desired Wi-Fi networks are saved, go back to the **HYRIS bCUBE™** and unplug the Ethernet cable from the **HYRIS bCUBE™**. After some seconds, the Status LEDs should show the Hyris Ready colours . If not, check the troubleshooting section on the **HYRIS bCUBE™ - User Manual**.

**Note:** Status LEDs may display different colours while **HYRIS bCUBE™** is looking for network connection. If no connection is detected, the following LEDs colours may be displayed after a minute of waiting time. . If the problem persists, see the **HYRIS bCUBE™ - User Manual**.

## INTERACTING WITH HYRIS bCUBE™: HYRIS bAPP™ AND HYRIS bPANEL™

**HYRIS bCUBE™** can be controlled and monitored with two Hyris tools: **HYRIS bAPP™** and **HYRIS bPANEL™**.

- **HYRIS bAPP™**: it's a web app software and there's no need to install it on the PC. Ready-to-use recipes or custom recipes (see dedicated section) can be used to create and run analyses on the available devices according to the account permissions. Account and devices management are possible by this application. It can be run on PC or Smartphone. Internet connection is mandatory.
- **HYRIS bPANEL™**: this software interface is designed for offline usage of the **HYRIS bCUBE™** device, while also providing internet data sharing when connection is available. **HYRIS bPANEL™** can start new analyses by using the already existing recipes (created on **HYRIS bAPP™**).

### HYRIS bAPP™ interface

#### System Requirements

##### PC

Minimum computer requirements are:

- Intel Core i3 or equivalent, 4 GB RAM, Windows 7 or later, Ethernet or Wi-Fi connection.
- Windows PC minimum requirements: Windows 7, Windows 8, Windows 8.1, Windows 10 or later, Intel Pentium 4 processor or later that's SSE2 capable
- Mac minimum requirements: OS X Yosemite 10.10 or later
- Linux PC minimum requirements: 64-bit Ubuntu 14.04+, Debian 8+, openSUSE 13.3+, or Fedora Linux 24+ with Intel Pentium 4 processor or later that's SSE2 capable

##### Mobile

Minimum phone requirements are:

- Android 5.0 (Lollipop) or later, or iOS 12.0 or later

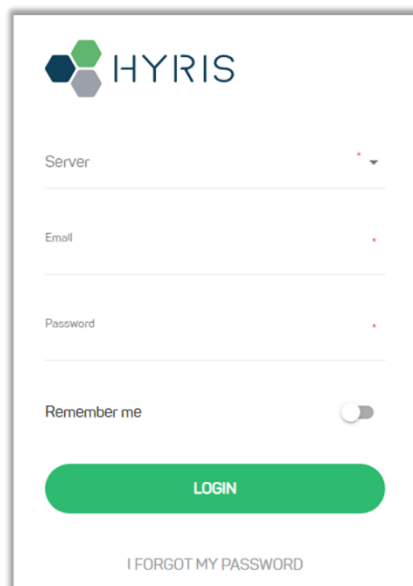
**HYRIS bAPP™** has been entirely developed on Google Chrome browser on for both PC and mobile. For this reason, Google Chrome is the only tested browser:

Minimum version required for Google Chrome browser: 84.0.4147.89 or later

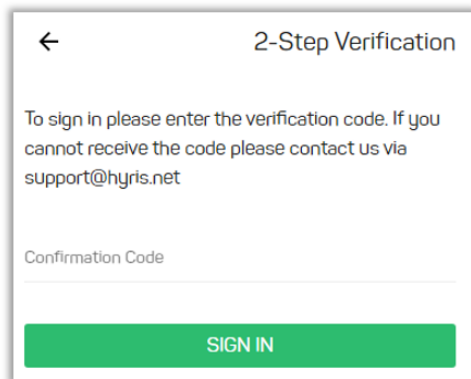
### Access the HYRIS bAPP™

In order to log in:

1. Go to <https://bapp2.hyris.net>
2. Login page will be shown. Login is required to access **HYRIS bAPP™**. Select your **Server** and insert your **email** and **password**, which are corresponding to the credentials used to register the user to the **HYRIS bAPP™**. Enable the **Remember me** option to keep the user logged in.



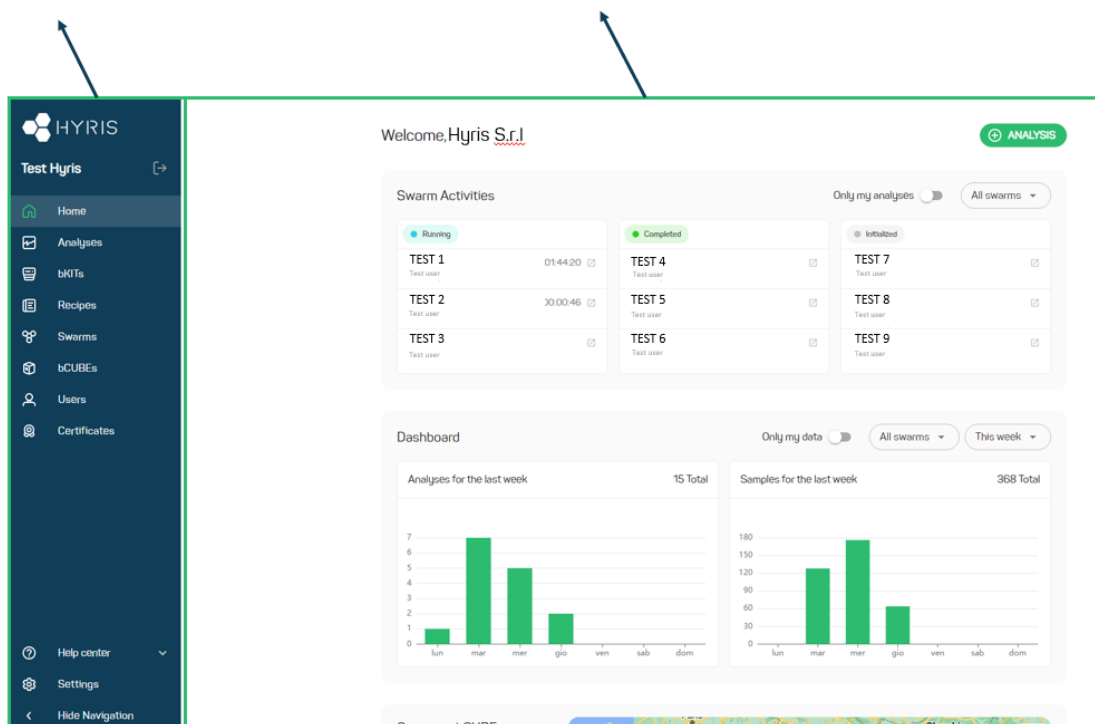
In case **2 Factors Authentication** is enabled (see [Enable/disable two factors authentication](#) for further information), the 2FA Code is required.



3. The Home window will be shown. The screen is mainly divided in two sections:
  - **Main Menu:** list of available **HYRIS bAPP™** sections.
  - **Tab View Area:** content is related to the selected **Main Menu** section

Main Menu

Tab View Area



**NOTE:** Side menu access is different from PC to Phone Browser.

4. After the Login, different **HYRIS bAPP™** sections will be shown according to the account permissions. Sections will be available in the **Main Menu**, while section content will be loaded in the **Tab View Area** on the right.
 

The available sections are:

  - **Home:** Welcome Window. Log-in credentials required when starting a new session on **HYRIS bAPP™**
  - **Analyses:** all the available analyses are listed in this section. New analyses can be created

- **bKITs:** HYRIS bKIT™ are reagent sets used to analyze a specific genetic sequence. The HYRIS bKIT™ developed and sold by Hyris S.r.l. are listed in this section
- **Recipes:** a “Recipe” is a detailed list of steps and settings that the HYRIS bCUBE™ has to execute while performing an analysis. New recipes can be customized from this menu. All the available recipes are listed here
- **Swarms:** “Swarm” is used to define a collector of analyses and recipes. User can have access to multiple swarms according to his permissions. Visible Swarms are listed in this section
- **Users:** list of available users and relative permissions (see [Users and user profiles](#) section for further information)
- **bCUBEs:** list of available HYRIS bCUBE™ with relative extra information
- **Certificates:** list of requested certificates.
- **Settings:** personal account settings page
- **Help center:** access to **Hyris Support Help Center**

In case of forgotten password, press on [I FORGOT MY PASSWORD](#) and insert the user mail. Then check your mailbox for further instructions.

## Create a new analysis

In order to create a new analysis, click on the  button from the **Home page** or  from the **Analyses section**.

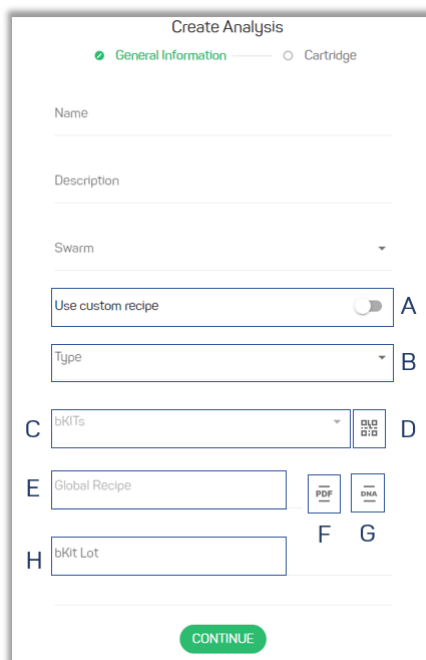
The user will be guided through few steps to correctly fill all the requested information.

### General information


In the General Information section, user is asked to fill the following fields:

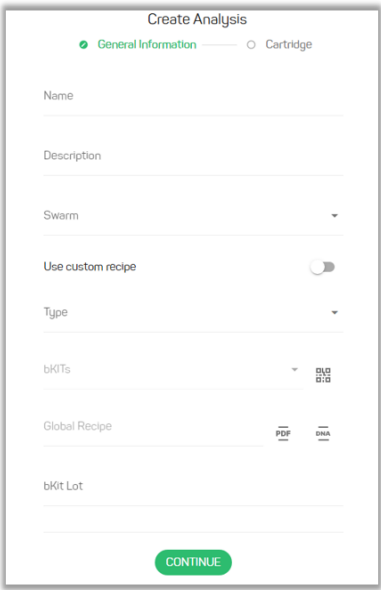
- **Name:** name of the analysis
- **Description:** brief description of the experiment
- **Swarm:** select the **Swarm** to which the analysis will be linked to
- **Use custom recipe** toggle button: use HYRIS bKIT™ as default. Select among **Custom Recipes** when selected
- **Recipe:** choose a recipe among the ones related to the selected Swarm.
- **bKITs:** show available HYRIS bKIT™. Each HYRIS bKIT™ is associated to a **Global Recipe**, which is automatically selected on the kit selection.

In case **Use custom recipe** is **not** selected, following fields will be visible:



- A. **Use custom recipe** flag: if flag is disabled, fields [B], [C], [E], [F], [G] and [H] are shown
- B. **Type** (mandatory): the available **HYRIS bKIT™** depend on the selected category (examples: **Probiotics, Botanicals, Immunology, Virus Finder...**)
- C. **bKITs** (mandatory): **HYRIS bKIT™** part number list of available **HYRIS bKIT™** according to the selected category. The **HYRIS bKIT™** part number is reported on the **HYRIS bKIT™** package.
- D. **QR Code Scanner**: if the desired **HYRIS bKIT™** is provided with dedicated QR code, click on this button and scan it. The QR code could be placed on the **HYRIS bKIT™** box and/ or in the provided datasheet. The fields [B] and [C] are automatically set by scanning the QR code.
- E. **Global Recipe**: this is a read only field, which shows the name of the Global Recipe associated to the selected **HYRIS bKIT™**. It's automatically filled once [C] is selected
- F. **Instruction for use**: this button allows the user to download the most updated **IFU** related to the selected **HYRIS bKIT™**.
- G. **DNA extraction method**: this button allows the user to download the most updated **DNA extraction method** related to the selected **HYRIS bKIT™**.
- H. **bKIT Lot**: lot of the **HYRIS bKIT™** featured in the analysis

Click on  to proceed to the following step



**Custom recipe choice**

In case of selected **Use custom recipe** option:

1. Select the desired **Swarm** among the list. In case only one **Swarm** is available for the user, it will be automatically selected. After the selection, the relative **Swarm Recipes** are loaded.
2. Select the desired **Recipe** among the list. Click on the **i** button to see the recap of the thermal protocol relative to the selected **Recipe**.

**HYRIS bKIT™ choice**

In the new/edit analysis page, if **Use custom recipe** option is **not** selected

1. Select the desired **Swarm** among the list. In case only one **Swarm** is available for the user, it will be automatically selected.
2. Select the desired **HYRIS bKIT™ type (Botanicals, Probiotics, Virus Finder, etc...)**
3. Select the desired **HYRIS bKIT™** among the list. The related **Global Recipe** will be automatically loaded.
4. Insert the **bKIT Lot** number

Part Number: **\*bKIT\_ID\*.\*VERSION\***



**Note:** Each **VERSION** of the **HYRIS bKIT™** is associated with a specific **Global Recipe**. Verify that the selected **HYRIS bKIT™** and its **Version** match the part number and version reported on the package.

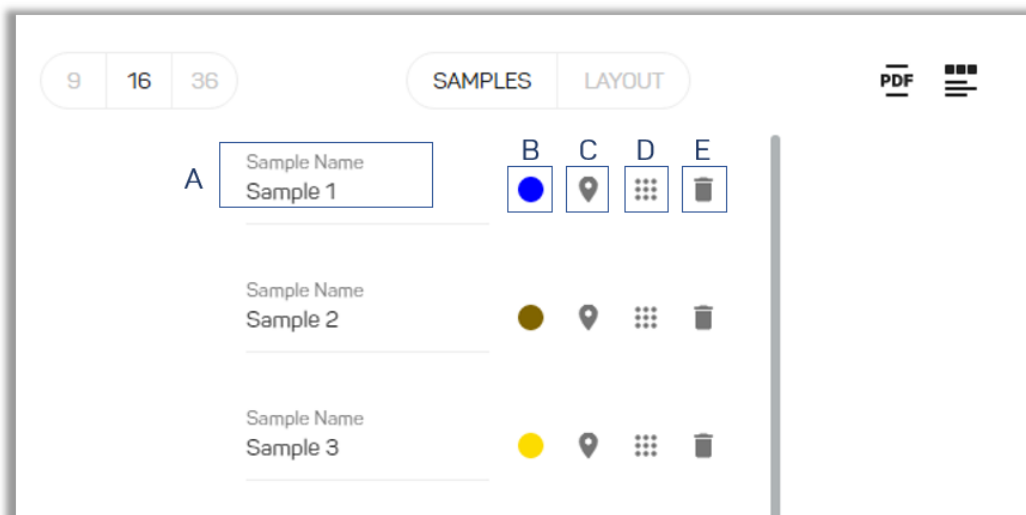
### Create a new analysis: the samples


If a cartridge layout is already defined in the selected recipe/global recipe, samples names can be directly defined or edited.

Cartridge layout will be shown otherwise

For each sample, following information can be set or consulted:

- Sample name:** name of the sample. This field can also be filled using a barcode reader
- Sample color:** color assigned to the sample. Will be the same color shown in the fluorescence chart
- Geolocation** (optional): samples location can be set
- Cartridge layout feedback:** a small window showing the cartridge wells layout is shown when clicked. Wells designed for the sample are highlighted.
- Delete sample:** delete current sample.





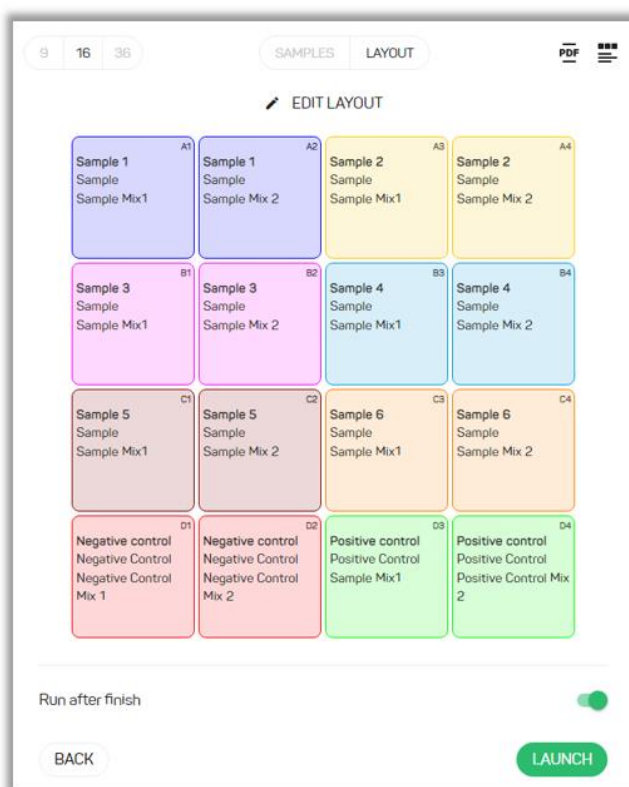
Click on the  button on the bottom of the page to go to the **Cartridge Layout** section.

### Create a new analysis: the Cartridge Layout


Cartridge layout is shown. Number of cartridge wells can be changed according to available ones by clicking on the respective model on the top left (**9**, **16** or **36**).

Two buttons are available on the top right of the screen:






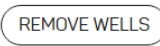
-  button: cartridge layout is exported in a .pdf file.
-  button: access the **Reaction set-up** view.



Click on the  **EDIT LAYOUT** button to edit the cartridge. Single or multiple wells at once can be edited.

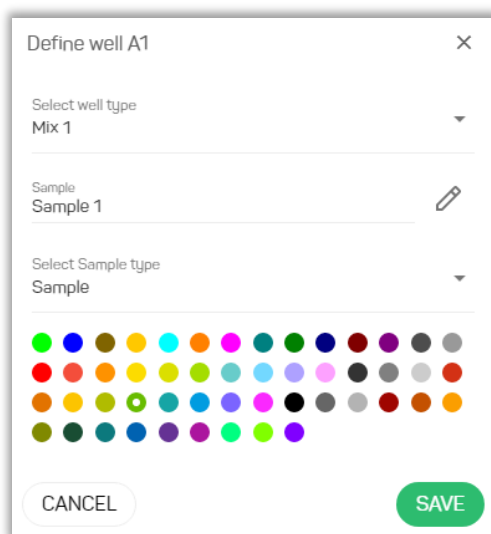
For editing one single well, click on the relative  button.

For selecting more than one well to be edited:


1. Move the mouse over a well, until  cursor appears. Left click on each desired well. A  symbol will appear (not selected wells will show  symbol instead). Multiple wells can also be selected: move the cursor outside any well, until it turns into a cross  and then keep the left button clicked while dragging the mouse over the cartridge to extend the selection.
2. Click on the  button to edit the selection. Click on the  button to remove the wells from the cartridge layout. Fluorescence will not be detected for removed wells.

For each well, following information can be edited:



- **Selected well type:** identifies the solution/mix the well will be filled with. Changes of this parameter will affect the way automatic interpretation will consider the well.
- **Sample:** reports the **Sample** that will be contained by the selected well.
- **Select sample type:** identifies the treated sample type and control samples the well will be filled with. Changes of this parameter will affect the way automatic interpretation will consider the well.



You can add wells by clicking the  button on the empty wells.




Also, **Samples** can be edited in batch by clicking the  button on the top right of the screen.

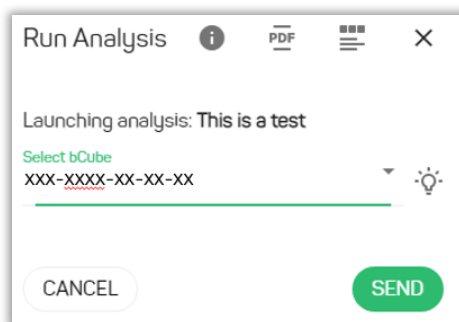
Click on the  button to exit the **Layout edit** view without saving the modifications. Click on  otherwise.

You can finish the analysis creation/edit procedure by clicking the  or  button, for respectively launch and save the analysis or only save the analysis.

**Note:** Make sure the selected cartridge model corresponds to the model of the cartridge in use

If the **Run after finish** option is selected, a new window will open. Select the desired **HYRIS bCUBE™** among the available devices. The selected **HYRIS bCUBE™ Status LEDs** will blink. You can make the Status LEDs blinking again by clicking on the

 button. A recap of the thermal protocol that will be executed is visible by clicking the  button. **Reaction set-up** can also be shown, and cartridge .pdf file can be downloaded. Click on  to immediately launch the analysis. The live analysis view page will be shown.










If the **Run after finish** option is not selected, the user will be brought back to the Analyses list, where the new analysis can be found.

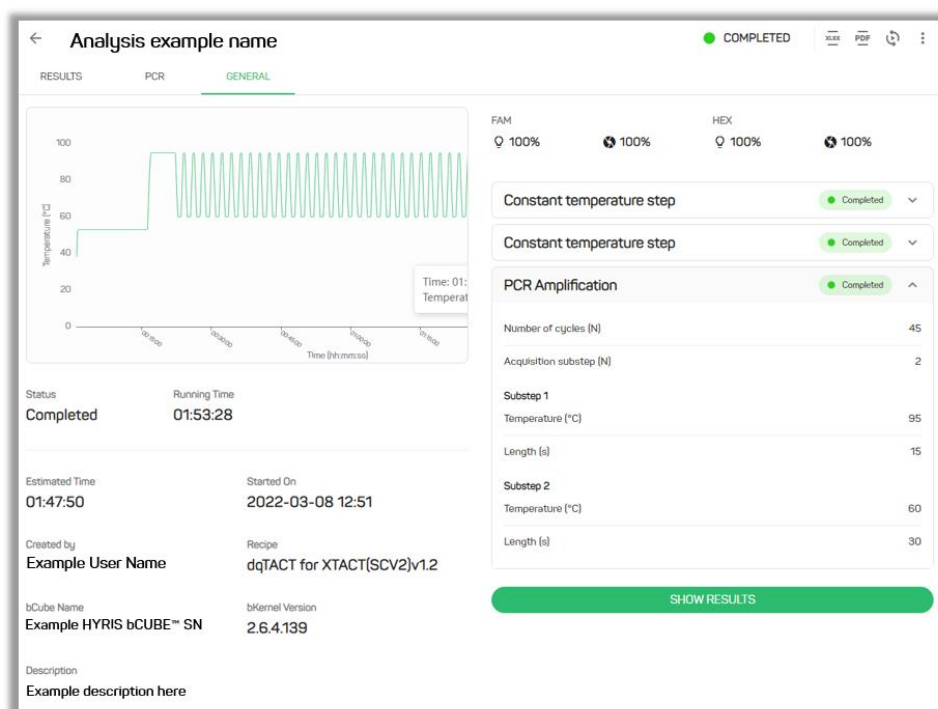
## Analysis details

When opening an analysis, the first tab to be shown depends on the analysis status. If the analysis status is **Completed** or **Aborted**, the **Result** tab will be shown, otherwise **General** tab will be opened  
GENERAL tab

This section shows the cartridge temperature measured by the instrument during the experiment and some information about the operating **HYRIS bCUBE™** (for example, its name and software version) or the analysis.

Each of these parameters are updated in real time while analysis is running and **HYRIS bCUBE™** is connected to the internet. Depending on the analysis status and account permissions, different buttons are available in the top right corner of the screen:

-  button: analysis is immediately aborted.
-  button: analysis data in .xlsx format are downloaded
-  button: report of the analysis is downloaded in .pdf format
-  button: edit analysis name
-  button: create a new analysis featuring same protocol and samples
-  button: allows the user to change some settings of each step and to recompute the analysis results accordingly.
-  button: the action button opens a menu featuring different buttons (depending on the analysis status, the user permissions and some of the analysis characteristics), allowing the user to:
  - Edit the analysis name
  - Edit the analysis description
  - Edit the analysis samples
  - Edit the **HYRIS bKIT™** lot number
- **SHOW RESULTS** button: browse to the **Results** tab



For each step, the relative status is shown (**Completed**, **Running**, **Pending**). If the step status is **Running**, two buttons can be shown depending on the step type:

- **SKIP STEP** button: next step is called, while current one is terminated.
- **EXTEND FOR 5 \*** button, where \* is **CYCLES** if the step is **PCR Amplification**, while it's **MINUTES** otherwise: extend the duration of the step by the indicated amount of cycles/time.

Each of the previous actions will be tracked both in the analysis report and in the step preview on the **step preview area** in the **General Info** tab.



**WARNING**

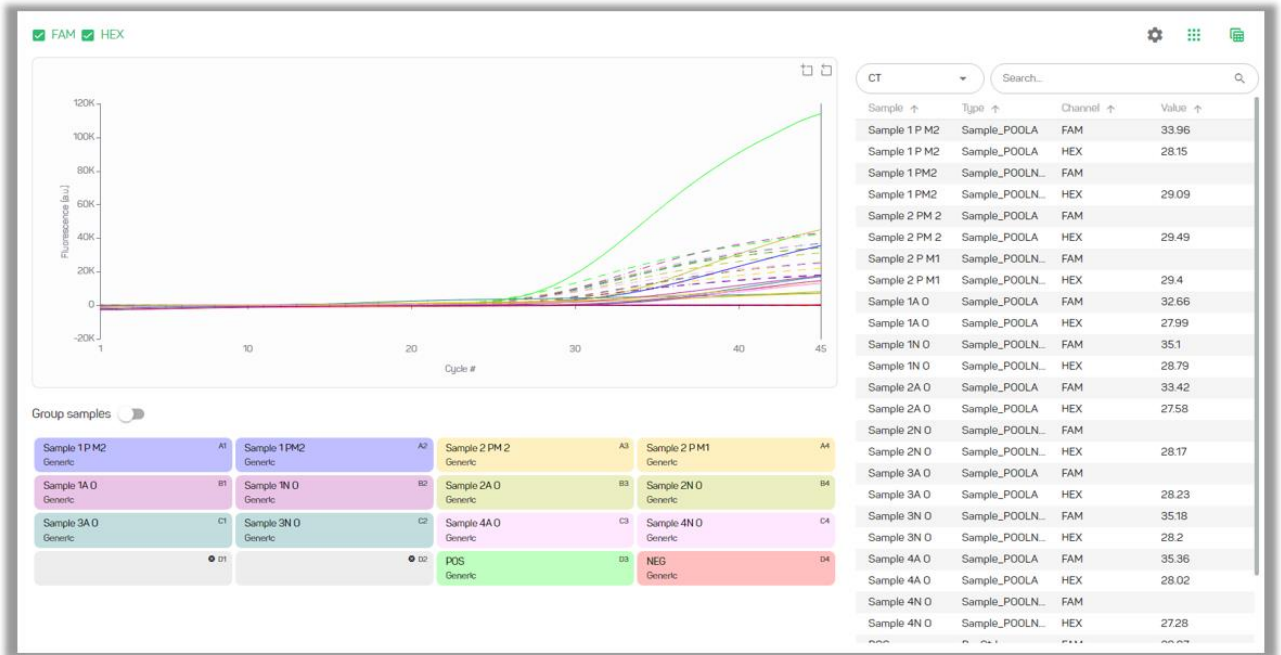
Make sure the previous command has been executed by **HYRIS bCUBE™** before sending a new command.

**STEPS tab**

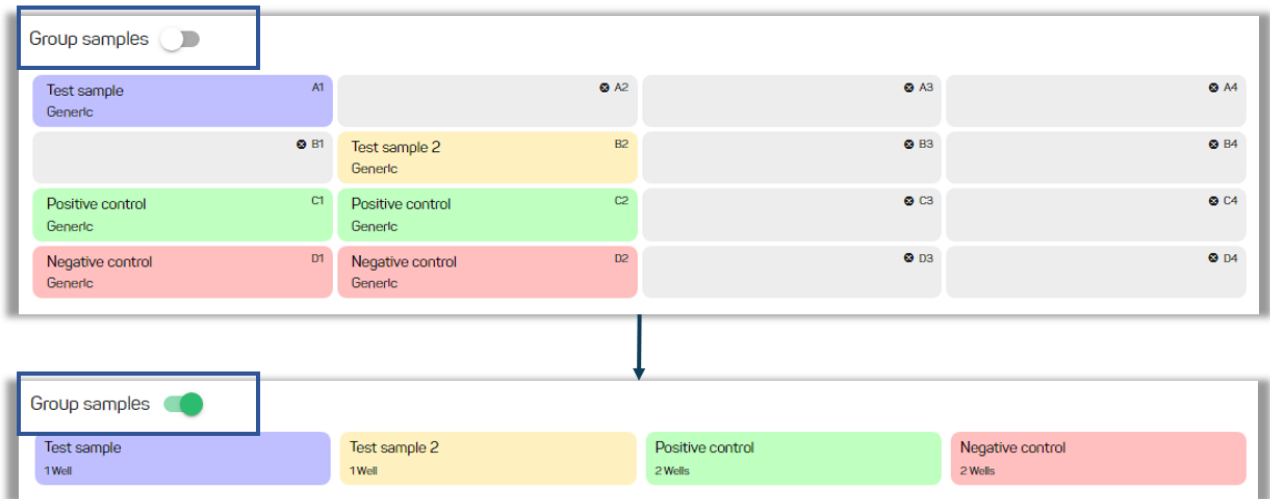
All analysis steps are listed in these tabs.

Each step data can be consulted individually by clicking on the correspondent name on the list.

The step view will be expanded, showing extra data, such as the fluorescence/time charts, which is updated in real time while the analysis is **Running** and **HYRIS bCUBE™** is connected to the internet.



Samples can be shown in a cartridge representation or as samples representation.






If the analysis is completed, a computed parameter table will be added next to the chart (if specified in the **Recipe**).

Sample	Type	Channel	Value
Sample 1	Sample_Mix 1	HEX	31.16
Sample 1	Sample_Mix 1	FAM	
Sample 1	Sample_Mix 2	HEX	
Sample 1	Sample_Mix 2	FAM	
Sample 2 1n5	Sample_Mix 1	HEX	34.06
Sample 2 1n5	Sample_Mix 1	FAM	
Sample 2 1n5	Sample_Mix 2	HEX	
Sample 2 1n5	Sample_Mix 2	FAM	
Pos Ctrl Mix 1	PosCtrl_Mix 1	HEX	29.89
Pos Ctrl Mix 1	PosCtrl_Mix 1	FAM	29.87
Pos Ctrl Mix 2	PosCtrl_Mix 2	HEX	
Pos Ctrl Mix 2	PosCtrl_Mix 2	FAM	30.6
Neg Ctrl Mix 1	NegCtrl_Mix 1	HEX	
Neg Ctrl Mix 1	NegCtrl_Mix 1	FAM	
Neg Ctrl Mix 2	NegCtrl_Mix 2	HEX	
Neg Ctrl Mix 2	NegCtrl_Mix 2	FAM	

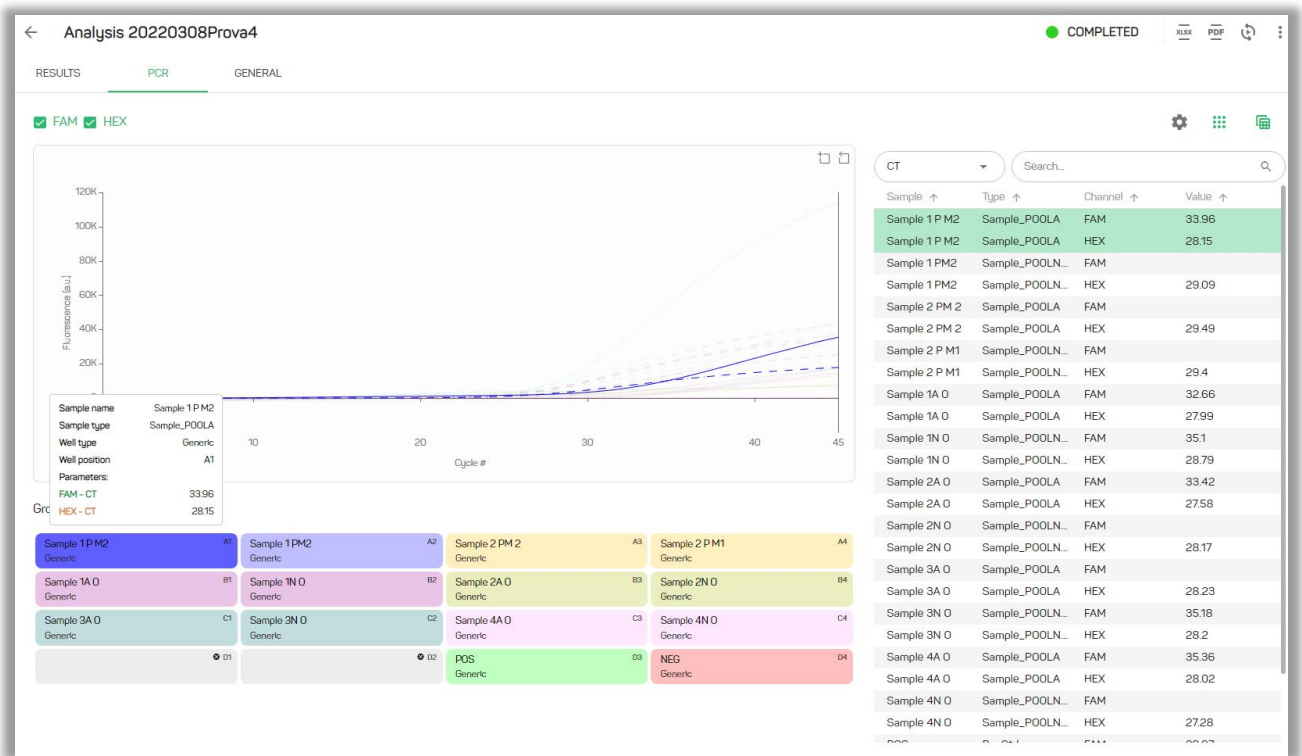
### STEPS tab – advanced features

Different buttons allow to customize the step tab content layout to fit the visualization necessities.:

-  button: positioned on the top right of the screen, allows the user to customize the data visualization of the fluorescence chart. Following settings can be changed:
  - **Logarithm** flag: if flagged, data are displayed in logarithmic format
  - **Derivative** flag: if flagged, first derivative of the fluorescence curve is shown
  - **Use dual axis** flag: if flagged, allows to split the Y axes in order to scale each wavelength curves group according to the max value of the group
  - **Baseline correction**: shift in the Y direction and curve elaboration are set to improve data visualization, without affecting any result
-  button: positioned on the top right of the screen, allows the user to hide/show the samples/the cartridge layout to provide more vertical space to the chart
-  button: positioned on the top right of the screen, allows the user to hide/show the results table in order to provide more horizontal space to the chart

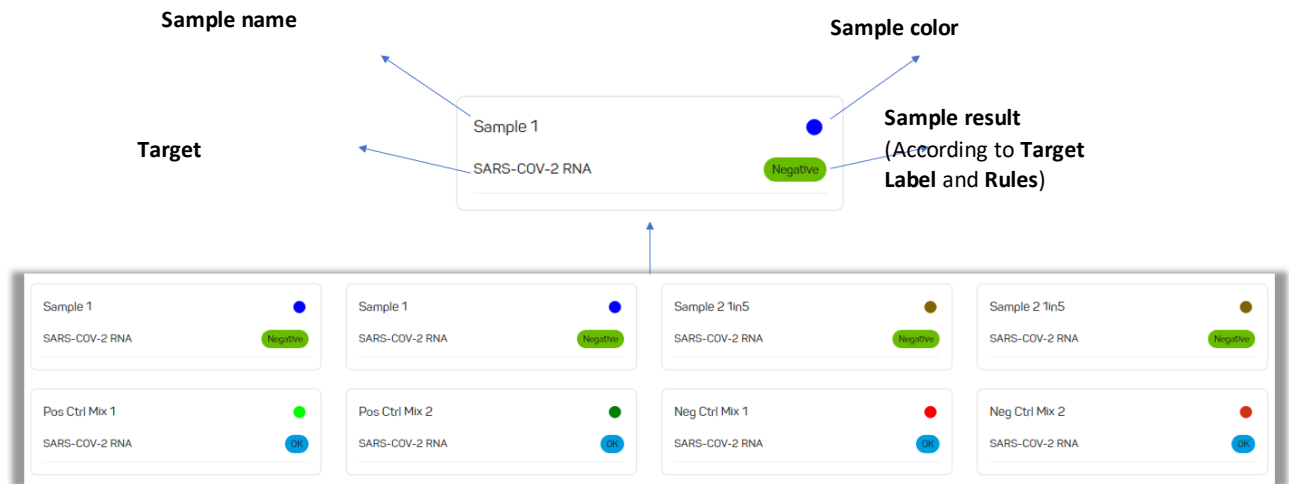
**HYRIS bAPP™** also allows the user to select/deselect (show/hide) different wells curves and relative results:

- Show/hide one well curve by left clicking on the desired well. More than one well can be selected/deselected with this method
- Show/hide multiple wells curves at once: keep the left mouse button pressed and drag the cursor over the desired wells to show/hide the relative curves.
- Hover the mouse over a single well to display the relative results. Also, the relative curves and results in the table are highlighted



**RESULTS Tab**

In this tab a graphic representation of the analyses **Samples** is shown. After the analysis is completed, each sample is marked with a label indicating the result of the experiment (if specified in the recipe).



In case of multi targets, hover the mouse on the desired sample and click on it to display all the results:

PosCtrl ●	
☘ Target level 0	^
CONTROL	PASS
<hr/>	
☘ Target level 1	^
SARS-CoV-2 N1	PASS
hRPP30	PASS
SARS-CoV-2 N2	PASS
HEX MIX 2	PASS

**Note:** results labels are set in the selected recipe during the recipe creation process. In case the analysis has been run using one of the **HYRIS bKIT™**, the result labels and interpretation can be also found in the relative kit **IFU**

## HYRIS bPANEL™ interface

### System Requirements

In order to run **HYRIS bPANEL™** PC Interface, the minimum computer requirements are:

- Intel Core i3 or equivalent, 4 GB RAM, Windows 7 or later, Ethernet or Wi-Fi connection.



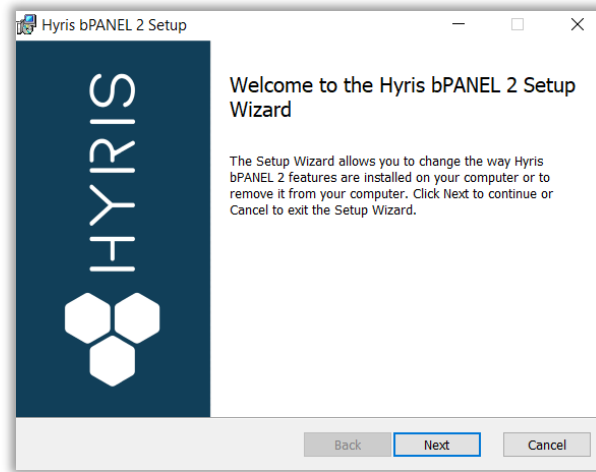
#### WARNING

Although **HYRIS bCUBE™** can work offline with **HYRIS bPANEL™** software, its connection to internet is required at least once a week. If not connected for longer periods of time, any action on the device will be blocked until new connection.

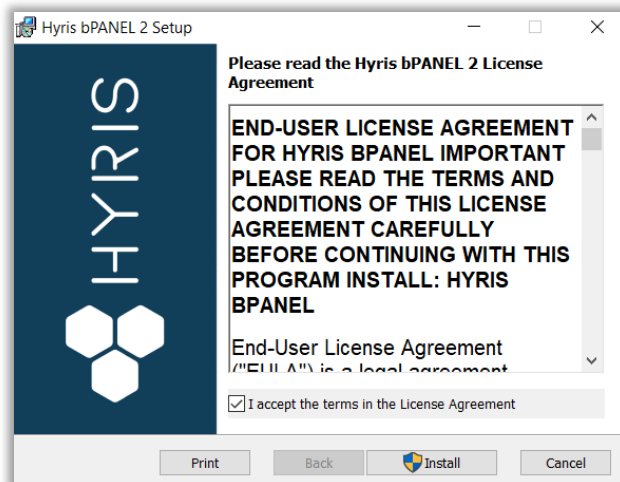
### Installation

Open the **HYRIS bPANEL™** installer located in the provided USB.

- 1) Insert into an available USB port the Hyris USB Stick containing **HYRIS bPANEL™** installer.
- 2) Launch the **.msi** setup file, located inside **HYRIS bPANEL™** folder.
- 3) On the welcome screen, click on **Next**.



- 4) On the next page, carefully read the license agreement. Tick the check-box and click **Install** to continue.



- 5) Wait for the installation process to end. Click on **Finish** on the last page to complete the installation.

No driver installation is required for using **HYRIS bCUBE™**.

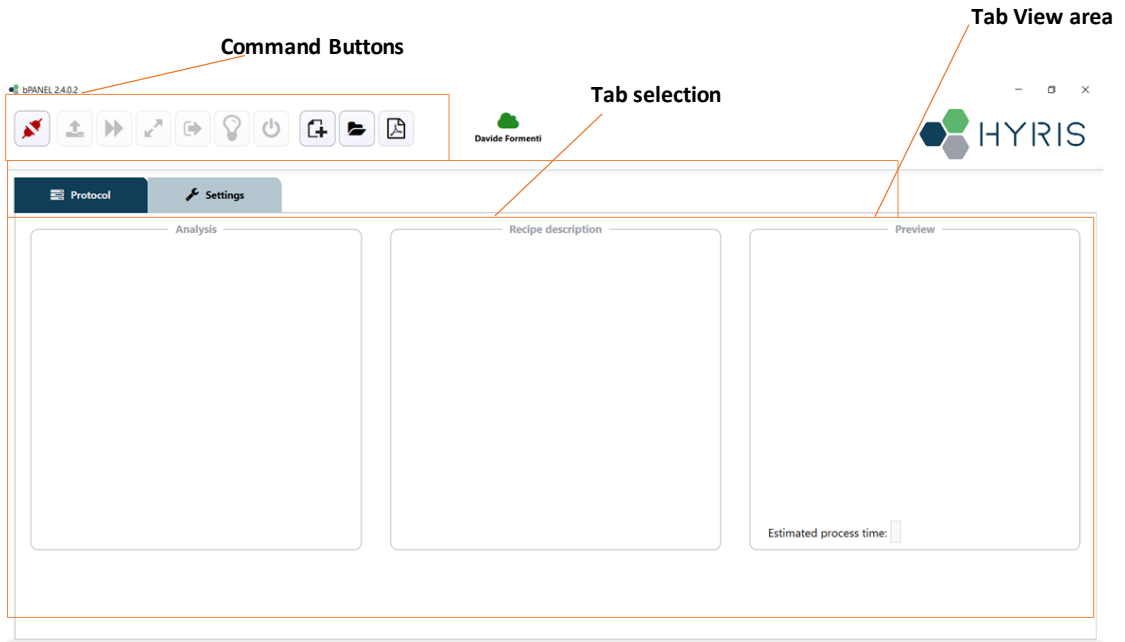
### Main view

Make sure all the steps described in [HYRIS bCUBE™ Connection](#) have been correctly performed.

Open the **HYRIS bPANEL™** program. The main view will be shown:

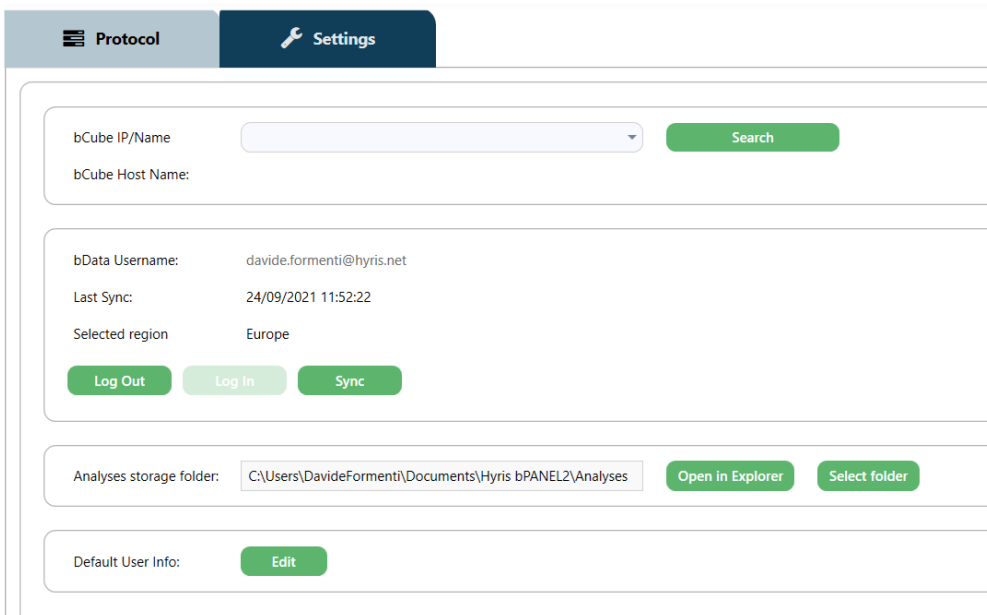
- **Command Buttons:** list of command to send to the connected **HYRIS bCUBE™**

- **Tab selection:** each tab provides different information about the loaded analysis or the user settings. The analysis related tabs are updated in real time while the selected analysis is running and the correspondent **HYRIS bCUBE™** is connected
- **Tab View Area:** shows the content of the selected tab

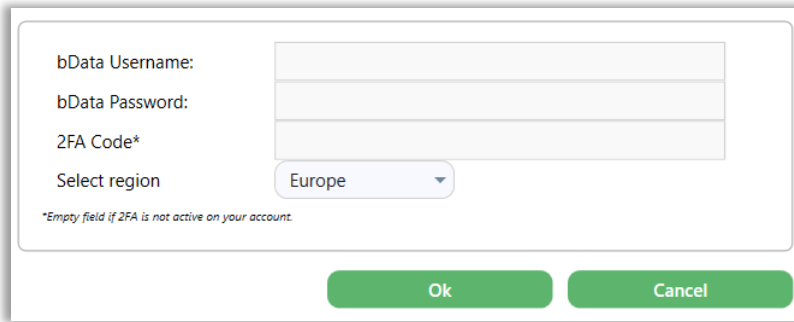


Settings: Log in/Sync and HYRIS bCUBE™ connection  
Go to “Settings” tab:




1. Click on **Log In**





2. Insert your **Region, email, password** and **2FA Code** (only if 2FA is already active on HYRIS bAPP™), which are corresponding to the **credentials** used to register the user to the **HYRIS bAPP™** (see [Access the HYRIS bAPP™](#) section for further information). Then click “OK”

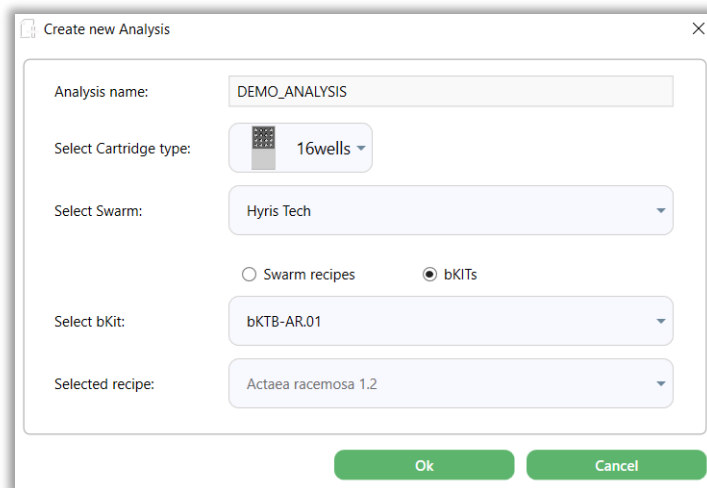


bData Username:   
 bData Password:   
 2FA Code\*   
 Select region: Europe   
\*Empty field if 2FA is not active on your account.


1. Click on . After the operation completion, the available **HYRIS bCUBE™** devices will be listed in the dedicated drop-down menu. Select the desired one
2. Click on the  button to connect to the selected device. After connection, the button will turn green 

**New analysis creation**

1. Click on the  button
2. Insert the **Analysis Name** (Mandatory)
3. Select the desired **Swarm** among the available ones (Mandatory)
4. Choose whether to search among **Swarm recipes** or **HYRIS bKIT™s**
5. Select the desired **Recipe/bKIT** (bKIT recipe is automatically selected on bKIT selection).
6. Click on  button.



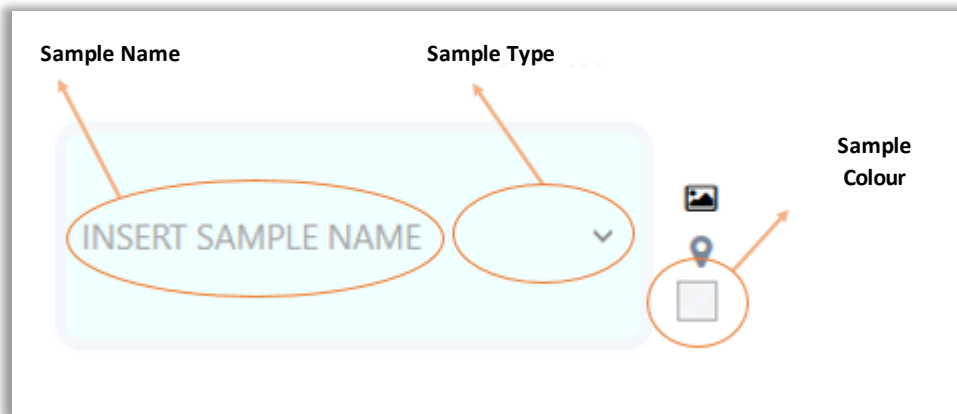
Create new Analysis ×

Analysis name: DEMO\_ANALYSIS   
 Select Cartridge type:  16wells   
 Select Swarm: Hyris Tech   
 Swarm recipes  bKITs  
 Select bKit: bKITB-AR.01   
 Selected recipe: Actaea racemosa 1.2





7. The new analysis will be created, and tabs updated accordingly.  
The default wells information are defined in the selected recipe (downloaded from **HYRIS bDATA™**).



8. Wells can be deleted, modified, or added. In this last case:
  - a. Click on the desired well on the cartridge model on the right, according to the loaded sample
  - b. Select the **Sample Type** from the drop-down menu (Mandatory)
  - c. Enter the **Sample Name** (Mandatory)
  - d. Choose the **Sample Colour**




Run the analysis

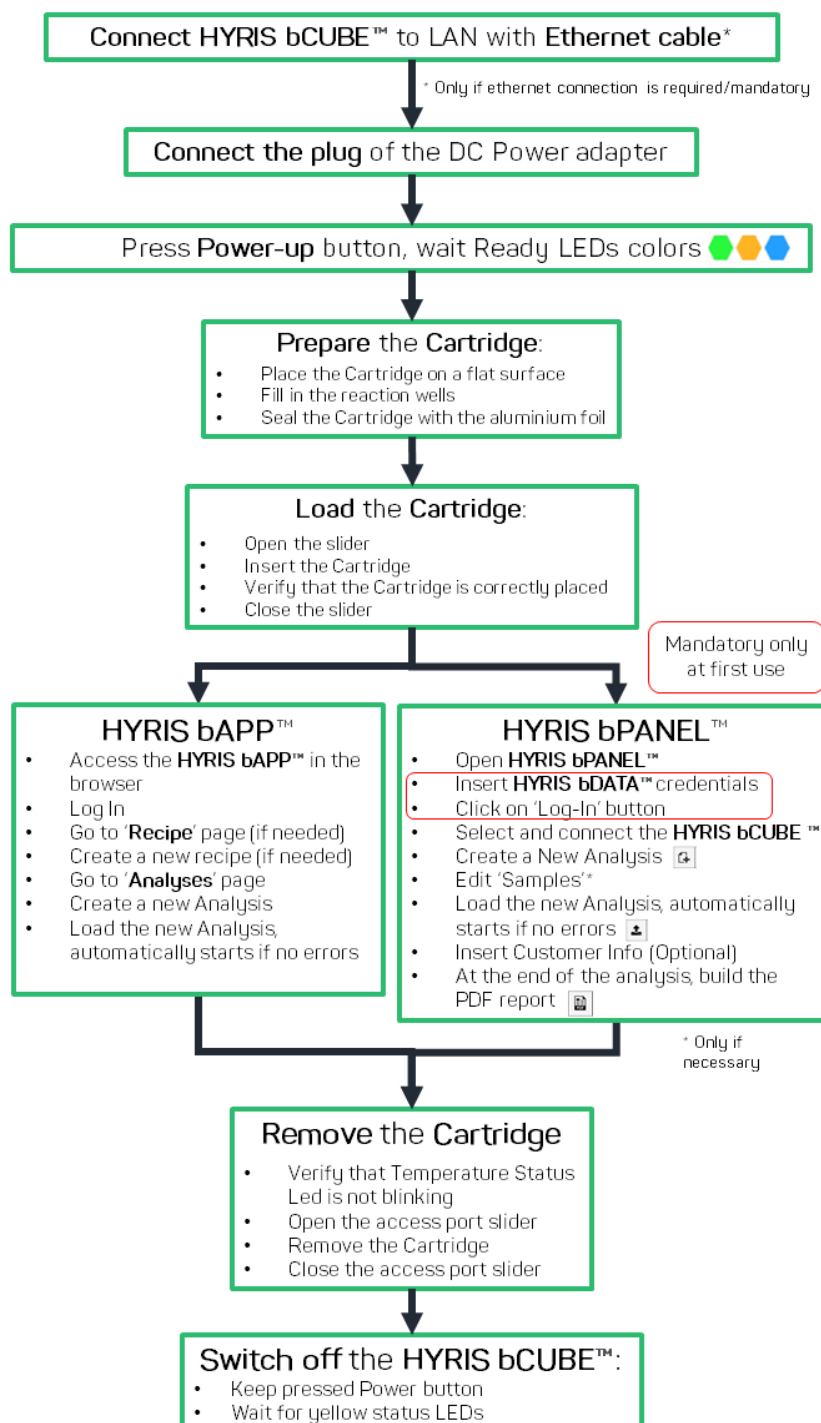
1. Load the cartridge to the selected **HYRIS bCUBE™** (see section: [Cartridge Preparation](#)).
2. Run the analysis by clicking on the  command button. The analysis will be uploaded to the selected **HYRIS bCUBE™**. If no errors occur, the experiment will immediately start, while the **Status LEDs** of the device will start to show multiple and changing colours .
3. The analysis parameters and results will be automatically shown in specific tabs in real time.
4. Wait for “**Ready Colours**” .
5. Generate a PDF report file by clicking on the  command button, and then selecting “**Build/Rebuild PDF Report**”.
6. Unload the cartridge

### Old analyses view

Old analyses can be consulted by opening them from PC, **HYRIS bCUBE™** or online **HYRIS bDATA™** folders.



Click on the  command button and select the desired folder location among “**LOCAL**”, “**bCUBE**” and “**bDATA**”. Click on “**OK**” after the analysis selection. The analysis data will be loaded to **HYRIS bPANEL™** and results can be consulted. The opened analysis can't be modified.

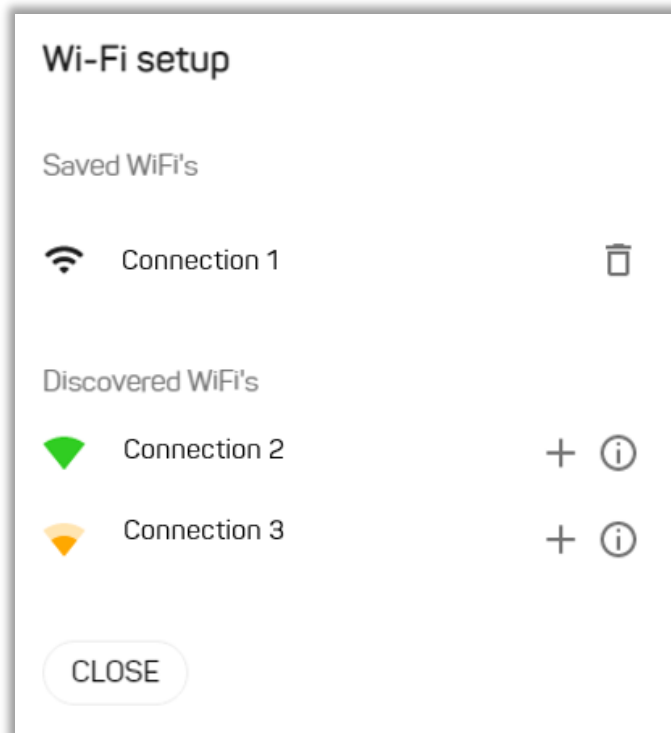
## HYRIS bCUBE™ operative procedure



## APPENDIX-1: Set HYRIS bCUBE™ Wi-Fi from bCUBEs menu

If the **bDATA LED** is showing steady green colour, **HYRIS bCUBE™** Wi-Fi can also be configured from “**bCUBEs**” section of the **HYRIS bAPP™**.

1. Access the **HYRIS bAPP™** and Log In as shown in the [PC: HYRIS bAPP™ Interface](#) section
2. Click on “**bCUBEs**” from the main menu: a list of the available devices will appear. The available devices could be different among users of the same company depending on their permissions.
3. Select the desired device and press the  button.
4. Select the desired WLAN by clicking on the relative **+** button and set the Wi-Fi password, then click on .



## APPENDIX-2: Custom Recipe

New recipes can be customized on the **HYRIS bAPP™** according to user's permissions. If recipe customization is not allowed by user's permissions, global recipes provided by Hyris S.r.l. or already existing company recipes can be used for new analyses.

1. From the **Recipes** section, click on the **CREATE RECIPE** button and follow the steps to create a new recipe.
2. Follow the steps as described in the **HYRIS bAPP™ – User Manual** and click on **FINISH** button.
3. The new recipe will be added to the recipe list

## APPENDIX-3: HYRIS Cartridge Preparation

### Load samples

In order to load the samples for the experiment:

1. Place the cartridge face up on a flat and stable surface
2. Put the sample in one or more of the cartridge wells as indicated in the reference Recipe.
3. Seal the cartridge with the provided aluminum foils



#### WARNING

Never flip the cartridge upside down or directly touch the wells. Do not drink wells content. Never reuse Hyris cartridges



#### WARNING

Always seal the cartridge with the provided aluminum foils before loading it in the **HYRIS bCUBE™**

### Load the cartridge inside HYRIS bCUBE™

In order to load a cartridge inside **HYRIS bCUBE™**, follow this procedure:

- Open the **Access port slider**.
- Insert the cartridge in the **Access port**.
- Verify the correct cartridge placement by moving it back and forth: if it's correctly pressed up against the thermal block, some force will be necessary.
- Close the **Access port slider**.

### Removing the cartridge

As soon as an experiment is completed, the cartridge is cooled down near to room temperature and can be removed. Never try to remove the cartridge while an analysis is running, as it gets hot during operation.

In order to remove the cartridge:

- Open the **Access port slider**
- Remove the cartridge by pushing the handle downward and, at the same time, pull it out of the instrument
- Close the **Access port slider**



Push the handle downward and pull the cartridge in order to extract it from **HYRIS bcUBE™**



**WARNING**

Before launching the experiment on the **HYRIS bcUBE™**, check the cartridge is fully pushed up to end run.



**WARNING**

Never tilt or flip the cartridge upside down or directly touch the wells.



**WARNING**

Never try to remove the cartridge while an analysis is running or while the central Status LED is blinking red and yellow, as it gets hot during operation and can cause injuries.



**WARNING**

Never use the same cartridge for multiple experiments. Contamination from past analysis will lead to incorrect results.



**WARNING**

For Cartridge disposal after use, please refer to the directives and regulations concerning disposable requirements of the country in which the device is used.

## Technical support / Service

In case of problems such as failure of the device or anyway in case of partial or incorrect working that cannot be solved through usual maintenance operations, please contact one of the main offices of Hyris S.r.l.

All the support material, as well as user manuals, can also be found at: <https://support.hyris.net/hc/en-us>



### WARNING

In case of failure of the device or if it starts working differently from what expected or what is written in this manual, especially as far as safety is concerned, **STOP USING IT IMMEDIATELY** and contact the technical service. Do not use the device until the safety conditions have been checked and restored.

## Support Contacts

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Mail for technical support: [support@hyris.net](mailto:support@hyris.net)  
Website: <https://www.hyris.net/>

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