



T6.1.1 - Infarct.NET digital platform - Output

Version n. 1 - 12/2023





















T6.1.1 – Infarct.NET digital platform

PROJECT NAME: "Promoting eHealth in cb Area by Stimulating local Economies" - ACRONYM: PHASE - PROJECT NUMBER: 365

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PROJECT: "Promoting eHealth in cb Area by Stimulating local Economies"

ACRONYM: PHASE

Output



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1. Executive Summary

This document provides evidence of the delivery of the **Infarct.NET digital platform**, developed within the PHASE project as one of the main outputs.

It envisages an introduction to the PHASE project, detailing its rationale and main objectives, enriched by the identification of the challenges it faces as well as its planned - and implemented - n. 3 pilot actions. Subsequently, the Infarct.NET digital platform is briefly described, and the links to the tutorial videos uploaded on **Youtube channel** providing an explanation of the platform are indicated, as well as some screenshots of the mentioned videos.

The report also outlines the business and research institutions involved/offering no financial support within the implementation of the platform, in line with the Application Form.

The detailed description and functioning of the platform are included in the dedicated **User Manuals**, delivered in the project countries languages, annexed to this document in the English version.

2. Introduction

E-Health is a strategic business sector for European economic development, as mainly reported in EC strategy regarding the "**Digital Transformation of Health and Care in the Digital Single Market**". Significant efforts and investments are demanded to National and local governments in order to align with EU standards, in terms of innovative services organization, digital platforms and sharing services among citizens.

The development of eHealth sector boosts European territories, not only for the improvement of public and private healthcare services, but also by **stimulating competitiveness and innovation** of MSMEs in ICT and digital technologies sector. However, the digital transformation of healthcare sector involves also traditional companies providing social and healthcare services to patients such as nurses, physicians, private clinics and ambulatories, pharmacies and drug stores, gyms and rehabilitation centers, etc. The latter have to improve and innovate the way they provide their services through the use of mobile apps, digital platforms, wearable sensors, personalized data, etc.

Digital technologies such as 4G/5G mobile communication, artificial intelligence or supercomputing offer new opportunities to transform the way we receive and provide health and care services, enabling innovative approaches to independent living or integrated health and social care. Furthermore health

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data and advanced data analytics can help accelerate scientific research, personalized medicine, early diagnosis of diseases and more effective treatments.

Finally, the recent COVID-19 pandemic has furtherly increased the general public sensitiveness on eHealth, stimulating debates and propositions, while policy makers boosted up the efforts and investments (at national and regional scale) to regulate and define standards in the e-health sector.

Starting from these considerations, the **PHASE** project aimed at:

- creating an ecosystem of policies, practices and tools acting as facilitator of competitiveness of MSMEs in healthcare sector and e-health;
- boosting the creation and the development of eHealth digital MSMEs by providing non-financial services
- increasing **competences** in MSMEs, **awareness** in public authorities and **empowerment** in common citizens in CB area about eHealth;
- promoting the **CB** cooperation among private and public stakeholders through the creation of a transnational network
- improving the overall health and the **quality of life** of citizens in the CB area by using information and communication technologies (ICT) to increase self-management of healthcare and diseases

The PHASE project developed ICT platforms and procedures to address territorial needs (i.e. patient's needs). The approach has been tested and validate in **n.3 different Pilot actions**, addressing 3 different types of clinical needs from patients:

- 1. **Infarct Network**, a territorial network of ICT nodes and equipped ambulances aiming at a prompt and appropriate clinical intervention in early phases of heart-attack (emergency/urgency)
- 2. Management of **Integrated Care Pathways** with specific reference to Neurodegenerative diseases. It is the case for patients requiring multi-specialistic support for their complex disease.
- 3. Remote **monitoring of chronic patients**, for those who requires continuous but low intensity care on the territory, without the need to go to hospitals. It basically extends the healthcare services even to patients' house.

The PHASE project aimed at creating the right conditions for the boost of eHealth sector in CB area, by providing services and supporting local MSMEs as well as increasing competence and awareness in public authorities and empower patients and caregivers. The project posed the base for the development of common shared open protocols and digital tools, a crucial aspect to guarantee interoperability among

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different platforms and increase the efficiency of the processes. The digital eHealth ecosystem of services promoted by PHASE project has the potential to contribute to the implementation of the most advanced models of eHealth in the world such as the territorial Virtual Hospital.

3. Output T6.1.1: Objectives

The purpose of this report, which represents one of the PHASE Project main outputs, is **providing evidence of the Infarct.NET digital platform,** designed and implemented within the Project as fundamental component of one of the three pilot actions, thus enabling the operation, in all the involved countries, of the territorial network of structural nodes (control rooms) and equipped ambulances aimed at timely and appropriate clinical interventions in the early stages of heart attacks.

The report also identifies the business and research institutions involved/offering no financial support within the implementation of the platform.

4. Brief description of the Infarct.NET digital platform

The platform/application is based on the software called **Helis Infarct.Net**, which is intended for the diagnosis of the patient's state of health in various areas.

The specific use of the application is identified in the **medical environment**, and its use must be carried out by **qualified and suitably trained personnel** and in compliance with the instructions contained in the User Manual.

The access to the platform is therefore restricted to qualified personnel equipped with specific credentials.

As the video tutorial dedicated to the **referring doctor** shows, the doctor, by accessing the application HelisInfarct.Net with his credentials and selecting the English, Italian, Albanian or Montenegrin language, manages the events listed in the control room section.

The events are differentiated according to the status with a different color: the red color indicates the tests to be reported, the green color the tests reported, as the screenshot here below shows.



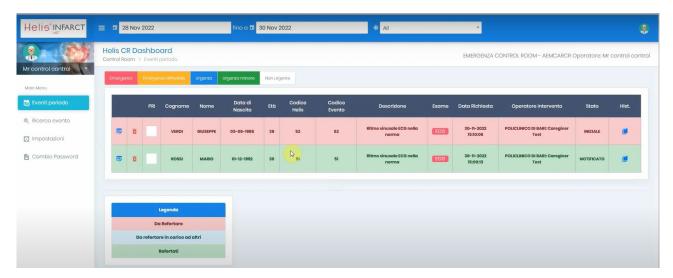


Figure 1. The colors indicating the different status of the events.

The priority assigned to the request is made clear by the color of the cell PRI corresponding to the event.

At the top left there is a legend with the relevant priority levels. The doctor clicks on the button left to take charge of the event and view the cardiograph tracing, together with the patient's personal and anamnestic data.

The doctor can also modify the display layout, filters, and other functions useful for reporting by using the dedicated viewer.

Once the doctor has completed the report, he is directed to the confirmation page and can preview the report in PDF format, as shown below.



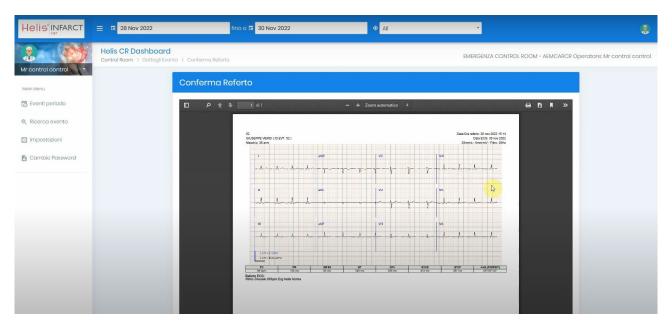


Figure 2. The section to confirm the report.

Entering his password and pressing "confirm", the doctor finalizes the report. In case of new requests for reports, the doctor receives an alert at the top right of the screen and displays a new red line within the list of the events of the period.

The doctor can take charge of the event report. Clicking on "search an event" the doctor has the possibility of searching a previous exam through different filters (surname and tax code of the patient, Helis code, event code); in this way he has access to the list of the exams previously reported.

As regarding the use of the platform by the **caregiver**, for carrying out the ECG test he starts the Helis Infarct.net application and from the login screen selects the language among English, Italian, Montentegrin and Albanian and the credentials to access, as in the screenshot below.





Figure 3. The login screen and the language selection section.

Pushing the "start" button, the caregiver identifies the event code and fills the related boxes with the personal data of the patient, and then with the anamnestic data (weight, height). In this screen also the age of the patient is indicated.

In the box "annotations", the caregiver records all the additional information that can be useful to the referring doctor. In the execution confirmation form of the ECG exam, he can assign the priority to the exam. To proceed with the ECG, he has to follow the preparatory instructions on the screen. The application waits for the ECG tracing, created thanks to the native system of the device, as a message shows (the system is waiting for the tracing).

The caregiver, by clicking on the "auto" button in the recording program, stores and sends the tracing in real time, receiving the message on the application "message received, waiting for report".

In the meanwhile, the caregiver can request a further ECG to be performed on another patient.





Figure 4. The message on the application "message received, waiting for report", once the ECG has been sent by the caregiver.

Through the list of the events, it is possible to acquire, at any time, the status of the events carried out /waiting for report/report available.

When the report is available, the caregiver displays the message "Report available" next to the event; by clicking on the name of the patient and then on "health clinical data", and "ECG report available", he can download the report on pdf. At this point, on the doctor's screen is notified that the report has been displayed.

The caregiver can close the event or send a further trace based on the doctor's indications.

Clicking on "End of the event", the system provides the complete final report including all the data acquired during the clinical event.

The videos tutorial related to this platform, and from which above screenshots are taken, are available at the links below:

- Video tutorial for the doctor: https://www.youtube.com/watch?v=pl-kZyaTdog
- Video tutorial for the caregiver: https://www.youtube.com/watch?v=sbMEGykFdwo

They represent an important training and updating tool for healthcare professionals, as well as a source of useful information for patients and their families.

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5. Business and research institutions involved/offering no financial support

The stakeholders who have been involved in the implementation of the platform, ensuring its stability, reliability, security and full functionality, by providing scientific or technical support based on their specific competences, are the following:

- All the PPs involved, namely University Hospital Consortium Corporation Polyclinic of Bari; University Hospital Ospedali Riuniti di Foggia; Molise Region; Ministry of Health and Social Protection of Albania, National Center of Medical Emergencies of Albania, Union of Chambers of Commerce and Industry of Albania, Clinical Center of Montenegro, Ministry of health of Montenegro, Chamber of Economy of Montenegro;
- ARESS Puglia, Regional Agency for Health and Social Affairs of Puglia;
- ASL (Local Health Authority) of Foggia, Brindisi, Bari;
- University of Studies of Bari UNIBA;
- University of Foggia;
- Giovanni Paolo II Cancer Institute Bari;
- IRCCS Casa Sollievo della Sofferenza-San Giovanni Rotondo;
- ARTI Puglia (Regional Agency for Technology and Innovation);
- Tecnolopolis PST (Technological Scientific Park);
- Confindustria;
- Unioncamere Puglia;
- Regional Department of Health Puglia Region;
- Polytecnic University of Bari;
- Maugeri Bari Scientific Institute;
- AiSDeT (Italian Association of Digital Health and Telemedicine);
- SIC Society of Cardiology (SIC)
- Polytecnic of Torino.

The company CONSIS, which offers products and services in the field of ICT, information systems, consultancy, and training, developed this platform and is responsible in case of malfunctions detected or errors received during the execution of the program; in fact, as the User Manuals clarify, the users are requested to notify the CONSIS Helpdesk of any malfunction and / or defect, and the company undertakes

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to resolve any problems not arising from misuse by the user as quickly as possible from receipt of the report.

6. Annexes

Annex 1. Medical Manual Helis Infarct.net

Annex 2. Caregiver Manual Helis Infarct.net

Annex 3. Appendix A. Requests and integrations with third parties Helis Infarct.net



This project is co-financed by the European Union under the Instrument for Pre-Accession Assistance (IPA II).

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6.1. Annex 1. Medical Manual Helis Infarct.net

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Medical Manual Helis Infarct.net

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1 Introduction

This manual provides the User with all the information necessary for the correct operation of the **Helis Infarct.net** software.

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1.1 How to read the manual

This manual contains detailed instructions on using the **Helis Infarct.net** online reporting system. The most important notes are highlighted in bold.

1.2 Destination of use

Helis Infarct.net it is intended for the diagnosis of the patient's state of health in various areas. The specific use of the application is identified in the medical environment. Use must be carried out by qualified and suitably trained personnel and in compliance with the instructions contained in the User Manual.

1.3 License terms

By using the software, you agree to the terms and conditions described below.

The program and accompanying documentation may not be modified, copied, merged with other programs or made available to any third party.

The user is held responsible for any damage resulting from non-compliance with copyright, or from violation of the conditions set out in this agreement.

1.4 Information and recommendations relating to safety of use

Helis Infarct.net software is compatible with all existing browsers.

1.5 Warnings

Should users detect malfunctions or receive errors during the execution of the program, users are requested to notify the CONSIS Helpdesk of any malfunction and / or defect.

CONSIS undertakes to resolve any problems not arising from misuse by the user as quickly as possible from receipt of the report.



2 Helis Infarct.net access

The platform allows you to create new clinical events within which it is possible to make one or more **requests** for *examinations* and consultations, with the aid of diagnostic devices.

The user in charge of the request will be able to create events and request exams and consultations for the same patient within them.

To start the application, the user starts the Browser, through the specially created link on the Desktop, recognizable by the **Helis Infarct.net** software logo.



Link Helis Infarct.net

The login mask requires login credentials: username and password. The doctor will enter your username and password, then click the **NEXT** button to log into the system. It is possible to cancel the operation by clicking on the **CANCEL** button. Once pressed on **NEXT**, the user will be redirected to the main screen.



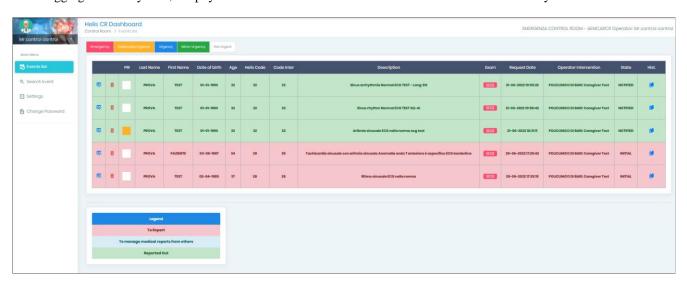
Login Helis Infarct.net



3 Medical functionality

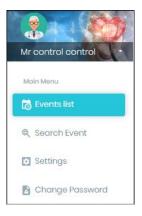
3.1 Initial screen

After logging into the system, the physician will be shown the main screen of the Helis Infarct.net system.



Helis Infarct.net Main Screen

From this screen, the doctor can carry out various operations that can be selected from the menu on the left side of the screen.



Menu detail



3.1.1 Events Period

By clicking on this menu item, the doctor will be able to manage the list of events in the system. You can also filter the list of interventions by selecting a date range from the appropriate fields located at the top of the screen. The list of interventions will show the doctor only and exclusively the interventions of the type of method assigned to him (ECG, ECHO. Tele consultation, etc...).



Detail Selection Dates Interventios

In the first field the doctor will select the start date and in the second the end date of the interval. Whenever a date is selected, the system will automatically update the list of interventions on the screen. The interventions presented in the list will be differentiated from each other based on their status. After the list of interventions there is a legend that will allow the doctor to distinguish the different states based on their color.



Detail Legend

- TO BE REPORTED: it is possible to take charge of the event for reporting
- TO BE REPORTED IN CHARGE TO OTHERS: the event is in the reporting phase taken over by another doctor
- REPORTED: the event reporting has already been submitted for this event

3.1.2 Event Priority Display

In the Control Room part, the Doctor / Specialist / Technical Operator / Monitoring Operator will be able to notice, at the upper left, immediately before the Events List, a *Legend* indicating the **Priority** levels and the relative assigned colors.

The Priority Level Assigned to the single event by the POC / POCT Operator, for convenience and easy consultation, is displayed in the **PRI** (Priority) column as a colored square.

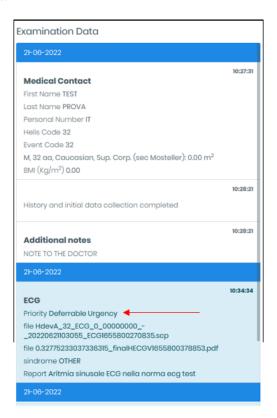


Priority in the Event List

This information is also visible when the Doctor / Specialist carries out the evaluation of the exam: *the Priority Level assigned to the Even*t is shown in the *Priority* data in the Tracking Log that contains the Clinic.



An illustrative image follows:



Priority in the Tracking Log

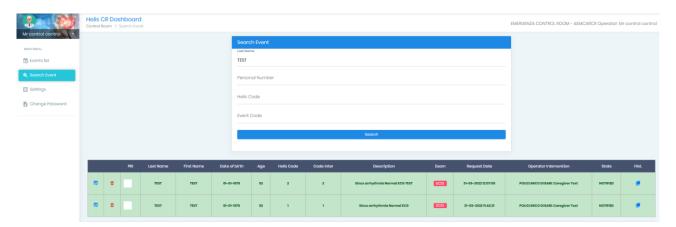


3.1.3 Event search

From this section the doctor can carry out research on specific tracks. The search parameters are: Surname, Tax Code, Helis Code (unique code of the event created by the mobile station) and the Event Code.

Just enter one of these parameters and click on search and the result will be returned in a few moments.

The list will contain both interventions already notified and interventions that have yet to be reported.



Event Search

Once the search has been carried out, it will be possible to manage the interventions from the list. If already notified, it will be possible to access the event to view the reports already submitted previously; if the interventions are to be reported, it will be possible to access the reporting phase.



3.1.4 Change Password

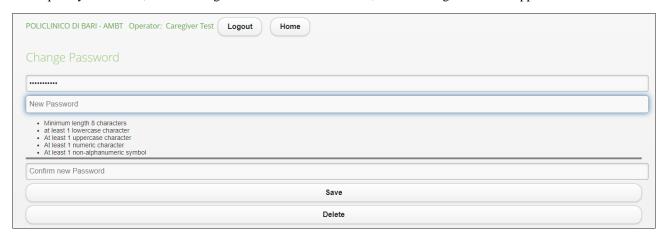
By accessing this section, the doctor can change the password of his account.

In order to change the password, the password used to access Helis Infarct.net must be entered in the first available text field.



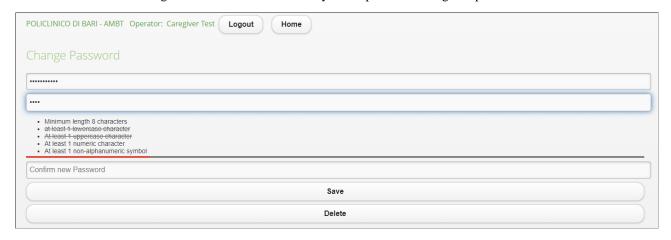
Change Password

Subsequently to the user, after clicking on the New Password field, the following screen will appear:



Complexity Criteria New Password

The user will be presented with a list of minimum complexity criteria that must be respected when composing the new password. By creating the new password, if the criteria are met, they will be removed from the list and the gray bar at the end of the list will change color to indicate the security of the password being composed.

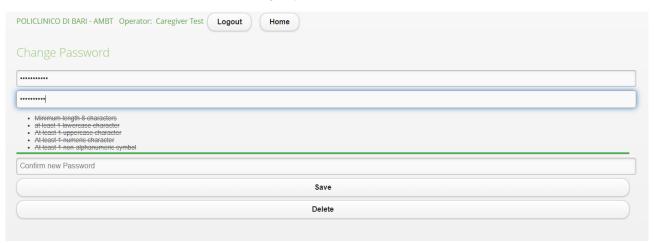


Complexity Criteria New Password





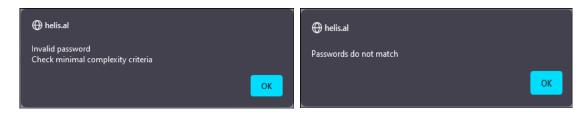
Complexity Criteria New Password



Complexity Criteria New Password

When all the minimum password complexity criteria are met, the user will have to rewrite the password just composed in the **Confirm New Password** field and once the compilation has been completed, by pressing "**Save**" the password change will be confirmed and the operator will be redirected to the screen principal.

In the event that the user does not comply with the minimum complexity criteria or the passwords entered in the two fields do not coincide, upon saving confirmation, the system will notify the changes to be made using pop-ups in order to correctly confirm the change.

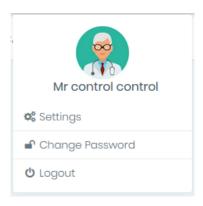


Error Messages



3.1.5 Logout

In order to log out, the doctor must click on the user icon at the top right of the screen and press **LOGOUT**. From here the doctor can also access the settings and change password section.



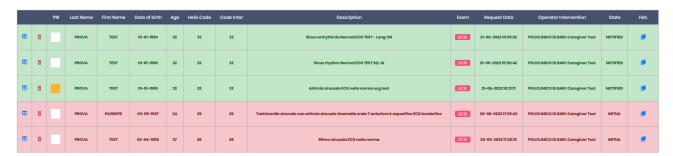
Menù log out



4 Types of exams

4.1 Electrocardiographic examination

The receipt of an event will be notified by an acoustic signal that will alert the referring physician of the arrival of an ECG.



List of interventions

From here the user will have a first summary of the main information regarding the patient and the event such as:

- PRIORITY
- SURNAME and NAME of the patient
- DATE OF BIRTH
- AGE
- HELIS CODE
- EVENT CODE
- **DESCRIPTION**: An automated report performed by the Software using the Glasgow algorithm which gives the doctor an initial (approximate) evaluation of the ECG. In the presence of multiple ecgs, this self-report will give the doctor the opportunity to evaluate the severity of the ecg in order to give precedence to any emergencies that require an immediate event.
- **EXAM**: The type of exam
- **REQUESTED DATE**: Date and time of sending the request
- INTERVENTION OPERATOR: The operator or position that sent the request
- **STATUS**: The status of the event that may be
 - INITIAL (RED): the ECG has been received and has yet to be taken over by the referring physician
 - **INITIAL** (**GREEN**): the ECG was taken over by another referring doctor and is being reported
 - TO BE NOTIFIED: the ECG report has been sent to the requesting station and is being read.
 - **NOTIFIED**: the station read the ECG and confirmed the acknowledgment.
- **HISTORY**: clicking on the button the complete list of all tests performed for the same patient will be displayed in correspondence with the event. In this way, the doctor will have the opportunity to compare the exam just received with any other tests received for that patient.

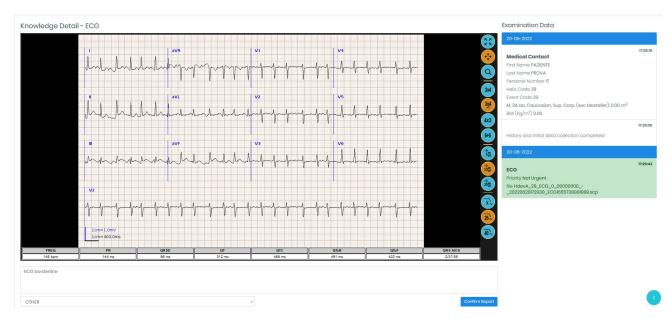
The doctor will use the appropriate buttons to interact or take delivery of the ECG:

- ECG. If the ECG is taken over by another doctor, the button will be replaced by this padlock indicating that the ECG is blocked and is being reported.
- Ey pressing this button, the doctor will be able to delete the event if the workstation no longer needs the report.



4.1.1 Reporting Tool

Once the ECG has been taken over, the screen that will appear will be the following.



Reporting Tool

4.1.1.1 General description

The ECG Reporting Tool allows you to view two-dimensional traces in DICOM format. The display panel is divided into several sections:

- In the foreground we have the ECG trace
- In the lower part, the measurements taken and the text box in which the doctor will write the description of the report
- On the side of the electrocardiographic trace, the side menu with all the functions of the reporting tool (Described in detail in the next section)
- On the right side we have the tracking Log, with all the information on the event, patient data, clinical data and measurements made by the station that started the event. This list gives specific information about the patient's status in order to make reporting by the physician easier and more accurate



4.1.1.2 Reporting Tool Functionality

The following table groups and describes all the functions present in the reporting tool. Features that help the doctor in an easier and faster interpretation of the trace.

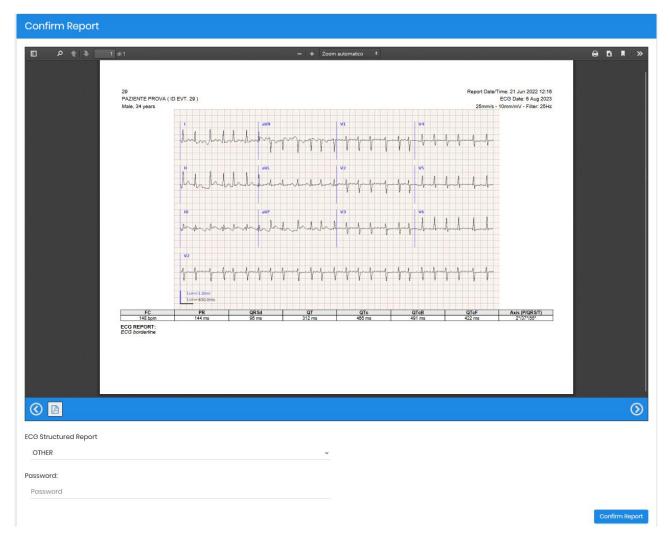
ICON	TOOLTIP	FUNCTIONALITY
	Fit to screen	Modify the display scale of the selected exam in order to adapt the size of the images to the panel that contains them.
•	Move	If this function is activated, it allows you to move the ECG on the screen so that you can focus on a specific area of the track. (if enabled, it disables the zoom function)
Q	Zoom	It allows you to zoom to view certain areas of the ECG with more precision for easier understanding (if enabled, it disables the move function)
3x4 3x4 4x3 6+6	Display layouts	Allows you to view the leads with different layouts: - 3 x 4 - 3 x 4 plus the long track - 4 x 3 - 6 + 6
5 mm 5 mm 10 mm 20 mm	Vertical scale	Allows you to decide the values of the vertical scale in mm / mV (5, 10 or 20 mm / mV)
25 Hz	Filter	Allows you to enable or disable a 25/40 Hz filter.
Confirm Report	Send report	Once the report field has been filled in, the report can be sent to the requesting station. The user password will be requested again to confirm the sending
⇔	Print report	Allows the clinician to print the report
Ď.	Export Report (PDF)	Allows you to export and save the report in PDF format



4.1.1.3 Confirm Report

Once the report has been completed, the user will be directed to the confirmation page where he will have to manually re-enter his password (password corresponding to the one with which he logs in on the Helis Infarct.net portal) and click on confirm report.

The password request upon confirmation of the report is made as an additional security measure: if the doctor were to leave the workstation, entering the password would prevent someone else from sending incorrect reports that could compromise the event in progress.



Confirmation Report

4.1.1.4 Measures

In the lower part of the screen, you can see the box in which the doctor will write the report and immediately above a set of temporal measurements that represent the distances between:

- FREQ
- PR
- ORSD
- QT
- QTC
- QTcB
- QTcF
- QRS AXIS

These measures are expressed in MS.

In addition, the tool automatically provides two derived measurements:

• FREQUENCY: expressed in BPM (beats per minute) and calculated as (1000 / RR) * 60

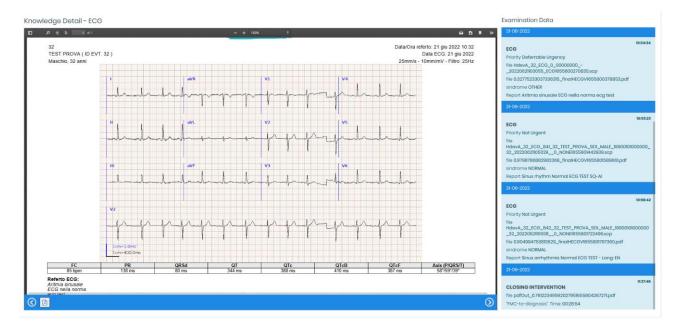


QTc: expressed in ms and calculated as QT / sqrt (RR)

4.1.2 Final Report View

Once the POC has read the report and has concluded the event, the final event report will be available for both the POC and the doctor. This report will contain all the electrocardiographic reports performed on the patient including the complete tracking log.

To view the final report, simply access an event in the list and select the last item present from the tracking log, or **INTERVENTION CLOSURE**. The screen that will appear will be the following:



Final Report View

Through the tracking log, the doctor as well as viewing the final report will be able to access all the exams uploaded and the reports previously submitted. Just scroll through the tracking log and press on the exam / report you want to view. For the individual reports and for the final report, the doctor can also search the document, zoom in, as well as print or save the pdf files of all available reports in the local memory of the computer using the buttons located on the top of the screen.

To return to the list of medical interventions, just click on **EVENTS PERIOD** located in the menu on the left of the screens in order to proceed with the reporting of the next event.



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6.2. Annex 2. Caregiver Manual Helis Infarct.net

T6.1.1 – Infarct.NET digital platform

PROJECT NAME: "Promoting eHealth in cb Area by Stimulating local Economies" - ACRONYM: PHASE - PROJECT NUMBER: 365

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Care Giver Manual

Helis Infarct.net

rel. 1.0 - 30.06.2022



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1 Introduction

This manual provides the User with all the information necessary for the correct operation of the **Helis Infarct.net** software.

All rights are reserved.

1.1 How to read the manual

This manual contains detailed instructions on using the **Helis Infarct.net** online reporting system. The most important notes are highlighted in bold

1.2 Destination of use

Helis Infarct.net it is intended for the diagnosis of the patient's state of health in various areas. The specific use of the application is identified in the medical environment. Use must be carried out by qualified and suitably trained personnel and in compliance with the instructions contained in the User Manual.

1.3 License terms

By using the software, you agree to the terms and conditions described below.

The program and accompanying documentation may not be modified, copied, merged with other programs or made available to any third party.

The user is held responsible for any damage resulting from non-compliance with copyright, or from violation of the conditions set out in this agreement.

1.4 Information and recommendations relating to safety of use

Helis Infarct.net software is compatible with all existing browsers.

1.5 Warnings

Should users detect malfunctions or receive errors during the execution of the program, users are requested to notify the CONSIS Helpdesk of any malfunction and / or defect.

CONSIS undertakes to resolve any problems not arising from misuse by the user as quickly as possible from receipt of the report.



2 Helis Infarct.net access

The platform allows you to create new clinical events within which it is possible to make one or more **requests** for *examinations* and consultations, with the aid of diagnostic devices.

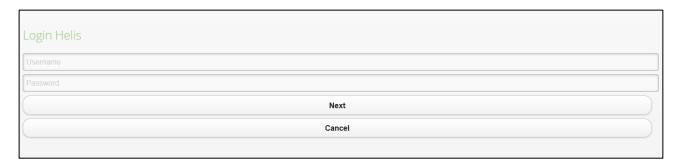
The user in charge of the request will be able to create events and request exams and consultations for the same patient within them

To start the application, the user starts the Browser, through the specially created link on the Desktop, recognizable by the **Helis Infarct.net** software logo.



Link Helis Infarct.net

In the first phase, the Operator must enter the credentials to access the platform.



Login Helis Infarct.net

After logging in, the Operator must indicate the environment code to be used. The environment code identifies the requesting operating unit.



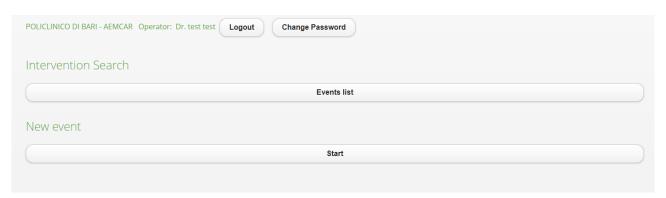
 $Entering\ the\ Environment\ Code$



3 Applicant functionality

3.1 Event list and history search

After entering the room code, the Operator can select the operation to be carried out.

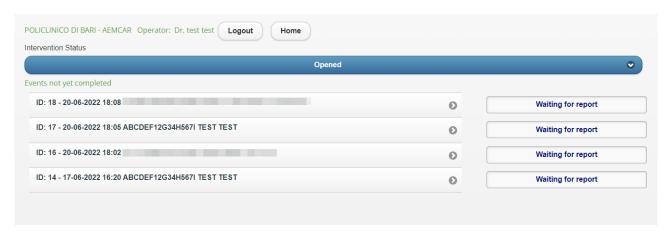


Choice Operation Helis Infarct.net

Events list: Allows the Operator to search for a previously created Event regardless of the status (open or closed) **Start**: Allows the Operator to make a new event.

3.1.1 List of open events

By accessing the "Events List" section, the operator can directly view the list of open events, regardless of the exam required and its status.



Open Events List

The states can be:

- Cancel: for an open event for which no examination or visit request has been made;
- **Pending reporting**: it is an event for which at least one ECG examination was requested;
- Report Available: which indicates the presence of at least one exam in the reported status;
- Notified report: which signals the acknowledgment of a previously available report.
- Closed: it is a finished event.

3.1.2 Event Search

The Operator can search for a **CONCLUDED** event at any time through the Events List section. Just select the status of **CLOSED** interventions from the appropriate drop-down menu.

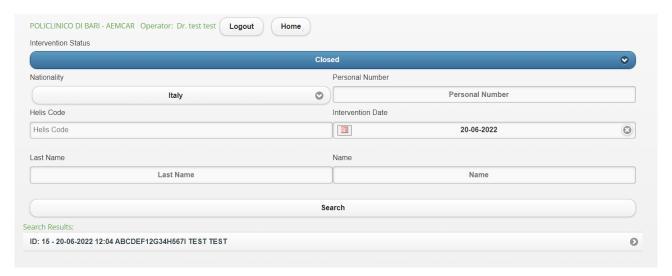




Event Status Menu

The operator will be directed to the event search screen. To search, you must fill in at least one field and click on search.

After searching for the exam, you will need to click on the reference line to download the Final Report.



Research Section



3.2 Initial phase of a New Event

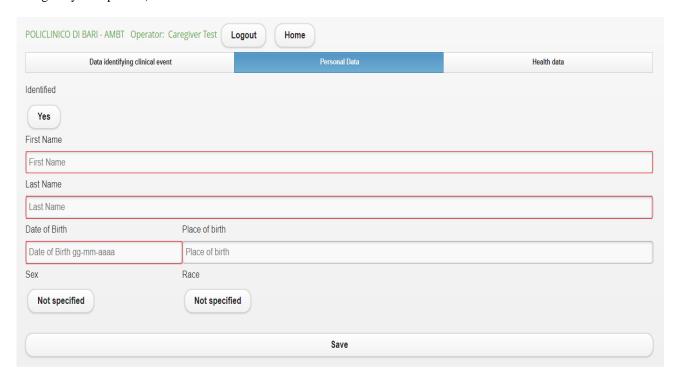
After clicking on the "Start" button, the Operator starts the execution of a new event which consists in the request for one or more exams and / or teleconsultation.

The preparation is divided into three steps.



New Exam - Step 1

The operator enters the identification code of the event to be carried out in the "**Event Code**" field. Helis Infarct.net assigns a unique progressive number to the event in progress which is the **Helis Code** (which cannot be changed by the operator).



New Exam – Step 2

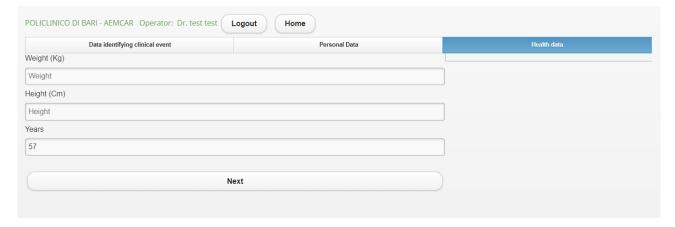
By clicking on "**Personal Data**", the operator will proceed to enter the patient's personal data, if not automatically populated following additions made in the particular installation domain.

If the patient presents himself for the first time, the operator will have to manually fill in all the personal data fields. The required fields in order to continue to the next stage are:

- First name
- Last name
- Date of Birth or Age
- Gender
- Ethnicity

If, on the other hand, the patient is unconscious and therefore you are not in a position to collect personal data, you will need to select gender and ethnicity and click on Identified **No**, then click on the third Tab of the form relating to Clinical Health Data.



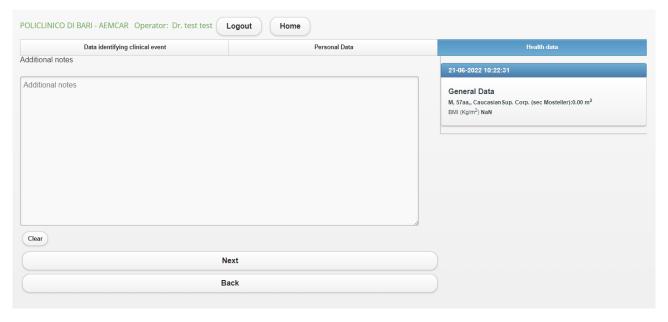


New Exam - Step 3

In the "Clinical - Healthcare Data" tab you can access the third and last step of entering data referring to the patient. The data referring to Weight and Height are not mandatory while the Years field is calculated starting from the date of birth (if it has been entered in the Personal Data), if the patient is unconscious, enter an approximate age to continue The user can return to filling in the fields in the previous Tabs at any time (Personal Data and Clinical Event Identification Data).

3.2.1 Notes

In this section, the operator will have a text box in which to enter any personal notes about the patient, useful for the doctor for reporting.



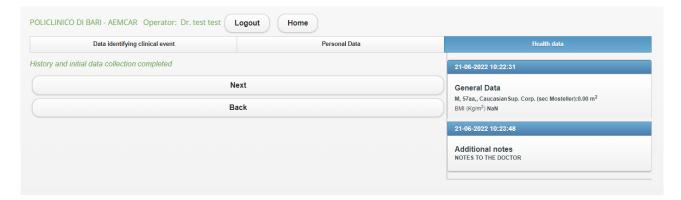
Annotations

Once you have finished filling in the text, just press **NEXT** to continue to the next screen. If, on the other hand, you want to completely clear the text field in the "Annotations" section, just press **CLEAR** and all the typed text will be permanently deleted.



3.2.2 Exam selection

After completing the patient census, the operator can press "Next" to start with the selection of the operation to be performed otherwise he can press "Back" to return to the previous screens and possibly correct the data entered for the event. The user will always have available on the right side of the screen a complete summary of all the data entered during the event, complete with date and time of entry for each single field.

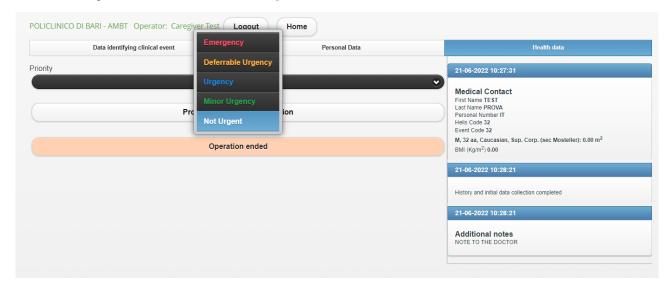


Confirm event

3.2.3 Event Priority Assignment

In the form for selecting the examination method to be performed (see image below), the operator has the possibility, using a drop-down menu at the top, to assign a priority to the reporting request he is about to perform.

La modalità impostata come di default è Non urgente.



Levels of Priority

By clicking on the drop-down menu, you will be able to select the Priority Level from the following:

- Emergency;
- Deferrable emergancy;
- Urgency;
- Minor urgency;
- **Not urgent** (default value);

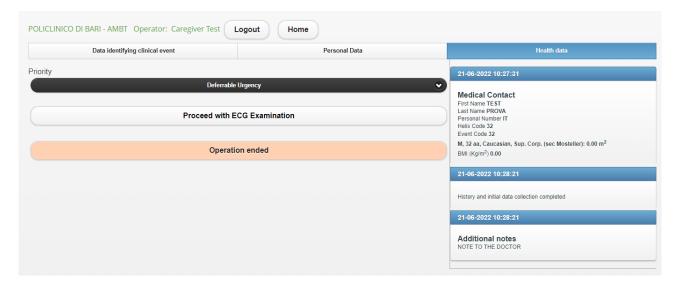
Once the priority has been chosen, the operator can proceed, as usual, with the execution of the exam.



3.3 Exam preparation

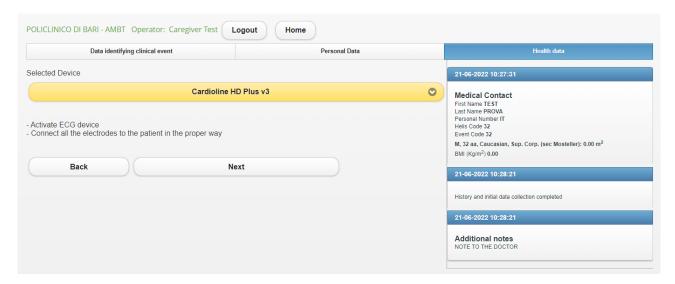
3.3.1 Electrocardiographic examination

By selecting Proceed with ECG examination, the operator will start with the execution of the 12-lead electrocardiogram.



Proceed with ECG examination

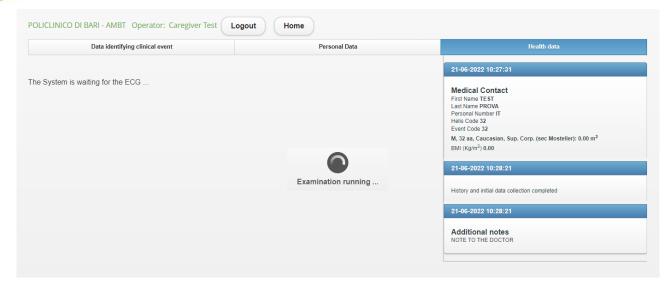
Some preparatory instructions will appear on the screen that the operator must follow before carrying out the ECG examination. Once finished, just press forward to go to the next step.



 $ECG\ Preparation$

By pressing "Next" the operator will prepare the Helios Infarct.net system to receive the ECG and the message "The system is waiting for the Trace".





Waiting for the exam

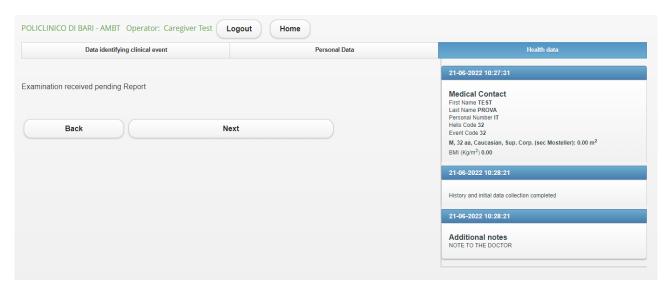
Once the message "Examination in progress ..." appears, the operator will be able to proceed with the execution of the electrocardiographic trace.

3.3.2 ECG acquisition

<u>Refer to Appendix A - "Infarct.net Exam Request Appendix Manual" for details on the requests enabled for your installation of Helis Infarct.net.</u>

3.3.3 Waiting for Report

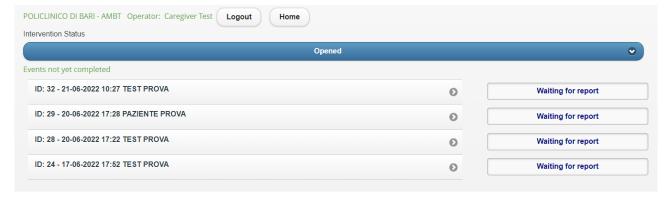
The following message informs the operator that the trace has been correctly acquired by the system.



Confirm ECG Forwarding

By clicking on **NEXT**, the operator concludes this part of the Patient Visit and is directed to the open events page waiting to receive the ECG report just sent. In fact, it will read, in correspondence with the event, "**Pending Report**".



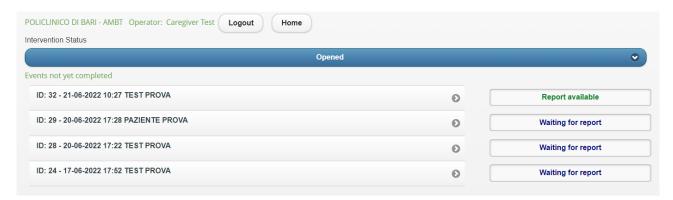


Open Visits Summary

It will not be possible to request other tests for the same patient until the same is reported.

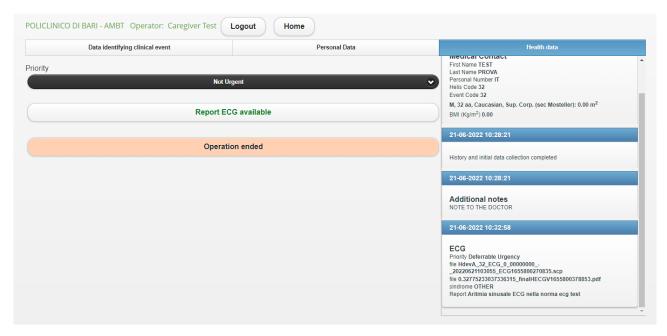
3.3.4 Report View

When the report is available, corresponding to the event, the message "Waiting for Report" will change to "Report available" colored GREEN and the operator will be able to access the part that allows viewing by clicking on the line containing the Patient's name.



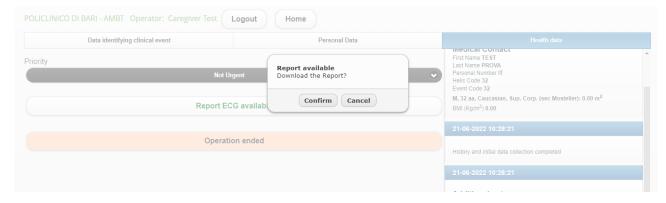
ECG Report Received

By clicking on "Clinical Health Data", the operator will see the list of exams screen. After clicking on "ECG Report Available", which will be colored GREEN, a Pop-up window will appear asking if you are sure to proceed with the download of the report. To do this, simply click on "Confirm" and then on "Download Report" to download the pdf file of the report, while just click on "Cancel" to cancel the download operation.



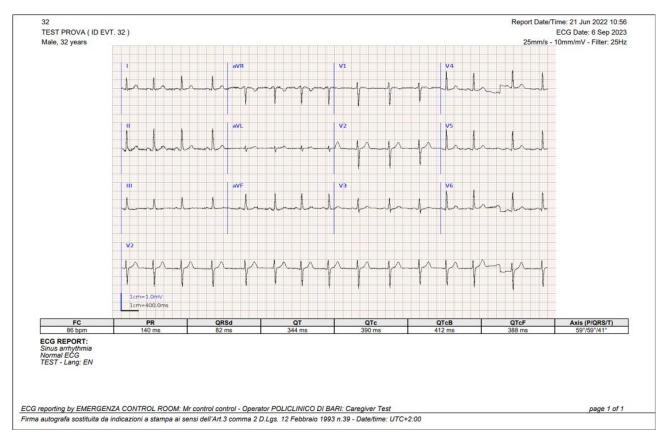
Report Available





Download Report

This function allows you to download a PDF file on your PC containing the electrocardiographic trace and the Report drawn up by the referring physician.

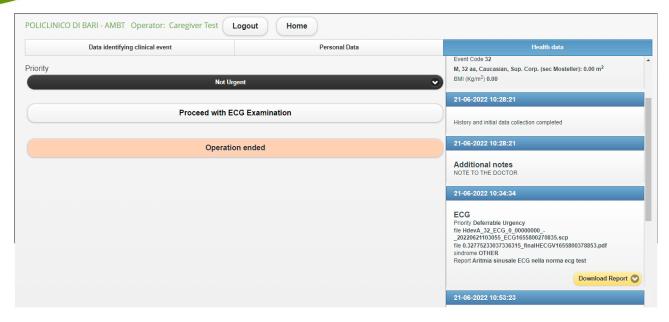


Example ECG Report

Automatically, upon confirmation of download of the report performed by the requesting operator, the report sent will be notified on the referring doctor's screen. After viewing the Report in PDF, the operator, returning to Helis Infarct.net, will be able to decide, according to the indications provided by the referring physician who prepared the Report, whether to schedule a further examination or proceed with closing the event on Helis Infarct.net. Until the event is closed, it will always be possible to consult the ECG report from this section.

After viewing the report of the previous exam, the page will update with the possibility of performing a further ECG exam (see point 3.3.1) or view the report of the previous exam again, using the "**Download Report**" button on the right in the tracking log as shown in the figure:





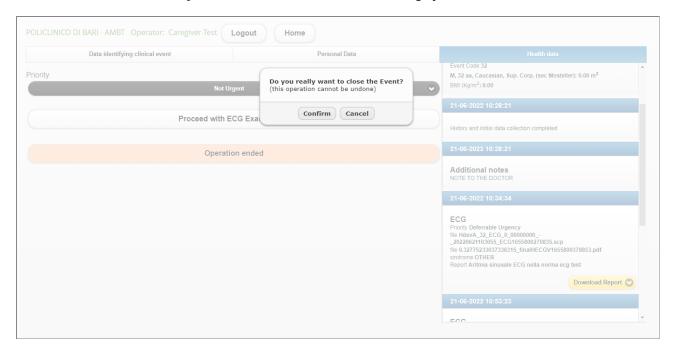
Ulterior ECG Exam



3.4 Conclusion of an exam and of the whole event

The choice "**End of Intervention**", on the other hand, puts an end to the event and allows the system to produce the final report of the entire clinical event.

To do this, just click on "**End of Action**", a Pop-up window will appear asking whether to proceed with the closure and then click on "**Confirm**", while just click on "**Cancel**" to cancel the Closing operation.



Event Closure Confirmation

After closing, the event will be closed and it will be possible to download the report in pdf format. The same can only be consulted in the **Events List** section, by selecting the "**Closed**".



Download Final Report

By clicking on "Back to new intervention", you will return to the Home where you can start a new event or view the Events List.



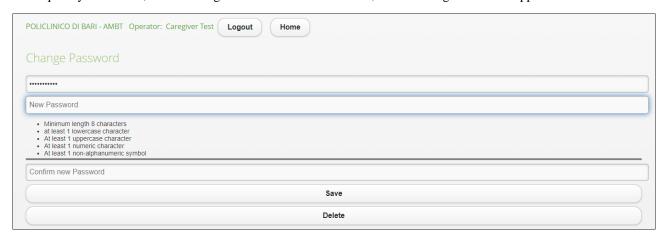
4 Change Password

By clicking on "Change Password" on the main screen, the operator can access the screen to change their password. In order to change the password, the user must enter the password used to access Helis Infarct.net in the first available text field.



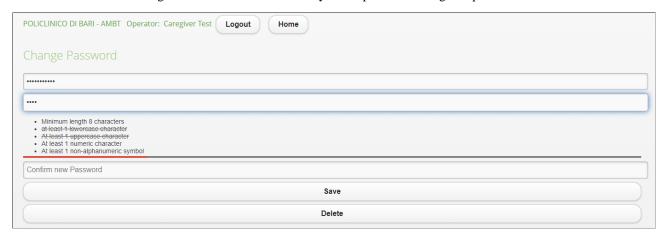
Change Password

Subsequently to the user, after clicking on the **New Password** field, the following screen will appear:



Complexity Criteria New Password

The user will be presented with a list of minimum complexity criteria that must be respected when composing the new password. By creating the new password, if the criteria are met, they will be removed from the list and the gray bar at the end of the list will change color to indicate the security of the password being composed.

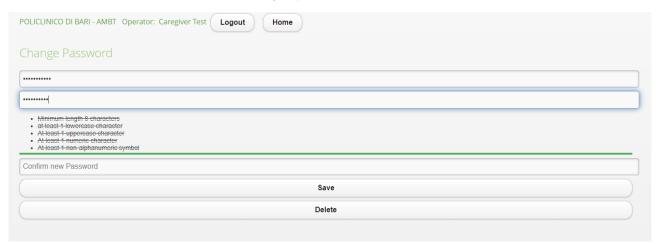


Complexity Criteria New Password





Complexity Criteria New Password



Complexity Criteria New Password

When all the minimum password complexity criteria are met, the user will have to rewrite the password just composed in the **Confirm New Password** field and once the compilation has been completed, by pressing "**Save**" the password change will be confirmed and the operator will be redirected to the screen principal.

In the event that the user does not comply with the minimum complexity criteria or the passwords entered in the two fields do not coincide, upon saving confirmation, the system will notify the changes to be made using pop-ups in order to correctly confirm the change.



Error Messages



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6.3. Annex 3. Appendix A. Requests and integrations with third parties Helis Infarct.net

T6.1.1 – Infarct.NET digital platform

PROJECT NAME: "Promoting eHealth in cb Area by Stimulating local Economies" - ACRONYM: PHASE - PROJECT NUMBER: 365

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Requests for exams and integrations with third parties

Helis Infarct.net

rel. 1.0 - 30.06.2022



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	1.4	Information and recommendations relating to safety of use	. Errore. Il segnalibro non è definito
	1.5	Warnings	. Errore. Il segnalibro non è definito
2	Exa	m Requests Available Errore. Il segnalibro non è definito	
3	Inte	gration with Galileo application	. Errore. Il segnalibro non è definito
1	FC	Gacquisition	Errore Il segnalibro non è definito



1 Introduction

This Appendix provides the User with all the information necessary for the correct functioning of the integrations with third parties and the list of exams that can be requested on the **Helis Infarct.net.** software.

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1.1 How to read the document

This appendix contains detailed instructions on integrations in place on the **Helis Infarct.net** online reporting system for installation domain.

The most important notes are highlighted in bold

1.2 Destination of use

Helis Infarct.net it is intended for the diagnosis of the patient's state of health in various areas.

The specific use of the application is identified in the medical environment. Use must be carried out by qualified and suitably trained personnel and in compliance with the instructions contained in the User Manual.

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1.4 Information and recommendations relating to safety of use

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CONSIS undertakes to resolve any problems not arising from misuse by the user as quickly as possible from receipt of the report.



2 Exam Requests Available

For this installation of **Helis Infarct.net** it will be possible to request only and exclusively the following exams:

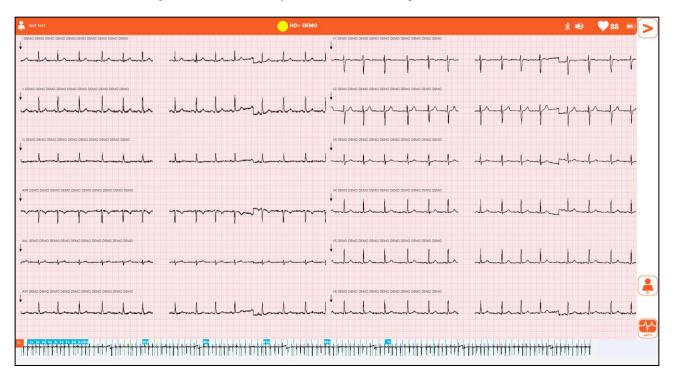
- 1. ELETTROCARIOGRAMMA A 12 DERIVAZIONI
- 2. ECHO CARDIO

3 ECG acquisition

To register the electrocardiographic trace, the Operator will use the **Cardioline TouchECG** software. The software opening is managed directly by Helis Infarct.net.

When the Operator displays the reception waiting screen, Helis Infarct.net will start the software automatically by automatically filling in the necessary patient data.

The operator must place the electrodes on the patient and press the orange button located on the ECG device. The led of the device will start flashing and will automatically connect to the tablet / pc



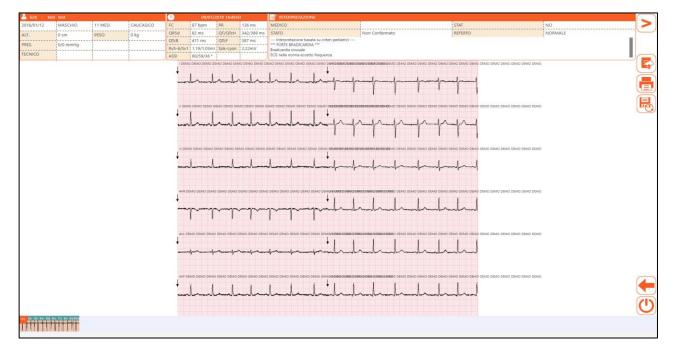
TouchECG Cardioline

Communication takes place using Bluetooth technology, so the distance between the two devices (tablet and HD \pm) cannot exceed 5 m.

When he has verified that the traces are stable and free of artifacts, the Operator can acquire the trace by clicking on the

button located at the bottom right of the screen.





Display ECG

Once ECG acquisition is complete, the Operator must click on the button to return to Helis Infarct.net. The electrocardiographic device will turn off at the end of the exam.





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