

# THE QUALITY MANUAL

## TQM

### of ICU-RER

#### WP8

Edited by

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**Disclaimer:**

This document is elaborated on the basis of the Erasmus+ project ICU- Knowledge triangle, innovation: Reinforcing of Education, Research E.health & Medical links 609506-EPP-1-2019-1-SE-EPPKA2-CBHE-JP, co-funded by the Erasmus+ Programme of the European Union.

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## 609506-EPP-1-2019-1-SE-EPPKA2-CBHE-JP

### Project Information

<b>Reference Number</b>	609506-EPP-1-2019-1-SE-EPPKA2-CBHE-JP
<b>Application Title</b>	ICU-Knowledge Triangle, Innovation: Reinforcing of Education- Research E-Health & Medical Links
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### Coordinator

<b>Name of Organisation</b>	LINNEUNIVERSITETET
<b>Street</b>	LINNAEUS UNIVERSITY
<b>City</b>	VAXJO
<b>Country</b>	Sweden
<b>Website</b>	

### International Dimension

<b>Regional Focus</b>	Intra-Regional
<b>Involved Regions App</b>	R3
<b>Country Partner Coun</b>	SE
<b>Programme Countries</b>	LB (6), EG (9)
	SE (1), IT (2), EE (1), AT (1)

### Project Characteristics, Aims and Objectives

<b>Project Type</b>	Multi-country project
<b>Specific Activity</b>	Strengthening of relations between HEIs and the wider economic and social environment
<b>Subject/Thematic Area</b>	University-enterprise cooperation, entrepreneurship and employability of graduates
<b>CBHE Actions</b>	<p>Improve the level of competences and skills in HEIs by developing new and innovative education programmes</p> <p>Improve the quality of higher education and enhance its relevance for the labour market and society</p>
<b>CBHE Aims and Objectives</b>	<p>Support eligible Partner Countries to address the challenges facing their higher education institutions and systems, including those of quality, relevance, equity of access, planning, delivery, management, governance</p> <p>Support the modernisation, accessibility and internationalisation of the higher education field in the eligible Partner Countries</p>

### Project Partnership

Role	Region	Participant Organisation Name	Country
Contracto	EU	LINNEUNIVERSITETET	SE
Partner	R3	AL-AZHAR UNIVERSITY	EG
Partner	R3	ALEXANDRIA UNIVERSITY	EG
Partner	R3	ASSIUT UNIVERSITY	EG
Partner	R3	Badr University in Cairo- Egypt- BUC	EG
Partner	R3	BEIRUT ARAB UNIVERSITY	LB
Partner	R3	INTERNATIONAL FOR APPLIED SCIENCE AND TECHNOLOGY	EG
Partner	R3	LEAD Healthcare Consultancy	LB
Partner	R3	MODERN UNIVERSITY FOR BUSINESS AND SCIENCE	LB
Partner	R3	NOTRE DAME UNIVERSITY - LOUAIZE	LB
Partner	R3	OCTOBER 6 UNIVERSITY	EG
Partner	R3	October 6 University Hospital	EG
Partner	R3	SIBLINE GOVERNMENTAL HOSPITAL	LB
Partner	R3	Sinai University	EG
Partner	R3	THE BRITISH UNIVERSITY OF EGYPT (BUE)	EG
Partner	R3	UNIVERSITE LIBANAISE	LB
Partner	EU	CESIE	IT
Partner	EU	Institut fur den Donaauraum und Mitteleuropa - IDM	AT
Partner	EU	TALLINNA TEHNIKAULIKOOL	EE

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## EXECUTIVE SUMMARY

As the part of the internal quality control, the project team has developed the Quality manual (TQM) to ensure the high quality of the project activities and outcomes.

The TQM is a deliverable withing WP. 8 “Quality Plan”. The contents and structure of the manual is developed in line with the ICU\_RER project structure and work plan, keeping in mind the extensive experience and practice of Quality Control and Monitoring of implementing multiple EU projects in the framework of Erasmus+ majority of this ICU-RER project.

TQM defines processes for planning and executing of the project activities in order to achieve highest possible quality. In this Plan minimum principle, requirements and processes needed to implement an effective quality assurance and control is proposed, with the aim to ensure smooth and responsible project management, in line with the proposed objectives, Work plan, work package activities and expected outcomes of this project.

### 1. INTRODUCTION

This quality manual builds on the detailed description of the project provided in the project application. As foreseen by the proposal, the quality control and monitoring consists of the following components illustrated in table 1:

WP8	Quality plan/Control
A.8.1.1	Establishment of Quality Control Group
A.8.2.1	Tuning the Project contingency plan
A.8.2.2	Presentation of the plan at the kick-off
A.8.3.1	Writing technical reports
A.8.3.2	Assessment of technical reports by Project manager
A.8.3.3	Assessment of progress reports by Quality Control Group (QCG)
A.8.4.1	Collecting feedbacks from target groups and service users by local leaders and WP leaders
A.8.4.2	Assessment of feedbacks by Quality Control Group
A.8.4.3	Consultations with the Ministry
A.8.5.1	Consultations with relevant experts & selecting the E-Health development projects for cooperation
A.8.5.2	Executing of inter-project coaching

*Table 1: Activates of work package quality plan*

In that context, this manual is made to serve as an essential element for the quality control process, procedure and gridline. The main function of that TQM is to secure quality of the ICU\_RER project management including processes, activities and outputs.

This TQM provides guidelines and templates that will facilitate the producing of good quality deliverable outcomes and results. It also facilitate the entire project management tasks. This outline builds on the description provided in the project application.

The quality control and monitoring are done via the mechanisms and activities based on the quality assurance manuals which include: setting the procedures and documentation needed for internal control of project activities, processes process and the outcomes of material and information for follow up by developing and validating indicators and collected data .

### **1.1. Project summary**

Collaboration between universities and industries is critical for skills development, the generation, acquisition and adoption of knowledge and the promotion of entrepreneurship. Through collaborative interchange, the university becomes "a more vigorous partner in the search for answers". The social and economic community provides a context for civic discourse and the reciprocal, interactional creation of knowledge. Community engaged education establishes the context for the exploration of pressing and complex problems, of which e-health and medical informatics is an example. Out of this reciprocal need comes the development of a model for interdisciplinary education that centers community as the context for learning. This model represents the theoretical and physical space where the university joins with others to address complex issues.

#### **1.1.1. Main objectives of the project:**

- 1) To establish and sustain effective Industry cooperating with University (ICU) Centers of e-health Innovations at some partner universities in LB and EG (LEG)
- 2) To develop a web platform based on Knowledge Triangle, innovation approach to develop and commercialize of e-Health innovative technologies and tools.

- 3) To develop a new integrated professional short term (6 months) and long term (one year) diploma program in e.Health and Medical informatics
- 4) To develop in-service lifelong learning training (LLT) program in the area of e-health innovative Medical/health/ IT/engineering.

The consortium of this ICU\_RER project consists of experienced partners, which have different levels of knowledge and skills in the fields of e-Health and Medical Informatics. The partnership has the necessary capacity to implement the project and achieve the expected outcomes. It will have an important impact on students, on the higher education institutions involved & on society at large such as increasing the number of MOU signed with health enterprises & increase the number of placements and job opportunities.

The objectives of this ICU\_RER serve as a corner stones to identify the target groups that require improving their capacity building skills and competences. Therefore the set of activities that contribute to capacity development such as establishment of centers, trainings, study visits, academic and professional course development based on innovative structures and learning outcomes, etc. are grouped into work-packages that focus respectively on the satisfying the identified target groups. Thus, the mentioned objectives of this project are :

- 1) clearly defined and well documented with access to each actor of the target groups.
- 2) reasonable and relevant to fulfil the needs of the stakeholders, direct and indirect target groups as well as each partner institution
- 3) fitting the partner countries 'development strategies
- 4) reflect and elaborate a sound needs analysis that covers the Lebanese and Egyptian healthcare systems, the fundamental conditions for establishing efferent eHealth systems...
- 5) focus on the innovative elements.

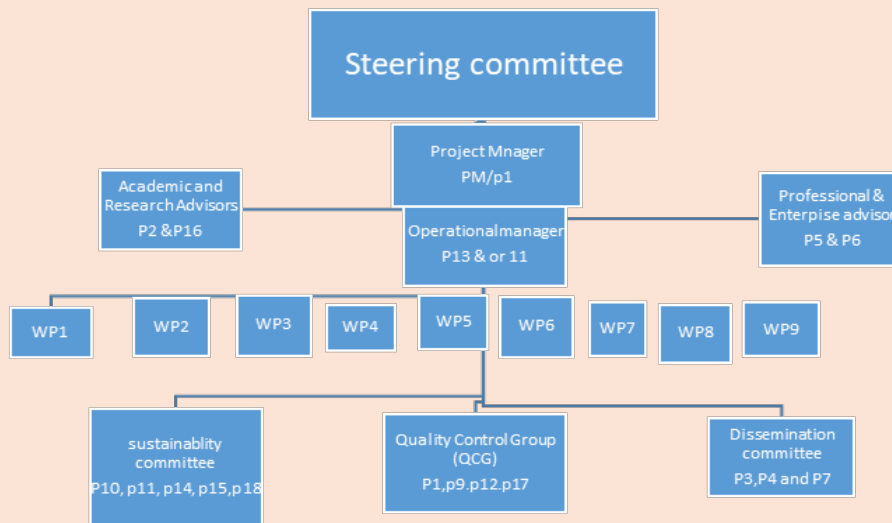
Based on this analysis, as well as on the expertise of the consortium members with former projects, the objectives are feasible and appropriately address the identified needs in both countries, i.e. Egypt and Lebanon.

## 2. Management structure

The ICU-RER project management structure (MS) was established at the project’s Kick-off meeting to ensure effectiveness, decisiveness, flexibility and quality of work. It involves the grant holder, the Coordinator, Steering Committee (SC), Management Committee (MC) and Quality Control (QC). All project partners have representative members in the steering committee . Table 2 and Figure 1 illustrate the structure:

Project Management Structure (MS)	Leader	Members
Steering Committee (SC)	P1 (LNU)	All
Management committee (MC) (wp9)	P1 (LNU)	p2 (UniG), p5 (TelTach), p6 (NDU), 16 (ASU)
Quality Control Group (QC) (WP8)	P6 (NDU)	1,9 (MUBS), 12 (O6U), 17 (IAST)
Dissemination (WP6)	P8 (BAU)	3 CESIE),4 (IDM),7 (LU)
Sustainability (WP7)	P10 (AU)	11 (BUE), 14 (AZHU) 15 (SU), 18 (LEAD)

*Table 2. Steering committee members*



*Figure 1: Steering committee of the ICU-RER*

The Steering Committee will review the activities and decide on any necessary contingency measures in re-organization tasks and resources – as usual with a strong focus on the project impact.



A QA steering committee (SC) consists of one member nominated by each beneficiary university. She/he is responsible for the implementation under the guide of identified criteria and standards. The Group will also be responsible for the Project Contingency Plan, implementing of internal and external QC procedures and inter-project coaching. In order to avoid (or minimize) the delays and deviation of project implementation strategy. The Project Contingency Plan includes the measures and actions to be used in case of any troubles / force major during the life cycle of the project.

### 3. Quality Control

#### 3.1. Introduction

The quality control (QC) group in close cooperation with the management committee is responsible of the quality plan, the quality control, the monitoring and the quality assurance procedures and implementation. That will be done via the mechanisms and activities based on the quality manual (TQM). Quality assurances, quality control and monitoring of the ICU-RER are integrated parts of the project and will be maintained throughout the project by the close collaboration between the partners. Each partner university/institution will nominate one member to a steering group, which shall liaise regularly concerning the progress towards project outcomes and the quality of results. Major activities are:

- Analysis of the content of existing E-Health educational, research and professional training materials (knowledge triangle) based on the modern and recent achievements in the area.
- Evaluate the project quality of processes, methodologies, communication, cooperation, conflicts, etc.
- Analysis of the capacity building factors such as researcher, teachers and professional qualifications.
- Peer reviews and checklists are some measure instruments as well as the external evaluators to ensure the objectivity of the quality control and monitoring.
- The conclusions of the peer reviews and the members of internal institutional evaluation board
- The internal evaluators will prepare the 3 minor progress reports and one comprehensive progress report each year.
- The peer reviews and external evaluators will prepare a quality progress reports.

- 3 major quality control and monitoring basic activities and meetings will be conducted during the entire period of the project (3 years).

The Quality Assurance System comprises procedures for the core processes, these are illustrated in Table 3:

Procedure no.	Actions & tasks
Q1	Review of Programs Procedure
Q2	Review of the visits and meetings Procedure
Q3	Delivery of each outcome and product Procedure
Q4	Assessment of Participants Procedure
Q5	Written regular and final reports Procedure

*Table 3: QA procedures*

At the last stage, an inter-project coaching activity is foreseen to provide an external assessment of the project activities and results. Partners of the Erasmus+ project recommended by Erasmus national office in Lebanon and Egypt during the monitoring visits could provide important inputs based on their experiences. The means which will be used for the evaluation purposes are presented in ANNEX A.

### 3.2 . A Critical path method (CPM) and Six sigma (SS)

The critical path method (CPM) is a management and quality assurance technique which will be used in this ICU-RER project. A Critical path method is a step-by-step quality assurance methodology used in this project which is based on the different interdependent activities. It contains a list of activities and uses a work-package (WPs) and work- breakdown structure (WBS) and a timeline to complete, as well as dependencies, milestones, and deliverables. It outlines critical and noncritical activities by calculating the “longest” (on the critical path) and “shortest” (float) time to complete tasks to determine which activities are critical and which are not.

Part of Six Sigma methodology will also be used to eliminate waste and improve processes and results. It has seven key components: DMAIVCO (define, measure, analyze, improve, verify and control and optimize). The different methodologies includes different visits, seminars, training sessions, surveys, indicator measurable, roundtables, dissemination, quality control, feedback and documentation. Other Training and teaching strategies were: various methods will be used, e.g. skill labs, simulation, physical or electronic modelling, formal lectures, films,

case studies, clinical visits, Internship, etc. Online lectures. To provide the best quality of technical-intensive knowledge triangle and examples of best practice R&D activities by means of video-conferencing and other e. and distance learning tools as well as professional Development Seminars.

Each partner institution should assure that key staff involved in the project have experience and expertise in areas related to the activities. The project will involve non-academic partners (enterprises) which will participate in the project and the roles and responsibilities of the participants are clear and well linked to the work phases and work packages and the development of outcomes to achieve the desired results. As shown in Table 4, the work packages are led and co-led by partners according to their relevant expertise. This type of methodology allows partners to better engage and take ownership of the project.

WP	WP Leader	Co- Leader(s) & Team developers	Main Task
1	8 BAU	3 (CESIE)+6+12 (O6U)+ 14	Centres development & Establishment
2	11 BUE	2+7 (LU) + 10 +15 (US)	Web platform
3	2 UniG	11+ 5+15+16	Diploma, study and training material
4	5 TalTech	4 (IDM)+14+ (IAST)17	In-service training activities
5	9 MUBS	3+ 8+12+ 18 (LEAD)	Capacity building tasks.
6	14 AZHU	10 + 11+ 15+16	Dissemination & implementation following up
7	16 ASU	4+7+ 9	Sustainability strategies and actions
8	6 NDU	1+3+ 6 +14+15	Quality Plan/assurance
9	1 LNU	4+15 +17+ 18	Management, coordination etc

*Table 4 WP leaders and co-leaders*

Each team leader in collaboration with his/her team in coordination with management and steering committees grant holder decide task distribution, the content, tasks, delivery times, and responsibilities of work package team leaders and co-leaders.

In order to avoid (or minimize) the delays and deviation of project implementation strategy the Quality Control Group will generate the Project Contingency Plan which includes the measures and actions to be used in case of any troubles / force majeure (Such as the COVID-19 pandemic, instability of political systems, etc.) during the life cycle of the project. Covid-19

pandemic and unstable political situations and financial market are such of the majeure forces this project faced/is facing.

### **3.3. The Monitoring and Evaluation Measures**

For a monitoring, evaluation and quality Plan to be successful, it is important to identify the project goals, objectives, strategies and evaluation methods. This evaluation and quality plan has been created based on the information contained in the project proposal and agreements made with the project coordinator. To monitor means to observe, and to check progress against plans. Monitoring of activities and outputs means to observe whether intended activities are performed, products are delivered and whether implementation is on track.

It is the systematic and recurring collection of information that allows results, processes and activities to be documented and used as a basis for decision-making and learning processes.

The aim of the monitoring and the evaluation is to support the members of the consortium of the ICU-RER project in ensuring highest quality of project outputs, activities and results, as well as in improving project performances. The objective is to support decision making by delivering necessary evidence to introduce any significant changes. The evaluation will increase the quality of project activities and outputs and measures to what extent they reach the short-term project goals and results set in the application.

The evaluation and quality plan has been implemented with the purpose to:

1. Design an evaluation strategy to support the process and progress of the project and define the evaluation priorities based on the project objectives;
2. Define the approach to analyze the relevance, progress, success of the project;
3. Identify evaluation methods and tools to be used in the evaluation;
4. Specify the key evaluation issues and the key areas of concern;
5. Establish the necessary processes for measuring fulfilment of the objectives.

Monitoring and evaluation activities help to improve performance and achieve results. While monitoring is a tool serving foremost the management purpose, evaluation contributes to both the management and to assess whether the project has produced the desired effects.

Monitoring and Evaluation is ideally understood as dialogue on development and its progress between all stakeholders.

Monitoring reports on the operational progress of the project will enable the management to:

1. assess whether the project is proceeding according to the agreed work schedules, so that the necessary actions may be taken;
2. propose and participate in any necessary reviews of the project as a result of these assessments;
3. report to the EACEA on the situation and completion prospects for the project.

The consortium of the project has agreed that the issues of quality of the project implementation are paramount to achieve the planned results against the wider and specific objectives.

#### **4. Quality Assurance strategy and measures**

##### **4.1. Areas of intervention:**

- A. **Quality assurance of the project achievements.** Annex B shows the project deliverables. The documents should be constantly updated by all project partners. The chart allows all partners to assure the duly and complete achievement of project outcomes and deliverables
- B. **The Quality assurance of the developed and modernized study modules/courses (WP3) and in-service training courses (WP4).** Annex C shows the draft of the verification forms to be completed by the relevant partners upon finalization of the courses development. The aim is to Improve the quality and the efficiency of education and trainings as well as to assure their correspondence to EU standards.

### C. The internal project implementation quality assurance.

Internal project quality assurance is based on review and evaluate the report of the outcomes and the relevant supporting documents as well as a questionnaire that should be conducted annually to follow up the project partners' satisfaction with the implementation of the project.

In the project Quality Assurance will imply a system of measures and controls established within our team to manage and assure the quality of the services being provided both for our partners and target groups. Technical and functional quality, such as effectiveness, efficiency, optimality, acceptability, and legitimacy, are the factors to be measured with an aim to improve the expected outcome of the project. The quality of interaction, infrastructure and atmosphere provide deeper insight into the project implementation and cooperation of all involved partner.

#### 4.2 The 5 Qs Model

The Measure is based on the 5 Qualities Model (Qs) Developed by Zineldin (2006; Zineldin & Vasicheva (2016). It includes measurement of 5 categories of quality:

- Q1. Quality of object (Outcomes)
- Q2. Quality of processes
- Q3. Quality of infrastructure
- Q4. Quality of interaction
- Q5. Quality of atmosphere

- Q1. Quality of object – **the technical quality** (what the beneficiary receives). It related to the basic core of the project and its main objectives, procedures, activates or programs carried out such as workshops, seminars, courses, trainings, etc. and their outcomes. It focuses on the technical aspects. Table 5 illustrate a template example.

Process	Target	Investigated dimension	Tool
Training of Trainers	- Experts in e-Health disciplines - Trainers - Academic staff	Perceived relevance Perceived learning Perceived usefulness Active participation	Questionnaire and personal interview at the end of the workshop

Field Visits	- Trainers - Academic staff	Perceived relevance Perceived usefulness	Questionnaire and personal interview at the end of the Field Visit
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*Table 5 Evaluation of Quality of object (Q1)*

- Q2. Quality of processes – **the functional quality** (how the project is implemented). Assesses how the object activities listed in the project work plan (Annex A) was conducted and delivered (meetings, reports, visits, lectures, seminars, individuality, flexibility, creativity, fieldwork, etc). It measures how well the project activities are being implemented. Table 6 illustrates an example. The methodology and connection between different parts of the activities are also included.

It focuses on performance, efficiency, effectiveness, timing, respect of delivery times and deadlines, accuracy and transparency. It can be used to pinpoint problems in service delivery and to suggest specific solutions.

Process	Target	Investigated dimension	Tool
Project management and consortium dynamics	WP Leaders and project partners	Internal communication and related tools	Questionnaires (partners' survey)
		Management and sharing of responsibilities	Questionnaires (partners' survey)
		Effectiveness of the adopted/ developed tools in implementing the project	Questionnaires (partners' survey)
		Perception of local/transnational relationship	Questionnaires (partners' survey)
		Coordination meetings	Questionnaires (coordination meeting questionnaires)
Project management	Project Manager and WP leaders	Progression of project achievements	Monitoring grid

*Table 6: Evaluation and quality assurance of internal processes (Q2)*

- Q3. Quality of infrastructure – measures the basic resources which are needed to perform the project activities: the quality of the internal competence and skills, experience, know-how, technology, internal relationships, motivation, attitudes, internal resources and activities, and how these activities are managed, cooperated

and coordinated. Sufficient infrastructure measures are critical for the assurance of project quality, dissemination and sustainability.

- Q4. Quality of interaction – measures the quality and efficiency of interaction between the partners and the information exchange process within and between different organizational positions at each partner institution (department, faculty, university, ministry, et), know how exchange, financial exchange and social exchange, ease of communication between the partners, the partners and gran holder, and work package program responsible. Responsiveness and supportiveness among the partners and other stakeholders are also critical dissemination and sustainability factors.
- Q5. Quality of atmosphere – evaluates the relationship and interaction process between the project staff, between staff themselves in a specific environment where they operate. The atmosphere indicators such as trust, commitments, institutionalization, social activities and mutual understanding should be considered very critical and important because of the belief that lack of institutionalization, frankly and friendly atmosphere leads to poor quality of the entire project outcomes. Good atmosphere is indication of better sustainability.

For the period under evaluation, the following evaluation are examples of activities which should be carried out:

- Kick-off meeting and Training program. Annex D shows examples
- Coordination meeting questionnaires
- Steering Committee meetings– coordination meeting questionnaires
- Partners' survey – online questionnaire
- Monitoring activities – monitoring grids (Annex E shows the template)



### 4.3. General Project Guidelines

ICU-RER should follow different project guidelines and respects the requirements of the programme. In addition to the Quality Manual (TQM), the reference documents include:

- EACEA – ICU-RER project Grant Agreement
- ICU-RER- project Partnership Agreements
- ICU-RER - Institutional and Financial Sustainability plan
- ICU-RER - Dissemination and sustainability plan and the sustainability agreements within and between academic and non academic institutions
- ICU-RER – Project budget and task assignment
- ERASMUS+ - Program Guidelines for the Use of Grants

All required documents and guidelines are available for all partners at the BOX Resource Center and the project website.

### 4.4. Amendments to the Manual

The procedures in this Manual can be amended by agreement of all partners or by a decision taken by the project's Steering Committee (SC). Any new version will be communicated to all the partners.

## ANNEX A

Means of evaluation purposes:

Process	Target	Investigated dimension	Tool
Events feedback	- Participants - Stakeholders	Communication Common understanding Level of commitment Active participation	Questionnaire and personal interview if possible at the end of the event
Training of Trainers	- Experts in health disciplines - Trainers - Academic staff	Perceived relevance Perceived learning Perceived usefulness Active participation	Questionnaire at the end of the workshop  Reports
Workshops and Seminars	- Experts in health disciplines - Trainers - Academic staff	Perceived relevance Perceived learning Perceived usefulness Active participation	Questionnaire at the end of the workshop/seminar Interview reports
Field Visits	- Trainers - Academic staff	Perceived relevance Perceived usefulness	Questionnaires/interviews Other reporting tools
Dissemination overall, all levels	- Beneficiaries - Stakeholders - Networks - Health societies - NGOs representatives	Level of dissemination at local level Level of dissemination at national and international level Players in dissemination (boundaries effect) Participation in events	Reporting tools, analytics, other sources
Overall project implementation	WP Leaders and project partners	Internal communication and related tools	Questionnaires (partners' survey)

## Annex B

	DELIVERABLE	Performance Indicators	Sources of verification
<b>WP.1</b>	<b>University-Enterprise (UE) Centers of E-Health Innovation (CeHI)</b>		
1.1	<b>Defined requirements for CeHI centers (Hubs)</b>	The requirements are discussed and defined	tasks and responsibilities of developers teams are agreed
1.1.1	Establishment of CeHI developers' teams.		
1.1.2	Tuning the objectives and definition of the requirements		
1.1.3	Analysis the requirements from partner universities and healthcare institutions, potential. Users and development preliminary recommendations in results sustainability		
1.1.4	Study visits to EU partners	Study visits are conducted	List of participants
1.2.	<b>Established CeHI centers</b>	The centers are established	Business plans for centers  PC university, centers are equipped
1.2.1.	Discussing this project with the EU partners		
1.2.2.	Development of the business plan for the functioning of CeHI centers in each PC;		
1.2.3.	Pilot establishment of CeHI in pc universities;		
1.2.4.	Analysis of the results of installation		
1.3	<b>Verified CeHI</b>	Centers are approves	Approval of centers, pictures of the centres
1.3.1	Revision and verification		
1.3.2	Approval of the regulations and starting the functioning of the CeHI centers.		
1.4	<b>Launched consultancy services</b>	Consultancy services are launces	Survey of use the created CeHI centers facilities by its staff and other users
1.4.1	Evaluation of the market potential of the developed centers		
1.4.2	Providing consulting activities for the healthcare sittings (public and private hospitals, clinics and medical centers) and R&D groups in the area of E-Health and medical informatics		
<b>WP2</b>	<b>University- Enterprise (UE) Web platform KTERE</b>		
2.1	<b>Defined requirements for web platform KTERE</b>	The requirements are discussed and defined	Web platform installation roadmap is developed
A.2.1.2	Definition of the structure and strategy		
A.2.1.3	Analysis the requirements from healthcare institutions and development preliminary recommendations in results sustainability		
2.2	<b>Established web platform KTERE</b>	Web platform KTERE is established	Link to weblatform  Tasks and responsibilities are agreed  KTERE web platform is started
A.2.2.1	Development of the business plan for the functioning of web platform UE-KTERE;		
2.2.	Established web platform KTERE		
A.2.2.2	Pilot testing of web platform KTERE		
A.2.2.3	Installation and evaluation analysis of KTERE market potential and making final business plan.		
2.3	<b>Launched web platform KTERE and integrated with the other existing e-services</b>	web platform launched	the roadmap for web platform e-services is developed
A.2.3.3	Full operation of the e-services for University-enterprises and other clients		
<b>WP3</b>	<b>Study modules and Professional Diploma</b>		

<b>3.1</b>	<b>Established reference Team and defined programme requirements</b>		
A.3.1.1	Establishment of Reference team	The team is established	PC established teams
A.3.1.2	Comprehensive needs analysis		
A.3.1.3	Definition of learning outcomes		
<b>3.2</b>	<b>Designed course curriculum</b>		
A.3.2.1	Study visits to EU partners	Study visits are conducted	List of participants
A.3.2.2	Development of course program in home PC	Courses are developed or modernised	Curricula for 6 modules developed in accordance with results of the needs analysis
A.3.2.3	Discussing separate modules with EU project partners responsible for verification of the respective modules		lectures with integrated feedback of EU experts & adapted to PC HEI needs
A.3.2.4	Printing the initial draft set of module lectures, lab tasks, questionnaires.		
<b>3.3</b>	<b>Verified curriculum</b>		
A. 3.3.1	Internal revision and verification of the programs by Partner universities and involved enterprises	Newly developed curriculum are consistent with EU standards	Verification by EU partners
A.3.3.2	External revision and verification by EU experts		
A.3.3.3	Printing the final set of the modules materials;		
<b>3.4</b>	<b>ECTS grading scale &amp; diploma Supplement.</b>		
A.3.4.1	Introduction of ECTS grading scale in all PC universities	New and or modernized courses are approved by PC universities	Number and list of participants
A.3.4.2	Running the study program starting form summer semester and Introduction of Diploma supplement		
<b>WP4</b>	<b>UE In-service training</b>		
<b>4.1</b>	<b>Defined programme requirements</b>	The team is established	PC established teams
A.4.1.1	Comprehensive needs analysis		
A.4.1.2	Definition of learning outcomes		
A.4.1.3	Establishment of modules developers' teams		
<b>4.2</b>	<b>Designed in-service modules</b>		
A.4.2.1	Study visits to EU partners	Study visits are conducted	List of the participants; agenda of the events
A.4.2.2	Development of in-service training program in home PC	Teaching plan is adapted; Pilot implementation of in-service curricula is completed	Curricula for 4 in-service modules
A.4.2.3	Printing the initial draft set of module lectures, lab tasks, questionnaires.		
<b>4.3</b>	<b>Launched in-service modules</b>	In-service modules are fully operational and delivered to intended target groups	Number and list of participants
A.4.3.1	Providing consulting activities for the companies, R&D groups and individual customers in the area of micro/nanotech ecoengineering		
<b>4.4</b>	<b>Verified in-service modules</b>		Verification by EU partners
A.4.4.1	Internal revision/verification	The materials are printed	Modules materials
A.4.4.2	External revision/verification		
A.4.4.3	Printing the final set of the modules materials;		
A.4.4.4	Introduction of CeHI Centers at LE PC universities.		Feedback from the users of inservice training sessions and workshops

<b>WP5</b>	<b>Capacity Building</b>		
<b>5.1</b>	<b>Established local teams</b>	The team is established	PC established teams
A.5.1.1	Establishment of local teams in PC universities		
<b>5.2</b>	<b>Completed English courses</b>	The courses are held	List of staff participated/ confirmation of trainings
A.5.2.1	Provision of intensive English language courses		
<b>5.3</b>	<b>Capacities built for all involved groups</b>	The required courses are provided	Results of knowledge traingle transfer integrated into modules and into the work of the CeHI
A.5.3	Capacities building for modules developers and lecturers		
A.5.3.1	Capacities building for master module developers and lecturers		
A.5.3.2	Capacities building for CeHI `center`s staff		
<b>WP6</b>	<b>Dissemination</b>		
<b>A.6.1</b>	<b>Guidelines dissemination/Strategy Defination</b>	Dissemination plan is agreed	Dissemination plan
<b>A6.2.</b>	<b>Webportal, Dropbox (sharepoint), Electronic means and Graphical Dissemination Suite</b>	Dissemination materials are prepared	Project web-site and KTERE web platform are developed and updating
<b>A.6.3</b>	<b>Internal and external dissemination actions/networking with stakeholders</b>		Items of dissemination are distributed
<b>A.6.4</b>	<b>Social media, medica covers and marketing material</b>		Publications and newsletters
<b>A.6.5</b>	<b>Publications, newsletters and Promotional Evenst</b>		
<b>WP7</b>	<b>Sustainability</b>		
<b>7.1</b>	<b>Approval of the modules and diploma</b>	Modules are approved	
<b>7.2</b>	<b>Launched in-service training by CeHI</b>	Trainings are launched	
A.7.2.1	Design of schedule for in-service training		
<b>7.3</b>	<b>Core Fundraising &amp; Analytics Teams</b>		Training and consultancy services are provided by CeHI
A.7.3.1	Establishment of Fund raising & Analytics Teams in lead universities in LE, EG.		R&D carried out
A.7.3.2	Analysis of available funding options		
A.7.3.3	Continuous networking with national and EU stakeholders		
<b>7.4</b>	<b>Inter-regional association "CeHI"</b>	The members of association are selected	The assosiation is established
A.7.4.1	Networking with potential members of association		
A.7.4.2	Tuning the specific objectives for association		
A.7.4.3	Agreements with new network of relevant institutions		
<b>WP8</b>	<b>Quality plan</b>		
<b>8.1</b>	<b>Established Quality Control Group</b>	QCG is established	List of group memmmbers
A.8.1.1	Establishment of Quality Control Group		
<b>8.2</b>	<b>Project contingency plan</b>	Contingency plan is prepared	Updated contingency plan
A.8.2.1	Tuning the Project contingency plan		
A.8.2.2	Presentation of the plan at the kick-off		
<b>8.3</b>	<b>Implemented internal QC procedures</b>		
A.8.3.1	Writing technical reports	Reports are written	Technical reports submitted in time to the project coordinator
A.8.3.2	Assessment of technical reports by Project manager		
A.8.3.3	Assessment of progress reports by Quality Control Group (QCG)		Progress reports

<b>8.4</b>	<b>Implemented external QC procedures</b>		
A.8.4.1	Collecting feedbacks from target groups and service users by local leaders and WP leaders		External QC and audit report
A.8.4.2	Assessment of feedbacks by QCG		
A.8.4.3	Consultations with the Ministry		
<b>8.5</b>	<b>Completed inter-project coaching</b>		
A.8.5.1	Consultations with relevant ministries and unions and selecting the E-health activities for cooperation	Inter-project coaching is implemented	Agenda of inter-project sessions
A.8.5.2	Executing of inter-project coaching		
<b>WP9</b>	<b>Management</b>		
<b>9.1</b>	<b>Kick-off meeting</b>	Kick off is organised and held	Kick off agenda
A9.1.1	Arranging of kick-off		
A.9.1.2	Precise definition of the tasks and responsibilities for Project Manager	adjusted tasks & responsibilities of consortium	Plans & Agreement
A.9.1.3	Appointing of Project Manager		Project manger is appointed
<b>9.2</b>	<b>Project Plan</b>	Management is implemented during whole project period	Project documentation
A.9.2.1	Preparing and presentation of Project Plan		
A.9.2.2	Managing the project by Project Manager		
A.9.2.3	Managing the project by local leaders		PC project documentation
<b>9.3</b>	<b>Consortium agreement</b>	The agreements are prepared and signed	Signed agreements
A.9.3.1	Preparing the Consortium Agreement		
A.9.3.2	Signing the Consortium Agreement		
<b>9.4</b>	<b>Coordination meetings</b>	The meeting is held	Minutes of the meeting
A.9.4.1	Arranging second coordination meeting in Egypt		
A.9.4.2	Arranging third coordination meeting in Lebanon		
<b>9.5</b>	<b>Project reports to EC</b>	The reports are prepared	Submitted Intermediate report
A.9.5.1	Submission of Intermediate report		
A.9.5.2	Submission of Final report		

**Annex C**  
**Course verification form**  
**(WP3 and WP4)**

**Course information**

Course title:	
Number of credits:	

**The target group**

Does the target group of this course match the target group of the entire project?

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>

**Clarity of the course objectives**

Relevance and clarity of the objectives of the course

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>

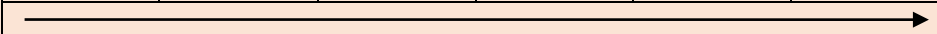
**Clarity of the learning outcomes**

correspondence of the learning outcomes to the objectives of the course, clarity of what is expected from listeners

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>

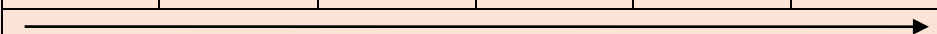
**Contents of the course in general**

Precision, quality and reliability of the material, conformity with field's contemporary trends

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							

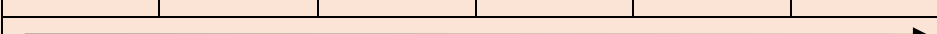
**Design of the teaching**

Originality, depth of development, using of pedagogical methods

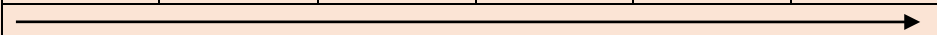
<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							

**Design of assessment**

The correspondence of the assessment methods to the learning outcomes

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							


**Selection and the effectiveness of audio-visual material, online activities and any software provided**

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							




**Effectiveness of teaching practical elements**

In modules with a practical component, please comment on the selection and the effectiveness of the arrangements for teaching practical elements.

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							


**Course workload**

Edequate correspondence of the workload to the objectives and learning outcomes

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
							

**Suitability of the module for a potential target group beyond partner countries**

Relevance of the education and potential interest of the stakeholder outside the country

<b>MIN</b>	0	1	2	3	4	5	<b>MAX</b>
				X			
							

Does the course include feedback mechanisms (forum discussion, survey, evaluation form etc.) for the students?

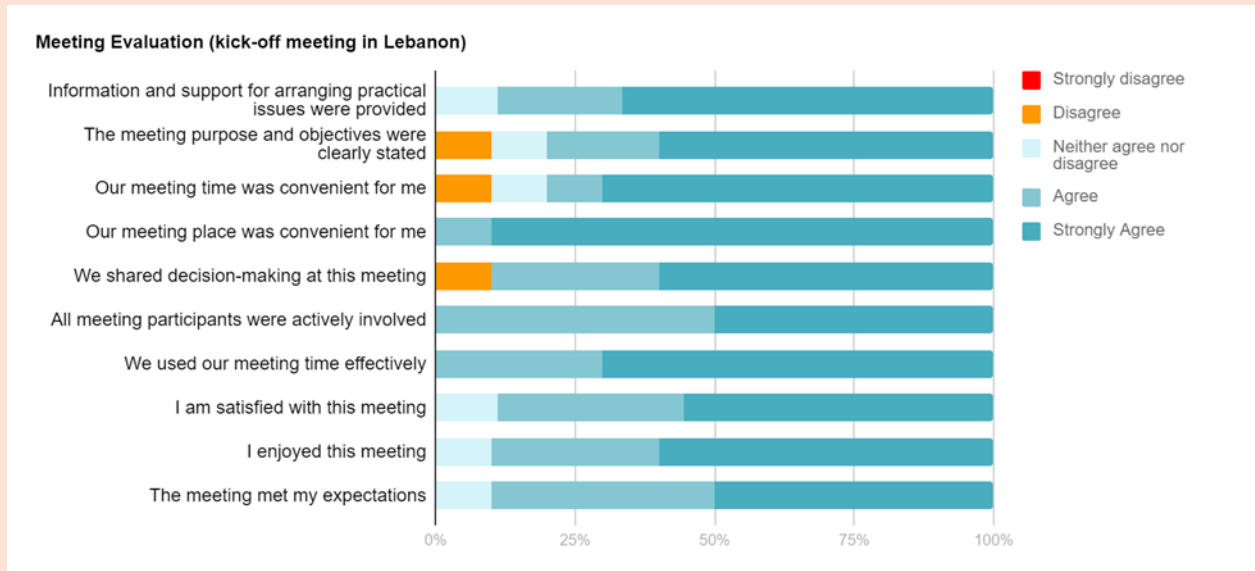
Yes  No

Does the course material respect copyright?

Yes  No

## ANNEX D

### Evaluation of a meeting



## WP5 CAPACITY BUILDING

### REPORT by CESIE

In December 2021, 5 capacity building meetings coordinated by CESIE took place in relation to WP5. In total 51 people from modules developers; lecturers & CeHI's staff; students and stakeholders participated in the TOT.

The meetings have been organized in the following days:

- Day 1 – 6/12/2021
- Day 2 – 10/12/2021
- Day 3 – 12/12/2021
- Day 4 – 17/12/2021
- Day 5 – 21/12/2021

The meetings organised by CESIE lasted 3 hours per day and had two main objectives:

**The first objective** was to initiate the comprehensive system of continuous capacity building measures for the academic/research staff involved at the design and the study curricula and delivering of lectures for students of the E-Health course modules as well as professional training of the coaches engaged at functioning of the CeHI centers in Lebanon and Egypt such as various stakeholders, including non-academics from the health sector, pharmaceutical companies, ministry of health, pharmacists, etc.

**The second objective** was to provide capacity building measures for the CeHI centers staff involved at the activities in administrative, consultation, and technical support of E-Health projects/activities as well as KTERE web platform development and technical support in LE and EG.

#### Target groups of the 5 days TOT:

- (i) modules developers;
- (ii) lecturers & CeHI's staff;
- (iii) students and
- (iv) stakeholders.

Below the agenda for each meeting with the evaluation received from the participants.

**The evaluation was made on a scale of 1 (very bad), 2 (mediocre), 3 (good), 4 (very good), 5 (excellent).**

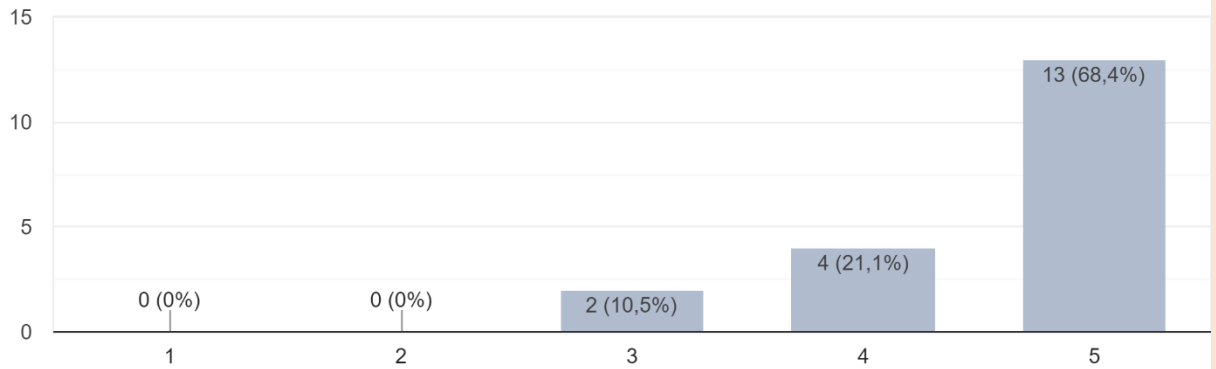
Time (CET)	Activity	Description of the activity	Learning outcomes:
9.40 – 10.00	Presentation of the ICU RERE project and team of the capacity building	- 9.40- 9.45 Prof. Mosad Zineldin Grant holder - 9.45- 9.50 Prof. Bassem K., Leader of the WP - 9.50- 10.00 Giovanni Barbieri and Jelena Mazaj, CESIE co-leader and host of the workshop	- Presentation of the project - Presentation of the team - Knowledge of the programme
10.00 – 11.00	Presentation of the e-health system in Italy.	Presentation of how the e-health system works in Italy. Which are the main results achieved and future goals.  By Mr. Giovanni Barbieri	- Knowledge of the Italian e-health system

<p>11.00 – 12.15</p>	<p>ICT in education</p> <ul style="list-style-type: none"> <li>- Why should we use ICT in university teaching?</li> <li>- Digital Education and E-learning</li> <li>- Examples and Use Cases of universities / organisations using ICT for education</li> </ul> <p>Hands On working with few tools which can be used in universities</p>	<p>Nowadays there is a growing trend towards integrating ICT into teaching and training. New technologies offer to teachers and education staff a wide new range of possibilities and tools. This activity will give you an outlook on best practices and concrete ways to use ICT to empower and support education.</p> <p>By Ms. Alessia Valenti</p>	<ul style="list-style-type: none"> <li>- Get a new perspective on ICT tools</li> <li>- Understanding ICT / Digital education culture in university</li> <li>- Reflect on a possible incorporation of ICT tools in everyday teaching</li> </ul>
<p>12.15 – 13.00</p>	<p>Vulnerable groups and access to health systems through technology</p>	<p>Presentation of three EU practices:</p> <ul style="list-style-type: none"> <li>- Health points</li> <li>- Life &amp; Health</li> <li>- SOFIE</li> </ul> <p>By Mr. Giovanni Barbieri</p>	<p>Understanding of different approaches to work with vulnerable groups of society (migrants, adults with low level of alphabetization, etc.)</p> <ul style="list-style-type: none"> <li>- Learning new tools to support health among vulnerable people</li> <li>- Increasing awareness of the benefits and importance of health prevention</li> <li>-</li> </ul>
<p>Online evaluation of the Day1</p>			

**Evaluation of day 1:**

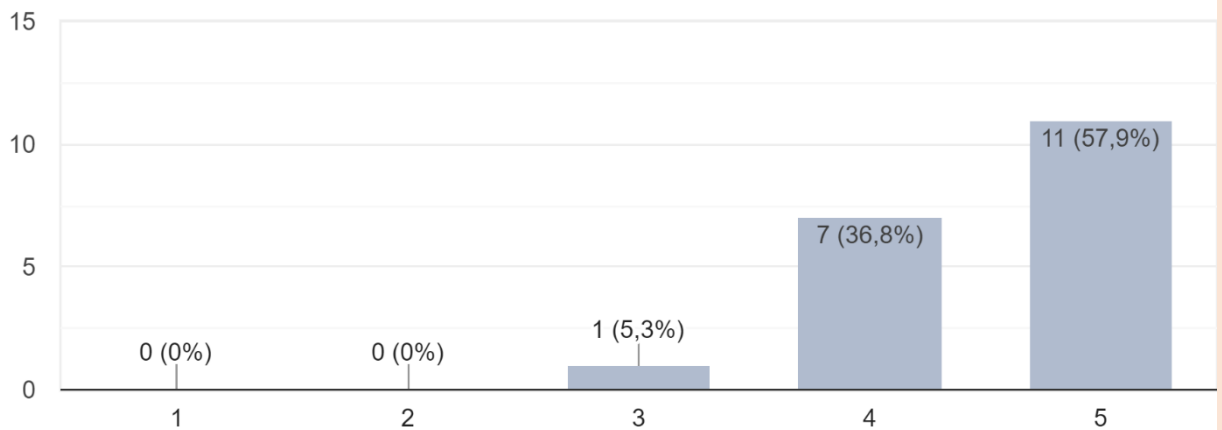
The purpose / scope of the conference is clearly presented.

19 risposte



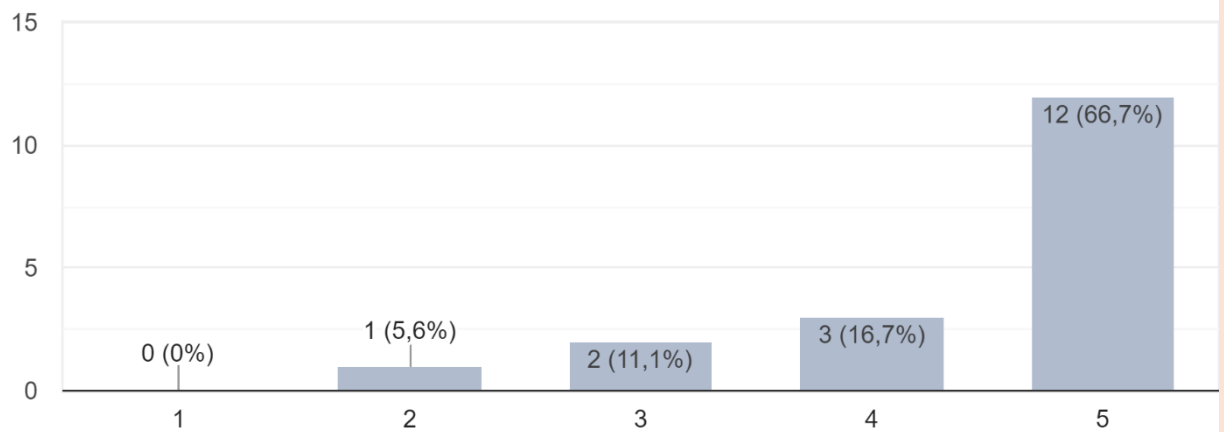
The topics presented are interested

19 risposte



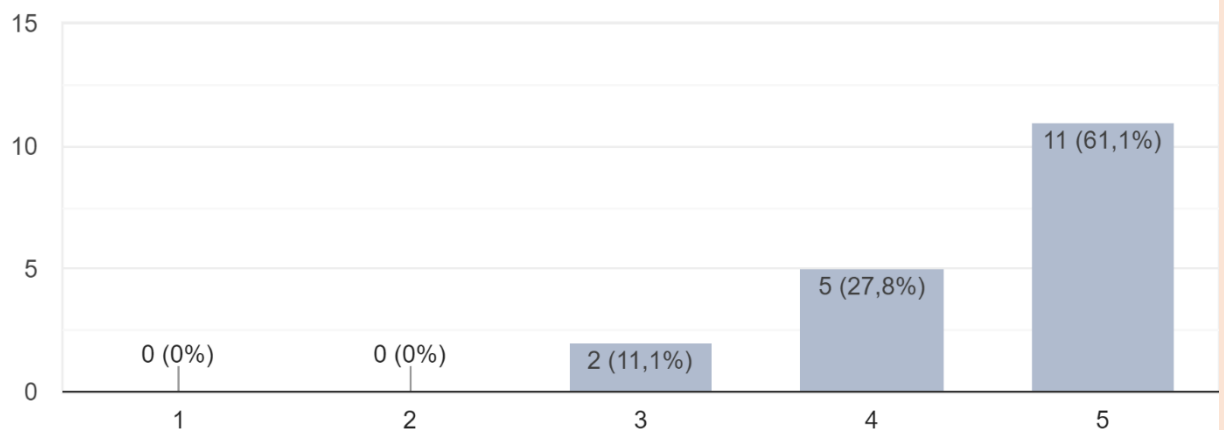
### The information provided is complete.

18 risposte



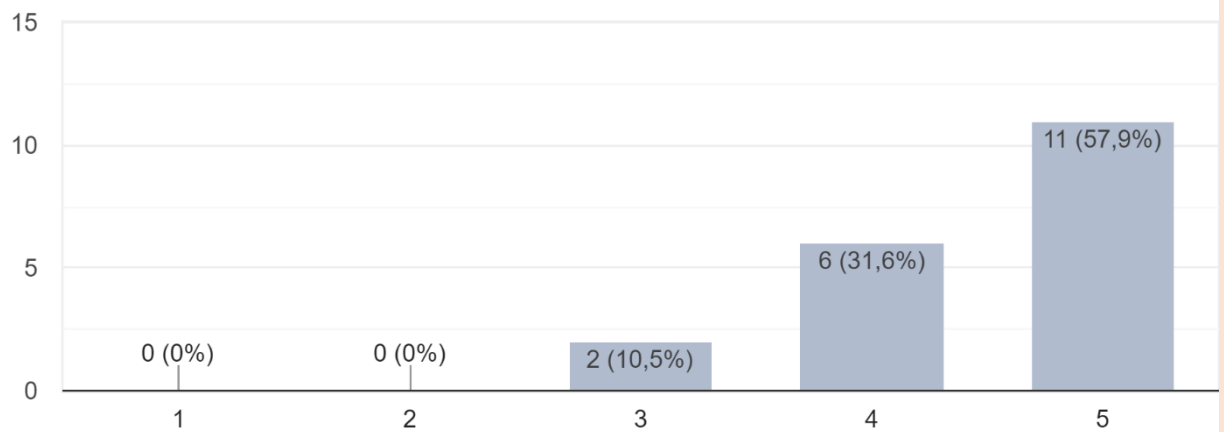
### The presentations are well-designed and easy to use, encouraging knowledge.

18 risposte



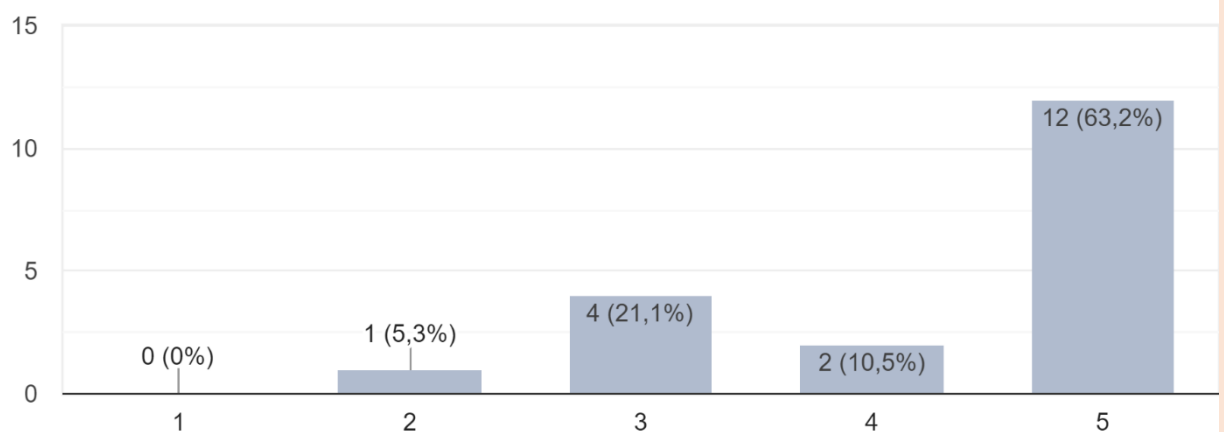
### The information provided is clear

19 risposte



### The duration, timing and frequency of the 5 days Capacity Building training is well structured

19 risposte



### Analysis of the answers

The first meeting session can be assessed as highly positive. The meeting consisted of a presentation of the project, the TOT activities and its training objectives. In addition, the following topics were covered

- Presentation of the e-health system in Italy.
- ICT in education
- Vulnerable groups and access to health systems through technology.

About 90% of the participants stated that the course was presented clearly as well as the topics covered and the information given during this first session.

Furthermore, about 88% of the participants stated that the session held was characterised by well-structured information that encouraged learning and the dissemination of knowledge.

Finally, about 70% of the participants gave positive marks to the duration, timing and frequency of the TOT meetings.

-----Day 5

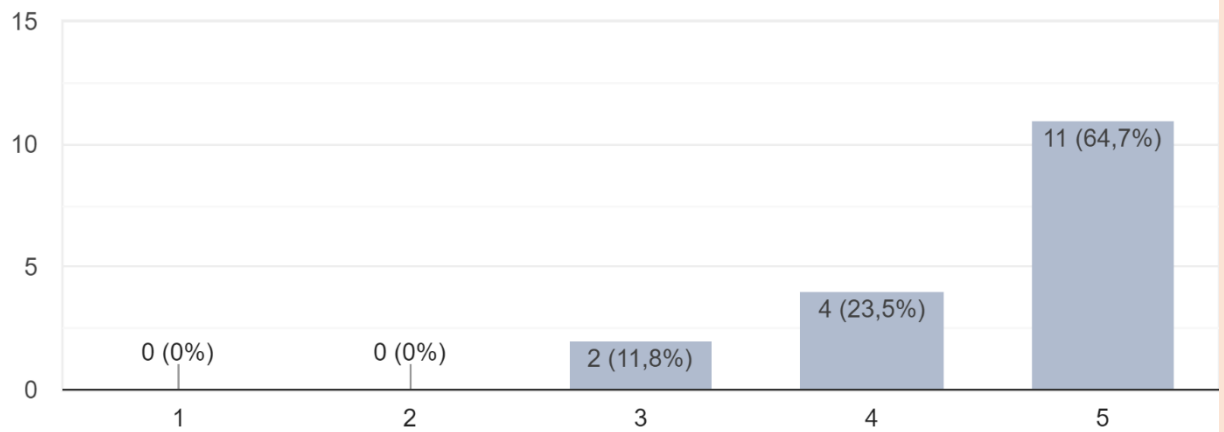
Time	Activity	Description of the activity	Learning outcomes:
10.00-12.00	Kazaam eHealth Platform	This session deals with Kazaam eHealth Platform, a microservice software platform for data analysis in the biomedical field. It supports the decision processes in the context of precision medicine to approach unmet clinical needs.	<ul style="list-style-type: none"> <li>• Knowledge of KAZAAM eHealth Platform as case study.</li> <li>• Basics scientific knowledge: Biological Networks Analysis and the integration of “omics” data.</li> <li>• Showing how Big Data Analytics and Artificial Intelligence may be applied to provide decision support to doctors and healthcare professionals in the context of Precision Medicine.</li> </ul>
12.00 – 12.45	Market and Business Overview	This session provides an overview on the general market of Precision Medicine and related technologies, with a special focus on Big Data and Bioinformatics. The positioning of Kazaam eHealth Platform in this market will be also discussed.	<ul style="list-style-type: none"> <li>• The global market of Precision Medicine, segments, and major players.</li> <li>• Main competitors of Kazaam eHealth Platform on the market.</li> <li>• Business model.</li> </ul>
12.45 – 12.50	Online evaluation of the Day5		
12.50- 13.30	Conclusion and farewell by CESIE & LNU Prof. Mosad Zineldin		



**Evaluation of day 5:**

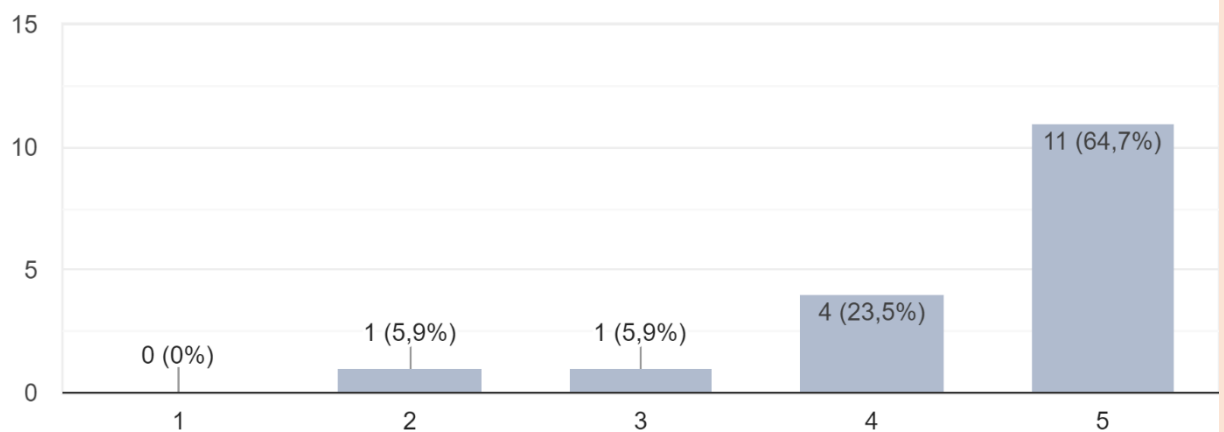
The purpose / scope of the conference is clearly presented.

17 risposte



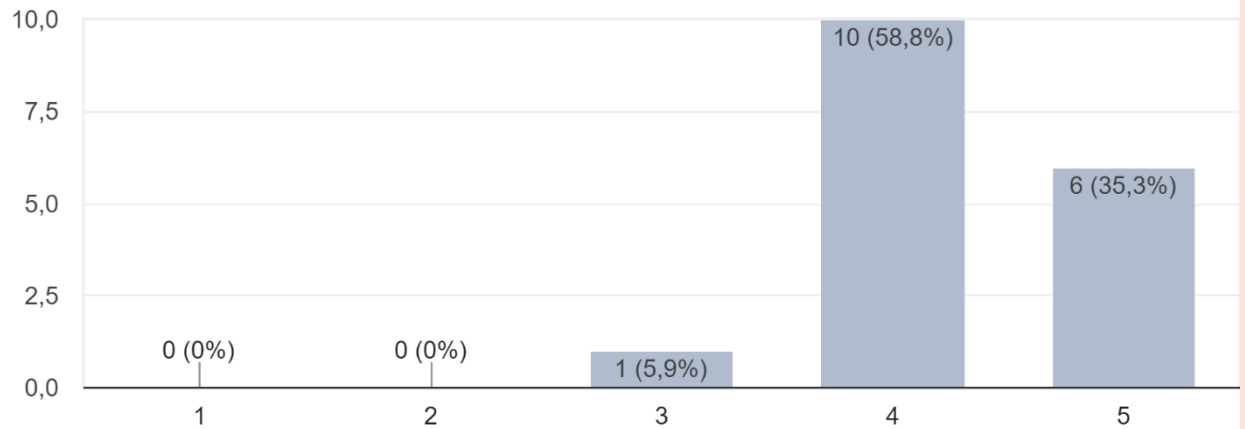
The topics presented are interested

17 risposte



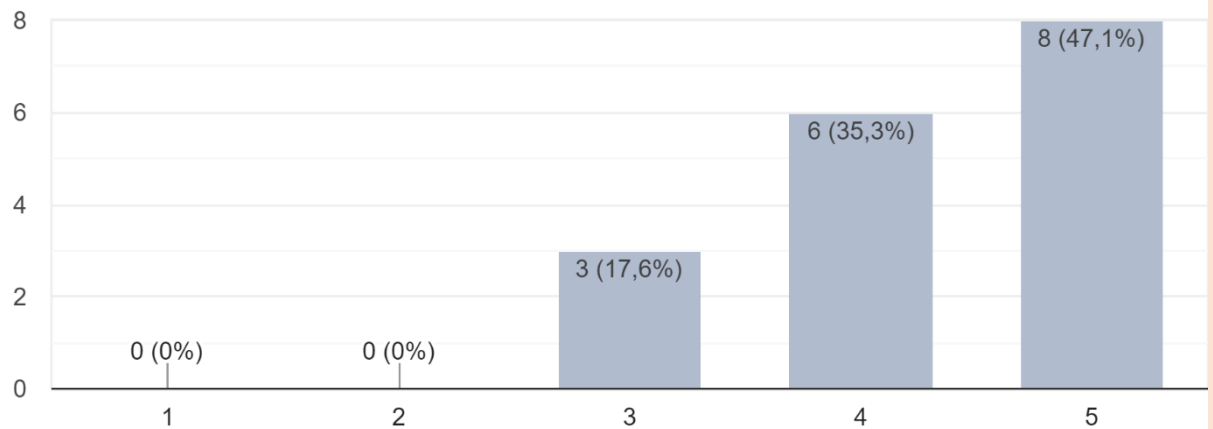
### The information provided is complete.

17 risposte



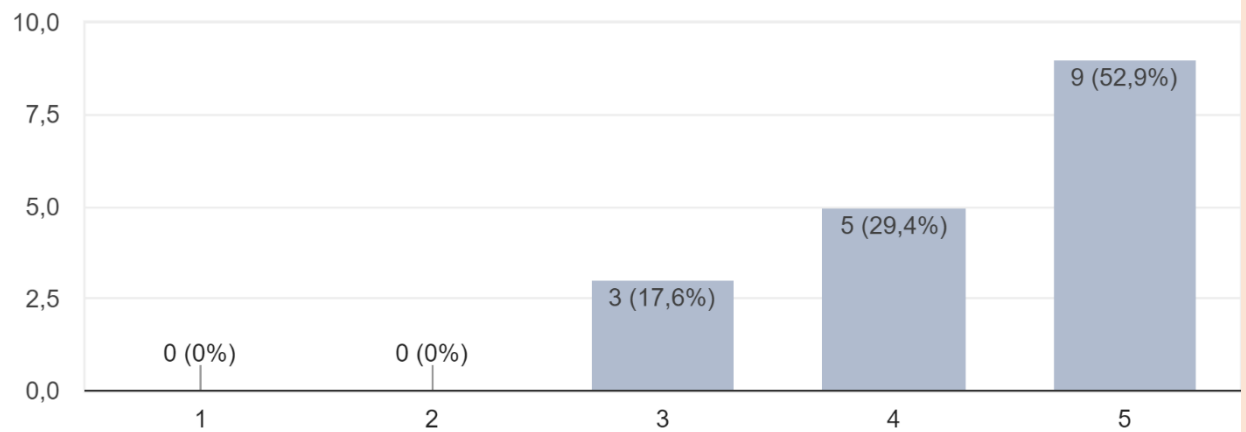
### The presentations are well-designed and easy to use, encouraging knowledge.

17 risposte



### The information provided is clear

17 risposte



#### Analysis of the answers

The last meeting was also characterised by highly positive evaluations of the topics covered:

- Kazaam eHealth Platform
- Market and Business Overview

About 80% of the participants rated the topics covered as interesting and more than 90% stated that the information given was comprehensive. In addition, more than 80% rated the presentation as positive, as it was structured in such a way as to promote learning and knowledge.

Lastly, more than 80% rated the information as clear.

## Conclusion

The TOT event organised by CESIE was a success. The feedback received for each meeting was only highly positive, in fact on average more than 80% of the participants rated each session between very good and excellent.

In addition, the experts who were involved are from prestigious research institutions, such as Oxford University, Palermo University and CESIE with very high knowledge of the topic and technical skills.

The communication between the participants, the experts who held the meetings and CESIE was highly positive, thus ensuring the excellent relationship and exchange of good practices and contacts for future activities.

Below are some sentences that were left as comments by the participants and that testify to the excellent work done:

- Thank you for your efforts it's really appreciated meeting and we collected a many of information
- All is great
- Great lecture very inspiring
- I hope if there is a possibility to see a practical session while using the microscope, imaging process, analysis
- Thank you so much for this valuable lecture and I update my knowledge about different types of microscopes

**ANNEX E**

**An example of the Monitoring Grid / Variance Grid**

WP	Ref. nr	Deliverable Title	Delivery Date	STATUS	INDICATORS (as in the proposal)	INDICATORS CHECK	ADDITIONAL INFORMATION
1	1.1	Report on e.Health skills status & current needs to establish CeHI canter. Teaching and learning (T&L)innovative approaches in e. Health disciplines & their impact & available & required ICT-based teaching (ICT-BT) tools		DELIVERED /NOT DELIVERED/ IN PROGRESS ETC.	- Survey of e.Health skills status And e. health educators & its impact - Survey of current T&L in health education & its impact - Survey of available & required ICT-based teaching tools - Final report on e.Health skills status, current T&L process situation & availability of using ICT-based teaching tools  Establishment of the canter	ACHIEVED NOT ACHIEVED	Responses of numbers of faculty members (nn) and students (nn) (data available from the project repository).
5	5.3	Training contents development implementation		DELIVERED OR TO BE DELIVERED	Develop of the training materials and hands-outs of TOT's  Number of online or onsite trainings by EU staff at the EU partner Number of participants from the different partner  Involvement of the stockholders. Level of acquiring the know-how knowledge	ACHIEVEMENT LEVEL	Number and dates of the trainings, number of attendances, quality of the trainings Impact of the trainings Etc.