



Co-funded by the Erasmus+ Programme of the European Union



IMCert
Immune Modulation Certificate For Post Graduate Students Enabled by Blended Learning



2nd IMCert BIENNIAL PROGRESS REPORT (M7-M12)

[15th July 2021 – 14th Jan 2022]



IMCert
Immune Modulation Certificate
For Post Graduate Students Enabled by Blended Learning






Internal Evaluation
Report
ASU















Descriptive Information

- **Name of Program:** Immune Modulation Certificate for Post Graduate Students Enabled by Blended Learning
- **Reference number:** 619017-EPP-1-2020-1-EG-EPPKA2-CBHE-JP
- **Type of the Project:** Erasmus+ Program of the European Union for Capacity Building in field of Higher Education. Call for proposals 2020 - EAC/A02/2019
- **Funder:** Erasmus+ Program of the European Union
- **Biannual Progress Report:** From M7-M12
- **Total Project time plan:** (36 Months) starting from 15th January 2021 and will be ended on 14th January 2024
- **Objective:** This aim of this WP is twofold: to ensure the quality of the project as a whole and of the various activities, as well as to evaluate it. It will be largely based on the Quality control and monitoring plan [QCMP] which will be adopted in the early stages of the project. The aim of the QCMP is to support project coordinator and WP leaders in ensuring highest quality of project outputs, activities, and results, as well as in improving project performance. It should support decision making by delivering necessary evidence to introduce any significant changes, should they be needed.

2nd IMCert BIENNIAL PROGRESS REPORT

[15th July 2021 -14th Jan 2022]

The second Biannual Progress Report

2. Development of human competences (WP2)

2.3 Training of 50 academic staff on IMCert curriculum designing and integration

2.4 Training 50 potential staff educators on hands on practical issues in competences of immune modulation

3. Development of IMCert (WP3)

3.1 Selection of courses to be revised and developed along concentration areas, guided by the stakeholders' inputs for postgraduate professional development

3.2 Developing of immune modulation course syllabi and course modules

4. Establishment of 5 TLC (WP4)

4.2 Establishment of 5 TLC with its e-class rooms &Installing Equipment

6. Quality assurance

6.1 QCMP

6.2 Reports of quality Internal and external assessment

7. Dissemination

7.1 Dissemination, and sustainability strategic plan

7.2 Project's Website completed (m5-m36)

7. Management

8.1 Project day to day management and coordination

8.2 Conflicts, risks and risk management

8.3 Biannual progress reports

8.4 Financial management

8.5 Assistance to partner organizations with organizing meetings and events m1-m12

2. Development of human competences (WP2)

2.3. Training of 50 academic staff on IMcert curriculum designing and integration

- As discussed in the first report, 51 staff educators together with the ESC members were trained on curriculum designing and integration through virtual theoretical workshops in designing and developing curriculum using DeCoRe and Kern cycle methodologies under supervision of members of the educator selection committee and European partners (Leipzig University, LU, Germany) and (Lorraine University, France). Three workshops were held for human development.
- The first workshop for development of human competencies, the workshop was held in the period of 6th to 9th September 2021 (**ANNEX 1.2.3**). The attendance was explained in the following Annex (**ANNEX 1.2.4**).
- The second workshop for development of modules were held in the period 6th to 10th of February 2022 (**ANNEX 1.2.5**). The attendance was explained in the following Annex (**ANNEX 1.2.6**).
- The third workshop for curriculum assessment were held in (**ANNEX 1.2.7**).
- All data concerning the workshops is also available on the website <https://imcert.azhar.live/>

➤ Variations

- Tasks were postponed from the original calendar because of the Covid-19 pandemic and restriction in meeting, travelling. Tasks were done in 6th to 9th September 2021, 6th to 10th February 2022, and 3rd March 2022 instead of June, July and August 2021.

2.4 Training 50 potential staff educators on hands on practical issues in competences of immune modulation (m7-m10)

- Training of 35 potential staff educators (from 5 Universities, divided to 2 groups) on hands-on practical issues in competencies of immune modulation was accomplished under supervision of members of educator selection committee and European partners France [UL], Germany [ULEI], Athens [NKUA], with the active involvement of Cairo University [CU]; as they are responsible for performing practical competences, their tools and technical training of staff educators for different advanced approaches of immune modulation program. The participants were divided into two groups in each workshop for social destinations due to COVID 19 pandemic.
- A total of 5 practical workshops (3-5 days each) in technical principles and advanced methodologies concerning IMCert for the selected staff were held during the period from 20th September 2021 till 23rd December 2021 (**ANNEX 2.2.4.0**).
- All workshops included both theoretical and practical sessions related to each technique.

- At the end of the workshop the participants were able to address the upgrading of practical advanced training and gaining of practical skills. Academic trained staff will deliver the gained knowledge to their universities.
 - The 5 Workshops included the following:
 - Western blot (**ANNEX 2.2.4.1**) held from 20th - 23rd Sep. 2021
 - ELISA and Tissue culture technique (**ANNEX 2.2.4.2**) from 27th -29th Sep. 2021
 - Nucleic acid extraction conventional and Real time PCR (**ANNEX 2.2.4.3**) from 3rd-6th Oct. 2021
 - Next Generation Sequencing (**ANNEX 2.2.4.4**) from 10th -13th Oct. 2021
 - Flow cytometry (**ANNEX 2.2.4.5**) from 18th -22nd Dec. 2021
 - Workshops 1 & 2 were held in the Research and Training center, National Cancer Institute, Cairo University, Sheikh Zayed.
 - Workshops 3 & 4 were held in Virology and immunology unit, Cancer biology dep, National cancer institute, Cairo university, Fom El-khalig.
 - Workshop 5 was held in Faculty of science, Cairo university.
- Up to 35 of the staff educators attended the 5 workshops due to difficulties in transportation and time schedule of some members as well as the difficulties to collect a big numbers of staff educators for training offline, i.e. face to face meetings and training due to COVID pandemic.
- Therefore, all the workshops were held again for the remaining staff members who did not attend in the first round, the workshops were held from 12th -17th March 2022 (**ANNEX 2.2.4.6**), and 9th May 2022 (**ANNEX 2.2.4.7**).

➤ **Variations**

- Tasks were done during the period from **20 September 2021 to 22 December 2021** instead of **15 July 2021 to 14 November 2021** due to difficulties resulting from COVID pandemic.
- In addition, only 35 of the staff educators attended the 5 workshops due to difficulties in transportation and time schedule of some members as well as the difficulties of sum big numbers of staff educators for training offline i.e. face to face meetings due to COVID pandemic. Therefore, all the workshops were held again for the remaining staff members who did not attend

in the first round, the workshops were held from 12th -17th March 2022 (ANNEX 2.2.4.6), and 9th May 2022 (ANNEX 2.2.4.7).

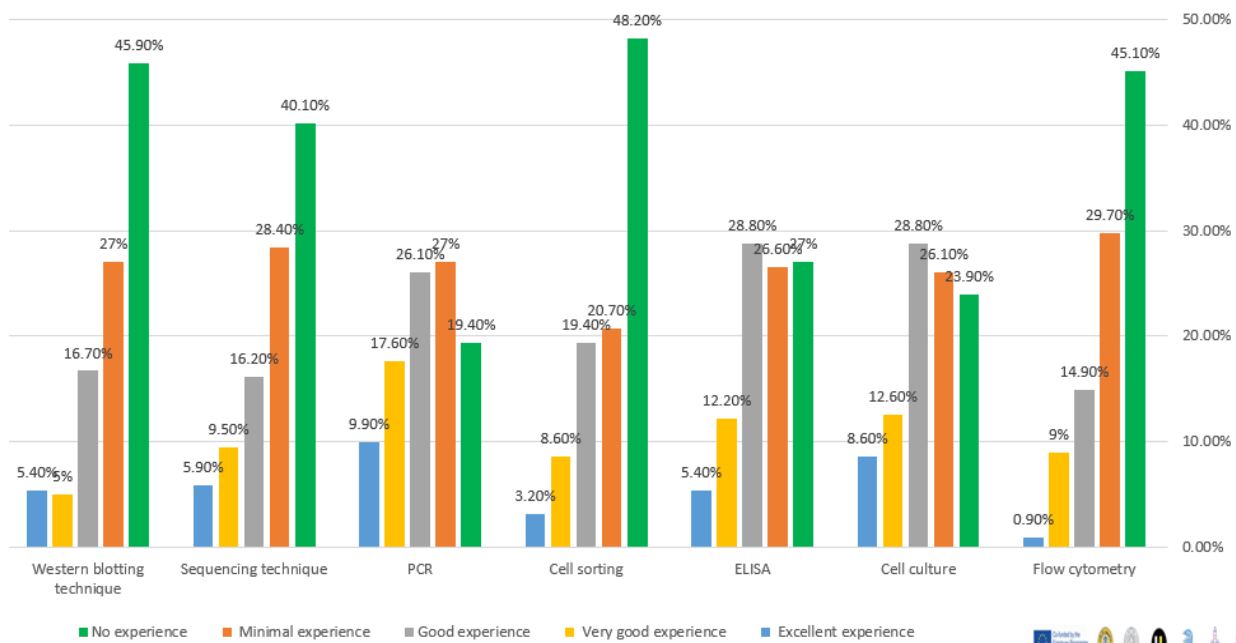
3. Development of IMCert (WP3)

3.1 Selection of courses to be revised and developed (m8-10)

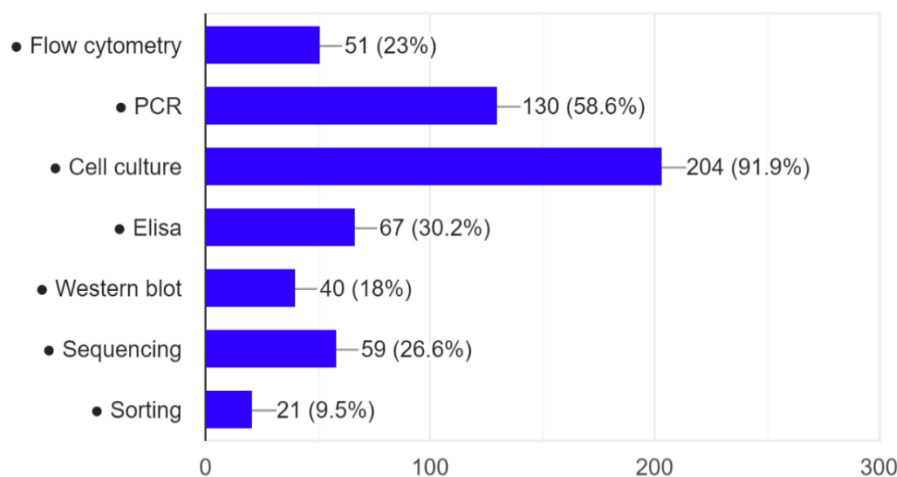
Based on the results of the questionnaire of the postgraduates as our stakeholders:

ANNEX 1.1.5.2

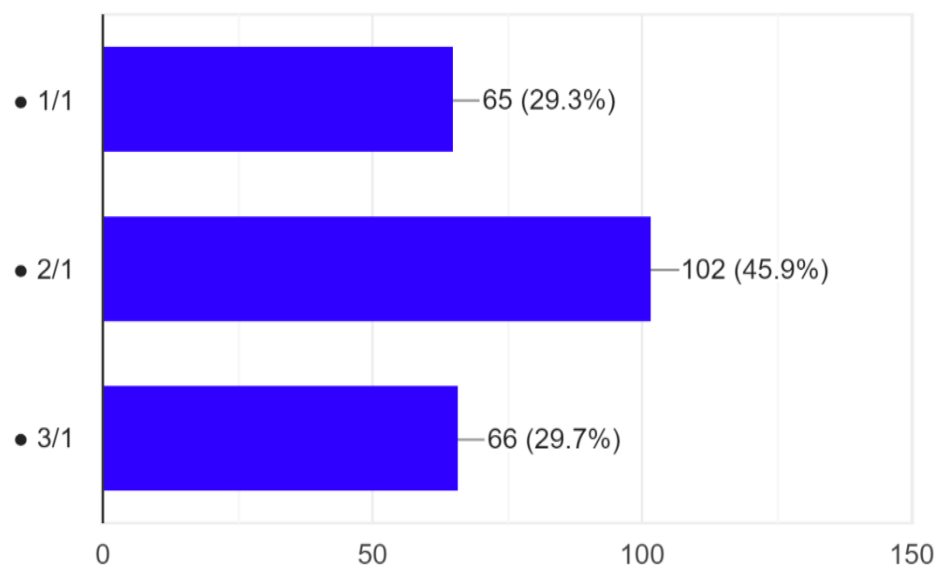
a- Their previous experience in immunology tools were as coming:



b- Cell culture followed by PCR then ELISA were most interesting diagnostic tools involved in IMCert.



c- Responding to adequate ratio both staff and postgraduates suggested for the theoretical: practical to be proposed as 1: 2 ratio.



• With the guide of the stakeholders, a workshop on 6th to 9th of September 2021 with 50 participants (from 5 Universities), 6 small groups ([ANNEX 2.3.1.1](#) - [ANNEX 2.3.1.6](#)), were given, in order to train the staff educators on the basics of module development ([ANNEX 2.3.1.7](#)).

- **The objectives of the workshop were to:**

- explain the 6 steps of the Kern cycle.
- explain the different parts of the DeCoRe methodology.
- use different methods of curriculum development (DeCoRe, Kern cycle) to design new curricula.
- write smart goals and learning objectives.
- fill in a module description.
- use the sandwich method in planning theoretical and practical parts of their curriculum.
- use effective and describing feedback towards each other.
- use interactive methods like wooclap and PINGO.
- explain the planned curriculum of IMCert.
- define the ideas behind digital teaching and learning methods e.g. blended learning, flipped classroom, hybrid teaching.
- tell about the functions and possibilities of the E-Tool kit.
- explain the Miller's pyramide and define learning competencies.

- Explain the specialties of teaching in small groups, laboratory teaching and methods in scientific teaching.
- **Another workshop was given with the guide of the stakeholders, on 6th to 10th of February 2022, with 50 participants (from 5 Universities), 6 small groups (ANNEX 2.3.1.1 - ANNEX 2.3.1.6), was given, in order to qualify the staff educators to develop a high-quality curriculum (ANNEX 2.3.1.8).**
 - **The objectives of the workshop were to:**
 - fill in the course description of the program courses.
 - review the courses description based on the educational principles.
 - identify the European Credit Transfer and Accumulation System (ECTS) and the workload of each course.
 - develop the course modules in the light of the developed course description.
 - separate “need to learn” from “nice to learn” content, i.e., main vs enrichment content.
 - review the planned curriculum of IMCert based on the allocated ECTS.
 - develop course content based on the planned course description.
 - use the e-toolkit in the course development effectively.
 - employ “blended” learning options where appropriate.
 - match the course objectives with SDGs.
 - structure the course to accommodate various levels of knowledge, skill, interests and learning styles.
 - match the course content, teaching methods, assessment, and activities with its ILOs.
- **On the 3rd of March, with the guidance and the aid of the stakeholders, 50 participants (from 5 Universities), 6 small groups (ANNEX 2.3.1.1 - ANNEX 2.3.1.6), were participating in a workshop that mainly focus on training the staff educators on different methods of assessment (ANNEX 2.3.1.9).**
 - **The objectives of the workshop were to:**
 - define the assessment cycle and feedback.
 - explain the Millers triangle.
 - explain the principle of portfolios.
 - assessment in relation to the outcome of education.

- outline the content of portfolios.
 - define WPBA.
 - discuss DOPS and its scoring system.
 - define OSPE as assessment tool.
 - explain how an OSPE works and what kind of stations could be suitable for IMCert.
 - write a reliable OSPE station.
 - define essay questions.
 - classify and compare between different types of essay questions.
 - construct a well-written essay question.
 - identify the advantages and disadvantages of essay questions.
 - design a scoring scheme for essay.
 - construct different types of SAQ.
 - identify the advantages and disadvantages of SAQ.
 - understand the principle of constructive alignment and apply it.
 - define what is a MCQ.
 - explain the types, the anatomy and the levels of MCQs.
 - describe the importance, advantages & limitations of MCQs.
- Attached, examples of templates for the assessment methods and tools discussed in the workshop. **ANNEX (2.3.1.10), ANNEX (2.3.1.11), ANNEX (2.3.1.12), ANNEX (2.3.1.13), ANNEX (2.3.1.14), ANNEX (2.3.1.15), and ANNEX (2.3.1.15).**
 - **Based on the previous trainings and workshops, the courses and the curriculum were integrated to fit pharmacists, physicians and scientists, applying the framework of competence to be as follows:**
 1. **Basic Immunology** ----- 6 ECTs
 2. **Biotechnology** ----- 8 ECTs
 3. **Comparative immunology** ----- 4 ECTs
 4. **Molecular biology**----- 8 ECTs
 5. **Public health** ----- 6 ECTs
 6. **Functional Genomics**----- 6 ECTs
 7. **Clinical immunology and Immunopathology**-----10 ECTs
 8. **Flow cytometry** ----- 6 ECTs
 9. **Immunotoxicology**----- 6 ECTs

3.2 Developing of immune modulation course syllabi and course modules

- Following selection of courses to be enrolled in the IMCert Curriculum, the module leaders actively worked closely with each module members to develop the course syllabi.
- Over several online sessions and personal conversation, nine course modules have been specified namely Basic immunology, Public health, Clinical immunology and immunopathology, Immunotoxicology, Comparative immunology, Flow cytometry, Functional genomics, Molecular biology, and Biotechnology.
- Each module has module description/overview where main highlights of the course are emphasized, followed by module learning objective and module intended learning outcome detailing understanding, intellectual skills, professional skills, and finally general skills. Notably, assignment and grading policy is clarified including formative and summative examination.
- Module topics were explained in more details following specific constant scheme covering key concept, overview, aim, learning outcomes, readings, and activities/assignments.
- Finally, each module syllabus is tailed with full detailed matrices as well as European Credit Transfer System (ECTS) credit hours.

4. Establishment of 5 TLC (WP4)

4.1 Specifications of equipment and call of tender

- The TLC committee, comprising representatives from each of the 5 Egyptian universities [AZHU, DMU, ASU, ASW, CU], and supervised by Prof. Dr. Mohamed Farag, Project coordinator, held several meetings with the different companies and agencies providing different offers for the required devices. The companies presented the specifications of each of the required devices.
- Several meetings were held afterwards between the members of the TLC committee to discuss and brainstorm the specifications provided by the companies for each device, which included:
 1. Real-time PCR system
 2. Nano Drop Spectrophotometer
 3. ELISA Reader
 4. Cooling Centrifuge
 5. CO₂ Incubators
 6. Biological Safety Laminar Flow Class II type A2
 7. Light Microscope

8. Inverted Microscope for Transmitted light bright field and phase contrast examinations, with Digital HD Camera Microscope
 9. Inverted Microscope for Transmitted light bright field, Phase contrast & Epi-Fluorescence examinations, with UHD 4K Digital Camera
 10. Automatic Pipettes
- The TLC committee compiled the technical specifications for the equipment's, which were sent to the European partners for review and approval.
 - After addressing the comments of the European partners, the technical specifications were finally approved (**ANNEX 2.4.1**).

6. Quality assurance

6.1. Quality control Monitoring Team (QCMT)

- The quality control monitoring team consist of
 1. **Members of Ain Shams University (Head of QCMP team)**
 - Prof. Dr. Khaled Aboshanab
 - Dr. Ghadir El-Housseiny
 - Dr. Sherihan Galal AbdelHamid
 - Dr. Amr Shaker
 - Dr. Mohamed Abo Auf
 - Dr. Mona El-Shahawy
 2. Prof. Dr. Mohammed Farag [Al-Azhar University]
 3. Prof. Dr. Ulrich Sack (Leipzig University, Germany)
 4. Prof. Dr. Claude Lambert [Lorraine University, France]
 5. Prof. Dr. Eleni Efthimiadou [NKUA, Greece]

6.2. Reports of quality Internal and external assessment

- The presented report is the second internal report for the project covering the period from M7 to M12.

7. Dissemination

7.1 Dissemination, and sustainability strategic plan

- The International Cooperation Office of the Vice President of Al-Azhar University for Postgraduate Studies and Research announced the start of the personal interview phase for faculty

members from Al-Azhar University and Egyptian universities to participate in the IMCert international project (**ANNEX 7.1.1**).

- Faculty members from Egyptian universities were selected to join the IMCert Project under supervision of Dr. Mahmoud Seddik, the Vice President for postgraduate Studies and Research and General Supervisor of the University Hospitals Sector at Al-Azhar University.
- An interview committee was selected from all the Egyptian universities participating in the project; to select the faculty members, which included: Prof. Mohamed Farag, Project coordinator, Dr. Reham Hammad, Al-Azhar University, Prof. Nady Gerges, Aswan University, Prof. Nadia Hamdy, Ain Shams University, Prof. Zenab Korany, Cairo University, and Prof. Sarah Magdy, Damanhour University.
- The personal interviews necessary to complete the nomination process ended with the selection of 50 faculty members from the Egyptian universities participating in the project, which included the universities: Al-Azhar, Cairo, Ain Shams, Aswan, and Damanhour; In preparation for joining the practical training necessary to prepare courses and teach about the immune modulation curriculum within the activities of the international project funded by the European Union ERASMUS+, in which Al-Azhar University plays the role of the main partner (**ANNEX 7.1.2**).
<https://www.facebook.com/104858491839211/photos/a.118290373829356/130376002620793/>
- “Four days’ workshop of Development of human competences” was carried out from 6th to 9th of September 2021 online using Zoom application. The aim of this workshop was the training of selected 50 academic staff on IMcert curriculum designing and integration under supervision of members of educator selection committee and European partners (**ANNEX 7.1.3**).
<https://www.facebook.com/photo/?fbid=142484671409926&set=pcb.142484938076566>
- IMCert 5 practical Workshops were carried out for training of the 50 potential staff educators on hands on practical issues in competences of immune modulation under supervision of members of educator selection committee and European partners France [UL], Germany [ULEI], Athens [NKUA], with active involvement of Cairo university [CU]; as they are responsible for Performing practical competences, their tools and technical training of staff educators for advanced approaches of immune modulation. The first and second practical workshops (WS1 and WS2), for practicing Western blot, Elisa and Tissue culture techniques was successfully carried out from 20th to 23rd of September 2021 and 26th to 29th of September 2021, respectively in the National Cancer Institute (NCI) at Al-Sheikh Zayed (**ANNEX 7.1.4**).
<https://www.facebook.com/photo/?fbid=153126713679055&set=pcb.153127160345677>

- The third practical workshop (WS3), for practicing Nucleic acid extraction conventional and Real time PCR techniques was successfully carried out from 3rd to 6th of October 2021 in the National Cancer Institute (NCI) at Fom El-Khalig (**ANNEX 7.1.5**).
<https://www.facebook.com/photo/?fbid=159318229735424&set=pcb.159318566402057>
- The fourth practical workshop (WS 4), for practicing Next Generation Sequencing technique was successfully carried out from 10th to 13th of October 2021 in the National Cancer Institute (NCI) at Fom El-Khalig. The fifth practical workshop (WS5) for understanding and practicing Flowcytometry and Sorting was successfully carried out from 18th to 2nd of December 2021, at the Faculty of Science, Cairo University (**ANNEX 7.1.6**).
<https://www.facebook.com/photo/?fbid=209264961407417&set=pcb.209265201407393>
- During the last workshop, there were theoretical lectures of Flowcytometry and Sorting with an international standard of Education under Al-Azhar University leadership with the participation of European partners and the organization of the Cairo University team (**ANNEX 7.1.7**).
<https://www.facebook.com/photo/?fbid=209262344741012&set=pcb.209263688074211>
- The practical workshop schedule was published on the official Facebook page of IMCert (**ANNEX 7.1.8**).
<https://www.facebook.com/photo/?fbid=209255364741710&set=a.152221840445063>.
- The agenda for all workshops were also published on the Facebook page
<https://www.facebook.com/104858491839211/photos/a.118290373829356/153127750345618/>
<https://www.facebook.com/104858491839211/photos/a.118290373829356/153128070345586/>
<https://www.facebook.com/photo/?fbid=159320966401817&set=a.152221840445063>
- The IMCert overview showing all the details about the project was published on the Facebook page <https://www.facebook.com/photo?fbid=209256568074923&set=pcb.209256804741566>

7.2. Project's Web site completed

- Actually, an official website for IMCert was successfully developed and includes all up-to-date information about the project <https://imcert.azhar.live/>

8. Management

- The project day to day was management and all the conflicts, risks and risk management were considered. Biannual progress reports and financial management were done.
- Management of project was by handled the financial issues and holding managerial meetings and biannual reports for coordination.

- Assistance to partner organizations with organizing meetings and events, which covering the following:
 - Project management and communication plans
 - Biannual progress report
 - Scheme of workshops, meetings, and events
 - Conflicts, risk mitigation plan
 - Activation of plans
 - Financial handling
 - Final report
- **See all previous annexes**