



Periodical Report  
6 Months of project  
implementation

New Curricula in  
Precision Agriculture  
Using GIS Technologies  
and Sensing Data

**DJILLALI LIABES UNIVERSITY OF  
SIDI BEL-ABBES**



Co-funded by the  
Erasmus+ Programme  
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Joint Project: Capacity Building in the Field  
of Higher Education ERASMUS+ 2018

**CHIKR ELMEZOUAR Miloud, Associate Prof.  
KADOUN Abd-Ed-Daïm, Prof. , Vice-rector**

# Work plan (1/4)

	Task	Start date	End date
1.1	<p>Review of the current curricula for BA/MSc in target area in PC HEIs. Guideline and plan for revising existing courses</p> <p>Develop UDL own internal plan of activities of the project.</p> <p>Make a list of valid subjects/courses for analysis and future updates</p> <p>Develop questionnaires for analysis of existing curricula/disciplines (questionnaire for teachers, students, graduates, young professionals, alumni; + a questionnaire for interested in project non-academic partners : potential employers, local associations, representatives of industrial enterprises, other parties that can somehow relate to the topic of the project</p> <p>Develop a schedule to conduct surveys</p> <p>Conduct surveys of various target groups</p> <p>Analyze the answered questionnaires</p> <p>Develop an analytical report on the results of the analysis of existing curricula/disciplines.</p> <p>Make a list of curricula to be upgraded.</p> <p>Develop a schedule for updates of the selected curricula.</p>	15/11/2018	30/04/2019
1.2	<p>Agreement on instructional strategy and guidelines for BA/MSc curricula design including the use of new Educational Technologies</p>	15/11/2018	31/03/2019
2.1 a)	<p>Prepare a set of new core curricula and transferable modules inclusive innovative teaching/ learning facilities; develop syllabi.</p> <p>Examining and adopting the received materials and developing on this basis the own UDL courses, curricula and modules.</p> <p>Developing digital versions-drafts (.doc files) of our UDL manuals/text books/methodological recommendations for students and teachers for each of the curricula/course/module</p>	01/12/2018	31/03/2020

# Work plan (2/4)

	Task	Start date	End date
2.1 b)	Accreditation of developed subjects/courses/programs in accordance with valid UDL rules.	01/10/2019	31/05/2020
2.1 c)	Accreditation at the national level.	01/10/2020	31/08/2021
2.2 a)	Prepare a set of documentation for PAGIS and VCR	01/02/2019	30/09/2019
2.2 b)	purchase the equipment incl. software; install the equipment	01/03/2019	31/05/2020
2.3 a)	Casting criteria for participants and retraining program for academic teachers. Develop criteria for the selection of teachers to participate in trainings planned at EU universities. Plan and carry out actions to prepare the selected candidates to participate in trainings including language training	01/01/2019	31/03/2019
2.3 b)	Learning facilities and agreed instructional strategies	01/09/2019	31/08/2020
2.4	Update existing BA/MSc curricula, make a report on updating: Develop a curricula description of each updated curriculum in English and/or in French in accordance with the Bologna recommendations Accredit the updated disciplines in accordance with valid UDL University rules/national law	01/04/2019	30/09/2020
2.5 a)	Master Classes in new curricula Starting performance of demonstration master classes (MC) for new subjects/modules	01/09/2020	20/05/2021
2.5 b)	Pilot operation of PAGIS and VCR	31/05/2020	14/11/2021
2.6	Pilot teaching of updated/new curricula/modules/courses	01/09/2020	14/11/2021

# Work plan (3/4)

	Task	Start date	End date
3.1	The Quality assurance strategy/Q Plan of UDL university including internal / external Quality evaluation/reports according to Q Plan Development of quality assurance plan in UDL university Development of recommendations for quality indicators for peer review of new curricula/courses Periodical survey of students (preparation of a questionnaire) in order to assess quality of master classes; lectures during the pilot teaching External quality evaluation	15/11/2018	14/11/2021
4.1	Project DISS& EXP /communication plan using a Set of Promotional Materials; Dissemination Events, Joint WEB based platform, "CUPAGIS+" Agreement Develop a plan for dissemination and sustainability of the project in UDL university, including activities on involving new participants in the project Operation starting of the first version of the WEB platform.	15/11/2018	14/11/2021
4.2	Full media coverage of the project activities inclusive developing and maintenance of Joint WEB based platform Organize dissemination of leaflets about the project amongst students and teachers.	15/11/2018	14/11/2021
4.3	Develop a set documentation on PASENSO with stakeholders support /purchase /install equipment /establish Approve a package of organizational documents for the creation of PASENSO in UDL University. Purchasing and installing equipment in UDL university.	01/02/2019	30/04/2020
4.4 a)	Staff training PASENSO Conduct training for employees of PASENSO and start of functioning PASENSO.	01/04/2020	31/10/2020
4.4 b)	Pilot operation of PASENSO	01/04/2020	14/11/2021

# Work plan (4/4)

	Task	Start date	End date
4.5	Refresh training courses for graduates in PASENSO	01/09/2020	31/08/2021
4.6	Organization of International BA/ MSc Summer Schools	01/06/2020	31/07/2021
5.1	Management of the project including Project management online, daily project administration and coordination Monitoring and controlling of project activities: development of questionnaires for partner universities regarding project implementation	15/11/2018	14/11/2021
5.2	Coordination meetings	15/11/2018	14/11/2021

# Work group

No	Name, Surname, email	Position in the university	Responsibility (Work Packages tasks according to the Work Plan)
1	Abd-Ed-Daïm KADOUN akadoun@yahoo.com	Vice-rector for External relations and Cooperation	1 & 5
2	Miloud CHIKR ELMEZOUAR chikrelmerzouar@gmail.com	Teacher, responsible for Electronics of embedded systems Master	1 & 5
3	Nadir BENMANSOUR n.benmansour10@yahoo.fr	Teacher	1
4	Fatiha FARAOUN faraoun.f@gmail.com	Teacher	1 & 2
5	Riad DJELLOULI djellouli_riad@yahoo.fr	Teacher	1 & 4
6	Salah eddine BACHIR BOUIADJRA chahro1@yahoo.fr	Teacher	2 & 4
7	MOSTEFA HADDAD haddadmos07@yahoo.fr	Teacher, Head of Agronomy department	2 & 4
8	Zidane DJELLOUL djelloulzidane@yahoo.fr	Teacher, Responsible for the Entrepreneurship office	4
9	Samira HOUCINE samhouc.univ@gmail.com	Teacher, Responsible for the QA Office and Head of the Center of Intensive Languages Teaching	3
10	Kada MOUEDDENE moueddene@yahoo.fr	Teacher, Vice-rector for academic affairs	2
11	SODEA		2 & 4

# Courses to update

Name of the course to be upgraded	Person/teacher/department/faculty responsible for the course upgrade	What has to be upgraded in the course?	Deadlines
agro météorologie	Salah eddine BACHIR BOUIADJRA	<ol style="list-style-type: none"><li>1. The climate and its components</li><li>2. Water and the atmosphere: the water cycle</li><li>3. Influence of climate on agricultural production</li><li>4. Scales of observation of meteorological parameters</li><li>5. Site selection and location of a weather observation station</li><li>6. Spatialization methods of point meteorological measurements</li><li>7. Extraction of meteorological parameters from remote sensing</li><li>8. Linking the results of the climate analysis with agricultural data (index, production) via SIG.</li></ol>	<b>31/07/2019</b>

# Criteria for teacher selection for trainings

No	Criterion	Details
1	Age (maximum <u>15 points</u> )	Max score is given for teachers with age 30 years and lower (15 points) With a rate of 1/2 point per year, a 59 years old teacher will have 0 point.
2	Academic degree (maximum <u>4 points</u> )	Magister 1 point
		Doctorat 3 <sup>ième</sup> Cycle 2 points
		Doctorat en sciences 3 points
		Doctorat en sciences & Habilitation 4 points
		Doctorat d'état 4 points
3	Knowledge of English – at least B1 level (maximum <u>6 points</u> )	B1 level 1 point
		B2 level 3 points
		C1 level 5 points
		C2 level 6 points
4	Professional competence area coincides with subject domain of the project (maximum <u>10 points</u> )	Depending on taught courses (max 5 points: 1 point/ discipline) and research work related to the CUPAGIS project (5 points).
5	Motivation to participate in the project (maximum <u>10 points</u> )	Depending on the assessment of the workgroup.
6	Experience of teaching not less than 4 years (maximum <u>15 points</u> )	From 4 years (0.5 point) to 33 years and above (15 points).
		1/2 point for each year of experience

## Process of teacher's preparation for the trainings :

- Conducting intensive English courses for 3 weeks.

Some meetings are planned gathering experienced teachers, with knowledge in skills related to the training courses, and teachers who will attend the training.

Each participating teacher will be responsible for collecting all material and information regarding some courses.



# Teacher that will develop new courses

N°	Name, SURNAME, email	Position in the university	Skills
1	Nadir BENMANSOUR n.benmansour10@yahoo.fr	Teacher, Natural and Life Sciences Faculty	GIS, satellite images, remote sensing, GNSS and PA
2	Fatiha FARAOUN faraoun.f@gmail.com	Teacher, Natural and Life Sciences Faculty	Soil physical properties and its measurement and PA
3	Riad DJELLOULI djellouli_riad@yahoo.fr	Teacher, Natural and Life Sciences Faculty	GIS, satellite images, remote sensing, GNSS and PA
4	Salah eddine BACHIR BOUIADJRA chahro1@yahoo.fr	Teacher, Natural and Life Sciences Faculty	GIS, satellite images, remote sensing, GNSS and PA
5	Abbassia AYACHE. abayache4@gmail.com	Teacher, Natural and Life Sciences Faculty	GIS, satellite images, remote sensing, GNSS and PA
6	Mostefa HADDAD haddadmos07@yahoo.fr	Teacher, Head of Agronomy department	Agriculture and methodology of curricula development
7	Miloud CHIKR ELMEZOUAR chikrelmerzouar@gmail.com	Teacher, Electrical engineering Faculty	Sensors, satellite images, remote sensing and computer vision
8	Zidane DJELLOUL djelloulzidane@yahoo.fr	Teacher, Responsible of the Entrepreneurship office	Economics, Start-up, Management and Marketing
9	Kada MOUEDDENE moueddene@yahoo.fr	Teacher, Vice-rector for academic affairs	GIS, mapping and methodology of curricula development

# Equipment & Software

Equipment/S oftware	Name of the person(s) responsible for the equipment/software installation	Occupation of the responsible persons	Contact information of the responsible persons
Equipment	Nadir BENMANSOUR	Teacher	n.benmansour10@yahoo.fr
Software	Riad DJELLOULI	Teacher	djellouli_riad@yahoo.fr

# Dissemination plan

## 1-Strategy of activities

Local gathering of workgroup is held regularly since November 2019 to talk about undertaken tasks to engage all partners with suitable deadlines.

Facebook page of Project was created by 20 March 2019 to provide access for students and University staff, also we diffused some necessary information in local press.

Local meeting is organised inside university to inform members staff and students about all details of Cupagis project.

Workshop will be organized to maximise the participation of all students and members staff in this project.

## 2- Components of the dissemination and sustainability plan of the project

Academic community (Professors, researchers, students, and all people involved in this Project).

Experts and economic partners related to the field of CUPAGIS Project.

# Schedule of dissemination events (1/2)

№	Event	Date
1.	Meeting of the CUPAGIS project work group.	monthly
2	Workshop for administrative staff of Natural and Life Sciences and Electrical engineering Faculties.	April 2019
3	Workshop for teachers of Natural and Life Sciences Faculty.	April 2019
4	Workshop for students of Natural and Life Sciences Faculty.	May 2019/ and for each new BA class
5	Meeting with Associated Partners and stakeholders	Start in May 2019, exact date will depend on timetable of our partners.
6.	UDL CUPAGIS Facebook page updating and web information diffusion	According to conducted events
7	Publishing UDL CUPAGIS information on newspaper	May 2019

# Schedule of dissemination events (2/2)

No	Event	Date
8	Seminar on the results of teacher training at the Agricultural University of Plovdiv, Bulgaria.	July 2019
9	Seminar on the results of teacher training at the Technische Universität Berlin, Germany.	September 2019
10	Seminar on the results of teacher training at the Czech University of Life Sciences.	To be defined
11	Meeting for diffusion about the Pasenso office.	May 2020
12	Presentation of new modernized training programs for employers.	September 2020
13	Publication as information leaflets, brochures, and on the Website of the university	Frequently
14	Participation in coordination meetings.	according to plan

# Non-consortium organizations

No	Stakeholder
1	Groupe Chiali
2	Entreprise de Production et Commercialisation de Matériel de Récolte SAMPO
3	SONALIKA FAMAG Fabrication de Matériel Agricole
4	Chambre de l'Agriculture de la Wilaya
5	Chambre de la pêche de la Wilaya
6	Direction des forets de la wilaya
7	Direction des services agricoles de la wilaya
8	Institut Technique des Grandes Cultures (ITGC) de Sidi Bel-Abbes
9	Institut National de la Recherche Agronomique (INRAA) de Sidi Bel-Abbes
10	Agroservice

# Implemented dissemination activities (1/5)

1- To provide access for students and University staff, we diffused some necessary information in national press (see picture of hard copy).

The online version can be accessed on :

<https://www.elwatan.com/regions/ouest/bel-abes/sidi-bel-abbes-lagriculture-high-tech-fait-son-entree-a-luniversite-05-05-2019>

2- UDL Facebook page of Project was created on 20 March 2019 and can be accessed at:

<https://www.facebook.com/cupagis/>

3- Moreover, UDL site is used to diffuse information:

<https://www.univ-sba.dz/index.php?lang=fr#projet-cupagis-udl-2019>

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RÉGION OUEST

SIDI BEL ABBÈS

## L'agriculture high-tech fait son entrée à l'université

En 2020-2021, un nouveau master en agriculture de précision fera son entrée à l'université Djilali Liabès (UDL) de Sidi Bel Abbès, selon Nadir Benmansour, enseignant-chercheur au département de biologie de l'UDL.

«C'est une spécialité qui fait appel aux toutes dernières technologies pour la gestion optimale des cultures», explique M. Benmansour. L'inscription en master sera réservée, dans une première phase, à une vingtaine d'étudiants, vu qu'il s'agit d'une spécialité très technique, où il y a nécessité de faire beaucoup de travaux pratiques avec des instruments qui demandent une certaine maîtrise. Domicilié au département des sciences agronomiques de la faculté des sciences de la nature et de la vie, le master professionnel en agriculture de précision devrait s'étaler sur deux ans (master 1 et master 2). Cette nouvelle spécialité vise la maîtrise des paramètres agronomiques pour une gestion rationnelle des interventions culturales, en utilisant des capteurs au sol et des capteurs aériens, tels que les capteurs d'humidité, les capteurs détectant le stress chez les plantes, les drones et autres. «Grâce à une utilisation précise et rationnelle des produits phytosanitaires, cette spécialité vise surtout à fournir des produits de qualité, tout en préservant l'environnement», précise M. Benmansour. Aussi, cette formation très technique permettra aux futurs diplômés d'acquiescer des compétences agronomiques et technologiques à même de répondre aux préoccupations nationales de dynamisation du secteur agricole. Selon M. Benmansour, l'ouverture de ce nouveau master s'inscrit dans le cadre du programme européen Erasmus, avec la collaboration de plusieurs pays, tels que l'Allemagne, la Bulgarie, la République tchèque et l'Estonie. D'autres universités algériennes font aussi partie de ce projet, à savoir celles de Mostaganem, Tiaret, Oran et l'ENSA d'El Harrach. «Ce projet associe également plusieurs partenaires économiques, avec la participation de la Soles, filiale du Groupe des sociétés Hassaniat, ainsi que d'autres partenaires en voie d'intégration», signale M. Benmansour.



M. Abdelkrim

# Implemented dissemination activities (2/5)

## Dissemination meeting for administrative staff

**15 April 2019, SNV Faculty, UDL University**

Initially, the workgroup had planned a dissemination day for teachers and administrative staff. The dissemination day was reported to the next week.

Nevertheless, this meeting was held to disseminate the project to:

The Head of Department, who represents the administrative staff of the Department of Agronomy, and the Head of the House of Entrepreneurship to expand the number of partners in the CUPAGIS project . interested





# Implemented dissemination activities (3/5)

## Dissemination meeting for administrative staff, teachers and economic leaders

24 April 2019, SNV Faculty, UDL University

The CUPAGIS project workgroup of Sidi Bel Abbès University presented the project to a panel of university and economic leaders.

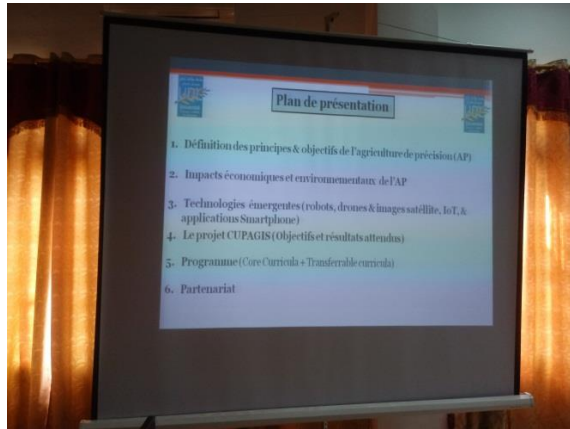
This panel included university administration officials such as: the Vice-Rector of Pedagogy, the Dean and the deputy Dean of Pedagogy of the Natural and Life Sciences Faculty, the Chair of the Faculty's Scientific Council, the heads of departments, as well as teachers.

The socio-economic sector was not left out, since several partners also attended the presentation, like the president of the chamber of commerce of the wilaya of Sid Bel Abbès, a manager of the ENIE (National Company Electronic Industries), the director of INRA (National Institute of Agronomic Research), the director of ITGC (Technical Institute of Field Crops) and other personalities from the world of agro-economics.

The presentation took place in three steps:

1. Introduction on the framework of the CUPAGIS project and the partners involved.
2. Presentation off the content of the new specialty on precision farming and their objectives.
3. Discussion session between the work group and the assistance.

# Implemented dissemination activities (4/5)



# Implemented dissemination activities (5/5)

## Dissemination meetings:

Three dissemination meeting were conducted until now:

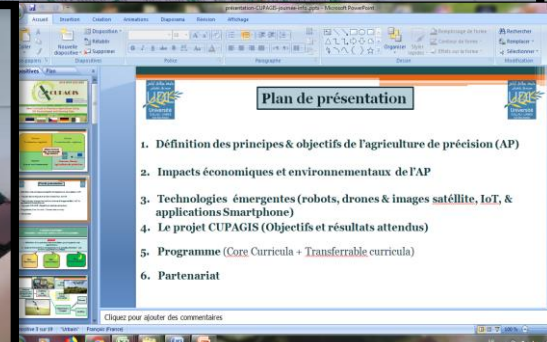
### 1- Dissemination meeting for students

**09 June 2019, SNV Faculty, UDL University**

An information session on the CUPAGIS project for students enrolled in the second year of the "Agricultural Sciences" program took place on 09/06/2019 at 09:30.

Leaflets produced by the workgroup, in order to present and popularize the project, were distributed to all students.

The session lasted 45 minutes, presentation and debate included. Interest in the project was felt through the various questions asked, as well as the many photos taken during the passage of the slides.



# Questionnaire for students

When we plan to conduct a survey of students, we publish the questionnaire online:

<https://docs.google.com/forms/d/13558Rctu4KzbcXoRBF5BCiOSwOebNny5DiXUwTne5SE/edit>

and we request from students to fill it.

The students are very busy in this period and the survey can't be conducted. The survey and analyze of responses are postponed for later time, when better conditions will be available.

# Quality Assurance Plan (1/8)

Quality assurance (QA) is a priority for both the Algerian Ministry of Higher Education and Scientific Research (MHESR) and for stakeholders.

The Bologna process, notably through the European Standards and Guidelines (ESG), and the National Quality Standards for Higher Education (RNAQES) illustrate the will to strengthen the mechanisms of quality assurance within higher education (HE).

The objective of the process, generalized to all Algerian higher education institutions, is - at least - twofold: on the one hand, to evaluate (according to set standards) and improve HE activities (teaching/learning, research...) and on the other hand, to develop and sustain quality assurance culture.

QA requires a coherent policy as well as the active involvement of teachers, students and staff to get effective feedback. In fact, it implies a strong collaborative commitment of university-community.

# Quality Assurance Plan (2/8)

In the present project, several objectives have been defined to implement an efficient QA procedure and evaluate the educational offer quality:

- ✓ to make sure that new curricula meet standards and propose high quality learning environment;
- ✓ to ensure innovative learning approaches are proposed;
- ✓ to assess material resources available to curricula;
- ✓ to evaluate that curricula meet skill jobs' requirements (see *Nomenclature Algérienne des Métiers/Emplois, NAME*) and employability (*Alignment to National Qualification Framework?*);
- ✓ to analyse learning outcomes;
- ✓ to ensure that qualification is clearly specified and stated;
- ✓ to implement monitoring procedures to ensure that systematic internal evaluations are planned (every step of the project, frequency to be defined);
- ✓ to raise awareness (of QA) among stakeholders and organize workshops to share good practice;
- ✓ to plan an external evaluation to get an independent and objective diagnosis.

# Quality Assurance Plan (3/8)

## Activities for QA system development

- Appointment of a QA unit (QAU), assisted by the members of the University QA Unit, to develop a QA plan specific to the CUPAGIS master curriculum;
- Defining organization and responsibilities;
- Proposition of a QAU schedule meetings;
- Members of the QAU should propose activities to undertake an effective internal review;
- Development of indicators, follow-up...;
- Monitoring of progress towards goals: self-monitoring (surveys, reports, minutes...), report after each project meeting;
- Peer-reviews: combined use of quantitative as well as qualitative methods (questionnaires, semi-structured interviews including open-ended questions, reports...); mention who is responsible for carrying out specific tasks (the procedure has to be finalized);
- *Ex ante* report?
- Analysis of data to identify priorities for improvement;

# Quality Assurance Plan (4/8)

- Continuous collection and analysis of data (monitoring) and evaluation process (evaluation): the obtained information and evidence provide inputs of achievement with regard to expected progress and thus support decision-making to assess and improve the ongoing project. A periodical report has to be presented in order to justify the effectiveness (or not) in achieving goals, to improve internal organization, to spot limits...;
- Develop an evaluation checklist to identify and measure specific items/characteristics to meet standards and improve quality: expected learning outcomes and competences, syllabus, coherence of the programme, assigned means, student support, employability...;  
Items have to be selected and approved by the team (QAU and team project?).
- Mid-term report implying external evaluation. **It still needs to be clarified, developed and explicitly exposed;**
- Problem resolution and corrective action: propose procedures for reporting and handling problems identified during project reviews;



## Quality Assurance Plan (5/8)

- The CUPAGIS project is an opportunity to share good practice, to confront approaches, to imply Colleagues from national partners universities within the QA process and to build a professional network. Efficient communication strategy contributes to promoting and sustaining QA culture in HEIs;
- Ensure that the academic staff is aware of the various steps of the ongoing project and of its evaluation. Linkage of quality evaluation and systematic improvement of the educational process and outcome should be clearly stated;
- Try to include labour market representatives.

# Quality Assurance Plan (6/8)

## Milestones:

- Quality Assurance Unit as integral part of the project;
- Reviews carried out on the project;
- systematic self-monitoring;
- peer-reviews;
- report of inter-project coaching: to meet and exchange with partners working on the project;
- external monitoring and evaluation reports: comparative reliable information, effectiveness, fitness-for-purpose...

# Quality Assurance Plan (7/ 8)

## Indicators:

quantitative as well as qualitative documents:

- self-monitoring reports,
- questionnaires and surveys;
- inter-project coaching reports;
- external monitoring and evaluation report;

# Quality Assurance Plan (8/8)

## **Contents of the project monitoring & evaluation:**

- i. process: coordination and communication, participatory planning process;
- ii. program relevance;
- iii. Cruciality of the project activities;
- iv. Efficiency of the project realization;
- v. Project achievements (results);
- vi. Impact of the project measures (follow ups);
- vii. Sustainability of the project results. Periodic surveys and feedback analysis of target groups;
- viii. Communication process between consortium partners;
- ix. Dissemination of the project activities and results;
- x. The project management.

# Quality Assurance Plan

Name, Surname	Occupation	Organization	Contact info (email)
Samira HOUCINE	Teacher	UDL university	samhouc.univ@gmail.com
Nora TALHA	Teacher	UDL university	noratalha@yahoo.fr

# PASENSO

A national reflection on the PASENSO office has been launched among the Algerian partners. UDL workgroup has already prepared a draft document in French.

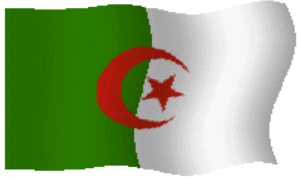
The organizational documents for the PASENSO creation: regulations of structural division and job descriptions will be decided in coordination with all Algerian partners.

# Communication

- We communicate with other Algerian Universities by means of emails, phones and meeting.
- In the other hand, communication with EU partners and Coordinator is mainly conducted by means of emails.

# Additional information





Thank you for you attention!



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