



Periodical Report
18 Months of project
implementation

New Curricula in
Precision Agriculture
Using GIS Technologies
and Sensing Data

**ECOLE NATIONALE SUPERIEURE AGRONOMIQUE
(ENSA, ALGIERS)**



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

Joint Project: Capacity Building in the Field
of Higher Education ERASMUS+ 2018

Dr. Abdelkader LARIBI and ENSA Team

WP 1 : Review of the current curricula (ENSA team)

Short description of the deliverables (see the first draft of uploaded templates)

Computer programming 1, soil properties, cropping system, applied electronic, power and energy in agriculture, English 1, Farm Machinery and Agro-equipment, Geographic Information System (GIS), Machine Design 1, Soil-Plant-Atmosphere Continuum (SPAC), English 2, Tractor and Automotive Engines, Remote Sensing (RS), Machine Design 2, Control and Embedded System and Research methodology.



WP 2 : Update new curricula (ENSA team)

Short description of the deliverables (see the first draft of uploaded templates)

Mathematics of Machine Learning 1, Precision Agriculture, PAGIS Solution Design, Computer Vision (CV-PAGIS), Computer Programming 2, Mathematics of Machine Learning 2, Sensors and Measurements, Machine Learning, Agro-economic and Spatial Analysis, Crop Models, Smart Irrigation, Drones and agriculture, Machine Learning in precision agriculture, and PAGIS- Entrepreneurship Kit-Tools.



WP1 + WP2 : Summary Table for semester 1 (ENSA team)

Code	Curricula	Total Credit
UEF111	Computer Programming 1	30
UEF112	Mathematics of Machine Learning 1	
UEF121	Soil Properties	
UEF122	Cropping system	
UEF123	Applied Electronic	
UEM121	PAGIS - Solution Design	
UEM122	Computer Vision (CV-PAGIS)	
UED111	Power and Energy in Agriculture	
UED112	Precision Agriculture	
UET111	English 1	

WP1 + WP2 : Summary Table for semester 2 (ENSA team)

Code	Curricula	Total Credit
UEF211	Computer Programming 2	30
UEF212	Mathematics of Machine Learning 2	
UEF221	Farm Machinery and Agro-equipment	
UEF222	Geographic Information System (GIS)	
UEF223	Machine Design 1	
UEM211	Sensors and Measurements	
UEM212	Machine learning	
UED212	Soil-Plant-Atmosphere Continuum (SPAC)	
UET211	English 2	
UET212	Agro-economic and Spatial Analysis	

WP1 + WP2 : Summary Table for semester 3 (ENSA team)

Code	Curricula	Total Credit
UEF311	Tractor and Automotive Engines	30
UEF312	Crop Models	
UEF321	Remote Sensing (RS)	
UEF322	Smart Irrigation	
UEF323	Machine Design 2	
UEM311	Control and Embedded System	
UEM312	Machine Learning in precision agriculture	
UED311	Drones and agriculture	
UET311	Research methodology	
UET312	PAGIS - Entrepreneurship Kit-Tools	

WP 3 : Quality control/quality assurance

Due to the COVID-19 pandemic, some project activities could not be completed within the required deadline.

The validation of the content of the new Curricula will be subject first to the peer review and then to an administrative procedure (among other things the approval of the Ministry of Higher Education).



WP 3 : Quality control/quality assurance

Quality indicators have been developed for quality assessment.

For each module, a list of potential peer reviewers have been suggested to conduct a peer review of new/modernized curricula.



A peer review template was developed.



Impact and sustainability

Dissemination in mass media

Dissemination materials: brochure, press book and leaflet

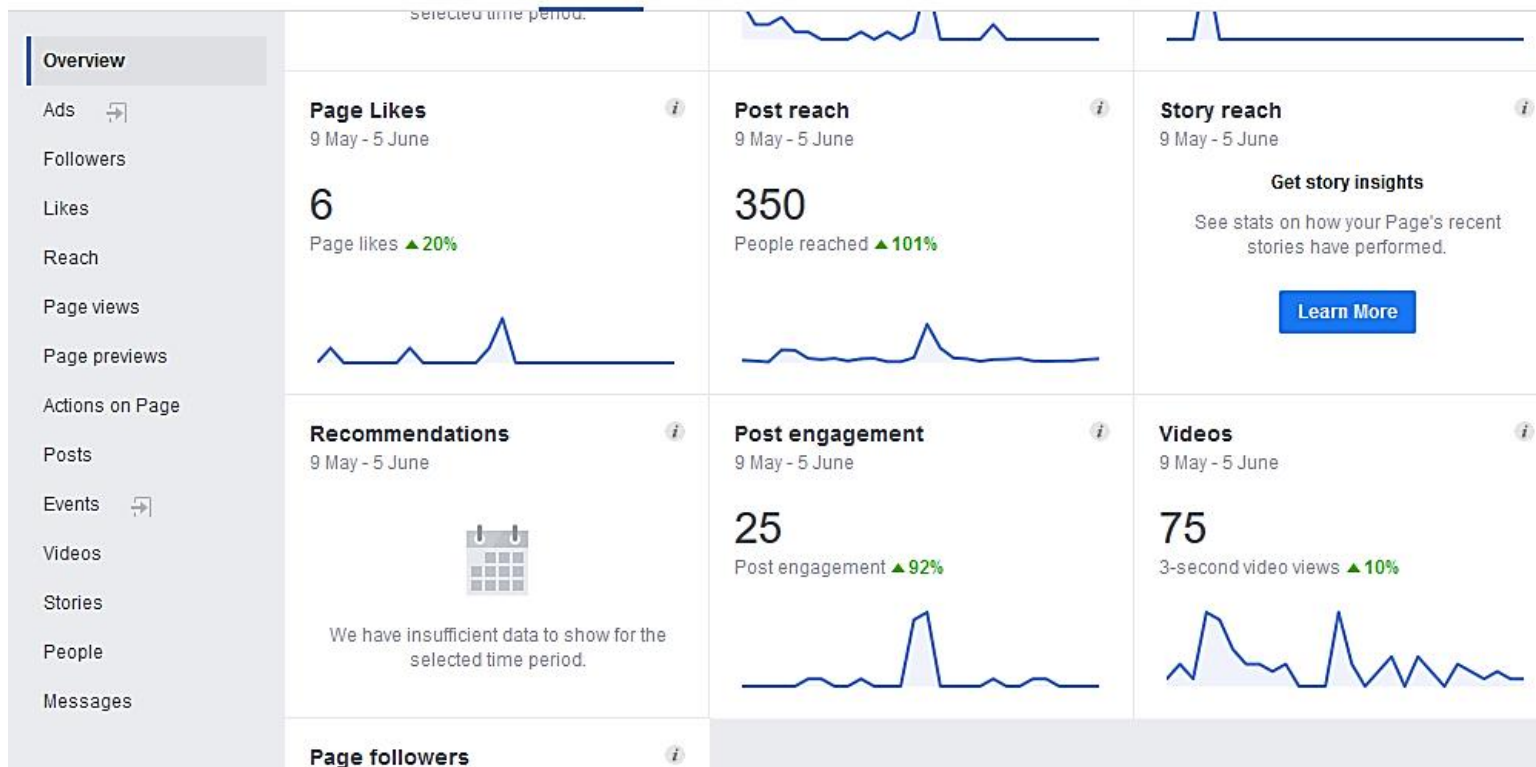
Dissemination event

Planned dissemination activities



WP 4 : Dissemination activities

Facebook

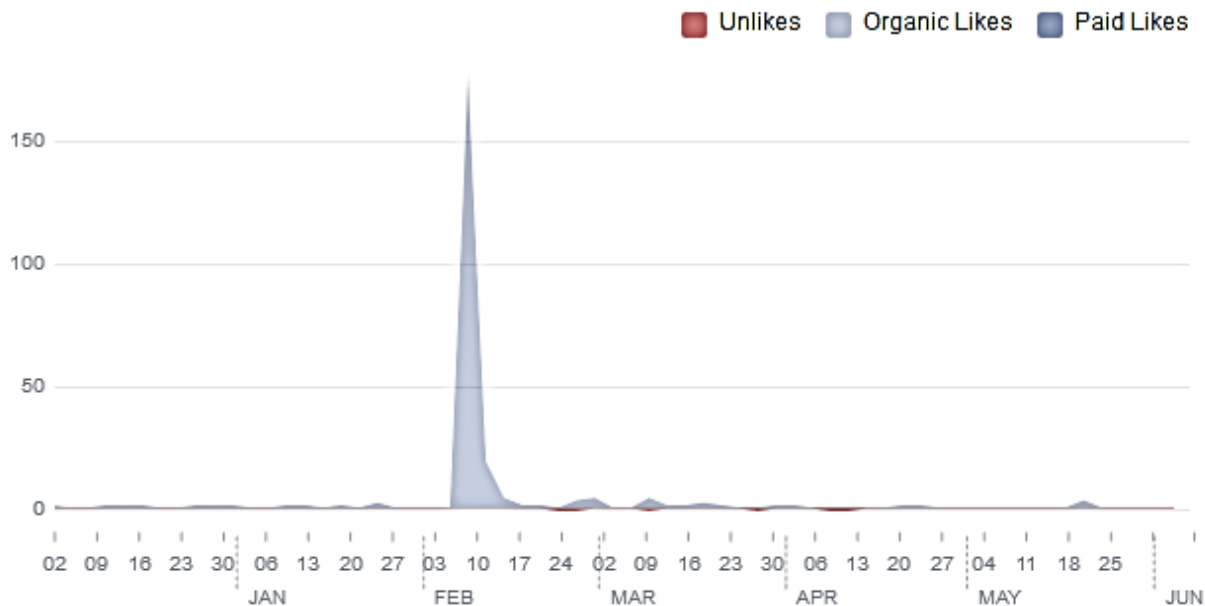


WP 4 : Dissemination activities

Facebook

Page Likes

The number of organic Page likes, paid Page likes and unlikes.

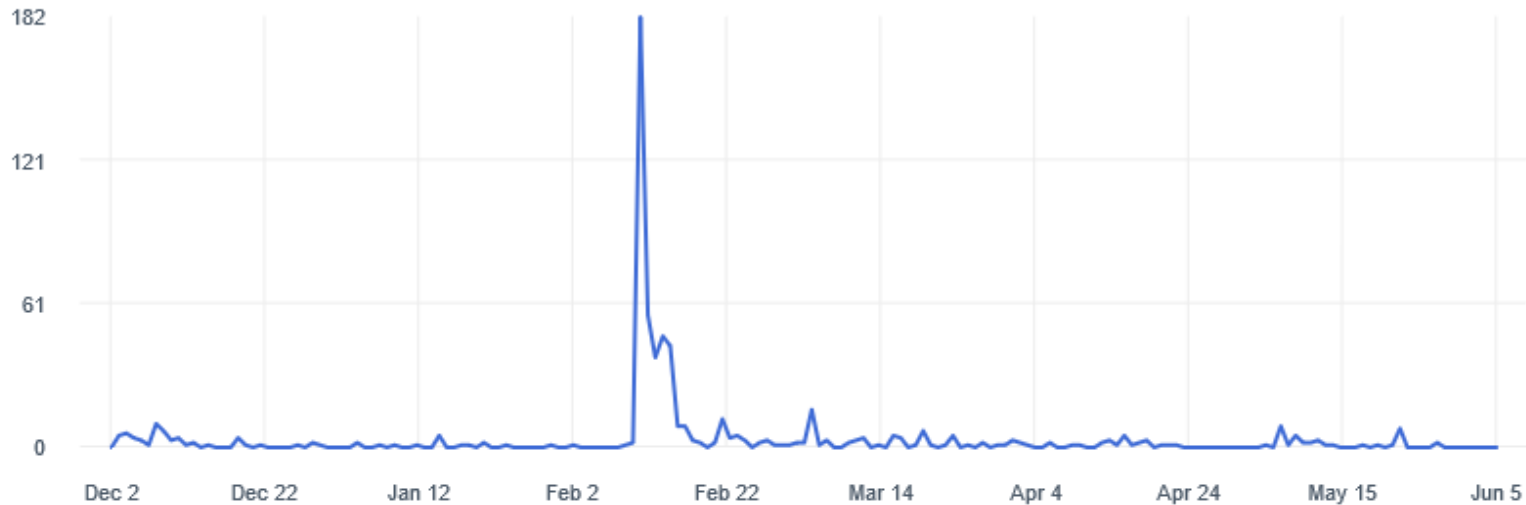


WP 4 : Dissemination activities

Facebook

Total views By section

Total Views

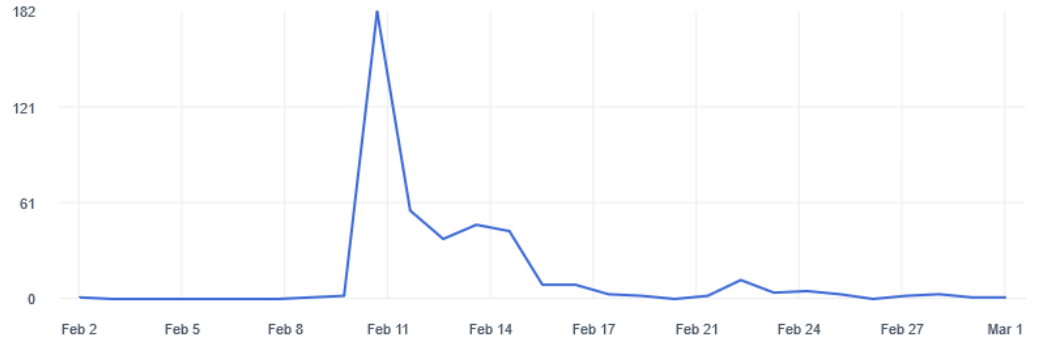


WP 4 : Dissemination activities

Facebook

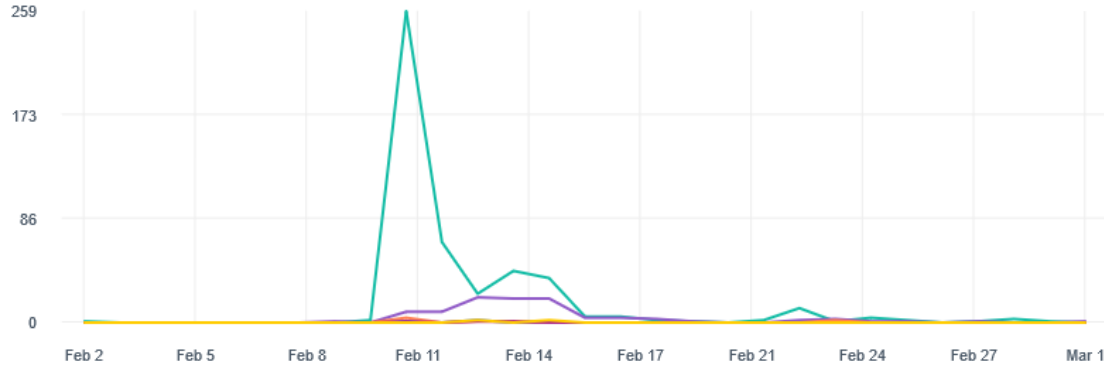
Total views By section

Total Views



Total views By section

Other Home Posts Videos Reviews Community


















WP 4 : Dissemination activities

Facebook

Your 5 Most Recent Posts Create Post

■ Reach: Organic/Paid
 ■ Post clicks
 ■ Reactions, comments & shares ⓘ

Published	Post	Type	Targeting	Reach	Engagement	Promote
24/05/2020 01:34	 Eidkoun Moubarek			140 	5 4 	Boost Post
15/02/2020 18:58	 Selon vous, que faut-il absolument ajouter au Master "Agriculture de			537 	91 43 	Boost Post
11/02/2020 16:01	 please click on the link to follow the complete sequence:			222 	17 10 	Boost Post
11/02/2020 15:54	 CUPAGIS Presentation Dr Laribi - Projet coordinator, ENSA On "UFC			10.5K 	2.1K 584 	Boost Post
09/12/2019 08:56	 International Sympoisum ENSA-KOPIA-INRAA 3rd December, 2019			236 	4 13 	Boost Post

[See All Posts](#)

WP 4 : Dissemination activities

CUPAGIS Project Presentation - International Symposium KOPIA-ENSA-INRAA “Smart Farming”



December 3rd, 2019

- ENSA, Algiers
- KOPIA, South Korea
- INRAA, Algiers

Target audience

**Students, Teachers,
stakeholders,
Ministry**



WP 4 : Dissemination activities

CUPAGIS Project Presentation in a TV documentary on “smart farming”



<https://www.youtube.com/watch?v=j96IXKqcCkg>

**December 24th, 2019
On National TV Channel**

**Large audience
Duration : 3 min in all documentary**



WP 4 : Dissemination activities

Flyer CUPAGIS - ENSA

Planned Project Outputs

- Analysis and upgrade of the current curricula according to the recent advances in the target field
- Develop new curricula incl. learning environment: PAGIS and VCR (Precision Agriculture using GIS Lab and Virtual Classroom)
- Retrain academic teachers in new curricula
- Conduct master classes and pilot teaching/operation of PAGIS and VCR
- Establish joint WEB based platform in full operation
- Established PASENSO with stakeholders support (Precision Agriculture Using Sensing Data Service Office)



New Curricula in Precision Agriculture Using GIS Technologies and Sensing Data



EU Project Management

Prof. Tarmo Soomere - Estonia

ENSA Project Coordinator

Dr. Abdelkader Laribi

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Algeria • Estonia • Bulgaria
Czech Republic • Germany

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Co-funded by the
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WP 4 : Dissemination activities

Flyer CUPAGIS - ENSA

Wider objectives

Improve the quality of higher education and enhance its relevance for the labour market and society, the level of competences and skills in HEIs by developing new and innovative education programs; support the modernisation and internationalisation of the HE in precision agriculture in the targeted Universities in Algeria through innovation of two cycles curricula.

Our Partners

DZ Partners

- Université Djillali Liabes
- Université d'Oran1 Ahmed Ben Bella
- Université Ibn-Khaldoun Tiaret
- Université de Mostaganem
- Ministry of Higher Education and Scientific Research
- SODEA SPA (Agricultural Development Society),

UE Partners

- Tallinn University of Technology, EE
- Agricultural University Plovdiv, AU
- Czech University of Life Sciences, CZ
- Technische Universität Berlin, DE
- EXOLAUNCH (ECM Space Technologies GmbH), DE

CUPAGIS-ENSA Team

- Dr. Abdelkader Laribi, S. Sol, Coordinator
- Dr. Nadjat Benkherbache, P. Végétale
- Dr. Lies Boudhar, GR
- Dr. Réda Delli, GR
- M. Karim Laabassi, GR
- M. Salim Etsouri, GR

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**CUPAGIS
ENSA Team**



WP 4 : Dissemination activities

TV Publication



<https://www.youtube.com/watch?v=j96lXKqcCkg>



UFC TV

3,64 k abonnés • 722 vidéos

Université de la Formation Continue TV.

December 24th, 2019
On National TV Channel

Large audience
Duration : 45min

**Presentation of smart agriculture by the Director
of ENSA**



WP 4 : Dissemination activities

Internet Publication



،شريف صمري يفتتح أشغال الندوة الدولية حول الزراعة الذكية بالمدرسة الوطنية العليا للفلاحة، بالحرش

205 vues • 3 déc. 2019

7 0 PARTAGER ENREGISTRER ...

<https://www.youtube.com/watch?v=vqTkB5FSgDk>

December 3rd, 2019
Minister of Agriculture and Rural Development

Smart agriculture opening seminar

Large audience
Duration : 10min
About KOPIA-ENSA-INRAA



WP 4 : Dissemination activities

Internet Publication



The screenshot displays the BNER website interface. At the top, a green navigation bar contains the ENESA logo and menu items: ACCUEIL, ACTUALITÉS, PRÉSENTATION, MOYENS, SERVICES, RÉALISATIONS, PARTENAIRES, DOCUMENTS, MEDIAS, and CONTACT. Below the navigation bar is a search bar with the text "Recherche..." and a magnifying glass icon. The main content area features a large video player showing a man in a suit speaking at a podium during a symposium. The video title is "Symposium agricole sur l'agriculture intelligente" and the date is "03, December 2019". Below the video player are three small thumbnail images. To the right of the video player is a section titled "ACTUALITÉS RÉCENTES" (Recent News) with three items:

- La mission d'assistance technique et de suivi de la pelouse du stade olympique d'Oran se poursuit**
Mercredi 2020-06-04
- La communication de crise**
2020-06-02
- Aid Moubarek**
2020-05-23

Below the news items is a section titled "CONDOLÉANCES" (Condolences) with the date "Lundi 2020-05-18".

December 4th, 2019
BNEDER
Agricultural Consultancy

<https://bneder.dz/actualites/symposium-agricole-sur-lagriculture-intelligente-5154>

WP 4 : Dissemination activities

Internet Publication



The screenshot shows the top navigation bar of the ENSA website. It includes a home icon, links for 'Plan du site', 'Contacts', and social media icons for Facebook, Twitter, YouTube, LinkedIn, RG, and a search bar labeled 'Recherche ...'. Below the navigation bar is the ENSA logo, which features a stylized book and wheat stalks, with the text 'ENSA' and 'المدرسة الوطنية العليا للزراعة' (Ecole Nationale Supérieure Agronomique) in Arabic and French. To the right of the logo, the text reads: 'RÉPUBLIQUE ALGÉRIENNE DÉMOCRATIQUE ET POPULAIRE', 'MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE SCIENTIFIQUE', 'ECOLE NATIONALE SUPÉRIEURE AGRONOMIQUE', and 'KASDI MERBAH'. Below this is a green navigation menu with dropdown arrows for 'Ecole', 'Graduation', 'Post Graduation', 'Départements', 'Recherche', and 'Relations Extérieures'. At the bottom of the screenshot, a breadcrumb trail reads: 'ENSA » Evénements » International Symposium of December 03, 2019 «Smart Farming»'.

ENSA web site

International Symposium Of December 03, 2019 «Smart Farming»

Syposium ENSA-INRAA-KOPIA December 3, 2019



The screenshot shows a section of the ENSA website with three main navigation options. The top option is 'MESSAGERIE' (Messaging) in an orange box. Below it is a grey box with two options: 'Etudiants' (Students) and 'Enseignants & Personnels' (Teachers & Personnel), each accompanied by an envelope icon. The bottom option is 'E-learning' in an orange box, accompanied by a book icon with an 'E' on it.



<http://www.ensa.dz/international-symposium-of-december-03-2019-smart-farming/>

WP 4 : Dissemination activities

Internet Publication

**For future coming publications, we plan to publish them
on September/October 2020.**

WP 4 : Dissemination activities

Planned dissemination activities

June-July, 2020

Webinar (1)

Press Release (1)

Youtube Channel

for CUPAGIS

September, 2020

Webinar (1)

Opendays (1)

October, 2020

Webinar (1)

Workshop (1)

November, 2020

Webinar (1)

Press Release (1)

WP 4 : Dissemination activities

Link to the project webpage



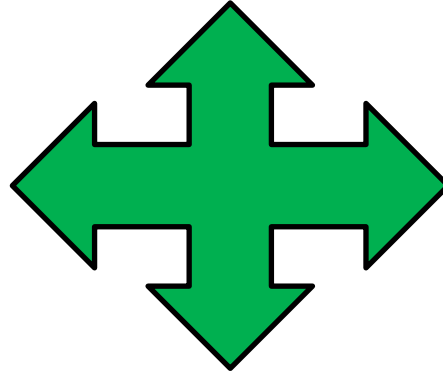
<http://www.ensa.dz/category/cupagis/>

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

<https://www.facebook.com/ENSA.CUPAGIS.Team/>

Adoption of General regulations (signed on May 8, 2020)

Agreement ENSA- Entreprise
Cooperation



- ❖ Training courses and seminars
- ❖ Organisation of newsletters

Service office PASENSO

List of academic partners and organizations

Partners that could be interested :

- **ITGC: Institut Technique des Grandes cultures (ITGC)**
- **Chambre Nationale d'Agriculture d'Algérie (National Chamber of Agriculture)**
- **Le groupe Génie Rural- GGR**
- **Agence Spatiale Algérienne (ASAL)**
- **Groupe valorisation des produits agricoles (Gvapro)**
- **Entreprise Publique Economique PMAT**
- **Direction des services agricoles (DSA)**

List of academic partners and organizations

Partners that could be interested :

- Institut National des sols, de l'irrigation et drainage (INSID)
- Centre de développement des technologie avancées (CDTA)
- Office National de l'irrigation et drainage (ONID)
- Les associations agricoles
- Office Algérien Interprofessionnel des céréales (OAIC)
- Centre de Recherche en Technologies Industrielles (CRTI)

WP 5 : Project Management

Short description of the deliverables

- **Coordination meeting with members of the CUPAGIS project (ENSA team)**
- **Coordination meeting with partners of the CUPAGIS project (Algerian Universities) using zoom platform.**
- **Coordination meeting with partners of the CUPAGIS projects (European Partners) using zoom platform.**
- **Discussion with partners to finalize the equipment list.**



WP 5 : Project Management

Short description of the deliverables

- **Presentation of the CUPAGIS project at International Symposium “smart farming”, ENSA, Algiers.**
- **Presentation of the CUPAGIS project with the UFC media.**
- **Collaboration in the different tasks of the different WP of the project.**



WP 5 : Project Management

Short description of the deliverables

- **Presentation of the CUPAGIS project to the Director of the Technical Institute of field crops (ITGC, Algiers) (on 02/06/2020).**



The ENSA-ITGC agreement is under discussion for signature.





Thank you for you attention!



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