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CUPAGIS

Periodical Report
12 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. Laribi Abdelkader

Work group

N°	Title	Responsible
WP01	Review of the current curricula for BA/MSc	Mrs. BENKHERBACHE Nadjat
WP02	Prepare a set of new core curricula	Mr. LAABASSI Karim
WP03	Strategy Assurance Quality / Quality plan (SAQ/QP)	Mr. DELLI Réda
WP04	Project dissemination and communication plan	Mr. ETSOURI Salim
WP05	Project Management	Mr. LARIBI Abdelkader

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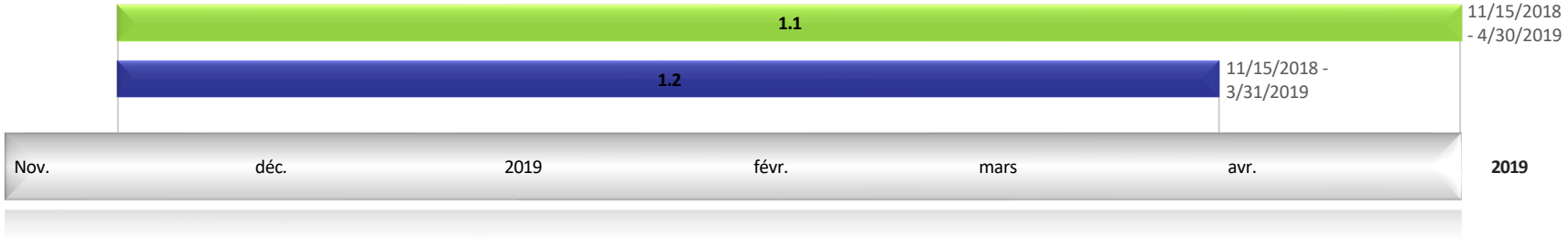
WP1 : (Timeline)

WP1-Timeline



WP01

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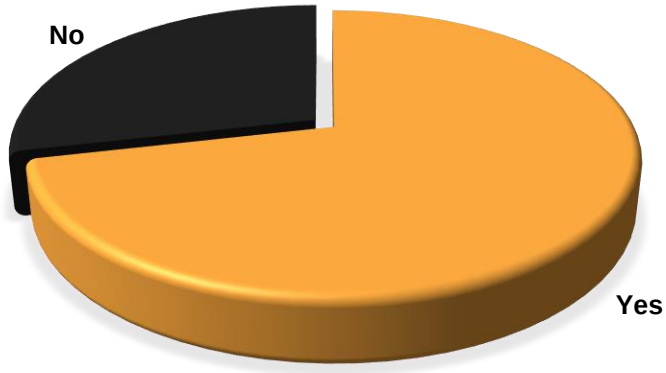
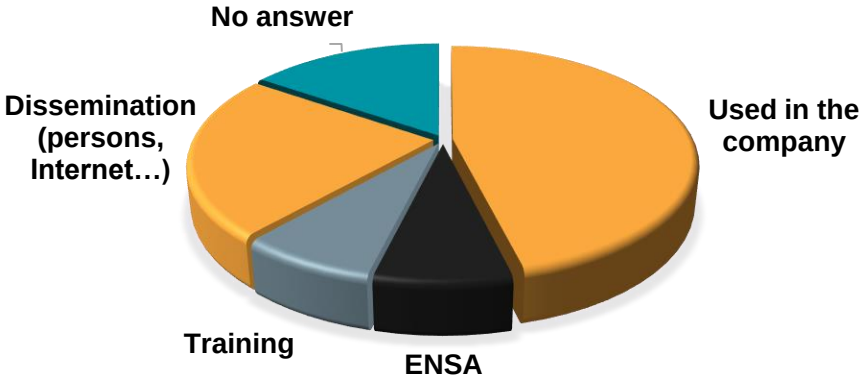
WP 1: Courses to update

Questionnaire for companies interested in the project (non-academic partners)

Most of the tested companies plan to use precision agriculture in their buisness ?



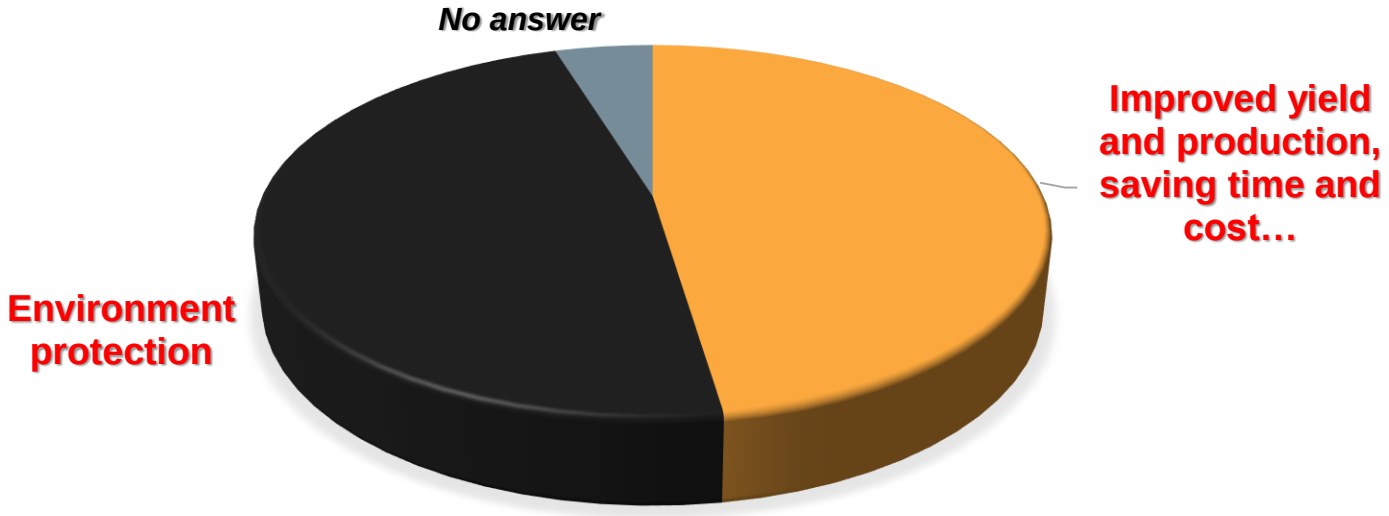
Most of tested companies discovered agriculture precision



WP 1: Courses to update

Questionnaire for interested in project (non-academic partners)

The expected results if the campany use precision agriculture



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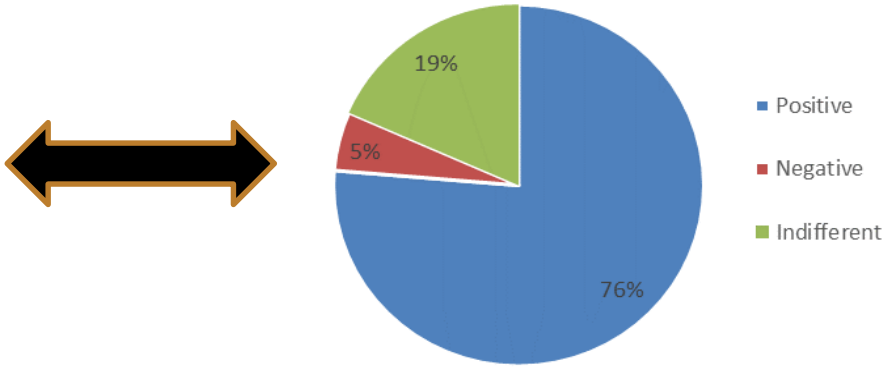
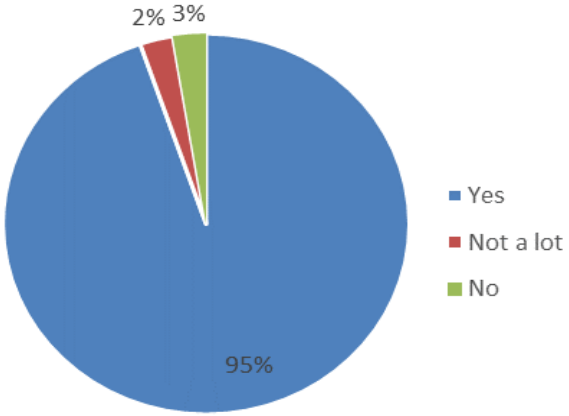
WP1: Courses to update

Questionnaires for students and teachers

The participation of the School in international projects along with the leading European universities is approved by students.





They are interested to get more information about the purpose, objectives and the scope of the CUPAGIS project.

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WP1 : Modules considered in the development of new curricula PA

Existing modules in Water Science Speciality (some examples).

Specialty	Modules	VHG	Credit
Water science	INFORMATION TECHNOLOGY	24	2
Water science	MODELING OF BALANCE MASS	21	2
Water science	TOPOGRAPHY	39	3
Water science	BASICS OF DRAINAGE	42	3
Water science	BASICS OF IRRIGATION	45	4
Water Science	IRRIGATION SYSTEMS	44	4
Water Science	PHOTOINTERPRETATION AND REMOTE SENSING	30	2
Water Science	HYDRAULIC MACHINES	46	4
Water Science	IRRIGATION CONTROL	30	2
Water Science	GEOGRAPHIC INFORMATION SYSTEM (GIS)	30	2
Water Science	GEOSTATISTIC	15	1

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WP1 : Modules considered in the development of new curricula PA

Existing modules in Machinery Specialty (some examples).

Specialty	Modules	VHG	Credit
Machinery	RESISTANCE OF MATERIALS	60	5
Machinery	ELECTRONIC	30	2
Machinery	ELECTROTECHNIC	45	4
Machinery	AUTOMATISM	30	2
Machinery	DIMENSIONAL ANALYSIS AND THEORY OF MODELS	18	1
Machinery	AGRICULTURAL MACHINERY I	75	6
Machinery	AGRICULTURAL MACHINERY II	30	2
Machinery	HYDRAULICS OF AGRICULTURAL MACHINERY	30	2
Machinery	TESTING AND OPTIMIZATION OF AGRICULTURAL COUPLINGS	60	5
Machinery	MAINTENANCE AND REPAIR	45	4

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WP1 : Modules considered in the development of new curricula PA

Existing modules in Soil Science Specialty (some examples).

Specialty	Modules	VHG	Crédits
SOIL SCIENCE	PHOTO-INTERPRETATION AND REMOTE SENSING	45	4
SOIL SCIENCE	BIOMETRY	45	4
SOIL SCIENCE	BIOCLIMATOLOGY	30	2
SOIL SCIENCE	FERTILIZATION	90	6
SOIL SCIENCE	SOIL MAPPING	60	5
SOIL SCIENCE	SOIL PHYSIC	60	5

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WP1 : Courses to update

National Higher School of Agronomy delivers an engineering and Master degrees in agronomy.

At present, the master degree is subject to additional training of 200 hours (Order N 272).

The update of the current curricula will depend on updating programs at the National Higher School of Agronomy.

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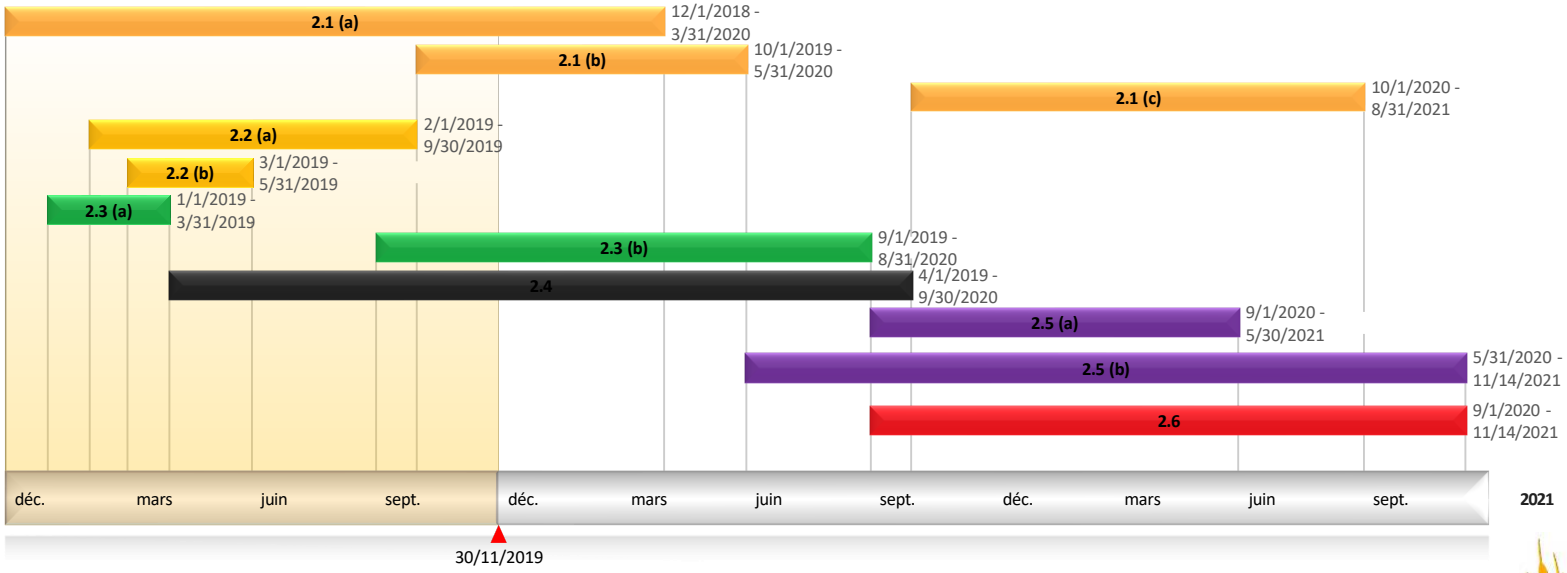
WP2: Timeline

WP02 - Timeline



WP02

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WP 2 : Prepare a set of new core curricula

Speciality

Agricultural Engineering

Master

Water sciences | Agro equipment science and technology

Master (200 h)

Precision Agriculture Using GIS Technologies and Sensing Data

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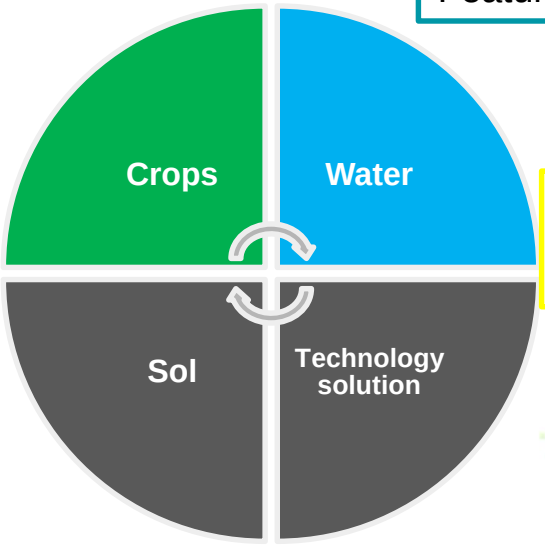
WP 2 : Prepare a set of new core curricula

Ideas about new core curricula

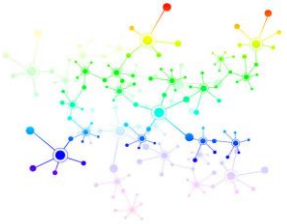
In progress

Featuring/ Sensing/ Extracting/ Interpretation/ Modelling

Execution mode



Interaction and relationship C.S.W.TS.



- Remote sensing
  - ➢ Near sensing (or Near-Field Sensing, sensors technology),
- GPS and Geo-referencing or object localisation.
- Computer Vision (Image analysis kits)
  - ➢ Signal analysis.
- Data sciences.
- Machine learning.

- Mechanism and artefacts engineering (machinery, agro-smart-equipment and robotics).
- Soft Skills

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Knowledge platform

Training process

WP 2 : Prepare a set of new core curricula

DRAFT ON THE NEW CURRICULA

IDEAS ABOUT NEW CURRICULA

Title of the possible new course	Name of the person(s) responsible for developing	ECTS and hours for lecture/practical work
Python programming	LIES BOUDHAR	**2ECTS /45 h hours for lecture**
Remote Sensing In agriculture	ABDELKADER LARIBI	**2ECTS/55 h**
Basics of the Precision agriculture	REDA DELLI	**1 ECTS/35 h**
Sensors for Agriculture and Iot	LIES BOUDHAR SALIM ETSOURI	**1 ECTS/ 30 h**
Research methodology	NADJAT BENKHERBACHE	**1 ECTS/15 h/**
Start-up initiatives in precision agriculture	KARIM LAABASSI	**1 ECTS/20 h**

The opinion of the European partners on this first draft is essential so that we can develop the new Curricula.

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WP 2 : Prepare a set of new core curricula

Stat : ***In progress***

Documentation for PAGIS and VCR

We are still waiting from P5 the typical layout and basic requirements for PAGIS and VCR rooms.

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WP2 : Prepare a set of new core curricula

PASENSO

Opportunities have been discussed and the creation of an evolving format has been chosen to meet project and school-related objectives.

We are always waiting for more details on the experiences of the European partners in this matter.

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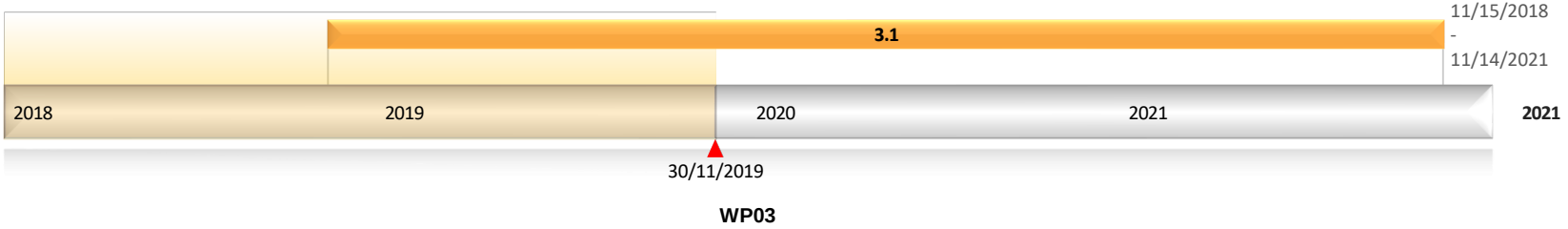
WP 3 : Quality Assurance Plan

WP03 - Timeline

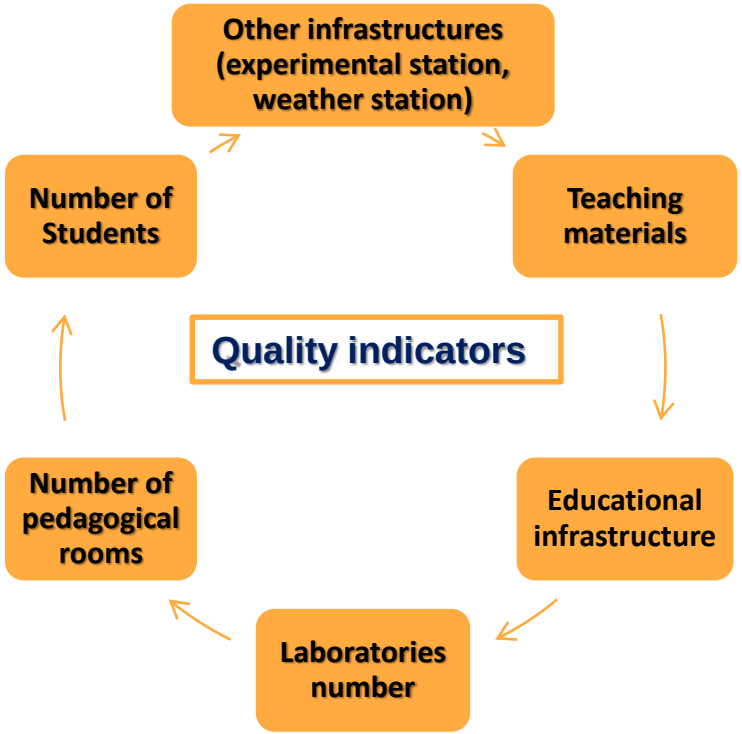


WP 3 : Quality Assurance Plan

List of the Quality indicators “Level of teaching ”

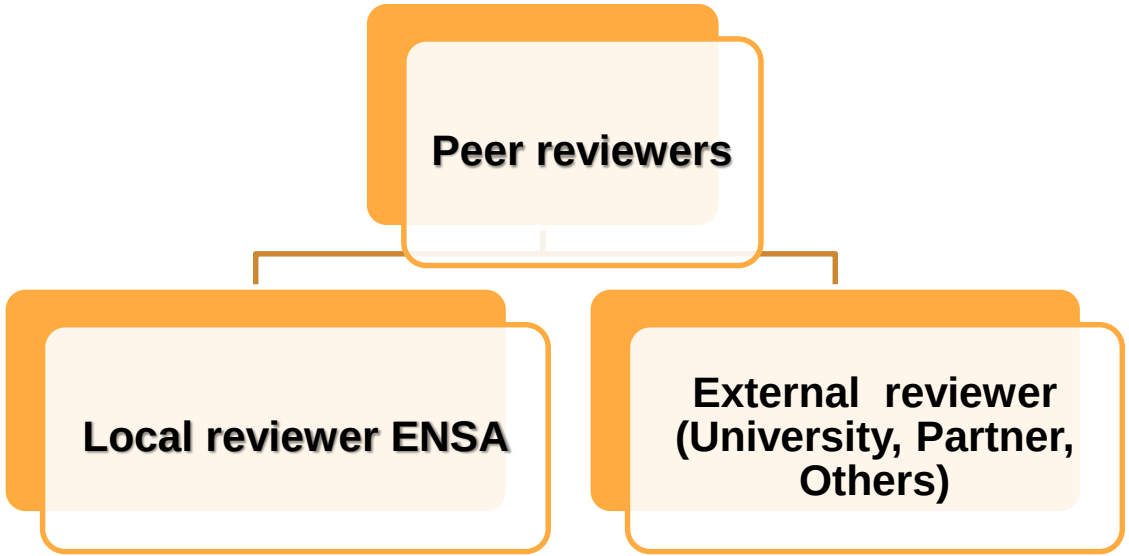
WP 3 : Quality Assurance Plan

List of the Quality indicators “Teaching materials and classrooms “



WP 3 : Quality Assurance Plan

List of possible peer reviewers of the future new curricula



WP3 : Quality Assurance Plan

The work plan of Quality group until May 2020

D J F M A M

List of peer reviewers

sending the peer review template

Deadline for the expert’s peer review and if possible the expert’s conclusion

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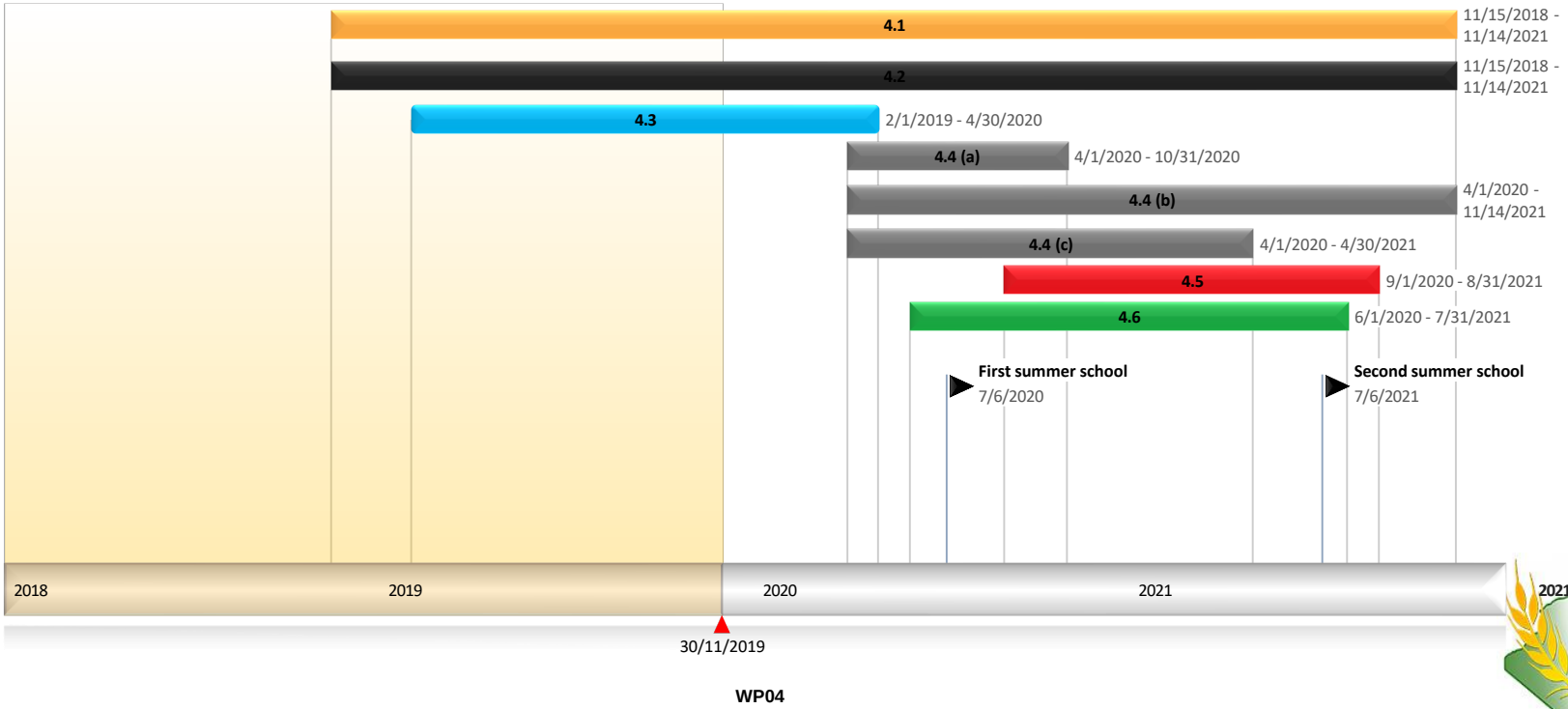
WP 4 : Implemented dissemination activities

WP04 - Timeline



WP 4 : Dissemination activities

ENSA website

http://www.ensa.dz/

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

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WP 4 : Dissemination activities

Research Gate

Follow us on research gate to find out the project news.

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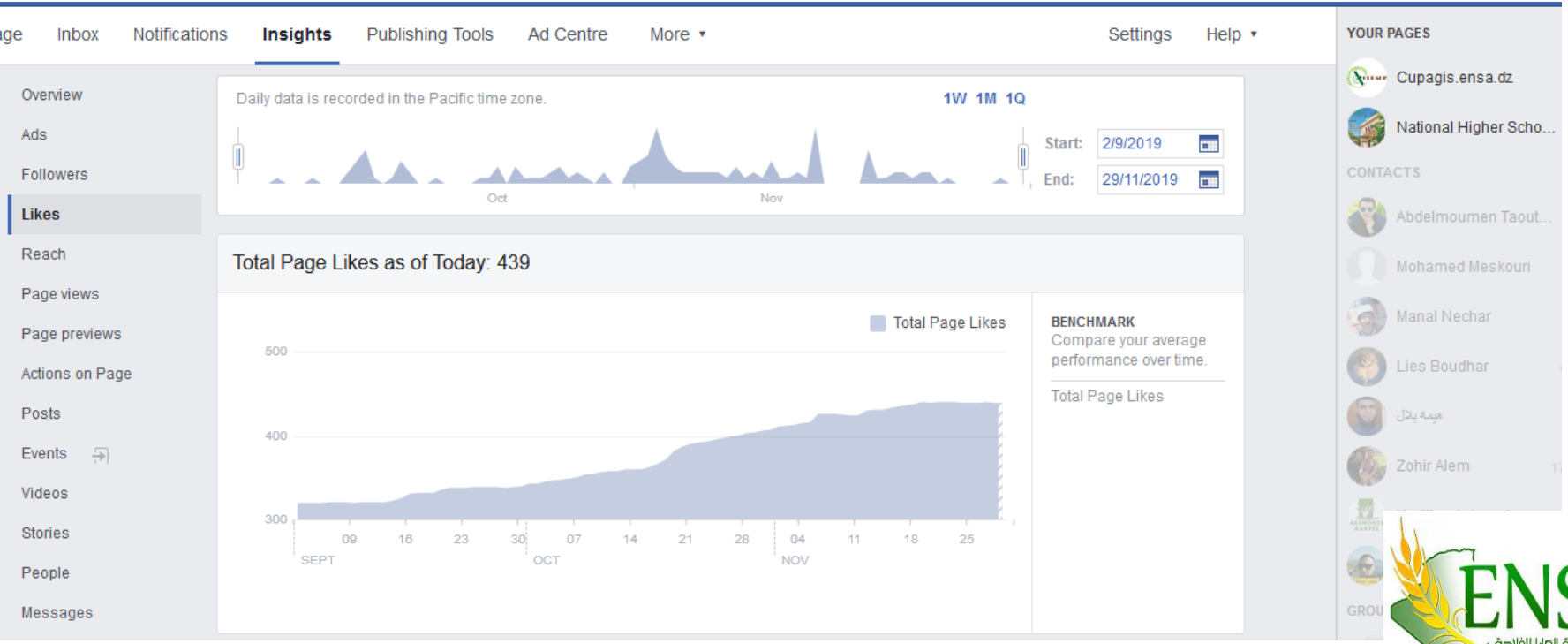
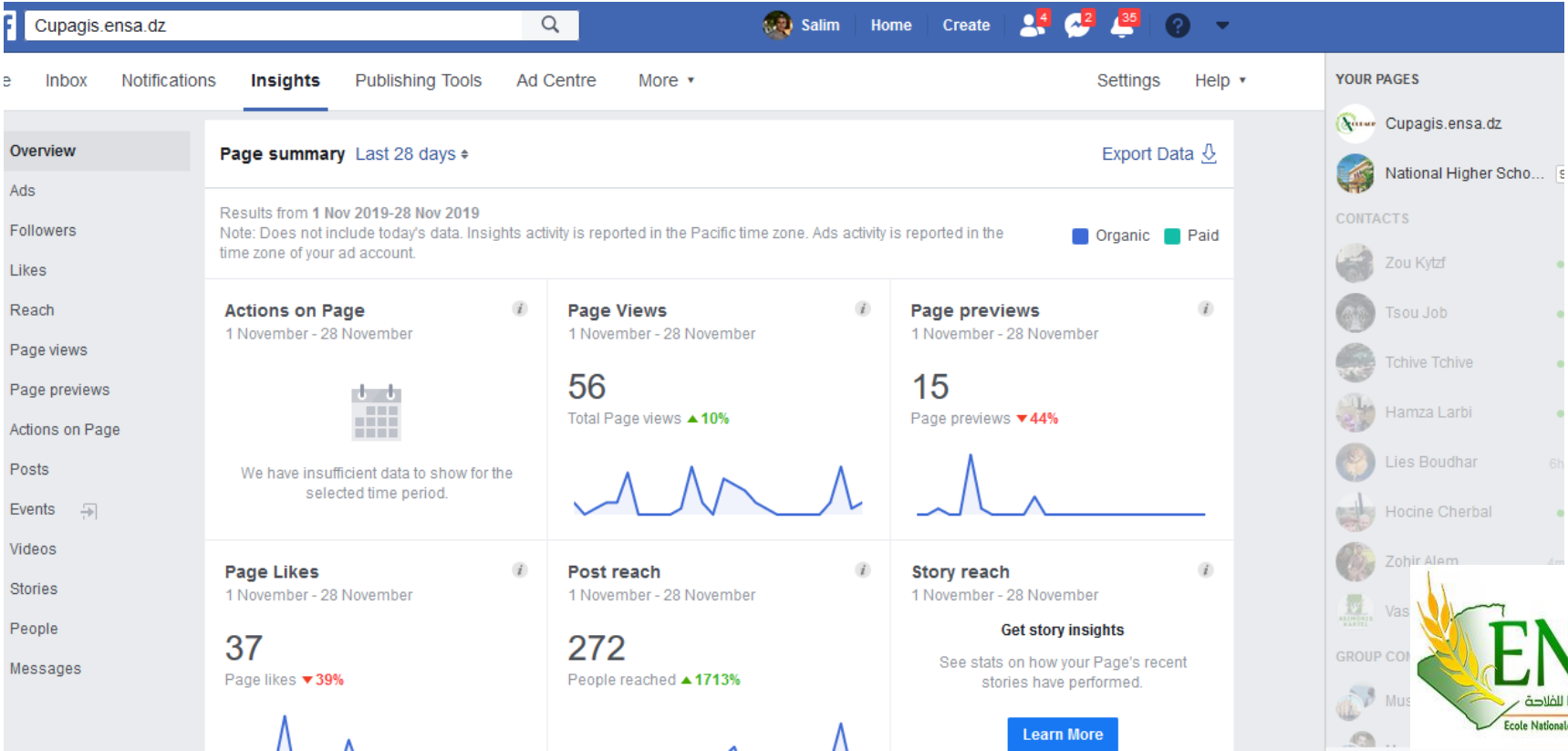
WP 4 : Dissemination activities

Facebook



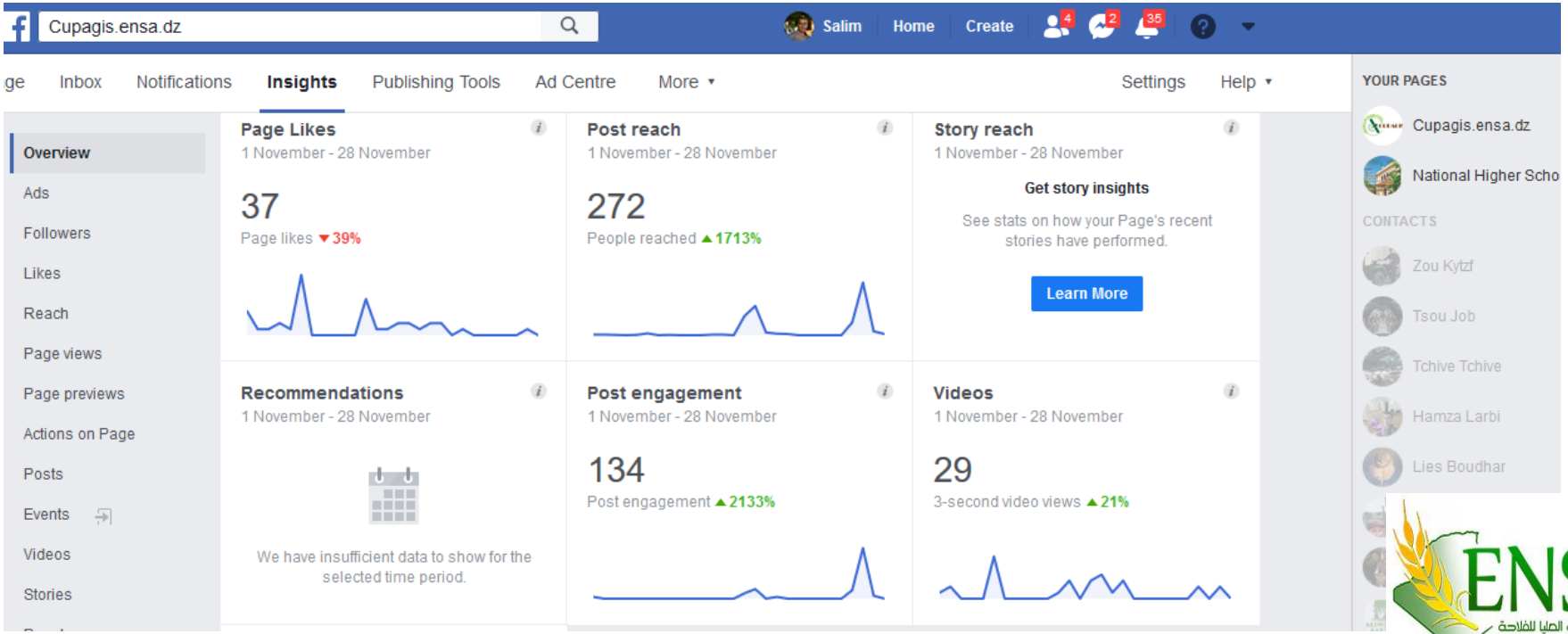
WP 4 : Dissemination activities

Facebook



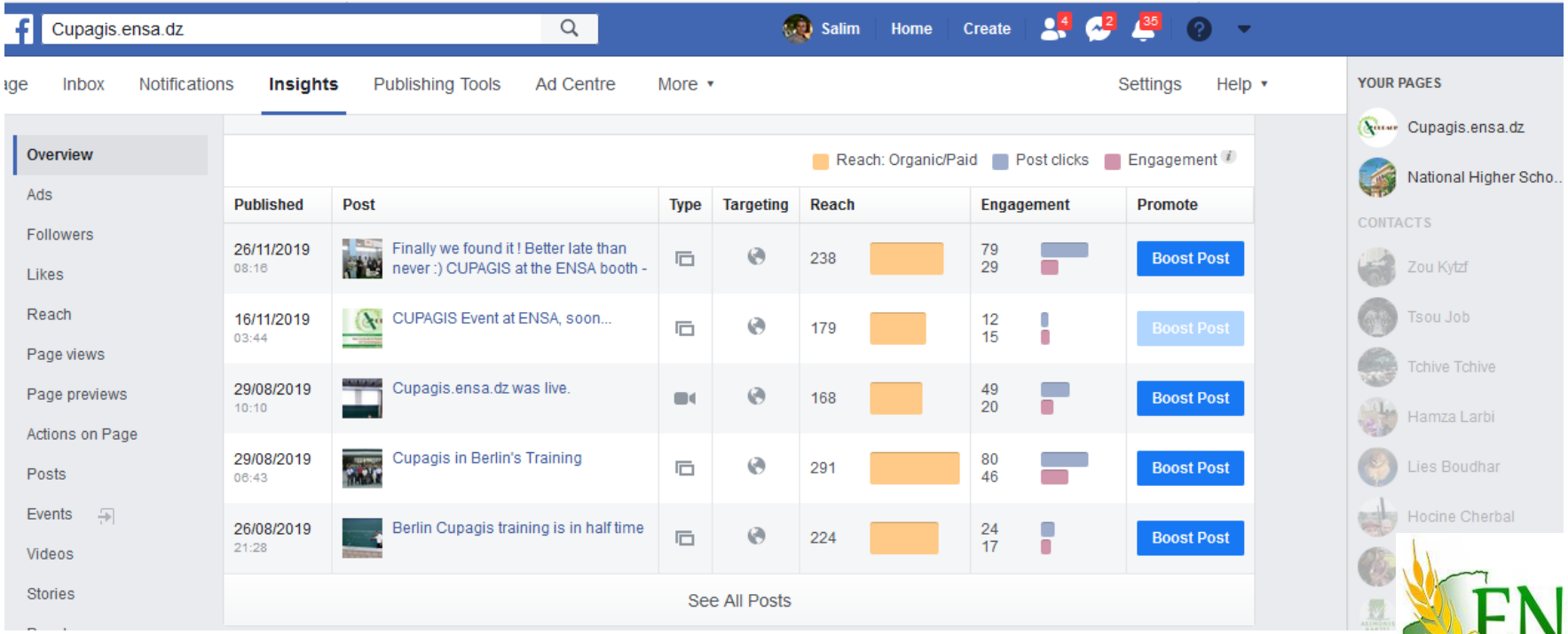
WP 4 : Dissemination activities

Facebook



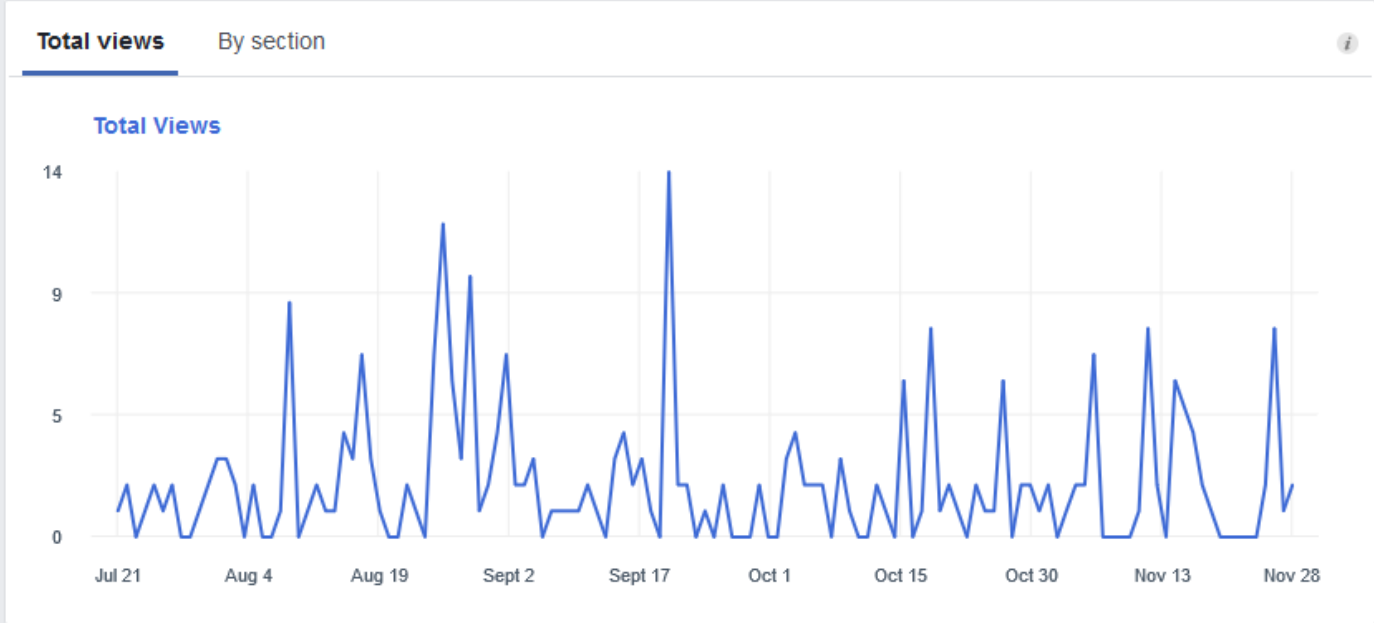
WP 4 : Dissemination activities

Facebook



WP 4 : Dissemination activities

Facebook



WP 4 : Implemented dissemination activities

Media

On YouTube

We have an appointment with UFC
(Continuous Training University)

A program broadcast on the National TV Channel

WP 4 : Implemented dissemination activities

Media

https://maghrebemergent.info/

On YouTube

We have an appointment (from January) with MAGHREB EMERGENT

An online newspaper and online Radio

WP 4 : Implemented dissemination activities

- **We also participated in the International Agricultural Fair SIPSA FILAHA, Algiers (7- 10 October 2019 2019).**

SIPSA® FILAHA
SALON INTERNATIONAL DE L'AGRICULTURE, DE L'ÉLEVAGE ET DE L'AGROÉQUIPEMENT
07>10 OCTOBRE 2019
ALGER - ALGÉRIE
PALAIS DES EXPOSITIONS - SAFEX
THE ALGERIAN AGRIBUSINESS SHOW

https://www.sima-sipsa.com/404.html

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WP 4 : Implemented dissemination activities

Event

Due to the current administrative schedule, we postpone to January our open day and workshop scheduled for before 31th December.

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WP 4 : Implemented dissemination activities

Event

In addition to the information shared between the members of the project, we also plan to make a restitution of the TU-Berlin training as the progress of the project either during the next ENSA Scientific Council or in another similar event.

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WP 4 : Implemented 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/

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Application in progress

Feedback from Exolaunch

- **In addition to the list of suggested equipment from Exolaunch (former ECM technology) we requested other equipment related to precision farming such as : DJI Phantom 4 Multispectral, Didactic kit of sensor modules for Arduino / Raspberry Pi Education-DUO and Autonomous weather station with wifi communication).**

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Thank you for you attention!

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