



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

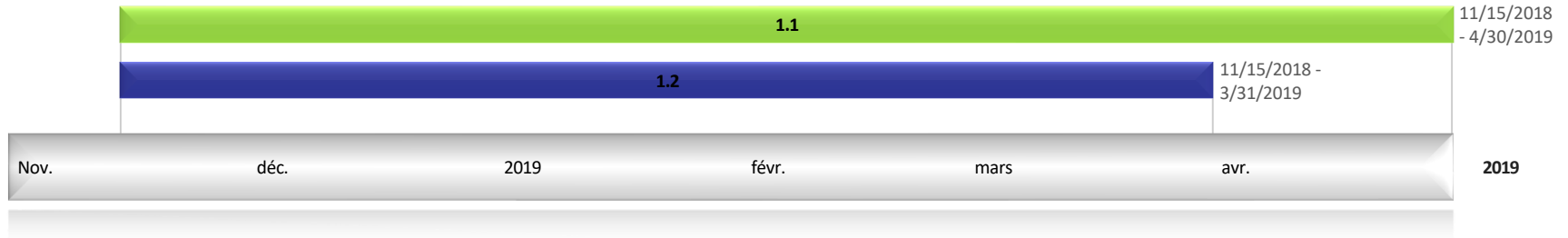
Work group

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



WP1 : (Timeline)

WP1-Timeline

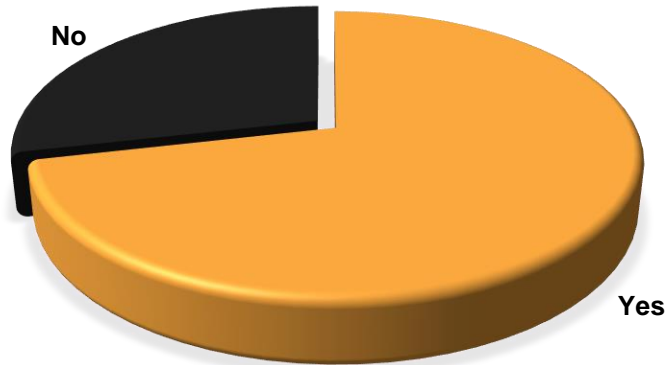


WP01

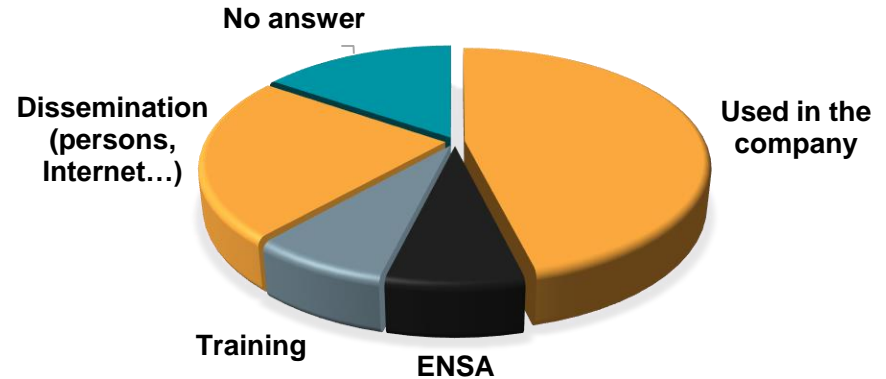
WP 1: Courses to update

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

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



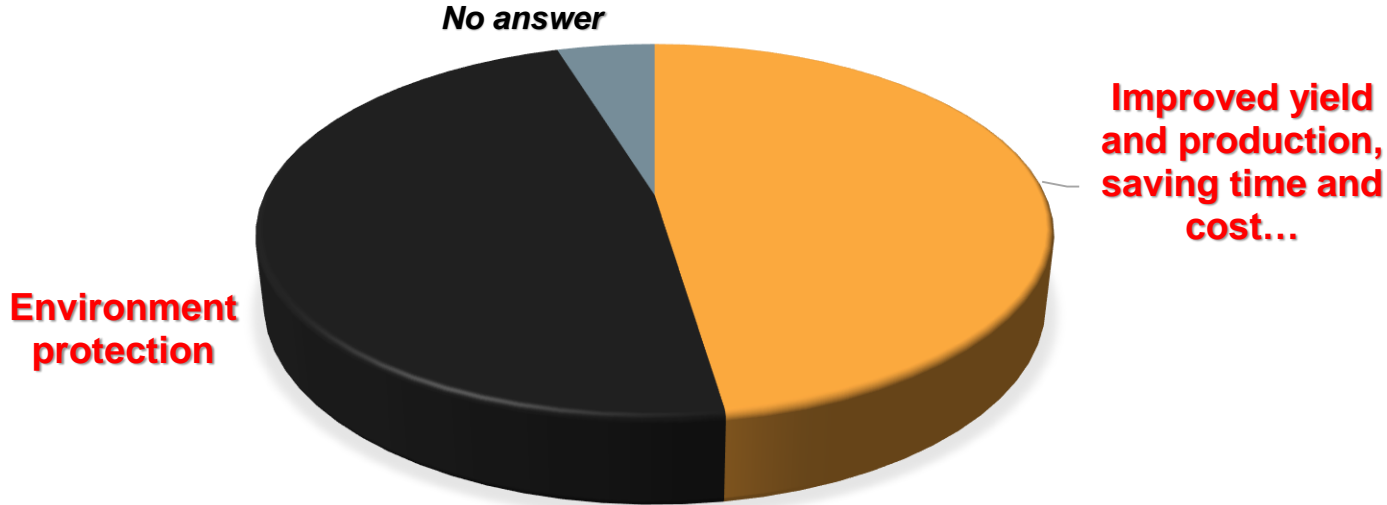
Most of tested companies discovered agriculture precision



WP 1: Courses to update

Questionnaire for interested in project (non-academic partners)

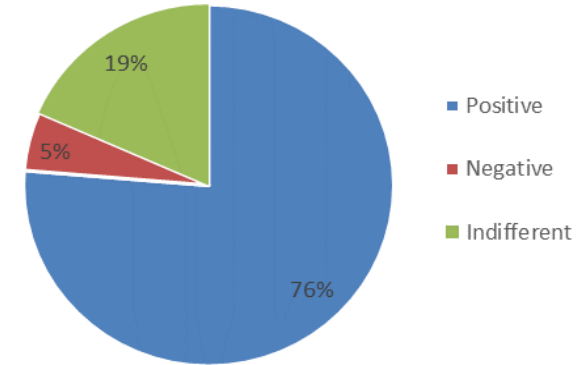
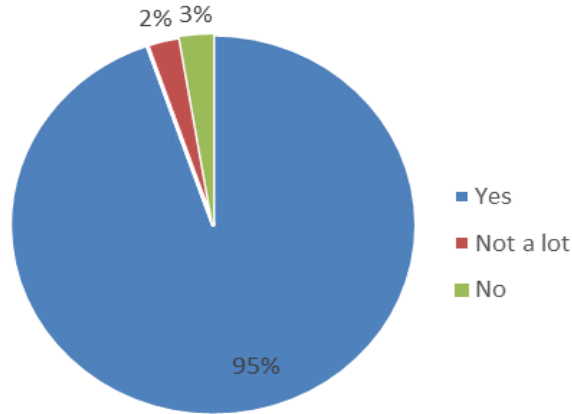
The expected results if the company use precision agriculture



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.

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



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



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



WP1 : Courses to update

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



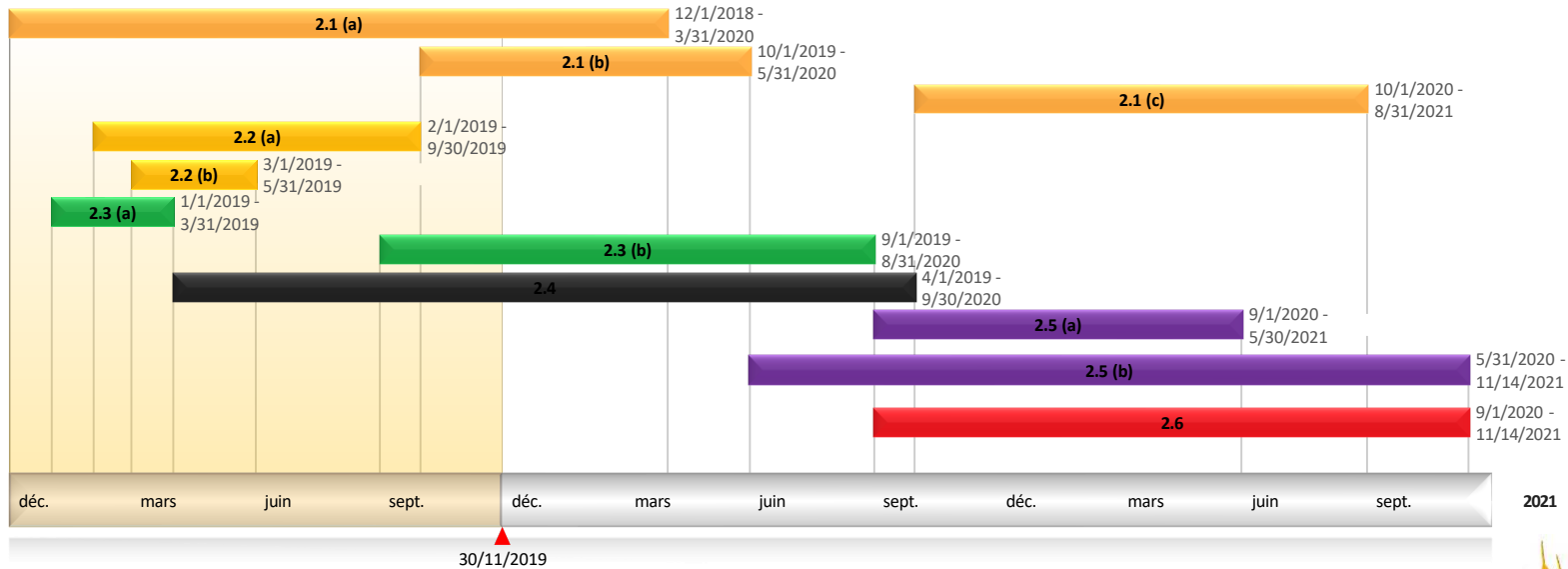
At present, the master degree is subject to additional training of 200 hours (Order N 272).



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

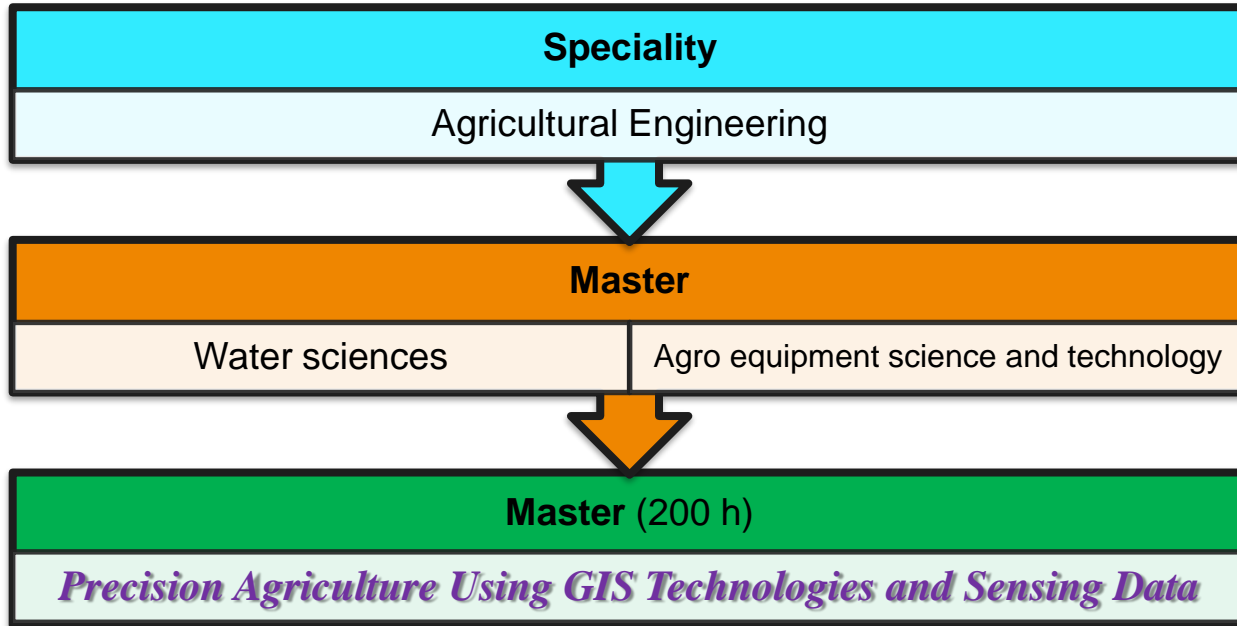
WP2: Timeline

WP02 - Timeline



WP02

WP 2 : Prepare a set of new core curricula

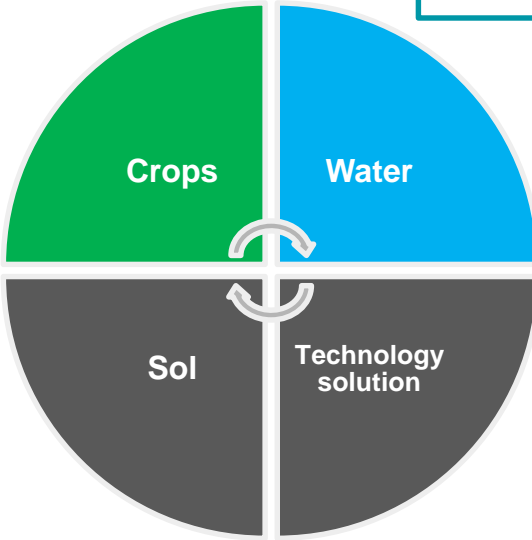


WP 2 : Prepare a set of new core curricula



Ideas about new core curricula

Featuring/ Sensing/ Extracting/ Interpretation/ Modelling



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.

In progress

Execution mode

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



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 lot	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.

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.

WP2 : Prepare a set of new core curricula

PASENSO

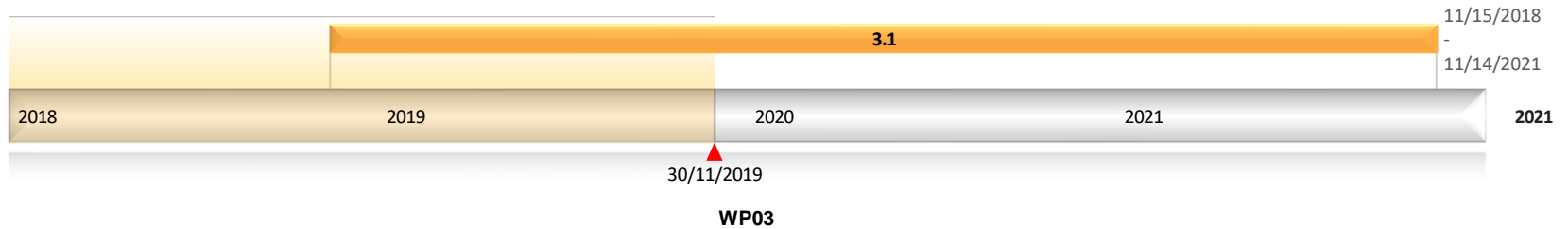
Opportunities have been discussed and the creation of an evolving format has been chosen to meet project and school-related objectives.



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

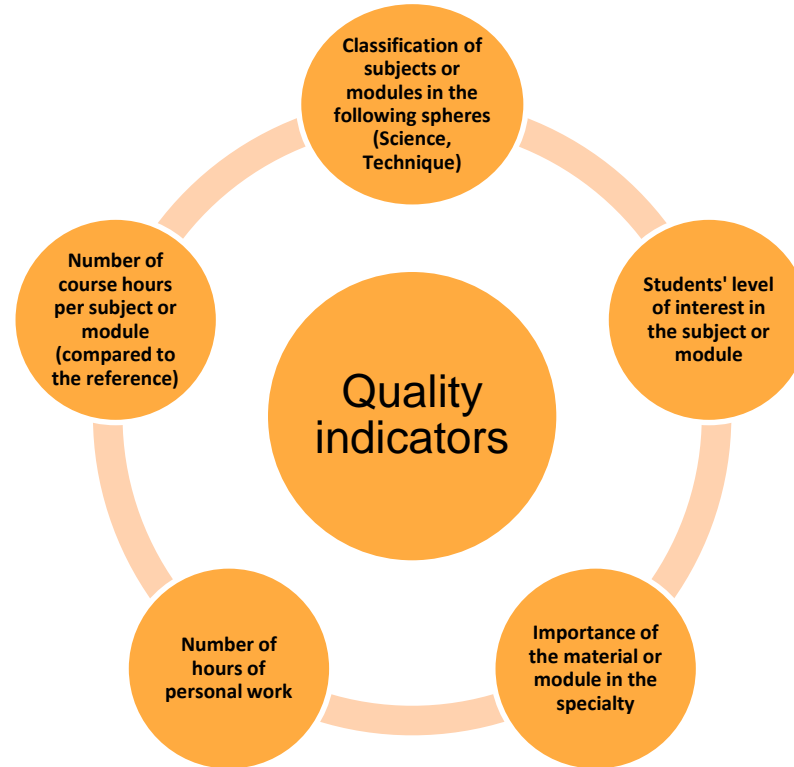
WP 3 : Quality Assurance Plan

WP03 - Timeline



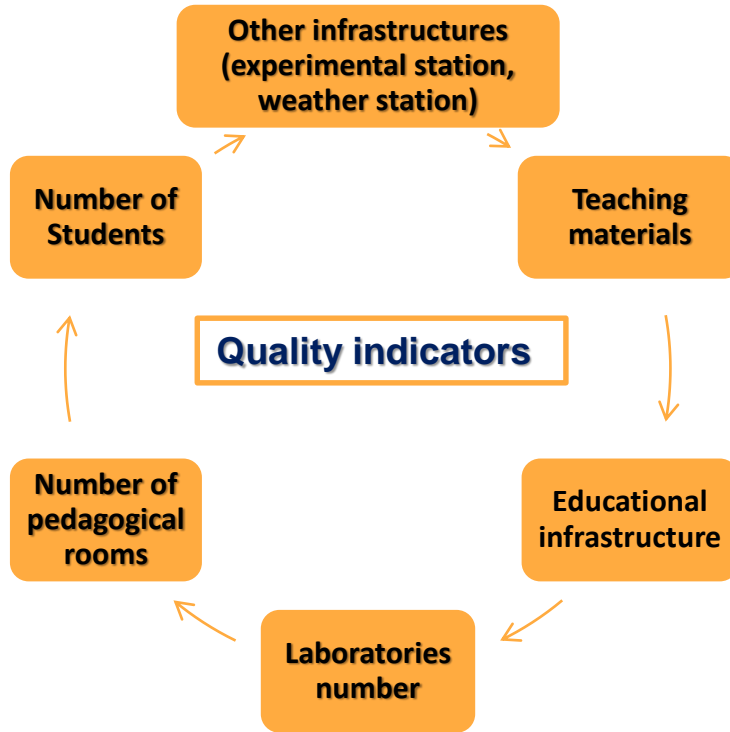
WP 3 : Quality Assurance Plan

List of the Quality indicators “Level of teaching ”



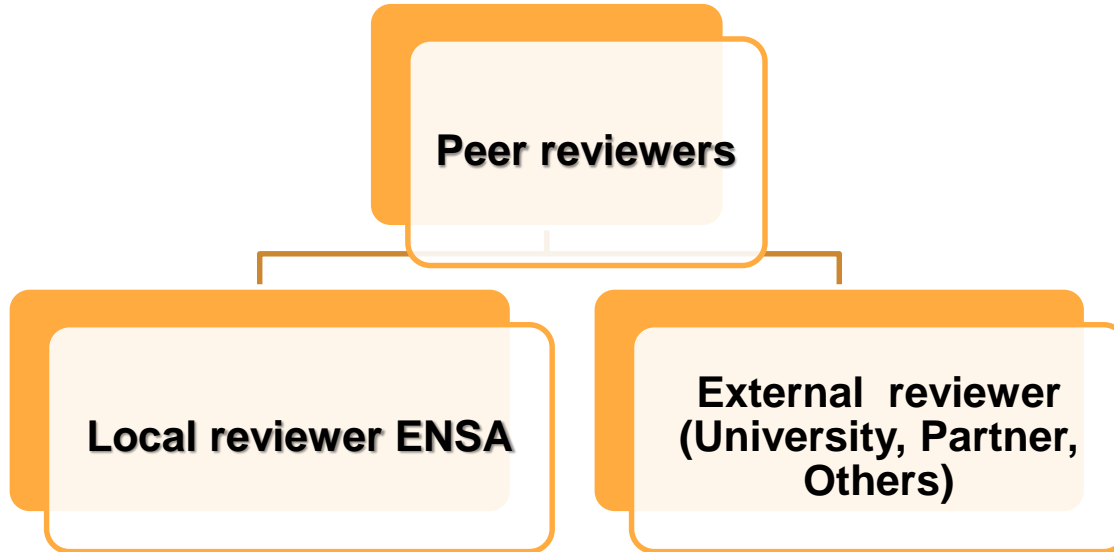
WP 3 : Quality Assurance Plan

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



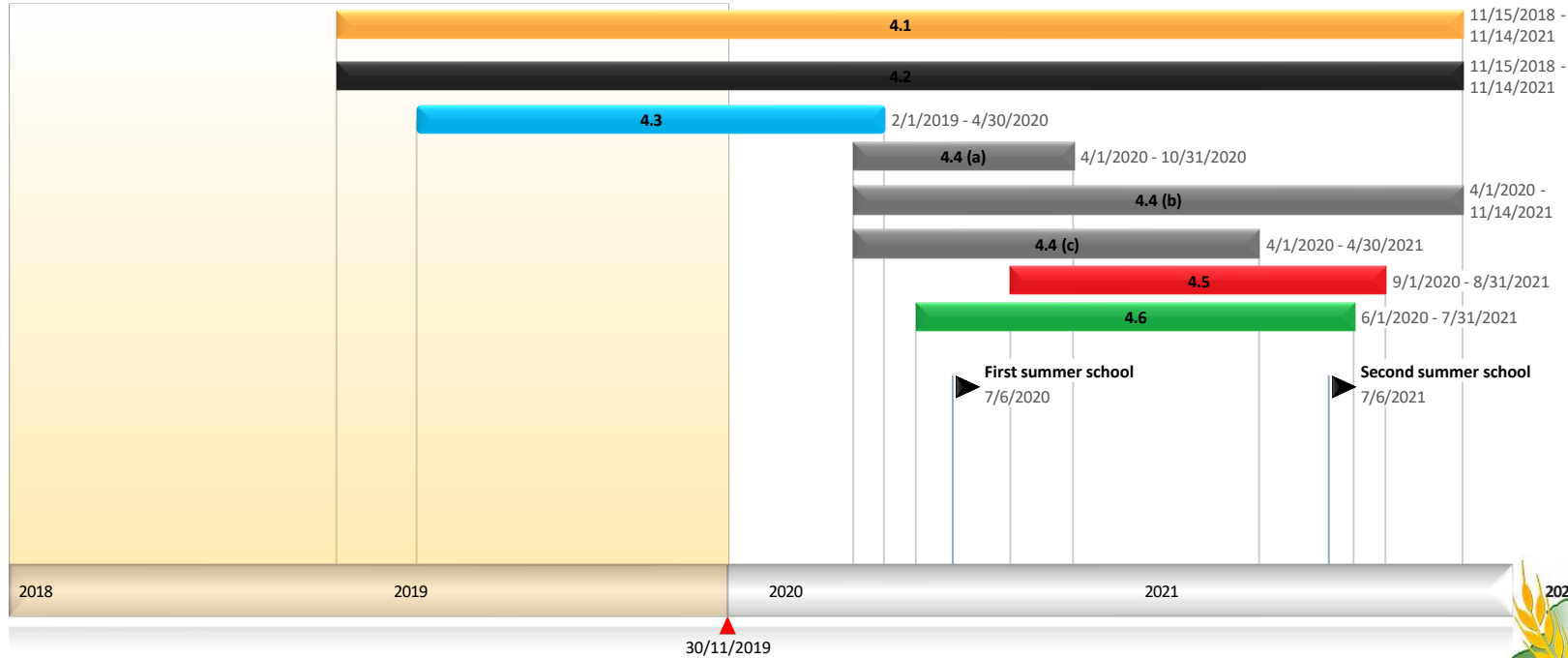
List of peer reviewers

sending the peer review template

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

WP 4 : Implemented dissemination activities

WP04 - Timeline



WP04

WP 4 : Dissemination activities

ENSA website



The screenshot shows the top part of the ENSA website. At the top, there is a green navigation bar with icons for home, a list of links (Annuaire des Enseignants, Plan du site, Contacts), social media icons (Facebook, Twitter, YouTube, LinkedIn, RG), and a Uni-Rank logo. Below this is the ENSA logo, which features a stylized green and yellow map of Algeria with wheat stalks, and the text 'ENSA' in large green letters. Underneath the logo is the text 'المدرسة الوطنية العليا للفلاحة' and 'Ecole Nationale Supérieure Agronomique' with the year '1905'. To the right of the logo, there is a vertical orange line followed by the text 'RÉPUBLIQUE ALGÉRIENNE DÉMOCRATIQUE ET POPULAIRE', 'MINISTÈRE DE L'ENSEIGNEMENT SUPÉRIEUR ET DE LA RECHERCHE', 'ECOLE NATIONALE SUPÉRIEURE AGRICOLE', and 'KASDI MERBAH'. Below the logo and text is a green navigation menu with dropdown arrows for 'Ecole', 'Graduation', 'Post Graduation', and 'Départements'. At the bottom of the screenshot, there is a grey breadcrumb trail showing 'ENSA » CUPAGIS'.

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

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

CUPAGIS



Projet ERASMUS+CUPAGIS

29 mai 2019

New Curricula in Precision Agriculture Using GIS Technologies and Sensing... [Lire la suite »](#)



WP 4 : Dissemination activities

Research Gate

The screenshot shows a web browser window with the following elements:

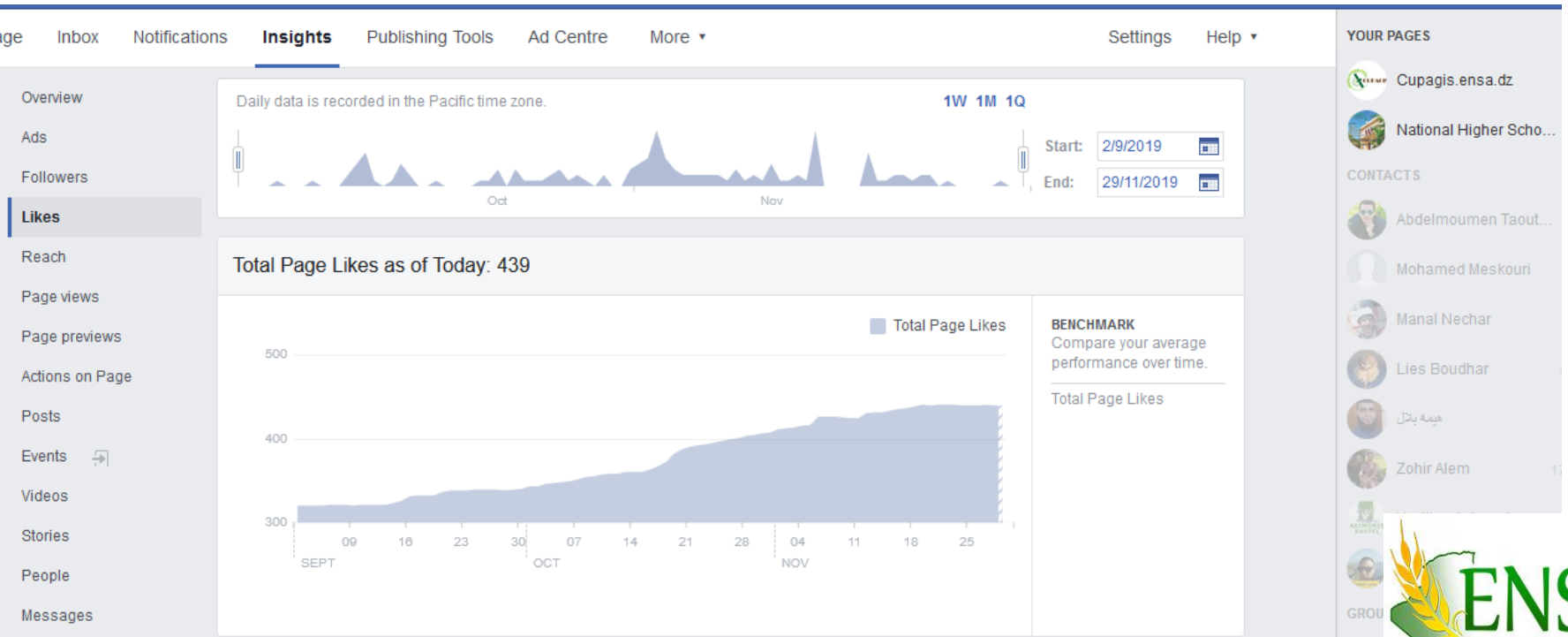
- Browser tabs: Agri X +
- Address bar: <https://www.researchgate.net/project/New-Curricula-in-Precision-Agriculture-using-GIS-technolog...>
- Search bar: Rechercher
- Navigation bar: Gmail, www.ensa.dz, Dreamstime, Google Scholar, Research Gate, Catalogue bibliothèqu..., Openclassrooms, PKP SIGRE'2018, FabLab Group
- Project title: **New Curricula in Precision Agriculture using GIS technologies and sensing data (CUPAGIS)**
- Collaborators: Benkherbache Nadjat · abdelkader laribi · Salim Etsouri · [Show all 6 collaborators](#)
- Goal: New Curricula in Precision Agriculture using GIS technologies and sensing data (CUPAGIS) <https://www.cupagis.eu/index.php/about/project-summary>
- Statistics:
 - Updates: 0 new 0
 - Recommendations: 0 new 0
 - Followers: 0 new 1
 - Reads: 1 new 3

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



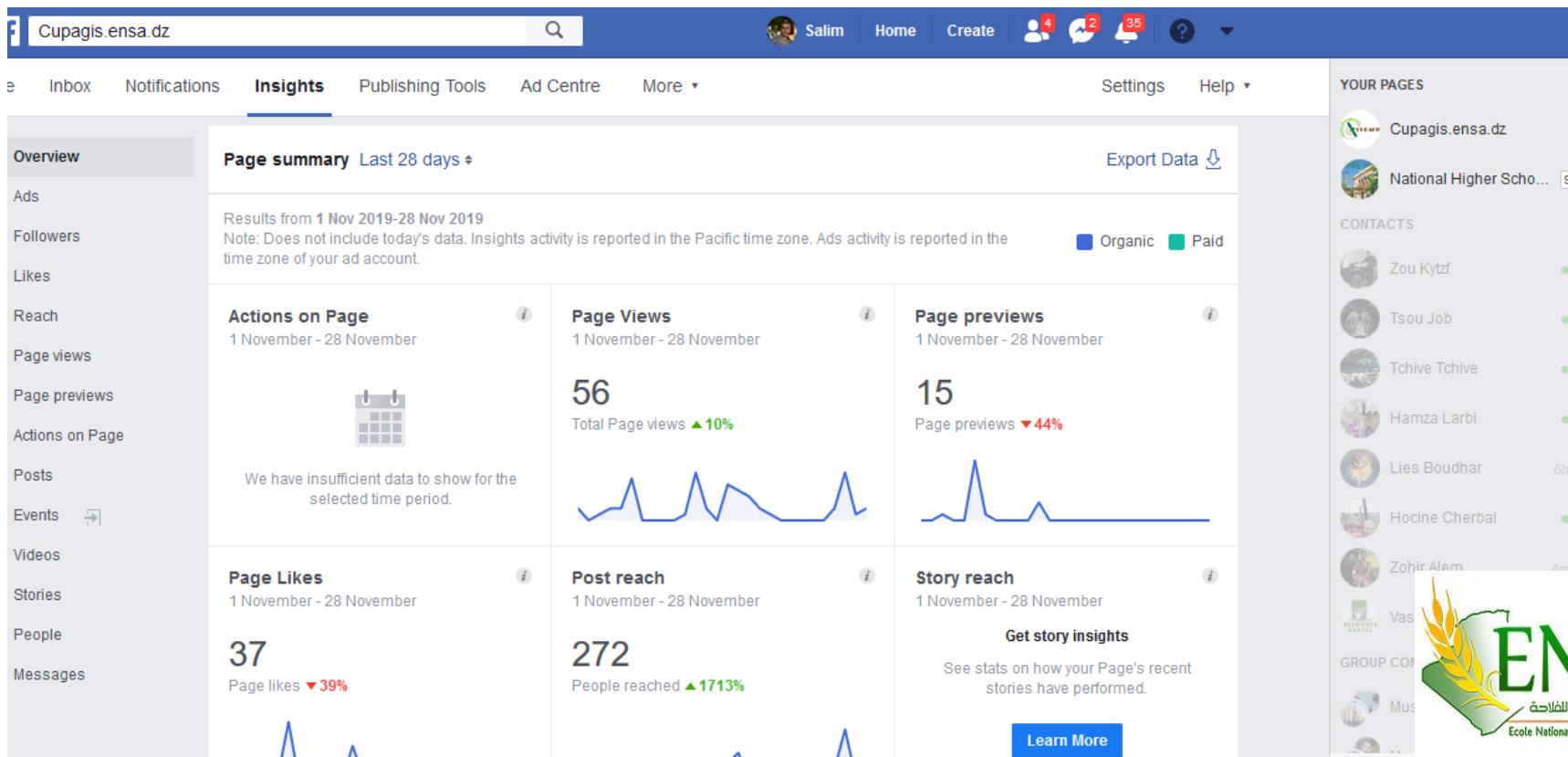
WP 4 : Dissemination activities

Facebook



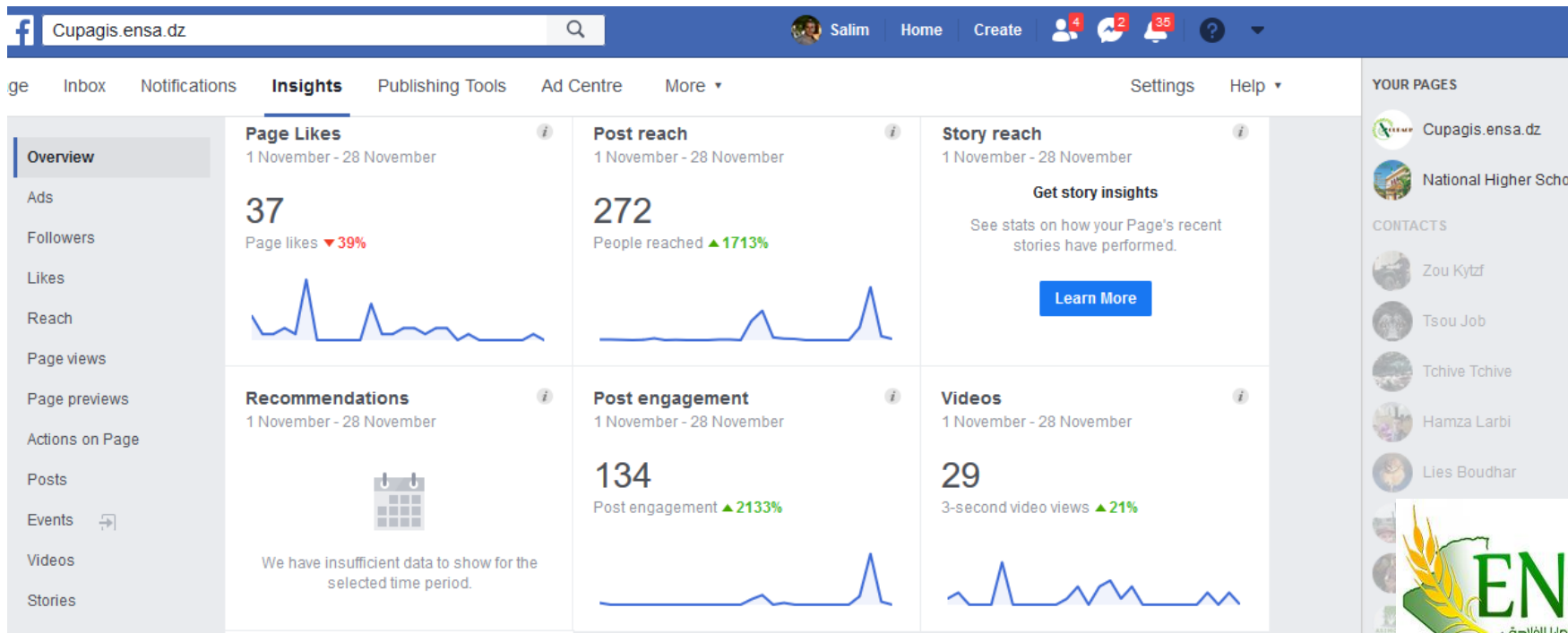
WP 4 : Dissemination activities

Facebook



WP 4 : Dissemination activities

Facebook








WP 4 : Dissemination activities

Facebook

Facebook interface for Cupagis.ensa.dz. The page is viewed from the perspective of Salim. The navigation bar includes Home, Create, and notification icons (4, 2, 35). The main navigation menu includes Insights, Publishing Tools, Ad Centre, and More.

The **Insights** section is active, showing a table of posts with performance metrics. A legend indicates: Reach: Organic/Paid (orange), Post clicks (blue), and Engagement (pink).

Published	Post	Type	Targeting	Reach	Engagement	Promote
26/11/2019 08:18	 Finally we found it! Better late than never :) CUPAGIS at the ENSA booth -	Image	Global	238	79 Post clicks, 29 Engagement	Boost Post
16/11/2019 03:44	 CUPAGIS Event at ENSA, soon...	Image	Global	179	12 Post clicks, 15 Engagement	Boost Post
29/08/2019 10:10	 Cupagis.ensa.dz was live.	Video	Global	168	49 Post clicks, 20 Engagement	Boost Post
29/08/2019 08:43	 Cupagis in Berlin's Training	Image	Global	291	80 Post clicks, 46 Engagement	Boost Post
26/08/2019 21:28	 Berlin Cupagis training is in half time	Image	Global	224	24 Post clicks, 17 Engagement	Boost Post

See All Posts

YOUR PAGES

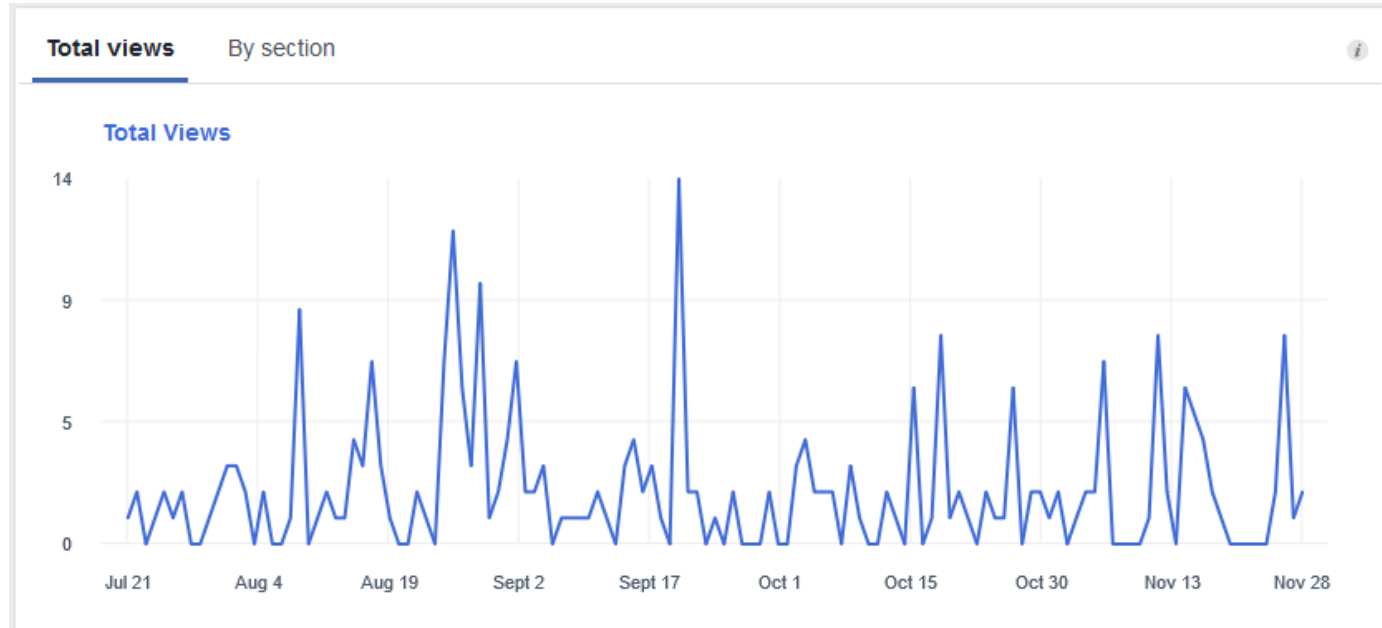
- Cupagis.ensa.dz
- National Higher Scho...

CONTACTS

- Zou Kytzf
- Tsou Job
- Tchive Tchive
- Hamza Larbi
- Lies Boudhar
- Hocine Cherbal

WP 4 : Dissemination activities

Facebook



WP 4 : Implemented dissemination activities

Media



On YouTube

We have an appointment with UFC
(Continuous Training University)

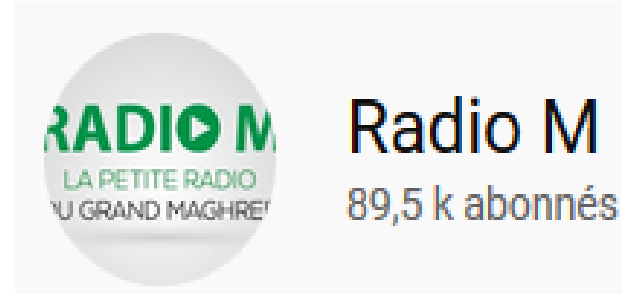
A program broadcast on the National TV Channel

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).



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



WP 4 : Implemented dissemination activities

Event

**OPEN
DAY**



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

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.

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/>

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).



Thank you for you attention!



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