

**Interreg  
Greece-Italy**

European Regional Development Fund



EUROPEAN UNION

**IR<sub>2</sub>MA**

**Large Scale Irrigation Management Tools for Sustainable  
Water Management in Rural Areas and Protection of  
Receiving Aquatic Ecosystems**

3<sup>rd</sup>  
management  
meeting  
Foggia, ITALY, 17/7/2019

**PB1 - UoI**

# WP1 Management Costs

PB1 – UoI | Progress and next steps



## **D1.1.1 - Preparation activities**

- UoI lack's of approach for paying the preparation costs

## **D1.1.2 - Project management activities**

- First financing request completion (5/2019)
- Auditor contracting (6/2019)
- Team to be fully staffed (estimation: 8/2019)
- Stationary to be purchased (estimation: 10/2019)
- ... next slide

## **Cont... D1.1.2 - Project management activities**

- Cooperation with partners for:
  - Completion of 2<sup>nd</sup> and preparation of 3<sup>rd</sup> progress report
  - Completion of new Milestones and Procurements' Plan
  - Completion of 1<sup>st</sup> modification request and relevant AF, Justification of budget etc.
- Participation in 2<sup>nd</sup> management meeting

## **Continuation of managerial operations**



# **WP2 Information and publicity**

## **PB1 – UoI | Progress and next steps**



- Team to be fully staffed (estimation: 8/2019)
- Equipment purchased (delivery: 4/2019)

### **D2.1.1 Communication strategy and web site**

- Communication plan has been completed
- Web site and the FB page are fully operational under new names

### **D2.1.2 Helpdesk**

- Proceeds mainly in combination with DSS for Arta (WP3)

### **D2.1.3 Technical reports and dissemination events**

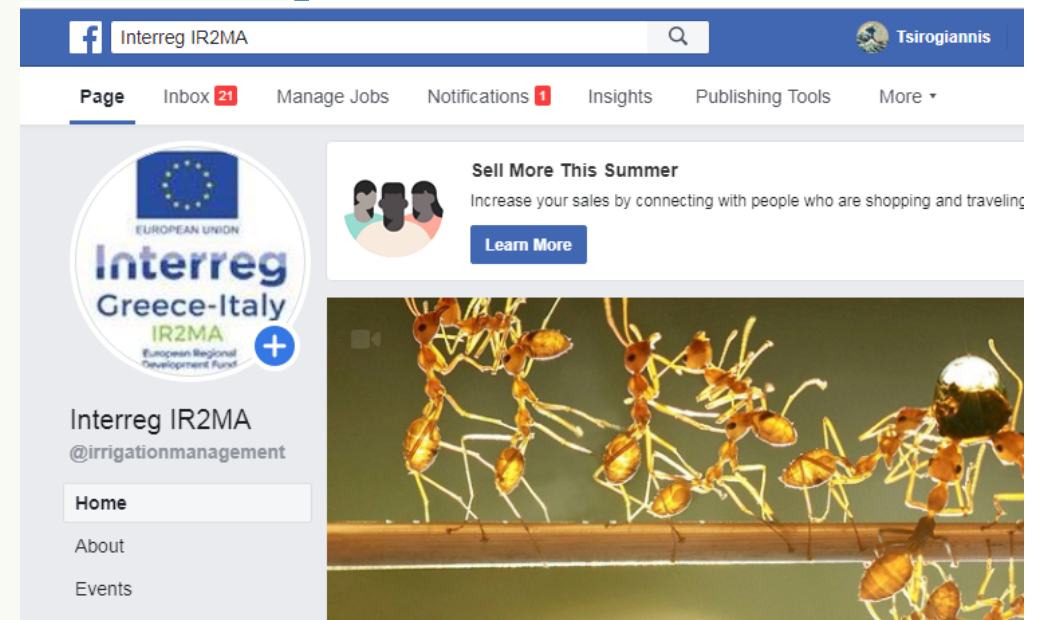
- 3 out of 4 technical reports have been published in project's FB group, the last is expected to be published up to 12/2019

<https://www.interregir2ma.eu/> and Facebook group



The screenshot shows the IR2MA website with the following content:

- Header:** Interreg Greece-Italy IR2MA logo, European Union flag, and a "Log in" link.
- Navigation:** IR2MA HUB, INFO, COMMUNICATION, OPERATIONAL STUFF, CONTACT.
- Main Content:**
  - Interreg V- A Greece-Italy Programme 2014-2020**
  - IR2MA - Large Scale Irrigation Management Tools for Sustainable Water Management in Rural Areas and Protection of Receiving Aquatic Ecosystems**
  - IR2MA TIMER STREAMING:** A video player showing a "green industry" poster with the text "IRRIGATION & green industry" and "IRRIGATION TO THE RESCUE".
- Footer:** Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy. It also includes the Greek text: "Έργο συγχρηματοδοτούμενο από την Ευρωπαϊκή Ένωση, το Ευρωπαϊκό Ταμείο Περιφερειακής Ανάπτυξης (Ε.Τ.Π.Α.) και την Εθνική Συμμετοχή των χωρών Ελλάδας και Ιταλίας".



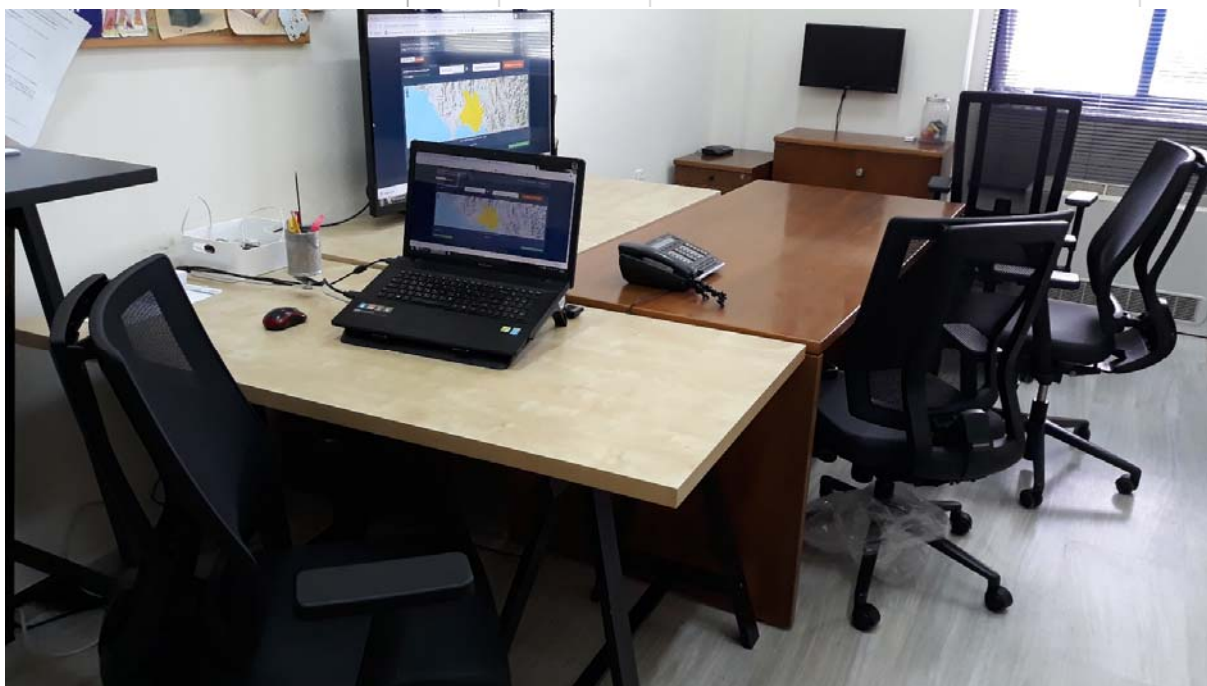
The screenshot shows the Facebook page for Interreg IR2MA with the following content:

- Page Header:** Interreg IR2MA, Tsirogiannis.
- Navigation:** Page, Inbox (21), Manage Jobs, Notifications (1), Insights, Publishing Tools, More.
- Profile Picture:** Interreg Greece-Italy IR2MA logo.
- Page Name:** Interreg IR2MA @irrigationmanagement.
- Home Tab:** About, Events.
- Post:** "Sell More This Summer" with a "Learn More" button and a video of ants.



## D2.1.2 Helpdesk



1 IR2MA 212 Helpdesk						
α/α	Ημερομηνία	Επαφή	Υποβολή (π.χ. τηλεφωνική, ερώτημα κοκ)	Απάντηση (ανάρτηση σε webpage HelpDesk)	Παράδοση αναφοράς	Ανέβασμα άρδευσης / πληροφόρηση σχετικά με συμβουλή (σύστημα Άρτας)
2						
142	140	6/7/2019	Τζήμας Μιχάλης	Τηλεφωνική		ναι
143	141	6/7/2019	Ξυλογιάννης Ευάγγελος	Τηλεφωνική		ναι
144	142	6/7/2019	Κώστας Λάμπρος	Τηλεφωνική		ναι
145	143	7/7/2019	Τζήμας Μιχάλης	Τηλεφωνική		ναι
146	144	7/7/2019	Ξυλογιάννης Ευάγγελος	Τηλεφωνική		ναι
147	145	8/7/2019	Τζήμας Μιχάλης	Τηλεφωνική		ναι
148	146	8/7/2019	Ξυλογιάννης Ευάγγελος	Τηλεφωνική		ναι
149	147	8/7/2019	Κώστας Λάμπρος	Τηλεφωνική		ναι
150	148	9/7/2019	Τζήμας Μιχάλης	Τηλεφωνική		ναι
151	149	9/7/2019	Ξυλογιάννης Ευάγγελος	Τηλεφωνική		ναι



[Inbox \(6\) - itsirag@uc...](#)
[Inbox \(1\) - itsirag@te...](#)
[\(4 μη αναγνωσμένα\)](#)
[IR2](#)

[←](#)
[→](#)
[↻](#)
[https://www.interregir2ma.eu/operational-stuff/deliverables-ir2ma-pb1/10...](#)

[Εφαρμογές](#)
[Προτεινόμενες τοπ...](#)
[ILT](#)
[New for IRMA](#)
[Μουσική](#)
[Χρήσιμα](#)

[IR2MA HUB](#)
[INFO](#)
[COMMUNICATION](#)
[OPERATIONAL STUFF](#)
[CON](#)

[HOME](#) | [OPERATIONAL STUFF](#) | [PB1 \(LB\) UNIVERSITY OF IOANNINA](#) | [STATIC ARTICLES](#) | [HELPDESK](#)

## HELPDESK

ΠΑΡΑΔΟΤΕΟ 2.1.2 (HELPDESK) ΤΟΥ PB1 (ΠΙ) | DELIVERABLE 2.1.2 (HELPDESK) OF PB1  
 ΣΥΖΗΤΗΣΕΙΣ ΣΧΕΤΙΚΑ ΜΕ ΤΟ ΣΥΣΤΗΜΑ ΑΓΡΟΜΕΤΕΩΡΟΛΟΓΙΚΩΝ ΣΤΑΘΜΩΝ ΣΕ ΕΠΙΛΕΓ  
 ΣΥΣΤΗΜΑ ΥΠΟΒΟΗΘΗΣΗΣ ΛΗΨΗΣ ΑΠΟΦΑΣΕΩΝ (DSS) ΓΙΑ ΑΡΔΕΥΣΗ ΣΤΗΝ ΠΕΔΙΑΔΑ Τ

DISCUSSIONS REGARDING THE AGROMETEOROLOGICAL SYSTEM IN SELECTED PLA  
 SUPPORT SYSTEM (DSS) FOR IRRIGATION AT THE PLAIN OF ARTA (REGION OF EPIRU

## Helpdesk

Το **Helpdesk** δημιουργήθηκε για να απαντά σε ερωτήσεις σχετικά με το σύστημα αγρομετεωρο

8



## D2.1.3 Technical reports

1. Agrometeorological data for the plain of Arta [Jan, 2019]
2. Water flow measurements for the participatory irrigation systems of the plain of Arta and the relevant permit for using water for agricultural irrigation [Feb, 2019]
3. Efficient irrigation management for olive crop [Jun., 2019]

Interreg V-A Greece-Italy Programme 2014-2020 (<https://greece-italy.eu/>)



IRZMA Large Scale Irrigation Management Tools for Sustainable Water Management in Rural Areas and Protection of Receiving Aquatic Ecosystems

(Subsidy Contract No 12/2.3/27)

### Αποτελεσματική διαχείριση άρδευσης στην ελαιοκαλλιέργεια

Ιουν. 2019 | Τεχνική αναφορά στο πλαίσιο του παραδοτέου D2.1.3

Τσιρογιάννης Ιωάννης<sup>1</sup>, Μαδάμης Νικόλαος<sup>2</sup>

<sup>1</sup>Τεχνολόγος - Γεωργικός Μηχανικός, MSc, PhD, Επιστημονικός Καθηγητής Το. Τεχνολογίας Πανεπιστημίου Πατρών

<sup>2</sup>Τεχνολόγος - Γεωργικός Μηχανικός, MSc, PhD, Επιστημονικός Καθηγητής Το. Τεχνολογίας Πανεπιστημίου Πατρών

Summary in English

Efficient irrigation management for olive crop (Jun., 2019; Technical report D2.1.3.)

Tsirogiannis Ioannis, Madamakis Nikolaos

This report presents basic information regarding irrigation of olive crop in Greece. Facts regarding the water needs, the relevant irrigation scheduling, the technical aspects of the irrigation system and water quality are presented. Also reference is made to decision support systems that can provide recommendations regarding irrigation applications. One example of such system is the participatory system for irrigation recommendations that operates at the plain of Arta in the framework of Interreg V-A Greece-Italy Programme 2014-2020 IRZMA project, which is available at: <http://arta.interregirzma.eu/>.

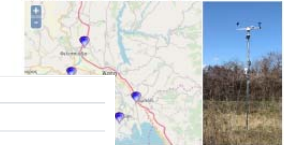
Riassunto in italiano

Irrigazione efficiente dell'olivo (Giun., 2019; Rapporto tecnico D2.1.3.)

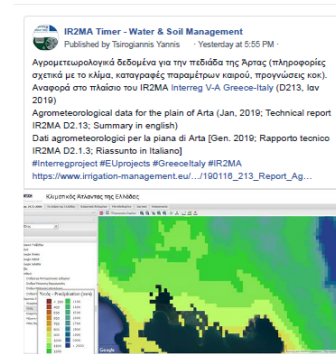
Tsirogiannis Ioannis, Madamakis Nikolaos

Il presente rapporto contiene informazioni di base (data, vengono presentati i fatti che riguardano l'irrigazione pertinente (rilevante), gli aspetti tecnici dell'irrigazione, i sistemi di supporto decisionale sugli interventi irrigui (applicazioni irrigue). Un partecipativo per raccomandazioni di irrigazione chi del progetto IRZMA (co-finanziato dal Programma di sviluppo rurale Interreg V-A Greece-Italy 2014-2020) è disponibile sul sito web: <http://arta.interregirzma.eu/>.

και πρόγνωση σχετικά με τον καιρό και πιθανότητα κάποιου από αυτούς να δίνουν της παιδαγωγίας της Άρτας. Σε κάθε περίπτωση πρέπει να λαμβάνεται υπόψη το ότι ειδικά χαρακτηριστικά κάθε περιοχής (π.χ. ανηλίκους, δόνηση) έχουν ως αποτέλεσμα τη δημιουργία μικροκλίματος και τα δεδομένα που καταγράφει κάθε σταθμός πρέπει να αξιοποιούνται λαμβάνοντας υπόψη και αυτή την παράμετρο.



GR-IT 2017-2019 IRZMA και τοπικοί αγρομετεωρολογικοί σταθμοί στην ευαίσθητη



Performance for Your Post

2,202 People Reached	29 Reactions, Comments & Shares
19 Like	9 On Post
1 Sad	0 On Post
2 Comments	0 On Post
8 Shares	8 On Post
41 Post Clicks	0 On Post
0 Photo Views	10 Link Clicks
0 Report as Spam	0 Hide All Posts
0 Report as Spam	0 Unlike Page

ο έργο ETCP GR-IT αποτελείται στην ουσία από 6 αγρομετεωρολογικούς σταθμούς στον Άγιο τσιρο Βιλας (TOB στο κομμάτι, στο ιστήμιον Ιωνανών 3). Το 2017 η εταιρεία (Αύμα) η οποία κέρδισε και η βόσκηση στην ν. Κωστακίων. Οι ανά 10min, τις ως: όρος, βροχή, ήλιος, ταχύτητα και θερμοκρασία και θερμοκρασία και ως σε δύο ή τρία δεδομένα είναι ιδιαιτερότητα

## D2.1.3 WATERinMARCH! 2019 28-29/3/2019 Arta, Greece



Event registered at:



# **WP3 Mainstreaming efficient irrigation and drainage practices**

PB1 – UoI | Progress and next steps



## **D3.1.1 Repository**

- The development of the platform and the collection of material for the repository have been started
- Equipment purchased (delivery: 5/2019)
- Team to be fully staffed (estimation: 8/2019)
- **Platform will be ready up to 9/2019 and upload of material will start**

## **D3.1.2 Water quantity and quality audit**

- Equipment purchased (delivery: 5/2019)

## **D3.1.3 Update of audit protocol and audits**

- Team to be fully staffed (estimation: 8/2019)
- Progress regarding the literature research for updating the audit guide
- Completion of the audit protocol and sheets for a) participatory systems water uptakes and b) end-user systems (irrigation systems for arboriculture farms) and progress regarding audits:
  - 25 (of total 50) audits for participatory systems and
  - 20 (of total 50) audits of end user systems have been completed

**Guide and audits will be completed up to the end of 2019**



## D3.1.2., D3.1.3

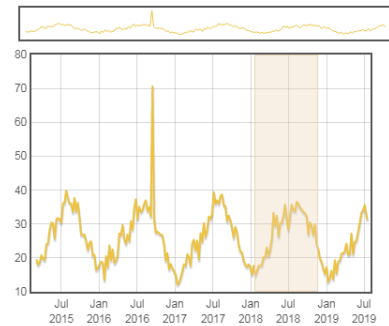


### **D3.1.4 DSS adaption and extension**

- Team to be fully staffed (estimation: 8/2019)
- Software and equipment purchased (delivery: 5/2019)
- New system / software for agrometeorological data and flood alarms is been installed and is expected to be operational up to 9/2019
- Flow meter with LORA connection to automatically register irrigation applications is under development
- DSS for the plain of Arta is operational (special functions are under development) and is used by irrigators
- Evaluation of the DSS for the plain of Arta is in progress



Agios Spiridonas - Temperature



Download time series

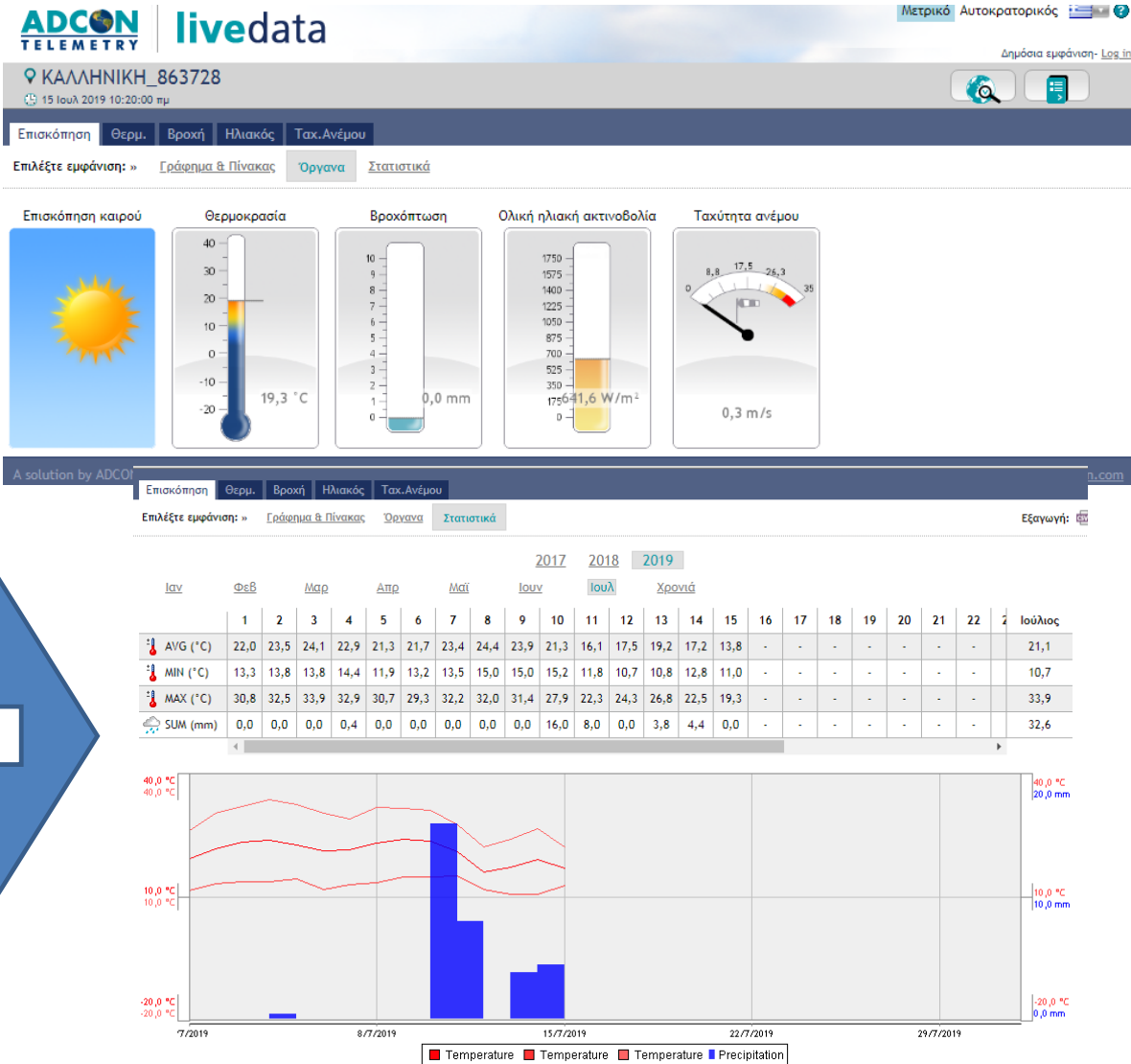
ID	9511
Σχετικός σταθμός	Agios Spiridonas
Όνομα	Temperature
Μεταβλητή	Temperature
Μονάδα μέτρησης	°C
Ακρίβεια	None
Χρονική ζώνη	EET (UTC+0200)
Παρατηρήσεις	
Όργανο	Κανένα
Ημερ/νία έναρξης	2015/02/24 14:00
Ημερ/νία λήξης	2019/07/15 10:20

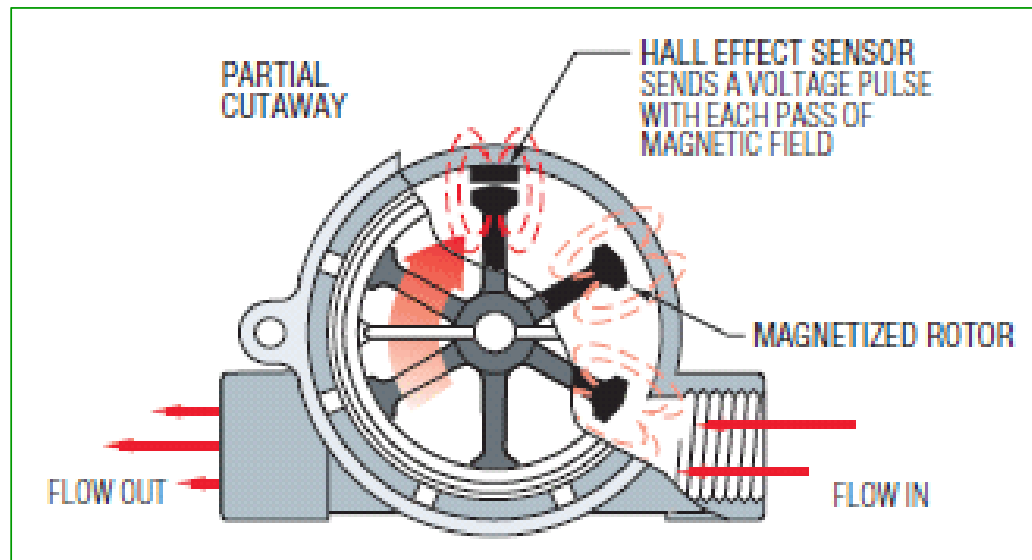
#### Time stamps properties

Χρονική κλίμακα	Ten-minute [Δεκάλεπτο] - 10 minute(s)
Timestamp regularity	Το χρονικό βήμα είναι αυστηρό
Timestamp rounding	0 λεπτά, 0 μήνες
Σημείο αναφοράς χρονοσφραγίδων	Σημιαίες ημέρες
Timestamp offset	0 λεπτά, 0 μήνες

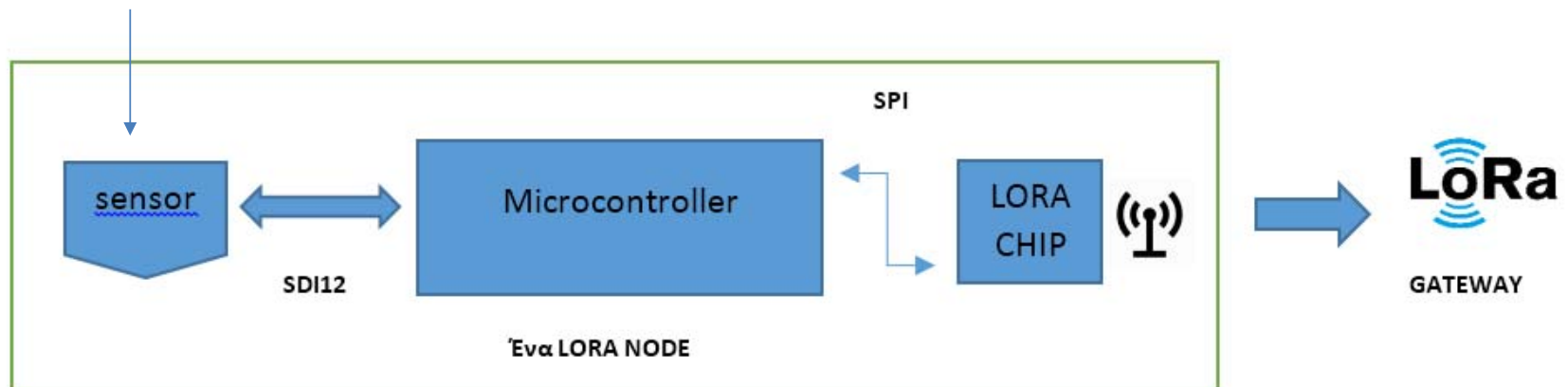


D3.1.4





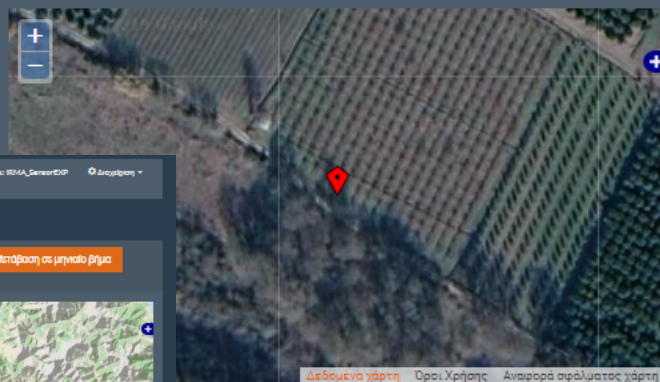
D3.1.4



Ελληνικά (el)

Μετάβαση

Όνομα αγροτεμαχίου: Τζήμας Μιχάλης Ακτινίδια (6955075428) Κολομόδια



Καλιέργεια: Ακτινίδιο (Κίτρι) Χρήση προσαρμοσμένων παραμέτρων

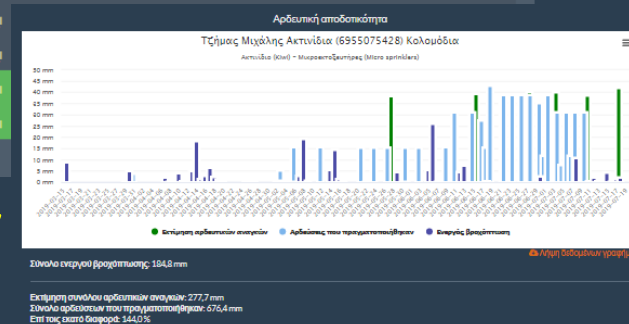
Εκτιμώμενο μέγιστο βάθος ριζοστρώματος (m): 0,35 m  
Μέγιστο επιτρεπόμενο υδατικό έλλειμμα: 35,0%  
Υδατοϊκανότητα: 39,0%  
Εδαφική Υγρασία στον κορεσμό (Θ<sub>s</sub>): 50,0%  
Σημείο μόνιμης μάρανσης: 10,0%

Τύπος αρδευτικού συστήματος: Μικροεκτοξευτήρες (Micro sprinklers)  
Χρήση προσαρμοσμένων παραμέτρων

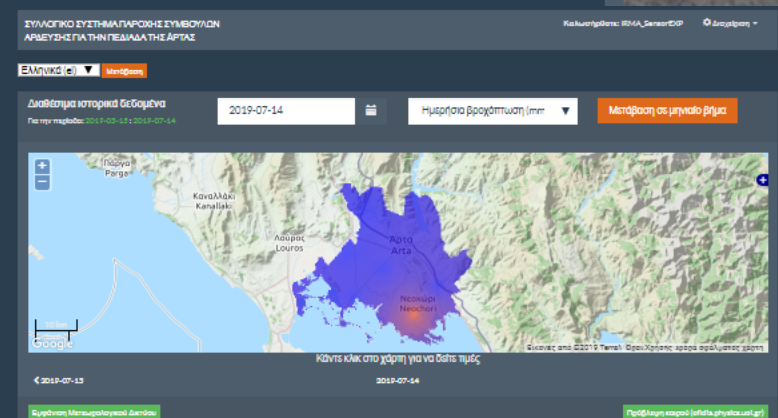
Συντελεστής αρδευτικής αποδοτικότητας: 0,85  
Συντελεστής βελτιστοποίησης άρδευσης: 0,85  
Τελευταία καταχωρημένη άρδευση: 09/07/2019 08:00  
Δόση άρδευσης (mm): 125,0

μοί για Περίοδο πρόγνωσης: 15/07/2019 έως 20/07/2019

Ενεργός βροχόπτωση (mm)	Υδατικό έλλειμμα (mm)	Εδαφική υγρασία (%)	Άρδευση ?	Δείκτης υδατικής καταπόνησης	Δόση άρδευσης (mm)
	2	38,4	Όχι	1,00	0
	10	36,1	Όχι	1,00	0
	19	33,6	Όχι		
	29	30,7	Όχι		
	38	28,2	Ναι		
20/07/2019	47	25,5	Ναι		



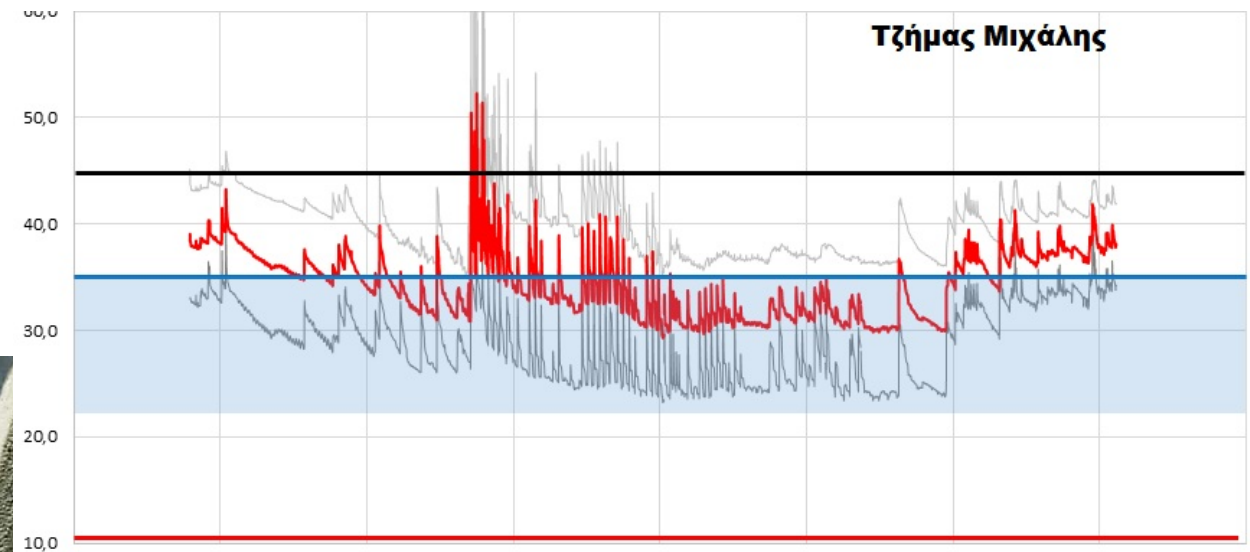
D3.1.4



<http://arta.interregir2ma.eu/>



## D3.1.4



# **WP4 Cooperation with Water and Land Reclamation Organisations and Environmental Agencies**

**PB1 – UoI | Progress and next steps**

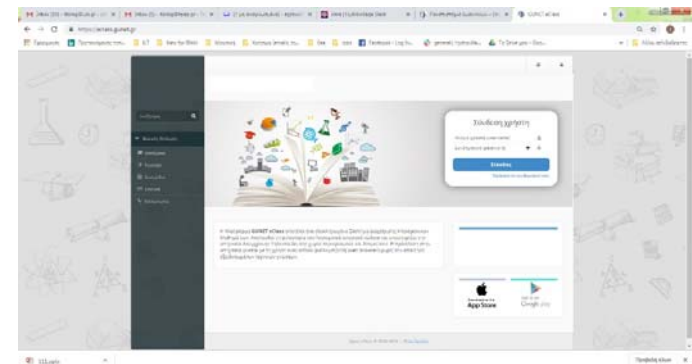


- Team to be fully staffed (estimation: 8/2019)
- Equipment purchased (delivery: 5/2019)
- Work is progressing for:
  - **D4.1.1 Participatory systems mapping**
  - **D4.1.2 Participatory systems current state report**
  - **D4.1.3 Web presence of participatory systems**
  - **D4.1.4 Participatory systems operation support**

#### D4.1.1



#### D.4.1.3



# WP5 Demonstration activities and applied research

PB1 – UoI | Progress and next steps





## **D5.1.1 Usage of recycled water**

- Tender for consumables for the experiment have to be re-published.
- On going experiment regarding use of recycled water to young nursery olive trees (in greenhouse)
- The experimental site operates as demonstration site, while students of the agricultural department participate

## **D5.1.2 Aquifers salinization**

- On going literature review

## Treatments

Tap Water + fertilisation (control)  
 $\frac{1}{2}$  Tap Water + fertilisation  
TWW (Treated Waste Water) + fertilisation  
TWW +  $\frac{1}{2}$  fertilisation  
Zeolith +  $\frac{1}{2}$  fertilisation  
Humic acid +  $\frac{1}{2}$  fertilisation



## Scope-Objective

- Evaluate the performance of young olive trees under irrigation with TWW
- Investigate the possibility of reducing  $WF_{total}$  through reduction of  $WF_{grey}$
- Investigate the possibility of reducing fertilisation (applying TWW, zeolith, biostimulants-humic acid)

# **WP6 Activities outside of eligible area**

## **PB1 – UoI | Progress and next steps**





## D6.1.1 International networking

### Participation at ISHS' IX International Symposium on Irrigation of Horticultural Crops (PB1, Italy, June 2019)

1. Oral presentation: Evaluation of Water Footprint for table olive groves of *Olea europaea* L. – cv. Conservolea
2. Poster presentation: Evaluation of an operational participatory system for irrigation recommendations - Case study for kiwifruit crop in Greece



IX INTERNATIONAL SYMPOSIUM  
ON IRRIGATION OF HORTICULTURAL CROPS  
17 - 20 JUNE 2019 | MATERA - ITALY

# Problems encountered and proposed solutions

- PB1 still faces major managerial issues that origin from the organization and the workflow procedures of the Research Account of UoI
- In order to mitigate this situation, members of the physical object implementation team need to spent significant part of their time for managerial activities against the work they have to do for research, development and dissemination.