Interreg Greece-Italy IR2MA

European Regional Development Fund

EUROPEAN UNION

University of Ioannina

HELLENIC REPUBLIC REGION OF EPIRUS

ISPA ISTITUTO DI SCIENZE DELLE PRODUZIONI ALIMENTARI

CIHEAM IAM BARI

CONSORZIO PER LA BONIFICA DELLA CAPITANATA

Regione Puglia

Interreg V- A Greece-Italy Programme 2014 2020

www.greece-italy.eu

IR2MA Large Scale Irrigation Management Tools for Sustainable Water Management in Rural Areas and Protection of Receiving Aquatic Ecosystems

Subsidy Contract No: I1/2.3/27

LB/PB1

University of Ioannina - RC

IR2MA - Equipment

WP2, WP3, WP4, WP5

D2.1.2, D3.1.1, D3.1.2, D3.1.4, D4.1.1, D5.1.1

Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy

Front page back [intentionally left blank]

Interreg V- A Greece-Italy Programme 2014 2020

www.greece-italy.eu

IR2MA

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

Subsidy Contract No: I1/2.3/27

Partners

PB1/LB UNIVERSITY OF IOANNINA - Research Committee (UoI) http://www.rc.uoi.gr/

PB2 REGION of EPIRUS (ROE) http://www.php.gov.gr/

PB2 ISTITUTO SCIENZE DELLE PRODUZIONI ALIMENTARI (ISPA/CNR) http://www.ispacnr.it/

PB4 CIHEAM - ISTITUTO AGRONOMICO MEDITERRANEO – BARI (IAMB) http://www.iamb.it/

PB5 CONSORZIO PER LA BONIFICA DELLA CAPITANATA (CBC) http://consorzio.fg.it/

Associated partners

REGION OF PUGLIA (ROP) http://www.regione.puglia.it/

Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy

Notes

IR2MA - Equipment

WP2, WP3, WP4, WP5

D2.1.2, D3.1.1, D3.1.2, D3.1.4, D4.1.1, D5.1.1

Involved partners:

LB/PB1 University of Ioannina - RC

Authoring team:

P. Baltzoi

I.L. Tsirogiannis

Place and time: **30/9/2020**

IR2MA
Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy

Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy

Notes

Contents

Figures

Introduction

This report lists the equipment that was purchased by IR2MA LB/PB1 (University of Ioannina – RC) in the framework of the project (Table 1).

The equipment is categorized by WP and Deliverable.

Table 1 List of equipment of LB/PB1

WP	Del.	Type	Brief Description	Quantity
WP2	D2.1.2	Furniture and fittings	Equipment for the Help desk (furniture): 4x ergonomic work chairs.	4
WP3	D3.1.1	IT hardware and software	System for scanning maps and documents (portable scanners)	2
WP3	D3.1.2	Laboratory Equipment	Scientific equipment for upgrading the mobile lab collection of UoI for in situ measurements of channel/ditch water flow and quality and end user irrigation-drainage system audit. 1x portable multiparameter water quality measurement system and 2x simple portable water flow measuring devices.	1
WP3	D3.1.2	Tools or devices	Equipment for upgrading the mobile lab collection of UoI for in situ measurements of channel/ditch water flow and quality and end user irrigation-drainage system audit: 1x dinghy boat, life jackets (2x), ladders (2x), compasses (2x) and Various consumables (ropes, signalling tapes etc.)	1
WP3	D3.1.4	IT hardware and software	Hardware to support the upgrade of the DSS and the expected shift to the number of users for: a) upgrade of existing gateway (communication center) and b) purchase communication software for data management (system simplification).	1
WP3	D3.1.4	Laboratory Equipment	Hardware for maintenance of meteorological stations, spare parts for agrometeorological stations; datalogger and sensors (soil moisture, air T/RH, solar radiation): 1x leaf moisture sensor, 1x datalogger, 3x soil moisture sensors, 1x T/RH sensor and 1x pyranometer	1
WP4	D4.1.1	IT hardware and software	2x portable computer devices of latest technology with carrying cases / bags and 2x large (min 40'') HD screens	2
WP5	D5.1.1	Laboratory Equipment	Equipment to be used to the applied research activities: 1x canopy monitoring device + reader (reflection analysis); 1x sensor for measuring substrate and water qualitative and quantitative characteristics (pH, EC); 3x dataloggers cable	1

WP	Del.	Type	Brief Description	Quantity
			connection to computer (5 ports / sensors each) and sensors for measuring ambient environment parameters: 12x soil moisture, 5x T/RH with protection shield, 1x pyranometer.	
WP5	D5.1.1	Other specific equipment	Consumables for applied research measurements. Estimation of cost based on experience from relevant projects.	1

WP2: D2.1.2

D2.1.2 Helpdesk

Ergonomic work chairs (4X DROMEAS Reflex, Fig. 1) were purchased to be used for the Helpdesk.

Fig. 1 Ergonomic work chairs

WP3: D3.1.1, D3.1.2 and D3.1.4

D3.1.1 Repository

In the framework of this deliverable a system for scanning maps and documents was purchased. The system was consisted by:

1. a portable A3 document camera (1X Hovercam Solo 8 Document Camera, Fig. 2) and
2. a portable scanner (1X VuPoint ST47 Magic Wand Wireless Portable Scanner, Fig. 3)

Fig. 2 Hovercam Solo 8 Document Camera

Fig. 3 VuPoint ST47 Magic Wand

D3.1.2 Water quantity and quality audit

In the framework of this deliverable scientific equipment for upgrading the mobile lab collection of UoI for in situ measurements of channel/ditch water flow and quality and end user irrigation-drainage system audit. Namely:

1. 1x portable multiparameter water quality measurement system (HI-9811-5 pH/EC/TDS/°C Portable Meter, Fig. 4)
2. 2x simple portable water flow measuring devices (Flowmeter FP111 Global Water Instrumentation, Fig. 5)
3. 1x dinghy boat (BIC Sportyak 245, Fig. 6)
4. Life jackets (2x), ladders (2x), compasses (2x) and Various consumables (ropes, signalling tapes etc.) (Fig. 7)

Fig. 4 Portable multiparameter water quality measurement system (HI-9811-5 pH/EC/TDS/°C Portable Meter)

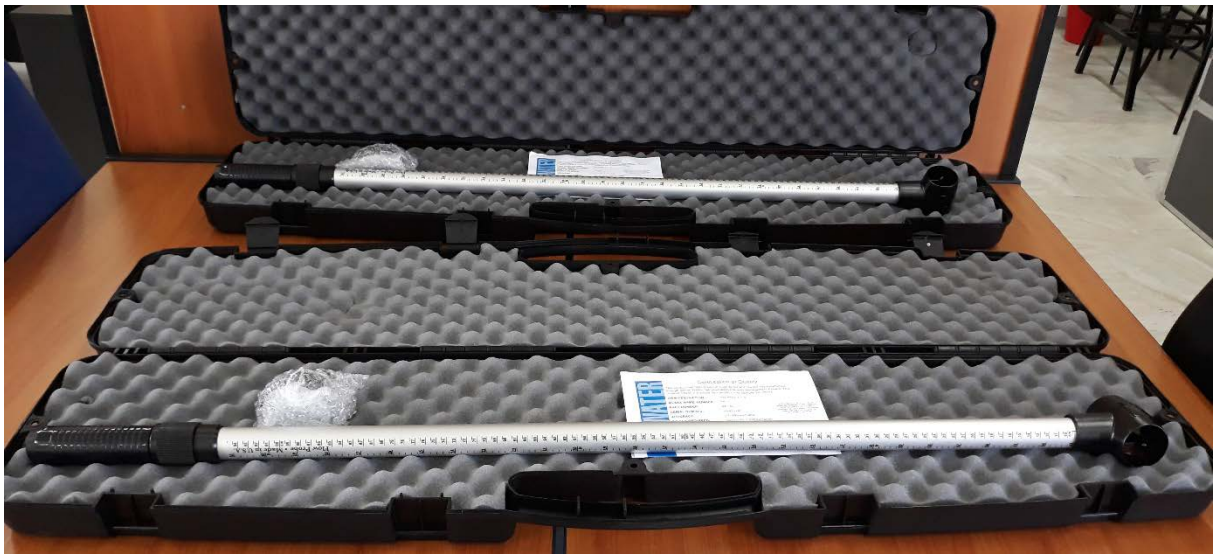


Fig. 5 Portable water flow measuring devices (Flowmeter FP111 Global Water Instrumentation)

Fig. 6 Dinghy boat (BIC Sportyak 245)

Fig. 7 Life jackets, ladders, compasses etc.

D3.1.4 DSS adaption and extension

In the framework of this deliverable hardware and software items were purchased to support the upgrade of the DSS and the expected shift to the number of users. The following were purchased:

a. various electronic items to upgrade of existing gateway (1x LORIX One Gateway (Fig. 8), 1x RAK831 LORA starter (Fig. 8), 10x NodeMCU v2 (Fig. 9), 15x GeeekNET ESP32 (Fig. 9), 10x RFM95 and 10x RFM98 LORA modems (Fig. 9), 10x LoRa Antenna Kit (Fig. 9), LoRa Mote (Fig. 9), PiCkit3 In-Circuit Debugger (Fig. 9), Signal analyser DS1054Z (Fig. 10) and Bench Top Power Supply 72-10480 (Fig. 11))
b. communication software for data management (addVANTAGE Pro 6.6: ADCON Telemetry - Business Unit of OTT Hydro met GmbH (Fig. 12), operating at: http://addvantage.interregir2ma.eu:8080/secure/common/main.vm).

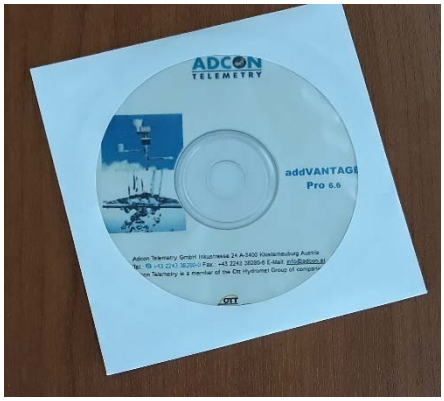
Also, hardware spare parts for the maintenance of agrometeorological stations have been purchased, namely: 1x datalogger (Meter EM-50), 3x soil moisture sensors (Meter 10 HS), 1x T/RH sensor (Meter ATMOS-14 w/Passive Radiation Shield) and 1x pyranometer (Meter PYR Solar Radiation Sensor), 1x leaf moisture sensor A2.007.330.6.0: ADCON WET)

Fig. 8 LORIX One Gateway, RAK831 LORA starter Node

Fig. 9 Various electronic items to upgrade the existing gateway (10x Node, MCU v2, 15x GeeekNET ESP32, 10x RFM95 and 10x RFM98 LORA modems, 10x LoRa Antenna Kit, LoRa Mote, PiCkit3 In-Circuit Debugger)

Fig. 10 Signal analyser Rigol DS1054Z

Fig. 11 Bench Top Power Supply 72-10480



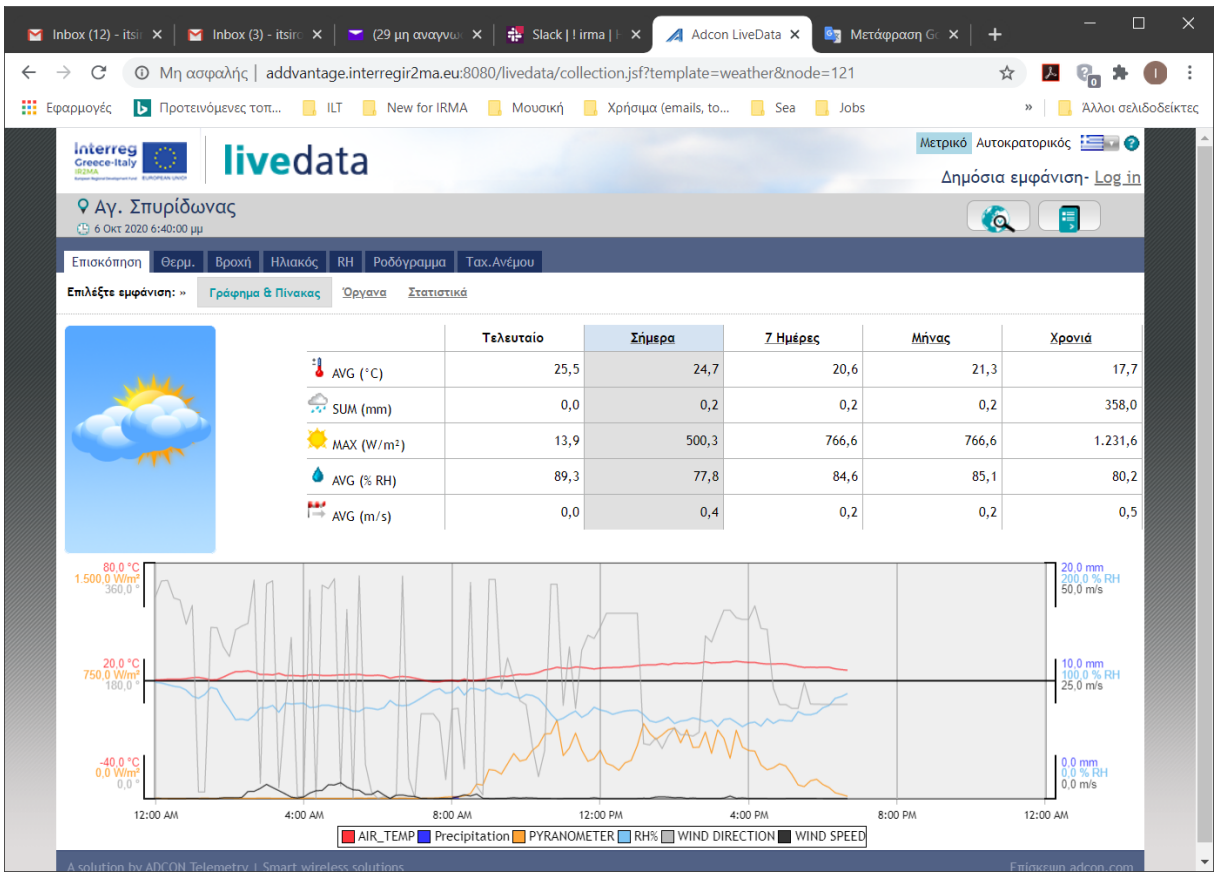


Fig. 12 Communication software for data management (addVANTAGE Pro 6.6: ADCON Telemetry - Business Unit of OTT Hydro met GmbH

Fig. 13 Datalogger (Meter EM-50)

Fig. 14 Soil moisture sensors (Meter 10 HS)

Fig. 15 T/RH sensor (Meter ATMOS-14 w/Passive Radiation Shield)

Fig. 16 Pyranometer (Meter PYR Solar Radiation Sensor)

Fig. 17 Leaf moisture sensor (A2.007.330.6.0: ADCON WET)

WP4: D4.1.1

D4.1.1 Participatory systems mapping

In the framework of this deliverable large monitors and portable computer devices were purchased, namely:

a. 2x portable computer devices of latest technology (1x HP OMEN 17-w202nv Laptop (Fig. 18) and 1x SAMSUNG GALAXY TAB S3 9.7 (Fig. 19))
b. 2x large (min 40'') HD screens (Turbo-X TXV-U4370SMT 43M 4K Ultra HD (Fig. 20))

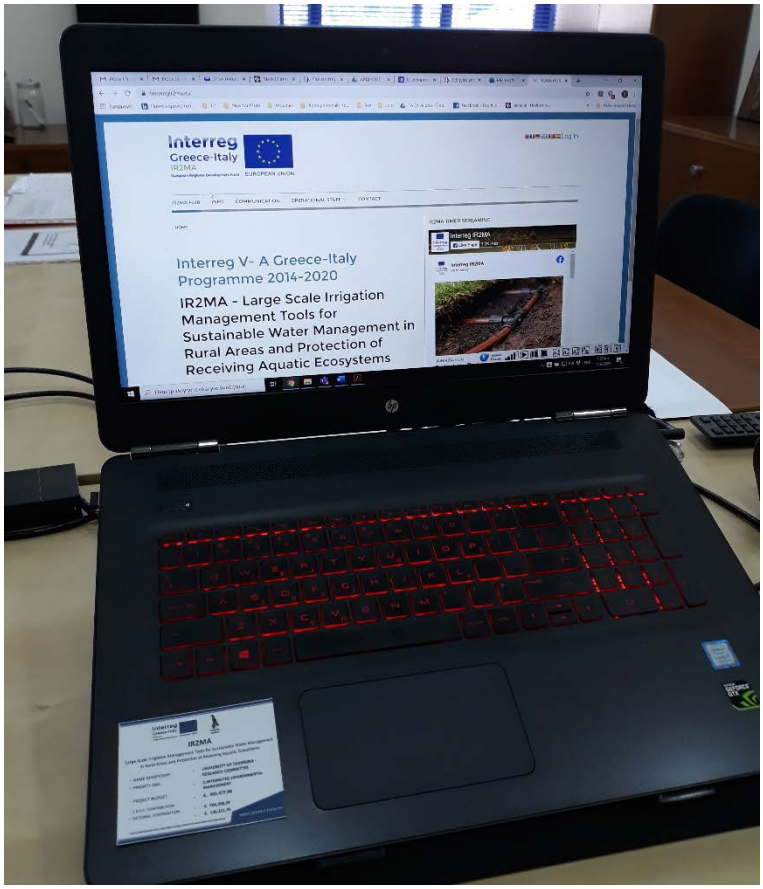
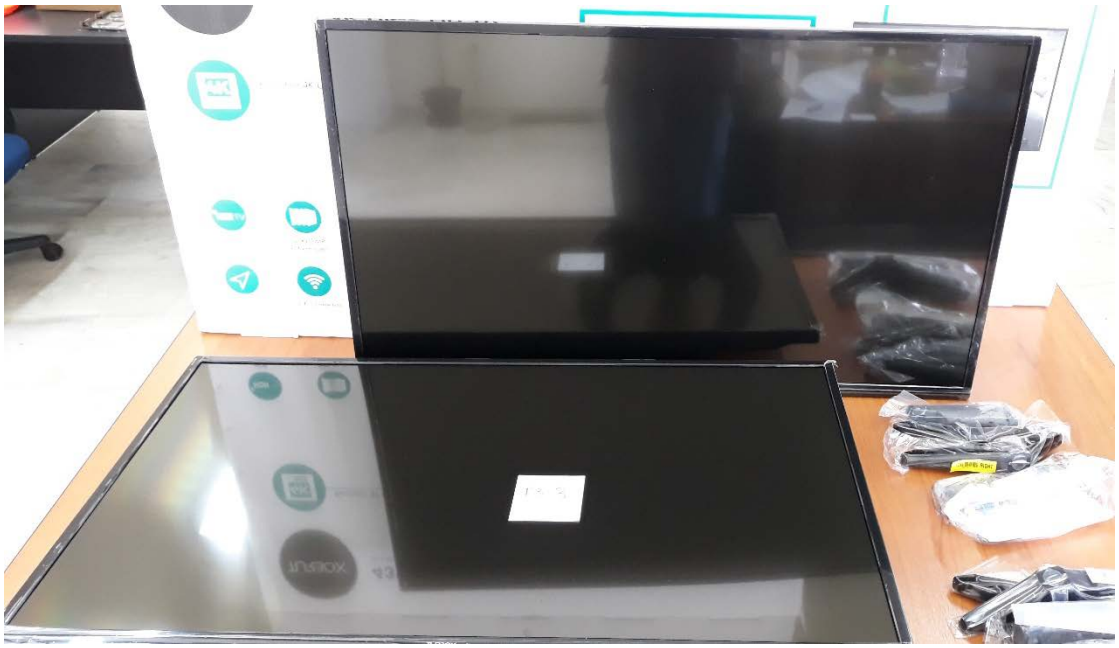


Fig. 18 HP OMEN 17-w202nv Laptop

Fig. 19 SAMSUNG GALAXY TAB S3 9.7



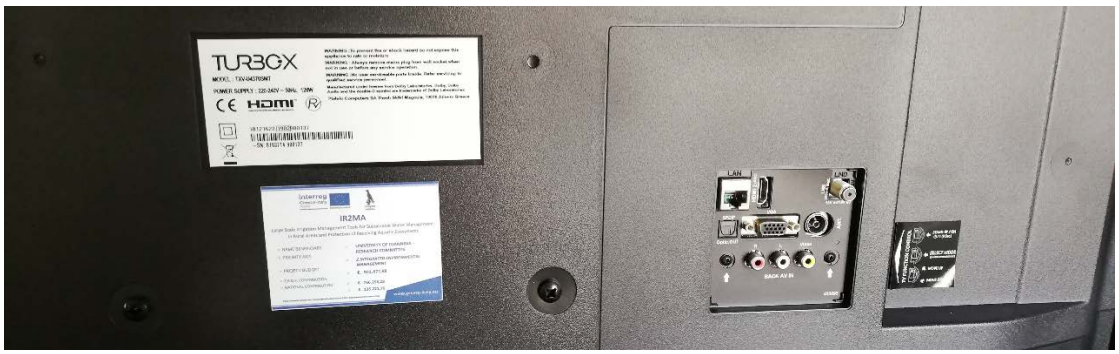


Fig. 20 Turbo-X TXV-U4370SMT 43M 4K Ultra HD

WP5: D5.1.1

D5.1.1 Usage of recycled water

In the framework of this deliverable hardware items and laboratory consumables were purchased to support the applied research activities. The following were purchased:

a. 1x canopy reflection monitoring device (Parrot Sequoia Multispectral Camera, Fig. 21,)
b. 1x sensor for measuring substrate and water qualitative and quantitative characteristics (pH, EC) (Hanna HI-9811-5 pH/EC/TDS/°C Portable Meter, Fig. 22)
c. 3x dataloggers (Meter EM-50, Fig. 23)
d. 12x soil moisture probes (Meter 10HS, Fig. 24)
e. 5x T/RH sensors with protection shield (Meter ATMOS-14 w/Passive Radiation Shield, Fig. 25)
f. 1x pyranometer (Meter PYR Solar Radiation Sensor, Fig. 26)
g. Consumables for applied research measurements.

Fig. 21 Canopy reflection camera (Parrot Sequoia Multispectral Camera)

Fig. 22 Multiparameter sensor (Hanna HI-9811-5 pH/EC/TDS/°C Portable Meter)

Fig. 23 Dataloggers (Meter EM-50)

Fig. 24 Soil moisture probes (Meter 10HS)

Fig. 25 Air T and RH sensors with shield (Meter ATMOS 14)

Fig. 26 Solar radiation sensor (Meter PYR)

Back page inside part [intentionally left blank]

Interreg V- A Greece-Italy Programme 2014 2020

www.greece-italy.eu

IR2MA

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

Subsidy Contract No: I1/2.3/27

Project co-funded by European Union, European Regional Development Funds (E.R.D.F.) and by National Funds of Greece and Italy