



# ADRION TRAINEE

## ADRION Transnational Master in Renewable Energy

### Project main achievements

**10th IPA ADRION MONITORING COMMITTEE MEETING  
13th May 2024, Sibenik**

# ADRION TRAINEE (Project Info)

**CALL:** 5<sup>th</sup> Extraordinary call for proposals - Priority Axes 1 and 2

**Programme Priority:** 2. Sustainable Region

**Specific Objective:** Enhance the capacity in transnationally tackling environmental vulnerability, fragmentation, and the safeguarding of ecosystem services in the Adriatic-Ionian area

**Start date:** 02-01-2023

**End date:** 30-09-2023

**Total Budget:** EUR 935,750.00

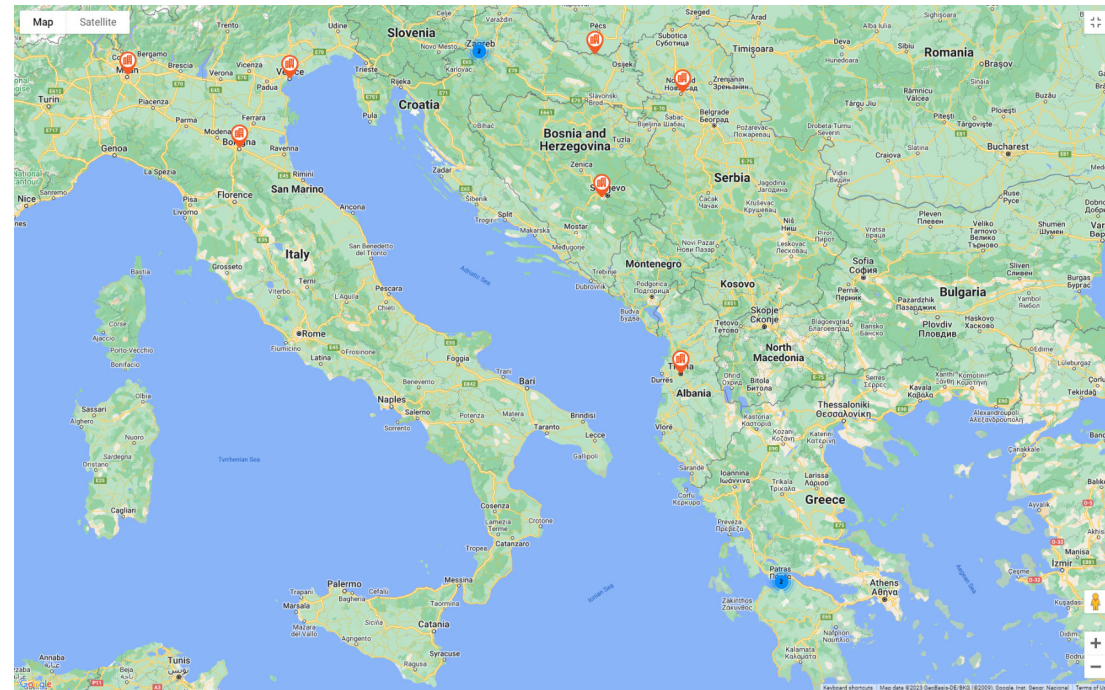
**ERDF:** EUR 635,235.41

**IPAII:** EUR 160,152.06

Partner	Project total budget (EUR)	Total amount certified by FLCs (EUR)
UPATRAS	152,850.60	151,423.08
UNIBO	110,539.70	110,570.04
IUAV	130,574.10	130,574.10
UNIZG-FER	79,803.10	79,803.10
AUC	80,195.20	79,366.09
UNS-FTN	64,554.20	64,125.74
IUS	62,831.10	62,333.40
UT	61,028.90	59,644.13
GREENTECH	62,263.30	62,263.30
Energo-data	67,445.40	60,149.67
SIC SRL SB	63,664.40	63,285.40
<b>Total eligible expenditure</b>	<b>935,750.00</b>	<b>923,538.05</b>

# Partnership overview

- 1. University of Patras, Dpt. of Chemical Engineering, Greece (LP) (GR)**
- 2. University of Bologna - Alma Mater Studiorum (IT)**
- 3. University of Venice – IUAV (IT)**
- 4. University of Zagreb (HR)**
- 5. Algebra University College (HR)**
- 6. University of Novi Sad (RS)**
- 7. International University of Sarajevo (BA)**
- 8. University of Tirana (AL)**
- 9. Green Technologies Ltd (GR)**
- 10. Energo-data (HR)**
- 11. Solar Info Community srl (Benefit Enterprise) (IT)**



# Project Goals and Targets

The “ADRION TRANSNATIONAL MASTER IN RENEWABLE ENERGY” (ADRION TRAINEE) project acknowledges the significant interest in **renewable energy** topics among the countries in the Adriatic-Ionian region and facilitates and promotes the energy transition by creating a joint master’s degree program focused on renewable energy.

The project operates through a **collaboration** of 6 partners representing different regions within the focused area, comprising **three EU countries (GR, IT and HR)** and **three IPA countries (RS, BA and AL)**.

The primary goals of the project were:

- The creation of a cross-border **university and business network** as well as
- The development of a **collaborative master’s program** through a capacity-building initiative in renewables and a knowledge-sharing strategy (accreditation by UPatras and IUAV is ongoing but pending).

The main strategy embraces a **transdisciplinary approach** that is founded on principles of mutual learning and context-based knowledge. It encourages mobility and combines the benefits of both **live courses** and **online activities** to maximize the learning potential.

# Project Target Groups

- *Target group #1 Total local public authorities: **34** (initial target 18)*
- *Target group #2 Regional public authorities: **11** (initial target 6)*
- *Target group #3 Sectoral agencies: **123** (initial target 18)*
- *Target group #4 Higher education and research: **51** (initial target 108)*
- *Target group #5 SMEs: **44** (initial target 0)*

*Students mobilized : **256** actively through questionnaires (40% under-, 12% graduated)*

***Thousands** through 51 higher education departments and institutions*

## ADRION TRAINEE at a glance

*Type of Master programme:* **Joint Transnational Master in Renewable Energy**

*Leading University:* **University of Patras (GR)**

*Title:* **1 common title including the signatures of all Universities (7, except of Bologna)**

*Duration:* **2 years (120 ECTS)**

*Specializations:* **2**

*Semesters:* **4 (2 Semesters Compulsory courses – 60 ECTS, 2 Semesters for specialization (1 with courses (30 ECTS), 1 with internship & MSc Thesis (30 ECTS))**

*Language:* **English**

*Number of students/ year:* **50**

*Tuition fees:* **6000 € (3000 €/year)**

# ADRION TRAINEE at a glance

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## ***Specific characteristics satisfied:***

- a. The student has the chance to spend at least 50% of the time in one university*
- b. Mobility to at least 1 University (besides the entrance in Patras)*
- c. Max of 12 exams*
- d. Hybrid format (at least 2/3 of courses are provided and experienced in person)*
- e. 48 credits of disciplines allowing Italian accreditation (LM75)*
- f. Accreditation by Greece and Italy (ongoing but pending), Joint Master with an agreement signed by ALL participating universities (delivering AT LEAST one course (online or in person) + being available for hosting the students during the MSc Thesis)*

# ADRION TRAINEE MSc Structure

**1<sup>st</sup> SEMESTER COMMON FOR ALL STUDENTS (3 compulsory courses – in person, 30 ECTS)  
(Patras – Univ. of Patras)**

**1. Fundamentals and applied chemistry and biology for energy (12 ECTS)**

Module A. Chemical fundamentals of energy technologies (6 ECTS)

Module B. Biochemical Processes Engineering for renewable energy production (6 ECTS)

**2. Renewable Energy Systems (RES) and georesources (10 ECTS)**

Module A. Renewable energy systems (6 ECTS)

Module B. Georesources for energy (4 ECTS)

**3. Techno-economic and Lifecycle Analysis of RES (8 ECTS)**

Module A. Techno-economic analysis (4 ECTS)

Module B. Life Cycle Assessment (LCA) (4 ECTS)

# ADRION TRAINEE MSc Structure

**2<sup>nd</sup> SEMESTER (4 compulsory courses – in person, 30 ECTS) (Venice - IUAV)**

**Specialization A. Planning and Policies for Renewable Energy**

**1. Ecology for the energy transition (6 ECTS)**

**2. Energy governance and policy (6 ECTS)**

**3. Spatial planning for decarbonization (12 ECTS)**

Module A. Spatial planning, renewables and decarbonization (6 ECTS)

Module B. GIS tools for environmental analysis and planning support (6 ECTS)

**4. Circular economy (6 ECTS)**

# ADRION TRAINEE MSc Structure

**2<sup>nd</sup> SEMESTER (4 compulsory courses – in person, 30 ECTS) (Zagreb - UNIZG-FER)**

**Specialization B. Renewable Energy Systems Engineering**

- 1. Optimal Sizing and Operation of a Renewable Energy Hub (6 ECTS)**
- 2. Estimation and Prediction in Energy Systems and Infrastructure (6 ECTS)**
- 3. Control in Renewable Energy Systems (15 ECTS)**
  - Module A. Control of Power Converters (5 ECTS)
  - Module B. Control of Energy Storage Systems (5 ECTS)
  - Module C. Energy-efficient Buildings Control (5 ECTS)
- 4. Seminar on Optimization, Estimation and Control in RES (3 ECTS)**

# ADRION TRAINEE MSc Structure

**3<sup>rd</sup> SEMESTER (2 compulsory (12 ECTS) & 3 elective courses (18 ECTS) – online)**

- 1. Technical English and scientific writing (6 ECTS) | Compulsory, UT**
- 2. Ecology for the transition (6 ECTS) | Compulsory, IUAV or**
- 3. Optimal Sizing and Operation of a Renewable Energy Hub (6 ECTS) | Compulsory, UNIZG-FER**
- 4. Biomass and biofuels (6 ECTS) | Elective, UT**
- 5. Photovoltaic generation, energy management system (EMS) and electric vehicle supply equipment (EVSE) (6 ECTS) | Elective, UniBo/DEI**
- 6. Waste and Energy Management (6 ECTS) | Elective, IUS**
- 7. Quality management systems and ethical issue concerning energy (6 ECTS) | Elective, IUS**
- 8. Planning and sustainable development (6 ECTS) | Elective, University of Novi Sad**
- 9. Geodynamics (6 ECTS) | Elective, University of Novi Sad**
- 10. Renewable Energy Communities (6 ECTS) | Elective, UniBo/CHIMIND**
- 11. ICT Data System for Operation of a Renewable Energy HUB (6 ECTS) | Elective, AUC**

# ADRION TRAINEE MSc Structure

## 4<sup>th</sup> SEMESTER – Internship & MSc Thesis (Student mobility, 30 ECTS)

1. Internship in a Business/Research Institution Network Partner (15 ECTS)
2. MSc Thesis (15 ECTS)

## ACCREDITATION

1. According to Greek Accreditation for UPatras (ongoing, approx. 4-6 months)
2. According to Italian Accreditation for IUAV (optional)

*Earliest possible start on Academic Year 2025 - 26*

# Requested Budget (2 Years MSc Implementation)

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## Preparation phase = accreditation + teaching materials + proposal

(a) UPatras (accreditation) =	10000
(b) IUAV (accreditation) =	10000
(c) Proposal preparation =	15000
(4) Publicity actions (advertisement etc.) =	5000
<b>Total 1 =</b>	<b>40000</b>

## Implementation phase (1<sup>st</sup> year) – September 2025

· Teaching stuff =	78000
· Project Management =	40000
· Personnel (technical) for running the Master =	45000
· Office & admin (ADRION) =	16300
· External expertise =	30000
· External expertise (extra for UPatras – Greek Law) =	165000
· Travels for Teaching stuff + invited =	12600
· Dissemination events + material + services =	33000
Expenses of Students	
· Fees for students =	
· Students transportation costs =	20000
· Students accommodation =	165000
<b>Total 2 =</b>	<b>604900</b>
<b>Total (1+2) =</b>	<b>644900</b>

## Implementation phase (2nd year) – September 2026

· Teaching stuff =	136500
· Project Management =	80000
· Personnel (technical) for running the Master =	45000
· Office & admin (ADRION) =	26150
· External expertise =	55000
· External expertise (extra for Upatras) =	309000
· Travels for Teaching stuff + invited =	30600
· Consumables/software/ equipment=	55000
· Dissemination events + material + services =	33000
Expenses of Students	
· Fees for students =	waived
· Students transportation costs =	40000
· Students accommodation =	330000
<b>Total 2 =</b>	<b>1140250</b>
<b>TOTAL (for 2 years) =</b>	<b>1785150</b>

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THANK YOU

FOR YOUR ATTENTION