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TEChnical GReen Engineering skills for MEDiterranean Region (TECGREMED)

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Erasmus+ Impact Seminar and Exhibition
Thematic Meeting on Greening and Digitalization
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The University of Jordan



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Project Overview

- TEChnical GReen Engineering skills for MEDiterranean Region
- (TECGREMED)
- CBVET
- Università Degli Studi di Cassino e Del Lazio Meridionale, Italy (Coordinator) , Université Sidi Mohammed Ben Abdellah-Fès, Morocco , Zarqa University, Jordan , University of Jordan, Jordan , An-Najah National University, Palestine Universitat Politècnica de València, Spain , Fondazione Sicurezza e Libertà, Italy
- Duration (2024 – 2026)



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Project Scope & Strategic Relevance

- Main Objective :
 - To address youth unemployment in Jordan, particularly among refugee populations, by fostering inclusive green skills and enhancing collaboration between universities and the labour market in the energy and environment sectors.
- Specific Objectives (max 3)
 - To identify and bridge the gap between the technical skills demanded by Jordan's green job market (e.g., renewable energy, environmental conservation) and the current competencies of university students and recent graduates.
 - To establish a functional model for university-labor market collaboration, exemplified by initiatives like the TECGREMED Laboratory at Zarqa University, to improve job placement services and skills training.
 - To align educational outputs with key United Nations Sustainable Development Goals (SDGs), including SDG 8 (Decent Work and Economic Growth), SDG 7 (Affordable and Clean Energy), and SDG 13 (Climate Action).



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Project Scope & Strategic Relevance

- Brief Description (3–4 lines)
- The TECGREMED promoting sustainable and green practices, the project works to align university curricula with labour market needs in sectors like renewable energy and environmental protection.
- Key activities include developing technical skills, establishing collaborative laboratories, and hosting workshops (e.g., in Roma and Amman) to build leadership models for effective university-industry partnerships, ultimately contributing to a greener and more inclusive future workforce.



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Contribution to Greening

Specify **clearly and concretely**:

Areas of Contribution:

- x Curriculum (new/updated green courses)
- Campus sustainability (energy, waste, etc.)
- Research & innovation
- x Skills for green jobs

Key Outputs:

- No. of green courses/modules developed: 4
- No. of students trained in green skills: 100 in Jordan

Tools/platforms developed: virtual reality modules

Measurable Results:

- % reduction (energy / paper / emissions if applicable)
- No. of institutions adopting green practices



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Contribution to Digitalization

Specify **clearly and concretely**:

Areas of Contribution:

- Digital teaching & learning
- Infrastructure (labs, platforms)
- Digital skills development
- AI / emerging technologies

Key Outputs:

- No. of digital courses/modules: 4
- No. of trained staff: 20 in Jordan

Platforms/tools developed: Virtual Reality

Measurable Results:

- 20 % increase in digital adoption
- 50 students ZU + 50 students UJ - No. of users of digital systems



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Key Achievements (Core Results)

Top 3–5 achievements (concise, evidence-based)

Target groups reached:

- Students: # 100 in Jordan
- Academic staff: # 20 in Jordan
- Administrative staff: # 12 in JOrdan
- External stakeholders: # 20

Deliverables produced:

- x Courses
- x Training programs
- Policy papers
- x Digital tools
- Other



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Impact

Quantitative Indicators:

- Total beneficiaries:
- Institutions reached: 8
- Trainings delivered: 6

Levels of Impact:

- Individual (skills, employability) – train students and non-students
- Institutional (systems, curricula) - Integrate virtual training modules in current courses
- National (policy influence, frameworks)

Policy/Practice Influence:

- Yes / No
If yes → specify: Integrate virtual training skills



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Innovation & EU Added Value

- What is NEW in this project?
 - **First green VET program** in Jordan, Palestine, and Morocco – no university in these countries currently offers technical training in "green engineering skills."
 - **Targets both local and refugee youth Four practical modules** directly matched to labour market needs (IT, engineering, renewable energy, environmental skills).
 - **Direct vocational school workshops** in Jordan, Palestine, and Morocco.
 - **Applied learning strategies** new to partner institutions (work-based learning, problem-based learning, industry simulations).



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Innovation & EU Added Value

- How EU cooperation enhanced results:
 - **Knowledge Transfer**
 - EU partners (UPV, UNICAS, FS&F) provided mentoring and first-hand exposure to green engineering education, sustainability teaching, and applied research during study visits to Italy and Spain.
 - **Methodologies**
 - Introduced work-based learning, problem-based learning, PDCA quality cycle, and formative evaluation – methods not previously used in partner institutions.
 - **Standards (ECTS, microcredentials, QA)**
 - Curricula aligned with **EQF** and **EQAVET** frameworks.
 - **Microcredentials** expertise from UPV (ENHANCE Alliance) applied to green skills certification.
 - Structured QA deliverables (Progress Reports, Quality Assurance Reports, Formative Evaluations) imported from EU standards.



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Sustainability & Continuation

Sustainability Measures:

- x Institutionalization (courses integrated)
- x Budget allocation after project
- Continued partnerships

Evidence:

- Policies adopted
- Agreements signed
- xUnits/labs established

Replication:

- Other institutions adopting results? (Yes/No + examples) yes



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GREEN ENGINEERING SKILLS



LABORATORY



Supported by Erasmus CB VET project

**TEChnical GReen Engineering
skills for MEDiterranean
Region
(TECGREMED)**



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Challenges & Lessons Learned

- 2–3 key challenges
 - **Skills mismatch** – Graduates lack technical skills needed for green jobs. Existing engineering programs are theoretical, not practical.
 - **High youth & refugee unemployment** – Youth unemployment in Jordan at 43.3%; Syrian refugee unemployment as high as 83%. Limited access to affordable, relevant training.
 - **No existing green VET program** – No university in Jordan, Palestine, or Morocco provides technical training in "green engineering skills."



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Challenges & Lessons Learned

- How they were addressed
 - Developed **4 practical modules** based on labour market needs analysis (IT, engineering, renewable energy, environmental skills). Used work-based learning, problem-based learning, and industry simulations.
 - Located training near refugee communities (Zarqa University). Partnered with local vocational schools (ZITC, NIS). Offered affordable, hands-on VET programs targeting 150 students.



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Challenges & Lessons Learned

- Lessons for future Erasmus+ projects

Lesson	Explanation
Start with a thorough needs analysis	Baseline data collection and stakeholder validation (including labour market partners) ensured curricula matched real demand, reducing skills mismatch risk.
Involve local vocational schools early	Partnering with vocational schools (not just universities) ensured direct reach to youth and refugees seeking fast labour market entry.
Build sustainability through institutionalization	Integrating new modules into accredited curricula, signing MOUs with employers, and securing institutional budget commitments ensured results lasted beyond EU funding.
Use EU partners as mentors, not just trainers	European partners adopted a mentoring role (not one-directional knowledge transfer), building local capacity for long-term independence.



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Future Plans & Scaling

- Follow-up projects or funding
- Expansion plans (national/regional)
- Opportunities for collaboration