



From classroom to business ideas: fostering eco-innovation through engineering entrepreneurship education

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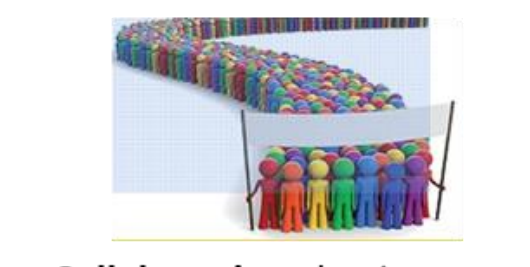


INTRODUCTION

- ✓ The current global scenario demands a fundamental shift in production and consumption patterns due to increasing concerns about sustainability and the environmental impact of industrial activities.
- ✓ In the engineering field, professionals must possess both technical expertise and entrepreneurial skills to drive industrial transformation toward more sustainable and efficient models. The incorporation of eco-innovation and entrepreneurship into engineering education is essential to ensure graduates' employability and competitiveness.
- ✓ The University of Jaén aims to drive Eco-innovation by equipping engineering students with entrepreneurial and innovation skills. This initiative fosters active participation, preparing future engineers to lead the transition toward a circular economy and sustainable industrial development.



Achieving this transformation



Collaboration: businesses, governments, citizens, and higher education institutions

Engineering entrepreneurship education



Universities drive eco-innovation by integrating sustainability and entrepreneurship into engineering education.



Study and analyse the impact of entrepreneurship education on fostering creativity, problem solving, leadership and project management.

Eco-innovation



METHODOLOGY

Description of the agents involved

Multidisciplinary Teaching Team



the areas of electrical engineering, electronic and automation engineering, and environmental and materials chemical engineering, along with a young researcher in training

Subjects

"Fundamentals of Solar Photovoltaic Energy"
(Master's in Renewable Energies)
and
"Photovoltaic Installations"
(Electrical Engineering degree)

Integration of Entrepreneurship Training

Voluntary participation, which accounts for 10% of the final mark.

Tools of the methodology

Facebook as an Educational Tool

Facebook is utilized for asynchronous activities, fostering student collaboration and discussion, aligning with previous research on the role of social networks in higher education.

Entrepreneurship Day and GEOLIT Visit

The initiative includes in-person activities with entrepreneurs and the University of Jaén's student support service, along with a visit to the GEOLIT science and technology park.

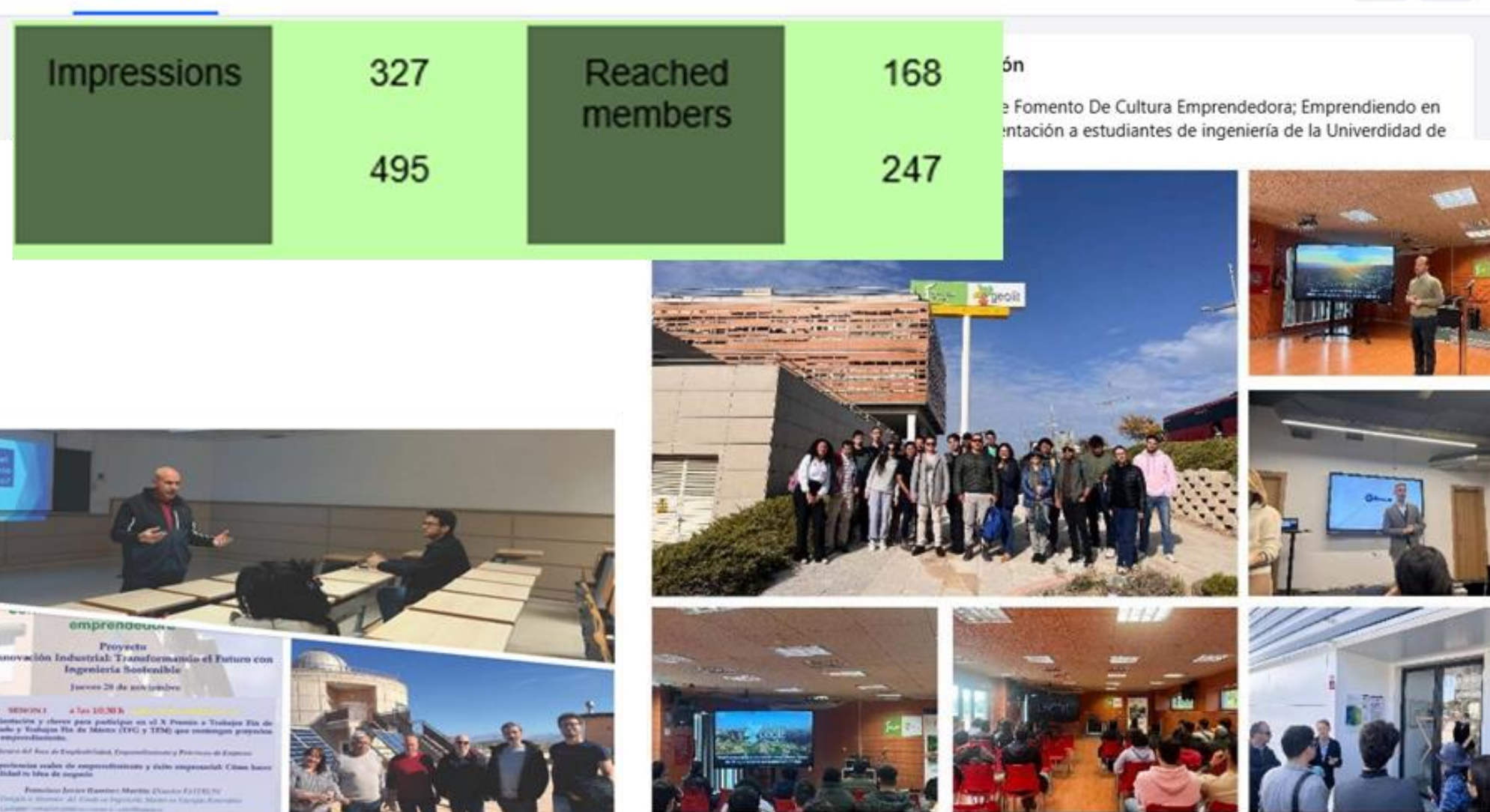
STRATEGIES TO PROMOTE THE ENTREPRENEURSHIP



Emprendiendo en el aula: Orientación estudiantes ingeniería UJA

Grupo - Privado - 314 miembros

Conversación Miembros Eventos Archivos multimedia Archivos



RESULTS

Assessment Through Surveys: surveys measure the impact on students' perceptions of entrepreneurship, sustainability, and eco-innovation.

Question	Percentage of "Yes" Responses in the Initial Survey	Percentage of "Yes" Responses in the Final Survey	Observed Improvement (%)
Have you thought about starting your own business?	70,6 %	85%	Increase of 14,4 %
Do you think that starting your own business is a professional outlet for you?	25%	55,3%	Increase of 30,3%
Do you know of any technical advisory body offered by the University of Jaén in the field of entrepreneurship?	15%	70%	Increase of 55%.
Do you think that sustainability or SDGs are important when starting a business?	92%	96,6%	Increase of 4,6%
Do you consider that the experience has positively motivated you to follow the course?	Not available in pre-test	77,7%	

this activity significantly fostered their interest in the subjects, as they were able to connect the subject matter with eco-innovative solutions that could potentially become viable business ideas.

CONCLUSIONS

- **The transition to a circular economy** is a complex yet essential challenge for building a more sustainable and resilient future. Achieving this transformation **requires the active collaboration of higher education institutions.**
- The University of Jaén plays a pivotal role in fostering **eco-innovation by integrating entrepreneurial education** into its curricula and strengthening university-industry linkages.
- The results demonstrate a significant impact, with a **notable increase in students' interest in entrepreneurship**, awareness of available resources, and motivation to integrate sustainability .

Acknowledgments

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