

## **Crowdfunding Simulation Game as a Tool to Support Technological Entrepreneurship and Innovation in Manufacturing: A Study in Germany, Poland, And Spain\***

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### **Abstract**

The aim of the paper was to develop and test a Crowdfunding simulation game as an innovative educational tool supporting the development of technological entrepreneurship and innovation in the manufacturing sector. The starting point was the observation of the growing importance of crowdfunding as an alternative source of financing for startups and academic spin-offs, while there is a shortage of practical educational tools developing competences in this area. This literature gap concerns in particular solutions based on simulations and gamification, enabling realistic, active learning. A three-module methodology was developed within the SYNERGY and IDEATION projects: (1) theoretical training on crowdfunding mechanisms, financing models and communication strategies, (2) development of own campaigns on the Synergy platform, and (3) a crowdfunding simulation game with the allocation of virtual budgets and project evaluation. The program was implemented in three countries (Poland, Germany, Spain) and included 89 participants – students and (non-)academic staff. The results showed an average increase in participants' knowledge by 43.3 percentage points, a high level of engagement, and the development of practical competences in campaign planning, defining target groups, and making investment decisions. The results confirm the effectiveness of the developed tool and its potential for wide implementation in entrepreneurship and innovation education.

**Keywords:** crowdfunding, simulation, technological entrepreneurship, manufacturing