

The Role of FabLabs on Footwear and Metal Sectors: Prospects, Challenges, and Recent Applications

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Abstract

This paper presents the role of FabLabs in the Portuguese footwear and metal industrial sectors, regarding the use of new and disruptive technologies and processes at industrial scale, aiming for the digitalization of the industry. MetalShoe FabLab Network is a project intending to provide a physical space and, at the same time, offering knowledge for experimentation, demonstration, validation, and human resources training regarding digital manufacturing technologies, with focus in the industrial implementation. For that, a survey was conducted among industrials from both sectors to understand the needs and expectations regarding these types of technologies. Digitalization, automation and robotics, additive manufacturing and digital marketing were the ones selected as the technologies not yet integrated and that would bring value to the companies, while the companies want to learn more about digitalization, additive manufacturing & 3D Printing and IoT, these being similarly chosen, and automation and robotics following closely behind. In this sense, the outputs of the projects were technical referential about each technology, guides for applications of the technologies, workshops, technical sessions and demonstration actions. In the end, it is expected that Portuguese companies from both sectors would recognize the potential of digital manufacturing technologies and incorporate those that provide the most value to each entity.

Keywords: FabLab, Footwear industry, Metal industry, Disruptive technologies, Digital manufacturing