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The Use of Crowd-Design for Sustainability: A Case Study on a Large Organisation.

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Rapid expansion of Information and Communication Technologies (ITCs) in today's society has provided the emergence of new possibilities for stakeholders' participation in the product development process. One of such possibilities is Crowddesign, understood here as an emerging mode of project and production system that uses knowledge and resources available in the crowd, usually through the Internet, for the purpose of solving problems and/or creating content. The research investigated the use of crowd-design for sustainability purposes. It was conducted within the Sustainability Maker Project (SuM), through a series of case studies carried out at the Design & Sustainability Research Group of the Federal University of Paraná (NDS/UFPR). The SuM Project was led by "econcept", a German design office focused on Sustainable Design. The European Community funded the SuM Project through the LIFE program (LIFE11 ENV/ DE/000342) while the Dutch company WEBclusive developed the crowd-design platform. Considering that the sustainable development has been prompting pressures to a more proactive role of design in the face of current environmental, economic and social challenges of our society, the research proposes a reference model of the crowd-design process aligned to the principles of sustainability. For the development of this model, Systematic Literature Review was conducted for the search of definitions and principles associated to crowd-based approaches for product development and its implications for sustainability. On this paper the authors present one of the case studies developed at Tigre, a multinational Brazilian company. The company is present in more than 40 countries, with 7,000 employees and 23 factories, nine in Brazil and 14 abroad. The Company Group is made up of companies of pipes and fittings, painting tools, PVC doors and windows, and corrugated pipes. The research was conducted at the company's headquarters in the city of Joinville, Brazil. The initiative was championed by Tigre's Innovation Department and its internal objective was to launch a new institutional initiative to stimulate the culture of innovation, fostering participation in the generation of collective solutions. Hence, on this case study the "crowd" was confined to the employees of the company, with a focus on the administrative personnel (around 500 people). The challenge launched to this crowd was "How can we promote sustainable water consumption through new products?". The article reports the resulting reference model of a design process that enables the development of sustainable solutions with the involvement of the stakeholders through a crowd-design platform, over the Internet. Among the results, it was found that the crowd-design applied as an hybrid method (i.e. through online and off-line approaches) enables non-designers in designing sustainable solutions.