GreenSim: A Process Simulator for Green Product Decision-Making

Impact: While rapidly growing around the globe, the green building market can be a challenge to access if little is understood about the material and product selection process used by design teams. This lack of knowledge limits market access, increases sales costs, and undermines the commercialization success of green product initiatives. Estimated to be worth $30 to $40 Billion annually by 2010, the expanding green building market provides important opportunities for savvy PA manufacturers to develop new products and materials. There is a tremendous leadership opportunity to bring product innovations to market and to provide a commercialization strategy that will enhance access for PA manufacturers to the product selection process used in green design. GreenSim will provide Pennsylvania's green product and materials manufacturing sector with vital access to the green building design process and enable it the greatest possible opportunity to successfully inject their products into the marketplace. Coupled with incentives to accelerate their products to market, the PA manufacturing sector will capture a substantial market.

Project Overview: To ensure the successful uptake of green and environmentally innovative products in the building industry, research is needed on the material and product selection processes in design. This project will study the design process to research the crucial issues and decision processes in material and product selection in order to identify access and targeting strategies that enable the highest uptake of green and in building design. Leveraging important research being conducted at Penn State's Lean and Green Research Initiative, a process modeling protocol will be employed to empirically research the design process of green building. The results will be integrated into a commercially available simulation product called GreenSim.

This product will be of value to owners and designers of green projects, primarily commercial scale, who want to know the best moments in design to make material and product decisions; as well as to green product manufacturers in PA and their marketing partners who want to target their commercialization and sales efforts at design decision makers to have much more timely and meaningful impact than is currently the case.

GBA Product Innovation Grant Amount: $81,062

Leadership Team: The project team includes Penn State University's Dr. Michael Horman, Associate Professor of Architectural Engineering and Executive Director of the Lean and Green Research Initiative; Dr. David Riley, Associate Professor of Architectural Engineering and Executive Director of the Center for Sustainability; Lisa Iulo, Assistant Professor of Architecture; and Jeff Deimer, graduate student. Penn State is partnering with Burt Hill's John Brock, AIA, Managing Principal of the central region offices; Pete Moriarty, President and CEO; Jill Swensen, Principal; and Gina Baker, Director of Sustainable Design.

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