

The 'valley of death' facing physics start-ups

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In this month's issue of *Physics World*, James Dacey explores the ways in which physicists are bridging the "valley of death" to take their innovations from the lab into the commercial market.

Dacey argues that the gruelling challenge facing all start-up companies as they move from prototype to product is somewhat harder for [physicists](#) because of two main factors: physics-based inventions are usually far from market-ready when initially proposed and they often turn out to be a lot more complicated than had been originally thought.

This can be compounded by overly optimistic academics, who ultimately find that the added work that a product requires is not compatible with their busy day-to-day workloads, subsequently resulting in a project falling flat.

Yet for those who are willing to put in the necessary graft and fully commit to the project, as well as recruit the relevant expertise around them, the rewards can be plentiful.

In his article, Dacey highlights the success of Boston-based company MC10, which, after getting a number of business-minded people on board from the start, successfully bypassed the "valley of death" and entered products into a number of different markets. MC10's most high-profile product is the Reebok CHECKLIGHT – a type of skull cap that can be worn in contact sports to provide feedback on the severity of blows to the head.

As with all start-up projects, a lack of money remains a persistent obstacle and, as Jon Cartwright explains in an accompanying *Physics World* feature, has resulted in many physicists turning to crowdfunding websites to get their projects off the ground.

Cartwright highlights a number of instances where the general public have supported unusual and interesting physics-based projects by donating small or large amounts of cash, through various crowdfunding websites (some science-specific), in return for some sort of reward, such as gifts or shares in the company or sometimes just updates on the project.

One such success story is that of Matthew Inman, creator of The Oatmeal comic, who triumphantly raised \$1.3m in 2012 through the crowdfunding website Indiegogo so that he could fund a museum in New York state to commemorate the life of Nikola Tesla.

However, it remains to be seen whether crowdfunding websites, which aren't without their faults, can really take off in the field of physics.

"The phenomenon has been lauded by many as a prime example of the benefits of the Internet," Cartwright writes. "Yet some scientists have suggested that, as far as crowdfunding scientific research and development goes, potential donors are poorly equipped to judge the merits of scientific projects and innovations, or to avoid scams."

"These detractors admit that crowdfunding may offer a solution for financing projects that have slipped through the net of traditional funding mechanisms – but, they say, it could also become a problem in itself."

Provided by Institute of Physics

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