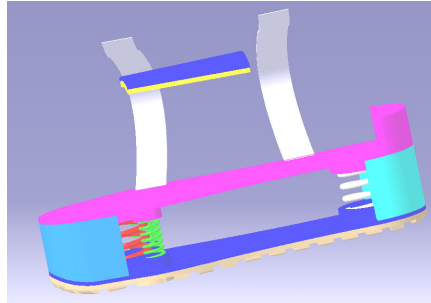


# ***Hybrid Fitness***

## **Assistive Running Devices**



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## Executive Summary

The fitness market has been lucrative in the past, and is currently experiencing growth in profitability due to increasing emphasis on personal health and fitness. Within exercise equipment, research showed that Treadmills comprised 58% of all consumer expenses in the \$5.9 billion 2003 United States fitness market. As a result of an already saturated treadmill market and the fact that the market is currently shifting from large equipment to smaller compact equipment, alternative solutions were considered. Running shares functionality with treadmills, and participation has been on the rise since 1998. The needs of runners lie primarily within the area of injury prevention. Sixty percent of regular runners are injured badly enough to reduce training. In 1978, a study showed that 29% of runners had injuries associated with knee pain. Twenty-five years later, this number has remained practically unchanged at 25%, proving that there has been no effective solution to the problem of knee injuries from the impact of running.

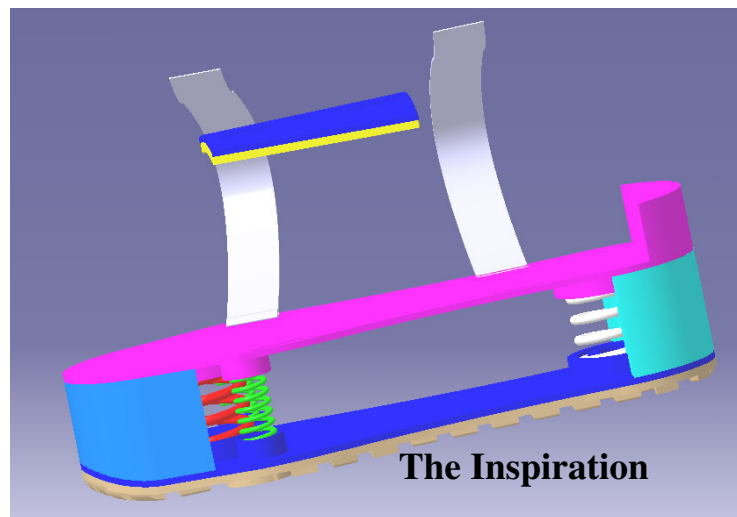
The targeted age group of runners is 25-44 years old. The target age group was responsible for 46% of running footwear expenditures in 2003, with spending reaching nearly \$850 million [8]. These customers require proper gait, impact reduction, size adjustability, energy conservation, durability, low cost, safe operation, and ease of use. These requirements are all satisfied by Hybrid's new product, the Inspiration within 25% of the target value.

The process of attaching the Inspiration takes only three steps. The first step is for the user to put on their favorite pair of sneakers. The user then places his or her foot on the top plate of the inspiration with their heel firmly against the rear stop. Finally, the foot is secured using the Velcro straps that are woven through the force distribution plate.

The Inspiration has been specially designed for the 80% of runners who run from their heel to their toe. As the user steps with their heel, the rear spring and foam damper compress. The user will then rotate his/her foot forward with additional help from the compressed rear spring, and cause the propulsion springs to compress. As the user lifts her/her foot, the propulsion springs will provide an upward force. The upward curvature at the front helps ensure a smooth transition when the foot rolls forward, and also helps to prevent the user from tripping.

There are 14 components to the Inspiration. They consist of springs made out of music wire, a force distributor and top and bottom plate made out of polystyrene plastic, and foam supports and cushions made from Ethafoam-M1. The specially designed rubber tread is silicone carbon rubber. This rubber has high tear strength and is commonly used in sports equipment and running footwear because of its easy manufacturability. Injection molding was chosen for the tread and plates because of its high-volume, low-cost production. To aid in mass manufacture, functional coupling, part retrieval, part handling, and insertion were all considered and improved upon during "design for assembly".

Gel inserts, Gazelle Power Plus, Kangoo spring boots, and Nike Shox serve as competitors to the Inspiration. All of these devices provide the user with a reasonable amount of



impact reduction during exercise. The Inspiration does have the ability to successfully compete with each of these benchmark products. It is able to reduce impact as much or greater than all of the benchmarks, with the exception of the Gazelle which has no significant impact forces because of the swinging motion of the legs.

The Inspiration is a venture with great financial profitability potential. The break-even point for this venture will come early in the fifth quarter. The net present value after the 15th quarter will be \$1.9 million, producing a rate of return of 215% and a yearly return on investment of 233%. Conclusively, production of the Inspiration will lead to very large financial returns, and a very satisfied consumer base.