

Global Fitness Equipment OEM chooses 3M Touchscreen Solution for Next Generation Product Line

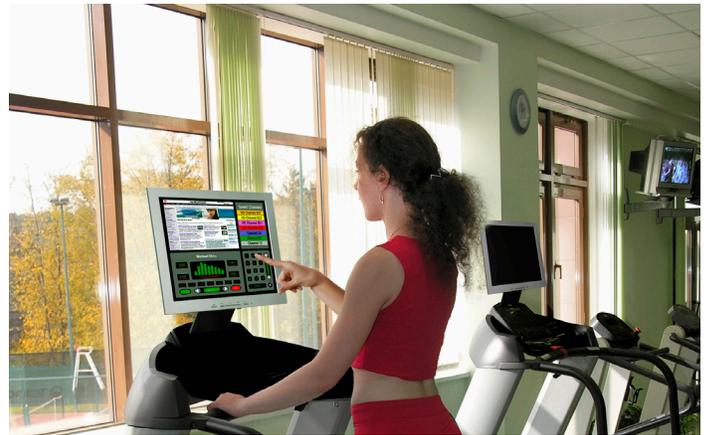
The Application

As the trend for physical activity and exercise increases across the globe, the fitness equipment industry continues to innovate new and exciting exercise products for both home use and commercial gym environments aimed at maximizing fitness results while enhancing the user's overall workout experience. For many years, fitness machines, such as treadmills, stationary bikes, elliptical cross trainers and stair climbers, have used a standard user interface of dials, knobs, and resistive buttons to adjust machine settings. However, these user interfaces are now evolving to include more sophisticated smart phone-like features. In addition to allowing users to customize and monitor individual workouts, fitness machines now provide advanced entertainment functionality, such as the ability to watch live TV, listen to music, and access the internet during a workout. As the functionality of the fitness machine has progressed, user interface requirements have also evolved. Now, fitness equipment manufacturers typically include an integrated touch display in the machine's control panel to serve as a central user interface hub. With this interactive interface, the user controls all machine and entertainment settings, as well as varying degrees of entertainment content.

The Problem

A major global fitness equipment manufacturer wanted to improve overall user satisfaction and machine equipment effectiveness (OEE) by developing a next generation fitness machine product line that reduced machine down time and improved user engagement. This OEM was interested in a reliable and durable touch solution that could withstand the rigors of a typical commercial gym environment, while maintaining consistent optical clarity of the LCD and touch interface.

In most commercial gym environments, fitness machines are used by several different users per hour and many users per day. These machines, and the touch interface in particular, are typically subjected to water, sweat, and sports drinks during a workout. As a result, the OEM required a touch display that could withstand frequent cleanings while maintaining full functionality in the presence of these contaminants. In addition, during typical exercise use, fitness machines also experience heavy vibrations and require a robust touch interface that can maintain functionality during use and not jeopardize a user's workout routine. Furthermore, in an effort to fully optimize the advanced entertainment options provided, including workout personalization, TV viewing, and internet usage, the OEM required an optically-clear touch display that would not degrade or show visible wear over time and negatively impact the user experience.



Other touch solutions, most notably, resistive-based touch displays, were susceptible to visible wear and functionality failures over a period of time of typical usage due to product construction and method of operation (figure 1). In order to operate a resistive touchscreen, a user must touch the screen with enough force to move the two layers of conductive material to make contact with one another. Over

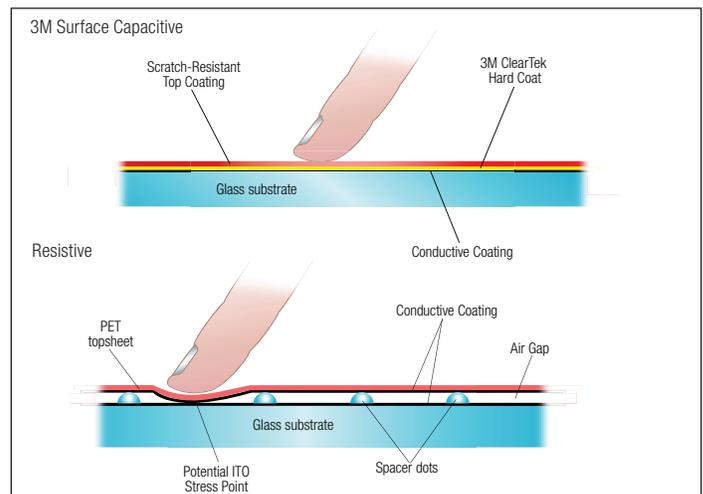


Figure 1. Unlike resistive touch technology, 3M surface capacitive has no moving parts thereby increasing long-term reliability and durability.

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time, these moving parts can begin to break down through mechanical wear, especially in frequently touched areas, such as a selector button. Screen wear can lead to difficulties in making a selection on the fitness machines's touch interface and can create user frustration and dissatisfaction. As a result, the fitness equipment manufacturer began evaluating alternative touch technologies for use in their next generation product redesign.

The Solution

The 3M™ MicroTouch™ System SCT3250EX (see figure 2), based on 3M Surface Capacitive Technology (3M SCT), was selected by the company as the touchscreen solution of choice for their next generation exercise equipment products. As an all-glass solution, the SCT3250EX touch system allowed for easy cleaning after use and provided the OEM with a robust touch interface solution that could withstand the typical rigors of a commercial gym environment without compromising functional or optical performance. The SCT3250EX touch system, equipped with 3M proprietary electronics, has been engineered and designed to maintain optimal performance in the presence of on-screen contaminants, such as water, sweat, and sports drinks, making the SCT3250EX product an ideal solution in the commercial gym environment. In addition, with 91.5% transmission and a proprietary anti-glare surface coating with a protective hard coat (3M ClearTek hard coat), the SCT3250EX touch system was able to maintain superior image quality over time as well as in the variety of indoor lighting environments required by the fitness equipment manufacturer.

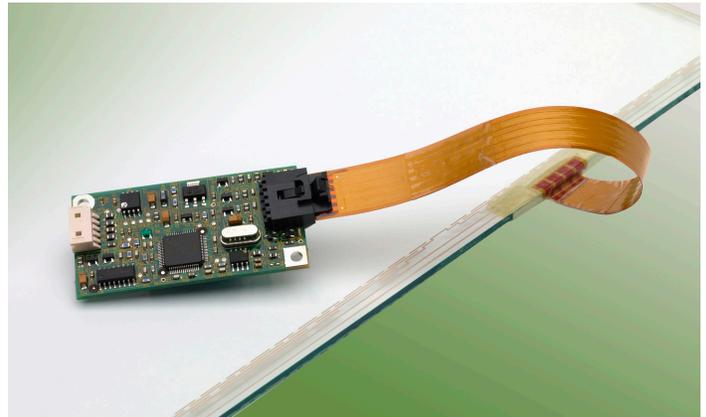


Figure 2. 3M™ MicroTouch™ System SCT3250EX Product

The Result

By designing the SCT3250EX touch system into their next generation product line, this fitness equipment manufacturer was able to further enhance the user interface experience through advanced workout monitoring and entertainment features. This product innovation allowed the OEM to clearly differentiate its product offerings versus their fitness competition and enable their largest new product launch in recent company history. The OEM has not only exceeded original sales forecasts for the new product line, but has also improved internal overall equipment effectiveness for the new machines. Now, the OEM has set their sights on increasing overall market share in the fitness equipment market.

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