

# MotoCzysz Brings Winning Designs Across the Finish Line with 3Dconnexion 3D Mice

**3D-Mice:** SpaceMouse® Pro, SpaceNavigator®  
**Application:** SolidWorks



For motorsports engineer, Nick Schoeps, and his team at MotoCzysz, 3Dconnexion's SpaceNavigator and SpaceMouse Pro are essential to create designs for the world's fastest motorcycles

A motorcyclist relies on focus, precision and determination while racing to the finish line, just as an engineer does while designing the elements of a high-performance sport bike.

Nick Schoeps, lead motorsports engineer of MotoCzysz, and his team depend on 3Dconnexion 3D mice and SolidWorks when designing the world's fastest electric motorcycles. This winning combination has helped the company design the motorcycles that have won the Isle of Man TT Zero race for three consecutive years (2010 – 2012).

Schoeps was first introduced to 3Dconnexion 3D mice at the University of Michigan while working with the solar car team. This experience geared him up for the start of his career at MotoCzysz, where he was happy to find his colleagues using SpaceNavigator 3D mice— essential tools for extensive CAD work according to Schoeps, especially during the busy seasons.

Says Schoeps, "It was great seeing 3D mice already

implemented into the design workflow here. If they weren't, I would have bought one for myself to use – that's how much of a game changer they are."

## MotoCzysz Needed a New Solution for Faster Design

Faced with a steady influx of design projects and complex design elements throughout the years, MotoCzysz needed an intuitive solution that would help boost productivity. Often, the company's design engineers face tight deadlines, meaning long hours and high expectations from management, which can be both mentally and physically demanding.

Using the SpaceMouse Pro, Schoeps says he saves about 20-30 percent of design time— a critical advantage in MotoCzysz' fast-paced working environment.

In addition to working more efficiently within existing models, the 3Dconnexion 3D mice also help Schoeps' team shave time off the end-to-end product development process. For example, when MotoCzysz CEO and founder, Michael Czysz, comes up with a concept, he often draws it by hand. The company's designers are then charged to move the concept to realistic renders—which they can do more quickly than before with the use of SpaceMouse Pros.

Though Schoeps admits that helping seasoned engineers get comfortable using 3D mice can be a challenge, he says, "Once you get into it, you're hooked for good reasons."

### 3D Mouse Features that Enhance the Design Process

By combining SolidWorks and 3Dconnexion 3D mice, MotoCzysz was able to enhance its designs with the following product features. (Quotes from Schoeps)

#### Ergonomic Design

"It took longer to work on CAD designs, and I would experience wrist fatigue and Carpal Tunnel Syndrome when designing for extended periods with a traditio-



nal 2D mouse. Using a 3D mouse not only enables me to work faster and more effectively, but it also relieves some of the wrist strain by distributing the load between both hands."

#### Ease of Movement

"Whether I'm working on a large design like a sport bike or the intricate elements featured in a battery pack, 3Dconnexion's six degrees of freedom technology has made it easier to gesture and move around a particular part rather than panning and zooming with a regular 2D mouse. It also helps when I'm presenting a design. Being able to pan, zoom and rotate simultaneously when I have a team member looking over my shoulder allows me to showcase and describe my designs with ease."

#### Decreased Hand Motion

"With the shortcuts keys on the SpaceMouse Pro, the number of times we move our hands from the mouse to the keyboard is greatly decreased."

#### Increased Model Control

"Designing in SolidWorks with 3Dconnexion 3D mice is intrinsic. I feel as though I have more control over my models and I'm able to move parts within an assembly – I can pick up a part and drop it exactly where it needs to be in the three dimensional workspace and there's something very powerful about that."





### 3Dconnexion 3D Mice Are Winning Design Tools for MotoCzysz

Schoeps and his team have had many designs “cross the finish line,” and show no signs of slowing down. The firm’s emerging designs include the D1g1tal Dr1ve D1—the world’s first fully integrated electric drive system for powering the cars of tomorrow—and a partnership with Segway Corporation focused on redesigning the universal transporter. With the SpaceNavigator and SpaceMouse Pro at their fingertips, Schoeps and his team are equipped with the right tools to continue creating winning designs.

