



## CUSTOMER SUCCESS STORIES

# HORD COPLAN MACHT: A MODEL LAB

## ABOUT HORD COPLAN MACHT

Hord Coplan Macht is a 120-person firm that offers architecture, landscape architecture, planning, and interior design. Founded in 1977, Hord Coplan Macht is the largest architecture firm in Baltimore, MD, and also has an office in Alexandria, VA. Hord Coplan Macht takes a collaborative, multidisciplinary approach to problem solving and strives for design excellence with environmental sensitivity. Its broad architectural practice includes education, multifamily residential, and healthcare.

## BUSINESS CHALLENGES

Hord Coplan Macht designs spaces for corporations, governments, universities, hospitals, and other clients. To collaborate with each client and deliver what it needs, the architects must present their vision in a way that's vivid and easily understood by the people who will live or work there.

Over the years, architects have used a variety of tools to communicate their ideas: manual and digital sketches, computer renderings and animations, and physical models made from wood, clay, and foam.

## NEW OPTIONS

Hord Coplan Macht is designing a new, 20,000-square-foot pathology lab for Mercy Medical Center, a Baltimore institution since 1874. In presenting its design development for the first phase, Hord Coplan Macht used two slide presentations, one with the proposed floor plan for the pathology lab and the other showing a 3D digital rendering of a walkthrough of the space.

Architects develop an ability to picture 3D spaces from floor plans and digital renderings, but most hospital employees don't. Mercy's lab technicians could not understand the proposed workflows. "It was problematic to walk them through the design quickly and precisely," says Richard S. Abbott, a principal in the Hord Coplan Macht Healthcare Studio.

Creating a detailed model of the lab by hand would take too much time and effort. So project designer Seth Rothman asked, "Can it be done on a 3D printer?"



## THE SOLUTION

The Hord Coplan Macht Healthcare Studio made a 24 x 18–inch model using its MakerBot® Replicator® 2 Desktop 3D Printer, bought in November 2013. The team exported files from their usual design software, Autodesk Revit, to MakerBot MakerWare®, which prepared the files for printing. They printed casework and equipment in different colors of PLA filament, so each pathology department could easily study its section of the lab, and they mounted the quarter-inch scale model on baseplates of laser-cut white acrylic. The project took two weeks to complete, and the architects could focus on other tasks while each piece was printing.

The MakerBot Replicator 2 offers Hord Coplan Macht an efficient way to make a presentation model. Before getting a MakerBot Replicator, says Abbott, “we would never have gone to a model version.” A vendor would have taken months and charged \$15,000 — too much to ask of a client.

## ADDITIONAL BENEFITS

Even before the presentation, Abbott says, “we could start identifying pinch points that we couldn’t see in the floor plan or 3D images.” Healthcare Studio architect Wendy Legerton says, “The model was immensely helpful for us, and even more for the hospital employees, who are not used to translating lines on a page into three-dimensional space. They sent us a thank-you note after the meeting, which doesn’t happen every day.”

## ABOUT MAKERBOT

MakerBot, a subsidiary of Stratasys Ltd. (Nasdaq: SSYS), is leading the Next Industrial Revolution by setting the standards in reliable and affordable desktop 3D printing. Founded in 2009, MakerBot has built the largest installed base of desktop 3D printers sold to innovative and industry-leading customers worldwide, including engineers, architects, designers, educators, and consumers.

MakerBot has been honored with many accolades, including *Popular Mechanics*’ “Overall Winner” for best 3D printer, *Time*’s “Best Inventions of 2012,” *Popular Mechanics*’ “Editor’s Choice Award,” *Popular Science*’s “Product of the Year,” and *Fast Company*’s “One of the World’s Top 10 Most Innovative Companies in Consumer Electronics.”

**Want to learn more?** Call (347) 334-6800 or email [sales@makerbot.com](mailto:sales@makerbot.com).