



CHEAPER & FASTER

1:1 PROTOTYPING

HOW THE BIGREP ONE HAS ENHANCED FURNITURE
DESIGN PROCESSES AT STEELCASE



FURNITURE DESIGN: STEELCASE

A key process in furniture design is the testing of new ideas through model-making. Accurate models and prototypes give designers vital information through which to assess and improve their concepts.

Until now, the standard options for model-making fell into two categories. Full-scale, well-specified prototypes which were costly and often required several days' turnaround; and simpler, usually smaller models lacking many specifications. Designers would tend to start with simpler models and then proceed to a prototype.

This traditional process works, but it follows a rigid path set by the available model-making options. It can mean that designers only see a fully specified model at a late phase in the design process, thereby delaying the go-to-market strategy and reducing design iteration possibilities.

Michael Held, Director of Design – EMEA and APA, describes a specific time and money-saving application for the technology as:

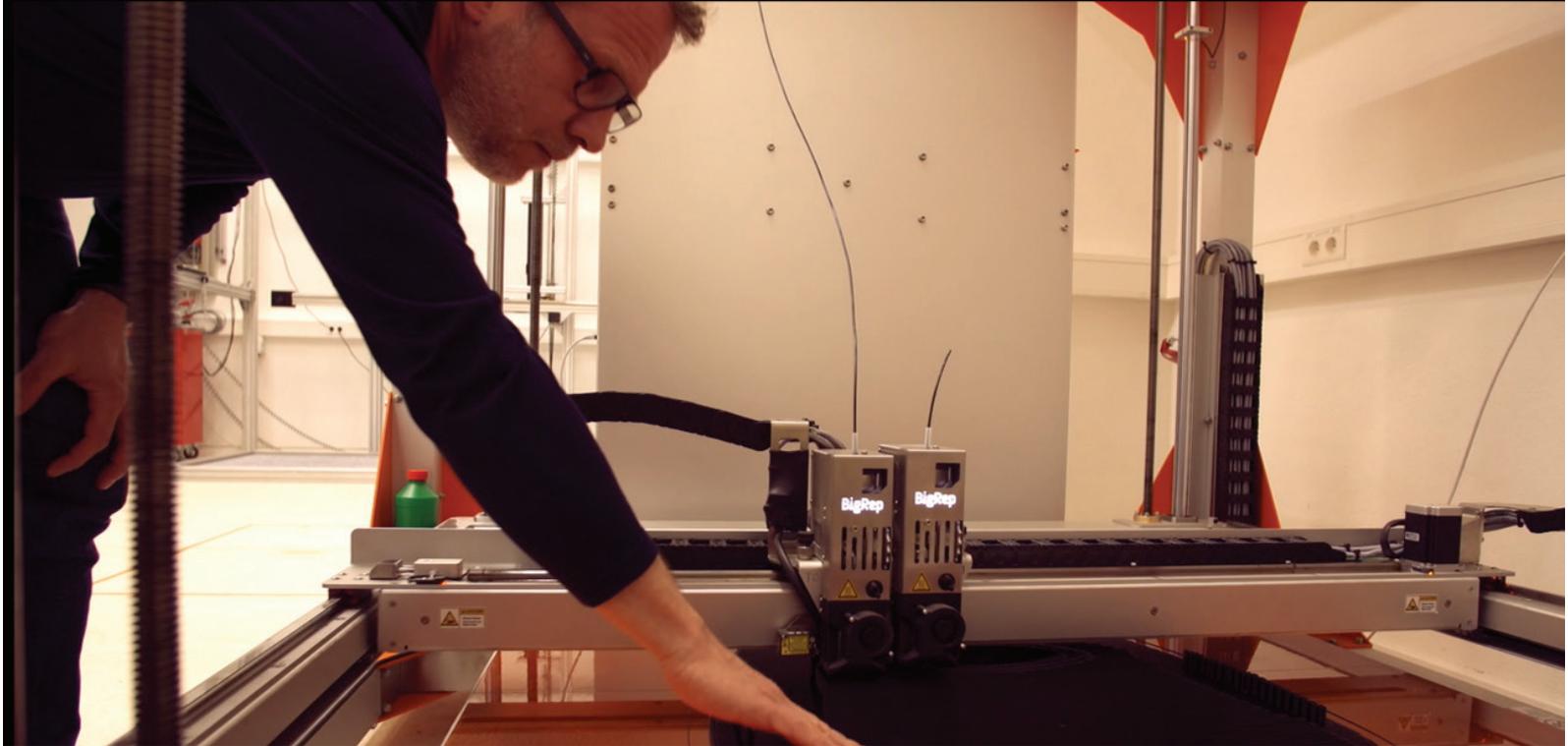


“YOU CAN NOW TAKE A 3D-PRINTED SHELL AND GET IT UPHOLSTERED BY AN UPHOLSTERY SPECIALIST. SO SOMEBODY CAN ALREADY DEVELOP THE PATTERNS... THE KIND OF STITCHING, THE KIND OF PADDING THAT YOU WOULD NEED AROUND THE 3D SHELL, BEFORE WE EVEN HAVE A TOOL MADE.”

Michael Held
Director of Design – EMEA and APA

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THE BIGREP ONE IN THE DESIGN PROCESS

“ONE OF THINGS THAT’S REALLY AMAZING ABOUT BIGREP IS THAT YOU CAN CREATE FULL SCALE SAMPLES. IT’S IMPORTANT BECAUSE YOU DON’T REALLY UNDERSTAND WHAT A PIECE OF FURNITURE MEANS IN THE REAL WORLD UNTIL YOU HAVE IN FULL SIZE.”

Michael Held
Director of Design – EMEA and APA

Steelcase, founded in 1912, is the largest global B2B contract furniture company in the world. In a competitive, innovation-driven market, Steelcase designers have to work quickly and efficiently in order to develop winning products.

Since November 2016, Steelcase’s Munich Learning + Innovation Center has been equipped with the BigRep ONE, which can print complex geometric forms in scales of up to 1m cubed.

Early in the design process, Steelcase can quickly print a full-scale, detailed prototype from a CAD file for testing and development. As a design progresses, Senior Industrial Designer Albin Moriniere and his colleagues print different

variants of their idea and compare these, giving the information to make detailed decisions. He said, “It allows you all of a sudden to see the concept live, to see the light go through, see the assembly of the product and allows you to validate or not a concept direction.”



“ **MAKING** REMAINS FOR ME THE ESSENCE OF HOW WE WORK, BECAUSE YOU CAN REALLY SEE THE PRODUCT.”

Albin Moriniere
Senior Industrial Designer

FASTER, LOWER-COST DESIGNS: BIG VALUE

With the BigRep ONE, Steelcase can produce functional, full-size models much faster than before. An example was a seat shell able to bear a user’s weight, which was printed in just four days. Producing this using traditional methods would have taken around two months. While the same form could be produced using smaller glued-together prints from a competitor machine, the material would not allow the item to be sat on, the design not able to be tested in use.

The ONE also brings financial savings. Steelcase routinely uses it to produce parts that would previously have required 2-3 weeks of subcontracted production. When choosing between 3D printers, the company makes huge savings, as BigRep’s per-weight materials cost +80% less than those of the major comparable competitor on the market.

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These benefits can be added to the most obvious advantage the BigRep ONE brings to designers: its size. Underlining the value this represents is Michael Held, Director of Design, who says down-scaled outputs from smaller 3D printers are not sufficient to understand the proportions and to interact with it in reality



“THE BIGREP IS IDEAL FOR PRINTING LARGER SCALE OBJECTS WHEN WE NEED REAL SCALE, ONE TO ONE.”

Michael Held
Director of Design – EMEA and APA

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THE USE CASE VIDEO

