



# Fearless Merry Making

TOYMAKER CULTIVATES IMAGINATIVE PLAYTIME WITH THE HELP OF 3D PRINTING

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*– Jean-Marie Vallet, Smoby Toys*

## CASE STUDY



Smoby produces multiple iterations of scale models and prototypes, improving the overall efficiency of the design process.

French toymaker Smoby Toys (Smoby) produces indoor and outdoor plastic toys for infants and young children using innovative designs and bright colors that have made them beloved in much of Europe. Smoby Toys is part of the Simba-Dickie Group, which produces more than 4,000 items on sale in 30 countries. In an effort to bolster that success, Jean-Marie Vallet, Research and Development Manager at Smoby, found a way to improve toy design and manufacturing processes with 3D printing.

“Traditionally, we developed toys using wood and plaster models,” Vallet said. “This was time-consuming, and often [the models] didn’t have the level of detail of the final toys. We started using 3D imaging a few years ago, and while we could see all the details and enlarge and rotate the image on-screen, there was nothing we could touch.”

The feel of the toys is a large factor in their success and popularity, and most importantly, in product safety. Toys designed for infants, toddlers and younger children need to have tight fittings, smooth joints and no rough corners or edges. They also need the versatility to be used indoors, outdoors and in the bath, and withstand tough treatment.

### Precise Prototyping

Once Smoby added FDM® 3D Printing technology to its process, the team was able to 3D print toy prototypes quickly and with a level of precision the company needs.

“The best thing about using 3D printing is that it literally puts accurate prototypes right in our hands and gives us something realistic that we can touch,” Vallet said. “This allows us to evaluate the parts much better than on a screen. The tactile element is crucial, especially in the toy industry.”

Since switching from wood and plaster prototypes to 3D printing, Smoby has accelerated development by 50% and improved its overall design process, saving time that was previously used to write machining code necessary for traditional manufacturing.

“Development is faster, validation of designs can be done earlier, and this enables us to be more productive,” Vallet said. “By not having to use traditional tools to mill and clean parts, not only is time saved, more designs are possible.”

Smoby can now easily 3D print concept models and technical prototypes up to 250 cm<sup>3</sup> in size. Management uses the concept models to validate volume and shape when new toy ideas come from designers. The technical prototypes are used to validate the design of toys being prepared for production.

### Bold Creativity

“Thanks to 3D printing technology we can make a prototype with more creativity; we can take more risks and be more adventurous without being fearful of getting things wrong, because the time and cost implications that exist with traditional methods of developing prototypes aren’t factors with 3D printing,” Vallet said. “We can move our ideas ahead and check the quality of the sample straight away. If we’re not happy with it, we can create a new one in a matter of hours.”

With products ranging from bath toys and toys to encourage motor skills, to outdoor slides, play houses, tricycles and more, the demand for new designs keeps Smoby’s FDM 3D Printer running more than 18 hours each day.



An FDM prototype stands in front of the final outdoor slide.



An FDM prototype stands in front of the final outdoor playhouse.

“During the last three years, we have been using Stratasys™ 3D Printing technology on all the products in the shops today,” Vallet said. “Being able to produce models and prototypes of our toys in-house gives us a great advantage in both design and getting them on the shelves faster.”

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