

# SHAPEWAYS

## RICARDO SIMIAN



### **3D PRINTING PERSONALIZED AWARD-WINNING WIND INSTRUMENTS**

“Last October, I won first prize at the largest 3D printing exhibition in the world: The Purmundus Challenge Design for 3D Printing Competition at Formnext in Frankfurt. The second and third prizes went to Adidas and Siemens. I developed and produced the winning model entirely on Shapeways’ printers. With Shapeways you don’t even need your own 3D-printer to develop and produce your models, and beat Adidas and Siemens along the way.”

#### **SHAPEWAYS: CAN YOU TELL US A BIT ABOUT YOURSELF AND HOW YOU FOUND SHAPEWAYS?**

**Ricardo Simian:** I am a musician with an engineering background. As a musician I specialized in the early wind repertoire and instruments, researching museum instruments

and reconstructing or developing both old and new instruments. I knew of 3D-printing for a while, but when I saw a Shapeways video back in 2013, I realized that we were finally over the threshold for many aspects which had kept 3D printing mostly as a luxury tool for fancy, small prototyping only.

## WHAT IS THE BIGGEST BENEFIT TO YOUR BUSINESS USING SHAPEWAYS OVER TRADITIONAL MANUFACTURING METHODS SUCH AS INJECTION MOLDING?

Researching, testing and developing musical instruments involves making many iterations with small variations. It is a very expensive process using traditional production methods, but has become affordable and practical with Shapeways and their wide palette of materials and printing technologies. Furthermore, after a model has moved beyond prototyping and testing, 3D modeling and printing allows for the personalization of instruments according to the player's needs—a privilege which until now was only available for hand-made instruments and was completely outside the mass production realm. Shapeways offers a blend of both worlds.

## ON THE OTHER HAND, WHAT IS THE BENEFIT OF USING SHAPEWAYS OVER OTHER 3D PRINTING METHODS SUCH AS DESKTOP PRINTING?

Most of the models and materials that I use are beyond the capacities of any existing desktop printer. Given the size of my models, desktop printers will never be able to produce them. Even if they could, Shapeways allows me to focus on the 3D modeling while leaving all the technicalities and difficulties of the 3D printing process to proper experts in the field.

## WHAT IS THE MOST COMMON MATERIAL YOU PRINT WITH AND WHY?

My basic material is strong and versatile SLS nylon, which has a good



blend of many characteristics I need: density and inner structure similar to heavy wood, large maximum printing sizes, ability to integrate flexible parts in the models, high stability and reliability of the models combined with an affordable price.

## WHICH MATERIALS HAVE YOU TRIED AND WHICH WORK BEST FOR YOUR BUSINESS? WHY?

Besides SLS nylon, SLA acrylic is a great material for high detail small parts and has been of great help for many prototypes and tests.

## WHAT ARE THE ADDED BENEFITS OF USING SHAPEWAYS OVER A DIFFERENT VENDOR OUTSIDE OF OUR 3D PRINTING CAPABILITIES?

For my own research, the wide palette of materials combined with the production speed and the affordable prices have been of crucial help. Also, the very efficient online platform with orientation and 3D tools is wonderful.

## ARE THERE MATERIALS THAT WE ARE MISSING THAT YOU WOULD LIKE TO SEE?

I look forward to seeing more varieties of SLS polymers as well as all the materials Carbon 3D is developing. I would also like to see food-safe materials, which for certain parts of musical instruments can be a crucial aspect.

## WHAT IS THE MOST IMPORTANT TRAIT OF A 3D PRINT THAT IS CREATED FOR YOU BY SHAPEWAYS?

Large printing sizes are must-have!

## DO YOU UTILIZE SHAPEWAYS FOR EARLY STAGE PROTOTYPING? FINAL STAGE PROTOTYPING? END USE PRODUCTS?

I use Shapeways for all of these stages.

## ANY ADDITIONAL THOUGHTS?

Could you expand to print even larger sizes?