



Design and Production: Oso Bayo Studio

### FAST RESPONSE FAX BACK



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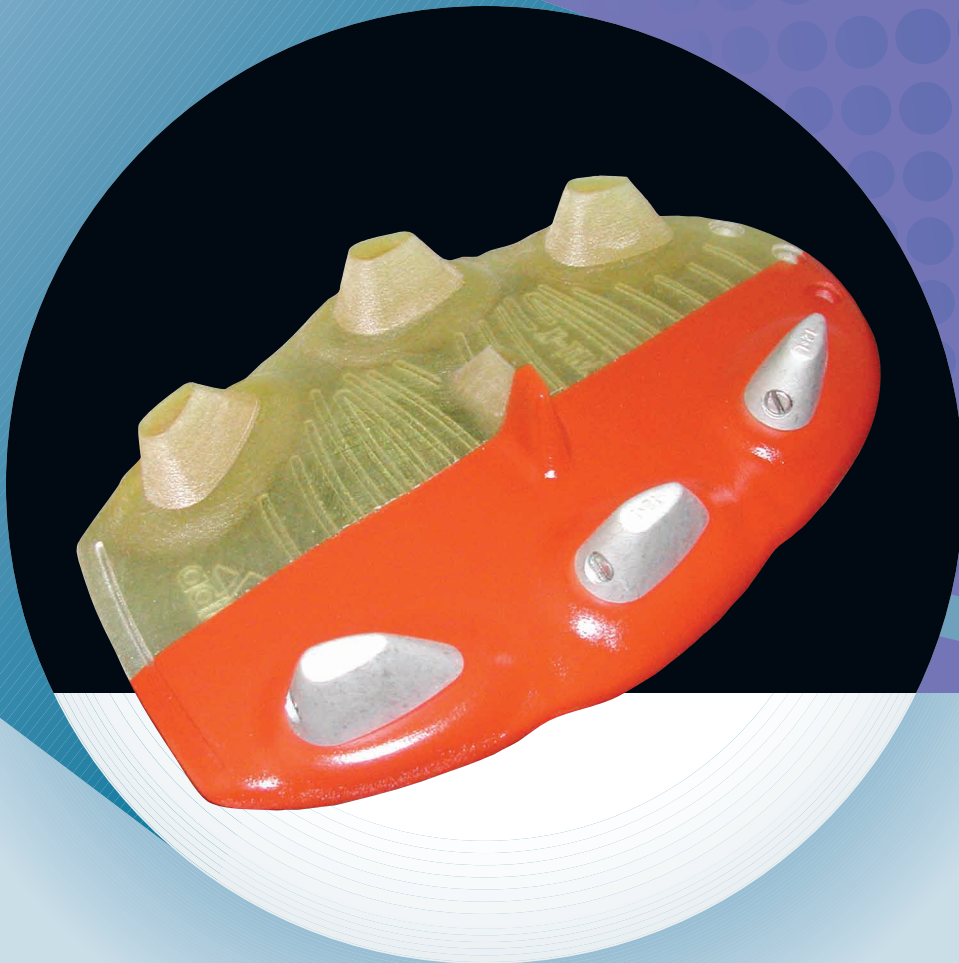
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# adidas and OBJET: A Perfect Fit!

Product development time reduced  
from 90 to 30 days.

adidas-Salomon AG has been searching for a streamlined digital process for sharing data among all its units. Now the company's partnering up with the Objet Geometries RP systems developer to make it a reality.



Case Study



## "Objet Geometries helped change the way we work"

For four years, adidas-Salomon AG has been progressing toward a streamlined digital process for sharing data among all its business units. Partnering up with Objet Geometries RP systems is helping to move adidas-Salomon AG closer to this goal.

For adidas-Salomon AG, among the top athletic footwear manufacturers worldwide, product enhancement and timely product introductions are crucial to its success. Technology is given a priority, and the company's vision for more than four years has been to implement a complete digital process that will enable it to create and share three-dimensional data back and forth from corporate headquarters in Herzogenaurach, Germany and in the Portland, Oregon facility, to all its corporate units and contract factories in Asia.

Over the last four years, the periodic addition of new hardware and software has helped adidas-Salomon AG step closer to realizing this vision. The latest piece added to the puzzle has been the implementation of Objet Geometries' pioneering Polyjet™ inkjet technology for rapid-prototyping (RP) physical models from STL files. adidas-Salomon AG's satisfaction with Objet's high-quality models has led the company to choose Objet Geometries as its RP business partner. Since the beginning of 2002, the Polyjet inkjet technology has been used extensively in both headquarters. Now, adidas-Salomon AG' contract Asia factories are beginning to purchase and install the machines to help revolutionize the company's Asia-based development and production processes.

### How it all started

adidas-Salomon AG is no stranger to RP. The 80-year-old company started using digital models with Rhino modeling software and a concept modeler RP system in 1998. The initial RP models were primarily used for design verification. Says adidas-Salomon AG's Vice President-Product Creation Technologies Gary Pitman: *"Our research told us that having a higher-quality RP model would allow us to influence more than just the design verification phase; we felt we could save significant time and money by using the RP models as the master when vacuum-casting parts for development review and eventually, for production tooling."*

That's when adidas-Salomon AG turned to Objet Geometries, inventors of Polyjet, which uses a three dimensional inkjet

technique. A "print" head of 1536 nozzles builds models layer on layer, jetting Objet's FullCure™ photopolymer resin material, which hardens immediately when exposed to UV light. This process produces a highly accurate, smooth finish, without any extra finishing, as usually required by other technologies. If required, users can jet a second, gel-like support material for more complicated models, easily removed by water jet or by hand.

### The Future

*"Installing a machine for both headquarters has put us at a higher level. Objet's helped change the way we work,"* Pitman states. *"Our designers and engineers need to hold and feel the model in their hands; it's always important, and with Objet, it's almost like having a 3D fax capability."* Pitman says that as part of the new cooperation, Objet is already beginning to install its systems in Asian supplier locations, *"and that is what we are focusing on now. This will give us the ability to collaborate with each factory in Asia on specific product needs. It should further reduce time for development, commercialization and production, enable us to be closer to the market, and will reduce travel time, too."* Finally, adidas-Salomon AG and Objet are searching for ways to apply Objet's technology in other product business units, such as the Accessories and Gear division, which produces items like balls (soccer, rugby, basketball), soccer shin guards, goalie gloves, water bottles, swimming goggles, jump ropes and small hand weights.

### Continued Support

For the partnership to be a success, adidas-Salomon AG knew that continued support was a priority. *"An RP system is only as good as its after-sale support,"* says Pitman. *"I wouldn't be pushing Objet if I didn't feel we've had good technical support."* He says that anytime there's an issue, a technical support technician comes to service the machine, within a day. *"The training is very high; our own technicians can solve a lot of issues by themselves. We also like the fact that Objet stores extra parts on site so that we don't have to wait."*

*"We consider our cooperation with adidas-Salomon AG to be a great opportunity for both of us,"* says Objet Geometries' Vice President-Business Development Dror Danai. *"We're excited about the applications adidas-Salomon AG is using Objet for, and we intend to work closely with the company so that it can achieve all its design and production workflow goals."*

## Prototyping Process



Objet Printed Part with Support Structure



3D Part with Support Structure Removed



Finishing as per Real Part



Rapid Tooling For Duplication of Printed

Objet Geometries Ltd. is a relatively young company, with headquarters in the Weizmann Science Park in Rehovot, Israel, and subsidiaries in Belgium and in the US. The company just began sales in Q4 2001, marketing dozens of Objet RP systems worldwide. It has captured the interest of industries requiring models in the automotive, footwear, aerospace, consumer goods, toys and recreational arenas - and even in medical applications.

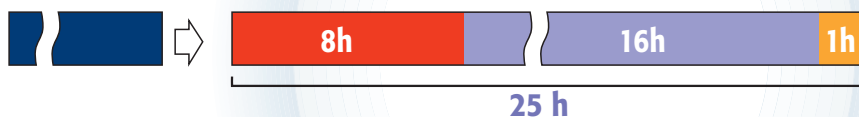
Objet's RP system was used for an unusual and lifesaving event: planning the successful separation of the famous Guatemalan Quiej-Alvarez twins - who were joined at the head. The QuadraTempo's highly detailed, highly accurate models of the twins' blood vessels was used so that surgeons could plan how to reroute the maze of veins and reroute the twins' blood supply. Because blood vessels were crisscrossed, tracking them using standard, two-dimensional x-rays would have been impossible. For more details about this procedure, please visit our website.

For more information about adidas-Salomon AG, please visit the website: <http://www.adidas.de>

For more information about Objet Geometries, please contact Daniel Cohen: [daniel\\_cohen@2objet.com](mailto:daniel_cohen@2objet.com) or visit the website: <http://www.2objet.com>

## Old Process - CNC Milling vs. Objet PolyJet™ Process

### CNC Milling



### Objet PolyJet™ Process



■ 3D Modelling   
 ■ Preparation   
 ■ Manufacturing   
 ■ Finishing



## Features & Facts

### Features:

- High quality, high resolution results at affordable cost
- Easy to clean, gel-like support material
- Fast build speeds
- Smooth curves and fine detail for exceptional surface finishes
- Large material cartridges for lengthy unattended operation (optional)

### Facts:

- Build size (mm): 270 (w) x 300(l) x 200 (h)
- Print resolution (dpi): 600 (X), 300 (Y), 1270 (Z)
- Build/Support material: photopolymer (FullCure™)
- Input: STL file
- Communication: LAN -TCP/IP



  
 Prototyping the Future



Part



Casting For Working Prototype



Complete Rapid Prototype Shoe

"Since this past summer, almost every new adidas sole has been designed using the PolyJet™ system"

Gary Pitman, adidas-Salomon AG's VP

