The Technology Behind Iron Man 2: 3D Printing and the Future of Film

On May 7th, Robert Downey, Jr. will once again transform into the technologically advanced superhero Iron Man thanks to his character's engineering prowess. The plot line parallels the production of the film, also made possible by cutting-edge technology: the latest advances in rapid prototyping, often called 3D printing.

Using a 3D printer by innovation leader Objet Geometries, the film's production company Legacy Effects created the iconic Iron Man suit, as well as the one worn by arch nemesis Whiplash (watch trailer here). This body armor is in fact "print-to-wear" – comprised of pieces that came directly out of a 3D printer, simply finished with paint. Plus it's specially designed to be durable and comfortable for the actors, who engage in grueling fight scenes while wearing the gear.

Technology That Fits Like a Glove

Robert Downey, Jr. for one is grateful for the technology. He remembers filming for the original *Iron Man*, which took place before Legacy Effects had an Objet system. The star was in constant discomfort due to the gloves he had to wear as part of the superhero suit. They were extremely tight and made it difficult for him to maneuver. For the sequel, the production company scanned Robert's hands and used the 3D printer to specially create flexible gloves no thicker than a dime. He was thrilled with the change and happy to work in them for hours.



The 3D Craze, in the Theaters and Behind the Scenes

According to Jason Lopes, systems engineer at Legacy Effects, 3D printing is not yet common in movie-making but is likely to become so, especially as live action flicks make more of a come-back. He says, "in the land of CG, all you need is a computer, but real stunt work calls for endless, identical, often customized props. Thanks to Objet, these are available at the touch of a button." A video of Jason discussing how Legacy Effects uses Objet technology is available here.

About Objet Geometries
Objet Geometries Ltd., (www.objet.com), a pioneer in photopolymer jetting, develops, manufactures and globally markets ultra-thin-layer, high-resolution 3-Dimensional printing systems and materials that utilize PolyJet™ and PolyJet Matrix™ polymer jetting technologies to print ultra-thin layers.

The market-proven Eden™ line of 3D Printing Systems and the Alaris30 3D Printer are based on Objet's patented office-friendly PolyJet Technology. The Connex family is based on Objet's PolyJet Matrix™ technology, which jets multiple model materials simultaneously and creates composite Digital Materials™ on the fly. All Objet systems use Objet's FullCure® materials to create accurate, clean, smooth and highly detailed 3-dimensional models.

Objet's solutions enable manufacturers and industrial designers to reduce cost of product development cycles and dramatically shorten time-to-market of new products. Objet systems are in use by world leaders in many industries, such as Education, Medical / Medical Devices & Dental, Consumer Electronics, Automotive, toys, consumer goods, and footwear industries in North America, Europe, Asia, Australia and Japan.

Founded in 1998, Objet serves its growing worldwide customer base through offices in USA, Mexico, Europe, Japan, China and Hong Kong, and a global network of distribution partners. Objet owns more than 50 patents and patent pending inventions.

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