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Russians 3D-Printing Underwear After Lace Ban

By Rebecca Hartmann

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A model called the 3D-printed attire “interesting but not for everyday life.”

Earlier this summer, Russia's parliament took the controversial step of banning all underwear made from synthetic lace, preventing its manufacture and sale within the country. But if Russians don't like the ban, which labels the undergarments as harmful to Russian's health, they can always make their own — if they have a 3D-printer.

This August, Russia designer Viktoria Anoka hired Moscow company 3DPrintus to create a pair of panties for the company Lascana, presented as part of St. Petersburg's technology fair "Geek Picnic."

"Lascana was definitely the craziest thing we have been asked to print," 3DPrintus founder and CEO Konstantin Ivanov told The Moscow Times. The project took more than three months and is the first underwear to be printed in Russia.

Of course, the end product's plastic feel meant it wasn't entirely comfortable. Anastasia Belousova, who modeled the underwear for Lascana, said the attire was "interesting but not for everyday life."

But 3D-printing isn't just a novelty. The business, once confined to research laboratories, is on the rise in Moscow. The process, in which printers lay down layer after layer of material, is hailed as revolutionary because it allows manufacturers to move production away from huge factories in faraway countries to more tailored, localized production.

There are about a dozen 3D-printing companies in Moscow. Businesses like 3DPrintus allow designers to upload their designs onto an online platform — www.3dprintus.ru — for customers to choose from. The customer then selects the product they want and chooses the material they would like it made from. "It allows designers to create a product and bring it to the public for much cheaper than if they were to make it in a factory," Ivanov said.

The variety of materials available is vast: everything from synthetic plastics to silver and gold. Even Ivanov's wedding ring, consisting of two intertwining bands of yellow and white gold, was printed with one of the machines. For a precious material like gold they first made a prototype, then a mold out of wax and finally the ring.

Although the 3D-printing process takes a long time, techniques are developing rapidly. When creating material out of stainless steel, for instance, 3DPrintus uses a computer to spray steel powder in layers, much like an inkjet printer.

This spray method can create much more intricate designs. The company is currently in the experimental phase of creating a powder out of gold that would open the door for much more intricate designs and make the process much faster.

To prove how versatile the products from the printers can be, Ivanov made a 3D model of a Moscow Times reporter, a "3D selfie" he called it.

The process started by taking pictures from every angle. The photos were then uploaded onto a laptop that started processing the images. First making a rough outline of the pictures to create a 3D image, it repeated the process each time with more detail until a mesh of points was created and a 3D version appeared on a screen. This image was then sent to printers located in a large warehouse on the outskirts of Moscow.

A week later the "selfie" was ready. The amount of detail was incredible: everything from dress creases to the details of shoes.

Many say that 3D-printing could open a world of opportunity. Aid agencies can use them to cheaply create items needed for water sanitation or replace missing items in aid packages. British company ScanLAB, for instance, has been working on a project with Greenpeace to map icebergs to aid in research about climate change.

But while there is no denying that 3D-printing could be used for a lot of good, there is also the potential that the technology could be used for dangerous and possibly destructive purposes. Blueprints for creating guns using a 3D-printer can easily be found online. And because the weapons could be made of plastic, they could even slip unnoticed through

airport security.

But for now 3DPrintus will likely stick to underwear and other more peaceful items. And while Ivanov scoffs that 3D-printing will ever really replace mass production, the idea of something made-to-order yet affordable is certainly appealing.

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