

Diamonds created in the Oscar Massin laboratory / (Photo: Press materials)



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FASHION / PHENOMENON

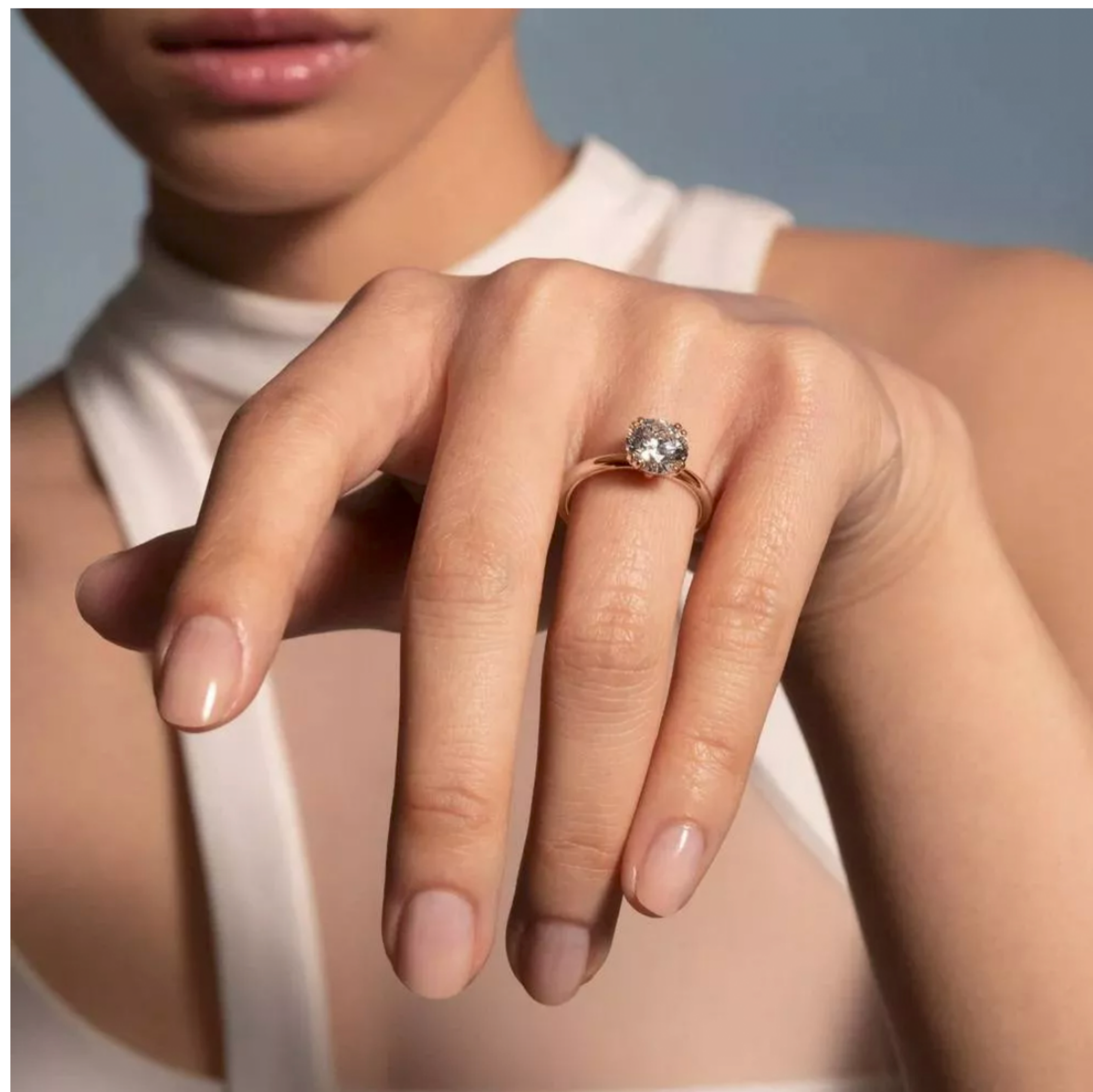
Will synthetic diamonds replace natural gemstones?

KAMILA WAGNER

Synthetic diamonds are chemically identical, many times cheaper, and are made in sterile laboratories instead of in areas of the world plagued by armed conflicts. Some deny their romanticism, others, on the contrary, see in their crystalline structures the infinite ability of man to cross boundaries.

Diamond Foundry has been operating since 2012. Previously, its founders - engineers from Princeton, MIT and Stanford University, planned to democratize solar energy. It worked, but the Californian start-up Nanosolar was eliminated from the market by the Chinese, who competed on price. Then Martin Roscheisen and Jeremy Scholz came up with the idea to use the knowledge gained in building photovoltaic cells to produce diamonds. After approximately two years of operation, representatives of large technology companies such as Google, Ebay, Twitter and Facebook invested in Diamond Foundry. This does not sound like an introduction to a new jewelry story, and it is not exclusively such a story. Shiny eyes in rings are just one of the ways to use this noble raw material.

An innovative technology for producing synthetic diamonds using hot, energy-concentrated plasma



Diamonds created in the Oscar Massin laboratory (Photo: Press materials)

Diamond Foundry has patented an innovative technology for producing synthetic diamonds using hot, energy-concentrated plasma that imitates conditions on the surface of the Sun. What nature took millions of years to create can be recreated in a specialized laboratory in 500 to 600 hours. It takes an average of two weeks to grow one carat. All you need is a diamond "seed", a concentrated gas mixture and a lot of energy. Easy. – *What we call a diamond seed is actually a flat plate. We place several such petals next to each other in a geometric sequence. They serve as a matrix, a pattern* , explained Jeremy Scholz, one of the co-founders of Diamond Foundry, in an interview with The Wall Street Journal in 2018. Subsequent atoms "attach" to the components of each plate, repeating the chemical pattern imposed by it. The diamond grows slowly in all directions, and at first glance it looks no different from one from the mine. It is a raw crystal that requires laser cleaning, quality control, cutting and polishing. Chemically and physically, it is identical to fossil diamond.

The production process of synthetic diamonds imitates the one that took place in nature a billion years ago

The production process of synthetic diamonds imitates the one that took place in nature a billion years ago, on average 200 kilometers underground - between the core and the crust of the earth, in the oldest parts of today's continents. The pressing masses, high temperature and pressure led to a reaction in which the carbon began to crystallize, reaching its most durable possible form. The diamonds remained underground for a long time. Until specific and rare volcanic explosions threw them to the surface. According to geologists' estimates, the last time such an explosion occurred was millions of years ago. So it's hard to expect it to happen again soon. If there are no explosions, there will be no diamonds. At least the conventional ones. It's a geological lottery. Meanwhile, the available deposits are melting quite quickly. It is estimated that there will be enough of them for the next 25 years at most.



The entire text can be found in the October issue of "Vogue Polska" magazine. Available for purchase in newsagents, [online with convenient home delivery](#) and [in the form of an e-edition](#) .

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