### **POWER GENERATION WITH MASKS**

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Have you thought about the benefits that COVID-19 has brought to our lives? Losses can be listed for a very long time: the closure of many restaurants, shops and businesses; deterioration of education, loss of jobs and much more. But have we learned something useful from the global pandemic?

This one-and-a-half-year quarantine has changed our way of life quite a lot. And while most people stayed at home and did not develop, some daredevils were still able to open their businesses and come up with something new.

That garbage emissions in our time exceed the level of the norm by a million times we all know, but do you know how many masks were thrown out during a pandemic? We throw away about 130 billion masks every month. And knowing that the mask decays for 200 years, this fact becomes terrible. Unfortunately, we are unable to minimize the amount of discarded masks due to WHO recommendations for personal health protection. Yet a Berlin inventor managed to come up with something.

Berlin inventor Heinz Knupske turns respirator into a power-generating device. Such personal protective equipment has gained popularity as an effective analogue of a medical mask due to the spread of the coronavirus. The new development is a conventional fabric respirator, on the outer surface of which photovoltaic cells are fixed, which are usually used in wristwatches. "I can charge my smartphone with it, – says Heinz Knupske. – Or I can refrigerate two vials of AstraZeneca vaccine as long as there is enough solar energy."

The development has already become a commercial product. The serial production of solar masks was established by the Chinese consortium Masksol from Wuhan. The first shipment for Europe was sent, but the carrying vessel was delayed due to the fact that the Suez Canal had been blocked by the grounded container ship Ever Given. But when navigation resumed, Masksol respirators were delivered to the port of Rotterdam, Netherlands.

According to Knupske, the invention also has a political aspect. "For years, I have followed the German government's anti-crisis management in the fight against global warming, – he says. – It's all nonsense. Government officials and politicians continue to thwart the work of inventors on renewable energies. And in the fight against the pandemic, the same thing is happening: it was a complete mess. Bureaucrats simply cannot do it right."

Yes, we live in difficult times and you can talk about the misuse of nature's resources, pollution of the planet, global warming for hours. But talking about a problem is not enough to solve it or at least minimize losses. And Heinz Knupske, not having solved the problem completely, nevertheless contributed to getting at least some benefit from the situation.

## **Reference:**

Zashchitnye maski snabdili solnechnymi batareyami [Protective masks have been supplied with solar panels]. (2021, April 4). Retrieved from https://ecotechnica.com.ua/products/5372-zashchitnye-maski-snabdili-solnechnymibatareyami.html

# **INTEGRATION OF ROBOTS INTO OUR LIVES**

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The integration of robots into our everyday life and work is a very interesting and important topic. In our work, we discuss the advantages and disadvantages of robotization as well as the spheres where robots are applied.

Robotization is a part of automation, it implies the replacement of human work with processes carried out automatically by any robotic systems at the industrial scale. Today, there are many types of robots, which can help us in everyday life, in