

# Machine from Pikto Digital can print fabrics without water while saving energy

The Břeclav-based company Pikto Digital manufactures a machine for environmentally friendly printing of fabric using digital pigmentation. Pigments do not bind to the fabric chemically, but mechanically, which offers many undeniable advantages. With the week-long CzechMatch acceleration programme, representatives of this young company presented their product in Singapore and New York.

Nearly eight billion people need something to wear every day. The textile industry is one of the largest and most diverse sectors in the world. At the same time, however, it is the second biggest polluter after the oil industry. Twenty percent of the world's water is polluted due to clothing production. In addition to that, the industry annually consumes

enough energy to power a quarter of the United States every year and the amount of greenhouse gases it produces is comparable to the emissions of ninety-four million automobiles. Furthermore, clothing today is produced mainly using cheap labour in developing countries.



Pikto Digital's machine uses pigment dyes for printing on fabrics. The pigments are bound to the fibres mechanically, thus greatly reducing the use of chemicals.

The Czech company Pikto Digital wants to change that. Its patented Maverick machine offers numerous benefits and is environmentally friendly. With a volume of one million square metres of produced fabric, from which approximately 700,000 t-shirts can be made, the machine will save seven tonnes of chemicals and 65,000 liters of water,

while also reducing electricity consumption by roughly 70% in comparison with standard machines. With this volume of production, the customer's investment in the machine will be returned within approximately one year. At the same time, Pikto Digital believes that with the transition to digital printing, textile production will return to Europe.

## And how did Pikto Digital come into being?

Thanks to the innovative idea of František Balázsy, a young Slovak who for more than five years had anticipated that the importance of ecological production would gradually increase in the textile industry. He was interested in digital pigmentation technology, which was still in its infancy at that time. The pigments are natural dyes and by being mechanically bound to fibres, as opposed to commonly used textile dyes, they greatly reduce the amount of pollutants and chemicals in the printing process, do not consume any water and can be used on any type of fabric. Balázsy became increasingly focused on digital pigmentation and developed smart software that controls the entire Maverick machine. His long-time friend Daniel Šulík, a trained mechatronics engineer, then designed and built the machine. They already

needed additional funding and thus addressed a group of investors, who liked the idea so much that they supported it almost immediately.

“If you decide to produce printed textiles, it’s not enough to just have a printer. Depending on the chosen printing technology, you need several other devices,” says Lucie Kadlecová, business development manager at Pikto Digital, adding: “Our company is the only one on the market to offer a patented machine that will provide the complete production process in a set with a pigment printer. Our machine is able to impregnate the fabric, dry it, fix the colour and, if necessary, it can also carry out post-treatment of the fabric.”

## Pikto Digital & CzechInvest

In May 2019, when Pikto Digital had completed the development of its technology and manufactured a prototype, it decided to present itself to the world and penetrate foreign markets. It was mainly interested in feedback from potential distributors,

clients and strategic partners. In June 2019, the company therefore participated in CzechInvest’s CzechMatch acceleration programme in Singapore.

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**– Vladimír Hičák, Sales Director at Pikto Digital**

During the week-long stay in Southeast Asia, the company took advantage of several hours of mentoring, thanks to which it received important suggestions for its development and business strategy. “An enriching aspect for us was the meetings with people from various sectors, primarily from the textile industry, which would not have happened so easily without CzechInvest. We received feedback from them and they confirmed

to us that this is a dynamic field with strong pressure to innovate and respect the environment,” says Vladimír Hičák. Business meetings were arranged for them by the Singaporean accelerator Expara, with which CzechInvest cooperates abroad. “Every meeting was attended by one of Expara’s employees, who helped us with the preparation of our presentation and negotiations. That was very beneficial,” Hičák adds.

Following the positive experience in Singapore, the company again participated in the CzechMatch programme, travelling to New York in September of that same year in order to find out if America would be an appropriate market for expansion. "We met with a full range of mentors and investors and gained an overview of the local startup ecosystem. However, we didn't manage to establish contacts in the textile industry. In short, the American market works differently and still remains difficult for us to reach," says Kadlecová, explaining her findings from New York.

With CzechInvest's support, Pikto Digital returned to the Asian market in November 2019 as part of a trade delegation of the Ministry of Industry and Trade. The company presented its product in India, a textile superpower that now places great emphasis on ecology. There was strong interest in its technology on the Indian market and the company

has been in contact with potential customers. "CzechInvest's team showed us a professional and friendly approach, thanks to which we were able to thoroughly prepare for the Asian and American markets. This experience changed our opinion of the state administration," says Hičák.

Pikto Digital is essentially building a new segment of machinery in the field of digital fabric printing and has no competition yet. It often happens that people do not believe in this technology. In order to prove to them that the fabric can be of comparable quality, even if it is produced by means of a more environmentally friendly process, the company offered its technology to the newly established Fabrissimo brand. "We also want to offer the final product, a printed fabric, and thus show customers that our technology works. It will help us increase brand awareness and subsequently form long-term partnerships," Kadlecová concludes.



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In 2019, representatives of Pikto Digital took part in a startup roadshow in the regions and visited Brno with CzechInvest.

**CHANGING THE WORLD OF TEXTILE PRINTING**

-  **ECO-FRIENDLY**
-  **ANY FABRIC**
-  **COST-EFFECTIVE & FAST**
-  **OPEN SOLUTION**
-  **SINGLE OPERATOR**

Pikto Digital's Maverick machine is environmentally friendly. When producing approximately 700,000 t-shirts, it saves approximately seven tonnes of chemicals and 65,000 litres of water, while reducing energy consumption by roughly 70%.



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