



# We develop and manufacture nanofibers

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### Our story: Main mission

The production plant was created out of passion for nanofibers and the needs of our customers. The team consists of experts with more than 15 years of experience in the development and production of nanofibers. Part of our team was at the birth of Nanospider™ technology at Elmarco. We believe that nanofibers have been the material of the future for more than 15 years and have an important place in the protection of human health in today's world.



## Strong manufacturing background

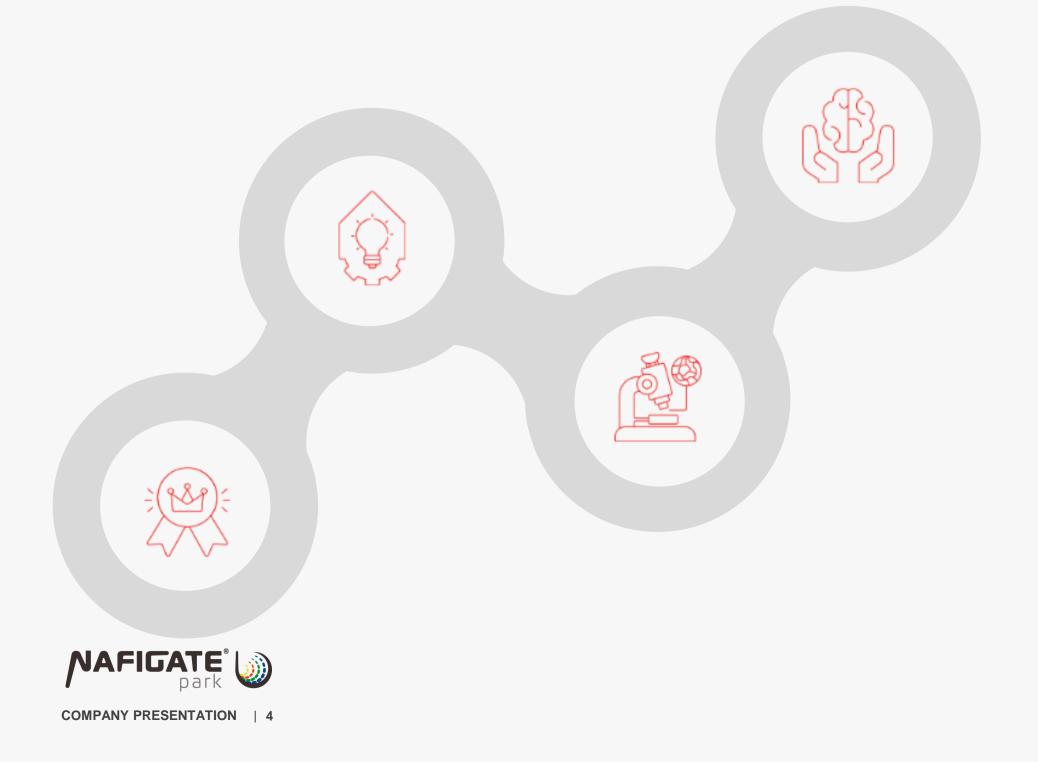
NAFIGATE park is located in the former textile factory Feigl & Widrich – cultural monuments in the village Andělská Hora. The factory complex was built between 1904-1907 and is a monument with a strong historical story. The park is the first NAFIGATE corporation production plant with its own R&D center.





## Our values

We believe in using technology to protect health



#### 01. Maximum long-term quality

A sophisticated quality control system that guarantees the effectiveness of our products.

#### **02.** Complete service under one roof

The park has test equipment, laboratory equipment and production lines for complex services.

#### 03. Technology helps people

We believe in nanofibers and their ability to protect human health. We use technology that people can benefit from.

#### 04. We work with the best

Our team has 15 years of experience – since the birth of nanofiber production in the Czech Republic. The team consists of world experts and our staff are among the best in their field.

## Three components that make our technology successful



#### Nanospider<sup>™</sup> Pilot Line

Everything starts with the Pilot Line. Here, samples are being developed and tested on a laboratory scale.



#### Nanospider<sup>™</sup> Industrial Line

Once the requested product parameters are reached at the lab scale, the results from the laboratory work are easily up-scalable to industrial scale manufacturing, as both, the lab and the industrial line do use the same Nanospider<sup>™</sup> technology platform.



#### Lamination Line

Once production is complete, the nanofibers are laminated to retain their properties for a long time.







## Nanospider<sup>™</sup> Pilot Line

Laboratory equipment for the production of nanofiber structures provides a robust platform for creating a uniform nanofiber membrane in the development of new types of materials.



#### **Easily scalable**

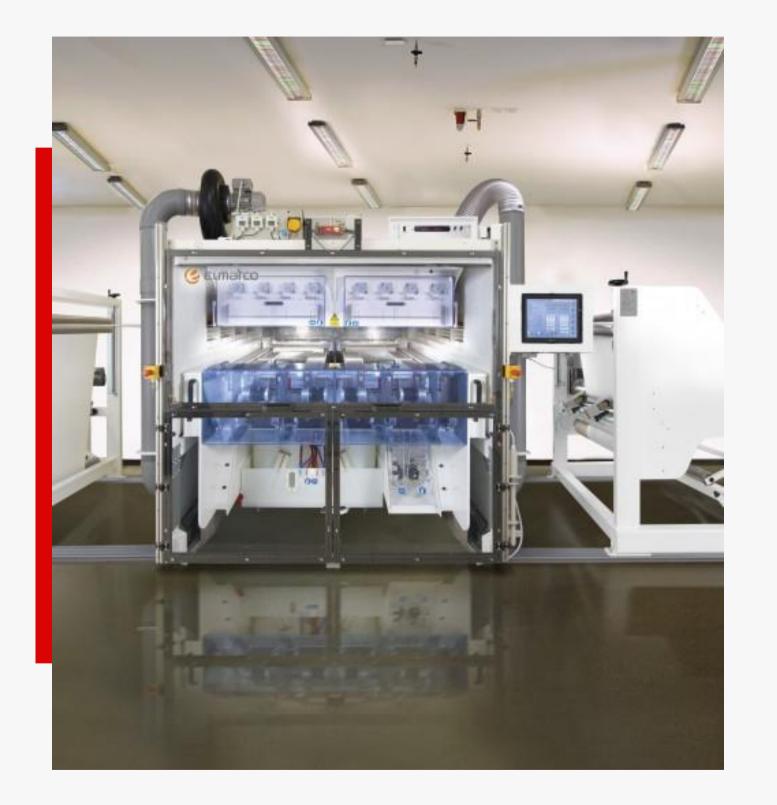
The Pilot Line uses the same stationary electrode system as found in industrial Nanospider<sup>™</sup> Production Lines, therefore the results from the work on the Pilot Line are easily upscalable to the industrial NS electrospinning equipment.

Elmarco's electrospinning equipment can be configured to work with a wide variety of polymers and to produce a wide range of organic and biodegradable nanofibers.



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#### Wide variety of polymers



## Line

An industrial equipment for nanofiber production is the heard of our facility - the currently most sophisticated spinning unit for industrial production of nanofibers on the market.



#### **Compatibility = main advantage**

volumes.

Wide possibilities in setting the parameters allow to set the production line in such way that the final product fulfills the customers requirements.



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## Nanospider<sup>TM</sup> Industrial

The advantage of the industrial line lies in shared production platform used in our laboratory equipment. Thus the results of research and development can be easily used in large production

#### **Resulting material corresponds to customer's requirements**



## Lamination Line

The line equipped with a system of rewinders and unwinders and a module of dispersion of adhesive materials.



**Product improvement** 

layer.



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The line is used for thermal bonding of individual material layers in the production of composite materials that contain a nanofiber



#### N-composite Roll Ag+ (Covid media)

The laminated four-layer composite material with a PVDF nanofiber membrane and built-in Ag+ ions in the microfiber structure of the supporting nonwoven layer is intended for the production of disposable and reusable medical masks.

#### Nanocleaner

Protective window mesh for maximum comfort and protection against harmful substances from the air.
The product uses the unique properties of nanofibers

especially the ability to create barriers for the penetration of the smallest particles.



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#### **Contractual development**

We offer the capacities of our R&D center for the development of new types of nanofiber materials in cooperation with the contracting authority.

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### Face Mask NAFIGO

Product from our customer NAFIGO using our nanofiber membranes N-composite Roll Ag+.

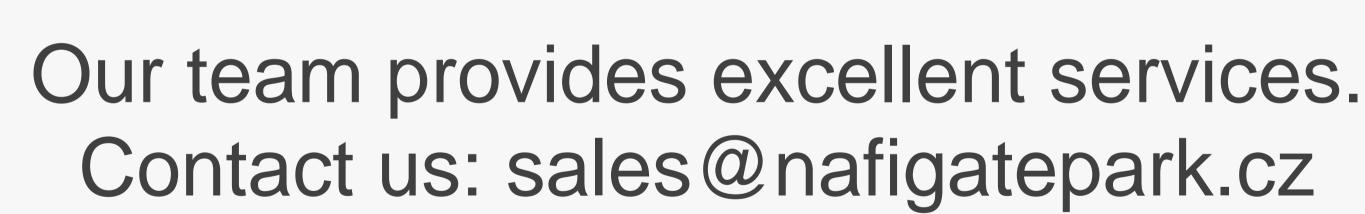


A product developed by our customer, NAFIGO, and manufactured in the Czech Republic by people who stood at the forefront of development and production of nanofibrous materials. Mainly Czech materials were used during its production with a small help from foreign suppliers. The face mask includes a nanofiber membrane made by the patented Czech technology Nanospider<sup>™</sup>, which has long shown a very high filtration efficiency even for such small particles as viruses or bacteria. Moreover, it is suitable for repeated use.









We are a group of people who were at the birth of the development and production of nanofiber materials in Liberec. We have more than 15 years of experience in the development and production of nanofiber structures



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