

---

# **In-line plasma technology for a large throughput manufacturing of advanced nanofiber-based filter fabrics (Plasma Nanotex)**

---

## **Title and number of the project:**

In-line plasma technology for a large throughput manufacturing of advanced nanofiber-based filter fabrics (Plasma Nanotex)  
21.663.198-L

## **Programme, provider:**

Programme: European light industries innovation and technology (ELIIT) project  
Provider: European commission

## **Technical Provider:**

Masaryk university - CEPLANT

## **Cooperating Organization:**

NAFIGATE Corporation, a.s.

---

**NAFIGATE Corporation a.s. with Masaryk university realize project “In-line plasma technology for a large throughput manufacturing of advanced nanofiber-based filter fabrics (Plasma Nanotex)” from 1.9.2020 to 31.8. 2021.**

The water and air filtration market is the biggest for nanofiber products and due to actual situation with COVID-19 it will increase much more than the till expected nanofiber market rapidly increase much more than the till expected annual growth of 36.2%. Design and manufacturing of the advanced nanofiber filter textiles urgently require new environment-friendly and cost-effective surface treatments without the use of organic solvents and caustic solutions. To address this urgent need the proposed project will transfer industrially-proven proprietary technology for in-line low-cost plasma surface activation of textile materials developed by KET’s Centre CEPLANT to SME NAFIGATE to improve performance properties of their proprietary water and air nanofiber filters. The project by solving some critical issues such as weak adhesion between the nanofibers and used substrate material, not sufficient hydrophilicity, water filter clogging, and providing necessary base for the construction of a new high-throughput manufacturing line, will greatly enhance NAFIGATE’s



competitiveness and build a sustainable business in the field of nanofibrous filtration textiles. After the project completion, in line with its KETs technology centre's mission, CEPLANT will transfer the project results also to many other European SME in TCLF sector. This, particularly taking account into account the new urgent needs for antimicrobial and antiviral filtration textiles, will open up the potential of the proposed innovation to a whole new level with the high societal and economic impact.

---