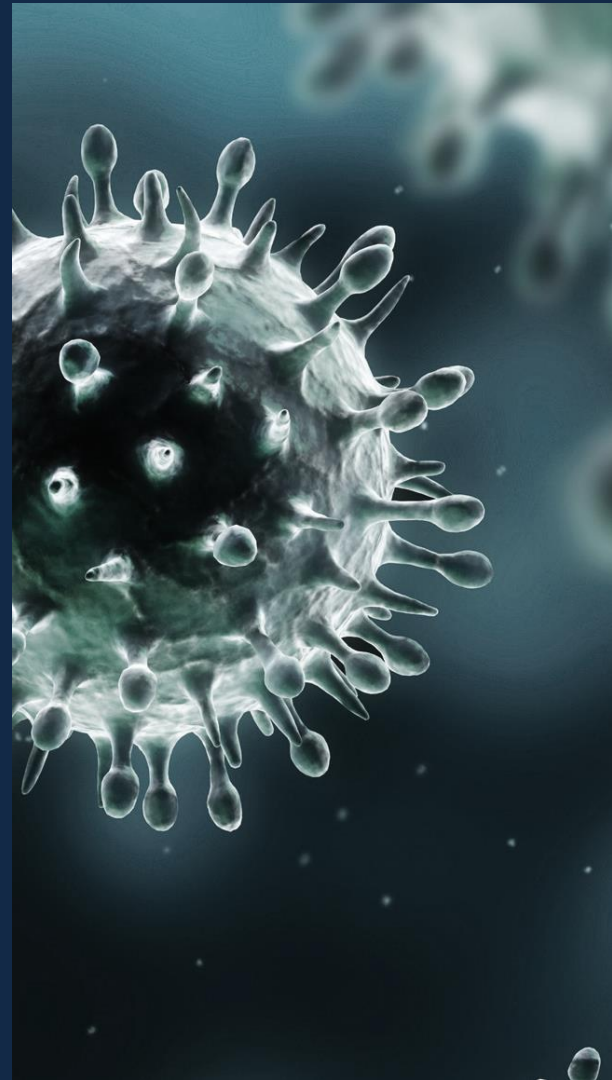


**Potok air decontamination technology:**  
one step closer to industry changes  
in different verticals of business



**potok**<sup>®</sup>





**A “new normal” after COVID-19:**  
airborne viruses and bacteria reshape the lives  
and the whole world

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“We don’t know when the next one will strike, or whether it will be a flu, a coronavirus, or some new disease we’ve never seen before.

But what we do know is that we can’t afford to be caught flat-footed again...”

Bill Gates

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# Today's reality: safe air environment is important for most industries



## 01 Healthcare

hospitals are the main centers for the spread of COVID-19 and nosocomial infections



## 02 Social institutes

schools and kindergartens are clusters of the spread of infectious diseases

## 03 Food safety


microorganisms lead to rapid deterioration of products and a reduction in shelf life



## 04 Real estate and public transport

crowded places carry increased epidemiological risks





Traditional ways to fight dangerous viruses and bacteria  
(UV radiation, ionization, filtration)  
solve this problems partly

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More than 100 years ago, ultraviolet (UV) radiation of the bactericidal range (with a wavelength of 200-315 nm) began to be used for disinfection of premises

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## Disadvantages of UV radiators:

- 01 The effectiveness of the destruction of microorganisms depends on their specific type, the distance at which the irradiation occurs, and the time during which the microbes are exposed to radiation.
- 02 UV lamps contain mercury special measures to demercurize the premise are required in case of lamp's damage. In the process of UV disinfection, ozone emission can be above the MPC.
- 03 It is forbidden to use open-type radiators in the presence of people, while the speed of air passage through the irradiation zone in close-type radiators dramatically reduces the ability of microbes to receive a lethal dose – they adapt and mutate.
- 04 UV lamps require significant maintenance costs (frequent replacement of lamps, high electricity consumption, special means of disposal).

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More than 50 years ago, HEPA filters were invented to capture microflora. Later on, they became the basis of European and international standards for air decontamination

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## Disadvantages of HEPA-filters:

- 01 Filters do not destroy, but retain and accumulate microorganisms in the pores of the filter material.
- 02 As a result of accumulation of live microorganisms, HEPA filter becomes a source of infection itself, which is especially dangerous in the process of it's replacement.
- 03 Filters are not able to capture all particles of 0.1-0.3 microns in size (i. e. viruses and, in particular, coronaviruses).
- 04 Filters require significant maintenance costs (frequent replacement, which carries the risk of ingress of accumulated particles into the room, special means of disposal).

## Space programs required the invention of technology that eliminates the disadvantages of UV and HEPA filters\*

	UV radiation	HEPA-filtration	Potok
Physical destruction of microorganisms in 1 pass	X	X	V
Nonselectivity	X	V	V
Safe operation in the presence of people	X	V (X)	V
No effect of air humidity on the efficiency	X	X	V
No expendables needed	X	X	V
Energy efficiency	X	X	V
Eco-friendliness	X	X	V

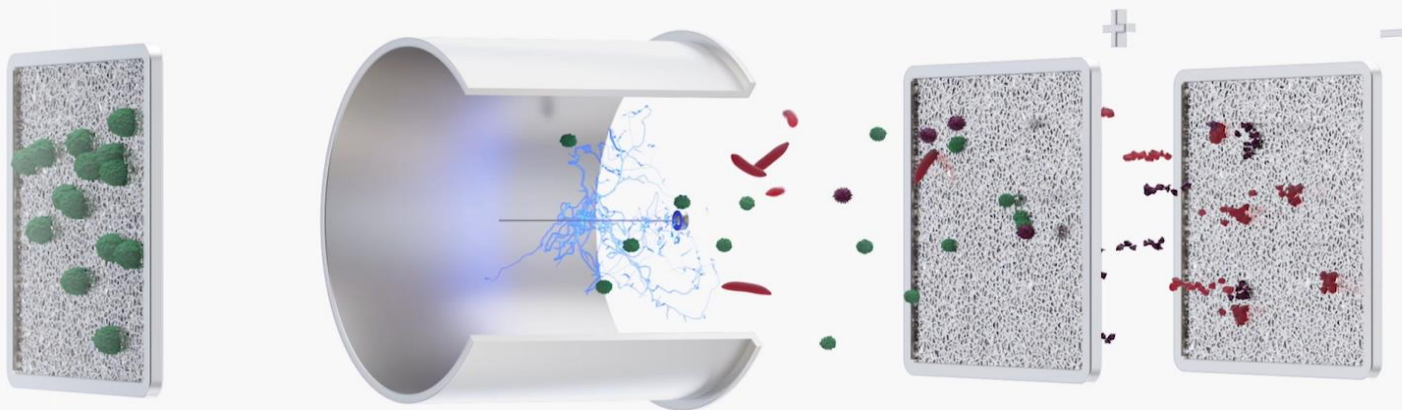


A wide-angle photograph of the International Space Station (ISS) in orbit above Earth. The station's complex structure, including multiple modules and large solar panel arrays, is clearly visible against the blue and white of the planet. The background shows the curvature of the Earth and the blackness of space.

Potok is the only air decontamination technology used on the International Space Station's board in both American (NASA) and Russian modules



POTOK patented technology is efficient against all airborne bacteria and viruses, including unknown ones



The Potok technology is used to decontaminate air by exposing microbial cells or viruses' secondary and tertiary structure of proteins to constant electric fields of a given orientation and tension. The value of the electric field is designed to destroy (not just filtrate) any microorganisms, regardless of the type (incl. viruses, molds, and yeast).

# Potok technology: key features

## 01 Effectiveness of inactivating microorganisms

at least 99,99% \*

## 02 Nonselectivity

destruction of all types  
of microorganisms, including  
coronaviruses and molds\*\*

## 03 Safety

24/7 work in the presence  
of people

## 04 Automatic control over inactivation effectiveness

## 05 Durability

the service life  
of the equipment  
is 10 years

## 06 Energy saving

the equipment consumes  
a minimum of electricity  
(10 W)

## 07 Environmentally friendly

no chemicals are used  
for inactivation, equipment  
does not require special disposal

## 08 No expendables needed

# Potok technology: scientific recognition



01  
Harvard School  
of Public Health  
(USA)



02  
Korea Conformity  
Laboratories  
(Korea)

03  
East Bavarian Technical  
University of applied  
sciences Amberg-Weiden  
(Germany)



04  
National Institute  
of Public Health  
(Hungary)



# Potok technology: scientific recognition



05  
Research Institute  
of Influenza  
(Russia)



06  
Institute of Epidemiology  
and Microbiology  
named after Gamaley  
(Russia)

07  
State Research Center  
of Virology and  
Biotechnology “Vector”  
(Russia)



08  
State Institute  
of Tuberculosis  
(Russia)  
and many others



Potok technology  
comprehensively solves problems  
with microorganisms in various industries



# Potok technology: safe air environment



## 01 Healthcare

mortality due to infectious complications is reduced by 4 times



## 02 Social institutes

the incidence of children in winter is reduced by 2 times

## 03 Food safety

the shelf life of food products increases by up to 80%, and the number of defects decreases



## 04 Real estate and public transport

the level of morbidity in offices and other buildings, on transport reduces

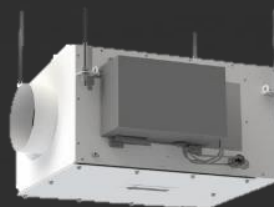


## Potok equipment:

4 key groups represented by both standard items and customized products

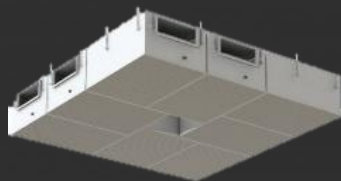


**01 Standalone units**  
create local clean zones  
due to air recirculation

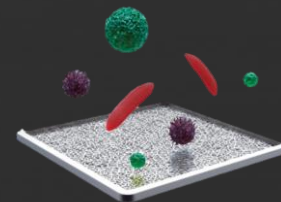


**02 Duct units**  
built into a ventilation  
duct rupture

**03 Laminar-flow ceilings**  
supply a unidirectional  
airflow across the operating  
surface and the instrument  
table



**04 Modular air  
decontaminating element**  
customized products tailored  
for the customer's  
specific needs







01

NASA and Roscosmos

02

Administration and Parliament buildings

03

COVID-19 modular infection centers

04

National laboratories and centers for the study of infections (including COVID-19)

05

Clinical hospitals (including infectious diseases and cancer) in Russia and the CIS countries

06

Danone and PepsiCo

07

Nursing homes in Serbia and the Netherlands

08

Schools, kindergartens, and universities in Russia and the CIS countries

09

Memorial Museum of Cosmonautics and the Moscow Zoo, and other cultural sites

10

Offices of TV channels, corporations, and many other institutions

## Potok technology: air quality in the following areas:



- healthcare,
- social institutions,
- office buildings,
- real estate,
- sports facilities,
- hospitality industry,
- food safety,
- private and public transport,
- home environment,
- crowded places epidemiological safety,
- space programs, etc.



# Potok technology

destroys SARS-CoV-2, and all other viruses,  
bacteria, or molds



*Potok repræsenteres i Skandinavien af:  
Mikrobefri Skandinavien aps  
Porthusvej 107A  
DK-5700 Svendborg  
[www.mikrobefri.dk](http://www.mikrobefri.dk)  
[kontakt@mikrobefri.dk](mailto:kontakt@mikrobefri.dk)  
Tlf.: + 45 7023 1939*



**potok**<sup>®</sup>  
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