

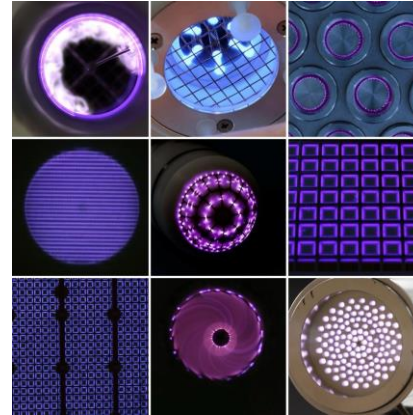


SPACE  
FOR BUSINESS  
BUSINESS  
FOR SPACE



## TECHNOLOGY DESCRIPTION

Sources for generating cold plasma have been developed for basic research on the International Space Station (ISS). Cold plasma is a gaseous mix of low energy, including ionised molecules and electrons. If gas molecules lose some of their electrons, these ions affect the other particles through their electric fields. Charges shift and electric currents flow. With their electromagnetic fields, the moving ions and electrons give the gaseous cocktail of matter special properties.



## INNOVATIVE ASPECTS

Innovation, efficiency, sustainability, safety, simplicity, cost savings – there are many benefits and opportunities when integrating cold plasma solutions into products. Cold plasma has demonstrated its effectiveness against various types of microorganisms, including bacteria, viruses, fungi and spores. Cold plasma generates a mixture of reactive oxygen and nitrogen species that can damage the cell membrane and DNA of microorganisms and lead to their inactivation. In addition, cold plasma is effective against mites, biofilms, odours, harmful molecules and allergens. Cold plasmas have a wide range of potential applications, including disinfection or sterilisation of surfaces and devices, surface modification to improve adhesion, wettability and biocompatibility.



## TECHNOLOGY READINESS (in space application)

TRL 6-9 (2024)

## COUNTRY OF ORIGIN

Germany

## LATEST UPDATE

06/2024

**TAGS** #cold plasma #ionised gas #surface #sterilise #disinfect #adhesion

## APPLICATION AREAS

Health Consumer Products Food & Agriculture Chemical Engineering & Biotechnology Mechanical Engineering Space technologies Textiles, Fashion & Creative Indust.

# TECH CARD

