Air Shower & Anti-bacterial

Venti

Indoor Air Clean plan

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01 Motive & Purpose

-Global air pollution problem -Optimization of Indoor Air Quality



Research Objective

-A forested ^aMilstate Hongeun Forest



Applied Technology

-Air Shower

-Anit-bacterial Ventilation System



Conclusion

-Comfortable Living Environment

01. Motive & Purpose



•Over the past two decades, **infectious disease** outbreaks have had a massive global impact: Ebola, Influenza A (H1N1), SARS, MERS, Zika virus and most recently COVID-19



•According to the World Health Organization (WHO), approximately 14 million people globally die each year from infectious diseases (i.e. one-fourth of total annual deaths)

•Nearly half the world's population were exposed to **household air pollution**

HEALTHY HOMES AND SCHOOLS FOR HEALTHY PEOPLE

•Modern people need a safer and cleaner indoor space because of spending **90% of a day indoors**.



·It is the best way to **block the source of harmful substances** entering the room, remove harmful substances from entering, and **optimize indoor environment**.

02. Applied Technology

Smart IoT Air Shower



Air Shower will be installed in the form of a gate at each main entrance



· Smart Air Curtain

Based on four ultra-strong cyclone turbo air shots in the front and the back Fundamental blockage of ultra-fine dusts flowing inside Prevention of ultra-fine dusts originated from the human.

· Cyclone Turbo Air Shot

Eight cyclone air shots at both sides to which advanced air plane aerodynamics (Bernoulli's Principle) is applied remove ultra-fine dusts on clothes and objects





• Gigantic fine-dust collector and carbon nano tube filter Four gigantic dust collection fans at both sides collect ultrafine dusts with sucking power 10 times stronger than a large air cleaner

A HEPA filter and a carbon nano tube filter remove all

 $\cdot\,$ Environmentally friendly ultra-strong LED sterilization and cleaning effects



Air sterilization, deodorization and removal of harmful substances including mold



• AI smart IoT technology, real-time control of indoor air quality and trend analysis

Real-time control and smart IoT cloud storage and analysis

Understanding about problems through analysis on trends for 24 hours and suggestion of solutions Notification on changes in daily/weekly/monthly air quality through an air report

02. Applied Technology



·On board with Hepa filter and UV LED module for sterilization that can remove 99.95% of ultrafine dust in the air

·Less power consumption than existing UV lamp type by applying the latest UV LED technology ·Environmentally friendly because it does not contain mercury, an environmentally hazardous substance

•Today's building management system seeks to optimize efficiency and operation in buildings through system-to-system integration.

·Devices and sensors installed throughout the building connect to each other, collect the necessary data,

·IoT technology based on accumulated data will make the building more efficient by providing a comfortable living environment to people

03. Research Objective





·In order to maximize the comfort of the living environment, a builing called "숲세권" was selected

·숲세권 will make applied technology more efficient

•Four sides are surrounded by the forest, maximizing the air purification effect inside and outside the house

04. Conclusion

1.It is possible to remove ultra-fine dust and viruses attached to people and objects

through the air shower gates at each main entrance.

2. The IoT-applied Antibacterial Ventilation System can keep the indoor environment in a comfortable state by monitoring and analysis in real time.

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3.A building complex with two technologies will keep us safe from fine dust and infectious diseases.