



MTA Press Releases

[Select Language](#) | ▼

Press Release

October 15, 2020

[MTA Headquarters](#)

IMMEDIATE

MTA Piloting State-of-the-Art Air Filtration and Purification System on Commuter Rails

System Claims Electrical Field and Ionized Particles Eradicate 99.99998% of Airborne Viruses, Bacteria and Particulates, Including COVID-19

MTA First Transit Agency in North America to Pilot the Technology

Pilot Is Latest in MTA's Nation-Leading Efforts to Minimize Health Risk to Customers and Employees During Pandemic

[See Photos](#) and [View Video](#) of Press Event

The Metropolitan Transportation Authority (MTA) today announced that Metro-North Railroad and the Long Island Rail Road are piloting a new technology to filter and purify air inside rail cars using an electrical field to generate a wave of ionized particles that destroy airborne viruses, bacteria and particulate matter, including COVID-19. The MTA is the first transit agency in North America to test the technology.

The pilot follows a successful proof-of-concept conducted by Metro-North over the summer. The air filtration and purification system, which was developed by Westminster, Md.-based Knorr Brake Company and its Merak North America division, is incorporated into the railroads' existing ventilation systems. It enhances in-car air filtration – which already filters air 30 times an hour or once every 120 seconds, exceeding CDC standards for certain medical facilities and far surpassing standards for classrooms and restaurants.

In partnership with the MTA, researchers with the U.S. Environmental Protection Agency will test the technology to determine effectiveness in meeting the needs for public transit.

“As more and more customers return to Metro-North trains, they want to be confident that we are doing everything that we can to keep them safe and healthy,” said **Metro-North Railroad President Catherine Rinaldi**. “If the pilot proves successful, not only does this new air purification technology kill COVID-19, it kills any virus including the standard flu or bacteria that cause the common cold, and even particulate matter like diesel fumes. The benefits provided by this new system would last well after the pandemic has ended.”

About one-third of the air traveling through the ventilation system is fresh air pulled from above the roof of the cars. The system totally replaces the air inside a car 12 times an hour, or about once every five minutes.

“This addition to our ventilation would be completely invisible to the customers,” said **Metro-North Chief Mechanical Officer James Heimbuecher**. “We like that it can be incorporated into our existing ventilation systems with minimal intrusion. If this pilot proves successful, our crews are ready to begin adding this system across our entire fleet.”

Introduction of the technology has emerged through the MTA's “COVID Response Technology” that was [announced](#) in July to engage the private tech industry and rapidly evaluate and deploy innovative technologies that make public transit safer, healthier and more responsive to customer and workforce needs in light of the global pandemic.

“I am excited that Metro-North and the Long Island Rail Road are taking the lead by piloting this cutting-edge technology that could have a significant role in fighting this pandemic,” said **MTA Chief Innovation Officer Mark Dowd**.

The new system passes air through three stages. The first stage applies an electrostatic discharge to actively target viruses, and then uses physical filtration to remove the charged particles. The air is then safely exposed within a self-contained unit, to ultraviolet radiation that has long been proven to kill bacteria, mold, and viruses. Third, the air is exposed to a wave of ionized particles that attack pollutants, chemically decomposing them.

The ions further travel deeply through the air distribution ducts of the car and into the vehicle interior to enhance the railroads' existing disinfection of surfaces inside the cars.

The air filtration and purification system is part of the MTA's multi-faceted approach to minimizing health risk to customers and employees during the pandemic by high tech means and old-fashioned elbow grease. In addition to launching the COVID Response Challenge, the MTA has been exploring [the use of ultraviolet light](#) for disinfecting subway surfaces, with possible expansion to commuter rail. The MTA has heightened cleaning and disinfecting of cars and stations to unprecedented levels, deployed customer ambassadors to assist with loading and customer information, installed hand sanitizer dispensers at stations along with vending machines selling personal protective equipment, and floor decals to assist customers with social distancing.

The technology is being developed under patent by the Knorr Brake Company LLC of Westminster, Md., along with its subsidiary Merak North America LLC, which develops and installs climate control systems.

“The combination of filtration, purification, and disinfection provides an engineered solution superior to any one of the technologies acting alone,” said **Rich Bowie, Knorr Brake Company Vice President, Marketing, Sales & Systems**. “Independent laboratory tests have affirmed the system’s effectiveness. By deploying the system, rail operators will be able to enhance safety measures beyond the cleaning regimens already put in place.”

The technology was installed in two HVAC units of a Metro-North car on Oct. 7 and is being installed by the end of the month on a car of MTA Long Island Rail Road. The railroads will evaluate its effectiveness and its ability to scale up for installation throughout their fleets of more than 1,100 rail cars each.

Underscoring the inherent safety of public transportation, [a recent study conducted for the American Public Transportation Association](#) found no link between public transportation usage anywhere in the world and clusters of COVID-19.

About Knorr Brake Company

Since 1973, [Knorr Brake Company](#) has been the innovative leader in supplying North American rail market customers, including light rail vehicles, METRO, and high-speed trains. With its headquarters in Westminster, Maryland, the company operates sales and service facilities in Carmel, New York; and Union City, California. KBC’s subsidiaries – IFE North America LLC (passenger door systems) and Merak North America LLC (climate-control systems) – are co-located in Westminster. Knorr Brake Company is a member of the Munich, Germany-based [Knorr-Bremse](#), the global market leader in braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. Contact Knorr Brake Company at knorrbrakecorp.com and follow us on LinkedIn at [linkedin.com/company/knorr-brake-company](https://www.linkedin.com/company/knorr-brake-company). To learn more about career opportunities at KBC, please visit www.kbnajobs.com.