



## RUBIX's Viral Transmission Index



### Get control over indoor Covid-19 propagation with RUBIX's Viral Transmission Index

The Covid-19 pandemic has considerably changed both our way of doing business daily and our relationship with the environment.

At RUBIX, we constantly innovate to adapt to your surroundings. Our human-inspired technology aims to digitalize human senses in order to reveal the ambient environmental conditions. Particularly, the [POD2](#) now facilitates even more the prevention of situations at risk of Covid-19 or influenza-like illnesses' (ILI) transmission, being SARS-CoV-21 one of them.

Our Viral Transmission Index allows to know in real time the transmission risk incurred if a virus is present in a space. This is based on several IAQ parameters indicative of conditions favorable to the survival and air propagation of viruses.

This index is especially useful considering the current sanitary situation and the progressive reopening of schools, offices, shopping malls, etc.



## Key parameters to consider

Our Viral Transmission Index relies on the combined analysis of 4 different parameters that impact viral transmissions:



### Particulate Matters (PM2.5)

High levels of PM have shown to decrease biological defenses, and particularly respiratory ones, which would increase the transmission of influenza-like viruses. It also reflects the poor ventilation of a room. [\[1\]](#)



### Temperature & Humidity

As viruses' stability varies depending on the environment conditions, high values of these parameters tend to reduce viruses' transmissions while low values would on the contrary increase their circulation. [\[2\]](#) [\[3\]](#) [\[4\]](#) [\[5\]](#)



### CO<sub>2</sub>

Finally, low CO<sub>2</sub> levels reflect the respect of both social distancing measures along with a proper ventilation of the room. [\[6\]](#) [\[7\]](#) [\[8\]](#) [\[9\]](#) [\[10\]](#)



## But concretely, how does it work ?

Ranging on a scale from 0 to 10 and sub-categorized into 4 levels, we provide insights about air quality and evaluates in real-time and continuously how favorable the environment is to the viral transmissions



**CRITICAL: Viral transmission is very likely.** Air quality is very bad and improvement actions are necessary



**HIGH: Viral transmission is likely.** Air quality is bad and improvement actions are required



**MODERATE: Viral transmission is moderate.** More attention to air quality improvement is recommended



**LOW: Viral transmission is unlikely.** The air quality is good and healthy

# Key benefits

By making the invisible visible, RUBIX provides with actionable data to make every environment healthy and safe in order to live more, better, together and in confidence



## Real-time actionable data

Understand your environment in real-time and make data-informed decisions



## Healthy environment

Ensure virus-safe spaces, reducing possibilities of viral transmissions and triggering remediation actions



## Energy savings

Optimize the usage of your ventilation systems according to specific needs of the environment

## Disclaimer

The Viral Transmission Index is in line with the current scientific discoveries and contributes to evaluating the risks associated with but is not a guarantee of the full absence of Covid-19 within your indoor environments. Using this index doesn't prevent you from respecting the social distancing and other measures. Check out the WHO's recommendations by country [here](#).



## Sources of reference

- [1] [A Renewed Focus on Ventilation for the Prevention of Tuberculosis Transmission \(2021\)](#)
- [2] [Roles of Humidity and Temperature in Shaping Influenza Seasonality \(2014\)](#)
- [3] [High Temperature and High Humidity Reduce the Transmission of COVID-19 \(2020\)](#)
- [4] [Impact of temperature and relative humidity on the transmission of COVID-19: a modelling study in China and the United States \(2021\)](#)
- [5] [Seasonality of Respiratory Viral Infections, Annual Review of Virology \(2020\)](#)
- [6] [The short-term effects of air pollutants on influenza-like illness in Jinan \(2019\)](#)
- [7] [PM2.5 in Beijing – temporal pattern and its association with influenza \(2014\)](#)
- [8] [Can atmospheric pollution be considered a co-factor in extremely high level of SARS-CoV-2 lethality in Northern Italy? \(2020\)](#)
- [9] [Alliance nationale de recherche pour l'environnement, A propos du lien entre la pollution atmosphérique et la propagation du SARS-COV2, \(2020\)](#)
- [10] [WHO, Ambient air pollution \(2018\)](#)