

TISKOVÁ ZPRÁVA

WHO: 99% of humanity's air is polluted. Czech startup Perfect-Air helps with local air quality detection

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The World Health Organization (WHO) has published new standards for air quality in a recent report. The report shows that almost the entire world population (99%) breathes air that exceeds internationally set limits. However, a new type of detecting station from the Ostrava-based startup Perfect-Air should be able to detect different amounts of harmful elements in the air with hyperlocal accuracy, so that it can be determined in real time when being outdoors is least risky. In addition to homes, the station is of interest to schools and kindergartens, for example, which can set suitable ventilation control or determine the ideal time for being outdoors. Healthcare organisations are also interested, as are developers of IoT and other smart devices (e.g. in smart homes, where they control the opening of windows, etc.).

The WHO air quality analysis was based on monitoring 6,000 cities in 117 countries. 80% of these were in urban areas where people are exposed to high levels of fine dust particles and nitrogen dioxide. According to the WHO, fossil fuels are responsible for most of the harmful emissions in the air.

Lack of clean air is also taking its toll on human health, according to the WHO. According to the latest figures, up to 4.2 million people die as a result of outdoor air pollution, and a further 3.8 million deaths are attributed to harmful gases produced directly in the home (from cookers, old boilers, etc.). The WHO report also warns that almost everyone in the world faces an increased risk of lung and cardiovascular disease.

Czech startup can detect air quality in your immediate surroundings

Although air quality in the Czech Republic has been improving in recent years, the Czech Hydrometeorological Institute (ČHMÚ) says that last year the concentration of pollutants was the second lowest in the last ten years. However, air quality varies mainly depending on location. Cities and towns with a

strong presence of industrial zones are the worst off. In terms of carbon dioxide emissions, around 70% of emissions occur in these areas.

The Moravian-Silesian region, for example, is the worst off in the long term. There are large differences in air quality especially at local levels. *"The Czech Hydrometeorological Institute measures only on an area scale, not on a hyperlocal scale. For this reason, it is not possible to determine what air quality we have, for example, in the immediate vicinity of our home,"* explains Doc. RNDr. Martin Malčík, Ph.D., who with his team at the Ostrava-based startup Perfect-Air has developed a sensor that can measure this data in real time. It is therefore possible to determine with a high level of accuracy just how polluted the air is from various sources, be it coal heating, traffic on the roads or local particles from factories.

Perfect-Air works by calibrating data from the various stations with data from satellites and other global sources. The entire system is built on incorporating a unique algorithm using elements of artificial intelligence. It is the already mentioned hyperlocality and real-time data that provide the biggest added value over the competition. Few solutions, even on a global scale, monitor PM2.5 and PM10 with such geographical accuracy.

Clean air detection with local accuracy

The current users of Perfect-Air are people who care about their health, but also about the quality of the air itself. While the stations can currently only measure PM2.5 and PM10, pressure, humidity and temperature, they will soon be able to measure NO₂, CO, SO₂, O₃, NO_x, C₆H₆ and the recorded values will indicate the presence of pollen, fires and traffic density. All this will be provided by a new type of station that is currently under development. Thanks to the simplicity and intuitiveness of the upcoming solution, anyone will have the opportunity to be a customer of Perfect-Air in the future. *"Hyperlocal measurement of air pollution is precisely what every individual is interested in because of the benefits to their health. Thanks to the technology we can explain and demonstrate to people the effects of air pollution on their health whilst at the same time giving them the opportunity to improve their quality of life through our web or mobile app,"* says Martin Malčík, founder of Perfect-Air.

Currently, Perfect-Air technology is used by schools, municipalities, cities, research teams, companies or directly by people with respiratory problems. Thanks to hyperlocal mapping of the current state of the air, they can make informed decisions about daily activities, determine the ideal time to ventilate rooms, time walks or

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other outdoor activities and systematically improve the health of people in the workplace, schools and at home, translating into lower healthcare costs.

About Soulmates Ventures

Soulmates Ventures is an accelerator and venture capital firm focused on sustainable and profitable technology innovation. Together with the Made by Soulmates brand development design studio and sustainable incubator Green Innovation Academy, they form an ecosystem for a sustainable future. Through strategic partnerships, Soulmates Ventures moves innovative projects from a proven MVP stage to a growing and scalable business with the potential to succeed in the global marketplace. Soulmates Ventures focuses on air, water, energy, mobility, education, health, food and agriculture, and the circular economy. The company is led by Hynek Sochor and Václav Gregor.

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