

## The Czech team is returning to the EXPO in Dubai

At the turn of August and September 2020 - for the first time since the interruption of all travel to the United Arab Emirates in April - representatives of the Office of the General Commissioner returned to the Czech pavilion at the EXPO in Dubai. This was enabled by the resumption of air connections between Prague and Dubai and a resolution by the government confirming Czech Republic's participation at the General World Exposition in the one-year postponed term.

The inspection of the construction took place during the days when, according to the original schedule, the supplier was supposed to hand over the pavilion to the Czech exhibitors for use, and two months before the original start date of the EXPO. Based on the proposal of the Organizers and the decision of the International Bureau of Expositions, the EXPO will not start on October 20, 2020, but on October 1, 2021.

"The construction delay and the COVID-19 pandemic have stopped the installation of the S.A.W.E.R. system, which is now set to begin in mid-September, so we must be sure that the pavilion is ready for the technology that is its core and for the exhibition," says Jiří F. Potužník the General Commissioner of Czech participation at the EXPO about the current priorities, "The scientific team of the University Centre for Energy Efficient Buildings of the Czech Technical University cannot lose a single day after arriving in Dubai."

The fact that the system, which independently produces water from the air using solar energy and cultivates the desert sand, has not been put into operation, also has implications for the planting of a garden around the pavilion - some of the palm trees planted at the end of 2019 died during the summer.

"Unless further complications occur, S.A.W.E.R. will start working in November, and after the construction of the shading from the fiberglass capillaries is complete, we will plant new palm trees by the end of the year," adds Jiří F. Potužník.

On the first trip to the Dubai Exposition Site, the KGK team, which also includes the pavilion manager, returned after a four-month break equipped with masks from the Technical University of Liberec (TUL) - its graduate and current employee of the Advanced Materials Research Department of the Institute of Nanomaterials Zuzana Hrubošová equipped the team with masks containing a filter that is capable of capturing particles 0.10 micrometres small, the size of a coronavirus particle is 0.12 micrometres.

"As part of my work, I deal with the application of functional materials into interior and clothing design. My current research work has inspired me to innovate the existing protective mask model using micro and nano filters, which create almost perfect air filtration in combination with organic cotton.

Filter materials are tested according to the standard methodology of ČSN ISO 149. The actual testing is done by sending an aerosol against the filter, the aerosol mimics droplet infections, which also include Covid 19. The fractional separability from 120 nm to 2.5 µm is evaluated at TUL. Based on the results, the filters are classified into individual categories from FFP1 to FFP3." Explains Zuzana Hrubošová.

"The presentation of nanofiber filters that catch viruses was agreed upon before the outbreak of the COVID-19 pandemic - they were only supposed to be a part of the rotating exposition in 2021. My thanks go to the Technical




University of Liberec and to the author, as we can now use them not as exhibits, but as mandatory functional aids: We can breathe better in our pavilion, even when the daily temperatures exceed thirty-five degrees Celsius.” Says the General Commissioner expressing his gratitude.

Historically, the first EXPO in Arab countries will last half a year and end on March 31, 2022.





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