Senseair supports sustainable urban agriculture in Vienna

The startup "Hut&Stiel" uses Senseairs CO2 Sensor "S8" under extreme conditions to control their production parameters when used coffee grounds are turned into edilbe mushroom.

Vienna-Austria: Where coffee-culture meets coffee lovers

When it comes to traditional coffee-culture Vienna is the place to be. Tourists are sometimes overwhelmed having to choose between over 40 coffee variants. But the enjoyment to a good coffee leaves behind tons of coffee behind that have to be disposed. Coffee, that travelled an average of about 6.000 miles before to reach its final destination.

That is where a young viennese startup: https://www.hutundstiel.at/ found a sustainable niche to upcycle the deducts into products of highest quality. Their idea was simply to collect the used coffee grounds in cargobikes and to put it together with other ingredients into bags together with mushroom seed. After 3-4 week they harvest fresh oyster mushroom they supply viennese fine restaurants with.

The challenges of sustainable production:

For harvesting the perfect fruit the bags have to be kept in an optimal range of temperature, moisture and levels of CO2. During breeding the mycelium gets “fever”, drinks a lot and emits CO2 that has to be looked at. Here Senseair stepped in and provided their genuine Sensor Senseair S8 to the young startup.

Love me Sensor - Delsbo-Sweden: Where crystal clear water and air generates innovative Gas Sensors

We loved the sensor Sensair S8 a lot from start as of its maintenance-free long term stability and super easy handling. We also learned to keep hands off

cheap replicas of the sensor as they don´t really work as reliable as the original

from Senseair.

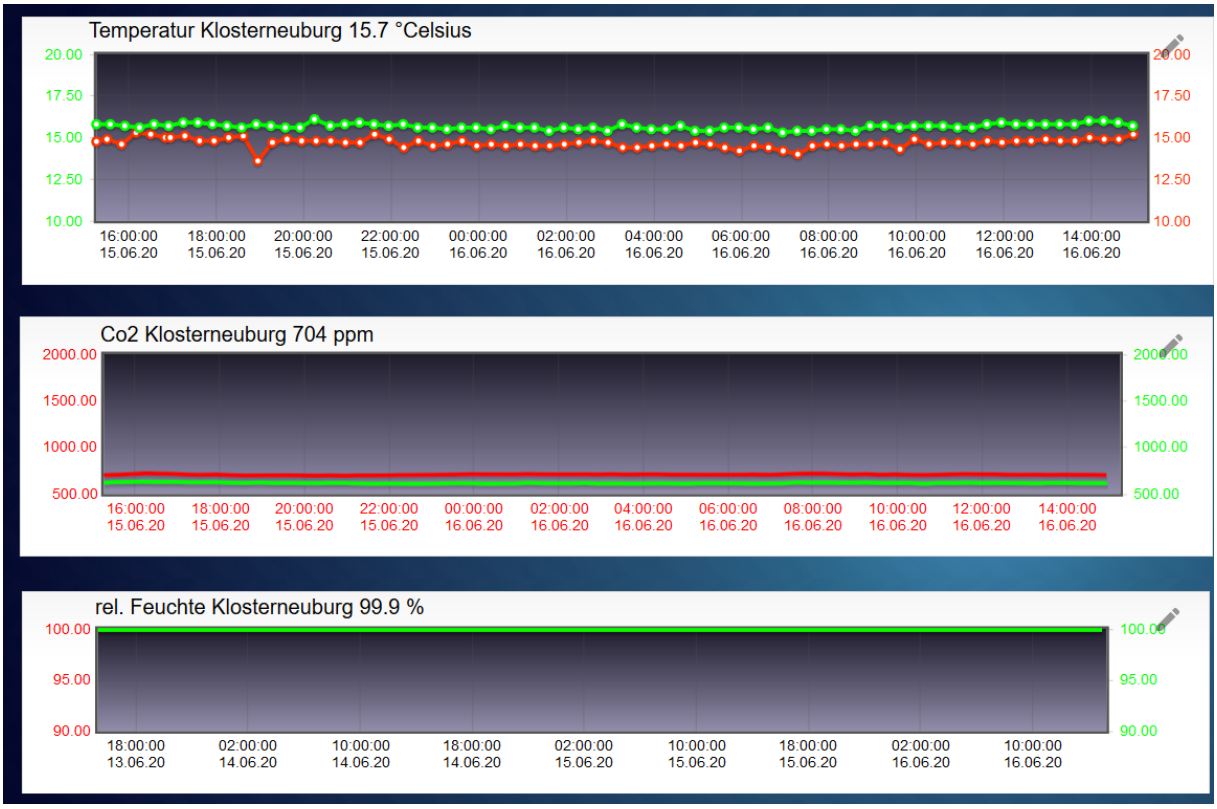
The Design :

In a nutshell we tinkered a series of ESP32 based sensor-nodes that hook on a local WLAN to transmit the CO2 data every 5 minutes to a Raspberry PI using the MQTT protocol. Each of the Sensor is also equipped with a big display to make the data also easy available on spot.

The rigged setup now runs over 1,5 years under roughest conditions and still works perfect, which really is remarkable for a gas sensor thanks to the robust design of the S8.

Apart from measuring level of CO2 the sensor nodes also delivers relative humidity and temperature data.

Finally the dislocated smart processing central which is simply a Raspberry Pi collects and logs all the data from the different sensors being used at different stages of production that can be later displayed in graphs.



Conclusion: To fulfil the European Green Deal it needs people of different disciplines to move closer together.

Thank you Sensair for helping a young Viennese sustainable startup with your genuine sensors and therefore to contribute a further step into a decarbonized future for all of us.