The demonstrator is going to be mounted in a closed plastic box with 2 holes for airflow. In the holes, pipes are mounted to measure the incoming and outcoming air. In the incoming air pipe, a fan, a wind sensor, a temperature sensor and humidity sensor are placed. In the outcoming air pipe just temperature and humidity are measured, it is assumed there is no air leaking from the box.
There are two controlled fans to force the circulation of the air. Also, a heated mat is placed on the bottom of the box to provide heat to the experiment. A relay module is used to control the fans and the heated mat. A temperature sensor is placed on the heated mat.
A ground humidity sensor is used to measure the amount of water in the wet towel used to simulate the paper. Also, a temperature sensor is placed on the wet towel. A temperature and humidity sensor is placed on the box internal wall to monitor the air inside of the box.
All the data is collected and transferred via Wi-Fi to the digital twin server.
In this configuration is expected to be possible to simulate the drying process with and without air being blow on the towel.

The sensor we are sure we need to order are:

Temperature/humidity sensor DHT22:

https://opencircuit.nl/Product/DHT22-Luchtvochtigheid-en-temperatuur-sensor

Wind sensor:

https://www.digitalsmarties.net/products/wind-sensor-rev-p

Heated mat:

https://www.conrad.nl/p/verwarmingsmat-geschikt-voor-renkforce-rf500-renkforce-rf500-bouwpakket-rf500-heizmatte-1544298