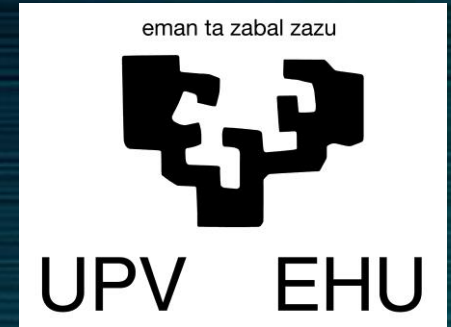


Automatic Control System for Indoor Air Quality

By Jani Xenakis



Indoor Environmental Quality (IEQ)

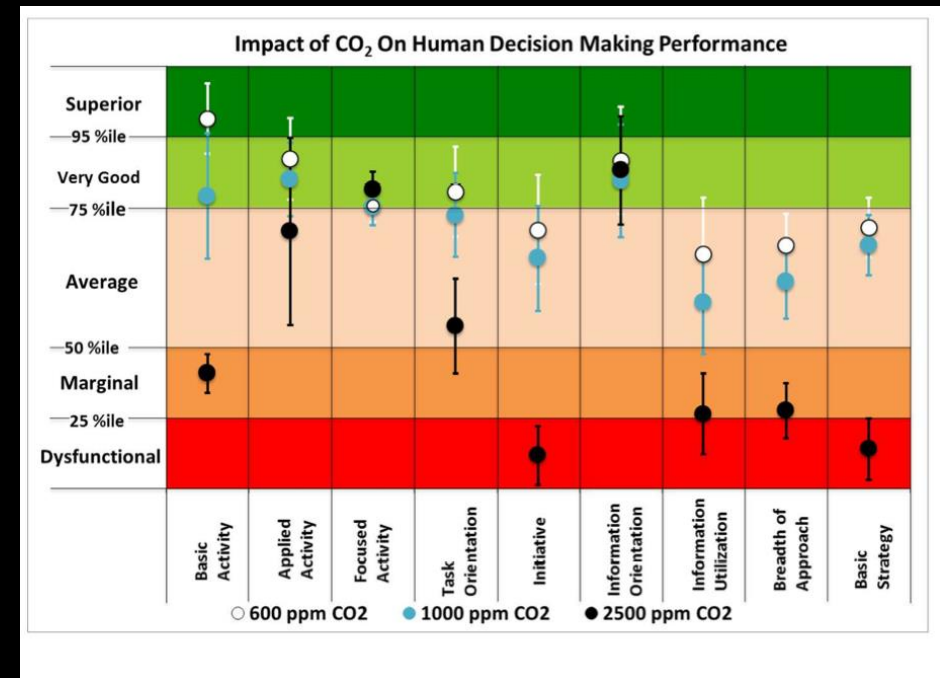
- Temperature
- Humidity
- CO₂
- Other pollutants such as CO, VOCs, Nitrogen Oxides, Particulate Matter ...

=> Window Control

Effects of high CO₂ Concentration

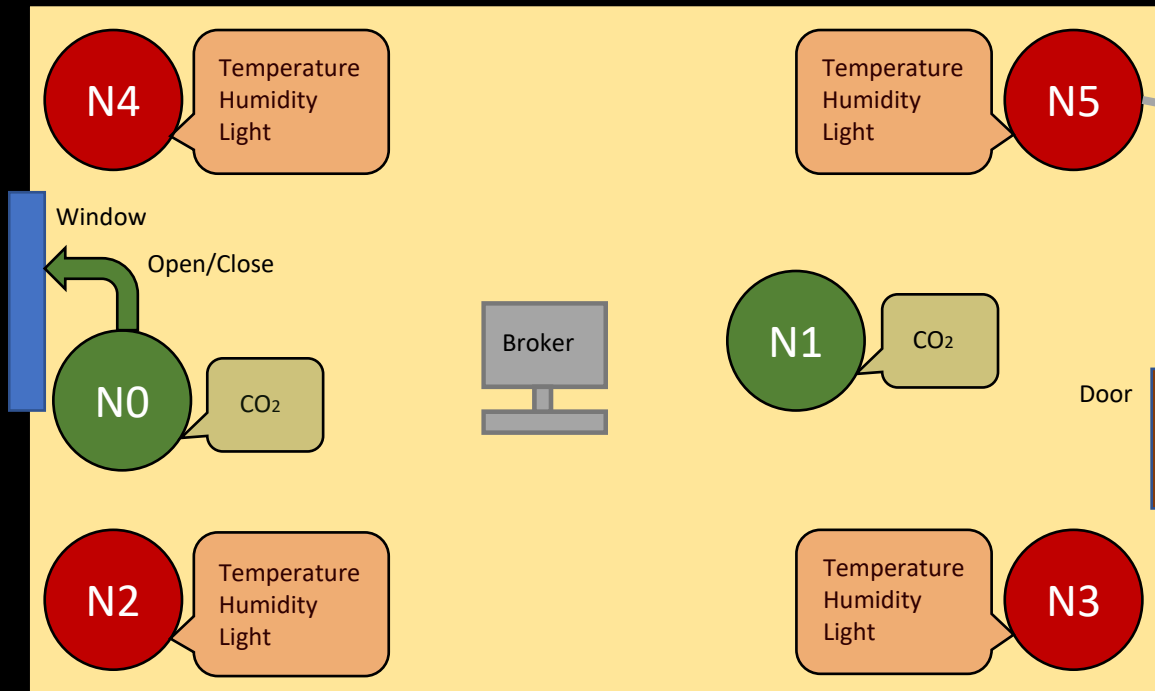


Source: <https://smartairfilters.com/en/blog/dangers-high-carbon-dioxide-co2-levels/>

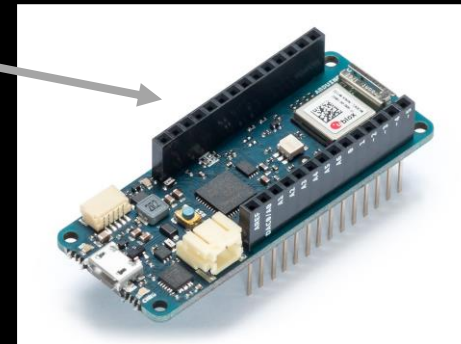


Source: <https://newscenter.lbl.gov/2012/10/17/elevated-indoor-carbon-dioxide-impairs-decision-making-performance/>

IAQ Control in a classroom



Arduino MKR Wi-Fi 1010

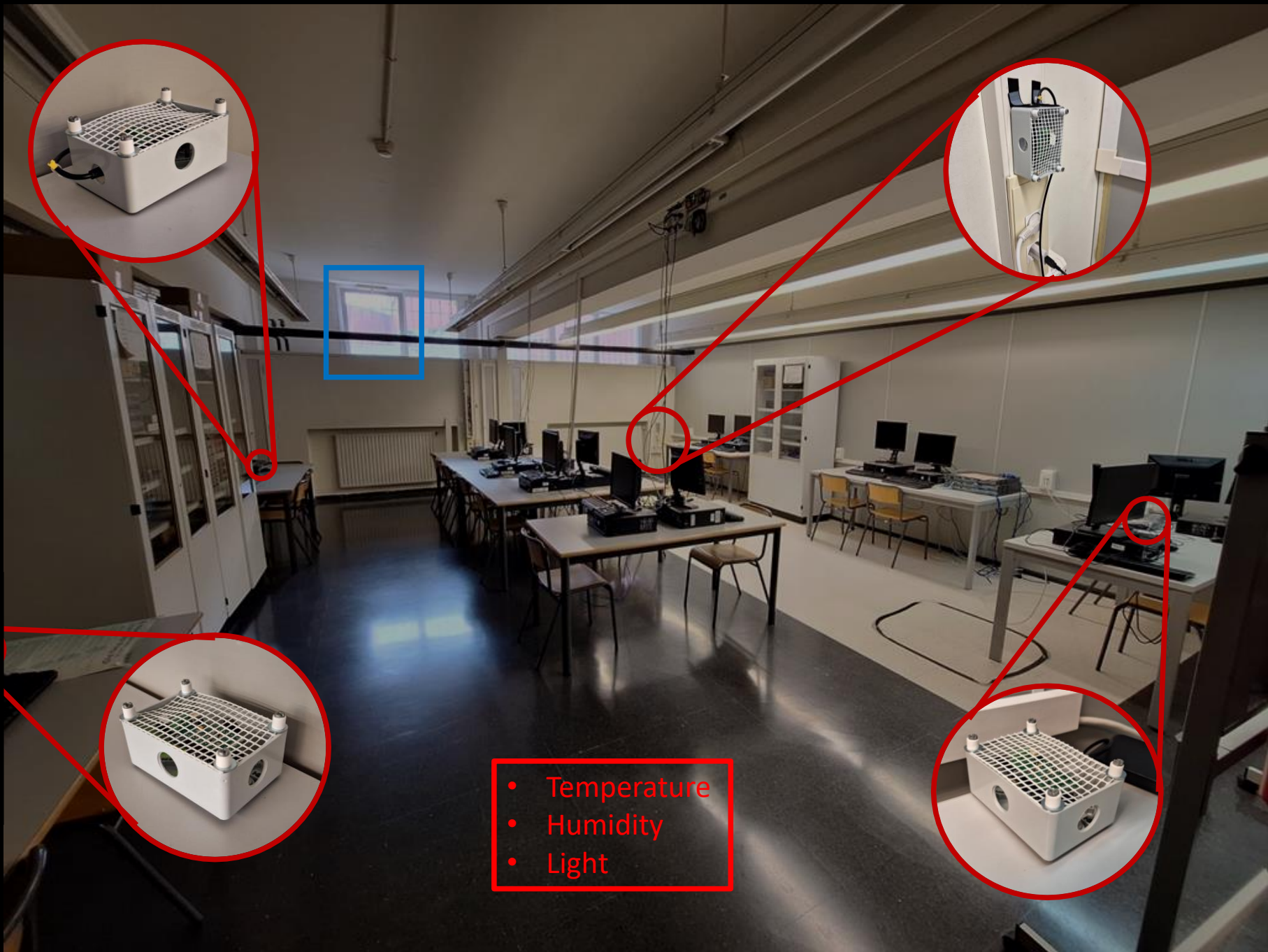


Source: <https://store.arduino.cc/products/arduino-mkr-wifi-1010>

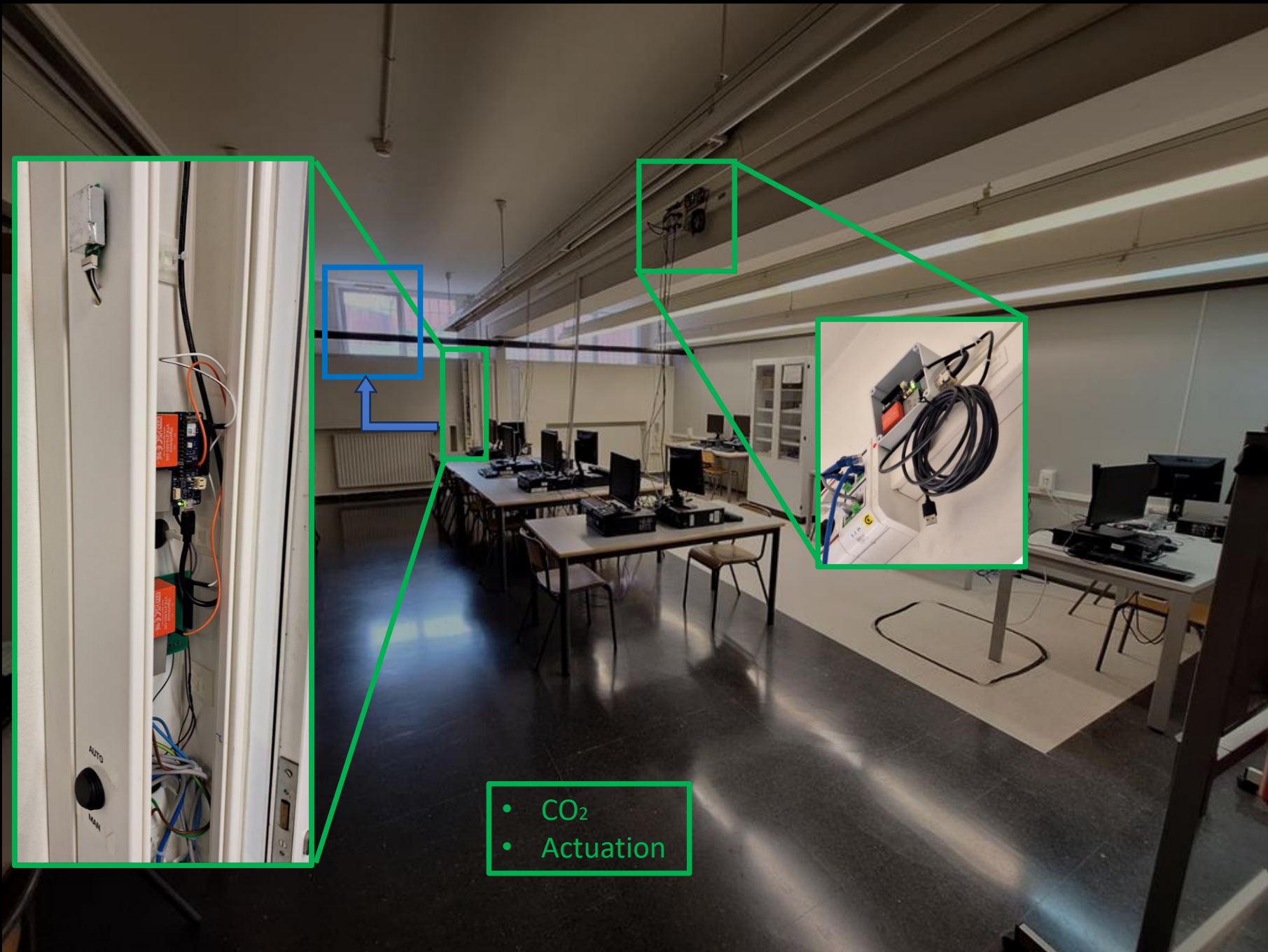
Realisation of the Control System





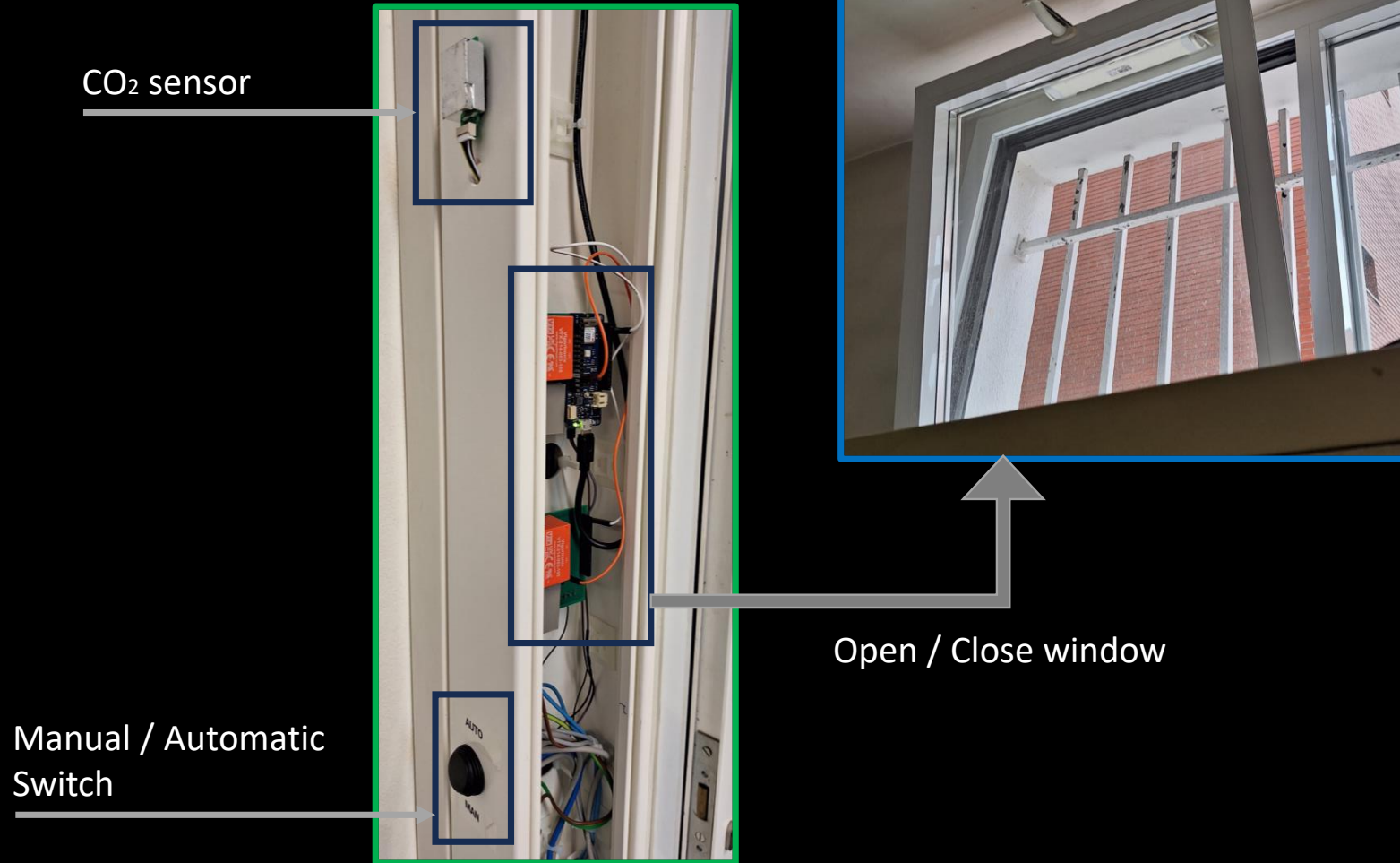


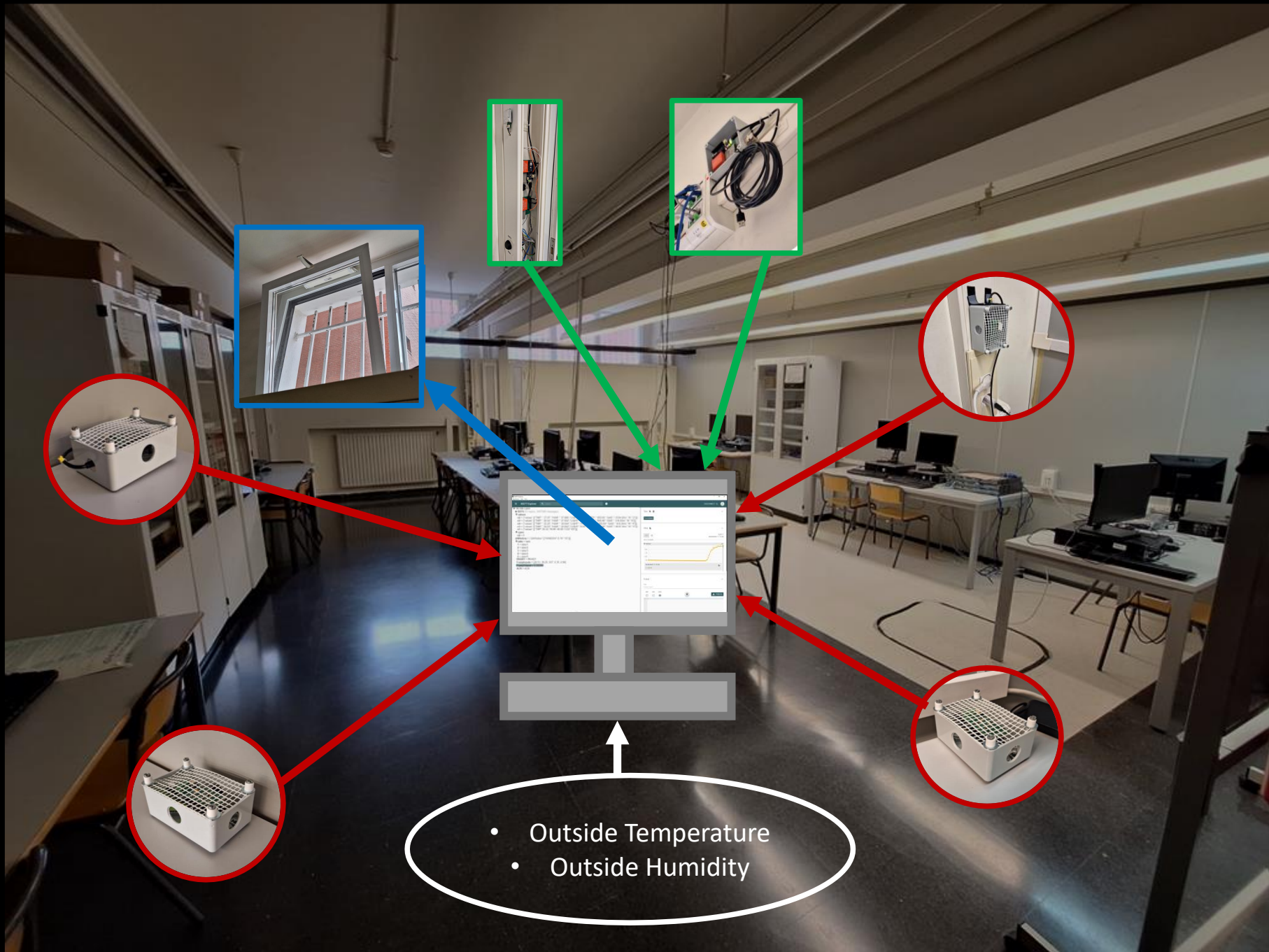
- Temperature
- Humidity
- Light



- CO₂
- Actuation

CO₂ sensor and actuator





Fuzzy Logic

