

The founding of startup AurAir is very closely related to founder's design requirements of her new family home. Back then AurAir founder Lisa Esselink had a lot of specific requests for the architect, like a 100% recyclable house, extreme insulation, ban on tropical wood, large windows providing lots of natural light and close to zero energy usage.



Lisa's new single family home

To the house's state of the art design, 26 solar panels, 7.5m² solar collectors and a heat recovery ventilation were added. Furthermore a very advanced home automation system was installed, with almost 1.000 sensors and actors. The result was not only an almost energy neutral, but also a very comfortable house!

In theory it really was a perfect house. However very soon after moving in, the family woke up in the mornings and had a sour throat, mild headache and stuffy nose. At first they were ignoring it, thinking it was likely just a minor illness, but it persisted. Being very sensitive to air pollution, it soon became unbearable.

It took a while to understand what was going on. Was it the sick building syndrome? That felt rather unlikely, since the entire house was equipped with an advanced ventilation system blowing fresh air into every room, including all bedrooms albeit at a low speed.

At the time there was no CO2 monitor nor any automatic ventilation system controller installed. Mainly because no one ever mentioned the possible need before or warned for high CO2 levels danger indoors. Soon the cause was discovered by measuring CO2 for the first time. Even with regular mechanical ventilation during the night the CO2 levels quickly rose to an unhealthy 2500ppm and higher. House insulation is good for the energy usage, but without proper monitoring and control of the airflow, it is really bad for your health!



Bad air quality in a bedroom

So Lisa Esselink went shopping for a CO2 monitor. However a device matching her requirements was hard to find. The wishlist was not even that long: able to display directly what the air quality was. Being capable of sending measured values both to the home automation system directly and able to store it for review later. Most importantly: the device has to do its job without elaborate configuring, without being dependent on batteries, phone-apps or cloud connections. And sold for an affordable consumer price. Lisa searched and found nothing, so tried others with less features but was not happy. Not

able to see directly the air quality and/or complete dependence on the cloud made her decide to build our own device that would meet all of our requirements.

Having a background in electronics helped Lisa Esselink to experiment using a breadboard until it was working as planned. The best CO2 sensors are so called NDIR sensors, which have excellent quality but they use quite a lot of power making it unsuitable for batteries. The characteristic AurAir plug/socket form was developed, first using a standard casing with a very small screen. Quickly enhancing the casing into a custom design with a 1.8 inch full color screen, the AurAir was born! Travelling with the AurAir revealed the CO2 problem was for more widespread than anticipated before. In rental homes, hotel rooms, RV's, almost all of them had the same issue. Even with only one or two people in a room, CO2 levels started to rise quickly



One of the early AurAir prototypes

Showing the new AurAir to friends and family and getting enthusiast responses, she decided to build a production version of the AurAir and start selling it to customers. AurAir B.V. was established in September 2018 to help facilitate the needed funding and development.

Pre-seed money was needed to help AurAir B.V. fund the further development of the AurAir Base into a production product, so Lisa Esselink provided the company with both cash and hours to a total value of nearly €100K.

In search of development agency's that could help accelerate the growth of AurAir B.V., we turned to the East Netherlands Development Agency (OostNL) for help. Receiving both network help and cash in the form of vouchers, AurAir B.V. growth accelerated. Using the OostNL referral, also an other development agency, RCT Gelderland, helped AurAir B.V. grow by introducing the AurAir company to business networks and vouchers for financial support.

The story continues on October 17th!