



Electrolux is a leading global appliance company that has shaped living for the better for more than 100 years. We reinvent taste, care and wellbeing experiences for millions of people, always striving to be at the forefront of sustainability in society through our solutions and operations. Our main strategic drivers are to act sustainably, create better experiences and always improve!

119
billion SEK in sales

60

million products sold annually

120

markets reached

49,000

employees

Addressing drivers and trends

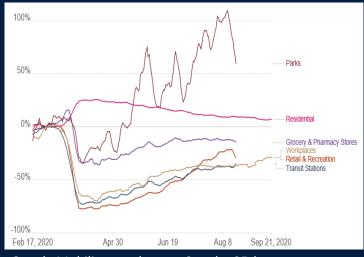






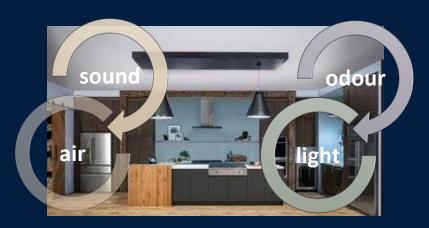
Indoor life



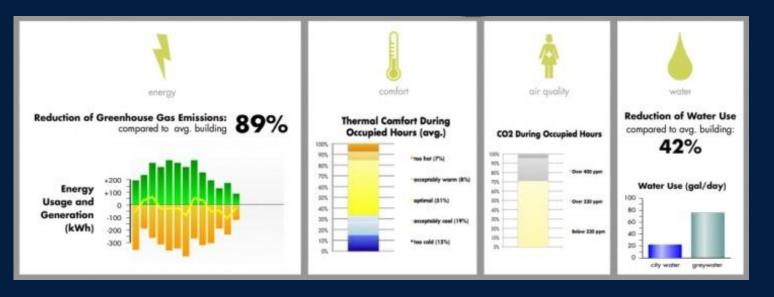


Google Mobility trends up to Sep the 25th

- Pandemic increased the time spent at home (UK, +10%)
- Indoor well-being is determined by indoor environmental quality which in turn encompasses several aspects, like sound, lighting, odor, thermal comfort
- Air quality at home is as important as other parameters of interest such as energy usage and generation, heating equipment performances and water usage



Indoor environment



Air quality sensing requirements



- Applications of gas sensors indoor are in safety (early fire detection, poisonous gases), health and well being (CO2 monitoring, sick building syndrome), efficiency (reduced air circulation for reduced noise)
- Requirements for gas sensing indoor
 - Sensitivity-Selectivity-Stability:
 - sensitivity from ppb
 - enabling to classify hazardous vs odorants
 - reliability over the time (no drifts)
 - Fast response and recovery
 - Lifetime and maintenance

Compound		Concentration Limit	
Carbon Dioxide	CO ₂	3500	Ppm
Carbon Monoxide	CO	11	ppm (8 h)
		25	ppm (1 h)
Nitrogen Dioxide	NO ₂	0.05	Ppm
		0.25	ppm (1 h)
Particulate		40	µg/m³ (8 h)
		100	μg/m ³ (1 h)
Sulphur Dioxide	SO ₂	0.019	Ppm
VOC ^a		1 - 5	mg/m ³
Acrolein	C₃H₄O	0.02	Ppm
Acetaldehyde	C ₂ H ₄ O	5.0	Ppm
Formaldehyde	CH ₂ O	0.1	Ppm
a: Limits for VOCs are usually presented per individual			

a: Limits for VOCs are usually presented per individual compound. The presented value for VOCs concentration limit is a suggested target from Health Canada (Health Canada, 2007) while limits for C₃H₄O, C₂H₄O, and CH₂O are from ASHRAE (2009).

MIRPHAB

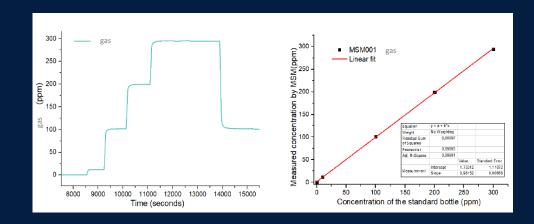


- Electrolux entered the MIRPHAB consortium in 2019 as end-user
- Specifications together with interferents analysis and Mid-IR spectrum of the target gas mixture
- The Mid-IR module will be characterized at our labs in operational conditions of interest for the final application
- Mid-IR technology miniaturization roadmap could enable large-scale low-cost devices in the near future





MIRPHAB @Electrolux Innovation Factory



Electrolux