

AURA SMART AIR LTD

INITIATION OF COVERAGE



Stock Exchange
TASE



Symbol
AUSA



Sector
Technology



Sub-sector
Cleantech



Stock price target
NIS 10.26



Closing price
NIS 8.68



Market cap
NIS 212.1 Mn



No. of shares
24.4 Mn



Average Daily
Trading Volume
750 stocks



Stock Performance
(3 months)
-10.25%

Aura Smart Air Ltd. (TASE: AUSA) was established in 2018 to provide an international standard and technology platform to manage air quality in enclosed spaces. The company develops, markets, distributes, and operates platforms for internal air purification in Israel and abroad. The company currently employs approximately 50 employees in Israel, the United States, and India. The technology developed by the company provides a complete solution to the problem of air purification and disinfection in enclosed spaces. The company has intellectual property in registration processes in the form of patents, design, and trademarks.

Trends – The global Indoor Air Quality (IAQ) Systems market was estimated at approx. USD 7.51 billion in 2020 and, with a CAGR of 6.8%, is expected to reach USD 11.94 billion by 2026. The market is characterized by a high level of innovation and growth of data and analytics platforms, based on the increase in purification systems installed each year. The main trends are the increase in the level of air pollution and the deterioration of air quality in large cities, as well as the increase in consumer awareness of poor air quality. The COVID-19 virus has contributed to the rise in awareness and growth in this market. Additionally, the decline in the prices of air purification systems also contributes to the increase in demand.

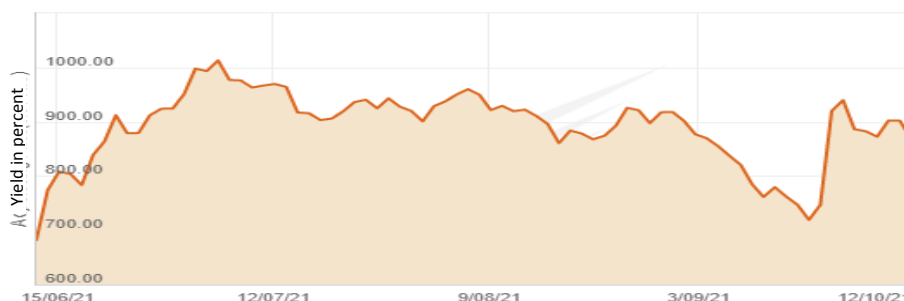
Key digital solutions such as BIM and Digital Twin, sustainability issues such as creating a “smart environment” in cities and buildings, and net zero cities will rely on an interdependence on critical resources in an increasingly connected world.

There are a number of key segments, including institutional structures, such as schools, hospitals, office buildings, the transportation market, private consumers, and more.

Strategy – Aura Smart Air offers hardware and software to its customers, focusing on (i) HW & SW product sales; (ii) services, including parts and updates; and (iii) data collection and analysis. Aura Smart Air is differentiated from its competition due to its lower cost, ease of installation and maintenance, and engineering structure. The company’s focus has largely been on the B2B and B2G markets, though more recently the company pivoted to the B2B2C market, by providing hotel guests access to their air data on their phones and using the hotel as a marketplace for Aura products.

Our valuation – Based on all parameters, we estimate the company’s equity value at **NIS 250.7 million**; the price target to be in the range of **NIS 9.8 to NIS 10.75** with a mean of **NIS 10.26**

Year	Revenues (000 US\$)	Operating income (000 US\$)
2021E	11,097	-3,411
2022E	45,369	-3,667
2023E	126,999	1,911



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Investment Thesis

Indoor air purifiers and monitors are gaining widespread popularity due to their effect in reducing asthma and other breathing related ailments. The impact of COVID-19 has added momentum to the already growing market. Though manufacturers do not expect a manifold growth in 2020, they agree that the growth will be significantly higher than before. The Global Indoor Air Quality (IAQ) Systems Market is estimated to be around \$7.51 bn in 2020 and with a CAGR of 6.8% is set to reach \$11.94 Bn by 2026.

The efforts to tackle air pollution has contributions to multiple of the United Nations' Sustainable Development Goals (SDG) – the main being SDG 3 for good health and well-being, SDG 7.2 – access to clean energy in the home, SDG 11.6 on air quality in cities, SDG 11.2 on access to sustainable transport and SDG 13 on climate action. Though air quality monitoring and air purifying products are mostly targeted towards B2C customers, B2B remains a lucrative market that can boost a company's earnings.

Aura Smart Air Ltd. (TASE: AUSA) was established in 2018 to provide an international standard and technology platform to manage air quality in enclosed spaces. The company develops, markets, distributes, and operates platforms for internal air purification all over the world. In H1 2021, Aura Smart Air's revenues totaled USD 6.4 million, with USD 4.2 million in backlog orders. Most of the company's sales are to North America (38%), Europe (28%), and Asia (23%) – Israel accounted for 5% of sales.

The technology developed by the company provides a complete solution to the problem of air purification and disinfection in enclosed spaces. The company has intellectual property in registration processes in the form of patents, design, and trademarks. The company's product line includes the Aura Air, Aura Air Mini, filters, and software (a B2B dashboard for fleet management, API capabilities, and analytic tools to the end users). The unique Aura Air's technology provides air purification to both indoor and outdoor pollution. It removes harmful indoor particles origin from cooking (smoke, CO), cleaning products (VOC), pets (PM10, CO2, PM 2.5), furniture (VOC) and the environment (humidity). The purification dedicated to outdoor pollution concerns industrial emissions (VOC, PM 2.5, PM10, NO, NOX), global warming (CO, O3 – ozone, temperature, humidity), as well as plants and allergens (grass, pollen).

In October 2021, the company reported positive results on the purification of indoor air with the SAR-COV-2 virus in a trial conducted in the Innovative Bioanalysis laboratory in California. The trial showed that the Aura Smart Air's purification system destroyed 99.998% of the virus in an enclosed space of 2.5 meters by 2.5 meters and 3 meters high in 60 minutes. The company reported that 30 minutes after the start of the trial, the system had destroyed 87.37% of the virus in the air. News of these findings caused the company's share price to jump 25%, giving the company a market cap of NIS 225 million.¹

The company is built on three main pillars:

- 1. Air monitoring, purification, and disinfection, using a set of unique technologies that collect pollutants and actively eliminate airborne bacteria, mold spores, fungal spores, and viruses.**

2. Artificial intelligence developed to function with a wide variety of building management systems that allow independent automated operations to be performed according to Aura Air's data-based insights.
3. Predictive analysis of indoor and outdoor air quality in real-time based on algorithmic models.

Aura Smart Air offers hardware and software to its customers, with its business split into 3 main areas: (i) HW & SW product sales; (ii) services, including parts and updates; and (iii) data. Aura Smart Air is differentiated from its competition due to its lower cost, ease of installation and maintenance, and engineering structure.

We forecast that by 2026 Aura Smart Air will generate revenues of USD 11.1 million in 2021 and will attain USD 273.7 million in revenues by 2026.

Valuation summary

Pipeline Valuation

The company offers three products: the Aura Air, the Aura Air Mini, and filters. The majority of the company's sales are focused internationally, with Israel only accounting for 5% of sales – 38% in the U.S., 28% in Europe, and 23% in Asia. To calculate the company's equity value, we evaluated each product's revenue projections using the following procedure and parameters:

- We calculated the company's revenue from each product, assuming:
 - Aura Air will represent a majority of the sales (approx. 90%), compared to the Aura Air Mini.
 - A 5% YoY growth in units sold.
 - The product lifespan is 3 years, with an assumption that 50% of customers will purchase new Aura Air models at the end of their product life. These additional sales revenues were included in the revenue projections on top of new customer sales.
 - Filter revenue projections were made on the basis that Aura Air products require the purchase of 2 filters per year, assuming the number of Aura Air units in circulation per year.
- We deducted from these projections the company's forecasted R&D, S&M, and G&A expenses
- Added tax rates based on country rates once the company achieved positive operating income.
- We applied straight line depreciation.
- We discounted the resulting projected cash flows
- The terminal value was determined using a discount Capital Asset Pricing Model (CAPM) of 16.71% (see Appendix 1).

Equity Value

We summed the discounted cash flow projections for each product and added them to the terminal value. According to the company management, the company's cash holdings are USD 9.9 million, has zero debt. Below is our equity value breakdown:

<u>Parameters</u>	<u>(000, \$)</u>
Enterprise Value	67,721.031
Cash	9,900.000
Equity value (000, \$)	77,621.03
Equity value (000, NIS)	250,715.93

Based on the above parameters, we evaluate the company's equity value at NIS 250.7 million.

Sensitivity Analysis

The table below presents Aura Smart Air's share price target concerning the capitalization rate. We set a range of 0.5% change from our CAPM model (see Appendix B). The company has 24.44 million shares as of October 11, 2021.

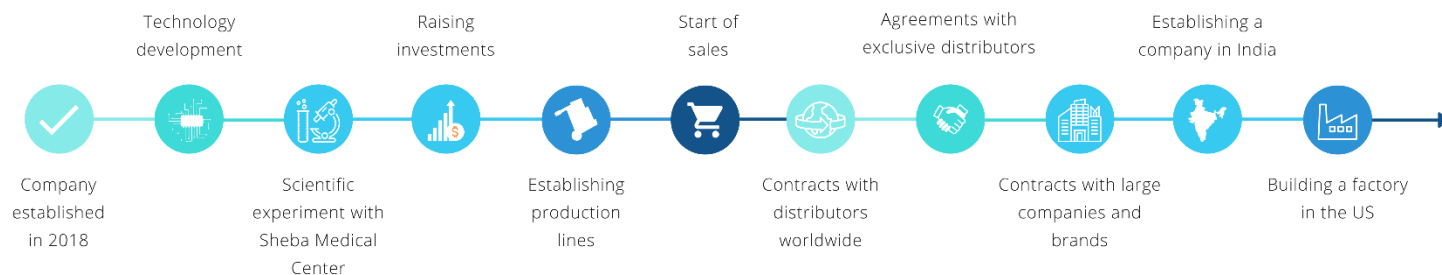
Cap rate	Price target
16.21%	9.8
16.71%	10.26
17.21%	10.75

We estimate the price target to be in the range of NIS 9.8 to NIS 10.75 with a mean of NIS 10.26.

1. Company Overview

General

Aura Smart Air Ltd. (TASE: AUSA) was established in 2018 to provide an international standard and technology platform to manage air quality in enclosed spaces. The company develops, markets, distributes, and operates platforms for internal air purification in Israel and abroad. Below is a timeline of the company's development:



Source: Aura Air

The company currently employs approximately 50 employees in Israel, the United States, and India. The technology developed by the company provides a complete solution to the problem of air quality in enclosed spaces, by providing 4 unique and patented stages of purification and disinfection. The company has intellectual property in registration processes in the form of patents, design, and trademarks. In H1 2021, Aura Smart Air's revenues totaled USD 6.4 million, with USD 4.2 million in backlog orders. Most of the company's sales are to North America (38%), Europe (28%), and Asia (23%) – Israel accounted for 5% of sales.

In order to address various factors of air pollution and the accompanying problems, the company has developed a platform for managing air quality in enclosed spaces that works to monitor the indoor air quality, filter, and purify it while destroying pests and the various air pollutants. The system, which is automatically synchronized to smart building management systems, is able to effectively filter and purify all pollutants in the enclosed space, while monitoring real-time air quality data, in order to provide insights and smart recommendations to system users, whether they are private, business, or institutional customers. In addition, the system can provide information and data through the system management software that the company develops. The company uses a unique technology that allows it to achieve impressive air purification results by using substances and components that have been found to be effective in neutralizing bacteria, viruses, and parasites that destroy, among other things, the proteins on the cell membrane.

Pillars of the company

The company is built on three main pillars:

1. **Air monitoring, purification, and disinfection**, using a set of unique technologies that collect pollutants and actively eliminate airborne bacteria, mold spores, fungal spores, and viruses.
2. **Artificial intelligence** developed to function with a wide variety of building management systems that allow independent automated operations to be performed according to Aura Air's data-based insights.
3. **Predictive analysis** of indoor and outdoor air quality in real-time based on algorithmic models.

Clinical trial and collaboration with Sheba Tel Hashomer hospital

A report published by Sheba Tel Hashomer hospital in February 2021 confirms the high purification capabilities of the company's technology. The results of the study illustrate that the company's devices are capable of killing a coronavirus (IBV) that is similar in its characteristics to the SARS-CoV-2 virus that leads to an epidemic with an impressive 99.9% efficiency. The results are illustrated in the table below:

Filter	Coronavirus Reduction Ratio (%)
HEPA	99.72%
SCF	99.97%
Sterionizer LP™	99.96%
Sterionizer HP™	99.94%
UVC LED	99.96%

Source: Aura Air

More recently, in October 2021, the company reported positive results on the purification of indoor air with the SAR-COV-2 virus in a trial conducted in the Innovative Bioanalysis laboratory in California. The trial showed that the Aura Smart Air's purification system destroyed 99.998% of the virus in an enclosed space of 2.5 meters by 2.5 meters and 3 meters high. The company reported that 30 minutes after the start of the trial, the system had destroyed 87.37% of the virus in the air. News of these findings caused the company's share price to jump 25%, giving the company a market cap of NIS 225 million.¹

Company strategy

Aura Smart Air offers hardware and software to its customers, with its business split into 3 main areas: (i) HW & SW product sales; (ii) services, including parts and updates; and (iii) data. Aura Smart Air is differentiated from its competition due to its lower cost, ease of installation and maintenance, and engineering structure. The company's customers include:

- B2B, e.g. office buildings, co-working spaces, multi-family housing units, hotels, pharmacies, nursing homes, shopping centers, elevators
- B2G, e.g. hospitals, educational institutions, public transportation, government offices and buildings
- D2C, e.g. parents, young families, older population, people with respiratory problems or allergies, smart homes

In the U.S., Aura Smart Air intends to begin targeting B2B customers, then transition to B2B2C with brands that sell to private customers, control and automation companies that work with businesses, and distributors of semi-medical products for hospitals and nursing homes. From that point, the company intends to enter into direct-to-consumer sales. In Europe, Asia, and Australia, the company plans to focus on municipal and government centers and repurchases from distributors. Following success stories in a number of segments,

¹ <https://en.globes.co.il/en/article-Aura-jumps-on-trial-purifying-indoor-air-of-Covid-virus-1001385970>

they will plan to enter new segments, finally establishing themselves as the local standard. In India, the company is currently setting a foundation and building relationships with distributors, after which it plans to sell directly to business customers.

2. Products & Technology Overview

Aura Air

Aura Air applies four unique steps of air purification and disinfection: pre-filtration, ray-filtration, sterionization, and UVC. Aura's Air technology is proven to disinfect 99.9% of viruses, bacteria, volatile organic compounds (VOCs) and allergens.

1. **Pre-filter** removes big particles of airborne dust, such as dust, pollen, animal hair.
2. **Ray-Filter™** consists of 3 unique antibacterial layers: (i) HEPA, a 99.98% effective particle filter of 330 microns, (ii) a carbon layer that absorbs Volatile Organic Compounds (VOC) and bad odors, and (iii) a smart copper fabric that filters viruses, bacteria, and more. The trademark is in the process of registration.
3. **Sterionizer™** component based on bipolar ionization technology that produces positive and negative ions. It completes the purification and disinfection processes. The charged oxygen molecules O_2^+ and O_2^- with high chemical activity react with water molecules in the air, forming OH radicals and H_2O_2 (Hydrogen Peroxide). With this chemical reaction the oxidants break down the protein structure of pollutants and making them harmless.
4. **UVC LEDs** – Effective in neutralizing bacteria, viruses, and parasites by destroying proteins on the cell membrane.



Source: Aura Air

Figure 1: Aura's Air Technology and Purification Efficiency Chart

	Pre Filter	UVC	The Sterionizer	The Ray Filter
VIRUSES		✓	✓	✓
BACTERIA		✓	✓	✓
POLLEN	✓			✓
DUST	✓			
MOLD			✓	
SMOKE			✓	✓
ANIMAL HAIR	✓			
VOC'S		✓	✓	✓
ODORS				✓
EFFICIENCY		99.96%	99.97%	99.5%

Source: Aura Air

Aura Air Mini

This portable air purifier provides protection from harmful air pollutants using the Sterionizer™ ionization technology. It distributes positive and negative ions into the air and destroys protein structures of pest cells. It is a portable device with a powerful and rechargeable battery, small enough to be carried in a personal bag. This product provides significant potential for a dire need in taxis.



The Indoor/Outdoor Pollution Technology

The unique Aura Air's technology provides air purification to both indoor and outdoor pollution. It removes harmful indoor particles origin from cooking (smoke, CO), cleaning products (VOC), pets (PM10, CO2, PM 2.5), furniture (VOC) and the environment (humidity). The purification dedicated to outdoor pollution concerns industrial emissions (VOC, PM 2.5, PM10, NO, NOX), global warming (CO, O3 – ozone, temperature, humidity), as well as plants and allergens (grass, pollen).

Data Center

The system includes a platform for management, control, and monitoring for business customers with many products and allows the product to operate autonomously. The platform interfaces with building management systems (BMS), air conditioning systems, and other information systems. The system includes an application that enables smart and accurate management and customization for the end user.

Regulation

Aura Air's products meet the requirements of the U.S. Environmental Protection Agency (EPA), are in the process of receiving product approval from the U.S. Food and Drug Administration (FDA), and are in discussions at government levels regarding the issue of air quality regulations in enclosed spaces.

3. Market Overview

Global Sustainability Trends

A new era of wellness inside buildings is powering the global indoor air quality (IAQ) systems market. Sustainability Development Goals (SDG's) adopted at the 2015 United Nations Summit provides the principles, framework and targets for all the stakeholders across the value chains to identify key development areas to enhance and seek continual improvement with regards to sustainability, good health and well-being and climate action.

Figure 1: The 17 United Nations Sustainable Development Goals (SDG's)



Source: UN

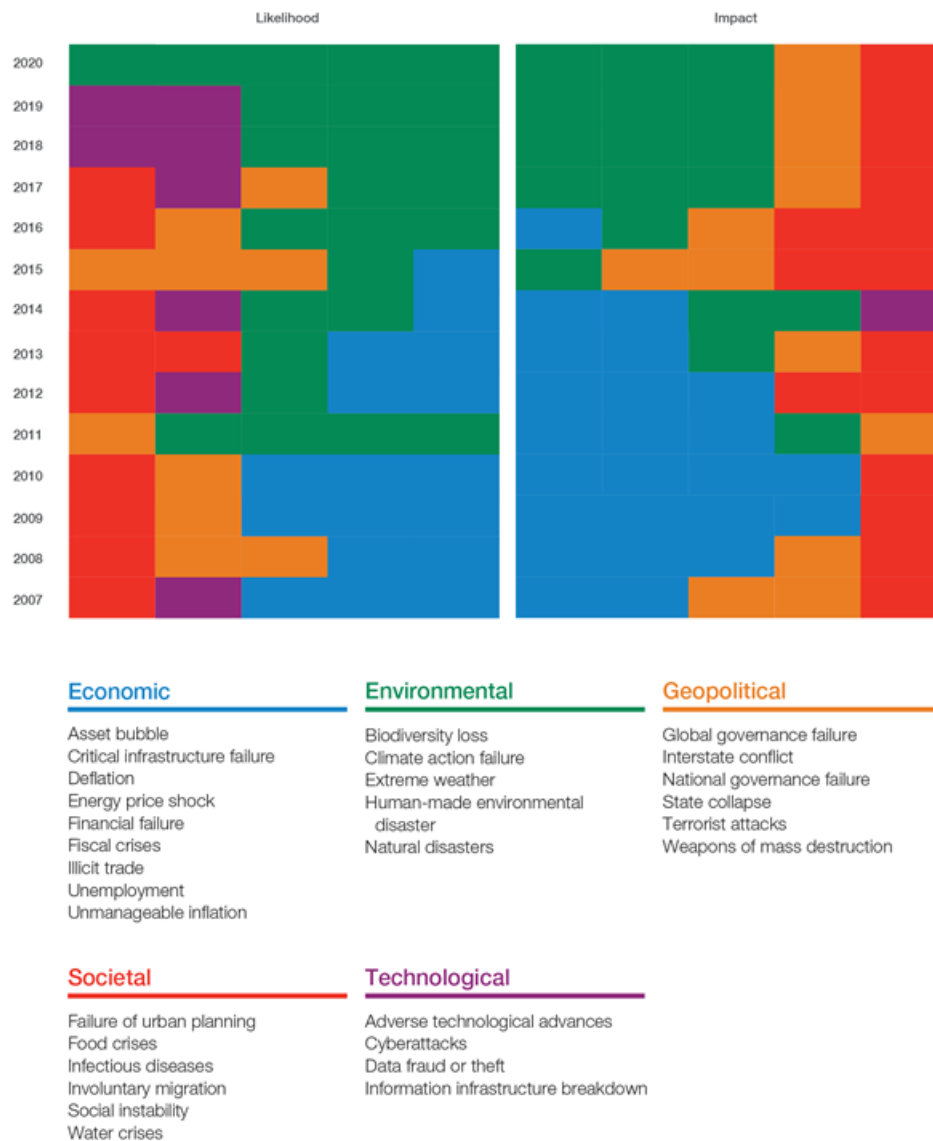
All the 17 SDG's have a strong role to play in ensuring a systemic shift for socio-economic and environmental improvement. SDG 3 – good health and wellbeing is playing an increasing important role with an overall objective of ensuring healthy lives and promote well-being for all at all ages. COVID-19 has already highlighted instances where it can pose significant stress and at times also overwhelm some of the established healthcare systems – it also has the potential to reverse significant improvements made in healthcare systems globally.

In October/November 2018, the First World Health Organisation (WHO) Conference on Air Pollution and Health was convened in Geneva under the theme – Improving Air Quality, Combating Climate Change: Saving Lives. With diseases and deaths from air pollution estimated to be around 7 million lives a year- there was strong consensus for an urgent and global response. One of the goals set in the 'Geneva Action Agenda to Combat Air Pollution' at the conference was to reduce the number of deaths from air pollution by two thirds by 2030.

The Global Risks Report 2020 of the World Economic Forum (WEF) for the first time had environmental risks in its Top 5 Risks – Climate action failure, Biodiversity loss, Extreme weather, Human-made environmental disaster and Natural disasters. With a lack of political consensus, there is an urgent need for the other stakeholders such as industry and financial institutions to partner and collaborate across industry value chains

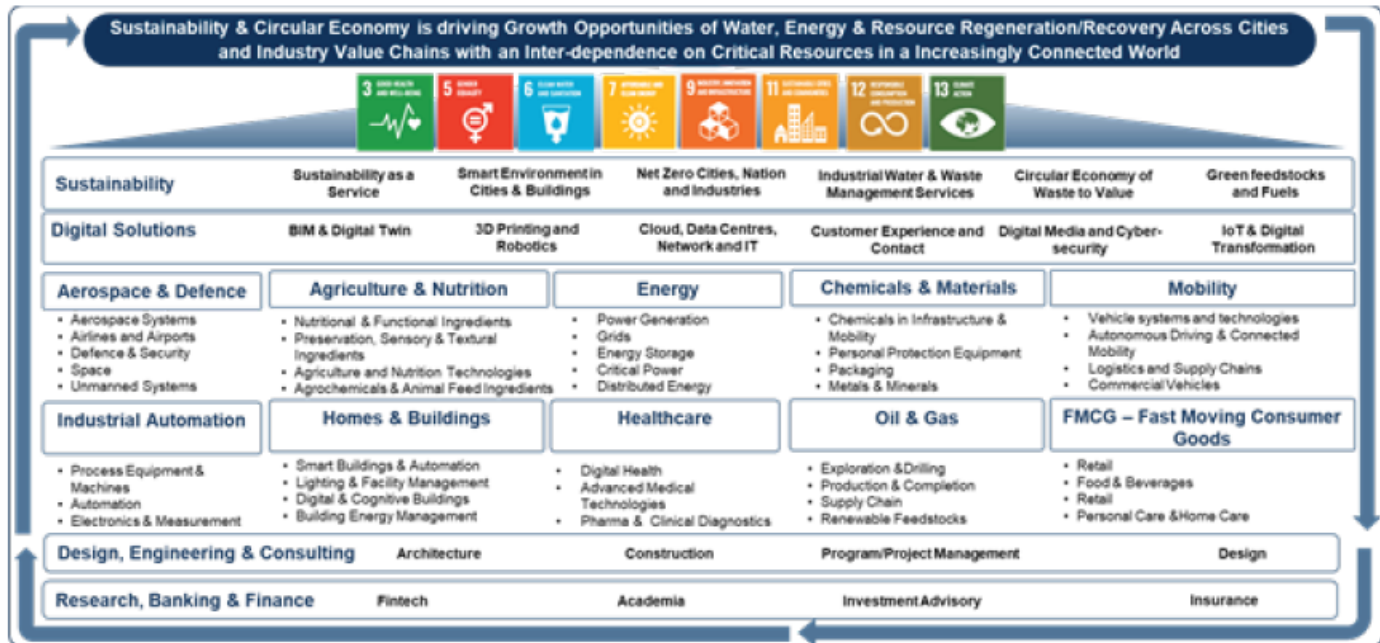
under the framework of the Sustainability Development Goals in building a resilient world in the face of the current socio-economic challenge presented by COVID-19.

Figure 2: Top Global Risks



Source: World Economic Forum 2007-2020, Global Risks Report

Figure 3: Sustainability as the Market Driver



Source: Frost & Sullivan

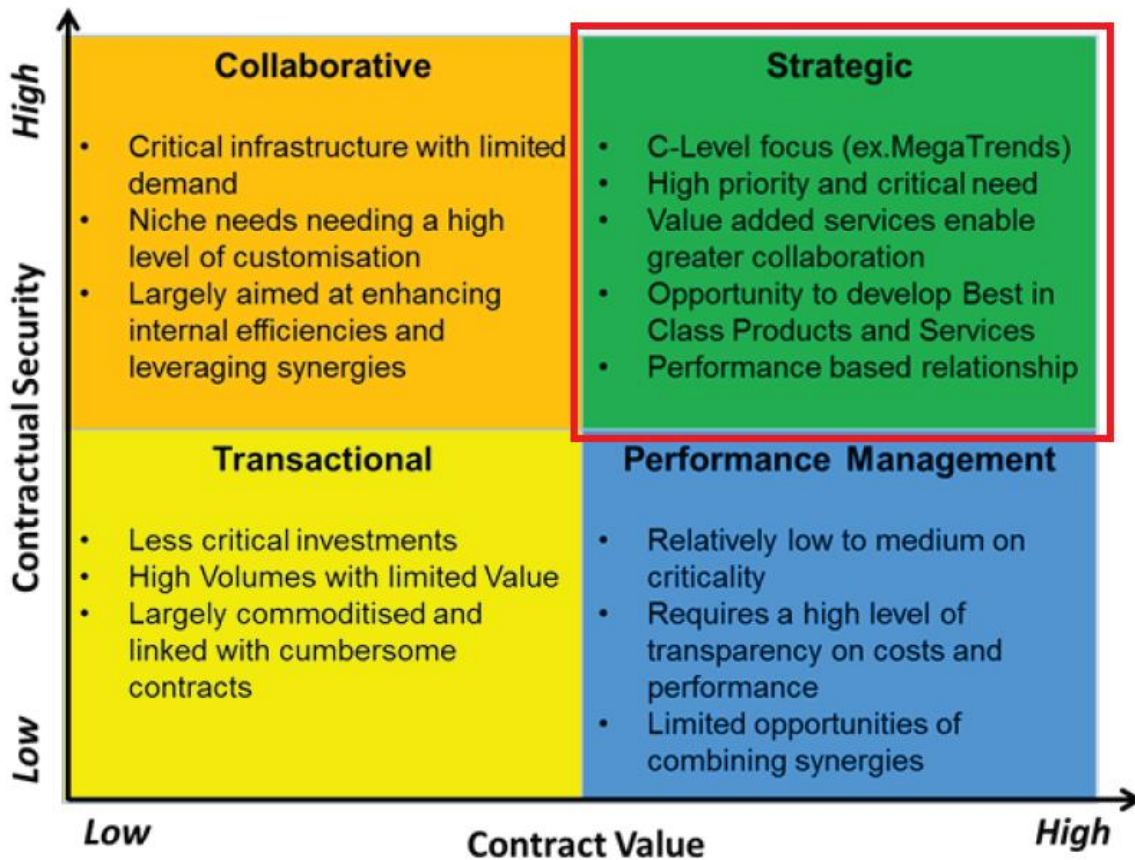
Sustainability and Circular Economy is driving opportunities for air purification in the Homes and Buildings segment. Key digital solutions such as BIM and Digital Twin as well as sustainability themes such as sustainability as a service, smart environment in cities & buildings as well as net zero cities will draw on the inter-dependence on critical resources in an increasingly connected world.

The efforts to tackle air pollution has contributions to multiple SDG's – the main being SDG 3 for good health and well-being, SDG 7.2 – access to clean energy in the home, SDG 11.6 on air quality in cities, SDG 11.2 on access to sustainable transport and SDG 13 on climate action.

Though air quality monitoring and air purifying products are mostly targeted towards B2C customers, B2B remains a lucrative market that can boost a company's earnings.

Suppliers are building on the SDG-driven priorities of B2B customers and rapidly evolving circular economy business models to position themselves as strategic partners to customers in the journey. Building owners with multiple properties, corporate offices, and large hospitality buildings present a lucrative opportunity for adding a consistent revenue stream.

Figure 4: Sustainability As a MegaTrend and C-Level Focus in the Strategic Quadrant



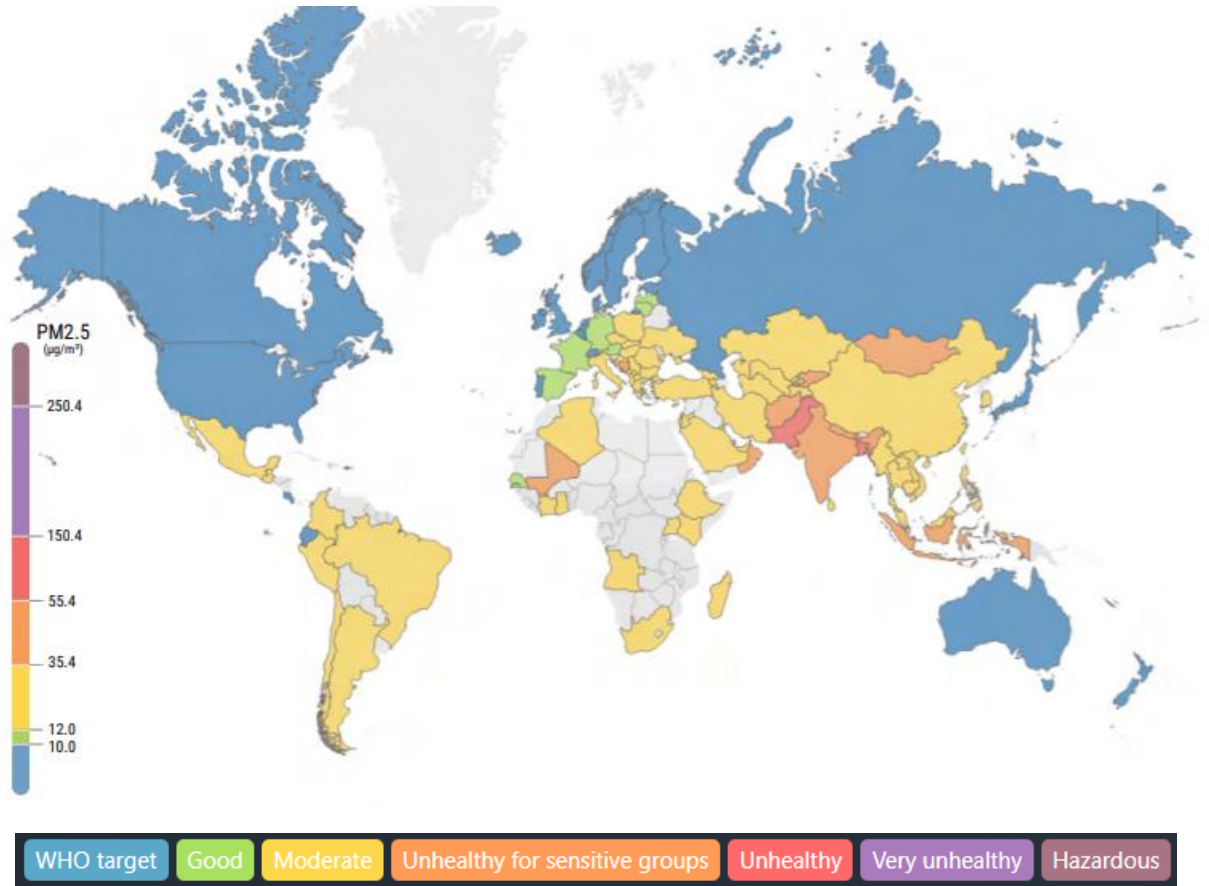
Source: Frost & Sullivan

Air Pollution

The WHO has clearly highlighted that air pollution as a global health priority as it affects more than 90% of the world population. Air pollution is considered one of the top highest health hazard to people globally, causing to approximately 7.0 million premature deaths every year. Various studies have also highlighted the extreme negative costs to economies both in terms of healthcare as well as productivity costs, with estimated \$2.9 trillion of annual burden to the global economy.

According to the IQAir's 2020 World Air Quality Report, the highest annual average concentration of PM2.5 weighted by population occurs in the countries of East, Southeast and South Asia. 49 out of the 50 most polluted cities globally are located in India, China, Bangladesh, and Pakistan.

Figure 5: Global map of estimated PM2.5 exposure by country in 2020



Source: IQAir

Figure 6: Global PM 2.5 Pollution Levels, Top 20 Cities, 2020

Rank	Country	2020 AVG (µg/m³)
1	Bangladesh	77.1
2	Pakistan	59.0
3	India	51.9
4	Mongolia	46.6
5	Afghanistan	46.5
6	Oman	44.4
7	Qatar	44.3
8	Kyrgyzstan	43.5
9	Indonesia	40.7
10	Bosnia Herzegovina	40.6

11	Bahrain	39.7
12	Nepal	39.2
13	Mali	37.9
14	China	34.7
15	Kuwait	34.0
16	Tajikistan	30.9
17	North Macedonia	30.6
18	Uzbekistan	29.9
19	Myanmar	29.4
20	United Arab Emirates	29.2

Source: IQAir

Figure 7: Global PM 2.5 Pollution Levels, Top 20 Cities, 2020

Rank	City, Country	2019 AVG ($\mu\text{g}/\text{m}^3$)
1	Ghaziabad, India	110.2
2	Hotan, China	110.1
3	Gujranwala, Pakistan	105.3
4	Faisalabad, Pakistan	104.6
5	Delhi, India	98.6
6	Noida, India	97.7
7	Gurugram, India	93.1
8	Raiwind, Pakistan	92.2
9	Greater Noida, India	91.3
10	Bandhwari, India	90.5
11	Lucknow, India	90.3
12	Lahore, Pakistan	89.5
13	Bulandshahr, India	89.4
14	Muzaffarnagar, India	89.1
15	Bagpat, India	88.6
16	Kashgar, China	87.1
17	Jind, India	85.4

18	Faridabad, India	85.0
19	Coraut, India	85.0
20	Bhiwadi, India	83.4

Source: IQAir

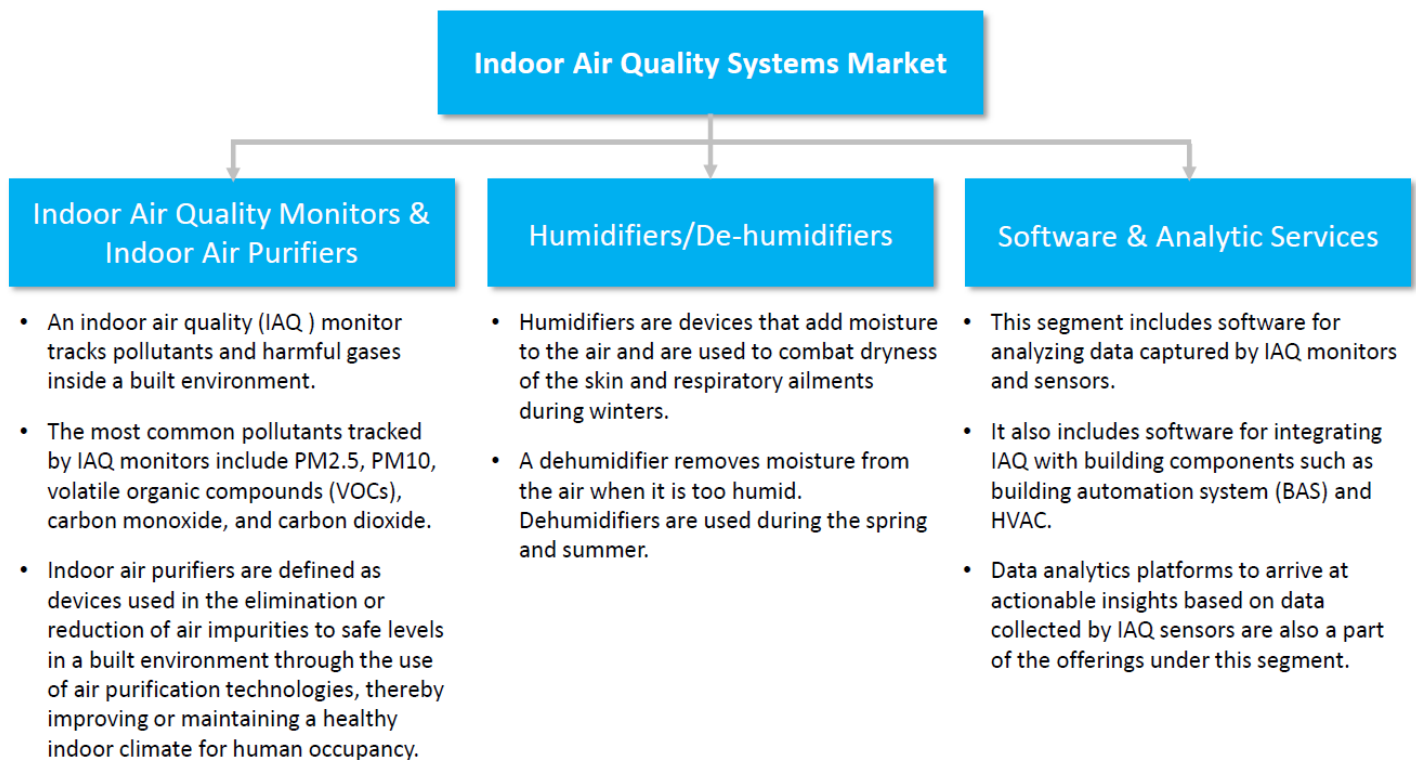
COVID-19 has certainly stepped up the focus on indoor air quality monitoring and management. As governments are setting out plans to tackle the pandemic with roll-out of vaccination programs – there is also a thought that this particular virus or similar and contagious viruses can become ever more frequent in the years to come. Therefore there is a need for a strategy to see how homes and buildings can be equipped with better systems to enhance resilience and minimize risk. Recent research has also highlighted that enhancing indoor air quality (IAQ) has the potential to reduce aerosol transmission of viruses as compared to vaccinating 50% to 60% of the population.

Quality of air, both outdoors and indoors, has been deteriorating and has failed to meet the safe levels prescribed by the WHO. Several countries have taken measures to reduce air pollution and improve the standard of living by encouraging green or sustainable transportation. However, there are still hotspots across the world, especially in APAC, where the air quality is inferior as compared to WHO standards.

Though there is no direct correlation between COVID-19 and air pollution, researchers in Italy have found coronavirus in air pollution samples. Air pollutants might act as a carrier for this virus, thereby increasing chances of its airborne transmission. As a result, air quality system manufacturers are working towards educating end users by raising awareness about air pollution in the new normal.

Indoor Air Quality (IAQ) Systems Market Segmentation

Indoor air quality (IAQ) systems include products that monitor and purify pollutants and other air conditions in a closed environment. Indoor air purification is defined as the elimination or reduction of air impurities to safe levels in a built environment through the use of a device (or multiple devices), thereby improving or maintaining a healthy indoor climate for human occupancy. The IAQ systems market is segmented as: Indoor Air Quality Monitors & Indoor Air Purifiers; Humidifiers/De-humidifiers; and Software & Analytic Services.

Figure 8: Indoor Air Quality Systems Market Segmentation

Source: Frost & Sullivan

The vertical or end-user segmentation includes: Commercial (Office, Retail, Hospitality – restaurants and hotels); Institutional (K-12, colleges, healthcare buildings); Residential; and Others (Government Buildings, Museums, Transport (Flights, Buses, Cars), Airports, Railway/Metro Stations). Regional segmentation of the IAQ systems market includes: North America, Europe, Asia-Pacific (APAC), and Rest-of-World (RoW; comprises Middle East, Africa, and Latin America).

Figure 9: IAQ Systems Market: Top Air Purification Technologies

Technology	Advantages	Disadvantages
HEPA Filters	<ul style="list-style-type: none"> • Effective in removing 99.97% of 0.3-micrometer particles • No ozone production or other harmful by-products 	<ul style="list-style-type: none"> • Noisy and have a short lifespan • High energy consumption • Ineffective in removing viruses, harmful gases, and odors
Activated Carbon	<ul style="list-style-type: none"> • Effective in removing viruses, harmful gases, and odors 	<ul style="list-style-type: none"> • Short lifespan • Ineffective in removing airborne particles
Ionization	<ul style="list-style-type: none"> • Electrostatic filters are washable and supposedly reusable, thereby incurring low maintenance costs. • Ionization increases the efficiency of capturing contaminants without using chemicals. 	<ul style="list-style-type: none"> • Surfaces must be cleaned regularly to remove ionized particles • Ozone production
Ultraviolet Germicidal Irradiation (UVGI)	<ul style="list-style-type: none"> • Effective in sterilizing air that passes through UV lamps via forced air 	<ul style="list-style-type: none"> • Ineffective in removing airborne particles
Electrostatic filters	<ul style="list-style-type: none"> • Able to remove airborne particles, viruses, and odors • Relatively longer lifespan 	<ul style="list-style-type: none"> • May not be as effective as traditional filters

Source: Frost & Sullivan

Market Drivers & Restraints

Frost & Sullivan analyzes market prospects and potential based on force field analysis using key market drivers and restraints. The shortlisted drivers are then ranked based on the intensity of their impact (low–medium–high) over the intervals of the forecast period.

The leading market drivers include rising pollution levels and deteriorating air quality in major cities, in addition to increased consumer awareness about poor air quality. Closely following these is rising concern over the growing incidence of airborne diseases, especially in light of the severe impact of COVID-19.

A decline in prices of air purifiers due to the market entry of consumer-appliance brands is also expected to drive the demand further. Seasonal demand in several countries serve as the peak demand periods –

examples are the stubble burning in Punjab and Haryana during winters in India, bushfires in Australia during peak summer, and the wildfires in California spanning two seasons.

The uppermost restraint is the high capital investment, and high maintenance costs are also a major deterrent for the purchase of air purifiers, especially in the residential segment. In addition, there are few enabling regulations encouraging adoption.

Figure 10: Indoor Air Quality Systems Market: Growth Drivers, Global, 2020–2026

Drive	1-2 Years	3-4 Years	5-7 Years
Increasing pollution levels and deteriorating air quality in major cities, as well as rising consumer awareness about poor air quality	High	High	High
Rising concerns regarding increasing airborne diseases, especially after the severe impact of COVID-19	High	Medium	Medium
Improving air quality in commercial buildings, especially offices, to ensure a safe workplace and the focus on well being of employees	High	Medium	Medium
Use of IAQ systems to monitor occupancy and achieve energy efficiency of HVAC systems	Medium	High	High
Smart cities, WELL Building Standard, and Green Building initiatives	Medium	Medium	High
Increase in disposable income and improving standard of living in several developing countries	Low	Low	Medium

Source: Frost & Sullivan

Figure 11: Indoor Air Quality Systems Market: Growth Restraints, Global, 2020–2026

Drive	1-2 Years	3-4 Years	5-7 Years
High capital investment and high maintenance costs are a major deterrent for the purchase of air purifiers, especially in the residential segment. While prices are going down, the average cost of air purifier is \$320, which is still considered expensive.	High	High	Medium
Lack of enabling regulations to drive adoption. There are several recommendations by government and environmental agencies, but there are no mandates as of now.	High	Medium	Low
Some air purifiers produce hazardous by-products such as ozone or nitrous oxide that pose a severe threat to the occupants.	Medium	Medium	Low

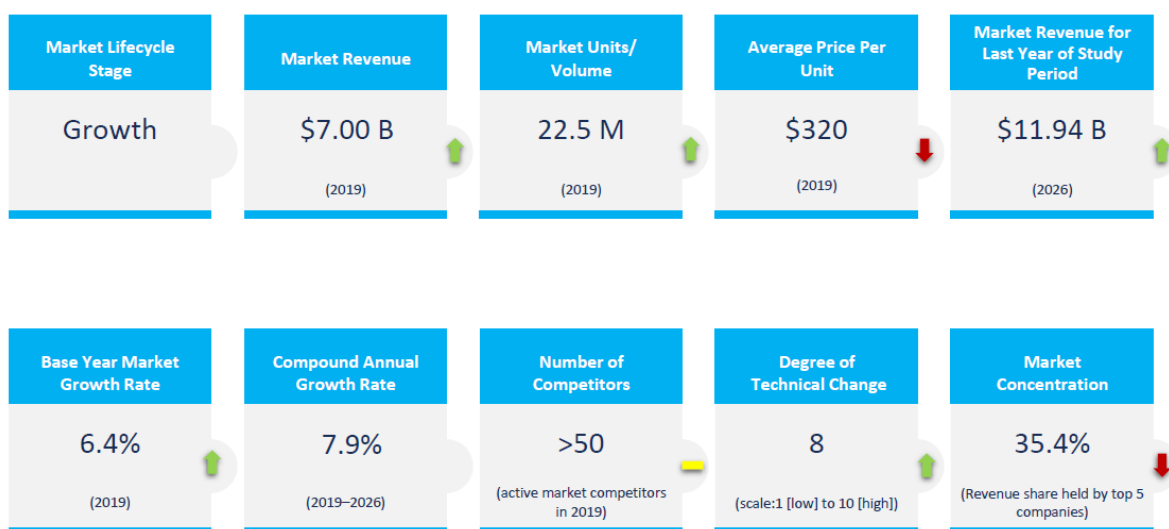
Market Growth Opportunity Analysis

KEY TAKEAWAYS

- Frost & Sullivan estimates the market for IAQ systems was worth \$7.51 billion in 2020. Indoor air purifiers with in-built monitors are the most sought product ahead of standalone air quality monitors.
- Partnerships with building management system (BMS) and heating, ventilation, and air condition (HVAC) solution providers; affordable pricing; ability to track and contain multiple pollutants, and a multi-channel growth strategy are the top success factors in this market.
- Indoor air purifiers and monitors are gaining widespread popularity due to their effect in reducing asthma and other breathing related ailments. The impact of COVID-19 has added momentum to the already growing market. Though manufacturers do not expect a manifold growth in 2020, they agree that the growth will be significantly higher than before.
- Institutional building segments comprising schools and hospitals will witness massive growth during the forecast period followed by transport and public buildings. Offices are likely to increase spend on improving air quality while the residential segment will maintain its current growth.

The Global Indoor Air Quality (IAQ) Systems Market is estimated to be around \$7.51 bn in 2020 and with a CAGR of 6.8% is set to reach \$11.94 Bn by 2026. The market is witnessing a high degree of innovation with the "Degree of Technical Change" estimated to be at a high of 8 on a scale of 1 to 10. The IAQ Systems market is also witnessing a strong growth in the key segment of software & analytics – building on the increasing installation of indoor air quality monitors in the treatment systems that generate valuable data that support the growing number of tools.

Figure 12: IAQ Systems Market: Key Growth Metrics, Global, 2019



Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

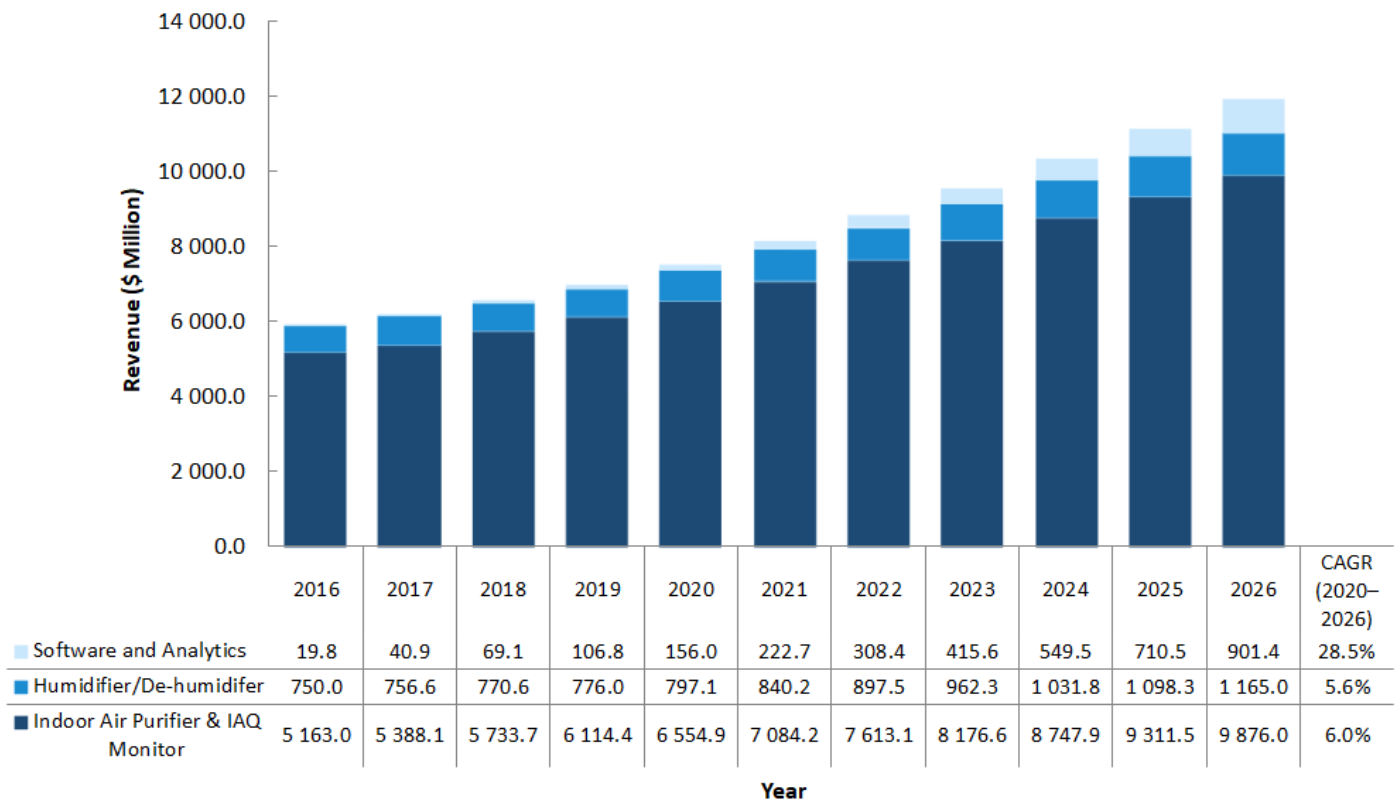
The price of IAQ systems varies across geographies and also across product segments when clustered as base, mid-segment and premium segment. The average price is the highest in North America for all three product segments.

The price of an air quality monitor or an air purifier is determined by factors such as the type of filter technology used, different types of pollutants it monitors, size and grade of filters, coverage area, and CADR. CADR is an indicator of how much air is cleaned and sent back into the environment.

Sensors used to measure particulate matter (PM), VOC, and other harmful gases account for a major component of the selling cost of air quality monitors. The signals from sensors are important in determining the level of PM and VOC in the air.

Sensors developed for indoor air quality monitoring are getting more precise with faster response times. Low-cost sensors are gaining more traction but their sensitivity to external conditions is a cause of concern.

Figure 13: Indoor Air Quality Systems Market: Revenue by Product Segment, Global, 2020-2026



Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Indoor Air Quality Monitor & Indoor Air Purifier

Indoor air quality monitoring market will continue to grow on the back of advanced data monitoring and predictive analytics solutions offered by product manufacturers. Real-time, continuous measurement by IAQ

monitors can be used to detect pollutant sources and provide information on the variation in pollutant levels throughout the day, and also over a course of weeks or months.

Increasing focus on health and well-being of the occupants in a building will prompt building owners and facility managers to install IAQ monitors in their premises. With rising concerns over airborne transmission of COVID-19, IAQ monitors will be expected to track harmful viruses and bacteria that cause diseases. R&D focus on developing sensors to identify and track disease-causing pathogens will be on the rise. Makers of HVAC equipment will partner with IAQ system manufacturers to integrate air quality monitors, especially in their ventilation systems to ensure clean air circulation within a building.

Humidifiers & Dehumidifiers

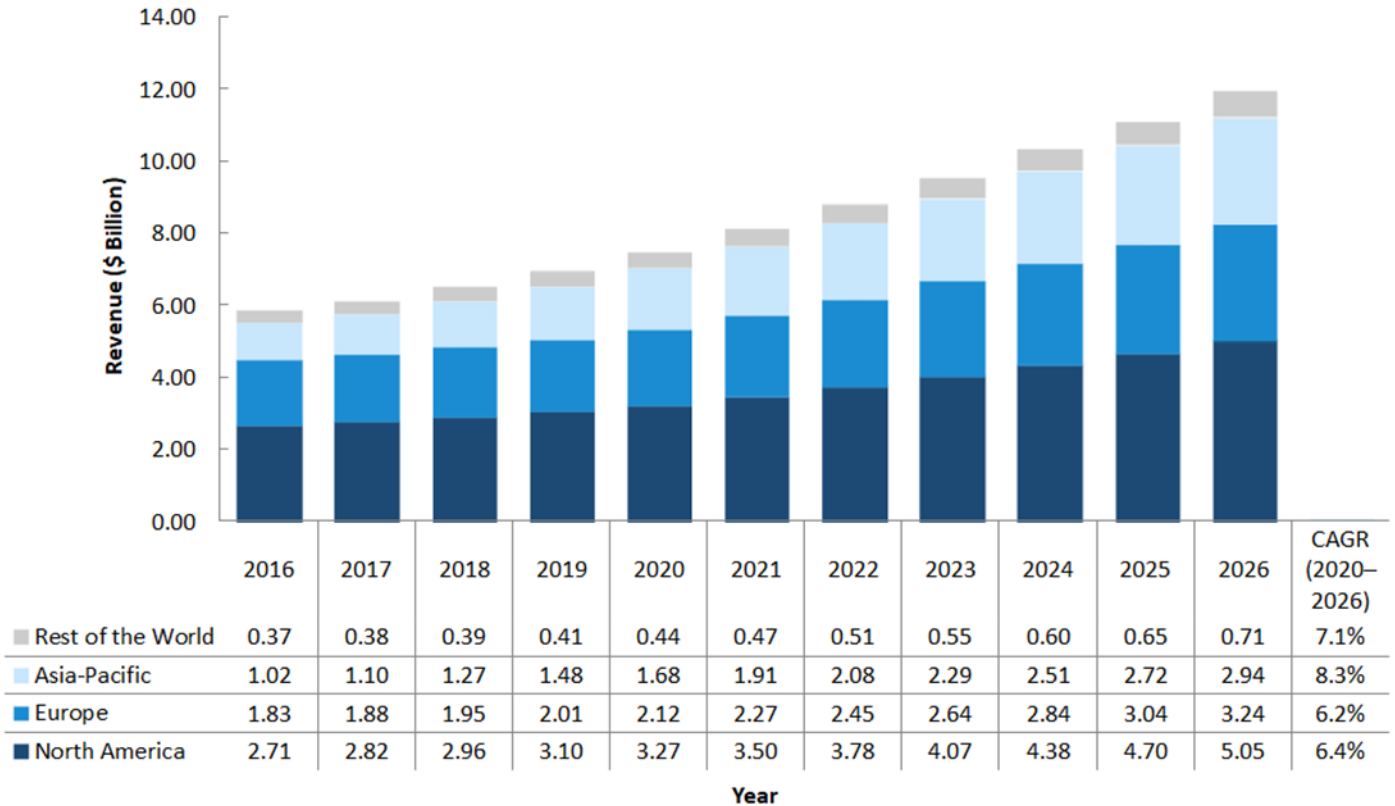
Environmental Protection Agency (EPA) guideline for indoor humidity is at approximately 45%, although a range of 30%-50% is acceptable. The market for humidifiers and dehumidifiers is highly fragmented. Declining air quality is intensifying the demand for advancements in this product category. Desiccant- and refrigerator-style dehumidifiers are the most common product types. Factors influencing the selection of products include ease of handling, reduced noise during operation, long run time, anti-microbial properties, advanced safety features, durability, and digital or remote controls.

The demand for portable air humidifiers and dehumidifiers is growing steadily as consumers are willing to pay a premium price for innovative products that help improve living conditions.

Software and Analytics

Software and analytical services for the indoor air quality systems market is expected to register a whopping 28.5% growth in the forecast period, driven by the need for insights on tackling air quality inside a building. The need for real-time monitoring, preventive maintenance of HVAC systems, and adjusting ventilation inside a built environment will be major drivers for the growth of software services.

Software that predict the quality of indoor air by tracking outdoor pollution and traffic, and suggesting ways to tackle it, will be in high demand. Web-based software that is compatible with multiple products will be preferred by residential customers whereas commercial customers might opt for proprietary software that can track specific pollutants based on their location and historical data.

Figure 14: Indoor Air Quality Systems Market: Revenue by Region, Global, 2020-2026

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

North America

North America is the leading regional segment in the global IAQ systems market, with an estimated revenue of \$3.27 bn in 2020, due to the increasing number of industries and manufacturing units in the region. Rising vehicular traffic and CO₂ emissions from industries are leading to a rise in respiratory diseases, consequently improving the sales of air purifiers across the region. The rise in natural calamities, ranging from forest fires to heat waves, affects the environment, resulting in outdoor and indoor pollution.

Europe

Europe with a revenue of \$2.21 Bn is the second largest regional market. Increasing income levels and the shift to healthy lifestyles are expected to drive the IAQ systems market in the near future. The European Union (EU) has formulated a clean air policy which is based on ambient air quality standards, national air pollution control programs, and emission and energy efficiency standards for vehicle emissions. More fatalities are reported due to respiratory illness, which will increase the focus on usage of air purifiers and air quality monitors in the future.

Asia-Pacific

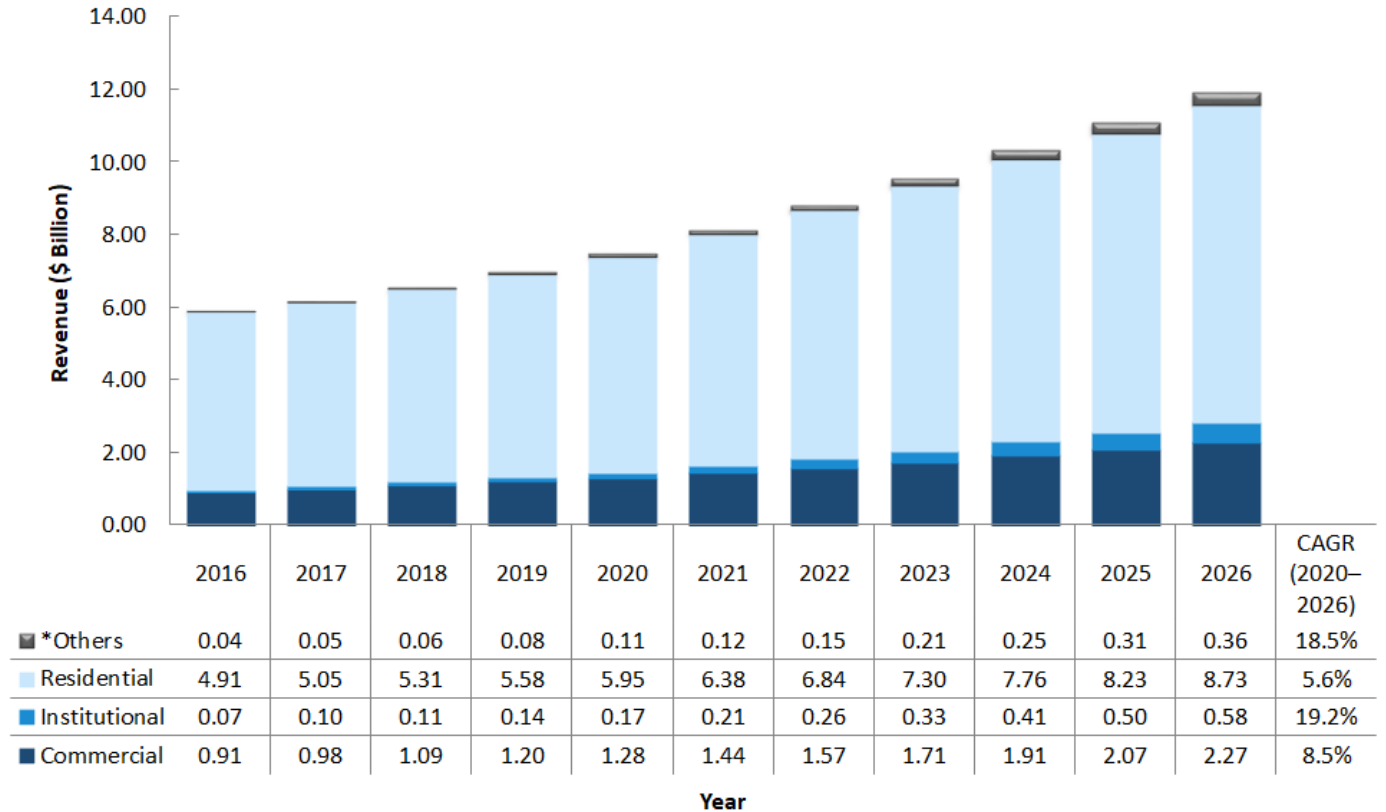
APAC registered the revenue of 1.68 Bn in 2020. Rapid urbanization and deteriorating air quality in the APAC region coupled with increase in consumer spending is set to drive growth momentum for the region. Annual

stubble burning remains a common practice across India, China, and parts of Southeast Asia, compounding the problem of air pollution in the region. Forest fires in Indonesia spread toxic haze to nearby countries including Malaysia, Singapore, Thailand, and Vietnam. Bushfires in Australia are a regular phenomenon that results in property damage and loss of life. The IAQ systems market in the region is expected to grow at a rate of 8.3% over the next 6 years, making it the second largest market after North America in 2026.

Rest of the World (RoW)

Middle East and Africa and Latin American countries will register the second highest CAGR of 7.1% over 2020–2026. Latin America and the Middle East face serious air quality and extreme climatic challenges as a consequence of significant urban growth and sandstorms. Along with inefficient vehicles, sub-standard fuel quality, a lack of proper standards for building heating, ventilation and cooling systems contributes to higher PM2.5 levels.

Figure 15: Indoor Air Quality Systems Market: Revenue by Vertical, Global, 2020-2026



**Others includes Government Buildings, Museums, Transport (Flights, Buses, Cars), Airports, Railway/Metro Stations*

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

Commercial

Commercial is the second largest market segment in 2020 estimated to be around \$1.28 Bn. The commercial buildings space is one of the most exciting markets for IAQ systems. Air purification technologies and air

filtration in HVAC systems are the products in demand within the commercial segment. Software and analytics to monitor air quality that has a direct correlation to workplace productivity and occupant well-being will also be in demand in this commercial segment. New York, London, Tokyo, Los Angeles, Paris, Shanghai, Hong Kong, Singapore, Sydney, Toronto, Munich, and Beijing are the global hotspots for commercial real estate that are witnessing an increase in demand for air quality solutions.

Institutional

The fastest growing segment is the institutional – comprising of schools – with growth estimated to be around 19.2% over the forecast period. Educational and healthcare buildings need better air quality as they house people who are more susceptible to illness. Schools and colleges with laboratories, packed classrooms, and assembly halls are more likely to suffer from lead, asbestos, and radon contamination and effects of outdoor pollution. Poor air quality inside hospitals can lead to delays in recovery or trigger new complications in patients and hospital faculty. These factors make the segment highly attractive for market participants.

Residential

Residential is the most established and mature segment with estimated revenue of \$5.95 Bn in 2020. People spend an average of 10 to 12 hours in their homes everyday. Dust particles and pollutants from vacuuming carpets and window shades, soot and smoke from kitchen, and outdated or uncleaned HVAC systems can trigger health issues in residences. Residents of densely populated countries in APAC and other health-conscious European countries will be the major adopters of IAQ solutions in the future. The residential segment will remain the largest vertical through 2026, growing at a CAGR of 5.6% from 2020.

Others

The demand for IAQ systems in the transportation sector and public buildings is expected to catch up faster. In-vehicle pollution is high inside cars and buses as emissions from other vehicles and pollutants enter through air vents and other openings. Similarly, buildings that see large public gatherings like museums and concert halls are also wary about the effects of indoor air pollution. IAQ systems designed for installation in vehicles and equipped with high Clean Air Delivery Rate (CADR) will be in high demand.

Key Growth Opportunities

Opportunity 1: Focus on Expanding in Countries Affected Highly Due to Indoor Air Pollutants

Context and Definition

The continuous decline in air quality across several Asian countries, including India and China, is a major cause of concern. The concern is amplified by the rapid increase in the population rate, and has resulted in a rise in reported cases of cardiovascular disorders, respiratory diseases like asthma, and lung cancer due to poor air quality. The top 20 most polluted cities are all in Asia, with 18 of them in Northern India and Pakistan. The average PM 2.5 levels in 2020 ranged from 51.9 $\mu\text{g}/\text{m}^3$ to 59.0 $\mu\text{g}/\text{m}^3$ for these countries indicating unhealthy air quality. Most of northern India suffers from increased pollution levels during early winter (October–January) every year. This is due to crop (stubble) burning that farmers do in the states of Punjab, Haryana, and the western parts of Uttar Pradesh. The smoke mixes with the fog to create a toxic smog every winter. Fall in

temperatures along with low wind speed trap air pollutants closer to the ground. Burning of fireworks during festivities also compounds the problem.

Call to Action

- Increase knowledge, among end users in Asian countries, on the potential benefits of installing an air quality systems in residences.
- Ensure availability of products that fit customer expectations in terms of price, specifications, and purchase experience.
- Explore partnerships with commercial and institutional sectors by offering Clean Air-as-a-Service model to reduce the CAPEX burden.
- Help buildings advertise occupant well-being by marketing their IAQ scores.

Opportunity 2: Investment in Technology to Roll Out New Products that are Better Suited for Different Vertical Markets

Context and Definition

Air quality monitors and air purifiers currently tackle only harmful gases and pollutants in the environment. The need of the hour is to detect pathogens in the air that we breathe. Investment in technology to develop new-age filters for air purifiers and sensors for detection is necessary. Though IAQ monitors track harmful gases, some verticals might need additional gases or pollutants to be tracked. For example, paints release nitrogen oxide (NOx), which can't be tracked in all IAQ monitors. This opens up opportunities for customized IAQ monitors and air purifiers depending on the vertical market.

Call to Action

- For those willing to pay a premium, companies can assess pollutants in their premises and design monitors and purifiers that suit customer needs.
- Similar to products designed for the healthcare segment, with medical-grade filters, products can be customized for offices, schools, and residences depending on the type of pollutant prevalent in the area.

Opportunity 3: Launch of Widespread Community-led Initiatives to Monitor Air Quality in the Environment

Context and Definition

There are increasing cases where community-led programs have enabled better air quality in the area. Similar to the 'Breathe Easy' project launched in Ottawa, and the INHALE project in Toronto and Hamilton,

community-led air monitoring initiatives, which measure the level of pollutants such as ozone, nitrogen dioxide, and small particles (PM) in the air can be launched worldwide. Several parents associations along with school teachers have pooled money to purchase air purifiers for class rooms.

Call to Action

- Awareness among customers varies by region. IAQ systems manufacturers need to partner with non-governmental organizations (NGOs), environmental agencies, and volunteers to advertise the benefits of IAQ systems.
- They can tie up with municipalities and help in setting up monitoring stations across a city that could educate people on the real-time pollution and necessary steps to be taken to mitigate them.
- Partnerships with organizations that enable buildings achieve EU targets related to building sustainability and comfort could also help in the widespread adoption of IAQ systems.
- Clean air-as-a-Service initiatives could also help in reducing the burden on building owners attributed to the high initial cost of setting up IAQ systems.

Opportunity 4: Directives at the EU and Regional Level to Improve Air Quality in Specific Regions

Context and Definition

There is a lack of clear regulations on air quality at a regional level. It is more relevant to the EU as the region has several directives on energy, environment, and transportation. Directive 2008/50/EC on ambient air quality and cleaner air for Europe is the only EU directive that focuses on limiting PM and other gas emissions. It was passed in 2008 but hasn't been revised since. Countries like India are yet to devise a clean air strategy; calibration of imported devices to Indian standards is also posing a serious challenge.

Call to Action

- Stakeholders of the IAQ systems market should act on the old EU directives and request for a revised version or an upgrade from the 2008 directives.
- Environmentalists and governments also need to come together to devise new minimum standards, to ensure air quality is at the WHO prescribed levels.
- Chinese government's measures to combat pollution have had tangible effects since 2013. Countries could take a leaf out of these programs to tailor regulations and measures to promote the use of air quality monitors and purifiers.

4. Competitive landscape

The Global Indoor Air Quality Systems Market is relatively fragmented with the top players accounting for about one-third of the cumulative market share. Recent trends indicate that several prominent consumer appliance brands will look to enter the market to exploit the opportunity.

Figure 1: Key Competitors in the Indoor Air Quality Systems Market

Global	North America	Europe	APAC	RoW
<ul style="list-style-type: none"> • Airthings • Aura Air • Blueair • Boneco • Coway • Dyson • Honeywell • IQAir • Levoit • Molekule • Oransi • Philips • Rabbit Air • Sharp • TruSens • uHoo • Whirlpool • Winix 	<ul style="list-style-type: none"> • Airthings • Airthinx • Alen Air • Austin Air • Awair • Blueair • Coway • Dyson • IQAir • Levoit • Molekule • Philips • Rabbit Air • Resideo • Winix 	<ul style="list-style-type: none"> • Airlabs • Airthings • Aura Air • Fellowes • Dyson • BlueAir • IQAir • Levoit • Foobot • NateoSante • Olansi • Radic8 • Netatmo • Velux • Winix 	<ul style="list-style-type: none"> • Blueair • Carrier • Coway • Dyson • Eureka Forbes • Havells • Honeywell • InovaAir • IQAir • Kent • LG • Mi (Xiaomi) • Midea • Molekule • Novita • Novaerus • Olansi • Panasonic • Philips • Sharp • TruSens • uHoo • Winix 	<ul style="list-style-type: none"> • Awair • Blueair • Coway • Dyson • Philips • Panasonic • Sharp • Mi • Levoit • LG • Solenco • IQAir • Winix

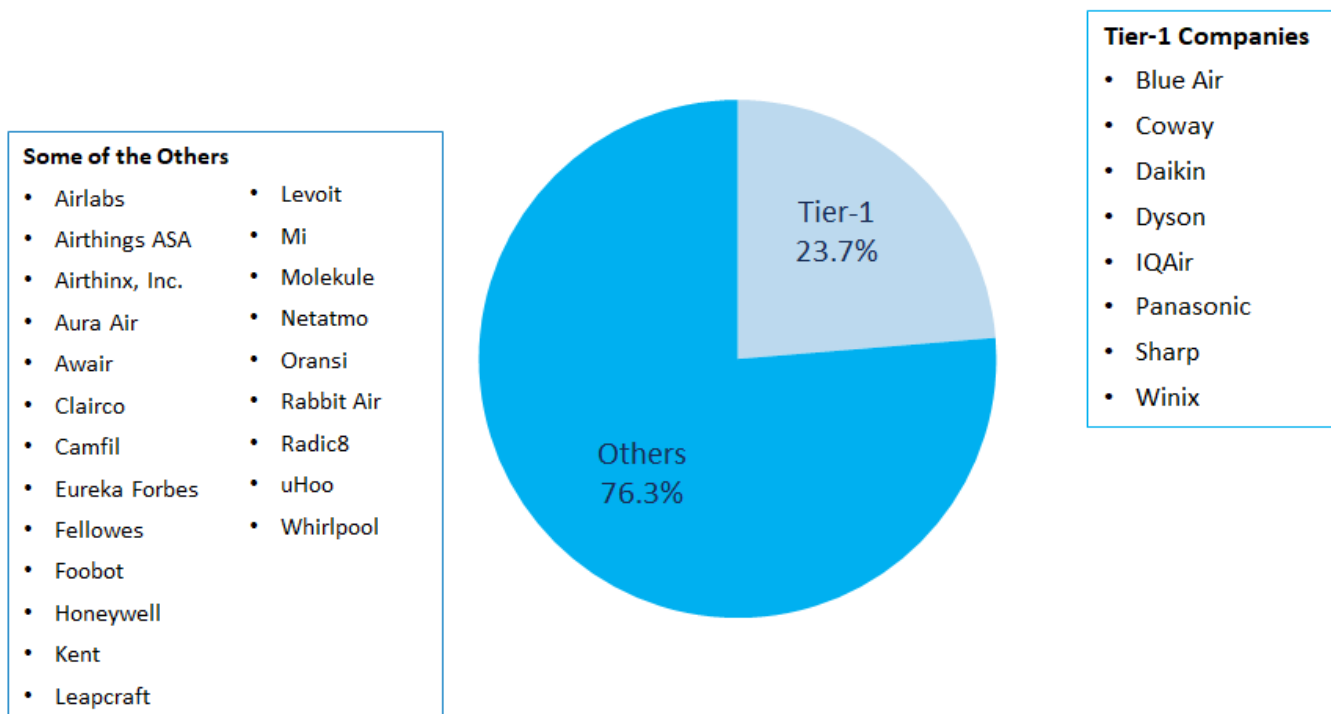
Source: Frost & Sullivan

Figure 2: IAQ Systems Market: Competitive Environment, Global, 2020

Number of Companies in the Market	Greater than 100
Competitive Factors	Cost, performance, reliability, ease of use, technical support
Key End-user Verticals	Residence, office, schools, hospitals
Major Market Participants	Blue Air, Coway, Daikin, Dyson, IQAir, Panasonic, Sharp, Winix
Market Share of Tier-1 Competitors	23.7%
Other Notable Market Participants	Molekule, Kent, Eureka Forbes, Aura Air, Mi, Oransi, Leapcraft, Rabbit Air, Coway, Fellowes, Airlabs, Airthings ASA, Sharp, Aithinx Inc., Camfil, Netatmo, Foobot, Awair, and uHoo
Distribution Structure	Direct sales, Retail sales, Distributors, and OEMs

Source: Frost & Sullivan

The tier-share of the leading players in the global indoor air quality systems market is presented in the figure below.

Figure 3: IAQ Systems Market: Revenue Share of Top Participants, Global, 2020

Note: All figures are rounded. The base year is 2020. Source: Frost & Sullivan

The competitive environment of the global indoor air quality systems market is highly competitive with and comprises of more than 100 competitors in a relatively fragmented market. The tier-1 competitors have a cumulative market share of approx. 23.7%. Global brands with operations in India and China make it to the tier-1 list, which shows the market potential in these countries. Recent trends indicate that several prominent consumer appliance brands will look to enter the market to exploit the opportunity.

Companies to Watch

- **Airthings**, established in 2008, has operations across North America and Europe. It is the only company that tracks radon, a major cause of lung cancer among non-smokers, inside buildings. It also launched a new product with mold risk indicator.
- **Airthinx** is the first affordable, professional IAQ monitoring solution that combines advanced sensing technology and allows real-time monitoring of more than 10 parameters. It leverages AI in optimizing the health of indoor spaces and delivers continuous and accurate measurements.
- **Blue Air** is one of the globally recognized player in the IAQ systems market. Swedish firm was established in 1996 and has expanded to more than 52 countries. Besides its home country, the company also has manufacturing plants in China and the United States. The company uses HEPASilent™ technology that ensures silent operation of the purifiers. It offers a slew of products across price ranges to cater to the diverse APAC market.
- **Clairco**, founded in 2018, has grown to manage 1 million sq. ft. across India to offer clean and healthy air everyday. The company offers clean air-as-a-service by converting existing air conditioners into air purifiers by fitting nano-tech air filters, which reduces capital costs and makes the systems more affordable.
- **Dyson** is a British technology company that offers mid-priced air purifiers that have a unique design and a combination of a heater and cooling fan. Dyson uses the POLAR test, which it believes is in tune with real-world usage conditions, to test the air cleaning capability of its products. Dyson positions itself as a premium brand targeting a large set of consumers. The company has manufacturing units in the United Kingdom, Malaysia, and Singapore and operates globally in more than 75 countries.
- **Eureka Forbes** is a consumer appliances based company that is part of the Shapoorji Pallonji Group. The company is India's leading health and hygiene brand, with a global reach of more than 53 countries.

- **IQAir** is an air quality technology company that offers air quality monitoring solutions and a medical-grade air purifier that is of high quality and offers superior performance to residential and healthcare consumers. The product is designed for personal and public use (portable air purifiers).
- **Leapcraft** along with GXN and Velux group, created the AirBird, an indoor climate sensor. The company also offers products to monitor environmental conditions of a city and a software platform to derive insights from data gathered from the sensors.
- **Molekule**, a technology start-up with patented PECO filters, is expanding into the APAC region by launching its products in India and Japan. Molekule is a fast-growing US based company that offers air purifiers with its patented PECO filter technology that kills disease-causing viruses. The company recently expanded its horizon, entering the Japanese and Indian markets.
- **Philips** offers solutions such as air purifiers and humidifiers; they remove particles, allergens, harmful gases, bacteria and viruses, and maintain optimal humidity levels. Philips leverages its deep clinical and consumer insights and advanced technology to provide integrated solutions. The company has a wide range of products across the price spectrum for different geographies and offers products in the sectors of personal care, mother and child care, lightning, automotive, sound and vision, and other accessories.
- **Sharp** offers products with advanced technology, such as plasma, which have been well received in the market, enabling it to secure a top 5 position.
- **uHoo** is a portable indoor air quality monitor that has dedicated sensors to 9 different air pollutants. The uHoo mobile app helps in tracking air pollutants by monitoring the threshold set by the user. uHoo can also be integrated with other smart home products.
- **Winix**, headquartered in South Korea, offers a range of high-quality IAQ solutions. The company witnessed a rapid increase in the sales of air purifiers over the last year in South Korea as well as the United States and China, as consumers look for quality products to tackle virus outbreaks and air quality issues. Winix uses a combination of HEPA filters and its PlasmaWave® technology that kills disease-causing viruses and bacteria, without leaving any by-products such as ozone. The company's solution is best suited for home and office environments, which positions it to be widely adopted across the globe.
- **Xiaomi** is known for its affordable product portfolio and for its efficient distribution network.

5. Valuation Method & Approach

Valuation of a start-up company in its early stages can be challenging due to limited cash flow (if any) and uncertainty regarding the future. As part of a Discounted Cash Flow (DCF), the accepted method used in financial valuations, there are several modifications to a start-up company's valuation. In general, there are three primary methods within the DCF method:

1. **Real Options** - valuation method designated for programs/companies where the assessment is binary during the initial phases, and based upon science-regulatory assessment only (binomial model with certain adjustments).
2. **Pipeline assessment** - valuation method used for programs/companies before the market stage. The company's value is the total discounted cash flow, plus allocated costs and assessment of the future technological basis. The assessment of the future technological basis is established based on the company's ability to "produce" new projects and their feed rate potential.
3. **DCF valuation** - similar to companies not operating in the life sciences field, this method applies to companies with products that have a positive cash flow from operations.

Company Financial Overview

Aura Smart Air's revenue amounted to USD 3.78 million in 2020, solely from its Aura Air product. In the first half of 2021, the company reported USD 6.38 million in revenue, with the Aura Air accounting for 96.1% of sales and the Aura Air Mini accounting for 3.9%. The company mainly sells to distributors, which comprise 91% of their sales. In 2020, North America accounted for 38% of the company's sales, with the stated goal of reaching 70% by 2023.

Aura Smart Air's equity as of June 31, 2021 is USD 14.84 million according to its balance sheet and has USD 9.9 million in cash, according to the company's management. The company's R&D costs amounted to 24.6% of its revenues, which is in line with standard R&D expenditures for startup companies. However, Aura Smart Air projects that its R&D costs will decrease dramatically in terms of its percentage of revenues, converging to 8% by 2026. Sales and marketing (S&M) and general and administration (G&A) expenses account for 13.2% and 19.8%, respectively. The company forecasts that these costs will decrease to 10% and 2.5%, respectively, by 2026. For FY 2020, the company recorded an EBIT of USD -1.34 million, but expect that to grow, based on the aforementioned decreased expenses, to grow to USD 20.58 million by 2026. The company reported a net loss of USD 2.82 million in the first half of 2021.

Revenue Model

Aura Smart Air offers three products: the Aura Air, the Aura Air Mini, and Aura Air replacement filters. The company has ascertained that the filters need to be replaced twice a year. It has also determined that the Aura Air and Aura Air Mini have a life span of 3 years, after which they predict 50% of customers will purchase

replacement devices. Based on these assumptions, below are the projected sales and revenues (in \$ thousands) through FY 2026 for each product:

Figure 1: Revenue projections from Aura Air, 2020 - 2026

Price per unit: \$350	A2020	E2021	2022	2023	2024	2025	2026
Units exp. sold	10,800	23,556	102,804	271,800	285,390	299,660	314,642
Follow-up purchases					11,778	51,402	135,900
Total Aura Air units sold		23,556	102,804	271,800	297,168	351,062	450,542
Revenue	\$ 3,780	\$ 8,245	\$ 35,981	\$ 95,130	\$ 104,009	\$ 122,872	\$ 157,690

Figure 2: Revenue projections from Aura Air Mini, 2020 - 2026

Price per unit: \$100	A2020	E2021	2022	2023	2024	2025	2026
Units exp. sold		2,617	11,423	30,200	31,710	33,296	34,960
Follow-up purchases					1,309	5,712	15,100
Total Aura Air units sold		2,617	11,423	30,200	33,019	39,008	50,060
Revenue		\$ 262	\$ 1,142	\$ 3,020	\$ 3,302	\$ 3,901	\$ 5,006

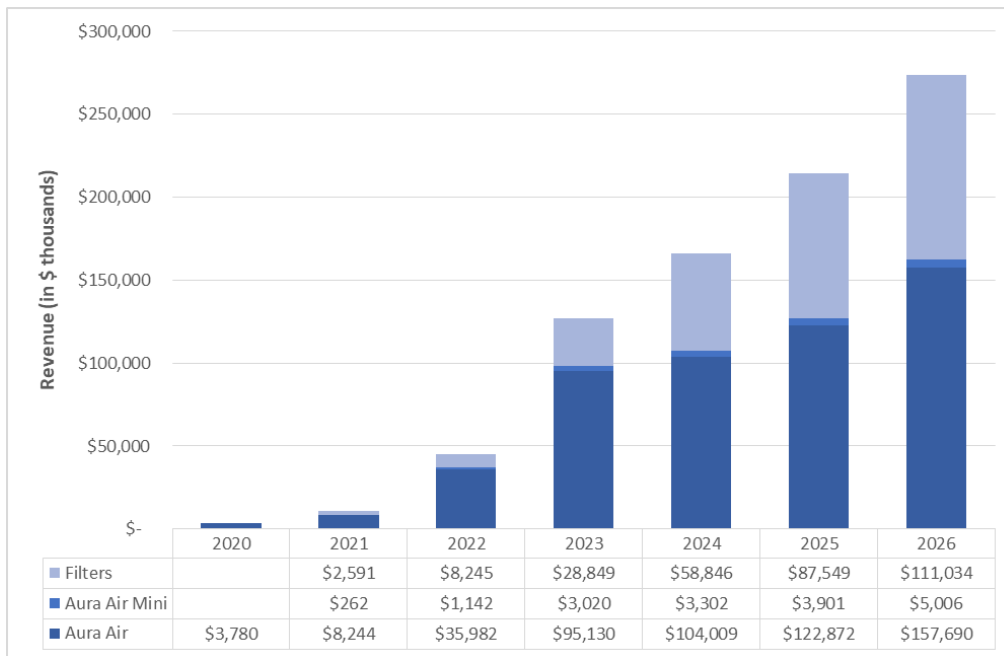
Figure 3: Revenue projections from Filters, 2020 - 2026

Price per unit: \$55	A2020	E2021	2022	2023	2024	2025	2026
Aura Air units in circulation	10,800	23,556	102,804	271,800	297,168	351,062	450,542
Aura Air units in circulation - Y2			23,556	102,804	271,800	297,168	351,062
Aura Air units in circulation - Y3				23,556	102,804	271,800	297,168
Total units by customers		23,556	126,360	398,160	671,772	920,030	1,098,772
Average units by customers		23,556	74,958	262,260	534,966	795,901	1,009,401
Revenues from filters		\$ 2,591	\$ 8,245	\$ 28,849	\$ 58,846	\$ 87,549	\$ 111,034

Figure 4: Total Aura Smart Air revenues projections, 2020 - 2026

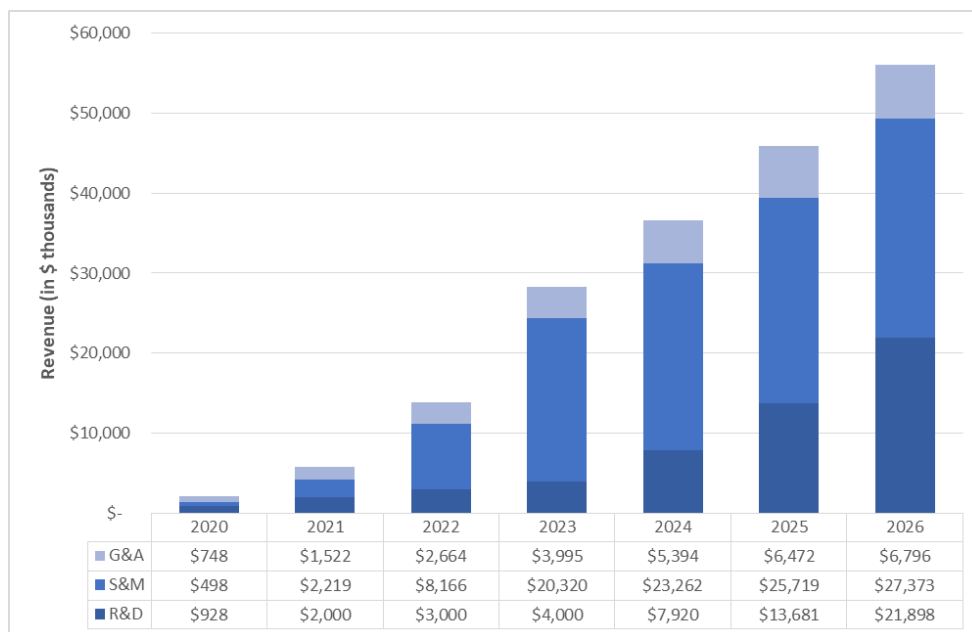
Year	A2020	E2021	2022	2023	2024	2025	2026
Aura Air	\$ 3,780	\$ 8,245	\$ 35,981	\$ 95,130	\$ 104,009	\$ 122,872	\$ 157,690
Aura Air Mini		\$ 262	\$ 1,142	\$ 3,020	\$ 3,302	\$ 3,901	\$ 5,006
Filters		\$ 2,591	\$ 8,245	\$ 28,849	\$ 58,846	\$ 87,549	\$ 111,034
Total	\$ 3,780	\$ 11,097	\$ 45,369	\$ 126,999	\$ 166,157	\$ 214,322	\$ 273,730

As shown above, we project that Aura Smart Air's revenues will increase dramatically over the coming years, based on the company's early success with the Aura Air, along with the increasing demand for air purification due to COVID-19. On the chart below, we display the estimate increase in revenues during the period:

Figure 5: Aura Smart Air Revenue forecast, 2020 – 2026, by product

Operating expenses

We evaluated Aura Smart Air's equity value based on the company's three product offerings, taking into account the research & development (R&D), sales & marketing (S&M), and general & administration (G&A) expense projections. In the graph below, we depict the company's operating expenses forecast through 2026:

Figure 6: Aura Smart Air operating expenses forecast, 2020 – 2026

Research and development

In 2020, Aura Smart Air spent 25% of its revenues (USD 928 thousand) on research and development, although expects this percentage to drop significantly. While it is common for tech companies to spend between 10-15% of revenues on R&D, similar companies (e.g. Daikin, Winix, Tadiran) have reported R&D expenses ranging around 2%, so to be conservative, we project their R&D expenses to converge to around 8% of revenues by 2026. Aura Smart Air already has a product that is top of the market technologically, as evidenced by its successful performance against Anti-Infectious Bronchitis Viurs (IBV).

Sales and marketing

The company's sales and marketing expenses, on the other hand, are expected to level off at around 10% by 2026. Aura Smart Air has mapped out an extensive plan for expansion in a number of territories. The company plans to expand its U.S. sales as percentage of total sales from 38% in 2020 to 70% by 2023. In Europe, Asia, and Australia, the company plans to work with governments to establish itself as a local standard in air quality management. The company recently reported that it had incorporated a subsidiary in India, where the company expects to quickly ramp up B2B sales.

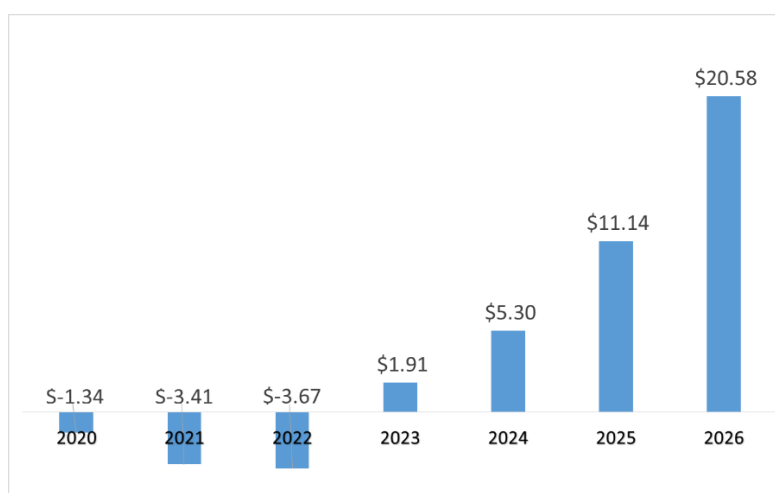
General and administrative

As the company aims to expand its sales rapidly in the coming years, the company is continuing to grow its employee force, enabling it to focus on its different target regions. Additionally, following the company's recent incorporation in India, the company has been recruiting additional staff to operate there. In light of this, the company's G&A expenses are expected to increase slightly from 7% in 2020 to 14% in 2021 – in the company's financial reports for the first half of 2021, the company's G&A expenses represent 15% of its revenues. The company expects these costs to decrease to 2.5% by 2026.

Operating income

Given the aforementioned revenue and operating expense projections, the company can expect to attain positive operating income by 2023, reaching USD 20.58 million in operating income by 2026. Below is a graph of the company's operating income forecast:

Figure 7: Aura Smart Air operating income forecast, 2020 – 2026 (in \$ Millions)



Additional points:

- Tax – we use statutory tax rates.
- WC – we assume 30 net days of working capital needs.
- CAPM – we use 16.71% based on our CAPM model (see appendix A)
- Non-operational assets and liabilities – the Company has USD 9.9 million and no loans, as of 30/09/2021.

Below is our equity value breakdown:

Parameters	(000, \$)
Enterprise Value	67,721.031
Cash	9,900.000
Equity value (000, \$)	77,621.03
Equity value (000, NIS)	250,715.93

Based on the above parameters, we evaluate the company's equity value at NIS 250.7 million.

Sensitivity Analysis

The table below presents Aura Smart Air's share price target concerning the capitalization rate. We set a range of 0.5% change from our CAPM model (see Appendix B). The company has 24.44 million shares as of October 11, 2021.

Cap rate	Price target
16.21%	9.8
16.71%	10.26
17.21%	10.75

We estimate the price target to be in the range of NIS 9.8 to NIS 10.75 with a mean of NIS 10.26.

Appendix #1: Capital Asset Pricing Model (CAPM)

Cost of equity capital (k_e) represents the return required by investors. The capitalization rate is calculated using the CAPM (Capital Asset Pricing Model). It is based on a long-term 30-year T-bond with a market risk premium, and based on Professor Aswath Damodaran's (NYU) commonly used sample (www.damodaran.com). As of January 8, 2021, the Israeli market risk is estimated at 5.4%.

The three year market regression Beta is 0.81, according to a sample of 86 firms (at various stages), representing the environmental and waste services sector (www.damodaran.com). We also add specific risk premiums to the company as a large part of its sales are conducted outside of Israel with different regulatory risks.

The Capital Asset Pricing Model (CAPM) is estimated as follows:

$$ER_i = R_f + \beta_i(R_m - R_f)$$

The company's financial structure, based on the CAPM, is as follows:

	s	data	Source
Long-term (20 years)	R(f)	2.12%	Israel Bonds - 0142
Market risk premium	R(m)- R(f)	5.40%	based on Damodaran (8/1/2021) - Israel
Beta unleveraged	β	0.81	Beta sample - Environmental & Waste Services (Damodaran, 2021), 86 firms
Cost of Capital	R(k)	6.5%	
Size Premium - micro cap		8.24%	10z decimel - Duff & Phelps, 2021
Additional risk		2.00%	
CAPM	CAPM	16.71%	

Appendix #2: About Frost & Sullivan

Frost & Sullivan* is a leading global consulting, and market & technology research firm that employs staff of 1,800, which includes analysts, experts, and growth strategy consultants at approximately 50 branches across 6 continents, including in Herzliya Pituach, Israel. Frost & Sullivan's equity research utilizes the experience and know-how accumulated over the course of 55 years in medical technologies, life sciences, technology, energy, and other industrial fields, including the publication of tens of thousands of market and technology research reports, economic analyses and valuations. For additional information on Frost & Sullivan's capabilities, visit: www.frost.com. For access to our reports and further information on our Independent Equity Research program visit www.frost.com/equityresearch.

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For further inquiries, please contact our lead analyst:

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Appendix #3: Team biographies

Dr. Tiran Rothman is the head of Frost & Sullivan Research & Consulting Ltd., a subsidiary of Frost & Sullivan in Israel. He has over 10 years of experience in research and economic analysis of capital and private markets, obtained through positions at a boutique office for economic valuations, as chief economist at the AMPAL group, and as co-founder and analyst at Bioassociate Biotech Consulting. Dr. Rothman also serves as the Economics & Management School Head at Wizo Academic College (Haifa). Tiran holds a PhD (Economics), MBA (Finance), and was a visiting scholar at Stern Business School, NYU.

Almog Josef Sokolik is an Analyst and Consultant at Frost & Sullivan Research & Consulting Ltd., a subsidiary of Frost & Sullivan in Israel. He has experience in valuation of public and private firms, research and market analysis obtained through positions at the Ministry of Finance - Department of the Chief Economist, and Ben-Gurion University - Laboratory for Judgment & Decision Making as research analyst. Almog holds a BA in Economics and Psychology.

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