BESTINVER acciona

JONIX (JNX.IT)

Killing the virus

BESTINVER SOCIEDAD DE VALORES, S.A. has been lead-manager or co-lead manager over the previous 12 months of a publicly disclosed offer of financial instruments of the Company.

- Jonix is an Italian Innovative SME, listed on AIM Italy since 4 May 2021, that manufactures solutions to sanitize air in confined spaces. Jonix's Non-Termal Plasma Technology stands out from traditional air filtration systems (HEPA, carbon, etc.) as it kills 99.9999% of viruses (including Covid-19), bacteria and moulds instead of only filtering chemical and organic pollutants floating in the air while it also exerts its sanitising action on surfaces as well.
- The technological skills of HiRef, Mauro Mantovan's company specialising in data centres and energy efficiency, and the scientific know-how of Archa, Antonio Cecchi's laboratory, which is certified in chemical and microbiological analysis, were brought together to create Jonix in 2013. Since then, Jonix has been constantly launching new products on the market, thanks to Jonix^{LAB}, creating a wide range of devices, protected by 3 patents, to meet air sanitation needs for residential, commercial and industrial needs.
- According to Grand View Research, Jonix's addressable air purifiers market is estimated to be $7bn in 2020 (+11.4% YoY) and is expected to grow at 9.5% CAGR in 2020-2028E, thanks to increasing disposable income, rapid urbanization and industrialization in developing countries, rising air pollution levels, increasing awareness of harmful effects of human health and rising regulation on indoor air quality.
- Jonix revenues rose by 12.6x in 2020 to €5.5m and we estimate that over the next 4 years they should grow at a 33% CAGR, with an EBITDA margin expected to exceed 30%, thanks to continued new product launches, the development of the international sales network and entry into adjacent sectors (water treatment).
- We initiate the coverage of Jonix with a BUY rating and a VR of €7.0-7.5, based on a DCF model assuming 7.4% WACC and 1% FCF growth after 2024.

BUY

Last (€)	4.96
Valuation Range (€)	7.0-7.5
Mkt. Cap. (€ m)	32.5
Free Float	23.6%
Avg. Daily Vol. (m sh.)	0.04
YTD	-

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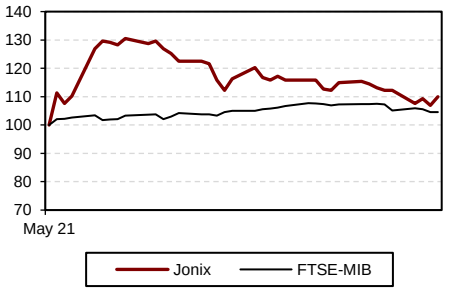
JONIX vs. FTSE MIB



Source: FactSet

	Sales (€ m)	EBITDA (€ m)	vs. Cons	Net Profit (€ m)	EPS (old) (€)	EPS (new) (€)	vs. Cons	P/E (x)	EV/EBITDA (x)	DPS (€)	DIV Yield
2019	0.4	0.1	-	0.0	0.00	0.20	-	-	-	0.00	-
2020	5.5	1.7	-	1.2	0.00	0.20	-	-	-	0.10	-
2021E	7.0	2.1	-	1.3	0.00	0.29	-	16.8	13.2	0.10	2.0%
2022E	10.5	3.1	-	1.9	0.00	0.39	-	12.6	8.6	0.15	3.0%
2023E	14.2	4.3	-	2.6	0.00	0.50	-	9.9	5.9	0.20	4.0%

Est 3 Yr Sales CAGR:	37.3%	*Shares Outstanding (m)*	6.5
Est 3 Yr EPS CAGR:	35.2%	*Mkt Cap (€ m)*	33.0

Share price performance	YTD	1 month	3 months	12 months
Absolute	-	(9.8%)	-	-
Relative to FTSE MIB	-	(11.7%)	-	-
Relative to STOXX 600 Europe	-	(12.2%)	-	-

Source: Bestinver Securities Research estimates and Factset

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Investment Summary

The founders: technological skills and scientific know-how

The technological skills of HiRef, Mauro Mantovan's company specialising in data centres and energy efficiency, and the scientific know-how of Archa, Antonio Cecchi's laboratory, certified in chemical and microbiological analysis, were brought together to create Jonix in 2013 in Tribano (Padua). At IPO Jonix's capital is equally divided between the two groups of investors led by Mauro Mantovan (Chairman) and Antonio Cecchi (CEO).

Jonix Non-Thermal Plasma Technology, a very effective and efficient way to sanitize confined spaces

Jonix, an Innovative SME and a Benefit Company which over the years has launched a series of indoor air sanitization products based on NTP (Non-Thermal Plasma) Technology, capable of attacking and neutralising living micro-organisms (viruses, bacteria, moulds) and chemical pollutants (VOCs, particulates). The Department of Molecula Medicine, University of Padua, under the scientific authority of Prof. Crisanti, has demonstrated that the virus-killing efficacy of Jonix devices against the Covid-19 virus is 99.9999%.

Increasing regulation on indoor air quality will be a positive driver for Jonix

Air pollution in confined spaces is a major public health problem and the pandemic has raised awareness that it can no longer be underestimated, especially since 90% of our life is spent in indoor areas. Different regulations at a global level identify threshold values of the main agents that cause indoor pollution, with the aim of improving the healthiness of living environments, reducing bacterial and viral infections and allergies.

A broad product portfolio for residential, commercial and industrial customers

Jonix has a broad product portfolio for residential, commercial and industrial customers, divided into the two business lines: Air Tech Solutions and Advanced Tech Solutions. The Air Tech Solution line includes devices for air sanitization and decontamination suitable for any kind of indoor environment (Cube, Mate / MiniMate / Maximate, Steel, Up In). The Advanced Tech Solutions line includes modular systems for the purification and decontamination of aeraulic ducts, adaptable to all types of installations (Duct, Inside AHU, Inside UC, Inside Fancoil).

A wide range of value-added services as a critical success factor

In addition, Jonix can provide its customers with a wide range of services, which are a critical success factor of its business proposition: environmental health analysis, predictive analysis, customised design, geolocation, verification tests, final effectiveness test.

NTP technology is better compared to alternative air sanitization technologies

The NTP technology has significant advantages over alternative no-touch technologies for air sanitisation (ozonisation, UV lamps, photocatalysis, hydrogen peroxide vaporization) and it is the only one that is suitable for home or work environments where people are present. The centre of Jonix devices is the NTP generator, protected by 3 patents that make it un-replicable in terms of efficiency and effectiveness.

R&D as a competitive advantage: Jonix^{LAB}

Technical and scientific expertise is an important competitive advantage for Jonix. Jonix^{LAB} is the proprietary technical-scientific laboratory, with expertise in electrical, electronic, thermodynamic, chemical and biological fields. Jonix has already invested €1.1m and will continue to invest at least 3% of its revenues in R&D in order to improve its existing products and to apply NTP technology in an innovative way in different sectors from indoor sanitization (agricultural, wastewater, waste, etc.) as well.

€7bn addressable market, with 9.5% CAGR in 2020-2028E according to Grand View Research

According to Grand View Research, Jonix's addressable air purifiers market is estimated to be $7bn in 2020 (+11.4% YoY) and is expected to grow at 9.5% CAGR in 2020-2028E (10.2% expected CAGR for the NTP technology, which currently represents only 6.2% of the total addressable market), thanks to favourable macro trends including: increasing disposable income, rapid urbanization and industrialization in developing countries, rising air pollution levels, increasing awareness of harmful effects on human health and increasing regulation on indoor air quality.

The technologies: filters vs. sanitizers

The technologies used in the air purifier sector fall into two basic categories: filters and sanitizers. Filter-based technologies are the traditional and most widespread, while sanitization-based technologies, including the NTP technology used by Jonix, have the greatest potential for development due to comparative advantages and technological evolution.

A very fragmented sector, which can provide Jonix with interesting growth opportunities

The air purifier sector is extremely fragmented, encompassing global home and personal durables giants to large, medium and small companies specializing in air purification and sanitization. We believe that this industry structure, combined with continuing growth in demand, and its leading position in the NTP segment, can provide Jonix with interesting growth opportunities, both organic and through acquisitions.

Listing on AIM Italy, with €6.2m capital increase, is an opportunity to accelerate growth

The boom in turnover achieved in FY20 (12.6x YoY) highlighted the need to intervene on a few weak areas: production infrastructure (excessive outsourcing), sales network, organisational structure, contracts, and financial resources. Listing on AIM Italy starting from 4 May 2021, with a €6.2m capital increase, provided Jonix with the financial resources to strengthen its structure and expand vertically, growing geographically by entering new sectors and through M&A. Sustainable development of its core business through R&D and the launch of new solutions and services, development of sales network, increasing production capacity and enhancing brand awareness will be the hallmark of Jonix's growth strategy in the coming years.

Strong growth and high margins

Revenues surged to €5.5m in 2020, up from €0.4m in 2019 (12.6x YoY) with revenue growing at 47% CAGR between 2016 and 2019. FY20 adj. EBITDA was €1.7m (30.6% margin) while FY20 adj. EBIT reached €1.6m (28.9% margin). The Company closed its 2020 books with zero net debt and €1.1m invested capital. We estimate revenue to grow at 34% CAGR over the next four years. Jonix should have €17.8m revenue and €5.5m EBITDA (31.0% margin) at the end of 2024.

€7.0-7.5/sh. VR DCF based, at 21-27% discount vs. sector multiples on FY22E

Our Jonix's VR is €7.0-7.5/sh., based on a DCF valuation of €48m. We assume revenues and EBIT should reach €17.8m and €5.0m respectively, while free operating cash flow should hit €3.0m by 2024E. We have computed a 7.4% WACC assuming a tax rate of 30.5%. We have assumed 1.0% long-term FCF growth after 2024E. Jonix multiples @ DCF valuation are at 5-7% premium vs. sector median on 2021E and at 21-27% discount on 2022E.

1. Company overview

- Jonix is an innovative start-up company founded in 2013 in Tribano (PD), which over the years has launched a series of indoor air sanitization products based on NTP (Non-Thermal Plasma) Technology, demonstrated to also be effective against Covid-19.
- Jonix NTP Technology has significant advantages over alternative no-touch technologies for air sanitisation (ozonisation, UV lamps, photocatalysis, hydrogen peroxide vaporization) and it is the only one suitable for home or work environments where people are present.
- At the heart of Jonix devices is the NTP generator, protected by 3 patents that make it un-replicable in terms of efficiency and effectiveness.
- Jonix has already invested €1.1m and will continue to invest more than 3% of its revenues in R&D (Jonix^{LAB}) in order to improve its existing products (Cube, Mate, Steel, Jonix Up In, Inside) and to apply Jonix NTP Technology in new sectors (agricultural, wastewater, waste, etc.).

Key milestones

From establishment (2013) to the listing process on AIM Italy (2020-2021)

In **2013**, **Jonix Srl**, an innovative start-up, was established in Tribano (PD) as a result of the technological and scientific collaboration between **HiRef**, a company specialising in data centres and energy efficiency, and **Archa**, a certified laboratory for chemical and microbiological analysis and one of the main national centres for applied research.

In **2014**, Jonix launched **Cube** on the market, a small device (24x24x26cm) for purifying and sanitising air using cold plasma technology, considered the safest and most effective system for oxidising, breaking down and eliminating pollutants, odours and allergens.

In **2015**, Jonix launched **Mate** and **Duct** on the market. Mate is a medium-sized mobile device (70x68x196cm) for purifying and sanitising air using cold plasma technology, with biocidal activity and neutralisation of pollutants in a maximum of 60 minutes. Duct is an air purification and sanitisation device also based on cold plasma technology to be installed in air ducts.

In **2016**, Jonix was awarded **Class 1 Medial Device** and **Biosafe** certifications, while it also launched **Steel** on the market, an air purification and sanitisation device based on cold plasma technology made of stainless steel, a technical material also used in operating rooms for its hygiene and anti-corrosion characteristics, and designed to be installed in small spaces with wall or ceiling mountings.

In **2017**, Jonix obtained a **patent** for the Non Termal Plasma (NTP) generator, while it also launched the **MiniMate** device on the market, a smaller version of Mate (56x48x106cm).

In **2018** Jonix obtained **TÜV PROFiCERT- Product** certification, and launched the **MaxiMate** device on the market, a larger version of Mate (131x72x216cm).

In **2019** Jonix obtained the **Ongreening®** certification.

2020 was a year full of important events for Jonix:

- filing of application for **2 patents** relating to the method of construction and efficiency of the NTP generator power supply;
- launch on the market of **Up**, a small device (30x30x9cm) for purifying and sanitising air and surfaces in lifts, to be installed on the ceiling or wall;
- launch of **Jonix Maps**, an app that geolocates all the environments treated with Jonix devices in a single map;

- the Department of Molecular Medicine at the University of Padua, under the scientific authority of Prof. Crisanti, demonstrated **Jonix Cube's virus-killing efficacy against Covid-19 at 99.9999%**;
- Jonix launched **listing process on AIM Italy** in order to raise financial resources to accelerate growth.

In **2021** Jonix obtained **Innovative SME** certification and **"Benefit Company"** status and starting from 4 May it is listed on AIM Italy.

The need: sanitization of indoor air

Sanitization of indoor air becomes essential to limit the transmission of Covid-19 and other viruses, bacteria, moulds, etc.

There are many catalysts for air pollution: road traffic, domestic heating, cooking fumes, use of candles, non-professional printing, air conditioning and cooling systems, poorly ventilated bathrooms, kitchens with high humidity, curtains, household linen, carpets, etc.

All these factors lead to the spread of viruses, bacteria, moulds, fine dust, VOCs (formaldehyde, toluene, benzene, etc.), cigarette smoke, allergens, etc. into the air.

These substances and pathogens cause various respiratory diseases: bronchial asthma, emphysema, lung cancer, bronchial oedema, coughing, wheezing, reduced lung capacity, airway irritation, infection, sensitisation, allergic reactions and mesothelioma.

The recent Covid-19 health emergency has highlighted the need to:

- control and improve indoor air quality to reduce people's exposure to substances which are harmful to the body as much as possible;
- shed light on indoor pollutants of a biological origin in order to reduce the transmission of certain epidemic infectious diseases.

The sanitization of rooms and indoor air has become essential to limit the transmission of Covid-19 in enclosed spaces. ISS COVID-19 Report No. 25/2020 (May 2020) defines sanitation as "the set of processes and operations for cleaning and/or disinfecting and maintaining good air quality."

No-touch sanitizing technologies

Advantages and disadvantages of no-touch sanitizing technologies

In the light of recent pandemic events, there is an urgent need to find alternatives to the chemical cleaning and disinfection products used, which are effective and economically sustainable: the goal is to "stabilize" the hygienic quality over time, minimizing the phenomena of recolonization of the environment.

The no-touch technologies for environmental sanitization do not replace the manual cleaning and disinfection of surfaces, which must always be carried out, but complement these procedures by acting on the contamination of the environment (air and surfaces).

- **Advantages**: high repeatability (does not depend on operator accuracy), personnel not required after treatment activation, dispersion of the active agent even on hard-to-reach sites, surface and air decontamination, efficacy on microorganisms with environmental persistence, traceability of operations.
- **Disadvantages**: need to operate in the absence of patients/operators, need to confine environments for systems using biocides and to respect room access times, need to verify compatibility with materials, need for specific training for personnel.

NTP vs. other no-touch technologies used for environmental sanitization

NTP (Non-Thermal Plasma or Cold Plasma) is the only technology suitable for the home or work environments where people are present. Other no-touch technologies used for environmental sanitization are the following.

- **Ozonisation**: at least 2 hours to make rooms accessible; may cause or aggravate a fire; organ damage with prolonged exposure; use must be in unoccupied and properly confined areas.

- **UV lamps**: lamp on only if the presence of people in the irradiation area is excluded; presence of mercury highly toxic to humans and environment; maintenance extremely important for effectiveness and safety.
- **Photocatalysis**: 4 essential elements for the reaction to take place (catalyst, sunlight, oxygen and humidity); effective when you have the substance deposited on the surface, rather than when the substance itself circulate in the atmosphere.
- **Hydrogen peroxide vaporization**: may cause fire; corrosive to the skin and harmful if swallowed or inhaled; use of vaporized/aerosolised hydrogen peroxide restricted to professional operators only.

Jonix NTP Technology

Jonix offers a solution to the problem of air pollution in confined environments

Jonix NTP Technology, Jonix[LAB]'s products, services and technical and scientific expertise represent a solution to the problem of air pollution in confined environments (IAQ), which has major social and economic implications: the goal is to move from emergency management to awareness and planning.

Jonix designs, produces and distributes 100% Made in Italy solutions for indoor air sanitisation based on NTP (Non-Thermal Plasma or Cold Plasma) technology, which artificially achieves air ionisation.

Air ionization is a natural phenomenon that occurs spontaneously whenever a molecule is subjected to the action of an energetic process in which the total amount of energy is greater than that of the molecule itself. In practice when we add energy to a molecule, it "extracts" an electron from the outermost orbit of the molecule and because of the electric imbalance the molecule (atom) takes a positive electric charge.

NTP is a physical phenomenon generated at room temperature that uses air as a gaseous mixture, transforming it into an ionized gas consisting of various electrically charged particles: electrons, ions, atoms and molecules that collide to produce oxidizing species.

The heart of Jonix devices is the generator, unique in terms of efficiency and effectiveness (3 patents)

The heart of Jonix devices is the Generator, consisting of 2 cylindrical elements that generate the Non-Thermal Plasma. Jonix has developed 3 patents to protect the NTP generator, making it unique in terms of efficiency and effectiveness.

One of the most common ways to artificially create and maintain a plasma is through an electrical discharge into a gas. In Jonix NTP Technology, so-called non-thermal discharges with a dielectric barrier method are used. The ionization potential and density of charged species generated by the electric barrier discharge (DBD) plasma are greater than those found in the non-thermal plasma generated by other systems.

The reactive particles of ionized air have an effective and immediate oxidizing activity, able to attack and neutralize living microorganisms (viruses, bacteria, moulds) and chemical pollutants (VOC, particulate matter).

It is considered the safest process, as it is the only no-touch technology that can be used continuously, even in the presence of people, without side effects, and can be sized according to sanitisation requirements.

The constant sanitizing action is one of the strengths of Jonix devices because the decontamination takes place for as long as it remains on, without substances disinfectants.

Jonix devices are also programmable: you can set operating cycles and intensity depending on the type of attendance and use of the premises in which they are installed.

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Scientific articles on the effectiveness of NTP technology

An extensive scientific literature, from 2004 to 2020, demonstrates the effectiveness of NTP technology for air sanitization

Extensive scientific literature shows that the applications of NTP technology can range from bacterial and viral sanitization to the abatement of organic and inorganic substances and, therefore, also odours, confirming an opening to markets that Jonix is already exploring with its research.

- **Evaluation of the roles of reactive species, heat, and UV radiation in the inactivation of bacterial cells by air plasmas at atmospheric pressure.** International journal of Mass Spectometry, 233 (1-3), 81-86 Leipold, M. L. (2004). It shows that the effect of so-called "cold plasma" on bacterial inactivation is not due to heat or UV radiation but to ROS (Reactive Oxygen Species) and RNS (Reactive Nitrogen Species) oxidant species. This is the article that, in 2004, predicted an applicative use of Cold Plasma for environmental sanitization.
- **Performance of non-thermal DBD plasma reactor during the removal of hydrogen sulphide.** Journal of Electrostatics Volume 69, Issue 3, 206-213 Wen-Jun Liang, H.-P. F. –X. –Q. (2011). The 2011 article reports on the effective results of cold plasma technology towards hydrogen sulphide (H2S). In practice it demonstrates the effectiveness also towards inorganic substances thus completing the application framework (bacteria and viruses, organic substances, inorganic substances). Considering that hydrogen sulphide is one of the most widespread odoriferous agents present in bad smells, it opens up the field of application to deodorization, both indoors (Jonix devices are in fact also recommended for the abatement of household odours) and industrial odours.
- **Cold plasma, a new hope in the field of virus inactivation** (2020). PII: S0167-7799(20)30108-6, Reference: TIBTEC 19623 Arijana Filipic, Ion Gutierrez – Aguirre, Gregor Primc, Miran Mozetic, David Dobnik. It signals Cold Plasma as a "New Hope" in virus inactivation and explains the mechanism by which oxidant species can knock down viruses, as demonstrated experimentally in the laboratory of the University of Padua.
- **The application of dielectric barrier discharge non-thermal plasma in VOCs abatement**: A review. Chemical Engineering Journal 388 (2020) 124275 Shijie Lia, Xiaoqing Danga, Xim Yua, Ghulam Abbasb, Qian Zhanga, Li Cao (2020). It demonstrates the capacity to break down VOCs (Volatile Organic Compounds) by DBDs (even cylindrical ones), and thus also demonstrates chemical sanitization in environments. It is a review of 2020, so it is very recent and generic enough to focus on the future of the technology also in the environmental sector (water and aeriform treatment) instead of being "limited" only to the indoor sector of sanitization.

Jonix^{LAB}

Jonix^{LAB} is the proprietary scientific and technical laboratory.

Jonix will continue to invest in R&D at least 3% of revenues, to improve existing products and to apply Jonix NTP Technology in new sectors

The R&D investment sustained by Jonix to date amounts to €1.15M, of which about 50% has been contributed by grants, demonstrating the innovative validity of the projects: the company has explored new areas of application of NTP technology to expand market areas with the design of new devices. The technical awareness is that Jonix NTP Technology can also be applied in an innovative way in sectors other than indoor sanitization.

Jonix will continue to invest at least 3% of its turnover in R&D: the launch of new products/plants will take place after studies and prototypes have been carried out to demonstrate their effectiveness and provide the parameters for a functional scale-up, as well as to characterize them by elements of innovation with respect to the market.

Jonix^{LAB} works in two directions:

- improving/implementing existing products through their application of sanitization/abatement to different sectors (automotive, elevators, kitchen hoods,

industrial machines, etc.), or improving control and applicability (interconnection, remote control, extension of functionality);

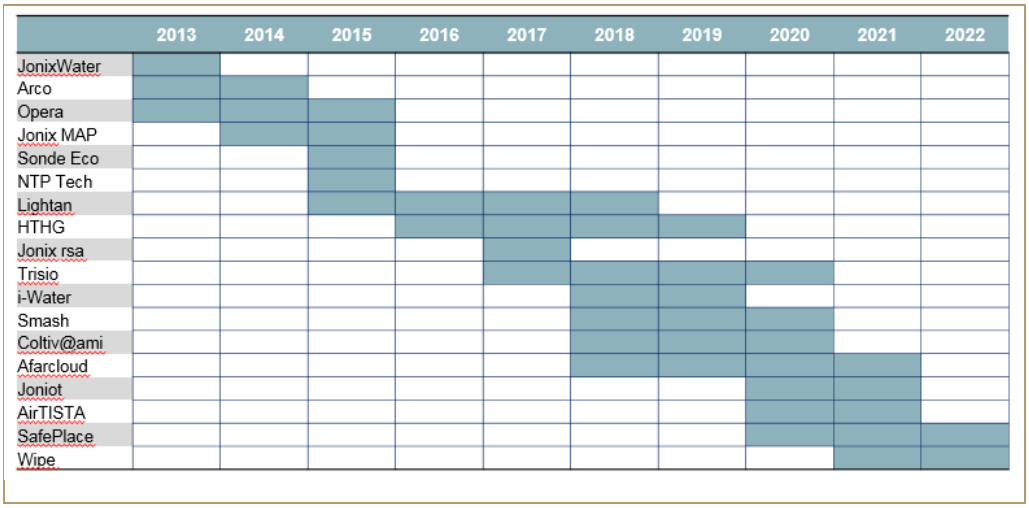
- apply Jonix NTP Technology in new sectors (agricultural for phyto-stimulation, wastewater for purification and discoloration, waste for abatement of odours and harmful chemicals).

Jonix[LAB] activities include:

- R&D (research, design, evaluation, optimization of products, processes, technical solutions, systems and applications);
- technical assistance to customers (set-up, start-up and control of customized plants);
- analytical evidence of effectiveness (e.g. certification of abatement of chemical or microbiological substances, certification of technological performance and consumption) and analytical evidence of operation in certain contexts/environments of application;
- design and implementation of tests/pilot plants aimed at demonstrating or verifying the effectiveness of an application in a specific context;
- conception and design of the devices to integrate them into any domestic and/or industrial environment;
- writing scientific/technical and popular articles to support the marketing and commercial area and preparing technical dossiers and manuals accompanying products and systems;
- patent analysis and drafting of technical contents for patent filings;
- analysis of the regulatory context of the sectors to which the Jonix devices are addressed;
- active participation in tables for UNI standards in the environmental sector.

Jonix[LAB] also makes use of the Archa Srl laboratories for experiments in the chemical/biological and physical fields, and of Hiref SpA for electrical, electronic and computer experiments on devices or components, in order to provide increasingly high-performance technologies in terms of consumption and reliability.

Figure 1: R&D projects developed by Jonix[LAB]



Source: Company presentation

Figure 2: Jonix[LAB] outputs

	RESIDENTIAL	COMMERCIAL	INDUSTRIAL			
PROJECT	JONIXTIME JONIOT AIRTISTA	OPERA SONDE ECO JONIXRSA	JONIXWATER LIGHTAN	JONIXMAP i-WATER	HTHG SMASH AFARCLOUD COLTIV@MI	TRISIO
ENGINEERED PRODUCT	CUBE INTELLIGENCE TIMING DEVELOPMENT	MATE (1st prototype)	JONIXWATER			DEODORIZATION PLANT
						
NEW APPLICATIONS	CIVIL, INDUSTRAL, HORECA, DOMOTICS	SANITARY MEDICAL OPERATING THEATRES RESIDENTIAL HEALT CARE	WASTE WATER TREATMENT	IV RANGE	GREENHOUSES CULTIVATION HYDROPNIC CULTIVATION HOME CULTIVATION	

Source: Company presentation

Jonix solutions and services

Air Tech Solutions, and Advanced Tech Solutions

Jonix has a wide range of solutions for residential, commercial and industrial customers:

- Air Tech Solutions, devices for air sanitization and decontamination suitable for any kind of indoor environment (Cube, Mate / MiniMate / MaxiMate, Steel, Up In)
- Advanced Tech Solutions, modular systems for the purification and decontamination of aeraulic ducts, adaptable to all types of installations (Duct, Inside AHU, Inside UC, Inside Fancoil)

High performance, low energy consumption, no residual chemicals

The strengths of all Jonix devices are:

- high performance (reduction of microbial load and VOCs by up to 99.9%) thanks to the constant sanitizing action
- low energy consumption
- natural process that does not use or produce residual chemicals

Jonix services

Jonix also offers a wide range of services:

- environmental health analysis
- predictive analysis (assessment of possible problems arising from specific indoor pollution)
- customised design (engineering)
- geolocation (Jonix Maps)
- verification tests
- final effectiveness tests

Figure 3: Jonix Cube (retail price €499.00), no filters needed, low power consumption (10 watts) and suitable for homes, offices, doctors' offices, retirement homes, and other rooms up to 85sqm (air capacity of 40cm/h)

Source: jonixair.com

Figure 4: Jonix Mate family, with air capacity from 400cm/h to 6,000cm/h and power from 600W to 2,800MW is able to meet all air sanitation needs in outpatient clinics, waiting rooms, hospital rooms, dental clinics, retirement homes, food companies, veterinary clinics, restaurants, smoking rooms, and all those places where filtration and absolute decontamination of the air of environments up to 1,2000cm is required

Source: jonixair.com

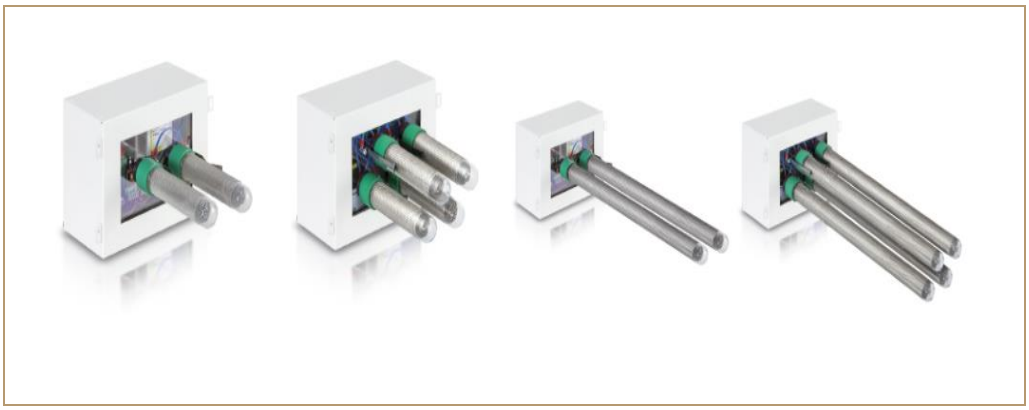
Figure 5: Jonix Steel family, made of Aisi 304 stainless steel, designed to be fixed to the wall or ceiling in cold rooms, blast chillers, butcheries, delicatessens, florists, fryers, storage rooms, waste storage rooms and supermarkets (air capacity 160-320cm/h)

Source: jonixair.com

Figure 6: Jonix Up In, designed to be placed inside lifts, but it can also be used in many other environments with small dimensions where air and critical surfaces (push, buttons, handles, handrails) need to be sanitized quickly due to frequency of use (ambulances, offices, locker rooms, cabins, bathrooms, etc.)

Source: jonixair.com

Figure 7: Jonix Inside family, for sanitising the internal surfaces of air distribution ducts, AHUs, fan coils, CMVs



Source: jonixair.com

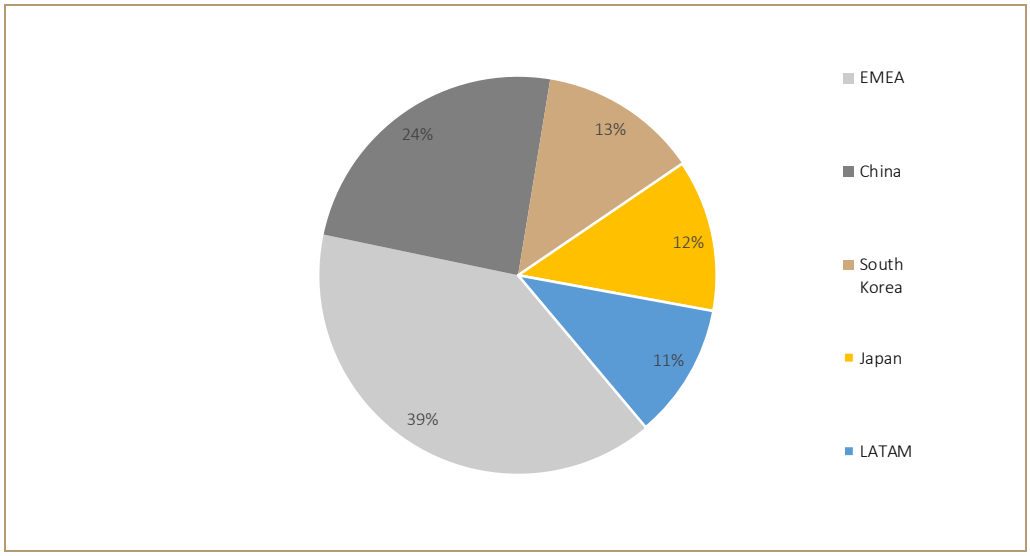
2. The air purifiers market

- According to Grand View Research, Jonix's addressable air purifiers market is estimated to be $7bn in 2020 and is expected to grow at 9.5% CAGR until 2028 (10.2% expected CAGR for the NTP technology), thanks to favourable macro trends.
- The technologies used fall into two basic categories: filters and sanitizers. Filter-based technologies are the traditional and most widespread, while sanitization-based technologies, including the NTP technology used by Jonix, have the greatest potential for development due to comparative advantages and technological evolution.
- The air purifier and sanitizer sector is extremely fragmented, encompassing global home and personal durables giants through to large, medium and small companies specializing in air purification and sanitization.
- We believe that this industry structure, combined with continuing growth in demand, and its leading position in the NTP segment, can provide Jonix with interesting growth opportunities, organic and through acquisitions.

A $7.0bn target mkt expected to grow at 9.5% CAGR until 2028

According to Grand View Research, Jonix's target air purifiers market, which mainly excluded North America as it requires specific product certifications, is estimated to be $7.0bn in 2020, up by 11% from $6.3bn in 2019 (39% EMEA, 24% China, 13% South Korea, 12% Japan, 11% LATAM).

Figure 8: Jonix's target air purifiers market in 2020 ($7.0bn)



Source: Grand View Research, Inc. (Air Purifier – Market Analysis, 2021)

According to Grand View Research, in 2028E, Jonix' reference market should stand at $14.5bn, at a 2020-2028E CAGR of around 9.5% (+8.4% EMEA, +7.7% Italy, +10.4% China, +11.9% South Korea, +6.6% Japan, +11.0% LATAM), driven by the following factors:

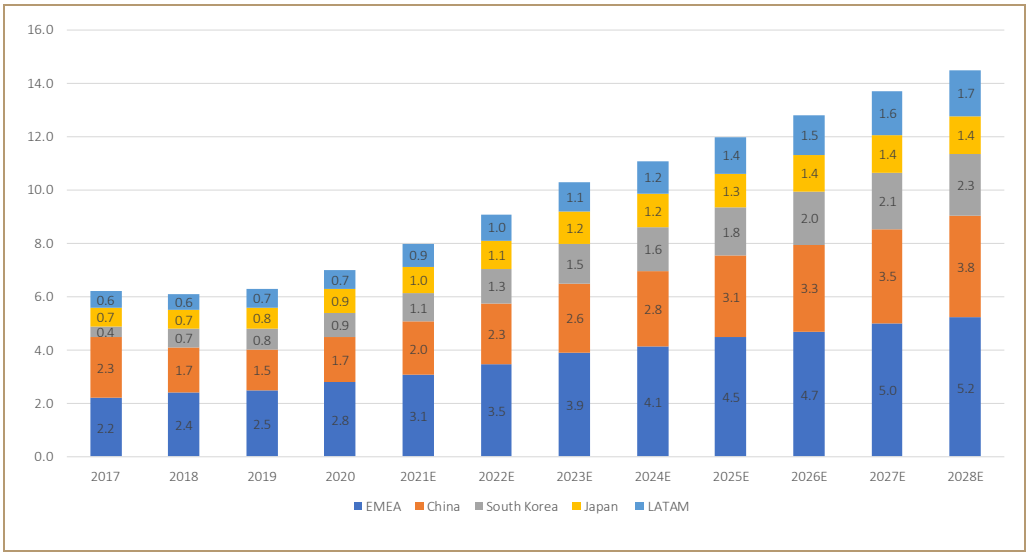
- increasing disposable income;
- rapid urbanization and industrialization in developing countries;
- rising air pollution levels;

- increasing awareness of harmful effects on human health (the Covid-19 pandemic has generated a growing demand for air purifiers in healthcare facilities and buildings);
- increasing regulations on indoor air quality.

In terms of applications, the market is segmented among:

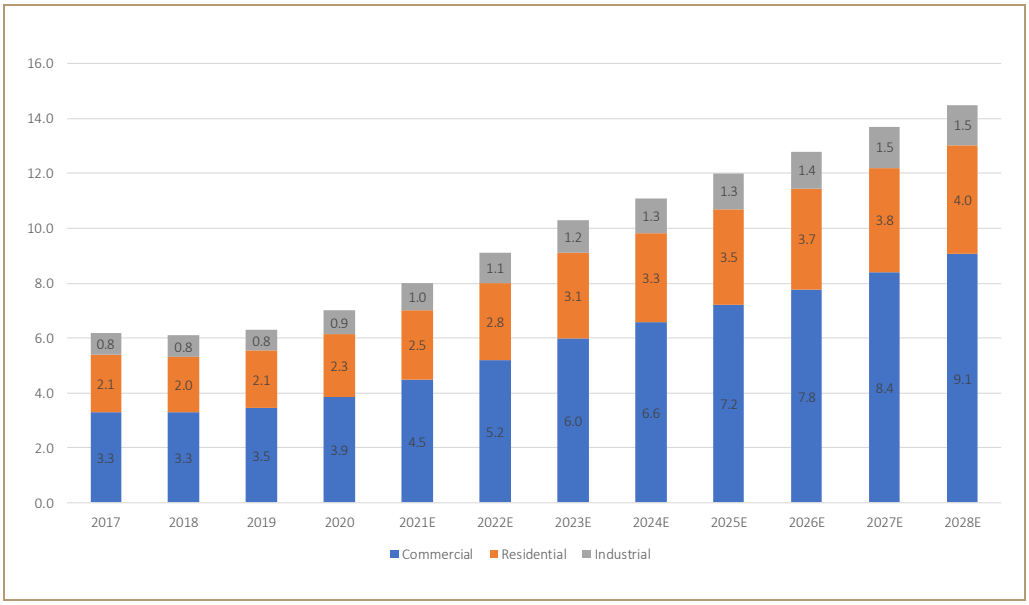
- Commercial (55%), +11.2% CAGR estimated in 2020-2028E
- Residential (32%), +7.2% CAGR estimated in 2020-2028E
- Industrial (13%), +6.4% CAGR estimated in 2020-2028E

Figure 9: Jonix's target air purifiers market estimates by region ($bn)



Source: Grand View Research, Inc. (Air Purifier – Market Analysis, 2021)

Figure 10: Jonix's target air purifiers market estimates by final customer ($bn)



Source: Grand View Research, Inc. (Air Purifier – Market Analysis, 2021)

The technologies

Filters vs. Sanitizers

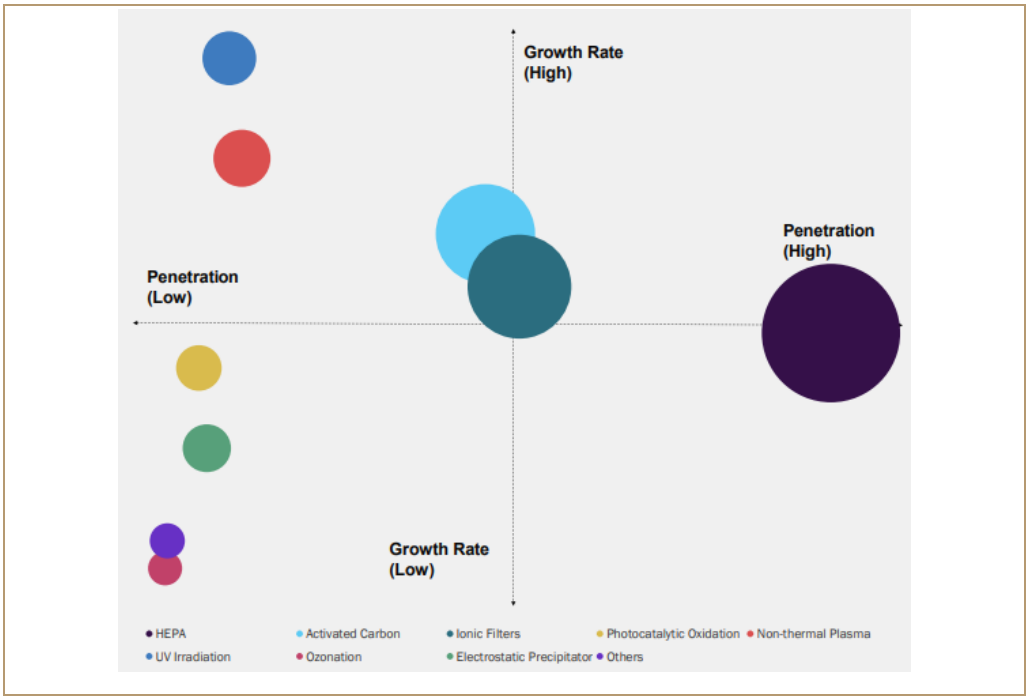
Most air cleaners fall into two basic categories: filters or sanitizers. Some combine both types in the same unit.

- Filters – They are designed to improve indoor air quality by physically removing tiny particles of matter that can be floating around, such as dust, pollen and pet dander.
    - HEPA filters are the most common type of home filters. HEPA stands for "high-efficiency particulate arresting". As the name suggests, these filters are very good at pulling things out of the air and holding onto them so that they can't be recirculated. The fibres in a HEPA filter are designed to clear out at least 99.7% of particulates that are 0.3 micron or larger in size, so they can guarantee protection against bacteria (0.3-1.5 micron), but not against viruses, such as Covid-19, whose size is 0.05-0.14 micron. In addition, they may trap but do not kill micro-organisms, which readily colonize the filter. According to Grand View Research, HEPA technology currently represents 36.4% ($2.5bn) of Jonix's reference market, with +9.3% CAGR forecast in 2020-2028E.
    - Ionic filters are used in machines that, instead of relying on fans to move air through filters, release a steady stream of negatively charged ions that electrify the bits of dust and other small particles in the air which become strongly attracted to positively charged collections plates inside the device (it's very similar to static electricity phenomenon). They can be effective at removing small particles, such as bacteria, from the air, but they may be less effective than mechanical filters at trapping larger particles such as dust and dander, making them less helpful to allergy and asthma sufferers. According to Grand View Research, ionic filter technology currently represents 20.4% ($1.4bn) of Jonix's reference market, with +9.5% CAGR forecast in 2020-2028E.
    - Activated carbon filters are the filters most used to remove gases. They are designed to filter gases through a bed of activated carbon (also called activated charcoal) and are usually used to combat volatile organic compounds (VOCs) released from common household products (cooking devices for example). They may trap but do not kill micro-organisms, which readily colonize the filter. According to Grand View Research, activated carbon filter technology currently represents 18.7% ($1.3bn) of Jonix's reference market, with +9.8% CAGR forecast in 2020-2028E.
- Sanitizers – They are designed to kill bacteria, viruses, mould or fungal spores that can also be floating around.
    - Cold plasma (NTP) is the technology chosen by Jonix for its air sanitisation devices and has been described in detail in the previous chapter. According to Grand View Research, NTP technology currently represents 6.2% ($0.43bn) of Jonix's reference market, with 10.2% CAGR forecast in 2020-2028E,
    - UV germicidal irradiation (UVGI) is a disinfection method that uses short-wavelength ultraviolet (UV-C) light to kill or inactivate microorganisms by destroying nucleic acids and disrupting their DNA, leaving them unable to perform vital cellular functions. UV light devices, however, don't remove anything, as they're designed only to kill any viruses, bacteria or mould spores floating around but are ineffective in removing inorganic particles. UV lamps also have other disadvantages: the lamp can only stay lit if there are no people in the irradiation area; some use mercury vapour, which is highly toxic to humans and the environment; furthermore, maintenance is extremely important for effectiveness and safety. According to Grand View Research, UVGI technology currently represents

5.5% ($0.39bn) of Jonix's reference market, with 10.7% CAGR forecast in 2020-2028E.

- **Electrostatic precipitator (ESP)** is a filter-less device that removes fine particles, like dust and smoke, from a flowing gas using the force of an induced electrostatic charge minimally impeding the flow of gases through the unit. The advantages of this technology are the excellent efficiencies for particles of all sizes, the possibility of working with wet fumes and in a wide range of temperatures and the high efficiencies even for small particle concentrations. The disadvantages are the high investment costs, the dependence of efficiency on ash resistivity, the low flexibility and the large dimensions. According to Grand View Research, ESP technology currently represents 4.4% ($0.31bn) of Jonix's reference market, with 8.6% CAGR forecast in 2020-2028E.
- **Photocatalytic oxidation** (PCO) is a technology based on four essential elements: catalyst, sunlight, oxygen and humidity. The process combines UV-C irradiation with a substance (catalyst) titanium dioxide which results in a reaction that changes malignant contaminants into water, carbon dioxide and detritus. PCO technology destroys particle as small as 0.001 microns, but it is more effective when the substance is deposited on the surface, rather than when the substance itself circulate in the atmosphere. According to Grand View Research, PCO technology currently represents 4.0% ($0.28bn) of Jonix's reference market, with 9.1% CAGR forecast in 2020-2028E.
- **Ozonisation** alters the standard oxygen molecule so that it has three atoms instead of just two. The three-atom molecule is called ozone, not oxygen and it interacts differently with its environment than the normal air we breathe does. The problem with this technology is that inhaling ozone can cause coughing, throat irritation, shortness of breath and other issues, even in healthy individuals. Ozone can even result in lung damage, which is why local weather authorities sometimes issue ozone alerts. People with asthma or other breathing problems can be very sensitive to air quality, so they need to limit their exposure to ozone by either staying inside on those days or avoiding heavy exertion while outdoors. According to Grand View Research, ozonisation technology currently represents 2.2% ($0.16bn) of Jonix's reference market, with 8.0% CAGR forecast in 2020-2028E.

Figure 11: Mapping of Jonix's target air purifiers market by technology



Source: Grand View Research, Inc. (Air Purifier – Market Analysis, 2021)

The market players

A very fragmented sector

The air purifier and sanitizer sector is extremely fragmented, encompassing global home and personal durables giants to large, medium and small companies specializing in air purification and sanitization.

Retailers and e-commerce distributors

Most market players are engaged in sales and distribution through their own channels, including sales offices and online portals. However, they also collaborate with several large retailers in the market to distribute their products. Retailers include: MediaMarkt, Fnac, Elkjøp, Dixons Carphone, John Lewis, The Home Dept, Walmart, Clas Ohlson and J Sainsbury. E-commerce also play an important role, with Amazon, Alibaba, Currys, LionsHome, eBay, Otto, Allergy Cosmos and KlimaLex.

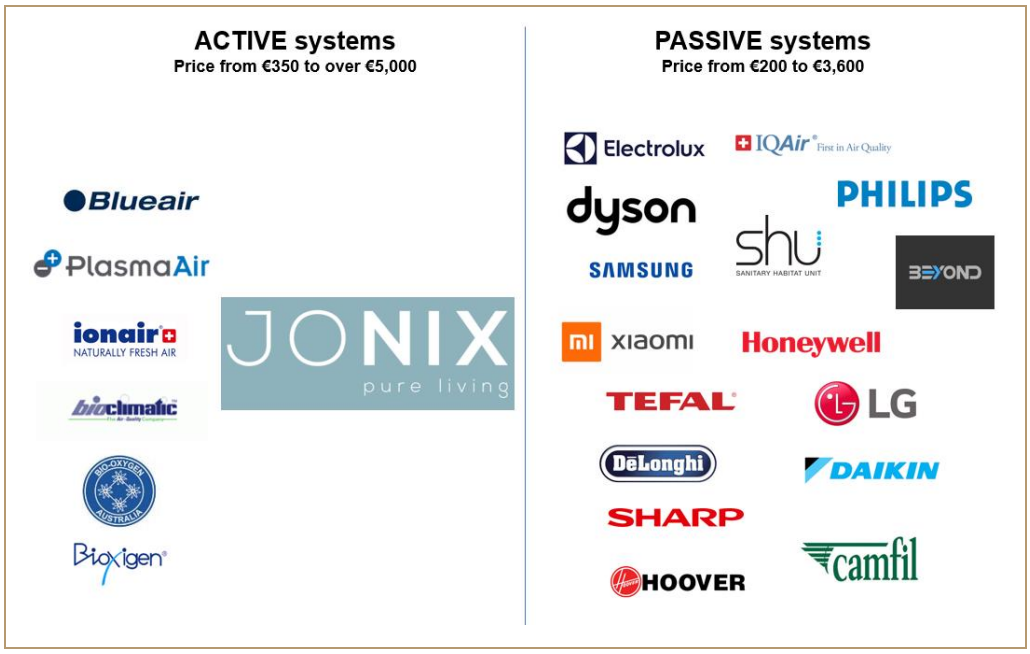
Component suppliers

The components used in the air purifiers mainly include filters, fans, sensors, panels and controls, and the main suppliers are large industrial groups including Honeywell International. Koninklijke Philips, Donaldson Company, MANN+HUMMEL, Optoelectronics Co., Camfil and Wuhan Cubic.

Only a limited number of operators globally uses NTP technology and Jonix is leader in the NTP segment

The following is an overview of the major global players in the sector and some of the specialist operators, divided by geographical area (APAC, North America and Europe) and presented in descending order of turnover. What emerges from this review is that only a limited number of operators globally uses NTP technology as their primary solution for indoor sanitation, and that the products that make use of this technology would seem to be among the most advanced on the market. Compared to other major NTP manufacturers (Bioxigen, Plasma Air, Bio-Oxygen Australia), Jonix stands out for its broader range of products and services and greater technical and scientific expertise. We believe that these competitive advantages, combined with fragmented industry structure and continuing growth in demand can provide Jonix with interesting growth opportunities, organic and through acquisitions.

Figure 12: Air purifier and sanitizer players, competitive positioning



Source: Company presentation

- APAC

Samsung Electronics - A South Korean listed company (€353bn mkt cap, €174bn sales in 2020) founded in 1969, and headquartered in Suwon, engaged in the manufacturing and selling of electronics and computer peripherals. The company operates through the following business divisions: Consumer Electronics, Information Technology & Mobile Communications, and Device Solutions. The Consumer Electronics business division (€35bn sales in 2020) provides cable television, monitors, printers, air-conditioners, refrigerators, washing machines and medical devices. Samsung air purifiers are based on HEPA and carbon filter technology.

Panasonic - A Japanese listed company (€21bn mkt cap, €54.2bn sales in 2020/2021) founded in 1918, and headquartered in Osaka, engaged in the development, manufacture, and sale of electrical products. In particular, the Eco Solutions segment (€11.4bn sales in 2020/2021) handles development, manufacture and sale of lighting fixtures and electric lamps including LED lighting, sola photovoltaic systems, wiring devices, interior furnishing materials, water-related products, ventilation and air-conditioning equipment, air purifiers, and other. Panasonic air purifiers are equipped with a HEPA composite and carbon filters combined with proprietary nanoe™ technology, a system that uses fine particle ions generated from moisture in the air to form tiny particles from electrically charged water molecules. Filled with OH radicals, these water molecules suppress the activity of pollen, bacteria, viruses and mould in the air, and help to eliminate odours.

LG Electronics – A South Korean listed company (€20bn mkt cap, €46.6bn sales in 2020), founded in 1958, and headquartered in Seoul, engaged in the manufacturing of display devices, home appliances, multimedia goods, electronic parts and developing software. In particular, the Home Appliance and Air Solution business area (€16.4bn sales in 2020) provides products such as refrigerators, washing machines, cooking and cleaning and healthcare appliances, LED lightings, residential and system air conditioners. LG air purifiers are based on HEPA and carbon filter technology.

Mitsubishi Electric – A Japanese listed company (€27bn mkt cap, €31.8bn sales in 2020/2021), founded in 1921 and headquartered in Tokyo, engaged in the manufacture,

development, and sale of electric and electronic equipment. It operates in the following business segments: Energy and Electric Systems, Industrial Automation Systems, Information and Communication Systems, Electronic Devices, Home Appliances, and Others. The Home Appliances segment (€7.9bn sales in 2020/2021) covers air-conditioning and photovoltaic power generation systems, televisions, recorders, and players. Mitsubishi air purifier are based on HEPA and carbon filter technology.

Midea Group – A Chinese listed company (€65bn mkt cap, €36.7bn sales in 2020) founded in 1968, and headquartered in Foshan, which manufactures and sells home and commercial electric appliances. Its business segments include large appliances, water, kitchen, large & small cooking, heating, ventilation, electrical and logistics appliances. The Small Home Appliances segment (€7.5bn sales in 2019) include air coolers, air purifiers, cookers, fans, garment streamers, kitchen appliances, vacuum cleaners, water dispensers and water heaters. Midea air purifiers use 3 in 1 compound filters combined with an ionizer function.

Xiaomi – A Chinese listed company (€76bn mkt cap, €32.0bn sales in 2020) founded in 2010 and headquartered in Beijing, engaged in the design, manufacture and sale of smartphones and hardware and software products through three business segments: Smartphones, IoT and Life-style Products and Internet Services. The IoT and Life-style Products (about 27% of Group's sales) also include air purifiers based on HEPA and carbon filter technology.

Haier Smart Home – A Chinese listed company (€30bn mkt cap, €27.2bn sales in 2020) founded in 1984 and headquartered in Qingdao, engaged in the manufacture, sale, research and development of household electrical appliances. Its products include refrigerators, freezers, dishwashers, microwaves, wine cellars, beer dispensers, beverage centres, light-emitting diode television, high definition and digital video disc combo, laundry washers and dryers, air conditioners, dehumidifiers, air purifiers and other household appliances. Haier Smart Home air purifiers are branded Haier and Hoover, and are based on HEPA and carbon filter technology, combined for Haier with Nano-silver and Filtration Layer, Plasma Purification and UV & Titanium Dioxide.

Daikin Industries – A Japanese listed company (€46bn mkt cap, €18.9bn sales in 2020/2021) founded in 1924, and headquartered in Osaka, engaged in the manufacture and sale of air conditioning equipment, chemicals and other products. In particular, the Air Conditioning segment (€17.2bn sales in 2020/2021) deals with the manufacture, distribution and installation of air conditioning and refrigeration equipment. Daikin air purifiers are based on HEPA and carbon filter technology combined with an ionized active plasma generator (Streamer™ Technology) that performs an oxidative decomposition of harmful substances, which inactivates more than 99.9% of Covid-19 after irradiating the virus for 3 hours according to independent laboratory study.

Sharp – A Japanese listed company (€8.5bn mkt cap, €18.4bn sales in 2020/2021) founded in 1912, and headquartered in Osaka, engaged in the manufacture and sale of electronic components and consumer electronic products. It operates through the following segments: Smart Life, 8K Ecosystem and ICT. The Smart Life division (€6.7bn sales in 2020/2021) also includes air purifiers which use HEPA and carbon filter technology combined with Plasmacluster™ Ion Technology which generates positive hydrogen ions and negative oxygen ions that eliminates microscopic pollutants that traditional filters cannot trap.

Arcelik – A Turkish listed company (€1.9bn mkt cap, €4.6bn sales in 2020), founded in 1955 and headquartered in Beyoglu, engaged in the production, distribution, sale and marketing of consumer durable goods, and consumer electronics. It operates through the following segments: White Goods, Consumer Electronics and Other. Its brands are: Arcelik, Beko, Grundig, Defy, Dawlance, Arctic, Blomberg, Altus, Flavel, Elektrabregenz, Leisure and Voltas-Beko. Arcelik, Defy, Dawlance, Arctic and Blomberg air purifiers are based on HEPA, carbon and anti-bacterial filter technology, while Beko air purifiers also have an ionizer function.

Coway – A South Korean listed company (€4.2bn mkt cap, €2.4bn sales in 2020) founded in 1989 and headquartered in Gongju-si, which is engaged in the manufacture and sale of household electronic appliances. Its products include water purifiers, air purifiers, bidets, water softeners, and mattresses. Coway air purifiers are based on HEPA and carbon filter technology combined with an Anti-Microbial filter which deactivates bacteria and viruses by up to 99%.

Voltas – An Indian listed company (€3.8bn mkt cap, €852m sales in 2020/2021), part of the Tata Group, founded in 1954 and headquartered in Mumbai, engaged in the provision of engineering solutions. It operates through the following business segments: Electro-Mechanical Projects and Services, Engineering Products and Services, and Unitary Cooling Products for Comfort and Commercial Use. The Electro-Mechanical Projects and Services segment include electrical, heating, ventilation, air conditioning, air purifiers, plumbing, firefighting, extra low voltages, and specialized services. Voltas air purifiers are based on HEPA and carbon filter technology, combined with negative ion generator and germicidal UV lamp.

Blue Star – An Indian listed company (€0.9bn mkt cap, €479m sales in 2020/2021) founded in 1943 and headquartered in Mumbai, engaged in the manufacture, trade, and installation of air conditioning systems. It operates through the following segments: Electro-Mechanical Projects and Packaged Air Conditioning Systems, Unitary Products, and Professional Electronics and Industrial Systems. The Unitary Products segment (€210m sales in 2020/2021) offers a wide variety of air conditioners, water purifiers, air purifiers, air coolers, commercial refrigeration products and cold chain equipment for both residential and commercial applications. Blue Star air purifiers are based on HEPA and carbon filter technology combined with UV based Microbe Sterilize technology that permanently deactivates 99.7% of microbes from living spaces.

Winix – A South Korean listed company (€0.3bn mkt cap, €284m sales in 2020) founded in 1986, and headquartered in Siheung-si, which is engaged in the manufacture and sale of appliances and electric components for home and offices. Its products include dehumidifiers, air purifiers, air washers, fan heaters, and water coolers. Winix air purifiers are based on HEPA and carbon filter technology, combined with the CleanCel Anti-Bacterial Treatment that protects the air purifier against bacteria, and the PlasmaWave Technology that creates Hydroxyl molecules that naturally neutralize viruses, bacteria and gases, without producing harmful ozone (not tested against Covid-19).

Eureka Forbes – An Indian privately-held company (€243m sales in 2019/2020) founded in 1930 and headquartered in Kolkata, engaged in the wholesale distribution of air and water purification systems, home security, and home cleaning systems. Its products are under such brands as Euro Air, Euroclean, Aquaguard and Pureguard. Eureka Forbes air purifiers are based on HEPA and carbon filter technology, combined with UV filters and ionizers.

Bio-Oxygen Australia – An Australian privately-held company (€3m sales in 2015), founded in 1987 and headquartered in New South Wales, specialised in the manufacturing of air sterilisation systems based on ionization technology.

North America

3M Company – A US listed technology company (€95bn mkt cap, €28.2bn sales in 2020), founded in 1902 and headquartered in St. Paul, Minnesota, which manufactures industrial, safety and consumer products. It operates though the following segments: Safety and Industrial, Transportation and Electronics, Health Care, and Consumer. The Consumer segment products (€4.4bn sales in 2020) include office supply products, stationery products, home improvement products, home care products, protective material products, certain consumer retail personal safety products, and consumer health care products. 3M air purifiers are based on HEPA and carbon filter technology.

Honeywell International – A US listed software industrial company (€126bn mkt cap, €26.9bn sales in 2020), founded in 1885, and headquartered in Charlotte, North Carolina,

which offers industry specific solutions to aerospace and automotive products and services. It specializes in turbochargers control, sensors and security technologies for buildings and homes; specialty chemical; electronic and advanced materials; process technology for refining and petrochemicals; and energy efficient products and solutions for homes, business and transportation. In particular, the Home and Building Technologies segment (€4.3bn sales in 2020) provides products software, solutions and technologies that help owners of homes stay connected and in control of their comfort, security and energy use such as controls and displays for heating, cooling, indoor air quality, ventilation, humidification combustion, lighting and home automation. Honeywell air purifiers are based on HEPA and carbon filter technology.

Whirlpool – A US listed company (€11bn mkt cap, €16.1bn sales in 2020) founded in 1898, and headquartered in Benton Harbor, Michigan, which is engaged in manufacturing and marketing home appliances. The company's products include home laundry appliances, home refrigerators and freezers, home cooking appliances, home dishwashers, and room air-conditioning equipment, mixers, and portable household appliances. Whirlpool air purifiers are based on HEPA and carbon filter technology.

Carrier Global – A US listed company (€34bn mkt cap, €14.4bn sales in 2020) founded in 1902, and headquartered in Palm Beach Gardens, Florida, which provides HVAC, security and building automation technologies. The HVAC segment (€7.8bn sales in 2020) provides products, controls, services and solutions to meet the heating and cooling and ventilation needs of residential and commercial customers. Carrier air purifiers use MERV 15 and carbon filters combined with proprietary Capture & Kills technology which traps 95% of particles in micron size range 1.0 to 3.0 flowing through the HAVC system and subjects them to an intense electric field.

Newell Brands – A US listed company (€9.5bn mkt cap, €7.7bn sales in 2020), founded in 1903, and headquartered in Atlanta, Georgia, engaged in the manufacture, marketing and sale of consumer and commercial products. It operates through the following segments: Appliances and Cookware, Commercial Solutions, Home Solutions, Learning and Development, Outdoor and Recreation. The Home Solutions segment (€1.6bn sales in 2020) consists of diverse lines of household products, also including dehumidifiers, air purifiers, heaters, fans and humidifiers, under the brand Bionaire. Bionaire air purifiers are based on HEPA filter technology, combined with ions generators.

Lennox International – A US listed company (€10bn mkt cap, €3.2bn sales in 2020) founded in 1895, and headquartered in Richardson, Texas, which is engaged in the design, manufacture, and marketing of products for heating, ventilation, air conditioning, and refrigeration. The Residential Heating & Cooling segment (€2.0bn sales in 2020) manufactures and markets furnaces, air conditioners, heat pumps, packaged heating and cooling systems equipment and accessories. The Commercial Heating & Cooling segment (€0.7bn sales in 2020) sells unitary heating and cooling equipment used in light commercial applications. Lennox air purifiers are based on the PureAir™ filtration system, which removes more than 95% particles down to 0.3 micron, and over 90% of germs and bacteria down to 0.01 micron.

A.O. Smith – A US listed company (€9.1bn mkt cap, €2.5bn sales in 2020) founded in 1874, and headquartered in Milwaukee, Wisconsin, which manufactures residential and commercial gas and electric water heaters, boilers, tanks and water treatment products. A.O. Smith air purifiers are based on HEPA and carbon filter technology.

Fellowes – A US privately-held company (€567m sales in 2019/2020, with more than 2,000 employees) founded in 1917, and headquartered in Itasca, Illinois, which is engaged in the manufacturing and marketing of industrial? office products, designs, and manufacturing of innovative products that offer the consumer quality, usefulness, and value. Fellowes air purifiers are branded as Aeramax and use a filtration process based on HEPA and carbon filter technology combined with the PlasmaTrue™ Bipolar Ionizer, generating ions that damage micro-organisms such as, bacteria, viruses, and moulds, and break down odours and VOC's throughout the entire room (not tested against Covid-19).

Hamilton Beach Brands Holding – A US listed holding company (€0.3bn mkt cap, €507m sales in 2020) founded in 1988 and headquartered in Glen Allen, Virginia, engaged in the design, marketing and distribution of branded small electric household and specialty housewares appliances, as well as commercial products for restaurants, fast food chains, bars and hotels. Its consumer brands include Hamilton Beach, Proctor Silex, Hamilton Beach Professional, Weston field-to-table and farm-to-table food preparation equipment, TrueAir air purifiers, and Brightline sonic rechargeable toothbrushes. TrueAir air purifiers are based on HEPA and carbon filter technology.

Molekule – A US private-held science and clean air company (€129m sales in 2019), founded in 2014, and headquartered in San Francisco, California, that has developed a fundamentally new approach to clearing air. While current air purifiers are essentially trying to catch pollutants in filters, Molekule uses nanotechnology PECO that utilizes free radicals to break down and eliminate pollutants on a molecular level, including VOCs, bacteria, mould, viruses, and allergens, by more than 99.99%. PECO can destroy pollutants 1000 times smaller than the standard filters must meet to qualify as HEPA.

HoMedics – A US privately-held company (€124m sales in 2019), founded in 1987, and headquartered in Commerce Township, Michigan, that manufactures home massage, relaxation, and wellness products, also including air purifiers. HoMedics air purifiers are based on HEPA and carbon filter technology, combined with UV-C light and an ions generator.

Guardian Technologies – A US privately-held company (€105m sales in 2019), founded in 2003, and headquartered in Euclid, Ohio, which provides home health and sanitation products. Its products include air purifiers, UV-C air sanitizers, ultraviolet light wands and heat sanitizers. Guardian Technologies air purifiers are based on HEPA and carbon filter technology combined with UV-C light technology and ions generator.

Aerus – A US private-held company (€54m sales in 2019), founded in 1924, and headquartered in Bristol, Virginia, which manufactures and distributes air and water purification products. If offers air purification products, direct flow reverse osmosis water purification systems, vacuum cleaners with air filtration features, vacuum cleaner bags and filters, air purifier filters, and other related accessories and supplies. Aerus air purifiers use a combination of polypropylene and carbon filters, ion generation and ActivePure™ Technology which uses light waves and a catalytic process to produce super oxide ions and hydro peroxides that destroy contaminants on surfaces and in the air. ActivePure™ Technology has been scientifically proven to eliminate over 99.9% of the virus that causes Covid-19 in the air and on surfaces.

Oransi – A US privately-held air quality technology company (€50m sales in 2019), founded in 2010, and headquartered in Raleigh, North Carolina, specializing in air purifiers for the residential and commercial market segments. Oransi air purifiers are based on HEPA and carbon filter technology.

Pure Enrichment – A US privately-held company (€44m sales in 2019), founded in 2010, and headquartered in Huntington Beach, California, which manufactures premium home, health, and personal care products. Pure Enrichment air purifiers are based on HEPA and carbon filter technology, combined with UV-C light with photocatalyst filter and ions generator.

Pinnacle Climate Technologies – A US privately-held company (€29m sales in 2019/2020), founded in 1998 and headquartered in Sauk Rapids, Minnesota, which provides heating, cooling and ventilation solutions to the commercial, industrial, agricultural, DIY and retail channels throughout the world, with the brands Master, Remington, Stanley, Schaefer, Americ and Protemp. In the Remington catalogue there is a home air sanitizer based on UV-C light technology.

Airpura Industries – A Canadian privately-held company (€18m sales in 2019), founded in 2004, and headquartered in Laval, Quebec, specialized in air filtrations systems based on HEPA and carbon filter technology combined with UV germicidal technology, which destroys a minimum of 99.99% of airborne mould, viruses and bacteria.

Austin Air – A US private company (€17m sales in 2019), founded in 1990, and headquartered in Buffalo, New York, that manufactures and supplies air purifiers. Austin Air air purifiers are based on HEPA and carbon filter technology.

Rabbit Air – A US privately-held company (€16m sales in 2018), founded in 2004, and headquartered in Pasadena, California, that provides air purification systems, replacement filters and accessories for the home. Rabbit Air air purifiers are based on HEPA and carbon filter technology.

AllerAir – A Canadian privately-held company (€10m sales in 2019), founded in 1994, and headquartered in Saint-Laurent, Quebec, specializing in the manufacturing of air purifiers. AllenAir air purifiers are based on HEPA and carbon filter technology combined with UV technology.

GreenTech Environmental – A US privately-held company (€9m sales in 2019), founded in 2009, and headquartered in Johnson City, Tennessee, engaged in the manufacturing of air purification systems. GreenTech's technologies are available for residential applications with portable and personal systems available and commercial applications with HVAC, PTAC, and wall-mount systems for use in office buildings, hotels, indoor stadiums and more. GreenTech air purifiers are based on HEPA and carbon filter technology, combined with Active Radiant Catalysis (ARC™), its proprietary photocatalytic oxidation (PCO) technology which uses energy to activate a catalyst, turning moisture into Activated Oxygen, a product that continuously cleans the space and which attaches itself to contaminants at the molecular level destroying them, and Ionization, which creates a plasma of electrical charges, removing allergens and other harmful pathogens from the breathing space.

Bioclimatic Air Systems – A US privately-held company (€4m sales in 2019), founded in 1983 and headquartered in Delran, New Jersey, which manufactures air cleaning and purification equipment and technologies. Bioclimatic uses all the most advanced air cleaning technologies, including bipolar ionization, photo catalytic oxidation, germicidal UV-C, gas phase media, powered filtration and passive filtration. Bioclimatic Air Systems offer aims to meet virtually any indoor air quality or critical environment requirement, including health care applications, airports, kitchen exhaust systems, museums and archives, industrial HVAC systems, safe havens, educational facilities, arenas, convention centres, public spaces, office buildings, tenant fit-out, casinos, smoking spaces, locker rooms, indoor pools, waste water treatment plants, etc.

Plasma Air International – A US privately-held company (€2m sales in 2020), founded in 2007 and headquartered in Stamford, Connecticut, which manufactures indoor air quality solutions to eliminate odours and remove pollutants in the occupied space. It offers commercial, residential and industrial products. Its products are used in public facilities, outside air reduction, and wastewater treatment applications. Plasma Air products are based on Bipolar Ionization technology.

Real Spirit USA – A US privately-held company (€2m sales in 2019), founded in 2005 and headquartered in Reno, Nevada, engaged in the manufacturing and distribution of water ionization and portable air filtration and purification systems. Real Spirit USA air purifiers are commercialised under the brand Advanced PureAir and are based on HEPA and carbon filter technology combined with UV-C light, activated oxygen, photocatalysis, negative ion generator and electrostatic precipitators.

Levoit – A US privately-held company (less than €0.1m sales in 2019), founded in 2017, and headquartered in Anaheim, California, specializing in air purifiers, humidifiers and salt lamps. Levoit air purifiers are based on HEPA and carbon filter technology.

Kronos Advanced Technologies – A US listed company (€24m mkt cap, €37k sales in 2019/2020), founded in 1980, and headquartered in Los Angeles, California, which is engaged in the licensing, manufacturing and distribution of air movement and purification devices. Kronos air purifiers are based on the patented Kronos CORE TPA (Two Pole Active) Technology, which is an active filtration technology based on Ionic Wind, which differs

from HEPA passive filtration technology, and provides 99.02% Covid-19 virus reduction rate according to independent laboratory study.

Europe

Bosch – A German privately-held company (€71.5bn sales in 2020), founded in 1917 and headquartered in Gerlingen-Schillerhöhe, Baden Württemberg, supplier of technology and services and divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy & Building Technology. Bosch air purifiers are based on HEPA and carbon filter technology combined with plasma technology.

Johnson Controls – An Irish listed company (€40bn mkt cap, €19.9bn sales in 2019/2020) founded in 1885, and headquartered in Cork, which is engaged in the provision of buildings products, energy solutions, integrated infrastructure and next generation transportation systems. Its technology and service capabilities include fire, security, HVAC, power solutions and energy storage to serve various end markets including large institutions, commercial buildings, retail, industrial small business and residential. Johnson Control air purifiers are branded York and use Hybrid Electronic technology based on a control electrode and an electric field where the particles become positively charged and then attracted to and trapped like a magnet in the filter.

Koninklijke Philips – A Dutch listed company (€39bn mkt cap, €19.5bn sales in 2020) founded in 1891, and headquartered in Amsterdam, which engages in the healthcare, lighting, and consumer well-being markets. The Personal Health segment (€5.4bn sales in 2020) focuses on healthy living and preventative care and comprises the Personal Care, Domestic Appliances, Oral Healthcare, and Mother & Child Care businesses. Philips air purifiers are based on HEPA and carbon filter technology.

Electrolux – A Swedish listed company (€6.8bn mkt cap, €11.1bn sales in 2020), founded in 1919 and headquartered in Stockholm, engaged in the manufacturing of home and professional appliances. Electrolux air purifiers are based on HEPA and carbon filter technology, combined with anti-bacteria coating and ionizer.

SEB – A French listed company (€8.5bn mkt cap, €6.9bn sales in 2020), founded in 1973 and headquartered in Écully, engaged in the manufacturing of small domestic equipment and cookware. It operates through the following divisions: Cookware, Kitchen Electrics, and Home & Personal Care Products. Its brands include Krups, Lagostina, Moulinex, Rowenta and Tefal. Air purifiers are commercialized with the brands Rowenta and Tefal, and are based on HEPA, carbon and NanoCaptur filter technology.

Viessmann – A German privately-held company (€2.7bn sales in 2018), founded in 1917 and headquartered in Allendorf, providing climate solutions for the home (heating, cooling, ventilating), energy solutions for industrial customers, and refrigeration solutions for industry, retail, food and beverage establishments, and medical centres and laboratories. Viessmann air purification and ventilation systems are based on HEPA filter technology.

De' Longhi – An Italian listed company (€5.7bn mkt cap, €2.4bn sales in 2020), founded in 1902 and headquartered in Treviso, which manufactures kitchen and homecare appliances, including coffee makers, breakfast collections, Kmix collection, ironing appliances, floor cleaning, air conditioning, air treatment and portable heating. Its brands include DeLonghi, Kenwood, Braun and Ariete. Braun air purifiers are based on HEPA and carbon filter technology, while DeLonghi air purifiers also have an ionizer function.

Camfil - A Sweden privately-held company (€0.8bn sales in 2019), founded in 1963, and headquartered in Stockholm, which provides air filters and clean air solutions. It offers bag, sheet and panel, and compact filters, air inlet filters for gas turbines, air purifiers, containment systems, filter housings, air intakes, and temperature filters. Camfil air purifiers are based on HEPA, carbon and molecular filter technology.

Dyson – A British privately-held company (€406m sales in 2019), founded in 1991 and headquartered in Malmesbury, which manufactures vacuum cleaners and electronic equipment. Dyson air purifiers are based on HEPA and carbon filter technology combined with Dyson Cryptomic™ technology which destroys formaldehyde released from household items.

iQAir - A Swiss private-held air quality technology company (€189m sales in 2019), founded in 1963, and headquartered in Goldach, specialized in protection against airborne pollutants, developing air quality monitoring and air cleaning products. IQAir currently has four product categories: air purifiers, HVAC-based air cleaning, air quality instruments and the global air quality information platform AirVisual. iQAir air purifiers are based on HyperHEPA filtration technology, which is tested and certified by an independent third-party lab to filter 99.5% of harmful ultrafine pollution particles down to 0.003 microns in size.

Beghelli – An Italian listed company (€73m mkt cap, €127m sales in 2019), founded in 1982 and headquartered in Valsamoggia, Bologna, which manufactures and distributes lighting, emergency lighting, and security equipment, including air purifiers based on UV-C technology (UvOxy®).

Trotec – A German private-held company (€100m sales in 2018), founded in 2005 and headquartered in Heinsberg, Nordrhein-Westfalen, which develops, produces and distributes climate conditioning machines for industry, commerce and private customers. Trotec products include dehumidifiers, construction dryers, heating devices, air handling units, fans, wind machines and air purification systems. Trotec air purifiers are based on HEPA filter technology combined with proprietary TAC V+ technology through which aerosols carrying viruses and bacteria are reliably filtered out and heated to about 100°C for approx. 15 minutes at regular intervals, destroying them.

Dr. Hoenle – A German listed company (€0.3bn mkt cap, €94m sales in 2019/2020), founded in 1976 and headquartered in Graefelfing, engaged in the development, manufacture, and sale of light-emitting diode UV products. It operates through the following segments: Equipment and Systems, Adhesives, Glass & Lamps. The Equipment and Systems segment offers UV products that are used for drying inks and coatings, curing adhesives and plastics, disinfecting air and surfaces, and sunlight simulation. Dr. Hoenle air and surface disinfection systems are based on UVC technology, which has very high inactivation rates for germs, bacteria, viruses, and mould, and works completely without the use of chemicals.

One Retail Group – A UK private-held company (€45m sales in 2019), founded in 2013, and headquartered in London, that operates an online store for lifestyle, personal care and home appliance brands. Its subsidiary ProBreeze is a world-leading manufacturer and trusted household name in home appliances and home treatment products, including dehumidifiers, humidifiers, heaters, fans and air purifiers for home and office use. ProBreeze air purifiers are based on HEPA and carbon filter technology combined with a negative ion generator.

Plaston – A Swiss private-held company (€44m sales in 2019), founded in 1961, and headquartered in Widnau, which manufactures and supplies portable air treatment solutions for living areas (air cleaners, humidifiers and combi) and electronic appliances. The products are sold under its registered trademarks Air-O-Swiss and Boneco. Air-O-Swiss and Boneco air purifiers are based on HEPA and carbon filter technology combined with ionization technology.

Blueair – A Sweden private-held company (€37m sales in 2019), founded in 1996 and headquartered in Stockholm, acquired by Unilever in 2016, leading player in the premium category of air purifiers for consumers and businesses in markets like China, US, Japan, South Korea and India. Blueair air purifiers are based on Blueair HEPASilent™ Technology, which combines electrostatic and mechanical filtration, which kills 99% of viruses and bacteria once captured in the filter (not tested against Covid-19).

Paradigma Italia - An Italian private-held company (€17m sales in 2019), founded in 1998 and headquartered in Calcinato, Brescia, engaged in the wholesale of sanitary and heating equipment, including cogeneration, embedded systems, biomass boilers, gas boilers, heat pumps, solar thermal, water treatment, and disinfection. Paradigma Italia's sanitisers are based on bipolar ionisation technology in unconfined environments and ozone treatment in sealed environments.

Genano – A Finnish private-held company (€7m sales in 2019), founded in 1999, and headquartered in Espoo, which manufactures air decontamination devices based on carbon filter combined with Genano® Nonthermal Plasma filtering technology, generating a powerful electric field within the unit, capable of removing ultrafine particles down to 0.003 micron, such as viruses, bacteria and mould (particle and impurities are gathered on a surface inside the unit and washed away automatically once a week).

Ionair – A Swiss private-held company (€4m sales in 2016) founded in 1993 and headquartered in Luzern, specialized in technically sophisticated solutions in the field of indoor air ionization for home, commercial and office premises, living rooms, hospitals, homes for the aged, laboratories, fitness centres and sports facilities, restaurants, school classrooms, smoking lounges, warehouses, etc. The ionization module generates the required ionization energy and is installed either in an empty part of the air handling system (HVAC) or in the supply air duct, leading to a reduction in bacteria, germs and mould spores by approx. 95%.

Bioclimatic – A German private-held company (€4m sales in 2019), founded in 1978 and headquartered in Bad Nenndorf, Lower Saxony, engaged in the field of indoor air quality solutions, from portable purifiers, to standing alone or wall mounted home and office units, to customized commercial solutions. Bioclimatic air quality systems are based on bipolar ionization technology and on photo oxidation technology.

WellAir – An Irish private-held company (€4m sales in 2019), founded in 2012, and headquartered in Dublin, that develops medical-grad air-disinfecting devices under the Novaerus and Plasma-Air brand names, deployed in hospitals, workplaces, and other commercial locations in more than 60 countries around the world. Novaerus air sanitizers are based on Camfil® filter system combined with proprietary NanoStrike technology, which utilizes an atmospheric plasma discharge to kill and deactivate harmful airborne microorganisms. Plasma-Air products include free-standing, portable, and in-duct models that are installed directly into the central HVAC system, and are based on bipolar ionization technology.

Airfree – A Portuguese private-held company (€3m sales in 2019), founded in 2005 and headquartered in Lisbon, specialised in the design, manufacturing and sale of air purifiers based on proprietary Thermodynamic Sterilization System technology, inspired by the boiling water sterilization process, which uses heat to purify the air, silently and without the use of filters, eliminating microorganisms such as viruses, bacteria, fungi and pollen, among others at temperatures of 400°F, attaining 99.99% air sterilization.

LIFA air – A Finnish private-held company (€2m sales in 2019), founded in 1998, and headquartered in Helsinki, engaged in the manufacturing of air purification equipment originally used in the military applications and later more widely in commercial and household field. LIFA air products are based on patented 3G air filtration technology (3-in-1 Green filter) which includes pre-filter, UV-lamp, air ionization, electret filter layer, activated carbon layer, ionization after filter and additional active carbon filter. 3G-filters can remove >99.95% of PM0.3, >99.99% of PM2.5 and >95% of gases & TVOC, with very low pressure drop and energy consumption.

Baraldi – An Italian private-held company (€2m sales in 2019), founded in 1965, and headquartered in Senago, Milano, engaged in the manufacturing of stove hoods and induction cooktops, and has recently launched on the market an air purifier under the brand name AirO', based on non-thermal plasma (NTP) technology, with a low-consumption generator that is activated creating negative ions in large quantities that can break down viruses, bacteria, spores, fungi and mould up to 99.5%.

Nonoproject – An Italian private-held innovative company (€0.5m sales in 2019), founded in 2017, and headquartered in Bologna, highly specialized in the development and use of nanotechnologies for air purification and sanitization of environments. Nanoproject air sanitizer are based on a trivalent system composed by UVC led, photocatalysis and cold plasma, guaranteeing the elimination of up to 99.5% of viruses, bacteria, spores, moulds, fungi and odour.

Ionplasma – A Swedish private-held company (€0.3m sales in 2017), founded in 2015 and headquartered in Vankiva, which manufactures and markets air purification equipment for demanding environments such as biogas plants, wastewater treatment plants or other demanding environments where odour problems or corrosion problems are present. Ionpasma's own technology is based on plasma, and is both cost-effective as technically efficient, with low maintenance costs and high reliability.

Pur Air Ion – An Italian private-held company (€0.3m sales in 2020), founded in 2013 and headquartered in Vigonza, Padua, engaged in R&D for technological innovation in the purification of surfaces and of the air through the study of molecular evolution. Pur Air Ion surface and air sanitizers are branded SHU and are based on proprietary EHG™ technology, which applies the process of photocatalysis, generating oxidants that induce the decomposition of organic and inorganic substances in the air, preserving only oxygen and hydrogen molecules.

Bioxigen – An Italian private-held company, founded in 2003, and headquartered in Cologna Veneta, Verona, which manufactures indoor air sanitation products based on its proprietary Bioxigen® technology, which releases active ions that continuously remove airborne microbes and reduce specific volatile organic compounds from the environment and indoor surfaces, with up to 99% effectiveness on microbes and bacteria.

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3. Business model and strategy

- Jonix was founded as an R&D company, whose main strengths are the skills, technology and products it has been able to develop over the years.
- The boom in turnover achieved in FY20 (12.6x YoY) highlighted the need to intervene on a few weak areas: production infrastructure (excessive outsourcing), sales network, organisational structure, contracts and financial resources.
- Listing on AIM Italy provided Jonix with the financial resources to strengthen its structure and accelerate vertical and geographical growth, including by entering new sectors and through M&A.

Value chain

Jonix's value chain consists of 5 primary activities:

- Design and R&D
- Procurement and inbound logistics
- Production
- Distribution and outbound logistics
- After sales service

Design and R&D

Jonix observes social and environmental changes that generate new needs for sanitisation and purification.

In Jonix LAB, the best achievable technical solutions to meet the identified need are evaluated.

The team designs solutions with consultants who are experts in the relevant technical regulations, achieving a design result without the need for further technical or structural modifications.

Procurement and inbound logistics

Jonix uses exclusive components made to its own specifications for 90% of its production.

Through discussions with specialist partners, the best available materials and components are selected.

Jonix supply partners are selected as much as possible in the Veneto region, based on criteria of:

- specific competence;
- production capacity;
- responsiveness to customized requests;
- collaboration in the development of new solutions.

Production

Jonix manufactures its devices entirely in the Veneto region.

For outsourced production, specialized companies were selected based on the technical characteristics of the product and their specific experience.

The external production units, whose cooperation ensures production capacity even in conditions of high demand, are constantly monitored by the Jonix production manager who checks production standards.

Distribution and outbound logistics

Jonix relies on an ever-growing and rapidly expanding network of distributors, dealers and sales officers, currently present in Europe, LATAM, Asia, Africa and Russia. Commercial partners are an integral part of the dialogue with the markets.

For the shipping service Jonix uses couriers selected according to the countries of destination.

Jonix has its own warehouse for finished products: the availability of products in stock is constantly monitored to ensure availability consistent with sales, optimizing purchases and production.

After sales service

Jonix maintains constant contact with customers, both consumers and dealers, keeping all two-way communication channels constantly monitored.

Foreign distributors and retailers are required to provide the same service for their customers.

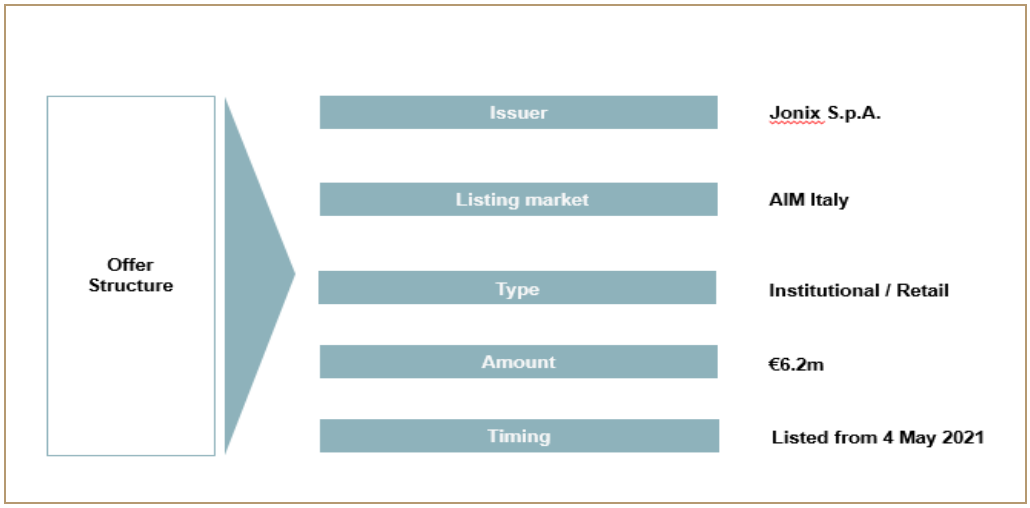
This approach, which creates a sense of belonging to the Jonix community, has great predictive value, allowing for the detection of new user behaviours, thus predicting future scenarios that are useful to improve and develop new products or services.

Strategy

IPO on AIM Italy

The IPO of Jonix on AIM Italy, where the stock is listed starting from 4 May, with a €6.2m capital increase, is a key step in a strategic path that intends to exploit the potential offered by NTP technology to play an increasingly important role, in Italy and abroad, in the air sanitisation sector and, in the future, in water treatment as well.

Figure 13: Jonix's IPO on AIM Italy: offer structure



Source: Company presentation

Figure 14: Jonix's IPO team

FINANCIAL ADVISOR	IRTOP CONSULTING
NOMAD AND GLOBAL COORDINATOR	BESTINVER acciona
LEGAL ADVISOR	GRIMALDI STUDIO LEGALE
FISCAL ADVISOR	Rödl & Partner
AUDITORS	KPMG

Source: Company presentation

70% of new resources will be invested in organic growth, 30% in M&A abroad

Jonix is looking to invest about 70% of the funds raised in order to accelerate its organic growth path based on 4 strategic guidelines.

- **R&D and launch of new solutions and services**: 1) extension of the application of existing products to new sectors, including automotive, naval, transport, airport infrastructure, sanitization and material/product treatment, kitchen hoods, refrigerators, washing machines; 2) launch of new products for entry into new

sectors, such as agricultural for plant stimulation, indoor food gardening, wastewater for purification and discoloration, waste for abatement of odours and harmful chemicals, VOC and VIC abatement systems; 3) study of design, improvement of control and applicability (IoT, remote controls, extension of functionality); 4) enhancement of Jonix^{LAB}, with implementation of design and rapid prototyping systems and tools, and integration of qualified staff; 5) filing of new patents and obtaining international certifications.

- Development of the sales network: 1) consolidation of its position in Italy, with the organisation of the sales network through agencies divided by areas with authorised resellers (Jonix Agent by Area, Jonix Reseller by Area, Sector Reseller, National Framework Agreements, OEM); 2) expansion into new geographical markets, with representative offices or subsidiaries in the main EU target markets (France, UK, Spain, Austria, Germany), distributors in other EU and non-EU target markets, sales agreements for sectors in non-EU countries, framework agreements with multinationals in specific sectors, JVs in China and North America.
- Increasing production capacity: 1) investments to modernise and expand production capacity and to develop IT systems to support the various company functions; 2) acquisition of system certifications (UNI EN ISO 9001, 14001, SA8000).
- Brand awareness: 1) investments in marketing and communication, with a focus on participation in major trade fairs, web and social campaigns, sponsorship of conferences and scientific seminars; 2) expansion of trademark protection at an international level and protection of product names.

The remaining 30% of the capital increase will be used to finance external growth by acquiring shares in manufacturing companies, with a focus on Australia, America and the Far East.

New products

Jonix will launch a series of new products in 2021 that will further expand its range in both the Air Tech Solutions and Advanced Tech Solutions lines and will also launch a new Purifiers line that will allow it to enter the water treatment sector.

- Air Tech Solutions line extension

Super Cube is an air filtration (HEPA) and sanitisation device with IoT technology for the residential market, with a variable air flow rate from 30 to 100cm/h, controlled by the Jonix Controller app.

Figure 15: Super Cube

Source: Company presentation

Max Cube is mobile air filtration (HEPA) and sanitisation device with IoT technology for the commercial market, with a variable air flow rate from 150 to 300cm/h, self-sanitising system for filters and internal surfaces, made of Aisi 304 steel, controlled by the Jonix Controller app.

Figure 16: Max Cube

Source: Company presentation

- Advanced Tech Solutions line extension

Bus/ambulance device for air sanitisation that can be integrated into existing vehicles, with 24 Volt power supply and modular ventilation from 30 to 100cm/h, made of Aisi 304 steel.

Figure 17: Bus/ambulance device

Source: Company presentation

Automotive device for air sanitisation that can be integrated into existing public transport vehicles, truck cabins, camper vans and caravans, with fan air flow of 40cm/h and easy to use (on-off switch directly from unit).

Figure 18: Automotive device

Source: Company presentation

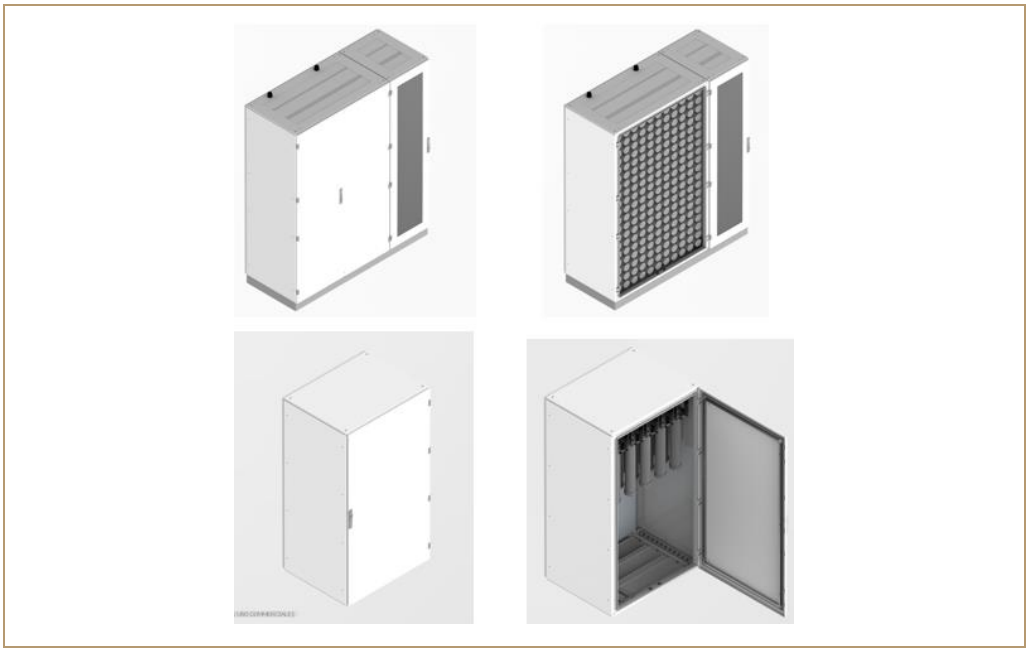
- Launch of new line Purifiers

J Water will be the first product of the new line Purifiers which aims to apply NTP technology to the water treatment sector. J Water has the following areas of application.

  - Sanitation:
    - treatment of liquid effluents coming from conventional treatment plants, in order to obtain a sanitation aimed at the recovery of the water resource (irrigation use, service, sanitary use, etc.);
    - treatment of surface water to achieve acceptable health standards;
    - treatment of industrial water to achieve sanitation (e.g. water from evaporation towers, water used in food industry process, etc.).
  - Purification:

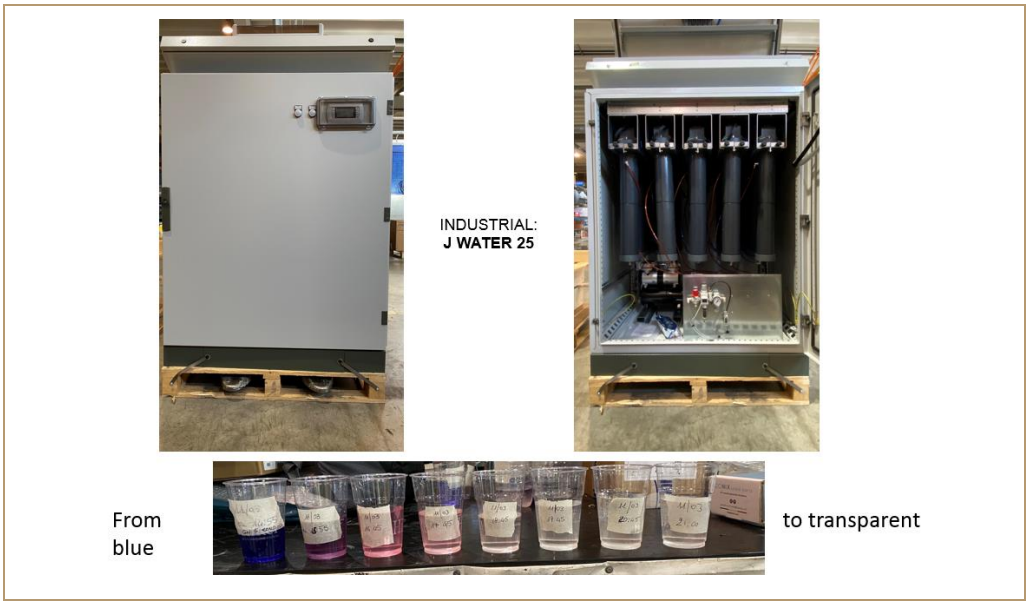
- treatment of civil wastewater (or industrial wastewater assimilated to civil wastewater) as a replacement for conventional “secondary” (biological) and/or “tertiary” (chemical-physical and/or sanitation) treatment (e.g. apartment blocks, restaurants, company canteens, etc.);
- treatment of organic leachate (e.g. from composting processes);
- treatment of predominantly organic rainwater.

Figure 19: J Water



Source: Company presentation

Figure 20: Example of water treatment with J Water 25, from blue to transparent



Source: Company presentation

SWAT

Strengths

Skills

Technology

Relations

Brand and positioning

Communication

Flexibility

Plug & Play technology platform

Belonging to an industrial group

Certifications and patents

Products (Cube, Mate / Minimate / Maximate, Steel, Up In, Duct, Inside)

Weaknesses

Infrastructure

Patchy commercial network

Contracts with suppliers to be improved

Excessive dependence on third parties

Organization to be strengthened

Financial resources

Opportunities

Vertical and geographical growth

First mover

Entry into new sectors

Door opener for the rest of the Group catalogue

Antibiotic-resistant bacteria

Intensive crops

Bioplastics (production process sanitisation)

M&A after IPO

Threats

Growth management

Competition

Ignorant market

Some unpatentable technologies

Alternative technologies

Vaccine and treatment for Covid-19 (reduction in needs)

4. Organizational structure and governance

- The technological skills of HiRef, Mauro Mantovan's company specialising in data centres and energy efficiency, and the scientific know-how of Archa, Antonio Cecchi's laboratory, certified in chemical and microbiological analysis, have been brought together to create Jonix.
- A long-tenured management team with significant experience in several industries represents a strength of Jonix.
- At IPO Jonix's capital is equally divided between the two groups of investors led by Mauro Mantovan (Chairman) and Antonio Cecchi (CEO).

Key managers

Mauro Mantovan

Co-founder, Chairman

Master's degree in Mechanical Engineering from the University of Padua and MBA from CUOA Business School.

From 1989 to 1994 he worked in the management, design and technical analysis team at AERMEC Riello Condizionatori.

From 1994 to 1997 he was technical director at Criosbanc SpA (Linde AG Group).

From 1997 to 2001 he was technical director of Uniflair SRL, a company specialized in air conditioning for the IT sector.

Since 2001 he has been founder and CEO of HiRef SpA and of the spin-offs TecnoRefigeration SRL, Eneren SRL, Hidew SRL, ItMet SRL, Ecat SRL and HiRef Engineering.

He is co-rapporteur of 36 degrees theses (in engineering, business management, economics) carried out since 2003 in collaboration with several universities.

Co-founder and Chairman of Jonix since 2013, CEO from 2013 to March 2021.

He is co-inventor of 7 patents.

Antonio Cecchi

Co-founder, CEO

Master's degree in Industrial Chemistry from the University of Pisa.

He is CEO of ARCHA Laboratories, which he founded in 1989, which is specialized in the analysis and applied research in the chemical and environmental sector.

He has been teaching technical disciplines since 1996 and has been a lecturer at the University of Florence, University of Pisa.

Co-founder and Vice Chairman of Jonix from 2013 to March 2021, CEO since March 2021.

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Sole Director of the innovative start-up TECHA SRL (innovative products and technologies in the chemical sector) which he founded in 2012.

Chairman of TANNOW SRL (marketing of chemical products in the tanning sector) which he founded in 2016

In 2019, he founded BisArcha SRL (which owns the stakes in the group companies) of which he is the sole director.

He is co-inventor of 7 patents.

- Federica Stramezzi

CFO

Master's degree in Economic and Business Development from Ca' Foscari University of Venice.

From 2013 to 2018 she worked with medium-sized firms in Treviso and Padua.

Member of the Padua Register of Chartered Accountants since 2017.

Member of the Register of Auditors since 2018.

Since 2018, she has been an Associate in the Tax department at Rödl & Partner's Padua office.

Since 2021 she has been responsible for Finance and Controlling at Jonix.

- Mina Bustreo

Marketing Manager

Diploma in Product Management.

From 1985 to 1998 she was an entrepreneur in the textile sector.

From 2000 to 2004 she was sales coordinator at Piace & Co., a company specialising in cosmetics.

From 2005 to 2013 she was project manager at Bioxigen SRL.

Since 2013 she has been Key Account Manager at HiRef SpA, with the aim of creating business opportunities through innovative applications of the company's products.

Since 2015 she has been Marketing Manager at Jonix.

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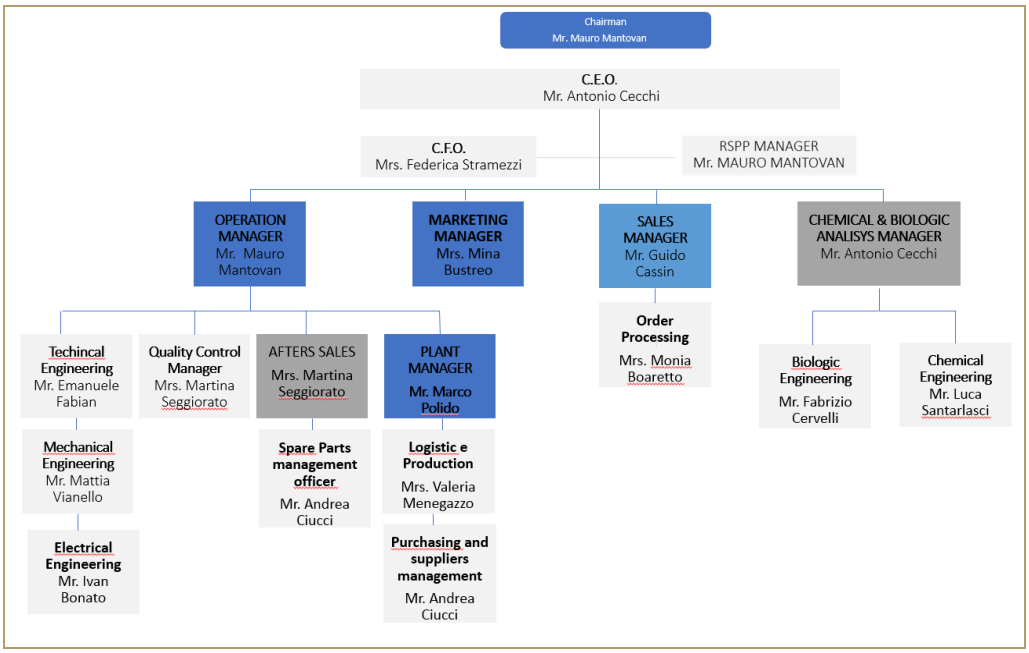
Figure 21: Jonix organisation chart



Source: Company presentation

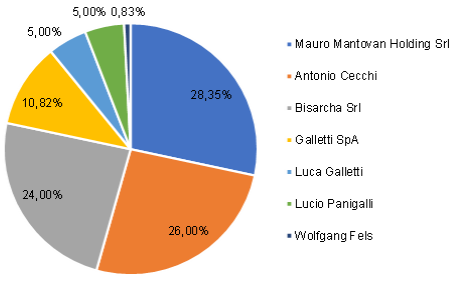
Figure 22: Jonix governance

Board of Directors	Board of Statutory Auditors	Auditing Company
MAURO MANTOVAN – *Chairman*	**MAURO MELANDRI** – *Chairman*	KPMG
ANTONIO CECCHI – *CEO*	**SIMONE TEMPESTI** – *Standing Auditor*	
FABRIZIA TURCHI – *Director*	**DANTE CAROLO** – *Standing Auditor*	
LUCA GALLETTI – *Director*	**SARA GIACOMETTI** – *Substitute Auditor*	
ANNA LAMBIASE – *Director**	**FEDERICO USMIANI** – *Substitute Auditor*	
DIEGO CAMPAGNOLO – *Independent Director**		

Source: Company presentation - * In office since IPO date

Figure 23: Jonix shareholders at IPO

Azionista	%
Mauro Mantovan Holding Srl	28,35%
Antonio Cecchi	26,00%
Bisarcha Srl	24,00%
Galletti SpA	10,82%
Luca Galletti	5,00%
Lucio Panigalli	5,00%
Wolfgang Fels	0,83%
Total	**100,00%**



Source: Company presentation

5. Financials and estimates

- Revenues surged to €5.5m in 2020, up from €0.4m in 2019 (12.6x YoY). Revenues grew at 47% CAGR between 2016 and 2019.
- FY20 adj. EBITDA was €1.7m (30.6% margin) while FY20 adj. EBIT reached €1.6m (28.9% margin). The Company closed its 2020 books with zero net debt and €1.1m invested capital.
- We estimate revenue to grow at 34% CAGR over the next four years. Jonix should have €17.8m revenue and €5.5m EBITDA at the end of 2024.

Solid business model further helped by the Covid-19 pandemic in 2020

Revenue grew at 47% CAGR between 2016 and 2019 and spiked to €5.5m in 2020 (+12.6x YoY). The Company benefitted from the pandemic as consumers and businesses looked for air sanitizers to eliminate the Covid-19 virus from in-door spaces.

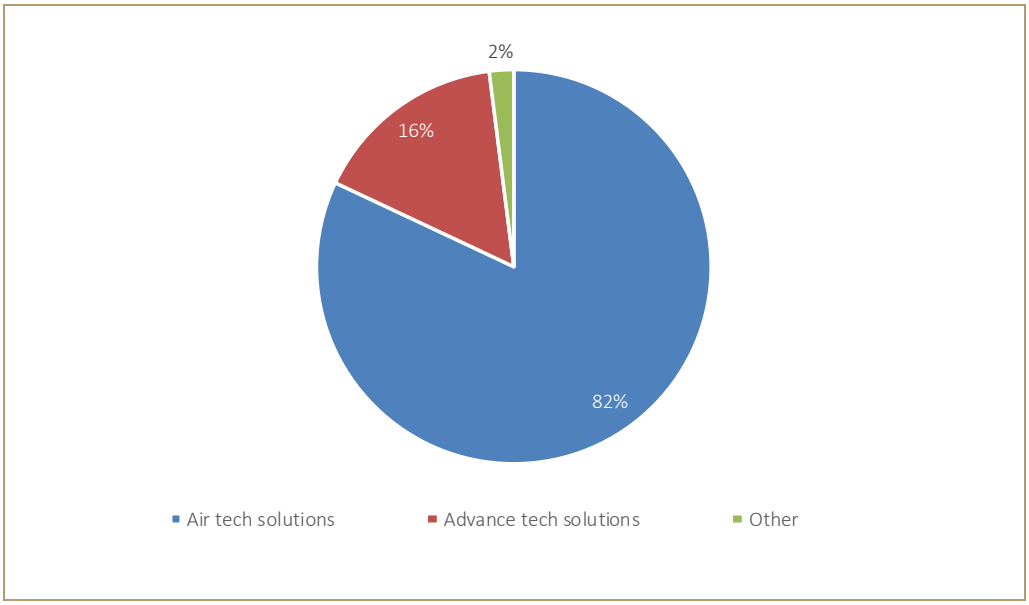
Despite small revenues until 2019, the Company has always booked positive operating earnings both at EBITDA and EBIT level since 2016. FY20 adj. EBITDA was €1.7m with a margin of 30.6% while adj. EBIT hit €1.6m corresponding to 28.9% margin.

Jonix net financial debt has been stable at €0.5m until 2019. In 2020, the Company reimbursed almost all its bank borrowings and closed the year with zero net debt. The company still owes €0.7m to its founders and other institutions but it has a cash position of €0.7m. On the asset side, Jonix booked €0.95m of working capital and €0.15m of fixed assets. The Company's net invested capital was €1.1m at the end of 2020.

Product mix, end markets and geographical breakdown

Jonix product mix is quite concentrated. Air tech solutions represent 82% of sales while Advanced tech solutions constitute 16% of sales in 2020. The remaining 2% corresponds to purifiers, spare parts and other revenues.

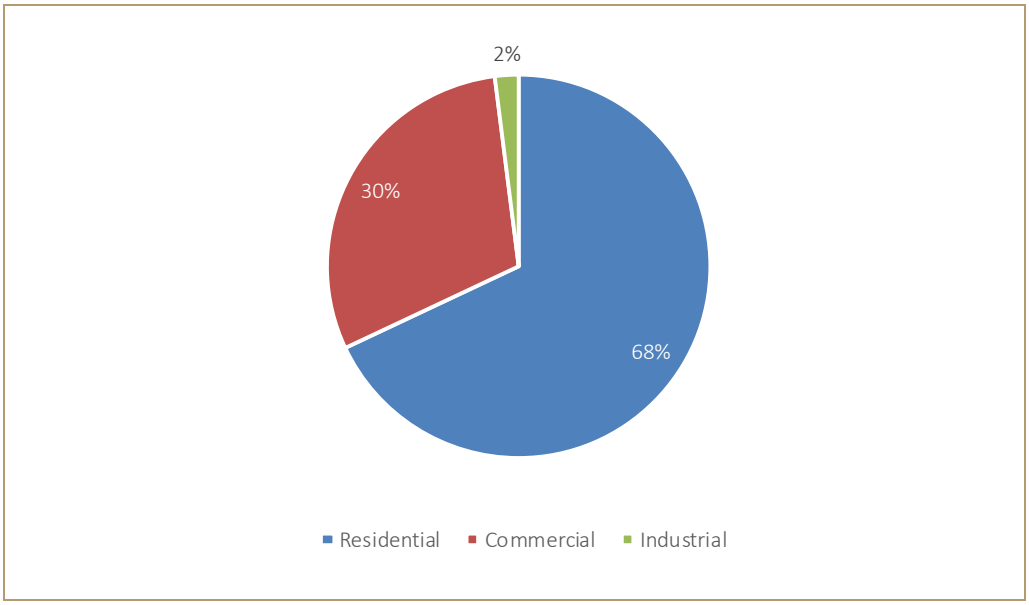
Figure 24: Jonix product mix



Source: Company presentation

The company targets both the residential, commercial and industrial market. The residential market represents 68% of revenues, the commercial market 30% while the industrial market accounts for only 2% of sales.

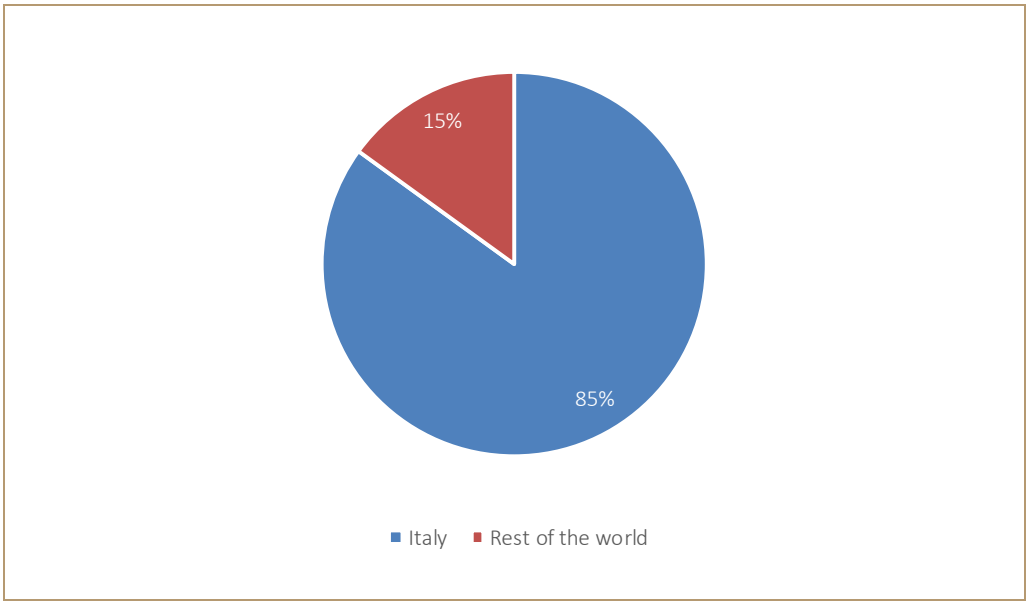
Figure 25: Jonix end markets



Source: Company presentation

Jonix still makes most of its revenues domestically. Italy represents 85% of sales while international markets add up to 15% of the top line.

Figure 26: Jonix geographical exposure

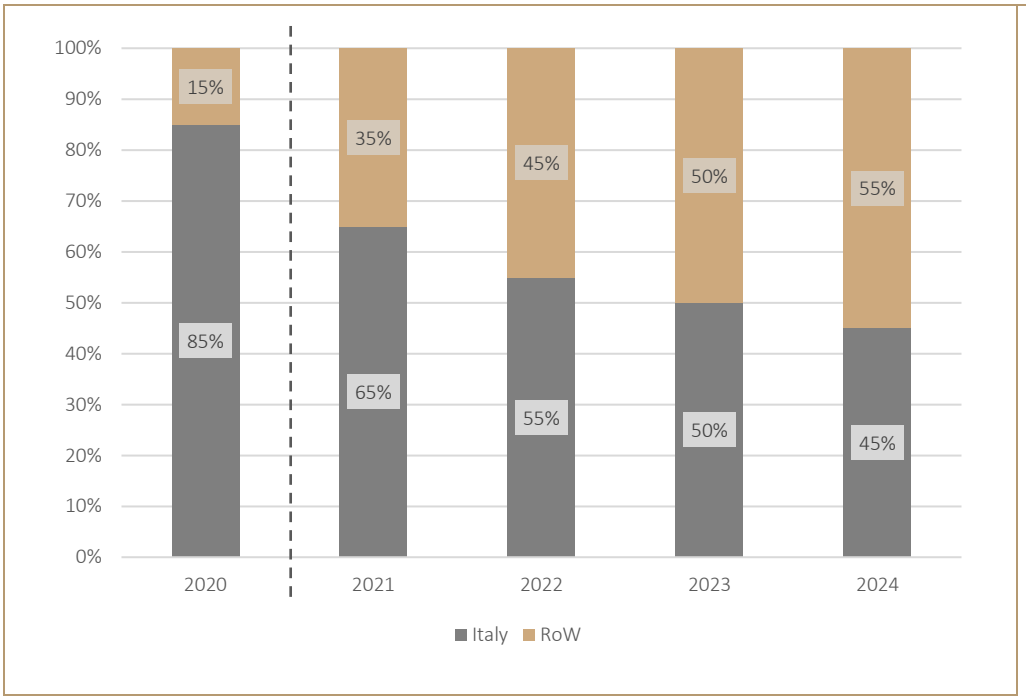


Source: Company presentation

We forecast 34% CAGR in 2020-2024E mainly driven by export…

We estimate revenue should grow at 34% CAGR over the next 4 years, reaching almost €18m in 2024. Top line growth will be driven by international expansion. International markets should continue to outperform the domestic market and should represent almost 55% of sales in 2024, up from 15% in 2020.

Figure 27: Jonix revenues geographical breakdown



...and new products

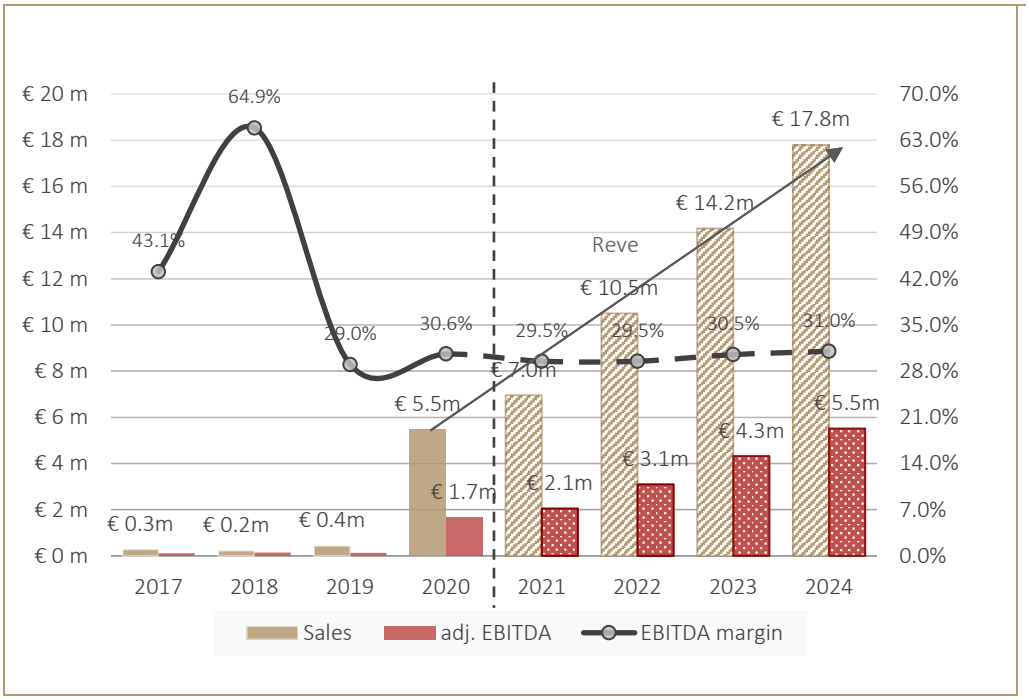
New product launches should help revenue to grow. We estimate Jonix enhances its product offering and enters the waste-water market with the launch of the J Water Purifier. The waste-water market represents a significant growth opportunity for the Company as the J Water Purifier applications spans across different industries. In addition, Advanced tech solutions should grow faster thus increasing their impact on total revenues over the next few years.

EBITDA margin expected to reach 31% in 2024E

The adj. EBITDA margin should slightly improve from 2020 levels as economies of scale should be partially offset by a slight decrease in sale prices. Adj. EBITDA margin should reach 31.0% in 2024 (up from 30.6% in 2020) while adj. EBIT margin should slightly decrease to 28.0% from 28.9% in 2020 due to growth in capex. Cost composition should change over time as the company ramps up production. Cost of personnel should increase as a percentage of revenue to 12% in 2024 from 4.5% om 2020. On the other hand, services expenses and use of third-party goods should decrease as a percentage of revenues to 9% in 2024 from 27.6% in 2020 as operating leverage starts to bear fruit.

This publication has been reviewed and approved by the "Committee for the Independence of the Publications of the Research Department"

Figure 28: Jonix revenues growth and EBITDA margin



Source: Company data, Bestinver Securities estimates

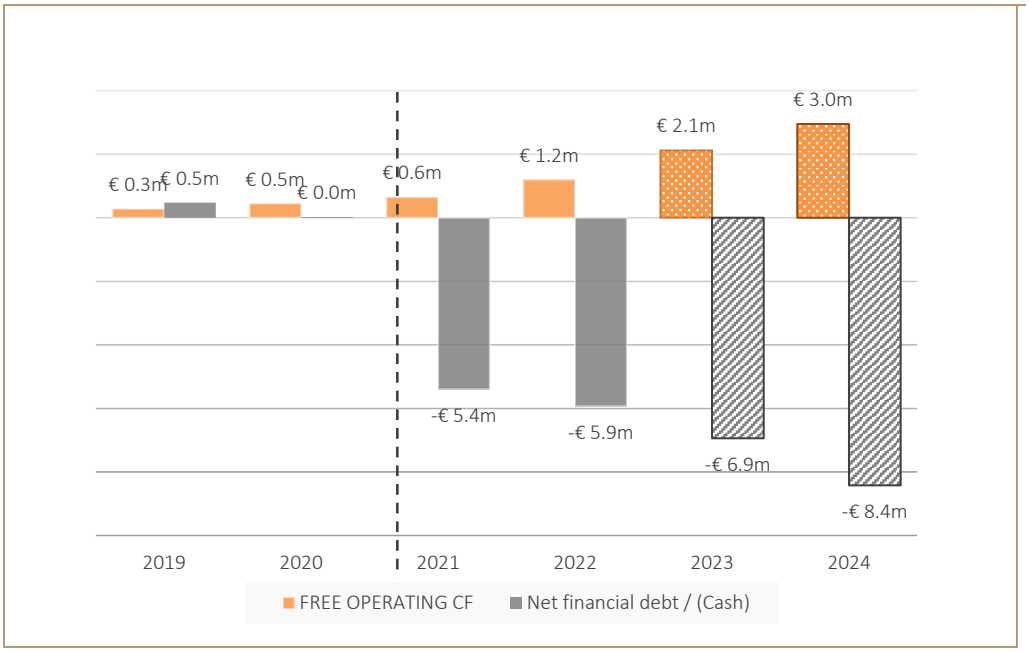
We forecast an improvement in trade working capital management from 2022E to 2024E

As revenues increase, working capital management should improve. We assumed that trade receivables and trade payables should remain stable as a percentage of sales at 21% and 14% respectively. In addition, we estimated that inventories should constantly decrease as a percentage of revenues to 9% in 2024E, down from 15% in 2021E. Consequently, net working capital is expected to decrease as percentage of revenues to 16% in 2024E from 22% in 2021E.

Free cash flow continuing to grow

Finally, Jonix should continue to generate positive and increasing free operating cashflows while accumulating cash as revenues rise.

Figure 29: Jonix cashflows dynamics



Source: Company data, Bestinver Securities estimates

6. Valuation

- Our Jonix's VR is €7.0-7.5/sh., based on a DCF valuation of €48m.
- We assume revenues and EBIT should reach €17.8m and €5.0m respectively, while free operating cash flow should hit €3.0m by 2024E.
- We have computed a 7.4% WACC assuming a tax rate of 30.5%. We have assumed 1.0% long-term FCF growth after 2024E.
- Jonix multiples @ DCF valuation are at 5-7% premium vs. the sector median on 2021E and at 21-27% discount on 2022E.

DCF Valuation

Capital-light business model with high margins and significant growth potential

We estimate revenue should grow at 34% CAGR over the next 4 years, reaching almost €18m in 2024E. Capital expenditures should remain stable as a percentage of revenues at 5%. Tax rate should move toward 30.5% in the same period.

We have discounted free operating cash flow using a WACC of 7.4%, high for the average European companies, but in line for a young company that derives most of its value from future growth.

After netting €0.5m of dividends which Jonix should distribute to its pre-IPO shareholders and adding €6.2m capital increase from the IPO, we arrive at an equity valuation of €48m, corresponding to FY24E EV/EBITDA 7.2x and FY24E P/E 14.6x.

Figure 30: Jonix - DCF

€m	2019	2020	2021E	2022E	2023E	2024E	Terminal
Sales	**0.4**	**5.5**	**7.0**	**10.5**	**14.2**	**17.8**	**18.0**
YoY		*1162.9%*	*27.0%*	*51.0%*	*35.0%*	*25.5%*	*1.0%*
EBIT	**0.0**	**1.6**	**1.9**	**2.8**	**3.9**	**5.0**	**5.0**
margin	*6.8%*	*28.9%*	*26.8%*	*27.0%*	*27.7%*	*28.0%*	*28.0%*
Taxes	0.0	-0.3	-0.5	-0.9	-1.2	-1.5	-1.5
tax rate	*8.8%*	*21.6%*	*28.8%*	*32.1%*	*30.5%*	*30.5%*	*30.5%*
NOPAT	**0.0**	**1.2**	**1.3**	**1.9**	**2.7**	**3.5**	**3.5**
D&A	0.1	0.1	0.2	0.3	0.4	0.5	0.5
as % of sales	*22.2%*	*1.7%*	*2.7%*	*2.5%*	*2.8%*	*3.0%*	*3.0%*
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OPERATING CASH FLOW	**0.1**	**1.3**	**1.5**	**2.2**	**3.1**	**4.0**	**4.0**
(Capex)	-0.1	-0.1	-0.5	-0.6	-0.8	-0.9	-0.9
as % of sales	*11.5%*	*1.0%*	*6.5%*	*5.2%*	*5.3%*	*5.1%*	*5.1%*
(WC - Funds change)	0.2	-0.8	-0.4	-0.4	-0.3	-0.1	0.0
FREE OPERATING CF	**0.3**	**0.5**	**0.6**	**1.2**	**2.1**	**3.0**	**3.1**

Source: Company data, Bestinver Securities estimates

Figure 31: Jonix – DCF Assumptions

	Assumptions
WACC	7.4%
long-term g	1.0%
Tax rate	30.5%

Source: Bestinver Securities estimates

Figure 32: Jonix – DCF Valuation

€m	Valuation
5-year DCF	5.6
Terminal value	36.8
EV	**42.3**
NFP/(Cash)	-6.1
Div. to pre-IPO shareholders	-0.5
Equity value	**48.0**

Source: Bestinver Securities estimates

Figure 33: Jonix – Multiples @ DCF Valuation

€m	2021E	2022E	2023E	2024E
Mid Valuation Range M cap	48.0	48.0	48.0	48.0
Mid Valuation Range EV	42.6	42.1	41.1	39.6
P/E	**36.2**	**24.9**	**18.6**	**14.6**
EV/Sales	**6.1**	**4.0**	**2.9**	**2.2**
EV/EBITDA	**20.8**	**13.6**	**9.5**	**7.2**
EV/EBIT	**22.9**	**14.8**	**10.5**	**7.9**

Source: Bestinver Securities estimates

Sector multiples

Only three companies listed worldwide specialised in the air treatment business: Daikin, Lennox and Blue Star

There are only a few companies specialised in the air treatment business listed worldwide with FY21-FY22 estimates available: the Japanese **Daikin Industries**, the US **Lennox International**, and the Indian **Blue Star.** These foreign groups cannot be properly considered Jonix's peers for different reasons.

- They are significantly larger compared to Jonix (120x to 3,900x in terms of revenues).
- Their geographical presence is different: for Daikin the main markets are US (26%, Japan (23%) and China (13%), while Europe represents only 16% of revenues; for Lennox the main markets are US (87%) and Canada (7%), while Europe represents only 2% of revenues; for Blue Star the main market is India (90%), while Europe represents only 3% of revenues.
- They are mainly focused on air conditioning and heating systems, while air purification represents only a marginal part of their revenues.

Jonix multiples @ DCF valuation at 21-26% discount vs. sector median om 2021E

Based on our DCF Valuation, Jonix's multiples are at 5-7% premium vs. the sector median on 2021E and are at a 21-27% discount on 2022E in terms of EV/EBITDA and EV/EBIT, while they are at a premium in terms of EV/Sales (100% on 2022E) due to its significantly higher margins (29.5% EBITDA margin vs. 16.3% sector median on 2022E).

We therefore believe that, overall, the analysis of the multiples confirms the appropriateness of our valuation on a DCF basis of Jonix based on expectations of business development in the coming years.

Figure 34: Air treatment sector multiples at 24 June 2021

Company	Curr.	Mct cap Loc.Curr	EV 2021	EV 2022	EV/Sales 2021	EV/Sales 2022	EV/EBITDA 2021	EV/EBITDA 2022	EV/EBIT 2021	EV/EBIT 2022	P/E 2021	P/E 2022	EBITDA margin 2021	EBITDA margin 2022
Daikin Industries	JPYbn	6,072	6,098	5,958	2.2	2.0	14.4	12.3	21.5	18.0	30.9	26.6	15.2%	16.3%
Lennox Internat.	$m	12,490	13,641	13,592	3.4	3.2	19.5	18.3	21.9	20.3	26.8	25.0	17.2%	17.6%
Blue Star	INRm	78,510	76,221	75,294	1.4	1.2	22.6	17.2	29.1	21.7	42.1	30.3	6.4%	7.2%
Median					**2.2**	**2.0**	**19.5**	**17.2**	**21.9**	**20.3**	**30.9**	**26.6**	**15.2%**	**16.3%**
Jonix @ DCF Val.	**€m**	**48**	**43**	**42**	**6.1**	**4.0**	**20.8**	**13.6**	**22.9**	**14.8**	**36.2**	**24.9**	**29.5%**	**29.5%**

Source: FactSet consensus, Bestinver Securities estimates

Figure 35: Air treatment sector stock performances at 24 June 2021

Company	Curr.	Price	YTD	1 Month	3 Months	6 Months	12 Months
Daikin Industries	JPY	20,750.0	-9%	-2%	-1%	-7%	24%
Lennox Internat.	$	330.6	21%	-4%	8%	22%	48%
Blue Star	INR	815.2	2%	0%	-8%	3%	61%
Median			**2%**	**-2%**	**-1%**	**3%**	**48%**

Source: FactSet

Summarised P&L Account and key ratios

€m	2018	2019	2020	2021E	2022E	2023E
Sales	**0.2**	**0.4**	**5.5**	**7.0**	**10.5**	**14.2**
EBITDA	**0.1**	**0.1**	**1.7**	**2.1**	**3.1**	**4.3**
Depreciation & Amort.	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4
EBIT	**0.0**	**0.0**	**1.6**	**1.9**	**2.8**	**3.9**
Net Int.Cost	0.0	0.0	0.0	0.0	0.0	0.0
Associates	0.0	0.0	0.0	0.0	0.0	0.0
Impairment & Other	0.0	0.0	0.0	0.0	0.0	0.0
PBT	**0.0**	**0.0**	**1.6**	**1.9**	**2.8**	**3.9**
Taxes	0.0	0.0	-0.3	-0.5	-0.9	-1.4
Discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0
Minorities	0.0	0.0	0.0	0.0	0.0	0.0
Net Profit	**0.0**	**0.0**	**1.2**	**1.3**	**1.9**	**2.6**
Adj. Net Profit	**0.00**	**0.20**	**0.20**	**0.29**	**0.39**	**0.50**
Sales growth	-17.4%	87.9%	1162.9%	27.0%	51.0%	35.0%
EBITDA growth	24.4%	-15.9%	1231.2%	22.5%	51.0%	39.6%
Net Profit growth	289.0%	1.7%	9376.7%	35.0%	45.2%	33.7%
EBITDA margin	64.9%	29.0%	30.6%	29.5%	29.5%	30.5%
EBIT margin	8.8%	6.8%	28.9%	26.8%	27.0%	27.7%
Net Pr. Margin	4.6%	4.4%	22.5%	19.1%	18.3%	18.2%
Gross Int. Cover (x) (1)	2.1	2.8	170.8	-	-	-

Summarised Balance Sheet and key ratios

€m	2018	2019	2020	2021E	2022E	2023E
Fixed assets	0.3	0.2	0.2	0.4	0.7	1.1
Concessions	0.0	0.0	0.0	0.0	0.0	0.0
Inventories	0.2	0.2	1.6	1.0	1.4	1.6
Trade Receivables	0.1	0.1	1.5	1.5	2.2	3.0
Cash + S/T Invest. + Other	0.3	0.3	1.0	6.1	6.7	7.9
Total Assets	**0.9**	**0.9**	**4.3**	**9.0**	**11.0**	**13.5**
Sharehold. Equity	0.1	0.1	1.0	7.1	8.4	10.0
L-T Financial Debt	0.7	0.6	0.3	0.0	0.0	0.0
S-T Financial Debt	0.0	0.0	0.4	0.2	0.0	0.0
Trade Payables	0.1	0.1	1.9	1.0	1.5	2.0
Provisions + Other	0.1	0.1	0.7	0.7	1.1	1.5
TotalLiabilities	**0.9**	**0.9**	**4.3**	**9.0**	**11.0**	**13.5**
Net Debt	**0.7**	**0.5**	**0.0**	**-5.4**	**-5.9**	**-6.9**
WACC	*7.4%*	*7.4%*	*7.4%*	*7.4%*	*7.4%*	*7.4%*
Net Debt/Equity	1296.2%	747.5%	2.1%	-75.5%	-70.6%	-69.3%
ROCE (2)	2.7%	5.5%	110.0%	75.9%	77.8%	83.6%
ROE	23.3%	19.3%	1533.5%	22.8%	29.7%	34.6%
ROCE/WACC (x)	0.4	0.7	14.9	10.3	10.6	11.4

Simplified Cash Flow Statement and key ratios

€m	2018	2019	2020	2021E	2022E	2023E
Net Profit	0.0	0.0	1.2	1.3	1.9	2.6
+ Depr. & Amortis.	0.1	0.1	0.1	0.2	0.3	0.4
+/- other	0.0	0.0	-0.2	0.2	0.1	0.2
= Operating CF	**0.1**	**0.1**	**1.1**	**1.7**	**2.3**	**3.2**
- Change in Working K	-0.2	0.2	-0.6	-0.6	-0.6	-0.5
- CAPEX of which	-0.1	-0.1	-0.1	-0.5	-0.6	-0.8
expansionary CAPEX	0.0	0.0	0.0	-0.3	-0.3	-0.4
= FCF	**-0.2**	**0.2**	**0.4**	**0.6**	**1.2**	**2.0**
- Dividends	0.0	0.0	0.0	-0.5	-0.7	-1.0
FCF Yield (Mkt Cap)	-	-	-	2.0%	3.7%	6.1%
FCF Yield (EV)	-	-	-	2.4%	4.5%	7.7%
FCF (3)	**-0.2**	**0.2**	**0.4**	**0.9**	**1.5**	**2.3**
FCF Yield (Mkt Cap)	-	-	-	2.8%	4.6%	7.2%
FCF Yield (EV)	-	-	-	3.4%	5.6%	9.1%

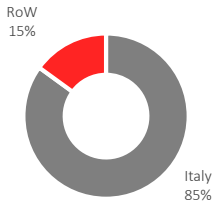
1) calculated as EBIT/Int. expenses (2) calculated as ROCE after taxes (3) calculated ex-expansionary CAPEX

(*) Source: company data and Bestinver Securities estimates

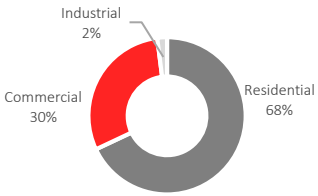
EV valuations

€m	2021E	2022E	2023E
+ Mkt Cap	32.5	32.5	32.5
+ Net Debt	-5.4	-5.9	-6.9
- Non-core assets	0.0	0.0	0.0
+/- Other	0.0	0.0	0.0
= EV	**27.1**	**26.5**	**25.5**
EV/Sales (x)	3.9	2.5	1.8
EV/EBITDA (x)	13.2	8.6	5.9
EV/EBIT (x)	14.5	9.4	6.5
EV/IC (x)	15.3	10.6	8.2

Geographical Sales Break Down



Divisional Sales Break Down



Debt Structure (€m)	
Total Debt in the B. Sheet	**0.7**
Short Term	0.4
Long Term	0.3
maturing in 24M	0.3
maturing in 36M	-
maturing in 48M or more	-
Cost Range	0.8-1.0%
Rating (Moody's)	-
Short term	-
Long term	-
Estimated Off B/S Liabilities	-

Share Information	
Outstanding # shares (m)	6.54
Market Cap (€ m)	32.5
Avg. daily volume (m sh., last 3M)	0.04
Free float %	23.6%
Major shareholders	
Mauro Mantovan Holding Srl	21.7%
Antonio Cecchi	19.9%
Bisarcha Srl	18.3%
Galletti SpA	8.3%

Management shares option scheme	
% of Capital	-
Nearest to vest	-

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