

**Address:**

Sustainable Bankside, 105 Sumner Street, London SE1 9HZ, United Kingdom

Company Website:

<http://www.airex.tech>

Company History:

Founded 2016. In Nov 2017, AirEx secured its first equity investment of £98k (SEIS) from Sustainable Accelerator and further £75k from Innvotec in April 2018. Furthermore £229k grant funding was secured from Innovate UK and the European Commission over the last 18 months.

Capital requirement:

Raising c. £500k (EIS), across 2 trenches: 1st trench (£150k) by Dec'18; 2nd trench (£350k) by April'19

Use of Funds:

The investment will be used to enable the accelerated roll-out via large-scale demonstration pilot (taking advantage of ECO scheme), drive unit cost reduction and enhance product certification.

Management Team:

MD – Agnes Czako: Co-founder. Passivhaus certified, 7 yrs building physics expertise with relevant MSc degree from Cambridge. Led the delivery of 30000 energy assessments, led R&D projects with an accumulated budget of £900k.

Chairman, NXD – Andrew Wordsworth: Co-founder. Led the launch of 15 cleantech startups, attracting ~£250m equity investment (HSBC EIF, Threadneedle Asset Management and Scottish & Southern). 20+ years' experience in climate change sector, former MD of Carbon Trust Enterprises.

NXD – Susannah McKintock: 15+ yrs experience in building, launching and funding successful businesses from seed investment to expansion capital, particularly within cleantech space.

Product Lead – James Wright: 7 yrs experience as an industrial designer, previous roles includes CocaCola, JosephJoseph. James has been a part-time tutor at the Innovation Design Engineering course at Imperial College London.

Software Lead – Will Frank-Gemmill: 12 yrs experience in programming languages and IoT (.net, javascript, arduino, node.js, tcl-tk, css, html, oop, sql, asp.net, c#), corporate experience at General Dental Council; 1st class MEng from Imperial College.

For more information, contact Greenbackers:

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Description / Company Overview:

AirEx has designed a patent-pending smart home technology that saves 15% on a home's heating bills, without compromising air quality. Its smart sensors monitor and analyse environmental conditions while its cloud-based algorithms automatically regulate the airflow. As a result, AirEx improves residents' thermal comfort, ensures good air quality and is able to reduce the home's heat loss by c. 15% - with an associated 2-3 years payback. Furthermore, the real-time data AirEx provides helps Facility Managers to significantly reduce their repair & maintenance expenditures by enabling preventative maintenance (e.g. flagging up indicators of damp).

Market Opportunity / Customer Need:

The smart homes global market grown rapidly, due to advancement in IoT, increasing drops in sensor prices and higher networking capabilities alongside extensive Wi-Fi access, rising purchasing power and changing lifestyles of people (valued at \$52bn in 2016; expected to grow to \$137.9bn globally by 2023, at a CAGR of 13.6%).

Buildings are responsible for 36% of the EU's CO2 emissions. While new builds are constructed to a higher energy efficiency standard, 42% of the North-, and Western-European housing stock was built pre-1960 with drastically lower efficiency. Recent research shown that c. 15% of a home's heat loss is caused by air-bricks. In the same time, if residents block air vents permanently, it can cause condensation, risking occupants' health - research suggests that in the UK alone the NHS could save £16m/yr by fixing the problem of dampness. We developed AirEx to find a way of balancing thermal efficiency with air exchange. AirEx is shown to be suitable for over 53 million homes across Europe, resulting in a £18.7bn market opportunity.

Product / service solutions:

AirEx replaces the existing air vents in naturally ventilated homes. It uses smart sensors to monitor and analyse environmental conditions (e.g. temperature, humidity and air quality) and its cloud-based algorithms automatically regulate the airflow by adjusting the aperture of the vent for optimum efficiency. It uses self-learning algorithms to predict occupants' behaviour and weather pattern, to enable more efficient airflow optimisation across the home. Its uniquely high-speed yet low-power wireless network enables low unit costs. The system is passive, utilising natural air-movements, as opposed to the use of energy-intensive fan power. As such, the AirEx units do not need to be connected to the mains power, but instead, they run on long-lasting batteries.

Competitors:

Electronically controlled vents exist (e.g. Keenhome), but are specifically designed for new builds to assist their HVAC 'forced air' system, unsuitable for existing homes, costing >1k/home. In contrast, Airex is a passive system, not requiring fan power, and its off-the-shelf components and quick installation enables low selling price (£325/home), while the system's real intelligence lies in its cloud-based algorithm.

Business model / Milestones /Market Strategy:

AirEx leverages the market through 3 key revenue streams:

- 1) HOUSING PROVIDERS:** 15 Social landlords expressed interest in paid trials (e.g. L&Q; Clarion Housing; Notting Hill Genesis). Key value proposition for this segment includes i) short payback; ii) minimal disruption; iii) reduced maintenance costs.
- 2) INSTALLERS:** AirEx reduces installation time, labour cost, hence improving the profitability of retrofit contractors' low margin work. Large merchant firms engaged: Saint-Gobain, Kingfisher. Partnerships with UK-wide installers: BillSaveUK, Keepmoat.
- 3) ENERGY COMPANIES:** 20% of the Energy Company Obligation (2018-22) will be spent on innovative technologies. Three of the big-6 energy companies (EDF, SSE, Engie) expressed strong interest and acknowledged AirEx's great value for money (low Capex/CO2 savings compared to alternative energy efficiency products).

Roadmap and Exit

AirEx's priority focus is now a large-scale commercial deployment through energy companies and social landlords. Exit option will likely be by acquisition from an established building manufacturer firm. Early engagement with corporate partners (e.g. Saint-Gobain) commenced. With a proven, differentiated product with large market traction from energy companies, AirEx is in a strong position to meet its projected revenue targets and milestones.