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TELL US ABOUT YOUR COMPANY AND YOUR BUSINESS MODEL

Your "punch" line, in 140 characters	Airlich reduce HVAC energy consumption by up to 45% enabling safe and environmental friendly recirculation of indoor air in buildings
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Foundation Year	2022
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Choose the cleantech segment that best reflects your core activities:	Energy Efficiency
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Provide additional key words that describe the sub-segment / focus areas you operate in	Indoor air quality, reduced carbon emissions, reduced disposables for ventilation, increased building resilience, improved EPC-labels, Green building certifications
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Tell us about the problem you are solving and why it is important:	<p>Buildings are responsible for 40% of the global energy consumption and 36% of the GHG emissions. Approximately 35% of the energy consumption in buildings is consumed by HVAC making new technologies targeting HVAC energy efficacy pivotal to meet future regulatory requirements and the desire for net-zero buildings.</p> <p>Retrofitting Airlich technology reduces the energy consumption associated with HVAC by up to 45%, improve</p>
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air quality and make buildings more resilient towards outside pollution.

Describe your technology or solution in detail:

Airlich has developed a proprietary technology which replicates and accelerates the atmosphere's naturally occurring air cleaning processes by up to 10 million times using hydroxyl radicals and cold catalysis. Efficient removal of air pollutants such as particles, volatile organic species (VOCs), virus and bacteria enable safe recirculation of indoor air, improves building energy efficiency, and leads to improved well-being, improved cognitive performance and increased productivity for tenants.

Is your solution:

Hardware

What is innovative about your idea?

Airlich is re-thinking the way we do ventilation in buildings by enabling reuse of the air inside the building through retrofitting high-volume, high-single-pass efficiency air purification technology in the existing HVAC-infrastructure. Airlich's solution comprises an open-channel design with reduced the pressure drop in the ventilation system and reduces the energy consumption needed for conditioning the outside air before entering the building. It provides operational savings and improved EPC.

Describe your business model

Airlich revenue streams include a transactional fee per unit and a monthly recurrent service fee per installation.. The transactional fee covers the hardware system enabling purification and safe recirculation of indoor air and increased energy efficiency plus integrated sensor systems monitoring and documenting improved indoor air quality. The monthly recurrent fee includes value adding service offerings in the system lifetime incl. product guarantee, data visualisation and S/Maintenance

Application areas

An ideal technical- and commercial fit for retrofitting Airlich technology to the existing HVAC system has been identified in key segments including Offices (e.g. commercial offices and public administration buildings), Large Retail (e.g. super markets, non-food stores, petrol stations, shopping malls), Buildings for Large Gatherings (e.g. conference facilities, hotels, restaurants) and Other Large Buildings (e.g. campuses, storage facilities).

Tell us about any intellectual property you have:

Airlich is having a very strong IP protection of the proprietary technology through a patent family consisting of 7 patents (dating from 2017-2023) covering individual components, use areas and applications. Patents are focussed on EU and US and selected use patents related to clean room air treatment is taken in South Korea and Taiwan due to their significant market share in the semi-conductor industry.

ENVIRONMENTAL IMPACT

What environmental benefits can be achieved with your solution?

As buildings are responsible for 40% of the global energy consumption and 36% of the GHG emissions, decarbonizing the buildings sector by 2050 will be non-negotiable to reach this ambitious target. This requires massive efforts to improve the energy efficiency performance of existing buildings and retrofit solutions are the most effective way to achieve this.
Airlich technology can readily be retrofitted to existing buildings and targets the highest energy consuming operation of the building.

How can/will your innovation support, directly or indirectly, the reduction of carbon emissions?

Buildings operational energy-related CO2 emissions reached 10.000 million tons CO2 equivalent in 2021 where 35% relates to HVAC consumption. Retrofitting Airlich technology can increase energy efficiency up to 45% and directly reduce associated greenhouse gas emissions accordingly.

Have you calculated the environmental impact, actual or potential, of your solution?

Yes

Please provide the results of your impact assessment

Simulations of a McDonalds restaurant in DK and real-life data supports that a single free-standing restaurant of 600m2 can reduce its CO2 emission of up-to 19 tons /year.

MARKET, CUSTOMERS AND COMPETITORS

What is your target market and how big of an opportunity is there?

Airlich targets the retrofit market for existing buildings in the high-fit segments including Offices, Large Retail, Buildings for Large Gatherings where Airlich offers a particularly strong value proposition.
The serviceable obtainable market for Europe and the US is by Rambøll estimated to be 4.3 bn USD in 2022. Additionally, this market is expected to grow with a CAGR of 5.6% towards 2026 only accelerated by increasing regulatory requirements for CRE and increasing energy prices.

In which geographical markets would you be most interested, in the short term?

On the sort term, Airlich focus on the Scandinavian countries including Sweden, Denmark, Finland and Norway. Mid-term Germany and UK provides attractive expansion possibilities and long-term rest of EU and US.

Describe your target customer

Airlich's target customer include large international key account clients such as McDonalds and strategic asset management firms with large portfolios under their administration to readily expand within the respective organisations.
Key building archetype include free-standing buildings with flat roofs for easy installation and integration to existing HVAC system.

How many customers or users do you currently have?	<p>We have currently installed two pilot installations in collaboration with McDonalds and Niras - both in Denmark, and are having numerous on-going dialogues with potential customers and are planning to do installations on additional 5 sites the H1-2024.</p> <p>On-going pilots have confirm the significant estimated operational savings, improved indoor air quality and significant impact on building EPC label.</p>
Who are your competitors?	<p>Optimisation of HVAC systems can be done in different way and Airich is facing in-direct competition from Ventilation-on-Demand solutions which, based on occupancy sensors, turn ventilation up and down accordingly. Drawback of this approach include lack of air purification of VOC emissions and increase infection risks as ventilation is key to reduce contaminations with virus and bacteria.</p> <p>EnVerid, a US based company, also provides a solution based on adsorbents to recirculation indoor air.</p>
What is your unique selling point?	<p>Airlich closes the gap between energi efficiency and improved indoor air quality - it provides both at the same time. Nothing on the market has this ability.</p> <p>It provides benefits for both building owners (EPC improvement, asset value protection) and tenets (operational savings, better indoor air quality), can be readily retrofitted to existing buildings and provide attractive short pay back time compared to other retrofit energy efficiency measures on the market.</p> <p>No disposable filters.</p>

TRACTION AND FINANCIALS

How are you financing your activities?	Airlich is current backed by Private investors providing load financing to support late-stage development and commercialisation.
Provide your most recent turnover (in EUROS)	0
Select the option that best describes your company's development stage	Prototype and Validation
What have you accomplished so far and what are your next steps?	<p>Technology has been matured for +10Y prior to founding of Airlich and has the past 18 months been transformed into a unique product with great technical- and market fit.</p> <p>Production has been established, the system fully documented and tested and CE-mark has been assigned.</p> <p>The first two pilots have been completed and very strong real-life data has been secured proving the energy efficiency potential of the product and the effect on indoor air quality and EPC-label proven.</p>
How much funding have you raised so far? (in	3000000

EUROS)

Are you currently looking for funding?

We are open for discussions with potential new investors providing significant value adds to accelerate and catalyse the current case.

Please specify the amount and type of preferred actor (e.g. strategic, passive, industrial, private) and what you are planning to use this funding for

We are currently looking for investors within the Industrial- and Private investor space to close a future round of approx. 4mEUR to support the growth and scaling phase of Airlich (late Seed / early Series A)

TEAM

Describe the founders and key team members. Cite background and competences.

Airlich was founded by Thomas Rosenørn (CTO & Scientific Founder), Peter Elbek and Christian Nellemann (both Founding Partners and Investors). Rasmus Jølck (CEO) joined 6 months later.

Rasmus Jølck, PhD Chemistry, R&D & Business Development
Thomas Rosenørn, PhD in Atmospheric Chemistry. R&D Expert

Peter Elbek, Banking and Serial Entrepreneur and investor
Christian Nellemann, Serial Entrepreneur and Investor with numerous successful exits including XLN Group (£210m)

Why is your team the right team to bring this solution to the market?

Airlich has brought together a highly skilled complementary team with all the critical competencies needed for building a succesfull business. Deeply rooted and well-documented technology combined with solid business understanding and an investor team with past experience of building and exiting succesfull companies several time makes this team set up for succes. An agile and dedicated R&D team of specialists is also in place with deep knowledge within chemistry, hardware & software development

What key additions to your team are needed in the short term?

Airlich is currently entering the commercialisation phase and therefore is ramping up our efforts to build a dedicated sales team. Additionally, HVAC technicians are being considered for site inspection and installation.

CONTACT DETAILS

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