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The Evolving AQ Landscape

Realising the Potential of the
UK's Clean Air Tech Sector

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Innovate UK SBRI: Monitor and visualise domestic pollution to safeguard health

Action to reduce the health impacts of air pollution tends to focus on outdoor sources, notably emissions from vehicles. However, indoor levels of some air pollutants are often far higher, and many end up in the external atmosphere. Particulate matter (PM), non-methane volatile organic compounds (NMVOCs), and sulphur dioxide (SO₂) are all present in domestic environments and can be detrimental to health.

The aim of this competition is to support the research and development (R&D) of products and/or services which monitor a wide range of household pollutants. These solutions must raise awareness of the potential impacts of the pollution in the home, providing timely and appropriate information so that householders can make effective choices to protect themselves, their families and their neighbours.

Your proposed solution must:

- be innovative
- be practical and deliverable
- take affordability into consideration
- monitor more than one pollutant

We particularly encourage applications that:

- go beyond monitoring pollutants to create visualisations and information which promote responses that safeguard health
- explore and trial mechanisms to aggregate household data, securely and in line with data protection best practice, in order to improve strategic understanding and response to poor indoor air quality
- consider user experience throughout the design and development process



filament



Air Quality Matters



We spend
90%
of our time
indoors



Indoor air can be
5x
more polluted than
outdoor air

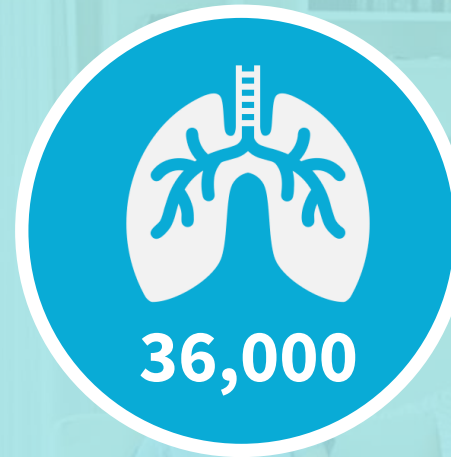


Studies have shown
>50%
of homeowners
have IAQ issues



<https://www.lung.org/clean-air/indoor-air#:~:text=Indoor%20air%20can%20be%20,20and%20other%20underlying%20health%20conditions.>

<https://specifierreview.com/2023/10/12/mould-and-damp-prevention/>



UK Deaths Linked
To Air Pollution



Suffer from asthma
in the UK



Annual UK Cost of
Chronic Lung Disease

<https://www.england.nhs.uk/ourwork/clinical-policy/respiratory-disease/#:~:text=The%20annual%20economic%20burden%20of,the%20UK%20£11billion%20annually.>

<https://www.gov.uk/government/publications/air-pollution-applying-all-our-health/air-pollution-applying-all-our-health>

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Indoor Air Quality Landscape



Rising public awareness and growing market.



Easy to ignore, pollutants are invisible.



Lack of understanding and confusing, reactive current generation IAQ monitors.



Timing is right to redefine the market in light of latest research and gov initiatives.

Indoor Air Quality Key Insights



Occupant Education
& Engagement



Predictive Advice
& Insights



Automation &
Integration

NOOKU

meet
NOOKU



Meet NOOKU

Smarter than the average
Air Quality Monitor.



**Combat asthma
& allergies**



**Improve sleep
quality**



**Limit harmful
pollution**



**Prevent damp
& mould**



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Mode 1: Mini



VOC



HUMIDITY



TEMP



NOx



High NOx Levels



Looks like NOx levels are increasing in the living room - as it is rush hour this might be from the road outside.

Mode 2: Guide



PM 1-10



CO2



**NEW TREND -
PM LEVELS**



Oh no! Looks like there has been a spike in PM levels in the kitchen.



**NOOKU
ACTION COMPLETE**



Nooku has turned on kitchen air purifier for 10 minutes at setting 3.

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Mode 3: Sidekick



Not too hot, not too cold! ×

The air quality in the nursery is looking good for bedtime!

Champion



NOOKU Difference



AI **Learning** features to tailor advice.



Predictive trend analysis to help mitigate long term health risks.



Promotes **caring** about IAQ through unique user experience.



Gamification promotes long term **engagement**.



Modular and expandable design for affordable **whole home** coverage.



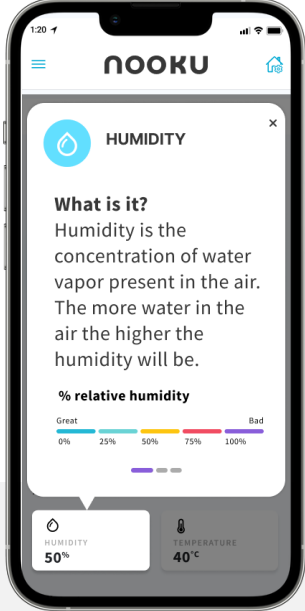
Smart home **integrations** and air treatment device automations.

Business Model

Hardware enabled software platform



Patent Pending Modular & Expandable Hardware Ecosystem



AI Powered Premium Monthly Software Subscription

Ecosystem Vision

Building a first-of-its-kind AI powered predictive Air Quality Platform.



External Data Sources
(Hyperlocal weather, outdoor air pollution, medical databases, e.g. prescription medicines in specific post codes)



Informative & Engaging Sensor Ecosystem



B2B IAQ Platform & 3rd Party APIs



Google Fit



Google Home



Smart home and Digital Health Integrations



Consumer Freemium IAQ Insights App/Dashboards



3rd Party Product Integrations

Team Overview

Experienced business owners/operators with 80+ combined years of IoT and environmental sensing product development and sales experience.



Danny Kane
Co-founder / CEO



Craig Easdale
Co-founder / CTO



Stefan Raue
Co-founder / COO



Morgan Rodgers
Product Manager



Daniel Bastone
Sales Manager



THE UNIVERSITY
of EDINBURGH



Market Overview

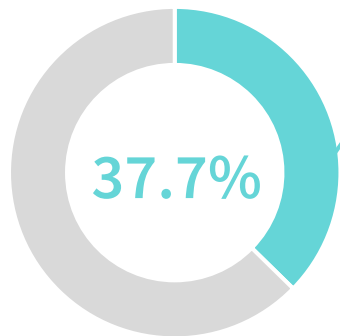
\$6.3bn Global IAQ Monitoring Market

Projected to reach \$10.15 billion by 2030.

\$1.2bn Residential IAQ Monitors

Currently 20%-25% of total market but fastest growing segment.

North America



Largest Market Share

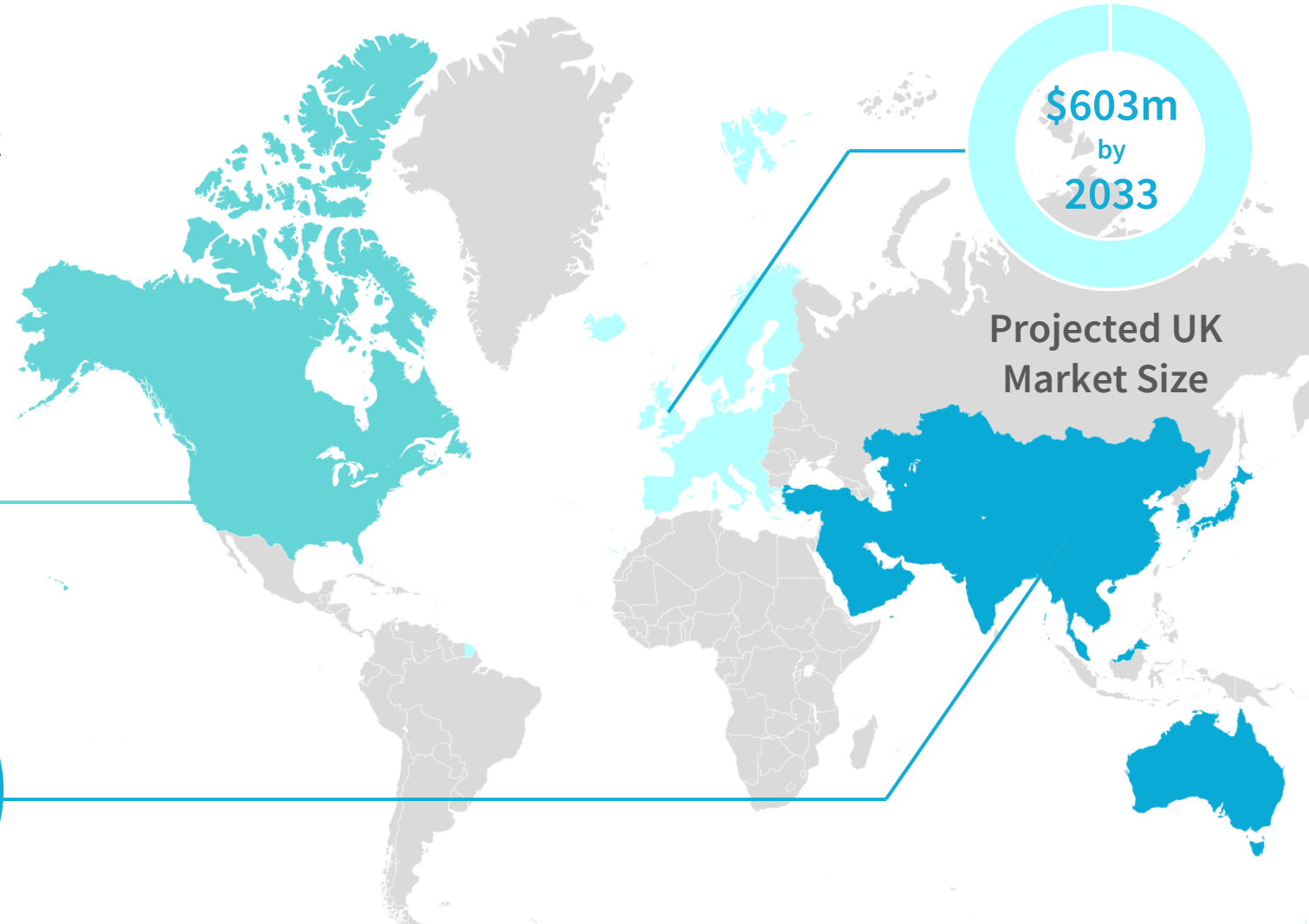
Asia Pacific



Fastest Growing Market



Projected UK Market Size



<https://www.futuremarketinsights.com/reports/air-quality-monitoring-equipment-market#:~:text=Country%2Dwise%20Insights&text=The%20United%20Kingdom%20is%20predicted,of%20air%20quality%20monitoring%20systems.>

Progress & Milestones



>£750k

IUK/EDGE/SE/GCC
FUNDING SECURED



7

Major UKI Retailers
SIGNED UP



50+

INTERESTED GLOBAL
PARTNERS



3

LIVE PILOTS WITH
GCC, GPA &
IUK

UK Retail Agreements



US Partner Discussions



Commercial/Education Partners



Live Trials

Home



Business



Education



**We'd love you to join us
on our journey to help
make everyone an
Air Quality Champion.**

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