



Save >30% of Carbon and Energy
from your Buildings Air
Conditioning Units

Verv Smart AI Isolator

Hit your ESG and Net Zero Goals!



Meaningful Business
100 Award

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CogX AI Awards -
Best Innovation in IoT
and Sensors Award

The **Big** Problem: **Air Con and Energy Usage**



In 2016, roughly **10%** of the planet's energy use went towards AirCon*

Global AirCon sales are already **150 million units** per year (2020)**

Global AirCon energy use is expected to **triple by 2050**, reaching a level equivalent to China's total electricity demand today***

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*<https://www.iea.org/futureofcooling/>

**https://www.bsria.com/us/news/article/world_air_conditioning_markets_during_2020_global_pandemic/

***<https://www.iea.org/news/air-conditioning-use-emerges-as-one-of-the-key-drivers-of-global-electricity-demand-growth>

The **Big** Problem within the **Big** Problem: **Air Con** and **Energy Wastage**

Study showed that for every **5** Air Con units measured. They actually drew the power equivalent of running **9** units. A **>40%** energy wastage and average of **£151 - £9402** per year per unit wasted!

This equates to **WASTAGE of >4%** of the world's power[^]



2nd Major Problem Costs of Air Conditioning and Heat Pumps: **Repair, Maintenance and replacement is EXPENSIVE!**

“\$5,000 to \$10,000, or \$25 to \$60 per square foot” *

Refrigerant Leak
Repair Cost

£225 - £1,600



Compressor
Replace Cost

£1050 - £1500

\$5–75 billion potentially preventable* in the USA alone

Verv Case Studies and Energy Saving!

VerV **Saved 32%** from AC Manufacturer's unit Energy and Carbon Consumption from a single Unit

Successful Trial Leads to full roll out to Legal and General Headquarters **>450 Units**

Saved the County Hall building hosting Sustainable Workspaces £6k from a single water heater



Verv Case Studies and Energy Saving!

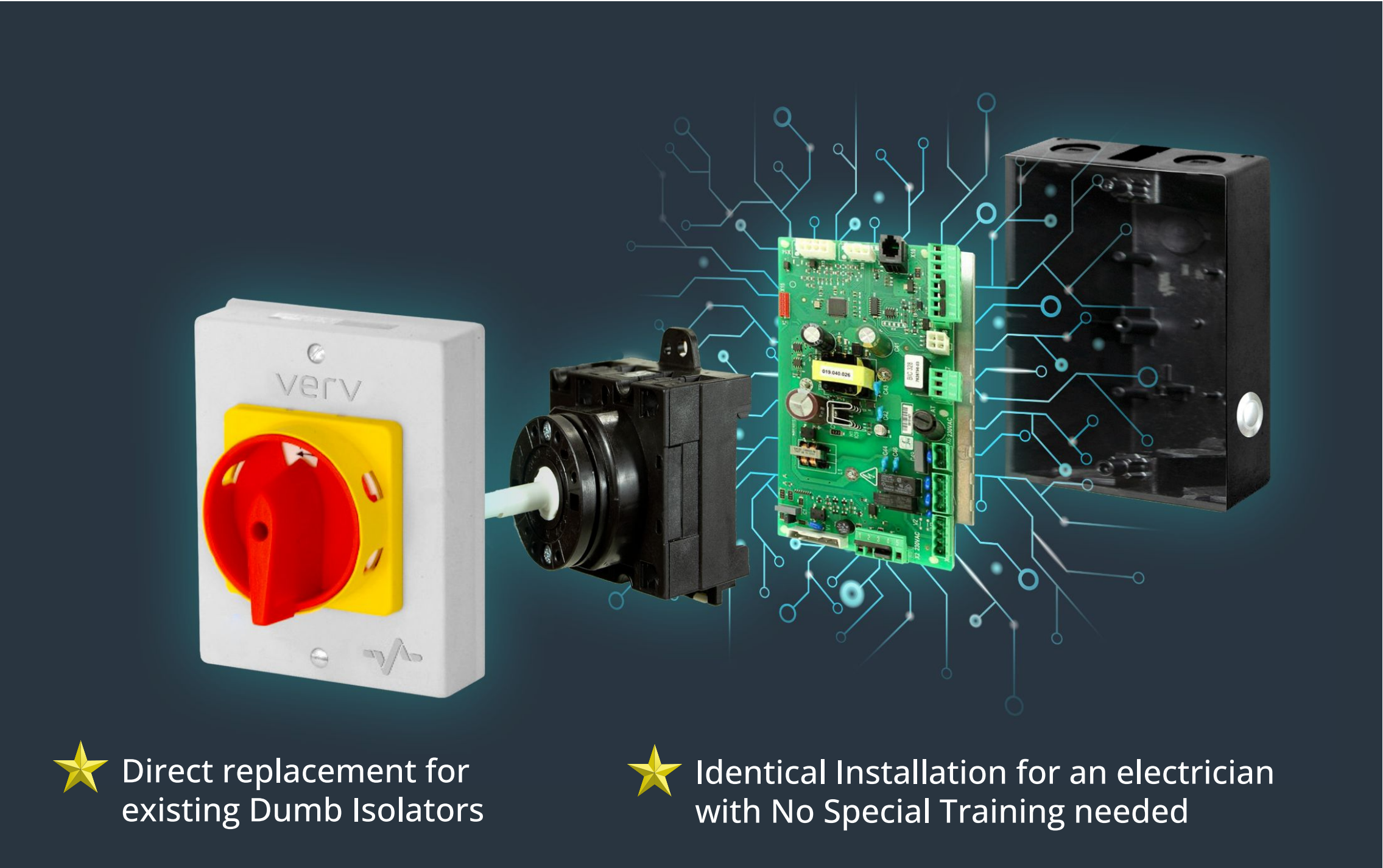
" Verv demonstrated a 32% future energy saving through their Smart AI Isolator on a system operating in our building. Fitting a building with these isolators could make everyone's journey to Net Zero a lot simpler and faster"

– MARTIN FAHEY - Head of Sustainability, Mitsubishi Electric, UK & Ireland



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Our Solution - Verv Smart AI Isolator for Air Con and Heat Pumps



★ Direct replacement for existing Dumb Isolators

★ Identical Installation for an electrician with No Special Training needed



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Isolators are legal requirement for electrical safety with AC or Heat Pump Units



Existing Isolators are **DUMB**



- ✓ Saves Money
- ✓ Saves Energy & Carbon
- ✓ Understand Utilisation
- ✓ Saves Maintenance Costs
- ✓ Wi-Fi, 3G/4G/5G
- ✓ BREAM Points

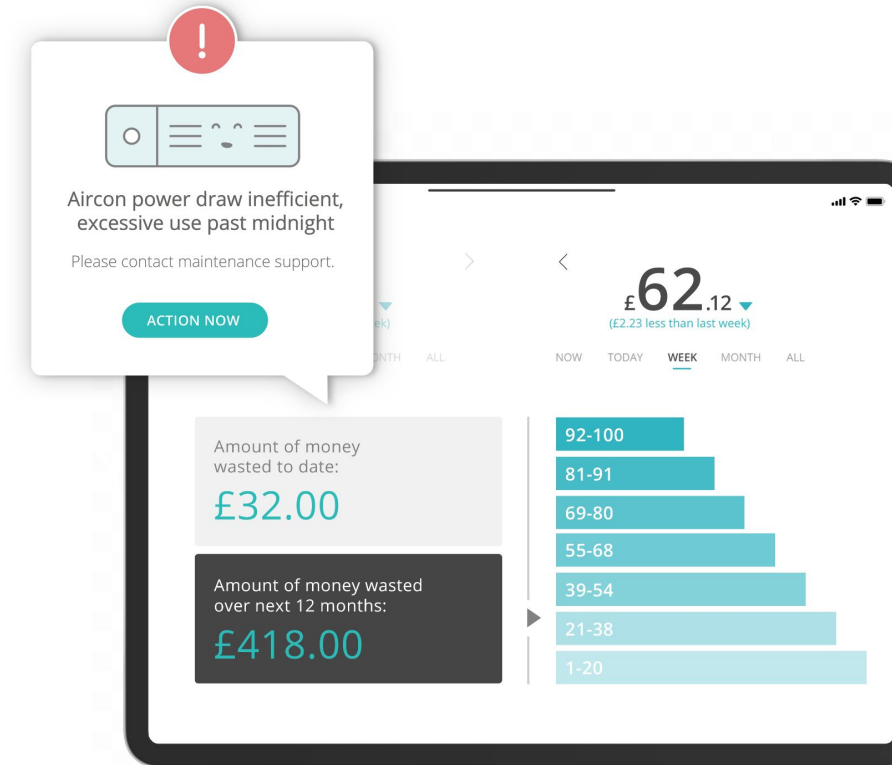
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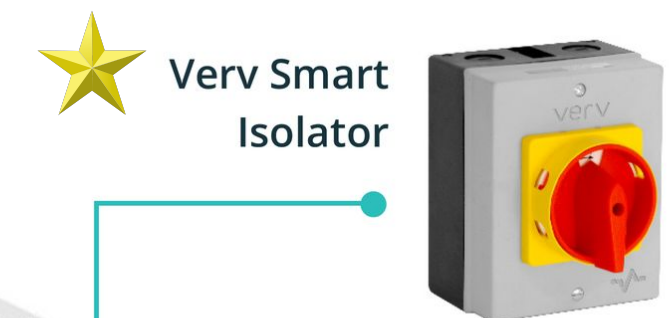
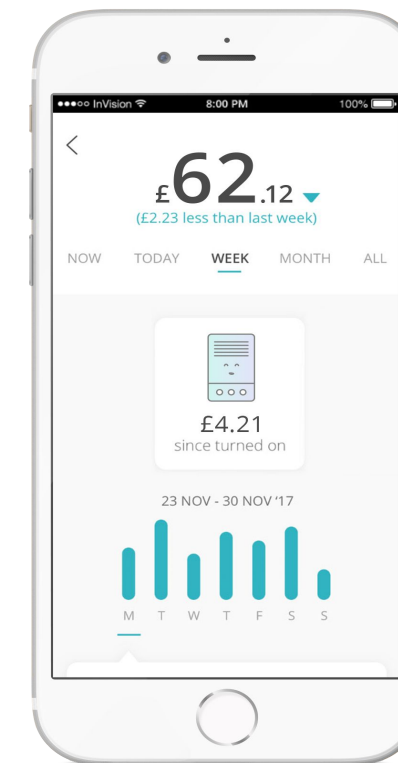
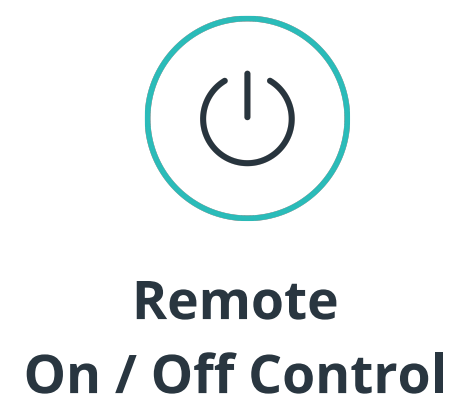
Our Solution: Verv's AI-Based Predictive Maintenance Software Service Solution

Product Details and Features

- ✓ ESG and Carbon Reporting
- ✓ Accurate, real-time energy monitoring and alerts
- ✓ Remote on / off control – DSR Ready
- ✓ Predictive maintenance of indoor airflow blockage, capacitor & compressor for Air Conditioning & Heat pumps
- ✓ Smartphone App
- ✓ APIs for BMS available
- ✓ Helps extend product lifetime and Sustainability



A red exclamation mark icon in a white box with a red border. Below it is a speech bubble containing the text: "Air Conditioning filter 30% blocked. Please contact maintenance support. This is causing extra power usage and cost." At the bottom are two teal buttons: "PURCHASE PART" and "CALL ENGINEER".



Example Faults:

- Blocked filter
- Capacitor fault
- Refrigerant leak

Help Achieve **Net Zero** Targets

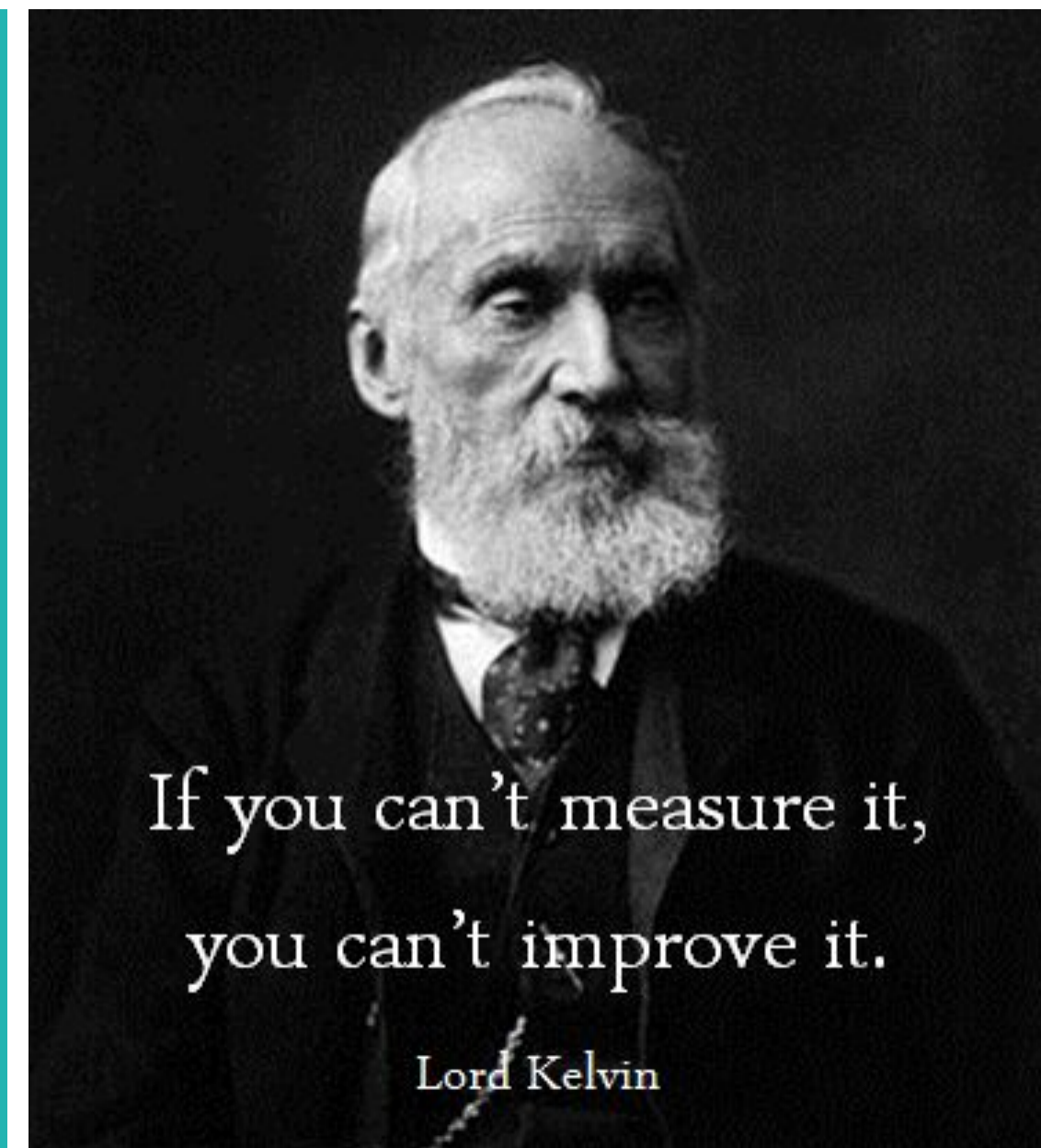
40%

HVAC energy
Consumption accounts
for more than **40%** of a
buildings total consumption

ENGINEERING



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Verv - Net Zero Tool Set

40% of a buildings energy consumption is Air Conditioning



32% energy saving from Air Conditioning



13% of a total buildings energy / CO2 consumption saved!

40KWh energy a day from Air Conditioning = £12 per day and £4380 a year

32% Savings = £1401 per year per unit!

ROI Less than 6 months!

£10k lifetime value per unit

Verv Smart Isolator

Example Faults:

- Blocked filter
- Capacitor fault
- Refrigerant leak

Aircon power draw inefficient, excessive use past midnight. Please contact maintenance support. ACTION NOW

Air Conditioning filter 30% blocked. Please contact maintenance support. PURCHASE PART CALL ENGINEER

Amount of money wasted to date: £32.00

Amount of money wasted over next 12 months: £418.00

£62.12 (£2.23 less than last week)

92-100

81-91

69-80

55-68

39-54

21-38

1-20

£4.21 since turned on

23 NOV - 30 NOV

M T W T F S S

20°C



Our No Brainer **Competitive Business Model for Commercial AC** **We are a B2B business**



All Sales are through
Commercial Channel partners.

Any that are put into residential Heat Pumps
or AC are managed and run through installers
/ maintenance companies who pay us directly.

We are the 'Intel Inside' service

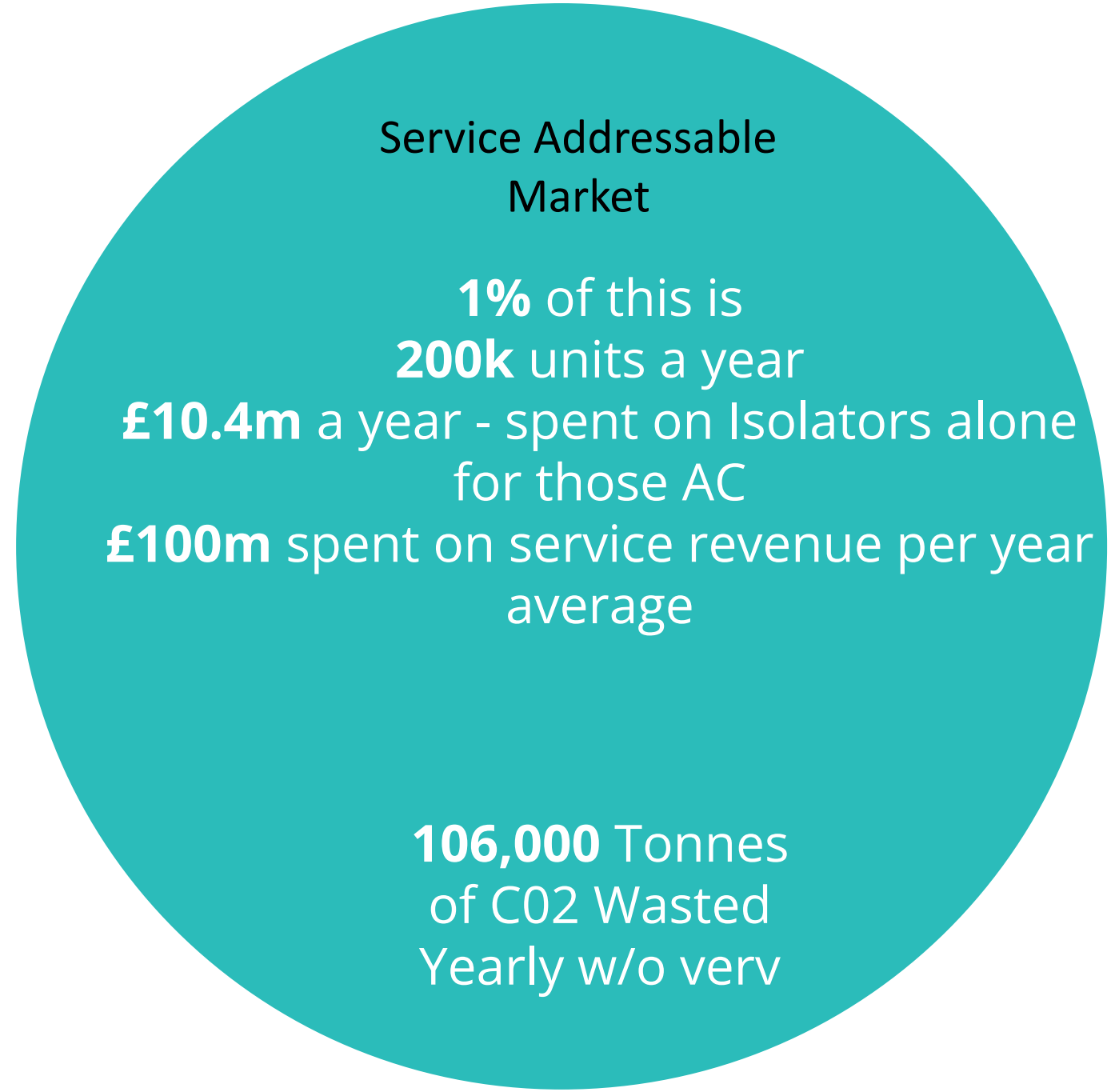
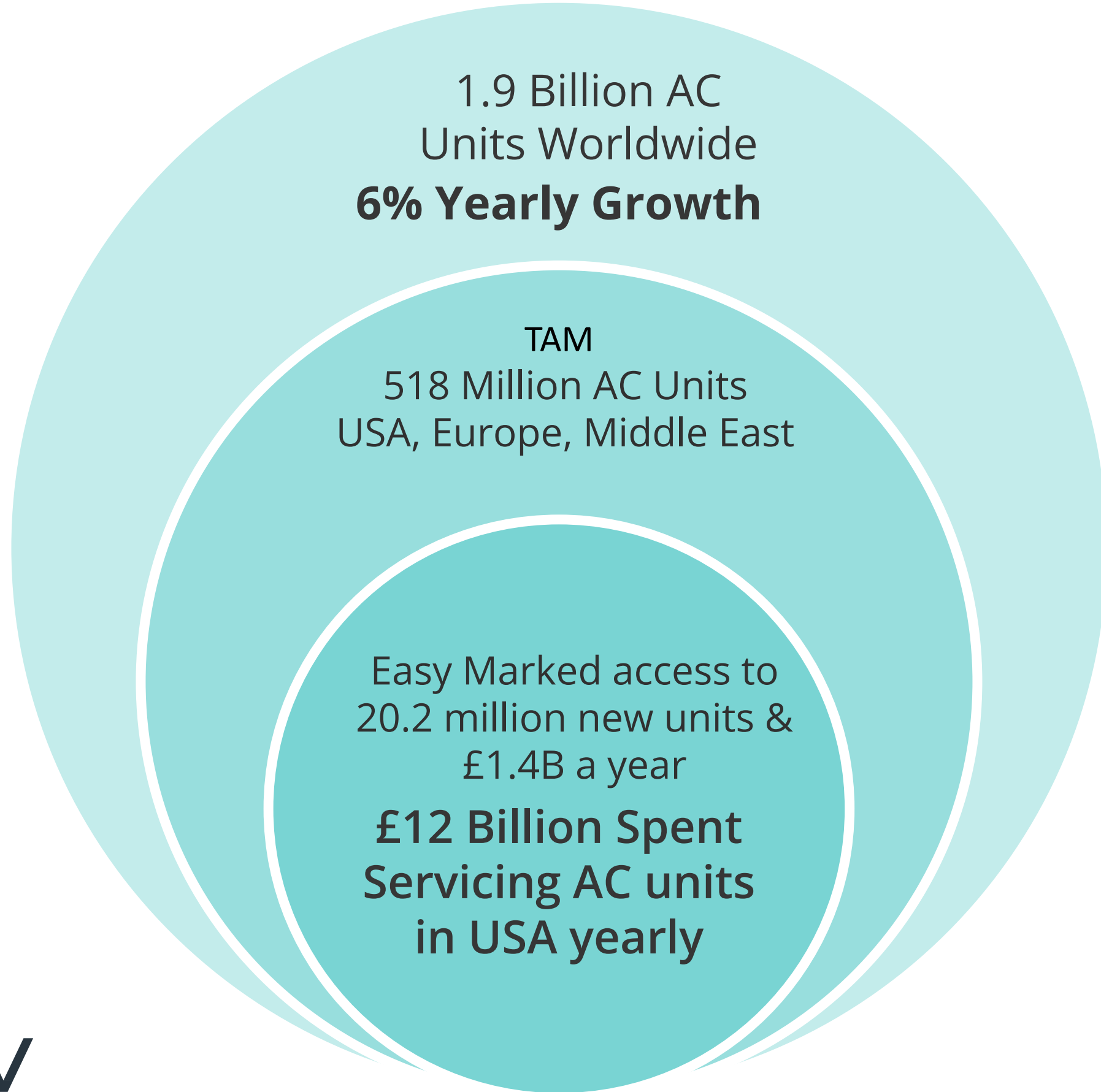
✓ £299 three phase or £65 single phase off the shelf price (**same price as dumb Isolators!**)

✓ £9.99 Monthly Subscription for the basic service (or £50 per Annum)

Ability to upsell and increase the SaaS model profit with increase in features
Unit still works as a "dumb" isolator if turn off the data feed SaaS = 90% GPM

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Large & Growing **Market: Residential & Commercial with HUGE Net Zero pull**



Our Existing Commercial **Traction** and **Route to Market**



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Product Development partners worth mentioning which could lead to other future rollout routes

Customers and Traction to Date > 500 Units sold to date



2nd Trial Established - 1st Trial Demonstrated 32% saving at their Hatfield head office



Have rolled out units to their entire new Flagship head office in Cardiff



Entire top floor of County Hall - 1st Trial Saved £6k from a single Water Heater malfunction



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Our Solution - Verv Smart AI Isolator No Brainer Business Model



✓ Same upfront Cost

Verv has subscription SaaS model

- ✓ Fault diagnostics
- ✓ Power Monitoring
- ✓ Fault Pre Detection
- ✓ Utilisation Information
- ✓ Wifi, bluetooth or 3G/4G/5G

EATON **ABB** X Competitors

⊕ Kraus & Naimer



- X No Fault Detection
- X No Fault Diagnostics
- X No Power Monitoring
- X No Utilisation Information
- X No Wifi, bluetooth or 3G/4G/5G



★ Identical Installation for an electrician

IP Summary



Most Disruptive
Startup Award



Top Fives Scale
Ups to Watch



Meaningful
Business 100
Award



Best Innovation
in IoT and Sensors
Award

- The **Verv technology** is **protected by 7 historic patents (Earliest 2009)**. Most are granted already in **UK, USA** and **EU**
- Citations include, Microsoft, IBM, Ebay and LG to name a few
- License Technology to Large US Technology company for **>£1m**
- Already **won awards** from the likes of Vodafone “Most Disruptive Tech”. Electricity safety first – **“Best Innovation”**, CogX AI award for **“Best IoT Device”** and Meaningful Business top hundred companies as well as Forbes - **“Top five scales ups to watch”**



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Key Team Members



Peter Davies
(CEO)

- Multiple Award-winning serial entrepreneur in tech and energy space
- Background in Machine Learning and Engineering
- Voted Meaningful Business Leader top 100 and startup to watch 2020 Forbes



James Strickland
(COO)

- Chartered Engineer **30 years experience** in Consumer Electronics, Industrial Control
- Led the strategy at **Freesat - 4m units sold**
- Ex CTO **Sky** satellite & IP infrastructure in the creation of the 'gold standard' SkyQ platform



Steve Foster
(CFO)

- Previous CFO Of Opus Energy which sold for >£350m
- Chartered Accountant with 20 Years in Energy Sector
- 1st Class Honours from Cambridge University in Economics



Dr Luke Miller
(CAIO)

- Doctor of Philosophy (DPhil), Statistics and Probability University of Oxford
- Papers published include: Classification of multiple time signals using localized frequency characteristics applied to industrial process monitoring
- Ex Travelex

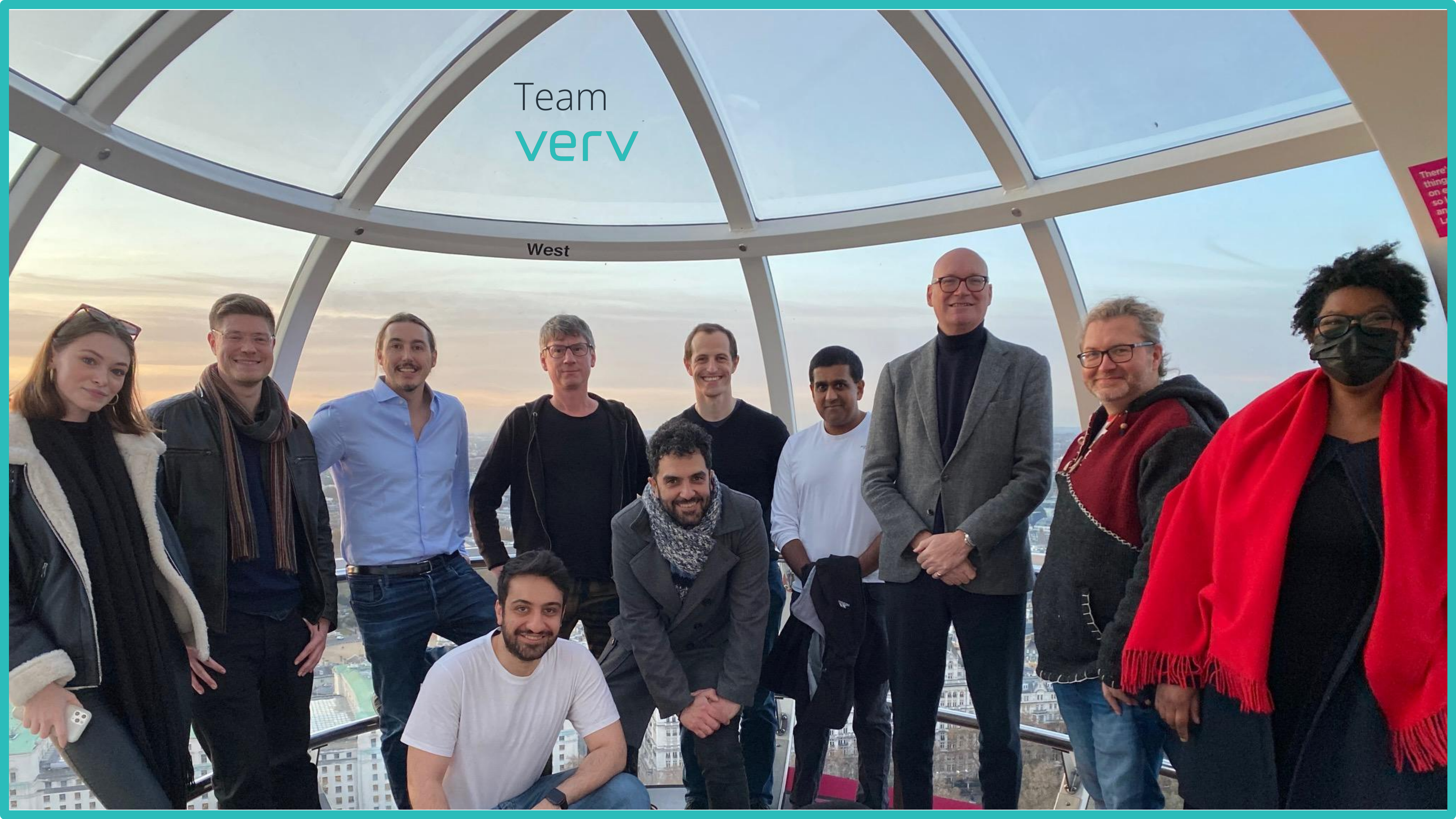


Amanda Waller
(COS)

- Ex Ignite - Operations Manager, ran investment Accelerator program for Ignite
- Ex Centrica Labs Operations Manager - working in the Venture team accelerating Innovation
- Took 130 employees working through the startup toolkit, with two ideas receiving investment totalling £17.8m

Team
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West



Board & Advisors



James Cameron

<https://www.linkedin.com/in/jamescameron4/>

(Chairman)

- Business Leader of the Year Business Green Awards
- Founder Climate Change Capital
- Non Exec Octopus renewables Energy Trust and GE Ecomagination



Nick De Mestre

<https://www.linkedin.com/in/nicholas-de-mestre-32a90514/>

Strategy / Real Estate

- Ec Managing Director Landsec
- Managing Director Centrica Distributed Energy and Power
- Head of Investment Land Securities



Stephen Page

<https://www.linkedin.com/in/stephenroypage/>

Capital Raising

- CEO SFC Capital (biggest SEIS Fund in UK)
- Seed Fund of the year 2021
- Founder freeman of the Guild of Entrepreneurs

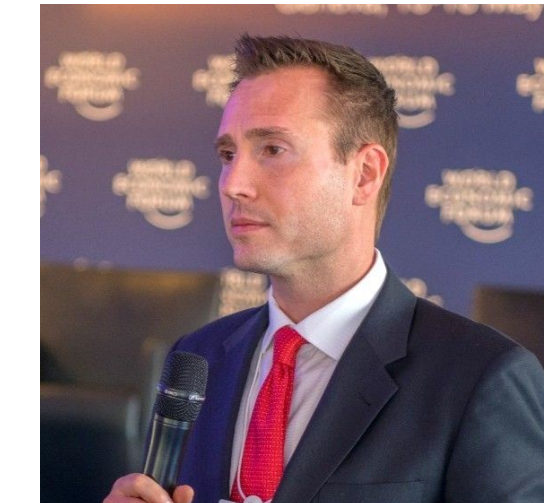


Andrew Wordsworth

<https://www.linkedin.com/in/andrew-wordsworth/>

Sustainability

- CEO Sustainable Ventures
- Owner Largest Sustainable workspace in London
- Former Managing Director at Carbon Trust Enterprises



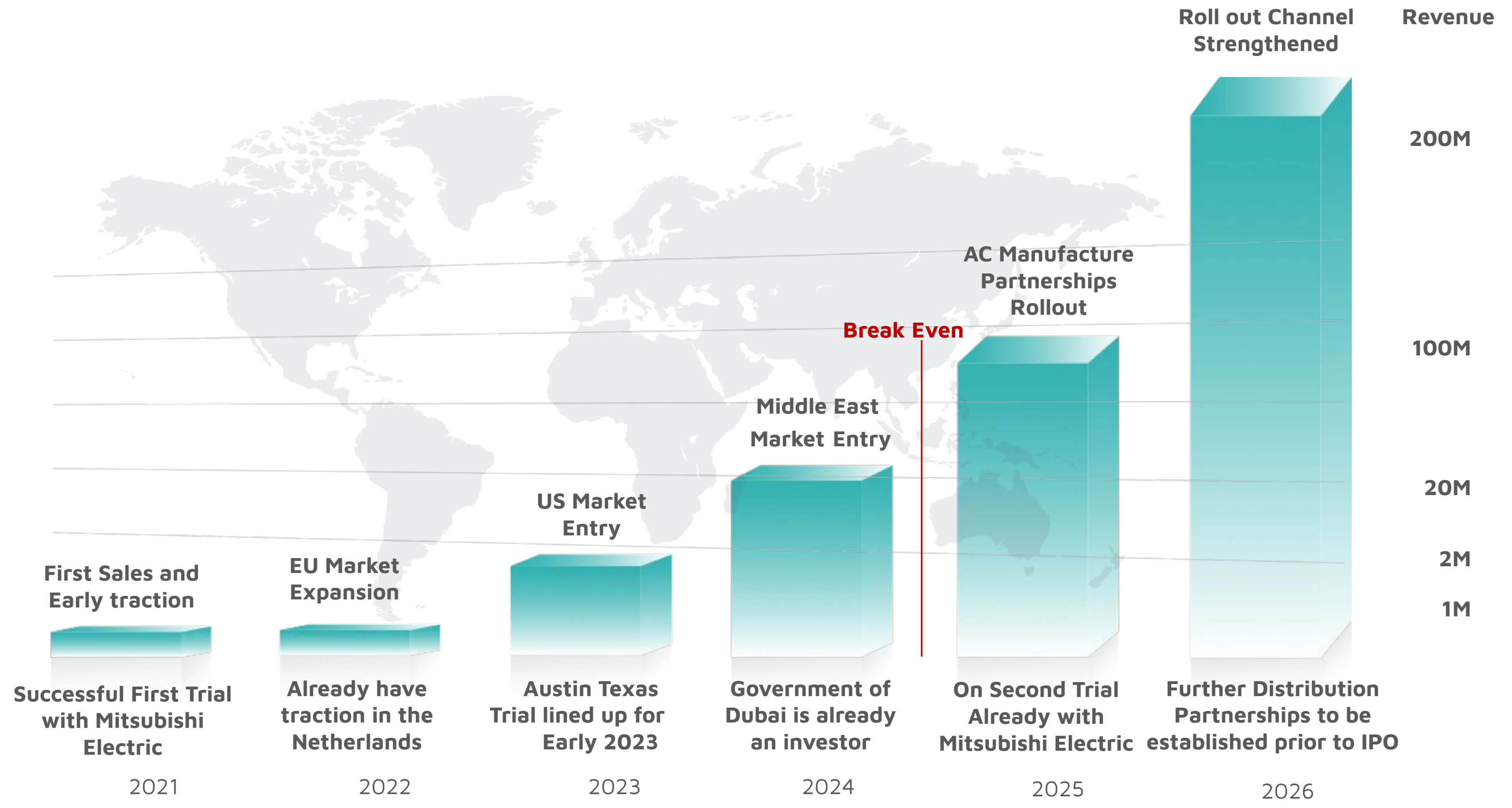
Stephen Rouatt

<https://www.linkedin.com/in/rouatt/>

Sales/ Real Estate

- ex-CEO Signify UK (Philips Lighting)
- Ex Managing Principal - Strategy and Innovation ING Bank
- Ex McKinsey

Financial Model Revenues



Investment Opportunity- EIS

>£1m Runway of 18-24 months

Pre A Round 750K

Early Sales, CE Marking -
Proof of Markets in
USA & Europe

A-Round £3-5M

Product scalability, Sales
and Marketing ramp up.
USA and Middle East
Expansion (750k already
secured from existing
Investors) - EIS Approved

2026

EXIT

ASIA Expansion

B-Round 15M

AC Manufacturer
roll out partner



2021/22

Seed Round 500k

Grants secured 750k
Product Development
Product Proof
Patent Development

Predictive Maintenance Solutions: **Expansion Markets and IP Licensing**



Smart Home

Retrofitted Home Appliances

Verv Super Smart Plug



Project Already completed trial with large Appliance Manufacturer to license the platform



Integration

Circuit Board / Direct-to-Appliance
Verv Chip Integration



Proposal already send to Large AC Manufacturer to license Hardware



Other Industrial

Retrofit or Direct
Verv Smart Isolator
Heat Pumps, Motors, EVs



Already had requests from EV, Battery, Solar and Asset monitoring companies

Expansion Markets and IP licensing opportunities



Huge commercial cross over value and desire in OEM and engineering sectors

- **Heavy Industry**
- **Engineering**
- **Agriculture**
- **Automotive**



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- **Verv holds Nine Patents plus Families across UK, EU, USA and China**

Financing Plan

investor@verv.energy

Key Points

- IP independently valued at £14m
- Traction and customer pull proven
- Won Grants - £1m+

Now

- Trial with Air Con Manufacturer, ramp-up sales traction
- Use of funds - Bring in sales

Series A

- Seeking £3-5m raise
- Have £750k already verbally committed from existing investors

EXIT GOAL



London
Stock Exchange Group

Competitors



Smart Appliances AC Manufacturers



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Press & Awards



Technology Innovation of the Year Award



Most Disruptive Startup Award



Technology of the Year Award



Best Innovation in IoT and Sensors Award



Digital Energy Innovation Award



Top Fives Scale Ups to Watch



Meaningful Business 100 Award



Winner - Air Conditioning Product of the Year



Finalist - Commercial HVAC Product of the Year



Innovation of the year

Technology Featured In:



Executive **Summary** - Investment opportunity

Transformative AI Power Management delivering a lower cost, ESG compliant Built Environment

- Sold approx **500** units to large corporates including L&G, Mitsubishi Electric and Hilton Hotels
- Existing IP independently valued at **>£14m** (cited by the likes of Microsoft, LG & Toshiba) Licensed already for **>£1m**
- Won Energy Grants for product development from BEIS and Innovate UK **> £1m**
- Awarded **Air Conditioning Product of the Year** at the prestigious RAC Heating and Cooling awards 2022

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Most Disruptive
Startup Award

Forbes

Top Fives Scale
Ups to Watch



Meaningful
Business 100
Award



Best Innovation
in IoT and Sensors
Award



Meaningful Business
100 Award



Best Innovation
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Award



Most Disruptive
Startup Award

We would love to have you
supporting our mission



peter.d@verv.energy

Thank you

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