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VN-AEROTOXIC DETECTION SOLUTIONS LTD ROUND 2 IFA DUE DILIGENCE PACK & FAQS



Fume event that lasted for two hours onboard a US Airways flight from Phoenix to Maui

This pack is issued to IFA's who, in the understanding of the directors of VN-Aerotoxic Detection Solutions Limited, work with Certified High Net Worth Individual clients for the purposes of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005. These are defined as persons with annual income of not less than £100,000 or who have capital assets, excluding their house and pension, of at least £250,000 and who have a signed a 'High Net Worth' certificate.

This Due Diligence pack has been designed to help IFAs carryout sufficient research to assist in meeting their obligations for compliance under FCA regulations on investment advice.

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A "Sophisticated investor" is one who has a current certificate signed by an authorised person to the effect that he or she is sufficiently knowledgeable to understand the risks associated with the type of investment described by the Information Memorandum and who has signed, within the period of twelve months ending on the date of this document, a statement that he or she is qualified as a Sophisticated Investor in relation to such investments and accepts that he or she may receive financial promotions which have not been approved for the purposes of section 21 of the FSMA.

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The attention of IFA's is drawn to contents of page 4 of this document entitled "Summary of Risks".

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The Company or any other person shall construe nothing in this document as the giving of investment advice. The Revenue Projections, shown are purely illustrative and constitute a forecast of the possible market opportunity only.

IFA's are encouraged to conduct their own due diligence into the terms of this offer and the investment opportunity.

Index

Project Summary	1
Stage 1 & 2 Development Programme	1
Summary of Success Factors	3
Summary of Risks	4
How Tax Relief Mitigates the Financial Risks	5
Exit Strategy & Potential Investor Returns	8
Management Track Record	10
Related Renewable Project Success	13

Project Summary

*The cabin air of all commercial aircraft, except the very recently introduced Boeing 787 is bled off the jet engines and is, therefore susceptible to contamination from engine oil, [some ingredients of which are known neurotoxins \(TCP's\)](#). Although the aircraft certification standards promulgated by EASA, FAA etc. stipulate that 'crew and passenger compartment air must be free from harmful or hazardous concentrations of gases or vapours' [there is no instrumental monitoring of aircraft cabin air](#). Due to the growing awareness of the grave health consequences of chronic exposure (e.g., the September 2013 judgment in *Felderhof v KLM*), let alone acute exposure, it is expected that airlines and ultimately regulators will demand onboard sensors capable of continuously monitoring air quality. [No such sensor is currently commercially available](#).*

Stage 1 Development Programme - Completed

Stage 1: (Round 1 New Founder Shareholder ("NFSH") offer £150,000 via the issue of 150 shares @ £1000 per share) delivered a working prototype with the requisite sensitivity demonstrated in a mock-up of the aircraft cabin environment.

The Stage 1 also successfully delivered the following:

- 1A. Research to find suitable end-coatings for the target analytes
- 1B. Creation of software to handle the raw data and produce a final output useful for aircrew
- 1C. Outline integration of the optical and electronic systems into a mock-up of a 'Handheld' unit.
- 1D. Independent evaluation and peer review by Emeritus Professor Derek Frey FRS FREng of Cambridge University.

[Advanced Assurance from HMRC for inclusion in the Seed Enterprise Investment Scheme was been granted and EIS Advanced Assurance has been requested.](#)

A globally exclusive IP Development Licence in relation to the use of 'Monofibre Optical Metering Technology (MOMT) to detect and measure organophosphate (or other relevant particles), in particular Tricresyl Phosphates, or 'TCP' onboard commercial aircraft'. The licence deriving from International Patent No's GB2.428.290 & US7.876.447 has been negotiated with the beneficial owner Viridis Navitas JR-IP Ltd (VN-JR-IP) to complete a technology application development programme. This will be conducted in conjunction with industry aviation partners and third party OEM technical suppliers led by Professor Jeremy J.Ramsden. All additional IP created by this development will be owned jointly by VN-ADS Ltd and VN-JR-IP for their mutual benefit, on a royalty free basis. The programme will be developed in two stages each with a clear 'Go' – 'No Go' break point, of which Stage 1 has been successfully delivered. UK Trade and Industry ("UKTI") recognise that the project is [being led by a Professional Management Team who specialise in working with Technologies of Exceptional Global Potential](#).

Stage 2 Development Programme – Consisting of 2 separate EIS fundraises

The work will be scheduled as follows:

Stage 2A: Now Open financed by a 2nd round fundraiser of £600,000 via the issue of 300 shares @ £2,000 per share.

2A. Design, build and certify 100 Mk.1 prototype handheld devices fitted with this technology for distribution to air and cabin crew throughout the industry, carry out further fibre optic coatings research to build a broader and more comprehensive compound detection database, together with improving the fibre-end coating process to increase detection sensitivity.

Funding will also identify and build the project cost and planning models for the scientific, technical and delivery components of Stage 2B, and identification of additional IP leading to the application for more patents within the field specified above.

On successful completion of Stage 2A as above:

Stage 2B: Financed by a 3rd round fundraiser of £1,050,000 via the issue of 210 shares @ £5,000 per share.

2B. Improvement of the Mk. 1 handheld design, together with the design, build and certification of a built-in system for retrofitting to existing aircraft and incorporation into all new aircraft. This will include installation of the built-in system on an aircraft and full airworthiness trials and certification, for multi-aircraft 'rights of use' licencing and sales.

Final Deliverable as part of Stage 2B: Designs for mass-manufactured handheld and built-in units with demonstrated airworthiness & performance, certified by an industry recognised examining third party.

Once Stage 2 is in progress, the VN-ADS Sales & Marketing team will commence communication with Global Aviation industry players to demonstrate and promote the solutions, whilst also communicating with the necessary regulatory bodies to ensure compliance issues are covered pre aircraft installation and flight trials.

Timings and Costs

Stage 1 of the programme has been completed. Costs were estimated at £126,000 including a minimum stage 1 payment (£24,000, being 10% of the full cost of £250,000) of the negotiated development licence fee, and the budget was successfully met.

Stage 2A will take place over a 12-month period from funding close and costs are estimated at £540,000 including a minimum second payment of the negotiated development licence fee. (£50,000 being 20% of the full cost of £250,000) *Note: All Legal, Accountancy and 3rd Party costs as indicated on Page 18 of the IM (estimated at £58,800) will be made before project commencement. Project expenditure at £540,000 includes a 10% overrun/contingency fee.*

Stage 2B will take place over a 24-month period from funding close and costs are estimated at £945,000 including a final payment of the negotiated development licence fee. (£175,000 being 70% of the full cost of £250,000) *Note: All Legal, Accountancy and 3rd Party costs as indicated on Page 18 of the IM (estimated at £102,900k) will be made before project commencement. Project expenditure at £945,000 includes a 10% overrun/contingency fee.*

Summary of Factors that will deliver a success for VN ADS Ltd.

1. The recent court cases across the world, the inherent dangers in exposing pilots to fume events that have the potential to cause aircraft crashes, and the growing weight of medical evidence supporting the connection between the causes and effects of TCP's in the air circulated in aircraft cabins are all bringing momentum to impending legislation that will demand air quality standards and equipment to monitor and report on air quality onboard aircraft, in particular the presence, or not of TCP's. VN ADS will prove and certify a solution for this monitoring requirement that does not exist in the industry today and meet the impending legislative requirements, which will give the company a timely solution to ensure commercial success.
2. Professor Jeremy Ramsden, Technical Director of VN-ADS is the inventor of the Aerotoxic detection device and his primary role is to deliver the scientific development and designs. His background, experience, patents and R&D skills in this area are second to none in this field Worldwide, and will ensure the successful delivery of the development and designs.
3. Tom Benzie is an Aviation Industry Specialist in aviation air-conditioning and his skills and experience in this area will assist in delivering the built-in Aerotoxic Detection Solution. His experience and skills in this area will ensure delivery on this part of the business plan and introduction to 3rd party JV and/or licensee opportunities.
4. The VN-ADS management team operate on equity for services agreement meaning there are no salary costs. This means the company has very low OPEX and this significantly reduces project and Investor risk.
5. VN-ADS pay a fixed £5k pa admin fee, this covers all monthly/annual accounting, fiscal reporting, VAT returns, Shareholder and daily administration. This very low cost for the services mentioned will assist the company's financial stability.
6. As a result of the two previous points, the majority of money raised is applied directly to the project delivering further technical and scientific proof, prototypes, IP, knowledge/know-how and equipment that will accelerate the companies progress to invoiced sales and revenues.
7. Using Universities, the scientific community and industry specialist outsource suppliers on fixed-price, fixed-deliverable contracts underpinned with quality metrics and Service Level Agreements means that VN ADS is able to predict and control costs, quality and timelines.
8. The VN ADS manufacturing and licence model delivers profitable revenues without the need for extensive company scaling and monetary requirements.
9. Working with existing manufacturers and industry process specialists potentially opens up more opportunity for a trade sale to deliver a successful investor exit.
10. Recent developments include increasing publicity on TV and the national press regarding fume events, and the Dorset Coroners report into Richard Westgate's death, (Former British Airways pilot) in 2015, linking organophosphates exposure at his place of work to his death, along with his subsequent letters to BA and the CAA on the prevention of future deaths.

Summary of Risks

Share Liquidity and Currency

There is no established market in the shares. Accordingly, any subscriber may be unable to dispose of their shares.

Subscribers will subscribe in pounds sterling; revenue proceeds may be in currencies other than sterling. The exchange rate between currencies is subject to continuous fluctuation and can distort the net returns arising.

Potential Subscribers are reminded that this investment may not be suitable for all recipients of this Information Memorandum and are accordingly advised to consult an investment adviser who is authorised under the Financial Services and Markets Act 2000 before making the decision to subscribe. The ability of the project to pay costs which are in a currency other than that of sterling may be impaired by an adverse exchange rate.

The Company's Stage 1 business involves a degree of risk, inasmuch as:

1. Whilst it has access to a substantial amount of research and data which has been compiled regarding the Aerotoxic project and has a full IP exploitation licence for Microfibre Optical Metering Technology (MOMT) granted by the IP owner; the MOMT technology has been proven in the laboratory only, i.e. not in a 'real world' aircraft environment
2. The design engineering being utilised to enable the MOMT to operate onboard aircraft will be modelled upon known and industry recognised technology, utilising 'industry standard' materials. However, it has not been used in conjunction with the aviation industry technology to date and could therefore fail upon airworthiness testing or certification
3. Although best endeavour has been used to verify all the scientific research and data the Company is relying on for this project, it may transpire not to be reliable or relevant to this solution
4. The market uptake for a MOMT type product is unproven. The project's success is driven in one part by the legislation that will follow any successful court claims currently being heard around the world, and public fear generated by the continuing onboard 'fume events' now being given the publicity they and the victims concerned deserve. This will eventually force manufacturers to quietly design and build an alternative aircraft fresh air intake system that circumvents the current 'bleed air' option and detection will be a vital part of that process. However, there is no guarantee that the MOMT will become the industry's 'preferred' detection solution
5. Estimates of potential value and costs may not be reliable inasmuch as:
 - The potential licence income values are illustrations based on available comparable industry information
 - The estimates are subject to market input variables that cannot be determined until the unit is developed and ready for market
 - The illustrations of potential income value in this Information Memorandum may, accordingly, not be reliable despite the Directors' best efforts to judge them accurately.

Enterprise Investment Scheme

A condition of HMRC's approval of EIS is that the conditions relating to the Company and its trade have to be complied with throughout the three-year period following the issue of the Shares. Although it is the intention that the Company's activities should qualify under the EIS, if the conditions are not complied with, the Company would have breached the EIS regulations and EIS income tax relief would be withdrawn.

How the Tax Relief Mitigates the Financial Risk

The summary below provides an *indicative guide* to the tax implications stemming from an investment in VN-Aerotoxic Detection Solutions Ltd and is based on current understanding of UK tax law and practice. *It does not set out all of the rules or regulations that must be adhered to and should not be interpreted as the provision of tax, legal or financial advice.* Investors are strongly recommended to seek independent professional advice on the tax consequences of acquiring, holding and disposing of EIS qualifying Shares before proceeding with an investment into the Company.

The 2nd Round fundraise has been structured with the intention to enable investors to claim EIS reliefs on the amount of their subscription, as described below. The amount and timing of these reliefs will depend on the individual circumstances of each investor and may be subject to change in the future. The illustrations included in this section are for indicative purposes only and should not be construed as forecasts or projections of the likely performance of the Company.

In order to access the tax reliefs described it is necessary to be a UK resident taxpayer and subscribe for EIS qualifying Shares. The summary below gives only a brief outline of the available tax reliefs and assumes that an investor is an additional rate taxpayer.

1. EIS Tax Relief:

Highlights

- An individual can invest annually up to £1 million in EIS companies and obtain a tax credit equal to 30% of the cash investment.
- For EIS it is possible to invest up to £1 million in 2013/14 and carry back £1 million to 2012/13, provided certain conditions are met.
- Certain types of trade do not qualify for EIS relief. These include certain financial activities, property development, hotels and providing legal or accountancy services.
- A 'disqualifying arrangements' test has been introduced to exclude VCTs, EIS or SEIS that do not invest in qualifying companies and are set up solely for the purpose of giving investors tax relief.

The following sections analyse the main features:

- Income tax credit on the amount invested and when it may be withdrawn
- The capital gains tax exemption and/or utilisation of capital losses on the disposal of the shares
- Deferral relief, provided the relevant conditions (explained below) are met and
- Business Property Relief (BPR) from inheritance tax (IHT), where certain conditions are met.

2. EIS Income Tax Relief:

- Income tax credit at 30% of the amount invested in subscribing for new shares (maximum annual investment of £1 million).
- By election, where an EIS investment is made in one year it can be treated as though it was an investment made in the immediately preceding tax year, subject to the overall limit for that year.
- Dividends paid on EIS shares are taxable.
- Where the EIS shares are sold within 3 years, the EIS investor receives value or an option is placed over the shares, then the EIS tax credit is clawed back.
- The claw-back amount is the lower of:
Original income tax credit; and
30% x sale proceeds received (only applicable if sold for a loss)
There can also be a claw-back if the company loses its EIS status within 3 years.

3. EIS Capital Gains Tax (CGT) Relief:

- An EIS investor is entitled to exemption from CGT on a disposal of those shares, provided he has held them for three years. Therefore, any growth in value is effectively tax-free.

4. EIS Relief for Capital Losses on Disposals:

- Relief is given for allowable losses arising on the disposal of the shares against either income of the tax year of disposal (or of the previous tax year) or chargeable gains, provided all the relevant conditions referred to below are met.
- Any income tax relief obtained under EIS, which was not withdrawn, reduces the capital loss.

5. EIS CGT Deferral Relief:

- The tax due on a gain on any asset can be deferred by subscribing for shares in EIS qualifying companies, in a period beginning one year before and three years after the disposal of the original asset.

6. Business Property Relief:

- Shares in EIS companies held for at least two years will normally qualify for 100% BPR for IHT purposes.

7. EIS Conditions:

For EIS purposes, both the investee company invested and the investor need to meet certain conditions:

Conditions to be met by the company:

- The company's gross assets must not exceed £15 million immediately before the shares are issued and £16 million immediately afterwards
- The Investee Company must be unquoted when the shares are issued and there must, broadly, be no arrangements for it to become quoted. A company admitted to AIM will not be regarded as quoted for these purposes

- The Company must exist to carry on a qualifying trade (i.e. conducted on a commercial basis with a view to making profits; and the trade does not include, to a substantial extent (20% or more), excluded activities such as property development, leasing, dealing in land, shares and/or commodities etc.)
- The company must not be a 51% subsidiary of another company
- The Company must not have any subsidiaries that are not 51% subsidiaries
- The issuing company must either be a UK resident company carrying on a trade in the UK or be an overseas company with a UK permanent establishment carrying on a trade
- The Company must not be in financial difficulty
- The Investee Company must have fewer than 250 full-time employees
- The Investee Company cannot raise more than £5 million in total over a 12-month period under the EIS and the VCT scheme.

Conditions to be met by the investor:

The key conditions are as follows:

- The subscription must be in newly issued, ordinary shares and paid for in cash, as well as being for genuine commercial reasons and not for tax avoidance purposes
- To retain the income tax relief and to be exempt from capital gains tax, the shares must be held for at least three years
- The investor must not be connected for EIS purposes with the company. Investors who are connected with the company cannot claim income tax relief but may still qualify for capital gains tax deferral relief
- An investor will be connected with the company if he, either on his own or with associates, possesses or is entitled to acquire more than 30% of the issued share capital, voting power or assets of the company or any subsidiary on a winding up
- An investor will also be connected if he or she is an employee of the company or its group. They can be directors provided they meet certain conditions. An investor must not receive any amount of remuneration as a director that is excessive in comparison to the services performed. Relief will be withdrawn if the investee company, or a person connected with the company makes a payment to the investor (which is not “insignificant”) up to one year before, and three years after, the share issue.

Exit Strategy & Potential Investor Returns

The Directors plan an Initial Public Offering of the shares, a trade sale, or a financial restructure of the company between 2018 and 2022 or at such time as the Directors believe a significant multiple on initial investment may be achieved for subscribers.

No guaranteed forecast can be given of the likely or potential returns to Subscribers upon the successful delivery of the project. Therefore given current market uncertainties, allowances have been made for a broad spectrum of returns, on the basis of Market Research carried out by VN-ADS.

VN-ADS is budgeting for fixed annual operating costs of £1m in 2020 rising to £2m in 2021.

Sales of 'Handheld' detection devices will follow the aviation 'channel supplier' route with potential partners identified and marketed to whilst the initial PR campaign commences. VN-ADS will completely outsource the supply, delivery and maintenance of the devices to third party specialist service providers, retaining only the scientific development, product technology design, supply chain management, and sales/marketing elements of the business.

Penetration into the licenced 'rights of use' Aircraft marketplace is restricted by the *number of 'built-in' prototype designs VN-ADS can produce annually*, and by the *number of different aircraft each manufacturer builds*. There are 5 major manufacturers in the 'new build' marketplace with 3 of those specialising in 'wide-body & 'narrow-body'' aircraft & two in 'regional aircraft'. VN ADS will approach all 5 with the target of winning 2. Once successful trials are completed with those manufacturers the company will publically leverage their relationship to access the remaining players.

The following tables demonstrate possible Investor returns given a varying range of circumstances and market uptake. (The total available market size for 'rights of use' licences is 1000 pa over the 20 years forecasted by Boeing & Airbus, report available on request)

Round 1 SEIS @ £1000 per Share

Minimum Investment			£20,000 = 20 Shares		
Rights of use licence fees \$250k each - Hand-held devices \$100k per unit (£1 = \$1.5)			Potential Return on Investment		
Year	EBITDA	Sales Projections	P/E	P/E	P/E
			7	10	12
2020	£5,604,156	Scenario 1	£472,640	£675,200	£810,239
2020	£13,614,562	Scenario 2	£1,148,216	£1,640,309	£1,968,370
2020	£27,872,874	Scenario 3	£2,350,724	£3,358,178	£4,029,813
2020	£39,445,780	Scenario 4	£3,326,753	£4,752,504	£5,703,004
2020	£62,037,392	Scenario 5	£5,232,069	£7,474,385	£8,969,261

Round 2 EIS @ £2,000 per Share – Now on Offer

Minimum Investment			£20,000 = 10 Shares		
Rights of use licence fees \$250k each - Hand-held devices \$100k per unit (£1 = \$1.5)			Potential Return on Investment		
Year	EBITDA	Sales Projections	P/E	P/E	P/E
			7	10	12
2020	£5,604,156	Scenario 1	£ 236,320	£ 337,600	£ 405,120
2020	£13,614,562	Scenario 2	£ 574,108	£ 820,154	£ 984,185
2020	£27,872,874	Scenario 3	£ 1,175,362	£ 1,679,089	£ 2,014,907
2020	£39,445,780	Scenario 4	£ 1,663,376	£ 2,376,252	£ 2,851,502
2020	£62,037,392	Scenario 5	£ 2,616,035	£ 3,737,192	£ 4,484,631

Round 3 EIS @ £5,000 per Share

Minimum Investment			£20,000 = 4 Shares		
Rights of use licence fees \$250k each - Hand-held devices \$100k per unit (£1 = \$1.5)			Potential Return on Investment		
Year	EBITDA	Sales Projections	P/E	P/E	P/E
			7	10	12
2020	£5,604,156	Scenario 1	£ 94,528	£ 135,040	£ 162,048
2020	£13,614,562	Scenario 2	£ 229,643	£ 328,062	£ 393,674
2020	£39,445,780	Scenario 3	£ 665,351	£ 950,501	£ 1,140,601
2020	£39,445,780	Scenario 4	£ 665,351	£ 950,501	£ 1,140,601
2020	£62,037,392	Scenario 5	£ 1,046,414	£ 1,494,877	£ 1,793,852

Management Track Record

Directors:

Jeremy J. Ramsden Ph.D. is **Honorary Professor of Nanotechnology**, at Buckingham University UK and the inventor of Aerotoxic Detection Technology.

Jeremy was educated at the Universities of Cambridge and Princeton and the Ecole Polytechnique Fédérale de Lausanne, where he obtained his doctorate in the Institute of Chemical Physics for research on semiconductor nanoparticles.

He held the post of visiting scientist at the Eidgenössische Technische Hochschule (Laboratory of Chemical Engineering), Zürich (1993) and the Biocenter (Institute of Biophysics) of the Hungarian Academy of Sciences in Szeged (1987).

Jeremy worked for 12 years at the Basel Biocenter (Institute of Biophysical Chemistry), served as a Member of the Faculty of Natural Philosophy of Basel University 1994–2002. Chair of Nanotechnology at Cranfield University 2002–2012 and Research Director for Bionanotechnology, Cranfield University at Kitakyushu 2003–2009.

His main research focus today is integrated-optic and optical fibre sensors complex adaptive systems, and emergent nano-info-bio-cogno converging technologies. He has authored or co-authored more than 200 research articles published in international refereed journals, made a comparable number of conference presentations, co-invented three patents, written or edited a dozen books, chaired several international conferences, and served as visiting professor in Argentina, France, Hungary and Japan.

He is a Fellow of the Institute of Materials, Minerals and Mining (London) and a IUPAC Fellow.

Mark Gilmore is a founding Director of Viridis Navitas Capital Partners Ltd (*the sponsor of VN ADS technology*) and a serial entrepreneur who has successfully managed to blend a career of high-level professional corporate roles, and an enviable track-record in start-ups. Mark brings more than 20 years successful operating experience at senior and executive level sales and operational management to VN ADS.

Mark's most recent corporate role was managing COLT Managed Services strategic markets region (6 countries and 27 employees). In his last year he delivered over £30m in revenues (118% against target) and nearly £13m of new business bookings (122% against target). This achievement was coupled with the process of transitioning the pre-sales technical architects, with corporate incentive structures to technical consultants holding personal incentive schemes.

Prior to this Mark held a number of senior Business Development roles including; Dimension Data for over 4 years, significantly exceeding revenue, bookings and margin targets in each of the 4 years he was there; GTS Carrier Services; and TGNS S.A. In between these roles, Mark started Big Picture Interactive, a brand new digital multimedia and interactive web company and took the company from start-up to over £1m turnover in the first year, and prior to that converted an antique shop into a pub and restaurant and ran it for 2 years before exiting.

David Newman is also a founding Director of Viridis Navitas Capital Partners Ltd (*the sponsor of MOMT technology*) and another highly commercial, innovative and success driven individual. He is also an entrepreneur with a strong electronic, electro-mechanical, automotive and heavy engineering background.

Following 10 years of military service operating throughout the world, David spent the next 10 learning the commercial realities of international business by apprenticing himself to the most successful business owners and companies he could find. During this time he was tasked across a broad range of industries including, leisure, entertainment, automotive, telecoms, advertising and IT.

His corporate roles have included: Project Management, New Business Procurement, Financial Restructuring, Technical Creation and Support, IT Solution Creation & Delivery, Training Program Creation & Delivery and Change Management.

In 1999 he formed his own Telecoms consultancy and later that year created Trans Global Network Services, the world's first global fibre optic leasing operator.

After successfully exiting TGNS in 2002 with annual revenues of \$27m, David accepted the role of Commercial advisor to the then Maltese Minister of Finance, The Right Hon Mr John Dalli.

There he formed part of a 3-man team charged with redesigning the Countries FDI programme, agencies and Industrial Estate Management.

Successful completion of this project delivered a 'step change' in Government attitude toward FDI procurement, Business Promotion and even its own work force, pre the Country's accession to Europe.

In 2004 David continued his career by taking on international consultancy roles within the restructuring IT and telecoms sector and later within the emerging renewable energy industry.

He returned to the commercial 'start-up' market place in 2008, designing and building an "outsourced" Credit Management and Cash Collection business for top 50 London accountancy practice, Simmons Gainsford LLP. SG Credit Management was initially created to assist SG clients post-recession but today has exceeded that brief. The business currently manages annual cash collections in excess of £16m and is currently working with a major UK High Street bank delivering its services to their customers.

In mid-2009, David was invited to lead the design team in building an 'algae to fuel' Photo Bio Reactor for a US project. In mid-2010 working with the same US affiliates, he went on to manage the design and build of an innovative 'oleophilic membrane' crude oil recovery rig. With support from the US Department of Energy, the machine was deployed in the Gulf of Mexico and trialled as part of the Deep Water Horizon clean-up operation.

In September 2010 David joined forces with Mark and formed Viridis Navitas Capital Partners Ltd (VN-CP) specifically to target the renewable energy start-up funding gap experienced by inventors, engineers and scientists alike.

Since inception VN-CP has delivered 4 successful funding rounds for platform technology application spinouts raising in excess of £1M via HMRC Pre approved Seed Enterprise Investment Schemes & Enterprise Investment Schemes.

The above-mentioned experiences have allowed David to build up a broad network of contacts throughout Governments and industries alike that he leverages to the benefit any company he works with.

Understanding the financial risk versus reward balance for investors, as a 'real' investor himself, he brings an unusual but extremely useful skill set to the company.

Secretary and Treasurer

Steven Strauss is a Chartered Accountant and Fellow of the Institute of Chartered Accountants in England and Wales. Steven read Economics at the London School of Economics, gaining a BSc Honours Degree in 1981, studied for his articles and qualified in 1985 receiving an associate membership of the Institute of Chartered Accountants in England and Wales later in that year.

In addition to work in the tax field, Steven has also had a significant amount of commercial experience, advising and consulting corporate entities on a wide range of matters.

Steven has been a Director of an Australian Stock Exchange Quoted company and is currently Chairman of an International payments solution company and Financial Director of VN Capital Partners.

Consultants

VN-ADS Engineering Design Consultant:

To be outsourced post Stage 1 under competitive tender

Aviation Industry Specialist Advisor:

Tom Benzie CEng MRAS

Laboratory Partner:

A combination of National and University test and laboratory facilities, currently including The National Physics Laboratory (NPL), UCL, Aston, Loughborough and Nottingham Universities. *(Other institutions may be added as the project proceeds)*

Chemistry Partner:

Prof. Dr. Vladimir M. Mirsky
Lausitz University of Applied Sciences
Faculty of natural sciences - Nano biotechnology

Related Renewable Project Success

VN Automotive Ltd – The team at VN-ADS Ltd. is common to a number of leading edge renewable technology start-ups where Government legislation and incentives are driving the adoption of CO₂ reduction solutions across industries worldwide. It is recognised by the UKTI as a professional management team working with projects of exceptional global potential, the first of which was the development of an Electro Hydrogen Generator for the automotive, static generator and commercial vehicle market. Here the team generated significant success using the same set of basic principles of business operation now being used in VN-ADS, i.e. clear and transparent principles of operation as described on page 3 of this document.

The team has raised over £1m in VN Automotive Ltd, delivering the scientific and engineering proofs used in the development of an embryonic automotive solution to prove the following:

1. The most efficient Hydrogen production technology currently in development – currently over 95%
2. The most flexible method of production using waste energy streams
3. Proof of potential scalability for specific markets.

The solution will, at the next stage, move to the production of a proof of concept and a working prototype. These will demonstrate the effectiveness of the solution and potentially enable the company to licence the technology to the automotive, static generator and commercial vehicle markets with full commercialisation in 2017/18.

FAQ's for VN Aerotoxic Detection Solutions

What is the minimum investment?

£20,000.

What are the fees?

The company pays distribution charges of up to 6% of the funds raised to introducers and intermediaries. There are no annual 'fund management' fees, neither are there any success fees. The management team does not draw salaries either, until the company has invoice-able sales. The management team is incentivised by their respective equity stake in the company, and therefore their goal is completely aligned to that of any investor, i.e. a profitable exit.

What are the projected returns on my investment?

Dependent upon company P/E and market penetration at the time of commercialisation, targeted between 11 and 220 times your original investment. See pages 21 & 22 of the IM for more detail.

How will the company make money?

By designing, manufacturing and selling 'handheld' devices to aviation suppliers and distributors, and designing and licencing 'built-in' solutions to aircraft manufacturers. See pages 17 & 20 of the IM for more detail.

When will the company make money?

2018. See page 35 of the IM for more detail.

What is the exit strategy?

An IPO of the company in 2018/22 or sooner if market conditions and company financials allow, a refinance or if a trade sale is available earlier at a suitable return for investors and management.

How big is the market opportunity?

In 2018 the estimated addressable 'Hand-held' target market opportunity will be approximately £2.4bn. In 2018 the estimated addressable 'Built-In' licence target market opportunity will be approximately £5.5bn. Therefore, the total estimated addressable market in 2018 will be approximately £7.9bn. See pages 10, 15, 16, 20 and 35 of the IM for more detail.

Why does the market opportunity exist?

The cabin air of all commercial aircraft, except the very recently introduced Boeing 787 is bled off the jet engines and is, therefore susceptible to contamination from engine oil, some ingredients of which are known neurotoxins (TCP's). Although the aircraft certification standards promulgated by EASA, FAA etc. stipulate that 'crew and passenger compartment air must be free from harmful or hazardous concentrations of gases or vapours' there is no instrumental monitoring of aircraft cabin air. Due to the growing awareness of the grave health consequences of chronic exposure (e.g., the September 2013 judgment in *Felderhof v KLM*), let alone acute exposure, it is expected that airlines and ultimately regulators will demand onboard sensors capable of continuously monitoring air quality. No such sensor is currently commercially available. See pages 1, 11 to 14 and Schedule 4 of the IM for more detail.

What is the competition?

There is no commercially available, portable real-time detection sensor device today.

What is unique about this solution?

The solution uses a patented fibre-optic technology. This gives the following benefits:

1. The device has the potential to be small, robust and reliable for use in the widely varying atmospheric conditions in aircraft cabins

2. Fibre-optic technology will deliver the most consistent measurements of the TCP's across the widely varying conditions of use in aircraft
3. The cost of manufacture will be low, and due to the high value of the device solution, the sales price and therefore the margins will be high
4. The device will be software driven, deriving additional profitable, predictable revenues from multi-year maintenance and support contracts.

See pages 17 & 36 of the IM for more detail.

How proven is the technology?

The initial detection laboratory research completed, patents have been granted, and subsequent applications are underway. See pages 1, 2 and 34 of the IM.

What are the main risks in this company and how will VN-ADS mitigate them?

1. Whilst it has access to a substantial amount of research and data which has been compiled regarding the Aerotoxic project and has a full IP exploitation licence for microfibre optical metering technology granted by the IP owner, the MOMT technology has been proven in the laboratory only, i.e. not in a 'real world' aircraft environment

Mitigation – By working sequentially, VNA provides continuous and further proofs, validation of the solution and its application before progressing to the next stage.

2. The design engineering being utilised to enable the MOMT to operate onboard aircraft will be modelled upon known and industry recognised technology, utilising 'industry standard' materials. However, it has not been used in conjunction with the aviation industry technology to date and could therefore fail upon airworthiness testing.

Mitigation – by working with aviation industry experts and contractors VN ADS will leverage their industry knowledge, know-how and experience to ensure that the solutions developed will be successful in airworthiness testing.

3. The market uptake for a MOMT type product is unproven. The projects success is driven in one part by the legislation that will follow any successful court claims currently being heard around the world, and public fear generated by the continuing onboard 'fume events' now being given the publicity they and the victims concerned deserve. This will eventually force manufacturers to quietly design and build an alternative aircraft fresh air intake system that circumvents the current 'bleed air' option and detection will be a vital part of that process. However, there is no guarantee that the MOMT will become the industry's 'preferred' detection solution.

Mitigation - VN ADS is targeting 2 markets for the solution: handheld sensors and built-in sensor systems. The first market for handheld sensors will be individuals and their personal use, e.g. Very, and Ultra High Net Worth Individuals using private aircraft. The second area in this first market will be for existing aircraft as a retro-fit built-in solution may well be prohibitively expensive for most aircraft. The second market will for new aircraft. See page 20 of the IM for more detail.

What if I have other questions about the opportunity, what should I do?

Either put your questions in an email, or request a call from one of the management team to discuss your requirements in more detail.

How do I invest?

Download the High Net Worth self-certification form and the VN ADS investor application form, fill them in with your investment amount and personal details, sign at the bottom and then either scan and email them to investors@vn-cp.co.uk, or send them along with your cheque to VN Capital Partners, 7/10 Chandos Street, London W1G 9DQ.