



WILLIAMS

Innovate UK

ACCELERATING BRITISH INNOVATION
THROUGH CROSS-INDUSTRY COLLABORATION

10.03.2016

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On 10th March 2016 Innovate UK, the UK's innovation agency, and Williams, the leading Formula One team and advanced engineering company, will present an exciting look into the future.

This invitation only event will see leading corporations, start-ups and investors showcase exciting innovations and technologies that can tackle key societal challenge areas in which the UK can take a global lead. Through expert briefings and panel discussions, delegates from a range of sectors will be able to understand how cross-industry collaboration can benefit their business.

Delegates to this event will enjoy interactive discussions on the following topics:

- Technology acceleration through open innovation
- The future of the car and urban transport
- Demand side energy innovation
- Finance

Speakers include;

CRAIG WILSON

Managing Director, Williams
Advanced Engineering

How Williams is transferring its
Formula One-bred technology
and know-how to other sectors

KEVIN BAUGHAN

Director of Technology and
Innovation at Innovate UK

How Innovate UK is de-risking
technology and enabling
cross-sectoral innovation

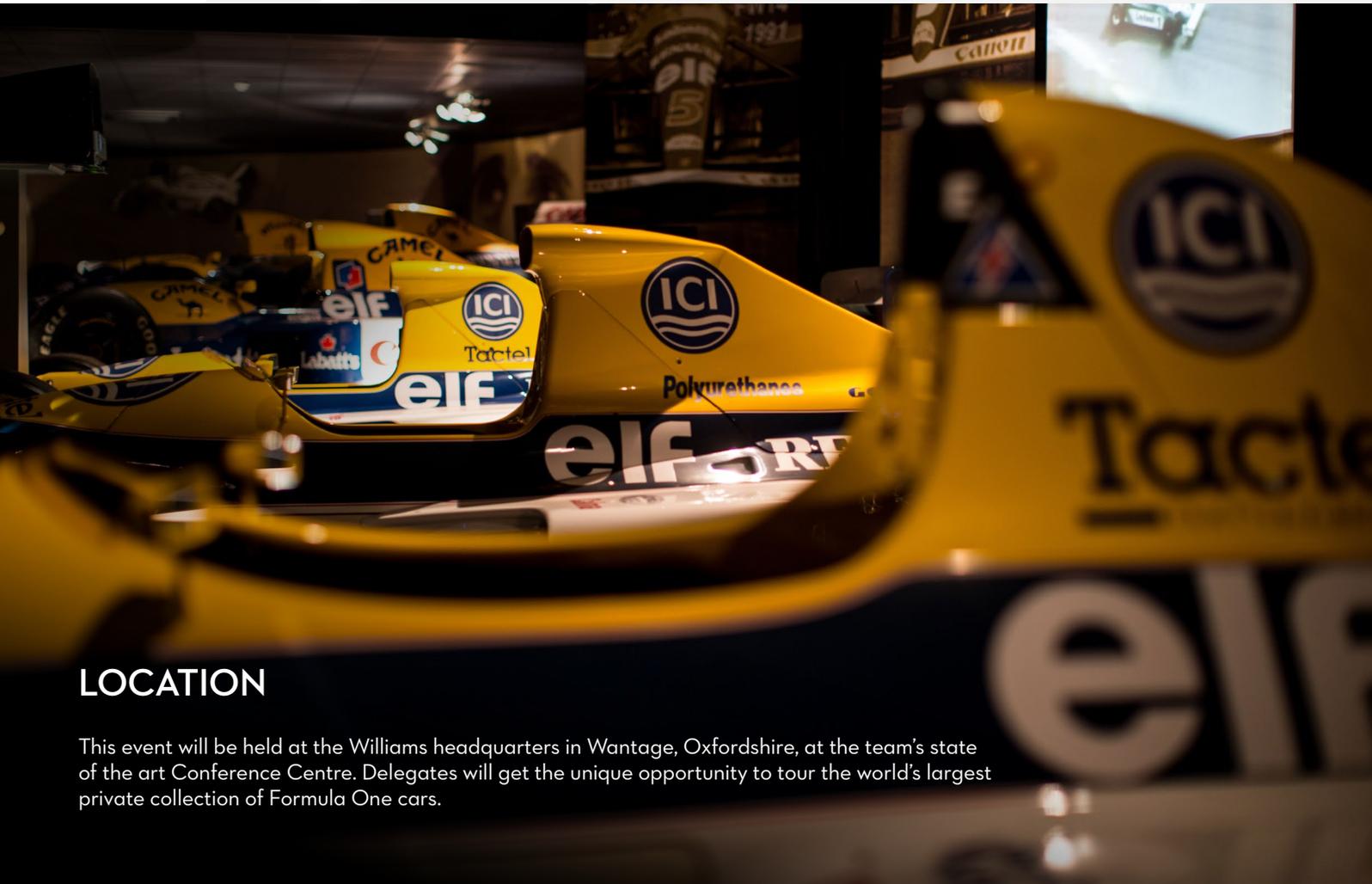
TOM WHITEHOUSE

London Environmental
Investment Forum

Financing for accelerated
innovation: Have British
innovators ever had it this good?

LOCATION

This event will be held at the Williams headquarters in Wantage, Oxfordshire, at the team's state of the art Conference Centre. Delegates will get the unique opportunity to tour the world's largest private collection of Formula One cars.



AGENDA

10:00 – 10:30

Registration & coffee

10:30 – 10:45

Introduction from conference chairman Tom Whitehouse, Founder and Chairman, LEIF

10:45 – 11:15

A 'Fireside chat' with Craig Wilson, Managing Director, Williams Advanced Engineering

How is Williams transferring its F1-bred technology and know-how to other sectors?

In practice, how does cross-sectoral innovation actually work?

Interviewer: Tom Whitehouse, LEIF

11:15 – 12:00

Panel discussion: The future of the car and urban transportation

Is it a bird? Is it a plane? Is it a car? Or is modern transport now a software delivery vehicle?

Is the future car a threat to smart cities or their enabler?

What are the technology challenges? Where are the opportunities for cross-industry collaboration?

Panellists: Ian Drew (Chief Marketing Officer, Arm Holdings), Andreas von Richter (Partner, Ecomobilité Ventures), Mathew Burke (Head of Technology Ventures at Williams Advanced Engineering), Jon Salkeld (Technology Director, Castrol innoVentures)

Moderator: James Mawson (Founder and Editor-in-Chief, Global Corporate Venturing, Global Government Venturing, Global University Venturing)

12:00 – 12:45

Panel discussion: The disruptive utility

How can low carbon supply side solutions and demand side innovation be combined profitably and sustainably while keeping the lights on?

Panellists: Albert Fischer (Managing Director, Yellow&Blue Investment Management), Sara Bell (CEO, Tempus Energy), Dr David Clarke (Chief Executive Officer, Energy Technologies Institute)

Moderator: Rob Saunders (Head of Energy, Innovate UK)

12:45 – 13:45

Networking lunch

13:45 – 14:10

Presentation: Kevin Baughan (Director of Technology and Innovation, Innovate UK)

How Innovate UK is de-risking technology and enabling cross-sectoral innovation

14:10 – 14:55

Panel discussion: The 'impossibility' of emerging technologies

How are emerging technologies turned into successful industrial products?

How do small companies work with large companies to build new markets?

Panellists: Andy Nicholson (Head of Open Innovation, Thales Group), Roy Freeland (President, Perpetuum), Kevin Simpson (Technical Director, European Thermodynamics)

Moderator: Neil Johnston (Head of Emerging Technologies and Industries, Innovate UK)

14:55 – 15:40

Panel discussion: Financing for accelerated innovation: Have British innovators ever had it this good?

How are angels, tax-driven investment vehicles, and university, corporate and financial venture capitalists funding British innovation?

Has the UK 'funding gap' now been closed?

Panellists: Jim Totty (Sustainable Technology Investors Limited), Simon King (Octopus Investments), James Downing (Silicon Valley Bank), Dion Vaughan (CEO, Metalysis)

Moderator: Nigel Walker (Access to Finance, Innovate UK)

15:40 – 16:10

Refreshments and networking break

16:10 – 16:55

Panel discussion: Looking back, looking forward; panellists reflect on what they've learnt and look ahead to the problems and opportunities in the next phase of industrial innovation

How are the interests of very different industries being combined in collaborations and investments?

Where is cross-industry collaboration succeeding; where is it failing?

Distinguishing the hype from reality of 'industry 4.0'

Panellists: Fabrice Bienfait (Environmental Technologies Fund), Tim Langan (CleanTeQ Holdings), Graham Howes (BP Ventures), Pascal Siegwart (Partner, Aster Capital), Julie Alexander (Director, Urban Development, Siemens Global Centre of Competence for Cities)

Moderator: Tom Whitehouse, LEIF

16:55 – 17:45

Networking and drinks in the Grand Prix Collection

17:45

Conference close

SPEAKERS



TOM WHITEHOUSE
CHAIRMAN, LEIF

Tom Whitehouse is founder and Chairman of the London Environmental Investment Forum (LEIF), an advisory business that convenes and connects new environmental technologies and technologists with the right investment capital and corporate partners. Tom is a Contributing Editor to Global Corporate Venturing, for whom he writes the monthly column 'The Clean Deal'. Before working in the environmental technology sector, he was a foreign correspondent. From 1997-1999 he was Moscow correspondent for The Guardian and from 1991-1997 he was a reporter for the BBC World Service, based in Prague and Moscow.



CRAIG WILSON
MANAGING DIRECTOR,
WILLIAMS ADVANCED ENGINEERING

Craig became Managing Director of Williams Advanced Engineering in January 2013 and has overall responsibility for projects that are seeing Williams commercialise its Formula One derived technology and know-how.

Before joining Williams Craig co-founded Oxford Applied Technologies, an engineering consultancy specialising in bringing sustainable transport projects to market. His previous roles include six years based in Melbourne as Chief Executive Officer of Walkinshaw Performance, running successful GM- Holden factory racing teams in the Australian V8 Supercar Championship. This coincided with a directorship with Holden Special Vehicles where he jointly led the engineering and strategic direction of the high performance vehicle manufacturer. Craig also spent over a decade at TWR Group, six of those as Managing Director.



MATTHEW BURKE
HEAD OF TECHNOLOGY VENTURES,
WILLIAMS ADVANCED ENGINEERING

Matthew is Head of Technology Ventures at Williams Advanced Engineering, part of Williams Grand Prix Engineering. He joined Williams in 2011 and spent his first three years at the Williams Technology Centre Qatar leading their stationary energy storage commercialisation programme. He returned to the UK in 2014 to take on wider technology commercialisation responsibilities at Williams Advanced Engineering. Prior to Williams he has held engineering positions at Tata Motors, Torotrak, Rover Group and Ford Motor Company. He holds a BEng (Hons) degree in Mechanical Engineering, an MSc in Dynamics and Control, and is a Chartered Engineer and Fellow of the Institution of Mechanical Engineers.



IAN DREW
ARM HOLDINGS, CHIEF MARKETING OFFICER AND
EXECUTIVE VICE PRESIDENT, BUSINESS DEVELOPMENT

Ian Drew was appointed Chief Marketing Officer and Executive Vice President of Business Development in July 2012. He was previously Executive Vice President of Strategy from August 2011.

Ian joined ARM in 2005 as Vice President, segment marketing. Prior to ARM, he worked at Intel Corporation for 14 years and undertook senior management roles in Asia, Europe and the US, latterly as General Manager of the Russia/CIS office based in Moscow.



ANDREAS VON RICHTER
PARTNER, ECOMOBILITÉ VENTURES

Andreas joined Ecomobility Ventures (EMV), the Paris-based venture fund focused on sustainable transportation, in 2014 as a Partner. EMV is backed by Total, Orange, Air Liquide and Michelin. Andreas sits on the boards of EZ Wheel, Ouicar and serves as a board observer on Ridepal and LocoMobi. Before joining EMV, Andreas worked shortly for Saudi Aramco Ventures and before that for GE (2005-2013) as a VP at GE's Venture Capital unit focused on the energy, water and transportation sectors.



JON SALKELD
CASTROL INNOVENTURES, TECHNOLOGY DIRECTOR

Jon is Technology Director for Castrol innoVentures, having joined BP in 2011. A specialist in the commercialisation of disruptive innovation, he previously held senior business & technology leadership positions at QinetiQ & ICI, with earlier experience at Schlumberger.



JAMES MAWSON
FOUNDER AND EDITOR-IN-CHIEF, GLOBAL CORPORATE VENTURING, GLOBAL GOVERNMENT VENTURING, GLOBAL UNIVERSITY VENTURING

James was Editor of Private Equity News, part of Dow Jones and The Wall Street Journal in London, for nearly four years until May 2010 when he launched Global Corporate Venturing as an independent title from the publishing company Mawsonia. This was followed by the launch of the second publication, Global University Venturing, in January 2012 and the company's third title, Global Government Venturing, was launched in May 2014. As well as editing Private Equity News, James coordinated leveraged buyout and venture capital coverage for use by other titles in the Dow Jones and News Corporation group, and acted as a spokesman on BBC radio and television.



FABRICE BIENFAIT
PARTNER, ENVIRONMENTAL TECHNOLOGIES FUND

Fabrice is a Partner at the Environmental Technologies Fund investing in high growth technology companies across Europe. Fabrice joined the firm in 2008 and has been leading a number of investments, notably at the convergence of information technology and sustainable development. He represents the firm on the board of portfolio companies.

Fabrice worked previously at Goldman Sachs' M&A advisory group where his work covered both public and private transactions, including the renewable energy and environmental services sectors. Fabrice also worked as a strategy consultant at Simat Helliesen & Eichner, focusing on the transportation and aerospace sectors across Europe and Asia. Fabrice is a French national and holds an MBA from Harvard Business School and an MSc in Aerospace Engineering from l'Institut Supérieur de l'Aéronautique et de l'Espace.

SPEAKERS



JIM TOTTY
SUSTAINABLE TECHNOLOGY INVESTORS LIMITED

Jim joined Sustainable Technology Investors Ltd ("STIL") in 2011 after previously working in sustainable and clean technology roles at Citi, PricewaterhouseCoopers and earlier in academia. He is a Chartered Financial Analyst and has a PhD in Physics from Imperial College. STIL manages private equity investments in the energy, efficiency, water and waste sectors.



SIMON KING
OCTOPUS INVESTMENTS

Simon joined Octopus Investments, the British investment manager specialising in smaller company investing, at the beginning of 2012. He focuses on early stage deal flow, screening investment opportunities and performing preliminary due diligence. Simon is a Non-Executive Director at the following British companies - Kabbee, Origami Energy, Surrey NanoSystems Ltd, Trafi, and SmartKem Limited. He is a Board Observer at WaveOptics and T4media. Before joining Octopus, Simon was a research scientist investigating novel materials for photovoltaic applications at Imperial College London.



JAMES DOWNING
VICE PRESIDENT OF ORIGINATION, SILICON VALLEY BANK

James Downing is a Vice President of Origination with Silicon Valley Bank's UK Branch. With over 13 years of banking experience, James has a strong background in financial services for technology businesses and has devoted much of his career to the innovation sector. In his role with Silicon Valley Bank, James is responsible for business development; liaising with businesses, venture capital and private equity firms, and corporate venturing partners. James previously served as a director at Barclays Bank where he focused on portfolio management and debt origination for businesses in the technology, media and telecommunications sector.



DION VAUGHAN
CHIEF EXECUTIVE OFFICER, METALYSIS

Dion joined Metalysis in July 2013 as Chief Executive Officer to drive forward the scale-up and the commercialisation of tantalum and titanium production. Dion is a metallurgist and has worked across the metals, mining and investment sectors for over 30 years, bringing his experience from industry and corporate finance. He joins Metalysis from Hatch Corporate Finance. Previously, his career has included positions in Sheffield Forgemasters, Johnson Matthey and BP Research. As a corporate financier he has worked also for JP Morgan, Chase Manhattan and Robert Fleming where he worked on a wide variety of mergers & acquisitions, debt and equity capital raises, privatisations and strategic advisory assignments.



NIGEL WALKER
HEAD OF ACCESS TO FINANCE, INNOVATE UK

Nigel is responsible for Access to Finance at Innovate UK, where he heads the organisation's support for innovative SMEs in gaining access to private sector funding to accelerate the journey from concept to commercialisation. Nigel has a background in the financial services industry, having spent over 10 years at each of Deutsche Bank and GE Capital.



KEVIN BAUGHAN
DIRECTOR OF TECHNOLOGY AND INNOVATION,
INNOVATE UK

Kevin leads the Innovation Programmes team and is responsible for helping develop and deliver innovation support for accelerating the growth of UK businesses across the breadth of the thematic innovation programme.

Kevin is an experienced and innovative telecoms professional whose most recent position was Director of Wireless at Virgin Media Business. Prior to Virgin Media, Kevin co-founded a start-up carrying out pioneering research into novel networking technologies for the US Air Force Research Labs and also had a distinguished career with Nortel Networks, in both R&D and as the company's chief architect for cable operators across Europe.



ALBERT FISCHER
MANAGING DIRECTOR, YELLOW&BLUE INVESTMENT
MANAGEMENT

Dr. Albert Fischer is Managing Director of Yellow&Blue Clean Energy Investments, an independent investment fund for energy-related innovations sponsored by the Dutch utility Nuon, part of the Swedish Vattenfall Group. During his career Albert successfully invested in 25 technology companies worldwide, all of them aspiring to cleaner and more efficient use of energy. Examples include companies in the field of biomass, smart grids and energy efficiency that meet Albert's investment philosophy of "faster, better, cheaper and greener".



SARA BELL
CEO AND FOUNDER, TEMPUS ENERGY

In 2012, Sara set up Tempus Energy: a technology company focused on developing and deploying technology to cost-optimize the electricity supply chain. The Tempus platform uses algorithms and demand-side management technology to harness the financial upside of intermittent renewable power for end users. Sara is a member of the Strategic Advisory Council for Energy for the Engineering and Physical Sciences Research Council (EPSRC), and is a board member of the Association of Decentralised Energy (ADE). She is a Trustee of Sustainability First, a member of multiple Ofgem working groups, and is a former member of the Singapore Government Climate Change Committee R&D work group. Sara also holds a Masters in Environmental Management.

SPEAKERS



ROB SAUNDERS
HEAD OF ENERGY, INNOVATE UK

Rob Saunders leads the energy programme at Innovate UK, helping UK businesses to grow as they develop new products that address solutions to affordable clean and secure energy supplies of the future.

A Cambridge engineering graduate, Rob is also Non-Executive Director of the Offshore Renewable Energy Catapult Centre, sits on the energy research partnership (ERP), the Scottish Technology Advisory Group, the research councils' scientific advisory committee, the Oil & Gas Technology Leadership Board, and is the current chair of the cross-governmental Low Carbon Innovation Coordination Group (LCICG).



JULIE ALEXANDER
DIRECTOR, URBAN DEVELOPMENT, SIEMENS

Julie is a Director for Urban Development at Siemens for the Infrastructure and Cities sector. With her global remit working with cities around the world, she is responsible for engaging with cities to showcase the role of infrastructure and integrated technological solutions in urban development. Julie represents Siemens on the UK Smart Cities Forum and the UK All Party Parliamentary Group for Smart Cities.

Particular areas of specialism include the financing and funding of urban infrastructure through the use of innovate mechanisms and value capture. On this topic, Julie recently co-authored a report entitled 'Investor Ready Cities' in conjunction with PwC and BLP Law.



GRAHAM HOWES
TECHNOLOGY MANAGER, BP VENTURES

Graham is a Technology Manager in the BP Ventures team whose function is to make strategic investments in companies with distinctive technology that aligns with BP's core business activities. He is a non-executive director of Heliex Power, Fotech Solutions and Modumetal, and provides commercial support to the BP International Centre for Advanced Materials (BP-ICAM).



ROY FREELAND
PRESIDENT, PERPETUUM LTD

Roy Freeland is a Cambridge graduate engineer with wide international experience of running technology based companies. He ran Meggitt Electronics, was Group General Manager at Bowthorpe (Spirent) and CEO of United Industries Plc. He is President of Perpetuum Ltd, the world leading vibration energy harvesting and rail condition monitoring business which he established in 2004. He chairs the I.S.A.100.18 Power Sources standards committee and Innovate UK's Energy Harvesting Special Interest Group steering committee. He is a member of the EU's ICT-Energy Scientific Advisory Committee and a member of the Rail Supply Group Council.



NEIL JOHNSTON
INTERIM HEAD OF EMERGING TECHNOLOGIES &
INDUSTRIES, INNOVATE UK

Neil's background includes seven years at the Centre for Exploitation of Science and Technology (CEST) leading projects on water treatment, cleaner farming, genetic modification and functional foods. He was also a member of HRH The Prince of Wales Working Group on Innovation that led to the Faraday Concept, Postgraduate Training Partnerships, now Knowledge Transfer Partnerships.

At Anglian Water, he led group strategy before becoming Managing Director of a subsidiary designing, building and operating water and wastewater plants for industry.



ANDY NICHOLSON
HEAD OF OPEN INNOVATION, THALES GROUP

In August 2015 Andy joined Thales to lead their adoption of Open Innovation. Building on his experience within the Centre for Defence Enterprise in particular, Andy realised that it is essential to have an exploitation route for good ideas if they are to realise their benefit. Whilst small companies may be very flexible and full of fresh thinking, large companies have the benefits of scale and access to markets. Thales understands this and Andy has been recruited to work with idea generators, large and small for mutual benefit. Previously Andy was responsible for developing and carrying out the supplier engagement strategy for Dstl.

FEATURED CASE STUDIES

The following three case studies are all Innovate UK-funded companies that are recognised as having exciting cross-cutting technology. Bindatex are being showcased here today along with a further 18 exciting companies, all with technology that is transferrable across different sectors or markets. Spaces were limited and there are a number of other innovative companies with cross cutting technology in the audience.



JET FIRM TURNS TO POWERING MOBILE-PHONE COMMUNICATION

A business set up to develop an innovative engine for the aerospace industry is taking advantage of new market opportunities in mobile phones. Bladon Jets was set up in 2002 to develop and market the engine developed by the Bladon brothers, Chris and Paul. The Coventry-based business first thought its technology would have a traditional application in the aerospace industry. It quickly realised its innovative micro-gas turbine generator could have an application as a range-extender for hybrid electric cars.

However, during development work on its range extender, supported by Innovate UK, Bladon found that its turbine could also be used to power telecommunications masts for mobile phones in developing countries. Manufacturing director Philip Lelliott said: "We received very pragmatic support from our Innovate UK monitoring officer in that as we moved through the project we were able to focus on the near-market opportunities in telecommunications." Bladon Jets is talking to one of the world's leading mobile phone companies about supplying the engine as a power unit for mobile phone masts. The power units will go into early-stage manufacture at The Proving Factory this year and thousands will be supplied to power phone masts in the developing world. Philip said: "Today, you see thousands of gas turbine engines produced at a cost of millions of pounds. Our vision is to turn that on its head and produce millions of gas turbine engines at a cost of thousands of pounds. "The technology has really exciting characteristics. It is power dense, small, lightweight, low on emissions, and our technology of air bearings and air cooling makes the engine inexpensive to own and gives it a long life." The business employed 10 when it moved into its headquarters in Coventry in 2011 and has since grown rapidly to employ 55. This year, it expects to create a further 250 jobs directly and in the supply chain as it goes into production. Philip added: "Our business plan sees us growing dramatically. We have plans to generate hundreds of millions of pounds of business and to employ a significant number of people directly and in the UK supply chain. "In the short to near term we see the opportunities in supplying generator sets to the mobile phone market in developing countries. In the slightly longer term we see our technology being used as range extenders in the next generation of battery vehicles."



BOOKBINDING SUPPLIER FINDS MARKET IN CUTTING COMPOSITES

Bolton-based Bindatex has transformed itself from a business providing materials to bookbinders into a precision cutter of composite materials for industry. Its founder Chris Lever began looking for new markets in 2007 with the rise of the Kindle and other electronic readers. Bindatex began cutting composite and laminate materials for manufacturers – processing them into various sizes and shapes including continuous narrow tapes. Chris realised the technology could have applications for the aerospace industry but needed help to investigate the market opportunity. He teamed up with Tim Iles of manufacturing



WEAVER'S ART PROVIDES HIGH-TECH SOLUTION FOR SOLDIERS

Traditional weaving and electronics technologies have been adapted to create state-of-the-art uniforms for soldiers. Intelligent Textiles was set up by fabric designer Asha Peta Thompson and Dr Stan Swallow, a lecturer at Brunel University with a background in electrical engineering, when they realised they could combine their skills to make a fabric switch. At the time, Asha was working on a Brunel-funded

project for a 'talking jacket' for the disabled. The prototype was cumbersome and full of wires, and she and Stan realised the solution could lie in weaving fabric switches into the material. They developed various products including heated bedding and iPod-connected clothing but never really found a niche until attending a military show in Canada. Intelligent Textiles realised they had a potential solution to the military's need to reduce the weight burden on soldiers. The company won a contract in a Ministry of Defence-funded SBRI (Small Business Research Initiative) competition to demonstrate how the technology could be incorporated into a soldier's uniform. Asha said: "What we've got is a way of designing soldier systems that allows us to put technology wherever we want on a soldier. It gives us a huge advantage over other people because we don't need wires." The electronics are woven into fabric in order to create a flexible circuit board that connects together all of the soldier's equipment, substitutes lots of batteries with one power source and removes heavy cabling. Intelligent Textiles has signed a major contract worth several million pounds with the US Department of Defense – a joint project with BAE Systems and Synetic Designs of Canada, and a further contract for materials with the British Ministry of Defence. The uniform went into trials with the US Department of Defense last year and could be in use by US and British soldiers before too long. It is also looking at other uses of the technology. Asha added: "We could put electronics in car upholstery so you could wind the window down by making a circular motion on the door, and it could be used for remotely monitoring vulnerable people in their beds."

advisory service TI Management to apply for a Smart proof of market award from Innovate UK. In 2012 Bindatex was awarded £10,800 towards project costs of £18,000 to research high tolerance composite cutting in the aerospace sector. Positive results were virtually immediate. Chris said: "The study really raised our profile. We mentioned it to one of our customers at a trade fair. At the time they were putting together a quote for a nuclear fusion project and we worked with them to produce samples. "They got the contract and so did we. It was our first big contract in a totally new area – worth £750,000 over 18 months." Turnover at Bindatex has jumped from £70,000 in 2012 to a projected £540,000 in 2015. It has taken on three employees and is likely to

take on more as production ramps up. Chris added: "That one small grant enabled us to get into an entirely new sector and grow our business tenfold. The growth coaching made me think more strategically about how I was going to continue moving the business forward." Additional £3,500 funding has enabled Bindatex to develop a three-year growth plan, with Tim's coaching and mentoring help. Tim said: "Bindatex could be a £1.5 million to £2 million turnover business in the next three to five years. Transforming Chris from being the person who does everything to being the leader of a team will be a key part of the process. "The strategy and the opportunities are there, but you have to develop capabilities in terms of people as well as technology."



STAY CONNECTED

You can follow Williams on Twitter at [@WilliamsAdvEng](https://twitter.com/WilliamsAdvEng)
For more information please visit www.williamsf1.com

You can follow Innovate UK on Twitter at [@innovateuk](https://twitter.com/innovateuk)
For more information please visit www.innovateuk.gov.uk

Innovate UK is the UK's innovation agency. Innovate UK works with people, companies and partner organisations to find and drive the science and technology innovations that will grow the UK economy - delivering productivity, new jobs and exports. Our aim at Innovate UK is to keep the UK globally competitive in the race for future prosperity.

Williams is a leading Formula One team and advanced engineering company. Formed in 1977, the company has secured 16 FIA Formula One World Championship titles since its foundation.

Williams Advanced Engineering is the division of Williams that harnesses Formula One derived technology, development pace and knowledge to deliver highly innovative products and services to the motorsport, automotive, aerospace, defence and energy sectors. Working in close collaboration, Williams Advanced Engineering helps its customers meet the sustainability challenges of the 21st century and improve their performance, market position and brand image.