

# The economic and social impacts of SETsquared Partnership

**SETsquared**  
PARTNERSHIP

Universities of Bath, Bristol, Cardiff,  
Exeter, Southampton & Surrey



A report produced by

**WECD**  
Warwick Economics & Development



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## Executive Summary

The [SETsquared Partnership](#) of the six research-intensive universities of Bath, Bristol, Exeter, Southampton, Surrey, and Cardiff is a business support network that provides training for entrepreneurs, incubation for start-ups and accelerates the growth of scale-up businesses. SETsquared focuses on nurturing innovative university-connected businesses with high-potential for growth, social and economic impact throughout their lifecycle, i.e., from a new idea conceptualisation to business planning, resourcing, networking, investment generation and scaling-up.

The SETsquared Partnership has grown since it was established by the universities of Bath, Bristol, Southampton and Surrey in 2002 with founding funding from the [Higher Education Innovation Fund \(HEIF\)](#). The University of Exeter joined the partnership in 2011 and Cardiff University joined 2021, having collaborated with SETsquared since 2018 as part of its Scale-Up Programme which is co-funded by Research England (RE) and the Higher Education Funding Council for Wales (HEFCW).

The SETsquared Partnership operates eight programmes:

- **Student Enterprise**, including the **Intrapreneurial Knowledge Exchange Enterprise Pathway (IKEEP)** programme, helps campus-based potential aspiring entrepreneurs develop new business skills and ideas;
- **Innovation to Commercialisation of University Research (ICURE)** programme is an InnovateUK-funded national programme supporting academics to determine if there is market potential for their research and develop commercial skills;
- the **Entrepreneurs Workout**;
- its **six Business Acceleration Centres** for start-ups to scale-ups;
- its **Scale-Up Programme** for later-stage growth businesses, including the **Innovation Workout**; and
- an **Investment Programme** through which the SETsquared Partnership connects investors to investment opportunities across its ecosystem.

This year marks 20 years since the launch of the SETsquared Partnership, and this report presents: a) an overview of the Partnership's main activities and achievements, including estimates of economic impacts generated for the UK economy by businesses supported by SETsquared; and b) a selection of case studies that illustrate the nature and extent of the support provided to businesses, and the potential wider social and environmental impacts and benefits that the products of these businesses could generate for society.

The research underpinning this report was conducted by Warwick Economics & Development (WECD) and has drawn on programme-related data provided by the SETsquared Partnership, with the assumptions tested through various market data to provide realistic estimates. The previous 2018 Economic Impact report produced by WECD covered the 16 years of support provided by the SETsquared Partnership (i.e., 2002 -2018) and also produced future forecasts, for the period 2018-2030.

This 2022 report provides estimates of economic impacts for the 20 years of programmes and activities provided by the SETsquared Partnership (2002-2022), and future forecasts for the remaining eight years, to 2030. The main findings of the current report are summarised as follows:

- The 2018 report estimated that 965 businesses that had been supported by SETsquared were operational in 2017. This report estimates that in 2022 there are 1,417 businesses operational that have been supported by the SETsquared, an increase of almost 50% over the last 5 years.
- The 2018 report estimated that businesses supported by the SETsquared had directly contributed a total of £8.8 billion to the UK economy between 2002-17 (£5.8 billion direct and £3 billion indirect). This report estimates that, between 2002 and 2022, the total GVA contribution of businesses supported by SETsquared is £15.7 billion (comprised of £10.6 billion direct economic contribution by the businesses supported and £5.1 billion indirect economic contribution, i.e. the economic contribution of businesses that supply goods and services to the businesses supported by SETsquared).
- The level of employment generated by businesses supported by the SETsquared Partnership is expected to be 15,624 full-time equivalent jobs by the end of 2022.
- This report forecasts that, if the SETsquared Partnership maintains its current level of performance in the future, businesses supported by the SETsquared Partnership could contribute £27.3 billion to the UK economy by 2030.
- The latest available data also indicate that businesses that are members of SETsquared have raised £3.9 billion of private and public investment over the last 20 years, with 70% of this investment being in the last 5 years. Favourable market conditions and tailored business targeting and development activities by the SETsquared Partnership (i.e. doubling its membership in that period) have contributed to this success.

Beyond **significant improvements in productivity and substantial attraction of capital**, businesses supported by the SETsquared Partnership are highly likely to generate **positive social impacts and accelerate environmental improvements**. 24% of SETsquared member businesses are in the sustainable tech sector (i.e. businesses actively involved in reducing greenhouse gas emissions through their work, improved energy and efficiency, improved biodiversity etc.) and 27% in health and wellbeing. Detailed examples of these are included in the report ([section 3](#)) and present businesses that have been supported by the SETsquared Partnership in bringing new technologies into the market, potentially resulting in:



**Improving the life and care for people with advanced motor neurone disease (MND)**, an illness which affects 1 in 300 people in their lifetime and kills a third of affected people within a year. 5,000 adults are affected in the UK at any one time, 6 people are diagnosed with MND every day and 6 people die of MND every day. SETsquared member company, [Earswitch](#), has developed a revolutionary communication tool for people with severe communications difficulties and disabilities in partnership with the University of Bath and the Motor Neurone Disease Association. The Earswitch technology is a sensor within an

earpiece that detects intentional movement of the eardrum, following contraction of the 'tensor

tympani' muscle. Proof-of-concept has successfully demonstrated that it can be used to communicate by typing on a virtual keyboard. This represents the development of an entirely new, non-invasive human-computer-interface with wide ranging health applications.

**Developing high performance electric and hybrid marine engines that will directly help to**



**reduce the shipping industry's carbon emissions**, currently around 940 million tonnes of CO<sub>2</sub> annually – at least 2.5% of the world's total CO<sub>2</sub> emissions, and significantly more than the aviation industry which produces around 2.1%. SETsquared member company, [Ecomar Propulsion](#), a UK based marine engineering company, in partnership with Durapower, a Singapore-based battery manufacturer, is working to provide commercially viable options for the rapid reduction of ship pollution. New approaches will be delivering operational cost

benefits and reducing the environmental impacts of the global shipping industry, including small and medium ships (that account for almost 1% of total greenhouse gas emissions and 25% of emissions from shipping despite accounting for only 4% of total transport work).



**Protecting data from a new generation of cyberattacks that use quantum computers to break through existing encryption protections**, with potentially immense harm for many industries including companies, institutions and national critical infrastructure organisations around the world. This concern is well-founded as cases of cyberattacks abound. For example, in 2021, a hacker breached the water supplier in Oldsmar, Florida, but was fortunately unsuccessful in their

attempt to poison it. In another case, a Russian ransomware attack halted a prominent meatpacking company's operations affecting nearly 10,000 workers and causing a global spike in meat prices. Overall, there was a 102% increase in ransomware attacks at the beginning of 2021 compared to the previous year. SETsquared member, [KETS Quantum](#), a UK-based company, is developing hardware to counter these threats and keep citizens and society protected from hi-tech hackers.

## 1. The SETsquared Partnership Support

### Overview of the support provided

1.1. The main aim of the SETsquared Partnership is to:

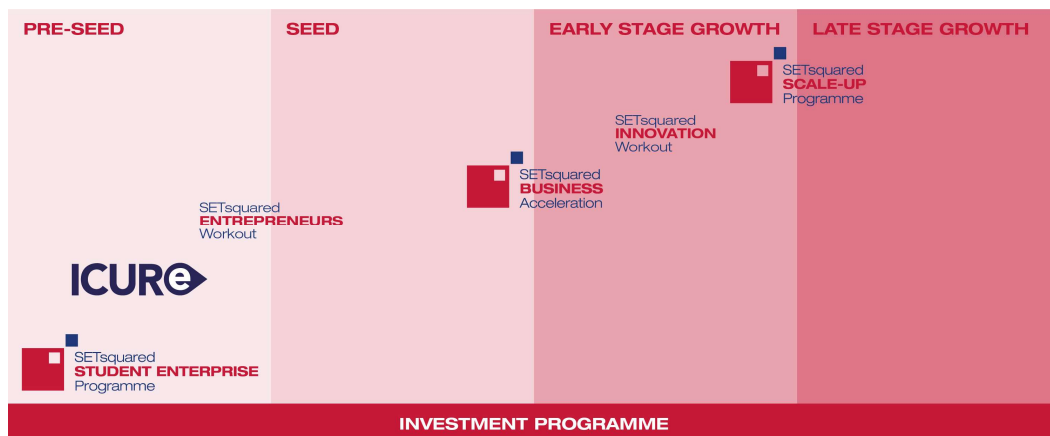
accelerate the growth of the SETsquared eco-system of support and infrastructure for high-tech, high-growth enterprises to deliver impact and income, develop entrepreneurial talent and reputational value for the SETsquared Partners and support their regional economies.

1.2. Specifically, the SETsquared Partnership sets-out to:

- accelerate the growth of knowledge-based, research-intensive high-growth potential enterprises in its ecosystem that have spun-out of, or are connected to the SETsquared Partners;
- leverage the power of the SETsquared Partners' collaboration to secure Government & private sector investment for the SETsquared Partnership ecosystem (for example, by aggregating deal and talent-flow); and
- advocate the ecosystem and promote its development, its world-class reputation and the critical contribution made to it by the SETsquared Partners.

1.3. As shown in Figure 1.1, SETsquared's range of programmes is designed to support the growth and success of ventures from idea through to start-up and scale-up.

Figure 1.1: SETsquared programmes relating to the venture lifecycle



### Main elements of the partnership business support

1.4. Expanding on the diagram above the following gives an overview of the support programmes on offer from SETsquared:

- **Student Enterprise**  
Support includes: Intrapreneurial Knowledge Exchange Enterprise Pathway (IKEEP) – intrapreneurial training and real-world industry experience to equip students with the

skills to drive innovation and bring fresh thinking to businesses. It has already trained 2,000+ students and supported 550 to complete a business project. Other support includes the opportunity for students to pitch their ventures to investors at an annual investment showcase and access other SETsquared training to develop their business models.

- **Innovation to Commercialisation of University Research (ICURe Discovery & Explore)**  
Funded by Innovate UK and delivered by SETsquared, ICURe enables graduate researchers and early career researchers to understand the commercial landscape for their innovation through to market discovery and spin-out. Over the last 8 years, ICURe has trained 500+ teams, which has led to 200+ companies being created, 650+ jobs and £95m raised.
- **Training opportunities**  
Entrepreneurs and Innovation Workouts plus a Health Innovation Programme enable participants to develop and build on their business models and provide specialist sector insights. With a new focus on environmental and social goals (ESG) for companies the Impact workout has supported companies in articulating and measuring their impact in these areas.
- **Business Acceleration**  
Business incubation for tech start-ups, offering everything early-stage entrepreneurs need to achieve growth and make an impact, including mentoring and training, vibrant networks of advisors and investors and flexible or virtual membership. Many companies continue to be supported within the centres as they are scaling up and become members of the Scale-Up programme.
- **Scale-Up Programme**  
The Scale-Up Programme supports innovative, growing businesses to raise public funding and private investment to undertake collaborative R&D with academic expertise from across SETsquared's six university partners. The programme has attracted 400+ members who are investing £100m in R&D in collaboration with SETsquared university partners.
- **Investment Programme**  
The Investment Programme supports businesses to raise equity investment through introductions to investors and corporate venturers, including an annual investment showcase which attracts hundreds of investors. It has delivered Innovate UK funded schemes such as the Regional Angel Investment Accelerator, to enable companies to raise public funding alongside Angel investment – through which 19 companies accessed £3.3m of R&D funding leveraging >£8.6m of angel investment.

- 1.5. More information about SETsquared's full range of programmes can be found at:  
<https://www.setsquared.co.uk/support-programmes/>







### Examples of SETsquared support






1.6. Examples of businesses supported by the SETsquared Partnership through a range of services are provided below. The SETsquared Partnership aims to support specific sectors of the economy, including:

- Advanced Engineering & Manufacturing
- Digital Innovation, including immersive technologies
- Environmental, Sustainable and Marine/Maritime
- Health and Wellbeing
- Quantum Technologies

1.7. The following case study is from [Evolve Dynamics](#), a UK-based specialist engineering company that has been supported by the SETsquared Partnership through a range of services.

<ul style="list-style-type: none"> <li> Established in 2013</li> <li> Surrey</li> <li> 35 employees</li> <li> £2.5M investment &amp; funding raised</li> </ul>	<p><i>"SETsquared gave us a kick start, a boost and helped go from infancy to rapid growth and expansion"</i> Mike Dewhirst, Founder, Evolve Dynamics</p>
<p><a href="#">Evolve Dynamics</a> designs, develops and manufactures mission-specific, extreme weather UAV (Aka drones, RPAS, UAS etc), payload and software systems for public safety and defence. Their UAV, or "drone" Sky Mantis is in use with UK police, search and rescue organisations, Royal Navy and MoD. The company has over 30 staff and an advanced, Skunk-Works-like (Lockheed Martin department which designed the U2, Blackbird and F117 planes) R&amp;D team comprised of electronic, mechanical, aerospace and software engineers and technicians as well as production, logistics and procurement teams. The company employee veterans from RAF and Royal Marines and has staff in Ukraine. It has recently moved into 12,000 square foot brand new lab in Farnham and is growing at an exponential rate. Its products are on the cutting edge of the industry on many fronts including AI and autonomy, sensors, propulsion systems (including a 100 meter ground to air power cable system), batteries, secure video streaming workflows and much more. Type of support received from SETsquared includes:</p> <div style="display: flex; justify-content: space-between;"> <ul style="list-style-type: none"> <li>✓ <b>Digital Business Acceleration Hub Programme (DBAH) – funded support</b></li> <li>✓ <b>Investor Readiness Training</b></li> <li>✓ <b>Links with various Surrey University departments</b></li> </ul> <ul style="list-style-type: none"> <li>✓ <b>Business Skills Workshops</b></li> <li>✓ <b>Events and networking</b></li> <li>✓ <b>Access to Mentors</b></li> </ul> </div>	

1.8. The following case study is from [Zeetta Networks](#), a software company supported by the SETsquared Partnership through a range of services. In 2021, Zeetta was shortlisted in the [Tussell Tech200](#) as one of the fastest-growing technology companies in the UK public sector.

<ul style="list-style-type: none"> <li> Established in 2015</li> <li> Bristol</li> <li> 35 employees</li> <li> Investment raised of \$6.6m (£5.9m)</li> </ul>	<p>“Working with SETsquared Entrepreneurs in Residence, Zeetta has strengthened and clarified its customer benefits statements” Ihab Mahna, CEO Zeetta Networks</p> 
<p><a href="#">Zeetta Networks</a> is a software company that provides <b>software automation tools that simplify network operations for businesses and service providers so they can build and operate their networks easily</b>. Zeetta Networks spun out of the world-renowned High-Performance Networks Group of the University of Bristol to commercialise the group’s leading Network Virtualisation &amp; Network Slicing technology. Zeetta Networks is recognised across the industry for its innovative technology and has been awarded several awards and accolades including the prestigious <a href="#">“Cool Vendor” title from Gartner in 2019</a>. Support received from SETsquared includes:</p>	
<ul style="list-style-type: none"> <li>✓ <b>Networking</b></li> <li>✓ <b>Events</b></li> <li>✓ <b>Market research</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ <b>ICURE grant</b></li> <li>✓ <b>Mentoring</b></li> <li>✓ <b>Training</b></li> </ul>

1.9. SETsquared also offer an investment readiness programme that provides a range of activities including business planning, investment strategy, and preparing an elevator pitch. Playwaze, benefitted from investment events such as business support and mentoring, investor introductions and investment showcasing.

<ul style="list-style-type: none"> <li> Established in 2014</li> <li> Surrey</li> <li> 18 employees</li> </ul>	<p>“SETsquared has supported us in our journey from a fledgling app into one of the UK’s leading sports tech businesses. Today Playwaze supports over 500k users in getting active whether that be through booking a yoga class, competing in a national football league, or taking part in a charity steps challenge.” Rupert Jenner CEO Playwaze</p> 
<p><a href="#">Playwaze</a>, an app that was introduced in 2014, offers an <b>online toolkit and mobile app for managing sport and activity – activities, sessions, classes, and camps, competitions, challenges, memberships and payments</b>. Over 100 UK sports organisations use Playwaze, which promotes market awareness and subsequently SaaS growth. Playwaze is the exclusive digital partner for British Universities &amp; Colleges Sport and the Youth Sports Trust, giving the company access to 170+ universities with 2.5 million students, and 26,000 schools with 10m young people. Type of support received from SETsquared includes:</p>	
<ul style="list-style-type: none"> <li>✓ <b>Entrepreneur support</b></li> <li>✓ <b>Investor introductions</b></li> <li>✓ <b>Mentoring</b></li> </ul>	<ul style="list-style-type: none"> <li>✓ <b>Investor readiness</b></li> <li>✓ <b>Pitch training</b></li> </ul>

1.10. A particular focus of the SETsquared Partnership is Wellbeing. The following case study shows how a business member of the SETsquared partnership, [Earswitch Ltd](#) benefitted from SETsquared support to prepare a successful grant application for which it attracted £1.5 million funding. This was for developing the ‘EarSwitch’ communication device, a

**revolutionary technology set to give a voice to those with severe disabilities** e.g. advanced Motor Neurone Disease (MND). MND is an illness which affects 1 in 300 people in their lifetime and kills a third of affected people within a year. 5,000 adults are affected in the UK at any one time, 6 people are diagnosed with MND every day and 6 people die of MND every day. The new device has the potential to offer more independence and quality of day-to-day living to those with high-level complex care requirements in the UK and globally as well as reducing care costs. EarSwitch collaborated with Dario Cazzola from the Department of Health at the University of Bath, who said of the collaboration: *"Much of my academic research involves implantable devices, which have the potential for higher impact but over longer periods of time due to complex regulatory and ethical considerations. EarSwitch is one of the first projects I have worked on that was more of an assistive technology, and therefore, a device that could be in clinical use within just 12 months."*

 Established in 2019	<i>"Taking part in the Digital Innovation Business Acceleration Hub and our subsequent involvement with SETsquared's Scale-up programme has been pivotal in moving EarSwitch forward. The support from the Scale-Up team has been amazing – they helped us to craft thorough and professional bids and focused on the commercial case for developing our technology into multiple other sectors."</i> <b>Dr Nick Gompertz, Founder &amp; Director, EarSwitch</b>
 Bath	
 6 employees	
 >£2m investment & grant funding raised	

[EarSwitch Ltd](#) worked with the University of Bath to develop a prototype of its revolutionary communication tool for people with severe communication difficulties and disabilities. The EarSwitch technology is a sensor within an earpiece that detects intentional movement of the eardrum, following contraction of the 'tensor tympani' muscle. Through the tensor tympani, one of the smallest muscles in our bodies, EarSwitch monitors the movement of this muscle, which results in an 'earclick', and unlocks complex controls (e.g. eye tracking). Proof-of-concept has successfully demonstrated that it can be used to communicate by typing on a virtual keyboard. This represents the **development of an entirely new, non-invasive human-computer-interface with wide ranging health applications.**



Type of support received from SETsquared includes:

- ✓ **Entrepreneur support**
- ✓ **Investor introductions**
- ✓ **Mentoring**
- ✓ **Investor readiness**
- ✓ **Pitch training and bid application writing**

1.11. The following example highlights the level of support that has been provided by the SETsquared Partnership to [KETS Quantum Security](#), a UK-based company developing **hardware to protect quantum computing cyberattacks**. There was a 102% increase in ransomware attacks at the beginning of 2021 compared to the previous year and there are currently over 2,000 cyberattacks made every day on people, organisations and critical infrastructure. For example, a US pipeline was shut down from a cyber-attack and ransomed for \$5 million<sup>1</sup>; a hacker accessed and unsuccessfully attempted to poison the water supply of

<sup>1</sup> <https://www.reuters.com/business/colonial-pipeline-ceo-tells-senate-cyber-defenses-were-compromised-ahead-hack-2021-06-08/>

Oldsmar, Florida in February 2021<sup>2</sup>; and a Russian ransomware attack led to halting of a prominent meatpacking company's operations affecting nearly 10,000 workers and causing an uptick in meat prices.<sup>3</sup> Global cybercrime costs are expected to increase by 15% a year over the next five years reaching \$10.5 trillion annually by 2025, and the healthcare industry alone is expected to spend \$125 billion in cybersecurity from 2020 to 2025. Anticipated breakthroughs in Quantum Computing could give the attackers new technology to significantly increase the number and impact of these. KETS is developing the solutions to stop them.<sup>4</sup>

<ul style="list-style-type: none"><li> Established in 2016</li><li> Bristol</li><li> 13 employees</li><li> Investment and funding raised of £4.8m</li></ul>	<p><i>"Being a SETsquared member has been invaluable for advice and contacts. It's also been great to have a supportive community around you who understands what you're going through."</i></p> <p>Dr Chris Erven, CEO and Co-Founder, KETS Quantum Security</p>
<p><a href="#">KETS Quantum Security</a> combine the power of quantum technologies with the scalability and practicality of integrated photonics to fix some of the biggest security problems facing some of the largest organisations on the planet. It harnesses the properties of quantum mechanics to solve challenging problems in randomness generation and <b>secure key distribution and enable ultra-secure communications for businesses, households and individuals and the state.</b></p> <p>Type of support received from SETsquared includes:</p> <ul style="list-style-type: none"><li>✓ <b>Researcher to Innovator programme</b></li><li>✓ <b>Business Acceleration support through SETsquared Bristol – mentoring, investor readiness training, flexible office space, events &amp; network</b></li><li>✓ <b>Scale-Up Programme bid writing support</b></li><li>✓ <b>Innovation to Commercialisation of University Research (ICURE)</b></li></ul> 	

<sup>2</sup> <https://www.wired.com/story/oldsmar-florida-water-utility-hack/>

<sup>3</sup> <https://www.newsweek.com/russia-linked-cyber-attack-jbs-meats-hits-7000-jobs-1596713>

<sup>4</sup> Source: [Norton](#)

## 2. Assessment of Economic Impacts

2.1. Review of SETsquared programme data indicates that **nearly £2.75 billion (£2,745,340,909 million) of investment has been raised by businesses supported by the SETsquared Partnership over the 5 years between 2017 and 2021**. Investment has been increasing over this period as follows:

- ⇒ 2017: £218m
- ⇒ 2018: £286.2m
- ⇒ 2019: £438.5m
- ⇒ 2020: £616.2m
- ⇒ 2021: £1,186m

2.2. This brings the total capital raised between 2002- and 2022 to **just under £4 billion** (£3,944,245,909 million).

2.3. The **economic contributions generated by the activities of the SETsquared Partnership to 2030** are also estimated having considered various models and research findings.<sup>5</sup> Drawing on this desk-based research and the latest business membership and participation data provided by the SETsquared programme, Economic impacts have been estimated for two key economic indicators, Gross Value Added (GVA) and Employment. The main assumptions made for these calculations are summarised in Table 2.1 – under the 2022 column.

**Table 2.1: Assumptions for the Economic Impact Assessment**

Key Variables	2014	2018	2022
Proportion high growth alumni <sup>1</sup>	13%	13%	
Proportion graduating from support	33%	33%	33%
3 year survival rate for those in support <sup>1</sup>	72%	72%	81%
Annual survival rate for alumni <sup>2</sup>	95%	95%	90%
Ratio of GVA to Turnover <sup>3</sup>	50%	50%	50%
Average revenue of high growth alumni	£3million (year 1 after graduating) and £6 million after year 2 of graduating from business support)		
R&D GVA per employee <sup>3</sup>	£46,955	£34,700	£129,849
Blended GVA per employee <sup>3</sup>	£71,584	£76,081	£64,156
Discount Rate for NPV calculations <sup>4</sup>	3.5%	3.5%	3.5%
Supply chain multiplier <sup>5</sup>	1.52	1.52	1.52

**Sources:** 1 Provided by SETsquared Partnership; 2 WECD estimate; 3 Derived from ONS data weighted by business sector of sample businesses; 4 HM Treasury Green Book (standard) discount rate and 5 UK Input-Output Tables – blended rate based on sector profile of businesses supported.

<sup>5</sup> Employment & job creation across Europe - Private Equity at Work report, Invest Europe, 2022, <https://www.investeurope.eu/research/private-equity-at-work/>; January 2021 - Quarterly Review, BVCA, 2020, <https://www.bvca.co.uk/Research/BVCA-Publications/Details/Quarterly-Review-January-2021>; Measuring the contribution of private equity and venture capital to the UK economy in 2021, EY, 2021, <https://www.bvca.co.uk/Research/BVCA-Publications/Details/Measuring-the-contribution-of-private-equity-and-venture-capital-to-the-UK-economy-in-2021>; and <https://www.bvca.co.uk/Research/BVCA-Publications/Details/Annual-report-on-the-performance-of-portfolio-companies-XIV>

2.4. Table 2.2 summarises the estimated social and economic impacts to date (2002-2022) and to 2030. These estimates indicate that:

- the performance of businesses supported by the SETsquared Partnership have directly contributed a **total of £10.6 billion GVA to the economy between 2002 and 2022** (with generated GVA steadily increasing over time as shown in Figure 2.1);
- accounting for both **direct and indirect impacts**, increases the contribution of supported businesses to the economy to **£15.7 billion GVA within this 20-year period**;
- an additional **£7.8 billion GVA is expected to be generated between 2023-2030 (direct GVA)**, increasing to **£11.6 billion** when indirect benefits are accounted for; and
- the level of employment (in terms of full time equivalent jobs) generated by supported businesses is expected to be **15,600 FTEs** by the end of 2022 (and around 20,000 by 2030).

**Table 2.2: Estimates of Economic Impacts to date and to 2030**

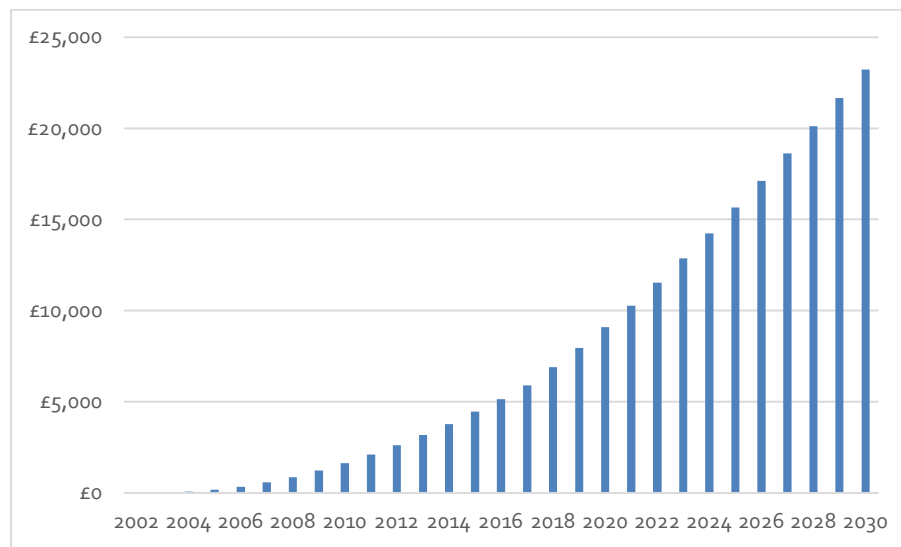
	2002-17	2018-22	2002-22	2023-30	2002-30
<b>a) Businesses</b>					
Business <u>supports</u> - total during period (number)	3,645	2,177	5,822	4,032	
Estimated number of businesses supported (approximately)		1,941		1,344	3,285
Graduated businesses (still trading by end of period) - number	583 <sup>6</sup>	913 <sup>7</sup>	913	1,283	
<b>b) Employment (by end of period)</b>					
Employment in supported businesses - in last year of period	1,923	2,544	2,544	2,544	
Employment in graduated businesses (still trading by end of period – number)	9,091	13,080	13,080	17,584	
Total Employment – FTE (by end of period)	<b>11,014</b>	<b>15,624</b>	<b>15,624</b>	<b>20,128</b>	
<b>c) GVA (Cumulative during period)</b>					
Direct Cumulative GVA (NPV <sup>8</sup> ) - £m (Discounted to 2015 Base Year)	<b>£5,824</b>	<b>£4,743</b>	<b>£10,567</b>	<b>£7,858</b>	<b>£18,425</b>
<b>Direct + Indirect Cumulative GVA (NPV) - £m (Discounted to 2015 Base Year)</b>	<b>£8,757</b>	<b>£6,992</b>	<b>£15,749</b>	<b>£11,584</b>	<b>£27,333</b>

<sup>6</sup> A total of 965 businesses supported by the SETsquared Partnership were operational in 2017 (including the 583 businesses that had graduated from the support, i.e., businesses supported in the past, and 382 supported in that year/2017).

<sup>7</sup> In 2022, a total of 1,417 businesses supported by the SETsquared Partnership were operational (including 913 graduated businesses and 504 supported in 2022).

<sup>8</sup> Net Present Value.

Figure 2.1: Cumulative GVA £millions (undiscounted)



Source: WECD Calculations on the basis of SETsquared Partnership data

- 2.5. Information on venture capital financing value in the UK indicates that investments (in particular in tech start-ups) have experienced steady growth from 2013 through to the first quarter of 2022. An all-time high of \$10.1 billion was achieved in the third quarter of 2021. As published by [Statista Research Department](#): ‘...*The presence of a stable business environment following a post-Brexit climate and high vaccination rates during the coronavirus pandemic were contributing factors to increased growth in venture capital investment in the UK. Further integration of technology across UK industries and a rise in early-stage investment deals aided in the continued level of venture capital investment in the UK. Throughout 2021 leading into 2022 the level of funds generated has yet to fall below \$9 billion.*’
- 2.6. The UK Government has also placed research, innovation and skills at the centre of its longer-term economic plan, as laid out in its Plan for Growth (2021)<sup>9</sup>. Research also plays a central role in the UK’s global ambitions as set out in the Integrated Review of Security, Defence, Development and Foreign Policy (2021)<sup>10</sup>. A number of strategies were also published in 2021 to strengthen the UK’s research and innovation system, including a new Innovation Strategy (2021)<sup>11</sup> and an R&D People and Culture Strategy (2021)<sup>12</sup>. In the 2021 Spending Review<sup>13</sup>,

<sup>9</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/969275/PfG\\_Final\\_print\\_Plan\\_for\\_Growth\\_Print.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/969275/PfG_Final_print_Plan_for_Growth_Print.pdf)

<sup>10</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/975077/Global\\_Britain\\_in\\_a\\_Competitive\\_Age-the\\_Integrated\\_Review\\_of\\_Security\\_Defence\\_Development\\_and\\_Foreign\\_Policy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/975077/Global_Britain_in_a_Competitive_Age-the_Integrated_Review_of_Security_Defence_Development_and_Foreign_Policy.pdf)

<sup>11</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1009577/uk-innovation-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1009577/uk-innovation-strategy.pdf)

<sup>12</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1004685/r\\_d-people-culture-strategy.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004685/r_d-people-culture-strategy.pdf)

<sup>13</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1043689/Budget\\_AB2021\\_Web\\_Accessible.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043689/Budget_AB2021_Web_Accessible.pdf)





research and innovation received an important boost in funding, with total public spending to reach £20bn by 2024/25 and £22bn by 2025/26.

- 2.7. However, it is not very clear at this stage the extent to which raising capital for the UK tech sector may have been affected by the recent volatility in the financial markets and the changing economic policy direction in a relatively short period of time. Undoubtedly, the SETsquared Partnership ecosystem of support provides the confidence needed by investors during volatile and uncertain times. Nevertheless, future estimates of economic impacts will need to be reviewed towards the end of 2023 and 2024.



### 3. Wider social impacts

- 3.1. Beyond **significant improvements in productivity and substantial attraction of capital**, businesses supported by the SETsquared partnership are highly likely to **generate positive social impacts and accelerate environmental improvements**. 24% of SETsquared member businesses are in the sustainable tech sector (i.e. businesses actively involved in reducing greenhouse gas emissions through their work, improved energy and efficiency, improved biodiversity etc.) and 27% in health and wellbeing.
- 3.2. The following case study provides an example of a business supported by the SETsquared Partnership that has demonstrated **exponential growth in turnover and headcount has increased more than fivefold in the last year**.<sup>14</sup> In addition, the company, [Ecomar Propulsion](#), is also developing a high performance electric and hybrid marine engines that will directly help **to reduce the shipping industry’s carbon emissions**, currently around 940 million tonnes of CO<sub>2</sub> annually – at least 2.5% of the world’s total CO<sub>2</sub> emissions, and significantly more than the aviation industry which produces around 2.1%.<sup>15</sup>





<ul style="list-style-type: none"> <li> Established in 2019</li> <li> Southampton</li> <li> 12 employees</li> <li> Investment raised of £1m+</li> </ul>	<p><i>The SETsquared support means so much for an ambitious SME and now we can move to providing much bigger ship systems than we ever imagined when we first joined SETsquared. Our most recent funding win projects us on a journey 3-5 years ahead of our planned objectives and it has only been achieved by the tremendous support we get from friends such as SETsquared.”</i> <b>Anthony Bennett, COO, Ecomar Propulsion</b></p>
<p><a href="#">Ecomar Propulsion</a> Ltd is a UK based marine engineering company working to reduce global emissions by creating innovative battery and hydrogen electric powertrains, which will drastically cut carbon emissions and millions of litres of fuel waste. The following metrics further highlight significance of this technology:</p> <ul style="list-style-type: none"> <li>• 90% of everything we consume is moved by sea</li> <li>• Shipping produces 940m tonnes of CO<sub>2</sub> annually (2.5% of the world’s CO<sub>2</sub> emissions)</li> <li>• The International Marine Organisation has set a target to cut emissions by half by 2050</li> <li>• Small and medium ships account for almost 1% of total GHG emissions and 25% of emissions from shipping despite accounting for only 4% of total transport work.<sup>16</sup></li> </ul> <p>The two main products by ECOMAR are inboard engines for commercial vessels, and outboard engines, with plans to develop more powerful hybrid systems for the shipping industry. The company is partnered with <a href="#">Durapower</a>, a Singapore-based battery manufacturer to provide commercially viable options for the rapid reduction of ship pollution, delivering operational benefits and reducing the environmental impact of the global shipping industry. Support received from SETsquared’s Scale-Up Programme includes:</p> <ul style="list-style-type: none"> <li>✓ <b>Academic introductions to the University of Exeter’s Centre for Future Clean Mobility</b></li> <li>✓ <b>Bid writing support to successfully secure 4 funding bids totalling £6m</b></li> </ul>	

<sup>14</sup> <https://www.innovateukedge.ukri.org/success-story/Clean-marine-propulsion-firm-Ecomar-grows-full-throttle>

<sup>15</sup> <https://www.ukri.org/news/shipping-industry-reduces-carbon-emissions-with-space-technology/>

<sup>16</sup> <https://smartgreenshipping.com/fast-technologies>

3.3. Another related example is supporting new technologies facilitating the move to adoption of electric vehicles. Research has found that more than half of motorists aged 16 to 49 years say they are likely to switch to all-electric vehicles within the next decade. 4 out of 10 of those likely to switch to electric (41%) expected to do so in the next five years. The three most quoted reasons cited among drivers unlikely to switch to all electric in the next-decade were cost (70% of respondents) and lack of Infrastructure (52%).<sup>17</sup> As described below, **MOLE** has developed a fully autonomous, robotic charging device that enables businesses to accelerate their transition to a fully electrified fleet directly addressing the lack of fast charging points, the single largest reason for the slow uptake of electric vehicles.

 Established in 2018	<i>"The SETsquared Scale-up programme is a really helpful framework for a business with growth ambitions. It has opened doors for academic collaborations with the University of Surrey and Cardiff University. These academic collaborations have in turn helped us access funding, infrastructure, and expertise, all of which have been very valuable. It has also helped raise our profile in the academic world, industry and the market."</i> Auroskanda Vepari, Director, MOLE
 Guildford, Surrey	
 5 employees	
 £0.75 investment & funding raised	

**MOLE** develops autonomous vehicle charging technology for applications across the transport system including for cars and commercial vehicles. The new technology means that users simply park over the MOLE to connect autonomously to the charger. The MOLE system comprises of a ground unit which is installed in the parking bay, and a non-invasive modification to make the vehicle compatible (installation of an alternate, underbody charge inlet). Beyond cars and commercial vehicles, this technology has applications across the wider transport system including **in aviation and maritime sectors**. Type of support received from SETsquared's Scale-Up Programme includes:

- ✓ Academic introductions
- ✓ Bid writing support



3.4. Reference to the SETsquared Partnership supporting new technologies relating to health and well-being issues is made in section 1 of the report. Additional examples of this support, with implications for **significant social impacts (and public services improvement and savings)** are included below. The first example relates to **Alzheimer's**. The total cost of dementia (Alzheimer's disease is the most common cause of dementia) worldwide is \$604 billion (£380 billion). In the UK, the total cost of care for people with dementia is £34.7 billion, with people affected by dementia paying most of the related social care costs (i.e. the state pays £5.2 billion; people affected pay £8.3 billion; unpaid carers, or families and friends provide care to a value of £13.9 billion). This cost is set to rise steadily to £94.1 billion in 2040 made up of healthcare costs, social care costs, and costs of unpaid care. The largest of these is social care making up 45% or £15.7 billion and is set to rise to £45.4 billion by 2040.

<sup>17</sup> <https://www.weforum.org/agenda/2021/07/electric-cars-batteries-fossil-fuel/>

<ul style="list-style-type: none"> <li> Established in 2018</li> <li> Oxford</li> <li> 8 employees</li> <li> &gt;£3.5m investment &amp; funding raised</li> </ul>	<p>“SETsquared Scale-Up support has been very helpful in the process of securing our NIHR grant to start exploring the benefit of our Cortical Disarray Measurement (CDM®) technology in NHS clinical patients” Dr Steven Chance, CEO, Oxford Brain Diagnostics</p>	
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[Oxford Brain Diagnostics](#) has developed techniques to analyse the cellular structure of the brain in a way that no one else can, to support drug development and aid clinicians around the world in their first to defeat Alzheimer’s and other neurodegenerative diseases. Some metrics highlighting the significance of the work of Oxford Brain Diagnostics are listed below.

- Alzheimer’s is a condition which some 50 million people worldwide are believed to be living with and, which, if breakthroughs are not discovered could rise to 152 million by 2050.
- In 2019, there were 850,000 people with dementia in the UK or 1 in 14 people over 6 and it is predicted that in 2040, there will be over 1.5 million.
- The total cost of dementia worldwide is US\$604 billion (£380 billion).

Type of support received from the SETsquared Scale-Up Programme includes:

- ✓ Support to secure £1.4m funding with the National Institute for Health Research (NIHR) in collaboration with the University of Southampton and Cardiff University
- ✓ Academic introductions
- ✓ Professional grant writing resources

3.5. Consultations are a huge factor in NHS resourcing with GPs in England alone routinely providing over 300 million appointments every year. With ‘Frequent Attenders’, for important but routine checks, accounting for around 4 in every 10 of these, the [Lifelight](#) offer described in a bit more detail below, has the potential to transform the delivery of healthcare services.

<ul style="list-style-type: none"> <li> Established in 1999</li> <li> Southampton (University of Southampton Science Park)</li> <li> 22 employees</li> <li> £11m investment &amp; funding</li> </ul>	<p><i>“The SETsquared Partnership has opened the door to a range of investors and valuable business contacts. The coaching offered has also helped hone our pitch for investment.”</i> Laurence Pearce, CEO &amp; Founder, xim</p>
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[Lifelight](#), which has been developed by xim Ltd, is a game-changing technology that allows any smartphone or tablet device to **measure blood pressure, pulse and breathing rate simply by a patient looking into the device’s built-in camera for 40 seconds**. Completely contactless, with no additional hardware needed, it saves healthcare staff time while improving patient experience. Type of support received from SETsquared programmes includes:



- |  |                               |
|--|-------------------------------|
| ✓ Investor readiness training                  | ✓ Flexible office space       |
| ✓ Investment Showcase & investor introductions | ✓ Business review panels      |
| ✓ Events & networking                          | ✓ Health Innovation Programme |

