

High Potential Opportunity Photonics and Microelectronics

Opportunities to integrate connected sensors and systems for connected and autonomous vehicles across land, sea and air.

Heart of the South West



Department for
International Trade

Executive Summary:

An opportunity to integrate the critical light and electronics based solutions demanded by the global connected and autonomous vehicles industry across Land, Sea and Air...

A connected vehicle is a vehicle with technology that enables it to communicate and exchange information wirelessly with other vehicles, infrastructure and devices.

An autonomous vehicle is a vehicle that is capable of driving itself without human intervention.



Technology convergence is resulting in intelligent vehicles that are both connected and autonomous, hence **connected and autonomous vehicles (CAVs)**.



An Opportunity of both size and scale

- Advanced vehicle assistance systems market valued at £15.5 billion in 2017 and forecast to grow to £70.5 billion by 2025
- LiDAR market currently valued at £1.3 billion and increasing to £2.63 billion as technology is being developed to be used in automotive ADAS systems and on unmanned aerial vehicles

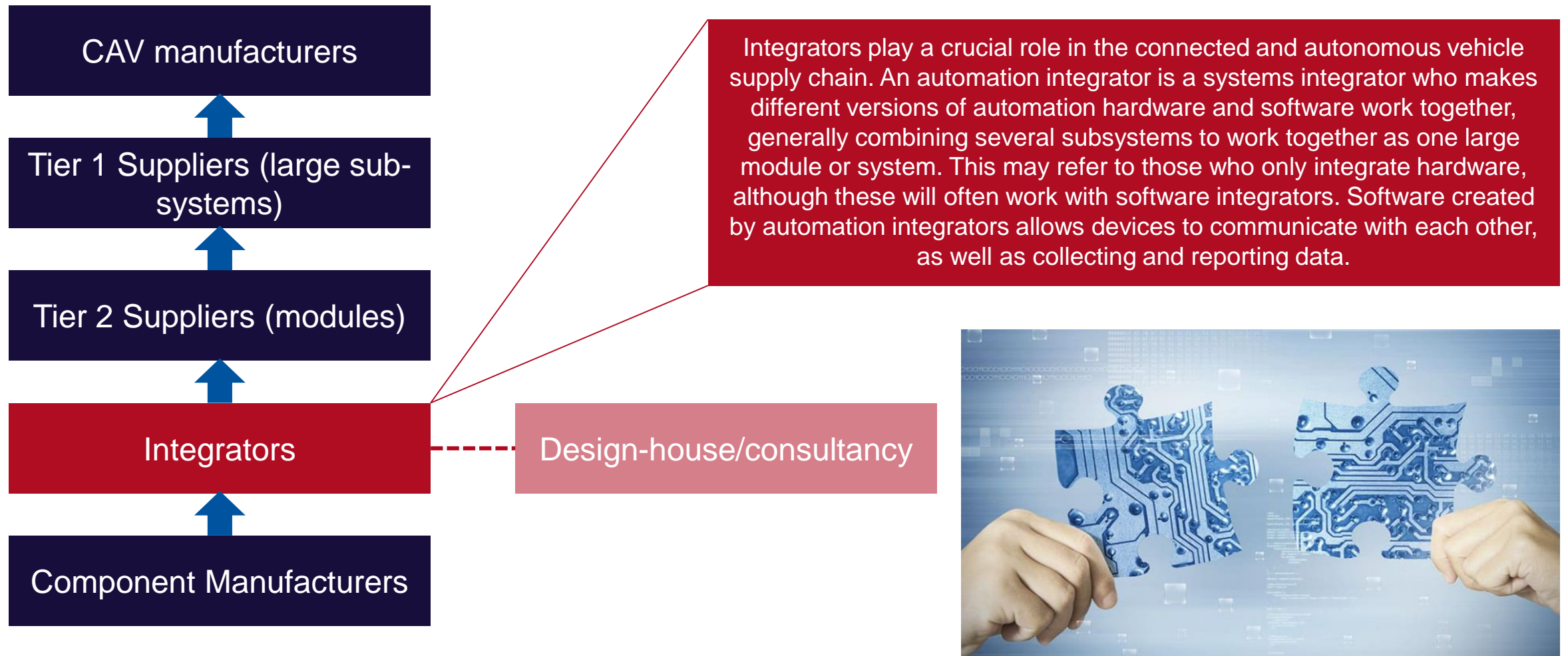
CAV technologies are being driven by the need for robust and resilient solutions for the most critical, failure-intolerant applications for land, sea and air. Read on to see why the Heart of the South West is the home to those solutions.....

An opportunity to utilise critical light and electronic based capabilities to integrate connected sensor and sensor systems for:

1. Connected and autonomous cars
2. Unmanned vessels and underwater vehicles
3. Unmanned air and space craft...

...including integrating products into commercial applications for: actuators, cameras, LiDAR, radar, GPS, radio frequency and optical comms, machine vision technologies, and digital image processing.

With a clear and defined position in the value chain



Executive Summary:

...which you can exploit through the unique strengths in robust and resilient photonics and microelectronics offered in the Heart of South West

Resilience and reliability of connected sensors and systems is the key barrier for the effective development of CAV technologies.
Industry needs these solutions, and you can find them here in the Heart of the South West.
Be part of a world-leading cluster for robust, resilient and reliable photonics and microelectronics technologies.

Access a unique capability in the design, manufacture and testing of solutions for the highest reliability, failure-intolerant applications...built-up from a world-class experience supplying the aerospace, marine and nuclear sectors with low cost remote sensors optimised for long life and durability.



All the Skills you need now, and in the future: direct access to a core of the UK's highly skilled photonics, microelectronics and radio-frequency engineering students, professionals and capability.

Robust, Resilient, Reliable, and Ready!
Delivering solutions for the most demanding environments



Innovation on your doorstep. Access the Electronics & Photonics Innovation Centre (EPIC), to **drive forward the commercialisation of your technologies.**



Collaborate with world leading capabilities in photonics and microelectronics at Exeter and Plymouth University, and other prominent research institutes in the UK.



Access to an **internationally competitive cost base** supporting your investment.

A clear pipeline of opportunity in both size and scale

Recent Government and industry commitments present a clear pipeline of opportunities in the Heart of the South West and beyond for companies like you. Click the icons to find out more about the key opportunities for your business



LAND



SEA



AIR

Integrating sensor and sensor systems for connected and autonomous vehicles

The CAV revolution will expand the UK's position in the global automotive market, and the new technologies required specifically for CAVs including sensors and sensor systems will be a fundamental part in driving this sector forward.

The Heart of the South West has the capabilities and expertise in photonics and microelectronics to ensure you are well placed to take advantage of this multi billion pound global opportunity

The local supply chain can play a leading role in the development of CAV technologies. It's **capability in the design and deployment of reliable and resilient photonics and microelectronics** will ensure it meets the rigorous standards set by the global automotive industry.

The **attractiveness of the UK as a destination for the development of CAV technologies** includes existing world-class testing facilities, such as CAV testbeds across the UK, and MIRA, Europe's largest transport sector R&D cluster worth around £355 million.

There will be a huge potential **global demand for on-vehicle hardware and software components** including: actuators, cameras, LiDAR, radar, GPS, Radio Frequency and optical communications, machine vision technologies, and digital image processing.

£63 billion
Global CAV technologies
market in 2025

Automotive LiDAR adoption is valued at £273 million. This is forecast to grow to £6.4 billion by 2028. There is demand for 69 million LiDAR systems by 2026



LAND



SEA



AIR

Source: Market Forecast for Connected and Autonomous Vehicles, Transport Systems Catapult, July 2017; BIS Research; ADAS report

For unmanned vessels and underwater vehicles

Marine autonomy will play an important role in the future of the maritime industry – from remotely-piloted large container ships to small submarine monitoring equipment.

A significant opportunity exists to take advantage of the South West's world class capabilities and expertise in photonics and microelectronics to integrate sensors and sensor systems for the £107 billion global autonomous shipping industry.

Significant co-funding opportunities through the UK's Defence Science and Technology Laboratory are available - £25 million each year for the next 4 years for companies setting up operations and developing new maritime technologies

£107 billion
global autonomous
shipping industry
opportunity...



A region with the **knowledge and understanding of developing photonics and microelectronics** solutions for robust and harsh environments – of critical importance to the autonomous marine sector.

...with the capability and expertise to deliver this in the **Heart of the South West**

...of which sensors and sensor systems will play a leading supply chain role...

At the heart of the south coast Marine cluster, stretching from Cornwall, through Plymouth to Portsmouth – giving you **direct access to leading research, expertise, on-water testing and flagship projects** for your connected sensors and sensor systems.

Technology and innovation is key to Maritime 2050, the UK Government's Strategy in the sector. As a result, **support is available** for investors looking to provide a primary technology supply chain role.



LAND



SEA



AIR

Sources:
Images: Great asset library –Marine- Nekton;
<https://worldmaritimeneeds.com/archives/262034/uks-autonomous-shipping-industry-gets-a-boost/>; Maritime 2050

And for unmanned aerospace and space craft, all creating exciting opportunities for your business

The Heart of the South West is part of the most capable and diverse Aerospace cluster in the UK, anchored by the top 15 Tier 1 companies in the world who all have a presence locally. Significant Space clusters are present in the region and the nearby M3 corridor and Oxfordshire.

£32 billion

UK Aerospace Sector

£14 billion

UK Space Sector

Significant co-funding opportunities through the Future of Flight' ISCF challenge are available - funding will be available to companies setting up operations in the South West and developing technologies that will provide the foundation of a more electric, highly autonomous integrated aviation system for the future of mobility.

An opportunity to integrate the technologies that will be used in aircraft & space sensors and systems of the future

Aerospace

The global aerospace sector is continuing to show growth, with dynamic sensor technologies providing essential situational awareness for many novel and innovative aerospace applications.

Specifically, the global airborne LiDAR system market is expected to reach £1.2 billion by 2021.

Space

The global space sector is forecast to grow exponentially (£400 billion by 2030), with autonomous craft and vehicles at the forefront of future activity and exploration.

These space technologies will rely on innovative sensor and sensor systems developed on earth.

With the capability and expertise to deliver solutions for robust and harsh environments, the Heart of the South West is well positioned to take advantage of these UK and global supply chain opportunities.



LAND



SEA



AIR

Sources: ADS; Innovation in Space, Royal Academy of Engineering

The compelling case that makes the Heart of the South West the right choice for your business:

THE
LOCATION

SUPPLY
CHAIN

SKILLS &
RESEARCH

COST
PROFILE

INDUSTRY
NETWORKS



HEART OF THE SOUTH WEST

The location for highly resilient **photonics and microelectronics**. Read on to see how you can capitalise on **these strengths** to ensure your success in the growing CAV sector.

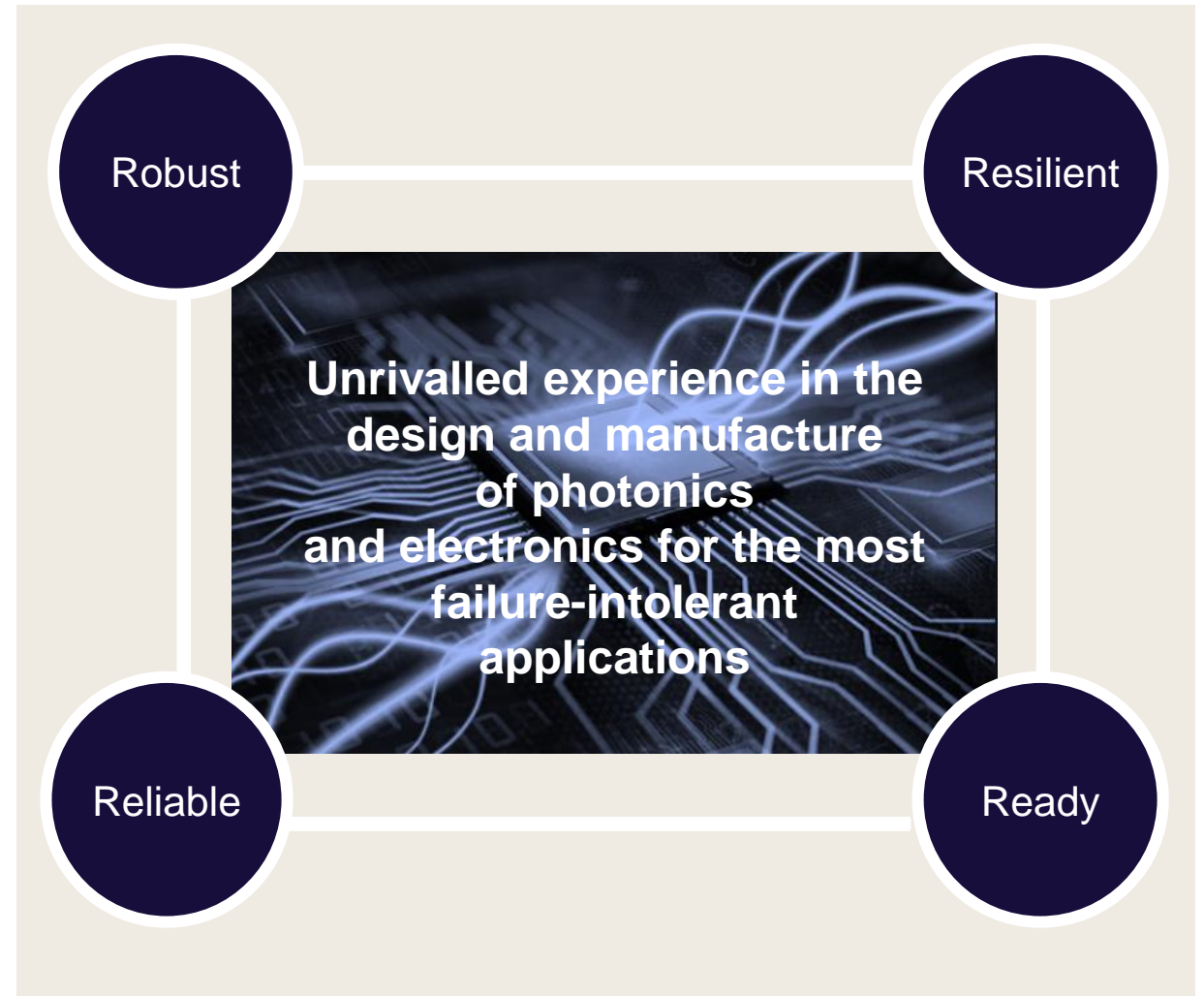
The Heart of the South West – Robust, Reliable, Resilient and Ready

A track record of quality and success creating the perfect investment environment for now and the future

The Heart of the South West's unique opportunity is built on an unrivalled experience of:

- 1** Manufacture, design and test of high reliability photonics and electronic components and systems.
- 2** Strength and depth in all terrestrial communications technologies- radio frequency, integrated photonics and fibre optics.
- 3** The most experienced harsh environment and high durability photonic and microelectronic design engineers.
- 4** Pioneers in next generation integrated photonics design and packaging.

These pillars, and the unique capability they offer when combined, are a direct result of the Heart of the South West photonics and microelectronics industry supplying solutions to the defence, aerospace and communications markets over multiple decades.



With a highly-consolidated supply chain, offering you an easy fit

Click any of the options to the right to find out more about the Heart of the South West Photonics supply chain capabilities and cluster that you can become a part of.



UK and South West
Logistics Network



Cluster



Access to the Global
Connected and Autonomous
Vehicles Market

And a fully integrated logistics network

The Heart of the South West Region allows for seamless access and rapid freight distribution between air, land and sea.



DIRECT ACCESS TO LOCATIONS WORLDWIDE

Fly to major cities within the UK and Europe via Exeter Airport

25+

UK and European
Destinations

Open up a world of opportunities through Bournemouth, Bristol, Newquay and Southampton Airports, all within easy reach



CONNECTING YOU TO CUSTOMERS AND SUPPLIERS BY ROAD...

Connecting you to the Midlands in 2.5 hours and London in 3.5 hours, via the M5



... AND RAIL

Travel to London, the Midlands and beyond via fast and frequent rail links



WITH VALUABLE GLOBAL SUPPLY CHAIN AND DEPLOYMENT SUPPORT

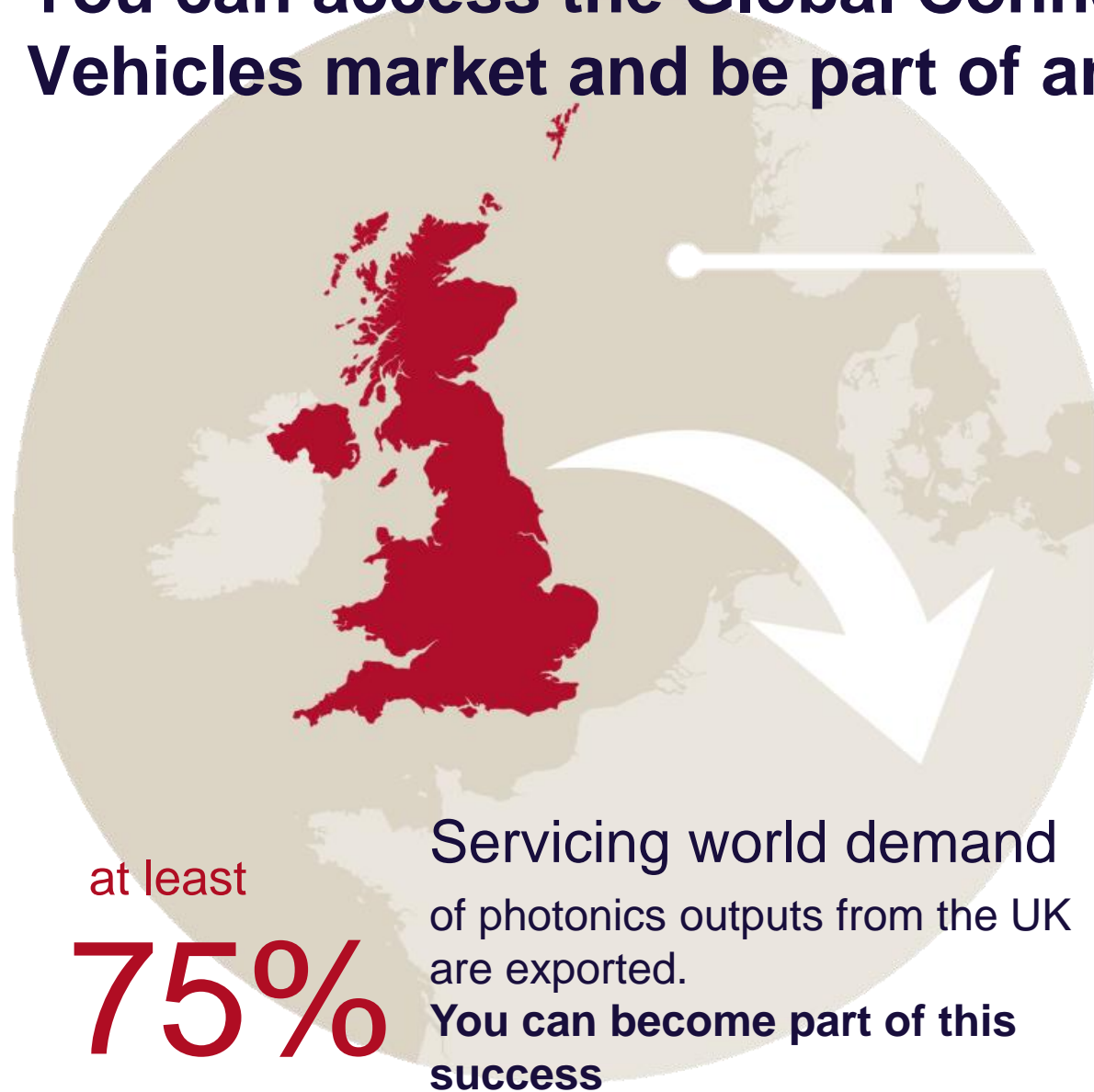
Accessible through 6 strategically located ports in the Heart of the South West

6

Ports for Cargo
Handling

The Ports of Plymouth and Bristol are also strategically located to support your supply chain and deployment activities

You can access the Global Connected and Autonomous Vehicles market and be part of an international success story



The Opportunity

The UK is a global leader in the photonics industry, and companies operating here are in a position to capture significant share in CAV markets around the world.

The UK offers capability and expertise in all aspects of photonics including the design and development of sensor and sensor systems for all types of connected and autonomous vehicles. This makes the UK the partner of choice in CAV developments across the world.

Support

A growing number of UK-based companies are exploiting these markets and there are a number of ways the UK can help support your venture overseas.

The Department for International Trade can help you increase your presence in markets overseas, develop international partnerships and guide you through any challenges in accessing markets.

Source: Transport Systems
Catapult. September 2017

And join a vibrant cluster of leading international firms

A clear customer, partner and supply base for you to directly access

The Heart of the South West's photonics and microelectronics cluster ensures unrivalled experience in the design and manufacture of photonics and electronics for the most failure-intolerant applications for sea, air and land.

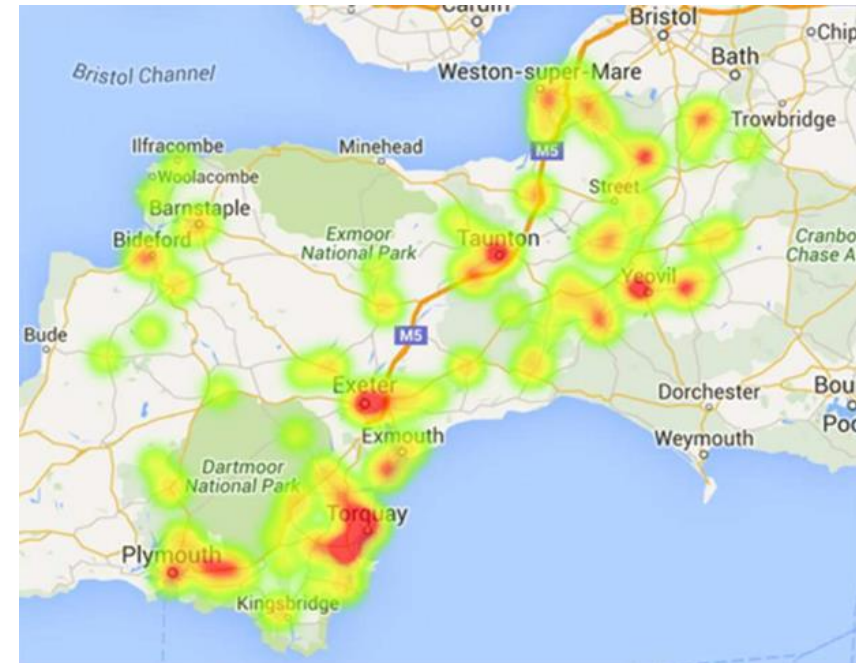
A strong and vibrant cluster in photonics and microelectronics with a broad range of capabilities across the supply chain including:

- Photonics component design
- Systems Integration
- Microelectronics
- Fibre optics
- Lasers
- Thin film and optical coating
- LED lighting
- Sensors and Imaging

174 companies

**3,125 people
employed**

**£918 million
in output**



The Region collaborates with and provides direct access to other leading photonics clusters including the Midlands, North East, Scotland, Solent and South Wales

Source: Microelectronics and Photonics in the Heart of the South West Region

Access world-class research and the skills you need to succeed

The Heart of the South West has developed a strategic Photonics skills plan to ensure you have access to the skills you need, now and for the future.

Cutting edge photonics R&D programmes in the South West are also addressing key industry issues including technology, training, supply chains and production.

Click the icons to the right to find out more about how our people and institutions can support your technology business.



Skills

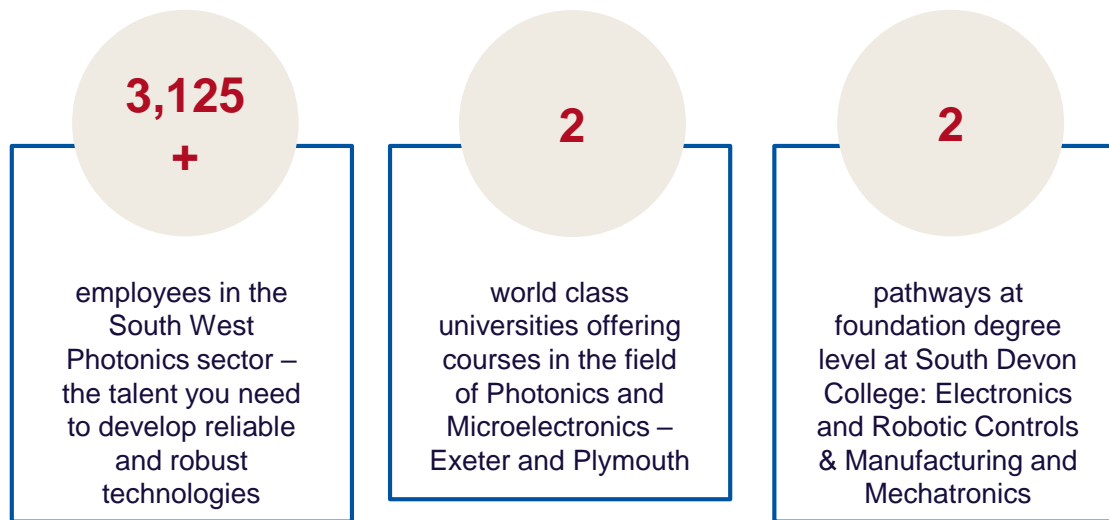


**World Class
Research**

There is already a skilled and professional workforce to help you succeed now

The highly skilled, local workforce has already played a major role in attracting new photonics investment...and the region has the skills and capabilities you need to succeed in the connected and autonomous vehicles sector.

The Heart of the South West has all the relevant technical and vocational skills you need.



Local Digital Skills Partnerships

Working in collaboration with leading digital companies including Microsoft and Google, the partnership increases the digital skills and drives productivity of employees in the South West region.

With industry centred training programmes in Higher Education Institutions, you can expect a ready supply of high-calibre labour.



Exeter University offers a number of relevant photonics graduate courses as well as PhD courses through the internationally renowned Centre for Doctoral Training (CDT) in metamaterials.

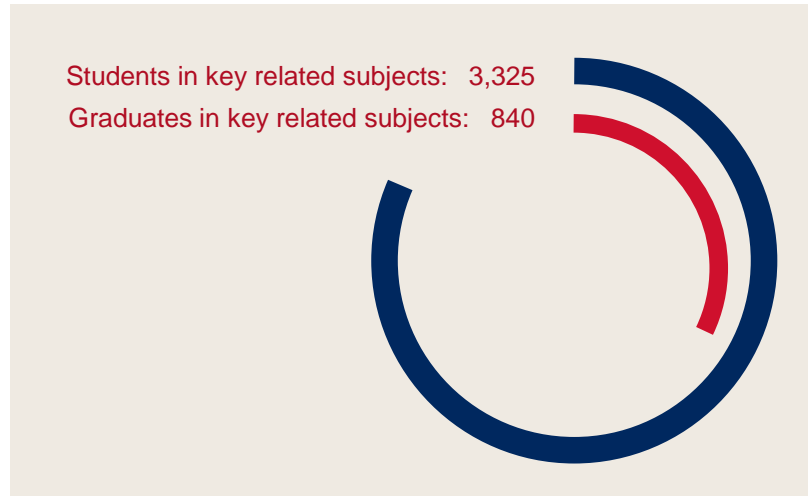
Plymouth University's School of Computing, Engineering and Mathematics offers photonics and microelectronic related courses. The Electron Microscopy Centre ensures students have access to expert and specialist support in the area of electron microscopy.



South Devon College offers vocational further education courses and in late 2019 will open the Hi-Tech Digital Centre, which will provide individuals with the digital skills that you need to support your business growth, as well as a location to support companies setting up operations.

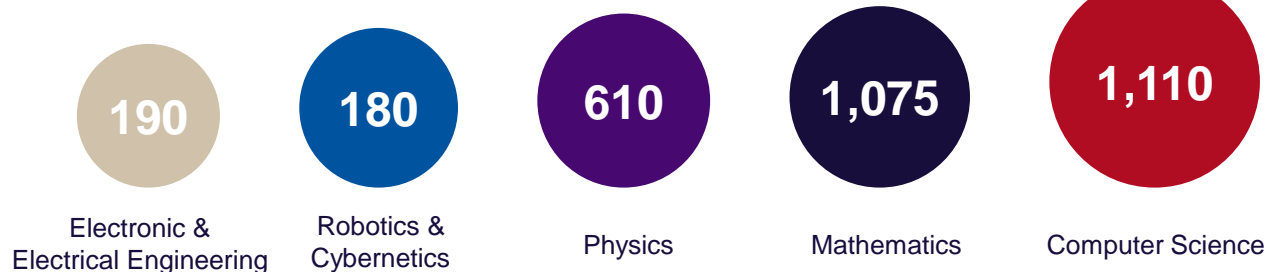
With leading institutions developing a pipeline of talent for your future

Heart of the South West Higher Education Institutes are supporting a steady pipeline of graduates educated for the photonics sector



Heart of the South West globally ranked universities and colleges are offering degrees in photonics and microelectronics relevant courses

Students currently studying at Heart of the South West HE institutes



The graduate pool is strengthened by photonic and electronic specific courses and world-class research centres

Exeter	<p>World leading capability in electronic engineering and functional materials and home to the CDT in Metamaterials</p> <hr/> <p>22,500 students from 130 countries, member of the Russell Group, UK University of the Year 2015/16</p>
Plymouth	<p>Expertise in computing, electronics, mathematics, robotics and statistics and home to the Electron Microscopy Centre</p> <hr/> <p>23,000 students, £155 million investment in facilities, 58% academic staff PhD qualified</p>
South Devon College	<p>Offers an innovative hi-tech curriculum for school age and above by developing employer focussed technical courses</p> <hr/> <p>9 campuses in the South West and part of the University of Plymouth Colleges (UPC) network</p>

Source: HESA 2016/17

Complemented by access to world-class research

Developing your people and supporting the seamless transfer from research to commercial applications of your products.



Torbay Electronics & Photonics Innovation Centre (EPIC)

EPIC will be a **state of the art centre of excellence for innovation in microelectronics and photonics** providing open market access to specialist laboratory and clean room facilities, accommodating specialist equipment. **The facility will promote collaborative activity between businesses and research institutions**, commercialising R&D.

- Access specialist hi-tech equipment and facilities
- Support commercialisation of R&D
- Design and develop prototype technology
- Test and validate new technologies



Exeter University

Exeter University can help companies innovate, grow or break into new markets. **Their world class research enable the development of new photonic and microelectronic products**, and allow access to the latest technologies to support this. The University have several funding schemes available, ranging from £2,000 - £40,000.

Plymouth University

The University helps companies find innovative solutions by collaborating on joint R&D projects, providing access to their innovation centres and academic expertise. **The Electron Microscopy Centre** provides expert, local access to imaging and analysis instrumentation and supports new product testing. For further information please [click here](#)



Industry R&D Collaborations

The Heart of the South West Photonics and Microelectronics cluster also has synergies and working relationships with:

- **Compound Semiconductor Applications Catapult, Cardiff** – facility hosting critical compound semiconductor capital and tools
- **OpTIC Technium, St Asaph, North Wales** – specialises in innovative optical systems, product development, engineering and technology consulting
- **Optoelectronics Research Centre, University of Southampton** – one of the world's leading institute for photonics research
- **Centre for Quantum Photonics, University of Bristol** – working towards future photonic quantum technologies

And a dedicated centre offering you specialist support in areas related to Electron microscopy



Plymouth Electron Microscopy Centre



With over 30 years of experience working with industry, the Plymouth Electron Microscopy Centre (PEMC) at the University of Plymouth can offer you a comprehensive service that brings together academic expertise and research with businesses across the UK and beyond.

The centre provide expert, local access to imaging and analysis instrumentation, supporting a diverse range of activities including:

- materials properties analysis (e.g. composition and crystal structure using EBSD, EDS, WDS and CL)
- analysis of defects and / or failure(s) in components
- evaluation of a product's quality / consistency (quality control)
- bio-imaging
- mineralogical analysis and sample characterisation
- 3D digital imaging and analysis

The centre has strong links with other departments within the University, so can offer you a full analytical service in addition to electron microscopy data capture, including composites, metallurgy and engineering.

You can benefit from using electron microscopy for:

- improved products and processes
- improved quality control
- reduction of waste (and therefore cost)
- new product development
- promotional images for web and printed materials

All backed with competitive costs, incentives and support

Click on an icon to see how locating your business here will offer you speed, support, and competitive advantage



Competitive Costs



Locations to Support Your Growth



UK Government Support



<https://www.exetersciencepark.co.uk/>



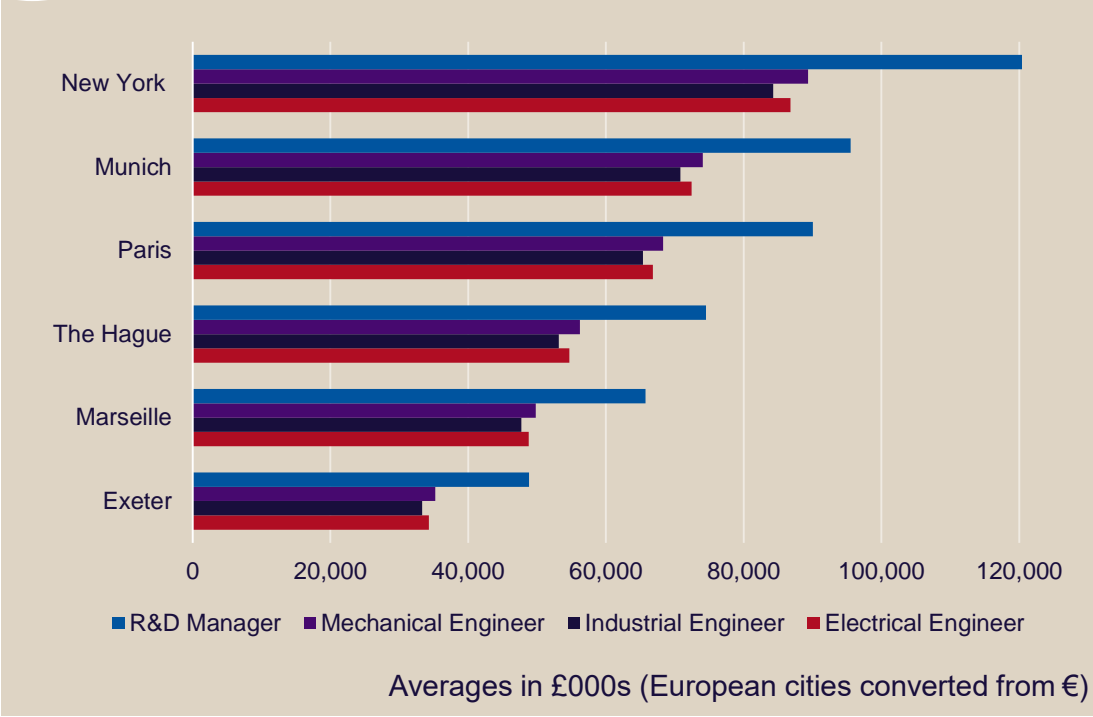
<http://epic-centre.co.uk/>

A cost competitive location against leading European markets

Our industry insights have identified key cost drivers for photonics companies... the UK and the Heart of the South West provide a competitive package against other leading Photonics clusters.



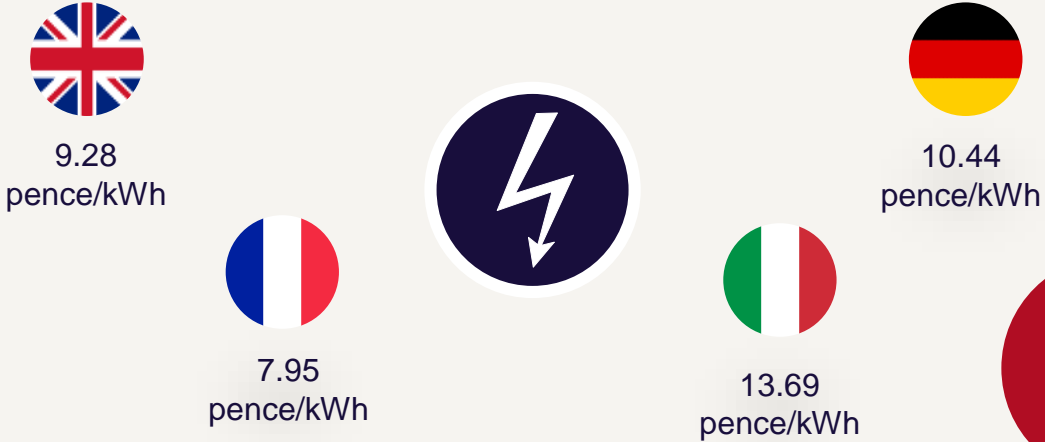
Cost Effective Salaries compared to leading Photonics Clusters



Potential Property Costs

	Exeter	Munich	Paris	Marseille
Industrial Space £/ft²	8.82	10.84	8.79	5.18

Competitive Electricity Rates



Sources: Electricity - BEIS data 2016 on industrial prices including tax; Property – FDI Benchmark; Salaries

Coupled with incentives and locations to support your growth, make this an easy choice for your investment

Enterprise Zones

Whether you want to launch or grow your business, the 3 Enterprise Zones (EZs) across the Heart of the South West will provide the best possible conditions to succeed. Advantages of setting up include access to:

- › A varied mix of **available space**: from Grade A office space to large development areas with full planning permissions
- › **Skills, sector clusters and R&D/Academia**
- › Financial support including Grant Aid, Enhanced Capital Allowances, Business Rate Support and Property Development Grants
- › **Next Generation Broadband** and superfast ICT networks

Soft landing package available from autumn 2019 to new and existing HotSW foreign owned SME's from outside the EU. Up to £150,000 available for capital expenditure to support job creation, business growth and re-investment

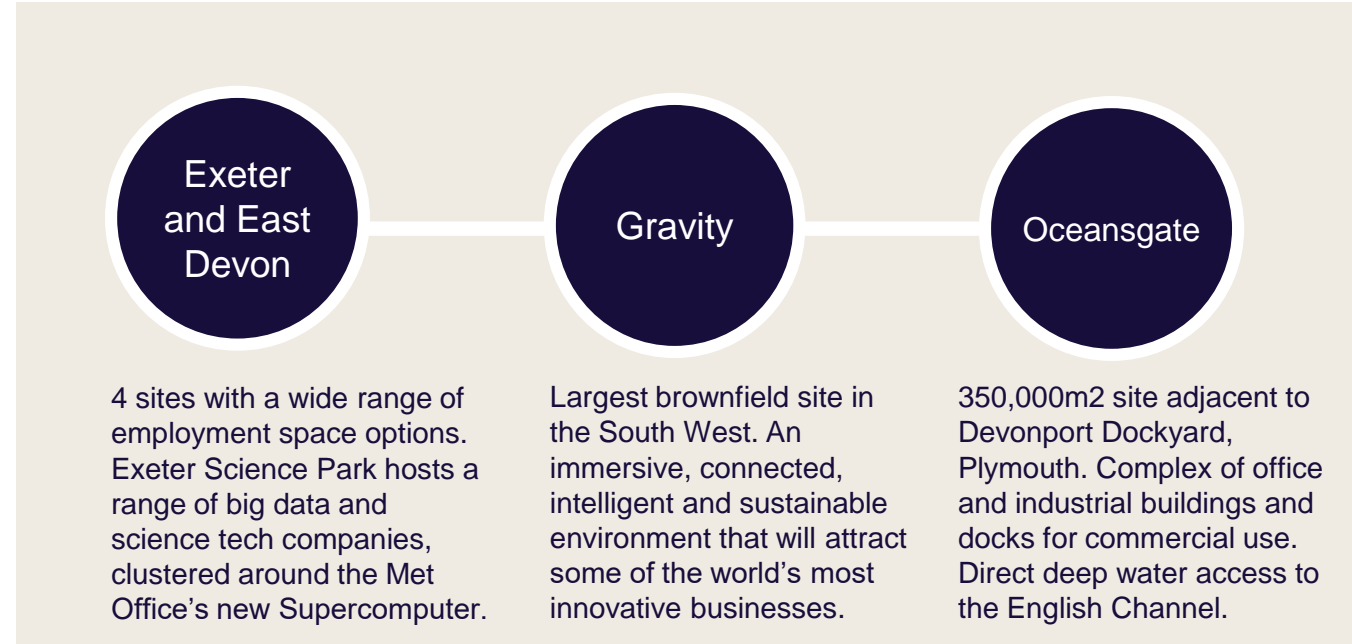
Electronics & Photonics Innovation Centre (EPIC)

EPIC in Torbay offers a start-up location package for investors including:

- £ Rent free periods for mid-term and long leases
- £ Access to an international trade bursary
- £ Dedicated, sector focussed hi tech business support

Hi-Tech Skills Centre

The centre in South Devon college offers a number of start-up location packages for investors.



With all the support you need to ensure a seamless investor process



Read on to see how this combines with local government to provide you with world class support services.

Real companies. Real experience. Real value.



Access to networks that can help influence, and connect you to suppliers and customers

The UK has a vibrant industry network offering support and advice for companies operating in the UK photonics industry.

Click one of the options to the left to find out more about our industry bodies and to see why leading international photonics companies choose to locate in the Heart of the South West.



Industry Bodies



Support in the UK



Photonics Companies
Choosing the Heart of
the South West

The UK's industry bodies enable quick and easy access to suppliers, partners and customers



For comprehensive support and advice, click any of the industry bodies below.

Photonics Leadership
Group

UK Photonics

Centre for Connected
and Autonomous
Vehicles

Automotive Electronic
Systems Innovation
Network

The Future Photonics
Hub

High Tech Forum

South Coast Marine
Cluster

Elec Tech Council

Innovate UK

Automotive Council
Technology Group

West of England
Aerospace Forum

Meridian Mobility

Association of
Industrial Laser Users

Transport Systems
Catapult

Compound
Semiconductor
Connected

British Marine
Electrical and
Electronics

Connected and Autonomous Vehicles are at the heart of Government strategy



...and the Photonics and Microelectronics sector will play a huge role in developing the next generation of connected sensors and sensor systems to meet these challenges and opportunities

Automotive Sector Deal

Government and industry will **aim to create a world-leading testing environment for CAVs**. Using renowned test tracks, they will improve the safety of these vehicles by pushing them to the limits of their speed and handling.

Aerospace Technology Institute – Amy Johnson Challenge

The Amy Johnson Challenge of ‘Advancing Mobility Through Flight’ aims to **enable the development of technologies**, systems, infrastructures, operations, policies and regulations that will provide the foundation of a more **electric, highly autonomous integrated aviation system** for the future of mobility.

Progeny Maritime Research

QinetiQ will build and manage a community of innovators who will contribute ideas to **maximise the impact of science and technology for UK maritime defence**. Knowledge, products or services could have applications in maritime defence, **including organisations that do not usually work in the defence industry**.

Industrial Strategy Grand Challenges

CAV development plays a prominent role in two of the challenges:

Clean Growth

Will position the **UK at the forefront of R&D and demonstration of CAV technologies**, including through the establishment of the Centre for Connected and Autonomous Vehicles and investment of over £250 million, matched by Industry.

Future of Mobility

Will look to **support the development of new technologies** including improved sensors, increased computing power, AI, use of drones, and internet connected vehicles.

Heart of the South West Local Industrial Strategy

The Heart of the South West Photonics sector has been **highlighted as a transformational opportunity** and one that links directly to CAV developments seen in national strategy. They have a clear programme looking at:

1

New products and services
(including a new integrated photonics design facility)

2

Skills development (Hi Tech and digital)

3

Supporting and attracting new business
(accelerators and soft landings)

4

World-class facilities (EPIC etc)





Companies are already exploiting the opportunity throughout the Heart of the South West, you can join their success.



Click the icons to view each case study

Spirent Communications

EFFECT Photonics

Silicon Sensing

Sonardyne



Click for more info



“Spirent is a Torbay success story. The business has worked hard to achieve and maintain the international recognition it has today. We will continue to invest in our workforce here to further develop the excellent skills-base we have today.”

Martin Foulger, Divisional Managing Director, Spirent Communications

Spirent Communications plc

Spirent Communications plc is a global leader in Test & Measurement, and inspires innovation within development labs, networks and IT organizations to enable customers to deploy communications networks, services & applications, and devices that enrich life.

- 1 Spirent's Positioning Division is recognised as the World's leading provider of GNSS and Inertial simulation solutions for testing Position, Navigation and Timing systems (PNT). Headquartered in Paignton and employing 100+ people, the Division covers all corporate functions including R&D.
- 2 In addition to its core GNSS test market, Spirent is investing in its portfolio of products to meet the growing demand for testing 'location aware' applications and systems in a simulated 'real-world' lab environment. This includes the emerging Autonomous Vehicle market, where the fusion of multiple sensors and signals (e.g. Lidar, Radar, 5G and HD Camera) continue to push up test and system complexity.
- 3 The business has significantly grown its R&D team and continues to benefit from very low levels of voluntary staff turnover, helping it to create a highly valuable, skilled team.

READ MORE CASE STUDIES

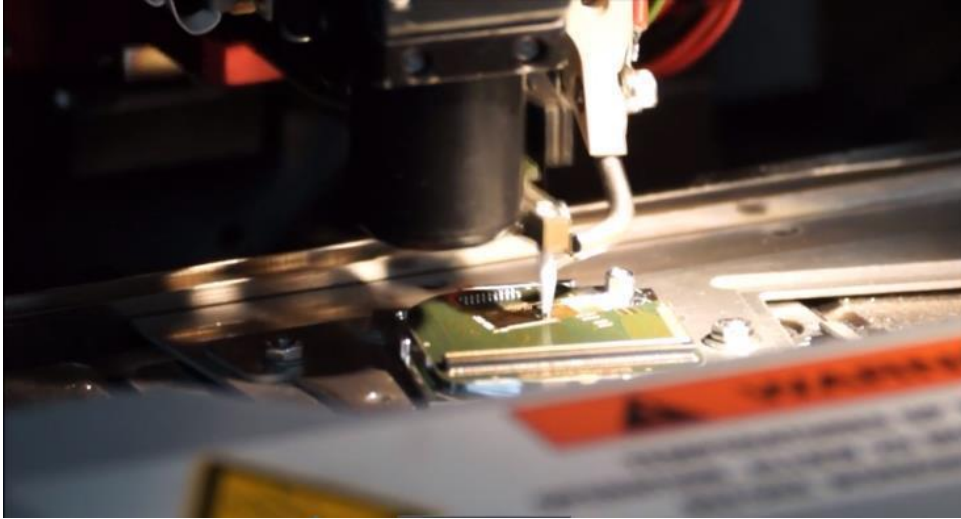
Spirent Communications

EFFECT Photonics

Silicon Sensing

Sonardyne

EFFECT Photonics Ltd



“We are engaged with a number of customers who see the value of EFFECT’s offering in a booming market place driven by the Internet of Things including connected autonomous vehicles and the need for the exchange of huge amounts of data.”

Paul Rosser, Vice President of Operations, EFFECT Photonics

Dutch owned, EFFECT Photonics BV design and develop high speed optical components for communication systems and applications enabling more widespread access to the Internet.

- 1 EFFECT Photonics has an advanced manufacturing facility based at the University of Plymouth, Brixham Laboratory, conveniently situated to provide access to the resources utilised by the well-established Hi-Tech cluster of companies and expertise locally based there.
- 2 The company now plans to further accelerate its expansion at the facility to ramp up volume production and develop their next generation of product. This next stage of growth will see the company invest over £4.2m over the next three years.
- 3 This will also result in a steady increase in staff numbers consisting of a mixture of photonics engineers, graduates, production operators and apprenticeship positions.

READ MORE CASE STUDIES

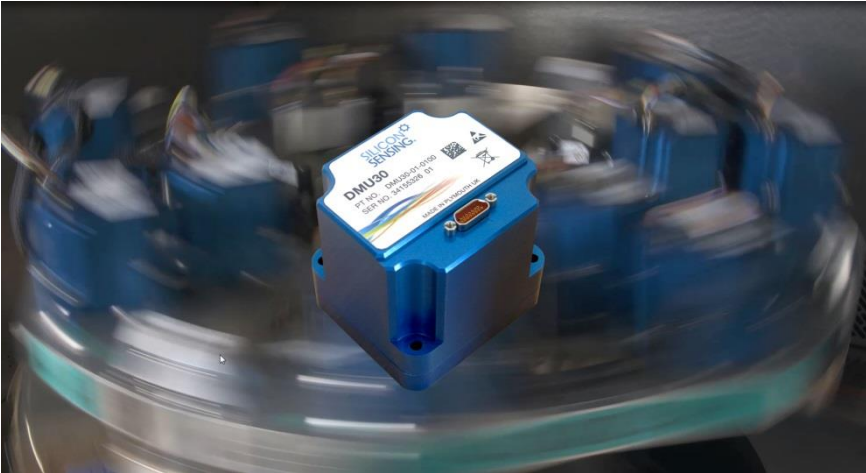
Spirent Communications

EFFECT Photonics

Silicon Sensing

Sonardyne

Silicon Sensing



DMU30 – Silicon Sensing's high performance MEMS IMU

“Our gyros have supported many millions of hours of road trials throughout the evolution of autonomous vehicle control and today we supply gyros into systems that guide and stabilise autonomous platforms subsea, on the ocean surface, in the air and in space.”

Steve Capers, General Manager, Silicon Sensing Systems Ltd

Silicon Sensing Systems Ltd is a world leader in the supply of high performance MEMS based inertial sensors, systems and foundry services. It is headquartered in Plymouth, UK.

- 1 Silicon Sensing was formed in 1999, with its head office in the Southwest of England, and an office in Amagasaki, Japan, it is jointly owned by Collins Aerospace and Sumitomo Precision Products.
- 2 The company develops gyroscopes, accelerometers, and inertial measurement units for various applications including stabilisation of optical systems, and the navigation of autonomous systems (land, sea and air)
- 3 Silicon Sensing's products can be found on some of the world's major automotive autonomous platforms, as well as in many other commercial and industrial applications ranging from subsea through to space. Through its dedicated MEMS foundry, they also provide prototyping and production of third party MEMS devices using their cutting edge PZT techniques – which can include optical sensors and other sensors used extensively within the autonomous vehicles market.

READ MORE CASE STUDIES

Spirent Communications

EFFECT Photonics

Silicon Sensing

Sonardyne

Sonardyne International Ltd



“As a location for marine research and development, Plymouth’s appeal lies in the diversity of water bodies, water depths, harbours and natural inlets. This maximises the time available to deploy and evaluate our equipment following arrival at a test site.”

Ioseba Tena, Global Business Manager, Marine Robotics and Defence

Sonardyne, with a research, test and training facility in Plymouth is a leading independent global provider of underwater acoustic, inertial, optical and sonar technology for a wide range of industries including offshore energy, defence, maritime security, ocean science and renewables.

- 1 Underwater acoustic positioning and navigation and communications remain at the heart of their marine operations. However, they are committed to investment in new and emerging technologies including; sonar imaging, inertial navigation and optical communications – with a growing emphasis on autonomous platform operations.
- 2 Their Plymouth base of operations located in Turnchapel comprises of office and training space, mechanical workshop, electronics laboratory, as well as visitor accommodation. The building also has its own slipway and pier.
- 3 For the autonomous underwater vehicles market, the company develops a number of innovative technologies and products including acoustic navigation and communications instruments, gyrocompass and motion sensor systems, and Doppler Velocity Logs (DVLs) for surface and subsea vehicles.

READ MORE CASE STUDIES

Spirent Communications

EFFECT Photonics

Silicon Sensing

Sonardyne

We're dedicated to finding the right fit for your business

The Department for International Trade and local partners are here to support you in navigating the opportunities across the UK – to find the right fit for your business.

Based on our experience of investors like you, this attractive opportunity demonstrates the strength and depth of capability available in central Government, and locally at Heart of the South West LEP to support you, and maximise your photonics and electronics investment in the UK.

For investors interested in considering high value options further – we provide a bespoke service tailored to your needs from investment inception, right through to aftercare support.

We pride ourselves in developing long-term relationships with our clients, predicated on a full understanding of their needs.

Contact DIT's Investment Services Team

W: invest.great.gov.uk/int/contact

E: enquiries@invest-trade.uk

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[For more information on how to set up a business in the UK, please visit the website](#)



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