

Independent Review by Sir Andrew Witty of Universities and Growth

University Alliance response, May 2013

University Alliance is a non-partisan, non-political organisation working to promote, safeguard and sustain the public benefit delivered by universities.

University Alliance brings together 24 of the UK's leading innovative and enterprising universities – major institutions combining science, technology and the creative industries with a focus on delivering for the professions, business and the community. Alliance universities are central to the UK's economy, driving growth in new sectors and markets through the delivery of high quality, industry-ready graduates, science and research.

Given the success of Alliance universities' business engagement we are pleased to be able to contribute to this BIS review of universities and growth. Throughout our response, we provide many examples of how Alliance universities are delivering economic growth.

Universities and the industrial strategy

Question 1

In what ways are universities contributing to the sectors and technologies in the Government's industrial strategy?

1. The Government's industrial strategy, specifically the UK sector analysis¹ considers which sectors could make a greater contribution to future economic growth and employment. We support the recognition of 'knowledge intensive traded services' defined to include professional and business services, and the information economy as high value opportunities. While universities are particularly relevant to the 'traded aspects of higher education,' there is obviously so much more universities do to drive economic growth.
2. We are therefore pleased that this review, will draw on cross-sector expertise to build a greater understanding of the diverse ways in which universities contribute to growth.
3. The future success of economic growth in the UK will be based on the talent and innovation of people from across the country. Universities are the engines to build
4. this capacity, and drive innovation and create new industries in all our regions. There is plenty of evidence to show that businesses working with universities brings huge benefits to the business, the university and to students; by enhancing research, driving innovation, supplying job-ready and entrepreneurial graduates, building better communities, and delivering economic growth. Innovation generated through business-university collaboration is critical to growth in new businesses and driving efficiencies and value in existing businesses.

¹ BIS (2012) *Industrial strategy: UK sector analysis* BIS Economics paper No 18.

5. The 2009 Universities UK report² established that: “Innovation plays a critical role in producing growth in the UK economy.” Lord Heseltine’s report³, ‘No stone unturned’ also emphasised the importance of innovation: “Our competitors understand that a country’s research and innovation capability is a key part of the national infrastructure.”
6. The Higher Education Innovation Fund (HEIF) has enabled universities to support innovation in growth sectors. Although HEIF is a relatively small stream of funding, at £150 million, its impact far outweighs its size. It provides an excellent return on government investment, with every pound of HEIF giving a return of £6 in gross additional Knowledge Exchange (KE) income, a proxy for the impact on the economy⁴. However, this is likely to represent an underestimate of the total economic and social benefits.
7. Knowledge Transfer Partnerships (KTPs) have enabled critical business engagement to develop knowledge, commercialise innovation and power new industries. Alliance universities lead over one-third of all UK knowledge transfer partnerships, worth over £6.5m per institution. They have been very successful in using HEIF to leverage external income and have developed well-established relationships with businesses of all sizes.
8. These strategic partnerships in key sectors with businesses in their region build capacity and accelerate growth. Alliance universities have significant strengths in industry-ready and relevant research, delivering innovation based on their close partnerships with business and industry, both in the public and private sector.
9. For example, **Plymouth University** is using HEIF to multiply the impact of their innovative Growth Acceleration and Investment Network (GAIN) platform. In partnership with the public and private sectors the University connects people, ideas and capital to accelerate the growth, and development of knowledge based businesses. GAIN links their research and teaching expertise with more than 500 high growth businesses, encompassing 32,000 staff and a turnover of £2.7billion.
10. At the **University of Huddersfield**, 50 per cent of their HEIF allocation has been used to establish a series of initiatives to grow the University’s Knowledge Transfer (KT) and commercialisation activities with external bodies. These key collaborative relationships ultimately lead to long term R&D programmes, delivering income generation and gearing for both partners including a £7.6m partnership with Borg Warner with leveraged RGF and private funds, and a £20m partnership with the Rail Safety and Standards Board.

² UUK (2009) *The Impact of Universities on the UK Economy* Universities UK

³ BIS (2012) *No stone unturned: in pursuit of growth* An independent review by Lord Heseltine

⁴ PACEC (2012) *Strengthening the Contribution of English Higher Education Institutions to the Innovation System: knowledge exchange and HEIF funding* A HEFCE commissioned report

11. The industry ready and relevant research undertaken at Alliance universities is typically in areas of high-growth. Alliance universities contribute to the sectors and technologies identified in the Government's industrial strategy through their research, spinout companies, student and staff start-ups, education provision and collaborations with industry. For example:
- a. **advanced materials** – Located in the world class Polymer Interdisciplinary Research Centre at **Bradford University**, the Advanced Materials Engineering centre focuses extensive 'smart materials' expertise into high added value applications, targeted particularly for growth areas in medical and biomedical products (such as bio-resorbable orthopaedic components for joint replacement), and sustainable materials technology.
 - b. **aerospace** – The **University of South Wales** hosts a £1.5m aerospace centre which features an energy-efficient aircraft hangar complete with a BAE Jetstream 31 commercial jet, a fully instrumented wind-tunnel, a flight simulator and control laboratories. These state-of-the-art facilities all combine to provide essential hands-on learning for students, equipping them with the highest level of skills that major local employers such as GE Aviation Wales demand.
 - c. **agri-science** - Technologies developed and successfully commercialised from the **University of Greenwich's** Natural Resources Institute include: novel pheromones to protect soft fruit crops from disease in the UK; the genome sequencing of a whitefly species generating new IP for highly specific pesticides (this is being discussed with major agrochemical industry interests); and the development of a novel floral-based pest attractant that has applications in protecting global food crops that are commercially important in India, the Americas and Australasia.
 - d. **automotive** – The Automotive Engineering Applied Research Group at **Coventry University** has garnered strong external support from government and major automotive companies and their suppliers, attracting over £5m of external funding for their applied research projects. Collaborative programs have been undertaken with Ford, Jaguar, Land Rover, Daewoo, Dunlop Tyres, and Siemens. The Universities' spinout company, Microcab Industries, is one of the first UK companies to conduct road trials of hydrogen-fuel cell powered vehicles.
 - e. **big data** - CENTRIC is a multi-disciplinary and end-user centric research body, located within the Cultural, Communication and Computing Research Institute at **Sheffield Hallam University**. It has close links with local, national and international law enforcement agencies, as well as collaborations with leading technology providers. Amongst a programme of other European funded research projects, CUBIST provides a visionary approach that leverages Business Intelligence to a new level of precise, meaningful and user-friendly analytics of data.
 - f. **construction** – Through their Energy House, the **University of Salford** have reconstructed the world's first terraced house inside a fully climate controlled lab where new technologies and test can be run. The Hub brings together a

variety of experts across a number of disciplines; physicists, engineers, designers and psychologists and a huge range of organisations to find energy efficiency solutions for the construction of new homes.

- g. **energy** – The **University of Huddersfield** is home to the International Institute for Accelerator Applications, where researchers are at the forefront of cutting edge laser technology for Thorium nuclear power which could transform the UK’s energy independence.
 - h. **information economy** - At **Bournemouth University** the Destination Development Programme has facilitated the interaction of 60 SMEs in the tourism industry in Bournemouth, the New Forest and Dorset with academic specialists in developing social media and web analytics as part of their e-marketing strategies facilitating business growth.
 - i. **life sciences** - **De Montfort University** undertakes proof-of-principle (early stage commercialisation) work on promising projects; which include the development of novel nano bio delivery systems for healthcare, anti-protozoal agents for treatment of neglected tropical diseases, and a therapeutic against breast cancer.
 - j. **professional business services** – **Nottingham Trent University’s** Future Factory helps SMEs to find creative solutions to enable them to adopt new products, services and business practices. The project has facilitated almost 100 collaborative projects which have an average value of £5,000 per SME, and have led to some 70 members of NTU staff and external experts engaging with the local business community.
 - k. **regenerative medicine** - The **University of Bradford** hosts two bioscience incubator facilities, providing support infrastructure to enable the commercialisation of bioscience innovation that improves the quality of people’s lives.
 - l. **robotics and autonomous systems** - The Bristol Robotics Laboratory at the **University of the West of England, Bristol**, in partnership with the University of Bristol, is an internationally recognised Centre of Excellence in Robotics and the largest academic centre for multi-disciplinary robotics research in the UK. This collaborative partnership of over 100 academics and industry practitioners leads current thinking on service robotics, intelligent autonomous systems and bio-engineering.
 - m. **satellites** – The Systems Engineering Research Group at the **University of Huddersfield** undertake a lot of work with major multinationals such as BP, the National Engineering Laboratory and Schlumberger. Their research expertise includes optical inter-satellite links which improve satellite communications and benefit the wider community.
12. University Alliance supports the Government’s aim of rebalancing the economy in part through creating opportunities which are spread more across the regions, and through those sectors where the UK is strong and can add real value. We believe

that harnessing the links and processes that allow knowledge to be shared and developed with business is of central importance to ensure that universities can play their full role in the success of the UK economy and wider society.⁵

Question 2

Are there ways in which they could contribute more?

13. Alliance universities have a diverse income portfolio and obtain less than 50% of their income from core public funding. HEIF is a critical funding stream for our universities, which are committed to increasing income from private sources to achieve significant impact, working in partnership with business to achieve important investment and growth.
14. Without the steady income stream through HEIF universities would have to scale back this activity, affecting businesses and the economy locally and regionally. Some universities received a reduction in HEIF in the current round, due to the switch from funding to build capacity, to rewarding existing capacity. As a result, universities have had to reduce their KE activity. Cuts to HEIF would have detrimental effects to SME growth and innovation, new business formation, job creation, commercialisation of research and product to market activity across the UK.

15. Recommendation 1:

Government should ensure that funding for innovation and collaboration between universities, businesses and the third sector remains a priority. Schemes proven to deliver substantial economic returns on public investment such as HEIF and KTP are worth investing in as a way of leveraging external funding and driving innovation, enterprise and business engagement across the sector.

16. SMEs are the driving force of innovation in the UK economy. Innovation was responsible for two-thirds of productivity growth between 2000-2007 and was the common defining feature of the fastest growing 6% of businesses between 2002 - 2008. These businesses generated half of all new jobs created during this time and were predominantly SMEs.⁶ As Anchor institutions, Alliance universities engage with thousands (many over 15,000 a year), of SMEs in their cities and regions, supporting and stimulating growth.

17. Recommendation 2:

SMEs are a crucial part of the innovation landscape and should be supported. There is a tendency of Government funding, particularly pots of new funding announced, to go to a few big bids but this is happening at the expense of many outstanding SMEs that would benefit from access to this support in partnership with our universities.

⁵ L Aston and L Shutt (2010) *21st Century universities: engines of an innovation-driven economy* University Alliance

⁶ Shanmugalingam, S et al (2010) *Rebalancing Act* NESTA

18. Any further narrowing of HEIF allocations would reduce the opportunities for leveraging income from European and private funding. There are many universities demonstrating excellence in KE to the benefit of society and economy; with high returns on investment, and who are increasing their HEIF eligible income year on year, but are yet to reach the threshold of achieving maximum allocations. These institutions are instrumental in the seven per cent increase to the value of services which UK universities provide to the economy and society, now measured at £3.3billion.⁷

19. **Recommendation 3:**

Allocation should remain by formula to maximise benefits and diversity across the UK. Now is the time to make investments that will derive the greatest benefit in the long-term. It would be short-sighted to further direct investment away from institutions that are actively working to deliver maximum benefit from HEIF allocations towards those simply with higher existing HEIF eligible income but delivering decreased benefit year on year.⁸

20. The introduction of Doctoral Training Centres (DTCs) which manage PhD funded degrees organised into cohorts (funded by research councils), has led to funding for postgraduate training being concentrated in a small number of institutions. However, the House of Lords' Science and Technology Committee report into higher education in STEM subjects, published in 2012, highlighted the concern that the inflexibility of DTCs forms a barrier to providing studentships for 'small scale projects, which often lead to research breakthroughs'. The Lords' Report also noted the importance of maintaining a diverse complement of training mechanisms, recommending that a variety of PhD delivery models be maintained, to ensure that the UK's current breadth of expertise in science and technology is maintained.

21. Similarly, changes have also been made to Industrial CASE studentships (where industrial partners are involved with PhD projects). Only institutions with Doctoral Training Accounts are eligible to host them. This makes the implicit assumption that only institutions in receipt of substantial research council funding are suitable to supervise such projects, yet there are many, often SME companies, who now do not have ready access to these studentships. They are now discouraged from doing so by this approach. Ultimately, this does not benefit the economy and is an inhibitor of industrial growth.

22. **Recommendation 4:**

There should be a review of current research council policy in terms of DTCs and iCASE studentships to reflect our shared concerns on maintaining the strength and diversity of the UK's excellent research base, and creating the right environment for the UK's industrial growth.

⁷ Data from HEBCI survey 2010/11

⁸ Seven institutions that receive the maximum and additional allocations saw a decrease in HEIF eligible income from 2007-2009 of up to 53%. By contrast some universities performing well in HEIF increased eligible income by 50% to 155% but will not receive additional funding.

23. Recommendation 5:

It is vital that research excellence is supported wherever it is found for the benefit of the regions and the national economy. We would like to emphasise the importance of this approach as any further concentration of research funding could jeopardise the UK research base. It could also adversely affect a number of higher education institutions that have a strong research profile and are world-leaders in a number of research areas.

24. Capital funding is a crucial component of investment that has contributed to the UK's research capability, capacity, quantity and quality. The current minimum bid threshold of £10million placed on the allocation of the Research Partnership Investment Fund (RPIF) has resulted in an unbalanced allocation of funds to big business and the largest 'research intensive' universities, and impeded the potential for other research universities to effectively participate and contribute to the growth agenda, particularly in partnership with SMEs – many of which are highly innovative and helping to drive growth and create new jobs.

25. Recommendation 6:

To capitalise on the wider talent pool that exists, the Government should lower the minimum bid threshold for the RPIF. Lowering the threshold would enable growth related projects in priority areas for Government to gain funding, attract additional matched funding from industry, (particularly SMEs), and further contribute to innovation, jobs and growth.

26. The following examples of bids that would be put forward by Alliance universities (if the threshold were lowered), highlight some of the growth opportunities that would be unlocked by doing so. These bids demonstrate the business-engaged nature of Alliance universities and their direct link to innovation and research in growth sectors. Given the specific nature and scale of these projects responding to direct need of industry, often regionally, they tend to fall below the current threshold for acceptable bids to RPIF. They are, however, no less impactful and growth-related.

Cancer research - Nottingham Trent University

27. A £6m project with core funding from the John and Lucille van Geest Foundation to be used to match fund in a 1:2 ratio, would bring together Nottingham Trent academics and industry to develop a new multidisciplinary centre of excellence in cancer research. The centre would deliver new research improving diagnosis and prognosis of cancer, better predicting treatment responses, and supporting the development of effective immune vaccine therapies for patients with cancer.

Automotive industry research - Coventry University

28. A £1m RPIF grant would deliver a state-of-the-art vehicle simulator enabling Coventry to support OEMs and SMEs in the supply chain of the automotive manufacturing sector for their human technology and human-centred design work.

With industry support the simulator would be self-sustaining. Customers would include SAIC, JLR, General Motors, Nissan, Aston Martin and Ricardo.

Neuroscience – Plymouth University

29. A £1.5m RPIF funded project in partnership with the NHS, matched with a 1:2 ratio with NHS funds, would purchase magnetic resonance imaging (MRI) machinery. The project would specifically support the expansion of translational neuroscience and psychology research, host R&D clinical trial resources and secure additional laboratory space.

Robotics – University of the West of England, Bristol (UWE)

30. An £8m grant from RPIF would be used to develop a Robotics and Autonomous Systems Cluster as a university-industry partnership between Bristol Robotics Lab (UWE and University of Bristol) and Bristol and Bath Science Park, Tech Transfer, Enterprise Support and the industry collaborative cluster including Rolls Royce, Airbus, Dyson plus SMEs.

Biosciences – Oxford Brookes University

31. A £1.5m RPIF grant and £3m leveraged from a combination of pharmaceutical companies and Brookes own spin-out company Oxford Expression Technologies would build a new laboratory for making viruses and antibodies. The viruses and antibodies produced would allow growth of a bespoke manufacturing set up and also provide local jobs.

Question 3

What more could be done to maximise the associated benefits to local economies?

32. The Creative Industries sector employs 1.4m people in UK; has 10.6% of UK exports; and contributes 3.2% to UK Gross Value Added (GVA) - by comparison the Aerospace industry employs 133,000; has a global market share of 17%, and contributes only 0.4% to UK GVA.
33. The European Commission is increasingly recognising the value of design-led innovation for both private sector growth and public sector efficiency. A key underpinning of the new EU industrial strategy ‘Mission Growth: Europe at the Lead of the New Industrial Revolution’ is design-led innovation. This is exemplified in the European Commission paper ‘Stronger European Industry for Growth and Economic Recovery’ (October, 2012):
34. *“Wider use of design, as well as other non-technological innovations, is one of the key drivers for developing high value products, increasing productivity and improving resource efficiency.”*
35. Regional economic growth (outside of London and the South East) is a particular concern, which can be supported by diversification in the Government’s industrial

strategy, and identifying local growth strategies that play to the specific strengths in these regions.

36. Drawing on a long and rich history of innovation and technology, Alliance institutions have significant strengths in both design and STEM education and research. For example, Bournemouth University have created a Creative Industries Super Hub providing world-leading visual film effects research facilities. It enables the integration of research, professional practice and education and has attracted significant inward investment. It also promotes talent creation and retention in the region; working with colleges to provide a skills escalator, providing world-class research and professional training for undergraduate and post graduate students as well as visual effects firms.
37. **De Montfort University's** Design Unit is a group specialising in design research and consultancy whose activity has resulted in: over 300 SMEs provided with design support from 2005 to 2010; over 30 products in manufacture from 2005 to 2011; an annual increase in GVA into the region of over £3 million; the creation of over 70 jobs to date; over £700,000 invested in the region's creative businesses along with improvements in the quality of life and carbon reduction.

38. **Recommendation 7:**

Government, industry and the industrial strategy should recognise and support growth sectors with exponential economic growth potential. We need to ensure our schools, colleges and universities develop and foster technical skills, business skills but above all creativity and thinking skills in the curricular. The future growth, wealth and health of our economy will rely on our creativity, innovation and enterprising spirit which will need support to translate energy, enthusiasm and fantastic ideas into sustainable business propositions. We need a true partnership to deliver this.

39. The Government's Strategy for Sustainable Growth⁹ outlined that their resources should be focused "where they can achieve greatest returns in building an internationally competitive skills base, especially to leverage the most private investment and create additional value." Investment in high-level skills, alongside innovation and research will deliver the greatest returns. A graduate contributes between 20 and 48 per cent greater productivity to the labour market than employees holding lesser qualifications.¹⁰
40. In the UK's global, knowledge-based economy, where 80% of new jobs are in high-skill areas¹¹ and new and growth industries take a high-tech, high-skill and innovative approach, universities are playing a critical role in driving the UK's economic future.

⁹ BIS (2010) *A strategy for sustainable growth*

¹⁰ Universities Scotland (2009) *What was / what next?*

¹¹ Wilson R and A Green (2001) *Projections of Occupations and Qualifications: 2000/2001: Research in Support of the National Skills Taskforce* Department for Education and Employment

41. High-level skills are a vital component of our future growth but they are also central to the process of innovation and renewal in the key sectors of our economy. Businesses on the cusp of innovation and expansion drive our future skills needs.

42. **Recommendation 8:**

Government and the wider sector should seek to make the value of, and need for graduates in a knowledge economy more widely recognised so that the private and third sectors see the value of investing in higher education.

43. **Recommendation 9:**

Incentivising advanced study in STEM areas - to satisfy and further incentivise the demand from businesses for STEM graduates, discouraging ‘brain drain’ and keeping wealth and knowledge in the UK.

Universities, comparative advantage and local plans

Question 4

How can we ensure that LEP strategic growth plans take account of the opportunity to derive global comparative advantage from world class research in some universities?

44. Excellence is spread across the UK higher education sector. The diversity of our world leading research base (the UK boasts internationally recognised research strength in over 400 fields), sustains and supports our international competitiveness, capitalising on the spread of excellence.
45. Evidence¹² shows that funding for research should continue to be directed towards excellence, driven on the basis of impact and quality. Particularly in these difficult economic times, this policy has never been more important. Basing funding on excellence in this way, our world leading research will continue to drive innovation and growth.
46. Alliance institutions powerfully evidence impact, with over 300 research units undertaking world-leading research, with over 50% of this 3 and 4* research in STEM related areas. With a long tradition (over 150 years) of expertise in combining engineering and technology, design and the creative industries together with the professions, Alliance universities promote an environment that fosters innovation with impact.
47. The recent announcement that three Alliance Universities (**Sheffield Hallam, Coventry University** and the **Open University**) are to benefit from part of the £50million investment in cutting-edge research and innovation projects from HEFCE’s Catalyst Fund is very welcome, and recognises the crucial role that our universities play in delivering high impact research and innovative projects. Only by

¹² Evidence Ltd (2011) *Funding research excellence: research group size, critical mass and performance* University Alliance

¹² Aston L. and Shutt L. (2009) *Concentration and diversity: understanding the relationship between excellence, concentration and critical mass in UK research* University Alliance

continuing to invest in this way can we ensure that the UK research base remains both world-leading and sustainable.

48. Our ability to achieve national and regional growth objectives in partnership with LEPs will be influenced by the priorities and criteria that are set, and we are pleased that BIS have also recently invited views and are seeking to build an evidence base for the allocation of science, research and innovation funding. Our response to this review has emphasised that any eligibility requirements or thresholds which limit those without substantial research income will also place limitations on the effectiveness and valuable contributions of the wider research base.

49. **Recommendation 10:**

Sustaining and building the UK research base must be a central tenet of any strategy for growth in the UK economy. Without a system that ensures we fund a healthy and excellent research base, universities will struggle to compete in an increasingly well-funded global sector. Alliance universities also drive innovation because research that creates real social and economic impact is critical to growth in local communities as well as regional and national economies.

50. There are many similarities between Alliance universities and LEPs - both offer a business-led approach to enable development and local economic growth. They can also provide valuable insight and knowledge about the opportunities and challenges facing their local economies. The areas they operate in also vary in size, structure, population and industrial composition. Their engagement with businesses and the wider community is built upon the civic leadership role that they provide in their localities. As such, LEPs and universities are best placed to identify, develop and prioritise strategic growth plans together. They face significant challenges: creating confidence in the business community, retaining and attracting both external investment, and balancing high levels of competition, enterprise, innovation, skills and productivity.

51. However, according to the World Bank, the UK remains the best place to do businesses in the EU and the G8. The 2011 European Cities Monitor¹³, where 500 business leaders were surveyed, some of the most important features for business location decisions included education, highly skilled labour and technology infrastructure.

52. **Recommendation 11:**

By working together with universities to develop their strategic growth plans, LEPs will be able to better meet the challenges to maintaining and managing growth, and further exploit the opportunities to foster demand for specialist skills, goods and services, R&D, and new industries.

¹³ Cushman and Wakefield (2011) *European Cities Monitor 2011*

53. Recommendation 12:

Integrating local growth plans and the Single Growth fund with EU structural funds should be supported by a skills strategy, and minimise any bureaucracy and duplication.

Question 5

What connections need to be in place between LEPs, industry and universities to ensure regions can exploit the opportunities offered by comparative global advantage?

54. With economic growth high on the national agenda and employment rates under scrutiny, universities and their graduates have a central role to play in realising Government ambitions. For private sector growth and employment we need successful entrepreneurs. Entrepreneurial graduates are a huge driving force for innovation, employment and economic growth. Turnover from graduate start-ups has doubled from 2008-2010 to over £350m, with turnover from Alliance start-ups accounting for more than half of the total.
55. Universities are ideally placed as regional hubs for enterprise. While London and the South East are often perceived to be a magnet for businesses and talent, our universities and their student networks are enabling graduates to start and grow their businesses in every region across the UK – drawing on their connections with their local community.
56. For example, **Nottingham Trent University** has focused on continued support for enterprise education, graduate start up advice and mentoring, and a university enterprise centre in an area of economic deprivation through the work of The Hive. The Hive has supported 97 students and graduates to explore business ideas, with 68 starting a business venture since the start of HEIF 2011-15. Current 3-year business survival rates are around 85 per cent. Since the creation of The Hive in 2003, it has supported the creation and start-up of over 300 businesses. Approximately 70 per cent of these are still trading, employ more than 300 people and collectively turnover more than £8m per annum.

57. Recommendation 13:

Building stronger links between Government financing for enterprise and universities, so that they are able to inform the design of schemes, and widening access to critical enterprise support available for graduate start-ups, will enable enterprise growth across all key sectors. Universities should be key partners when developing Government schemes such as Start-Up Loans and the new national fund for local enterprise, which should target funds to strengthen local networks and the provision of university support for graduate start-ups.

58. Recommendation 14:

Local authorities and LEPs should work together to pro-actively use and promote empty properties for the use of graduate start-ups, helping to nurture local start-ups. These sites could also be developed as community amenities or business

facility hubs, fostering collaborations between universities and local authorities and businesses.

59. The 2012 report¹⁴ by the CBI called for: “a new approach to spatial policy, anchored in the entrepreneurialism, commitment and energy that exists in businesses and business people in all parts of the UK – the ‘geography of growth.’ We believe that LEPs and universities also share these attributes, and harnessing the potential that exists throughout the UK is a crucial component to rebalancing our economy.
60. However, the report also warns that: an “exclusively local approach risks overlooking the need to connect growth hubs and recognise issues of region wide challenge or opportunity.” We share this concern - universities work with businesses cross regionally and internationally, as a strategic approach to promote sustainability in their industry relationships, to achieve a sense of scale and to promote long term development.

61. Recommendation 15:

LEP collaborations across regional boundaries should be encouraged and supported, enabling businesses and universities to engage, better integrating HE activity within LEP priorities and constructing the infrastructure in which both enterprises can flourish.

62. LEPs play a central role in determining local economic priorities and set strategies to drive economic growth. LEPs with ambitions to enhance the economic performance of their areas may need to facilitate for significant economic restructure, requiring long time frames to see defined results. To overcome the culture of short-termism within British businesses, mechanisms should be put in place to ensure that decisions on infrastructure investment are also made for the long-term.

63. Recommendation 16:

A champion from Whitehall should provide strategic leadership; adding greater clarity, central co-ordination and define an accountability structure. More clarity around LEP objectives would also give greater direction to LEPs when engaging with businesses and universities, ensuring every action builds towards a clear goal.

Question 6

How can universities best work with LEPs and other local actors to drive economic growth, based on their own strengths or the industrial or commercial strengths of the region?

64. Universities have a significant and unique role to play as leaders within their localities. They are often the only institutions with the scale and local connectedness to drive economic growth and shape the physical environment. This is why we call

¹⁴ CBI (2012) *The UK's growth landscape Harnessing private sector potential across the country*

- them ‘anchor institutions’. The fact they are fixed in a particular territory allows them to play an important and sustained role in local economic development.
65. LEPs can harness this leadership role by capitalising on individual universities’ links and networks with other local players and businesses. Alliance universities have been in the business of meeting local economic need for over 100 years, many being established during the industrial revolution to meet the demands of the then new industries. They very often have a deep understanding of the industrial and commercial strengths of the region as a result of their close links with business.
 66. Universities are in a strong position to feed into the skills and employment strategies of LEPs. As a result of proactive business engagement and collaborative course development in partnership with employers and the professions, Alliance universities also boast some of the highest employability records in the sector. Our institutions produce work ready graduates equipped with the right blend of transferable skills and experience needed by employers today.
 67. For example, **UWE** has formed a strategic partnership with Hewlett Packard on a number of joint initiatives in the areas of curriculum development and knowledge exchange, including a four-year degree programme producing 'industry-ready' graduates, who have the skills to make the leap from academia to business. This partnership, together with similar initiatives with other blue chip organisations, meets the needs of employers across key growth sectors of the economy.
 68. The **University of Greenwich** has created the ‘Greenwich Graduate Initiative’ which defines the characteristics that the University aims to instil into their graduates. These include attributes associated with creativity and enterprise: the ability to recognise and create opportunities, to generate new ideas, to communicate effectively, and to make the most of opportunities available.
 69. Universities can also feed into LEPs’ strategies for new business growth. In addition to this open and collaborative approach with established industry, we can also celebrate the aforementioned new business growth fostered by Alliance universities that are supporting student and graduate start-ups. Over 50 per cent of turnover from graduate start-ups comes from Alliance graduate start-ups. With turnover of £147m in 2010-11 and the creation of 5070 jobs, these entrepreneurs are making an important contribution to the UK economy and society.
 70. While education, research and student expenditure are important, the role of anchor institution relies on a broader notion of the importance of universities in cities. Any institution relies on the success of the town or city in which it is located, and this can provide a powerful incentive for local engagement. The economic benefits of anchor institutions come from demand for local goods and services, both from staff and students. They can also shape the physical environment, as universities have the scale to influence the built environment of a city in the way smaller landowners cannot. And universities serve as ambassadors for towns and cities, bringing in talent and investment to an area and building its reputation.
 71. Universities have recognised this role, and there are some great examples of good

practice in the UK. For example institutions such as Manchester Metropolitan University have linked plans for new buildings with long-term regeneration strategies. Universities and LEPs should work closely together in developing regeneration strategies.

72. Universities make significant investments, generating impressive growth for local companies. In 2007/08, universities spent £22.88 billion [of which £19.5bn was estimated to have been spent on UK rather than imported goods and services] and this expenditure generated £32.36 billion of output in other UK industries.¹⁵
73. Universities are also playing an increasing role in supporting UK exports. The research, education and KE they provide directly support the development of goods and services required by major overseas markets, providing a crucial route to market for local SMEs. They are also major exporters in their own right. For example, **Oxford Brookes University** recruits by far the most students overseas (251,900 or 44 per cent of those studying UK degrees abroad) due to a fruitful collaboration between the university and the Association of Chartered Certified Accountants.
74. Alliance institutions contribute in a variety of ways to support local growth: as sources of expertise, skill provision, directly investing in their local economy, attracting external investment, providing employment, working in partnership with businesses, generating high value spin outs and successful enterprising graduates.
75. In their 2012 review of LEP area economies, the LEP Network¹⁶, found that the highest performing and significantly improving LEP areas have high levels of employment and productivity, based on competition, enterprise, innovation, investment and skills.
76. **Recommendation 17:**
- LEP boards associated with skills development for the local economy should integrate Higher Level skills in their strategy development. Alliance universities' business engagement provides the perfect model for ensuring appropriate and responsive skills provision, within the context of regional business needs.**
77. **Recommendation 18:**
- A review should be undertaken that gathers best-practise examples of universities working with LEPs. These could then be shared across all LEPs to make use of where this interaction is working successfully.**

Question 7

What are the types of connections and collaborations that have most impact for regional economic growth?

78. Alliance universities play a major role in driving regional economic growth as anchor institutions in their regions. Alliance universities are at the heart of their local

¹⁵ UUK (2009) *The Impact of universities on the UK economy*

¹⁶ www.lepnetwork.org.uk

economy: as hubs of social and economic innovation and entrepreneurialism; major employers; driving new industries; generating economic growth and attracting investment in regions that derive the greatest benefit such as Plymouth, Lincoln, Bradford, Northumbria, and Teesside.

79. Universities in the UK are key players in the innovation ecosystem, contributing £3.4 billion to the economy in 2011-12 through services to business, including commercialisation of new knowledge, delivery of professional training and consultancy¹⁷. The **University of Hertfordshire** engages with over a quarter of a million businesses on an annual basis and supports around 10,000 new businesses every year. In active partnership with LEPs, Alliance universities augment the right conditions for innovation that drive the competitiveness and success of their local economies.
80. Linking the expertise of universities to the needs of local firms has rightly been seen as important for firms to grow and succeed. The **University of Huddersfield** is home to the 3M Buckley Innovation Centre, a £12m major facility funded by ERDF, the local authority and HEIF. This purpose built specialist environment creates a business facing centre for collaboration and research that will act as a catalyst to promote Business to Business and Business to Higher Education collaborations through co-location and a novel approach to engagement. The centre offers space for graduate start-ups through to multinationals including the technology firm 3M.
81. The School of Engineering at **University of Lincoln** is a joint £37.5m venture with Siemens, the largest private sector employer in the county. The establishment of the School ensured that Siemens would continue to locate its gas turbine business in the region, saving over 1,000 jobs, but also created the perfect environment for Siemens to expand its business on the new site, creating a further 50 jobs. The School has already engaged with over 400 engineering businesses, undertaking commissioned research (including Marks and Spencer and Mitsubishi).
82. The research base also collaborates with industry to solve business problems. For example, as part of the **University of Salford** the major research facility in MediaCity UK connects the BBC and the Digital and Creative Industries sector to international academics and industry research specialists with the aim of generating £25m investment in research over the next eight years.
83. **De Montfort University** is working with financial institutions, investors and SMEs, developing new models for R&D. These models seek to remove risks and barriers to innovation investment for both the investor and the SME, whilst reducing dependence on public sector funding for applied university research.
84. The **University of Portsmouth** shares market intelligence with SMEs and engages in strategic discussions about the big commercial opportunities for innovation and sales and development links to Asia. SMEs also benefit from opportunities to network and present to local business leaders at showcase events around key sector

¹⁷ Analysis by HEFCE of the twelfth annual Higher Education - Business and Community Interaction survey.

themes such as creative industries, environment, healthcare innovation, high end manufacturing, infrastructure and logistics, and security.

85. Recommendation 19:

The LEP strategic growth plans should not seek to ‘re-invent the wheel.’ Existing university innovation infrastructure should be utilised while taking into account the funding ecosystem that universities operate within, to strike the right balance of investment. LEPs, businesses and universities all have their own missions and strengths and government should seek to curate this diversity when providing structural funds.

86. The role of anchor institutions relies on a broader notion of the importance of universities in cities. Any institution relies on the success of the town or city in which it is located, and this can provide a powerful incentive for local engagement and driving that success. One of the economic benefits of anchor institutions come from demand for local goods and services, both from staff and students.

87. Our universities have developed strong relationships, working with many notable medium and large UK businesses, such as Orange at **Teesside University**, Hewlett Packard at **UWE**, DHL at **De Montfort University**, PepsiCo at **Nottingham Trent University**, Siemens at the **University of Lincoln**, Airbus at **Liverpool John Moores University**, and Tesco at the **University of Hertfordshire** to name just a few. These strategic partnerships support growth of new markets and development of products and services, and provide a graduate community ready to succeed in employment (as evidenced by the fact that Alliance universities have some of the highest employability rates in the UK).

88. Alliance universities are also taking a leadership role in their communities, sitting on their LEPs, chairing the local British Chambers of Commerce, working with local authorities and SMEs to support innovation and growth. For example, the new £350m campus development by **Manchester Metropolitan University (MMU)**, is one of the largest regeneration projects in the Northwest, providing a space for more than 500 students, supporting 877 local jobs, generating a GVA of over £29m per year and creating additional direct revenue of £76.7m to the deprived areas of Hulme and Moss Side. MMU has worked closely with the City Council on this project which significantly invests in the development opportunities for the local community and is appreciably transforming the area.

89. Recommendation 20:

Ensuring that we harness the diversity of the offer and contribution of institutions across the sector will be critical to ensure that all universities can continue to meet the needs of students, industry, society and the economy.

90. Recommendation 21:

More focus should be placed on the importance of engagement with the regional economy. Increased HEIF allocations, with matched structural funding could be used to fund professional business engagement staff.

Question 8

How can EU structural and investment funds spur the contribution to economic growth of universities working with businesses?

91. In 2011/12 Alliance universities received a total of £32.3m in European funds for research grants and contracts. Collaborative innovation related European funding programmes usually require university partners, who have developed a body of expertise in the bidding process, which they share with small companies to help improve their chance of obtaining funds.
92. At the **University of Bradford** a portion of its HEIF allocation has been used in order to lead a partnership of Yorkshire Universities which has in turn secured European Regional Development Fund (ERDF) investment income to create the £8.2m Yorkshire Innovation Fund (YIF) led by and hosted at the University.
93. YIF is an initiative of the Yorkshire Universities consortium covering the whole Region. It is a competitive fund for R&D and innovation, open to eligible Yorkshire & Humber SMEs in growth sectors. The fund's goal is to stimulate R&D and innovation activity, driving sales, employment and economic growth (as measured by GVA).
94. YIF is expected to deliver a number of outputs including:
 - Quality engagement of 300 SMEs with universities, enhancing relationships and increasing collaborative bids to the Regional Growth Fund and Catapult programmes
 - Create 180 new jobs and safeguard a further 120 jobs
 - Deliver 80 new R&D and innovation projects
 - Increase regional GVA
95. In partnership with Coventry City Council, **Coventry University** Technology Park was officially awarded 'Living Lab' status by the Brussels-based European Network of Living Labs (ENoLL) in 2011. The Living Lab status has allowed the Technology Park to significantly grow applied research activity and expertise in the 20 acre site, comprising of 14 dedicated business facilities and currently home to 70 innovation led, high growth businesses. All of the Technology Park tenants have access to experts in business support, mentoring, and business expansion regardless of their stage of growth. Support is provided in a wide range of areas including business development, product development, internationalisation, growth, funding and academic research.
96. At **De Montfort University (DMU)** the 'Enterprise Inc' project (ERDF and HEIF supported) has seen 75 businesses started within the past three years by DMU students, staff and graduates, each of whom received £6,000 worth of support. DMU are developing a partnership proposal to the European Regional Development Fund (ERDF) with the University of Leicester to provide enterprise placement opportunities and internships for undergraduates.

97. These examples demonstrate how Alliance universities have achieved success in securing and using European funding to contribute to business growth, due to the size and scale of their operations, and by providing resource to develop their business relationships as part of their missions. However, the confirmation by the Chancellor in the Budget earlier this year that the local growth fund is to be created (as part of the recommendations made by the Heseltine review), is likely to present a formidable challenge to even the most well resourced of LEPs.

98. **Recommendation 22:**

Managing bids and navigating ERDF funding regulations is an exceptionally bureaucratic process, requiring intensive auditing procedures. LEPs will benefit from the experience and expertise, working in conjunction with universities to produce regionally based EU Investment Plans.

Collaboration and co-ordination

Question 9

How can we ensure that there is collaboration and co-ordination in LEP strategic growth plans where that is mutually beneficial?

99. See our responses to Question 4, 5, 6 and 7.

100. In addition, we make the following recommendations.

101. **Recommendation 23:**

Analyse the benchmarked LEP area data, produced by the LEP Network in their 2012 review, to identify LEPs with similar geographical similarities, mutual interests and supply and demand chains from employers and industries in these localities. Use this data analysis to help shape, promote collaboration and co-ordination of the priorities in the strategic growth plans.

102. **Recommendation 24:**

Curb the imposition of artificial definitions. Successful businesses have demonstrated their agility by adapting and moving into new markets. Therefore, flexibility is needed, and arbitrary thresholds should not be applied. Also, collaborative engagement should include and draw on the expertise from a range of specialists, and not be limited to a select few.

Question 10

How can central Government best promote effective collaborations while building on local leadership of the local economic growth agenda? What incentives could be added to the current range of programmes?

103. See our response to Question 7.

Reaping the benefits

Question 11

How far is it true that the commercial benefits derived from breakthroughs in UK universities often go outside the UK?

104. Due to a range of factors, including the vast sums that countries outside the UK are investing in R&D, the ‘early exit’ culture in the UK, the exponential increase in the international student population and the business acquisition practices of large multinationals, it is inevitable that commercial benefits derived from breakthroughs in UK universities will continue to go outside the UK.

105. The Lambert review¹⁸ provided an analysis of the UK’s record in commercialising its research, and more recently The House of Commons Science and Technology Committee report ‘Bridging the valley of death’¹⁹ identified the particular challenges presented by funding proof of concept and proof of commercial concept.

Question 12

If so, what measures, incentives or support systems would secure more of the commercial benefits for the UK?

106. The examples throughout this response illustrate how Alliance universities have used HEIF to improve access to innovation. Initiatives are already in place to encourage smaller companies to engage with universities in KE activities, so we should build on that success.

107. Recommendation 25:

A review of the impact and effectiveness of the various current support schemes and financial incentives to establish what works well, should then be scaled up and open to all businesses.

108. Recommendation 26:

Easy access to long term equity finance, and the provision of a ‘funding escalator’ should enable companies to sufficiently finance their organisational development, from start-up to a large plc.

109. Recommendation 27:

The Technology Strategy Board (TSB) is a well-established and proven support system for securing commercial benefits derived from university research and other activities. We would strongly recommend that this not be replicated in new support systems, rather more be made of the TSB by strengthening its funding and ability to support research and development.

¹⁸ HMT (2003) *Lambert Review of Business-University Collaboration for HM Treasury* http://www.hmtreasury.gov.uk/d/lambert_review_final_450.pdf]

¹⁹ HoC S&TC (2013) *Bridging the valley of death: improving the commercialisation of research* Eighth report of Session 2012-13