

Employer Ownership of Skills:

Testing the power of
collaborative approaches
through industrial
partnerships

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Foreword

Four years ago the UK Commission for Employment and Skills (UKCES) set out a vision for a more dynamic demand led approach to skills as a source of competitive advantage for the UK economy. Commissioners, including leaders of businesses large and small, trade unions, universities, colleges and third sector organisations agreed that there needed to be more employer ownership of the skills system.

The Employer Ownership of Skills Pilot (EOP) was designed to test this vision. Forward thinking employers came up with new effective approaches to improving the skills and potential of new and existing employees. The second phase of the pilot tested the idea that much more can be achieved through collaboration. UKCES called for leading employers to come together to form industrial partnerships to take steps to encourage businesses to invest, work together and secure a sustainable partnership for the long term.

As Lead Commissioner for industrial partnerships I have been heartened to see the extent of the appetite to collaborate and the commitment that so many businesses have shown. Industrial partnerships have galvanized businesses across the UK to work together. They have come together across company and industry boundaries and through supply chains, bringing more than 600 businesses to the table to agree how to tackle skills and recruitment challenges in critical UK industries.

These businesses have not only committed significant time but have backed up their commitment with major financial investment and resources. Total investment from government to date is £34 million which business has matched with £14.5 million of cash and £16.5 million of in-kind investment. Their efforts benefitted more than 1600 businesses as well as providing a strong foundation for delivering apprenticeship reform.

This was a pilot and there have been significant challenges along the way. The industrial partnerships tested out new solutions to long standing problems and many found solutions that really work. Where they didn't work we have learned something about why not. This report identifies some of the things that worked well and sets out the 'lessons learned'. We also look back at the original vision for industrial partnerships and explore how much has been achieved.

If I had to pick out one feature that underpinned the industrial partnerships it would be their strong and sustained leadership, galvanized by many of the UK's influential business leaders. Collectively the industrial partnerships present a powerful voice for their sectors and UK business at large with the capacity to influence publicly funded skills policy.

Nigel Whitehead CBE

UKCES Commissioner & Group
Managing Director, Programmes
& Support, BAE Systems



Executive summary

An initial assessment of industrial partnerships published in late 2014¹ set out how the eight partnerships incentivised through the Employer Ownership of Skills Pilots (EOP) had begun to work together and to test new ideas. Since then they have broadened their reach; approximately 600 businesses have been directly involved in leading and managing the partnerships and more than 1600 businesses have participated in training programmes. This report looks at the lessons learned and experiences of the industrial partnerships in delivering the pilot. It offers observations on what worked well and less so, but does not look at performance or contractual issues.

The industrial partnerships have been able to effect change on a large scale because of the numbers of leading employers involved and their ability to share costs, risks and resources. They have created the opportunity for businesses to share knowledge, develop new ideas and for people to work together across different businesses and industries.

At the time of their launch the expectation was the pilots would receive government funds to March 2017. Following the change in government administration in May 2015 a decision was made to reduce the pilot timescale with government funding ending in March 2016. This decision was made in order to redirect resources from EOP to support the government's new target to deliver 3 million Apprentice starts by 2020. While the government remains committed to employer ownership their agenda is now focused on apprenticeship reform and the implementation of the apprenticeship levy.

Most of the businesses that signed up to develop, lead and participate in the industrial partnerships have maintained their commitment although it remains to be seen whether this commitment is limited to an individual or has the wider backing of their employer.

In addition the industrial partnerships have been involved in creating 32 of the 65 new trailblazer apprenticeship standards that are currently approved for delivery, and a range of other outputs such as: vacancy matching sites; industry-led assessment services; regional pre-employment initiatives; collaborative work to enhance supply chain engagement with skills; new forums to share and collaborate; networks of quality assured providers; toolkits to help retain expertise in a sector; producing subject matter experts, and training ambassadors to champion STEM² skills.

A vision for employer ownership

The first section of this report assesses the progress of the industrial partnerships. The partnerships have been operating under the principles set out in the vision for Employer Ownership.³ This vision was for employer ownership as opposed to government leadership of the skills system with government acting as facilitator. The idea was that this would lead to increased employer investment and collaboration on skills, more effective targeting of public spend and more innovation.

In terms of the original vision, the main learning points from the experience of the industrial partnerships are:

Stronger employer leadership:

Giving employers the power to make decisions and the opportunity to make a real difference means that influential business leaders get involved and remain committed.

Collective action on skills: Businesses do not automatically collaborate on skills and it took time to establish a common focus. With a clear business case and central co-ordination, competitors can find ground on which to work together.

¹ Industrial Partnerships: An Initial Assessment December 2014

² Science, Technology, Engineering and Mathematics

³ [Employer Ownership of Skills: Securing sustainable partnership for the long term](#) – December 2011

Better targeting of funding: Where large and small businesses have an equal and strong voice and flexibility to make decisions, they can agree on where investment can make the greatest difference to an industry, and increase productivity.

Increased employer investment in skills: The industrial partnerships have started to shift business culture away from an expectation of public contribution to skills, to one of co-investment.

Industrial partnership pilot activities

The themed case studies in Annex 1 highlight activities delivered through the industrial partnerships. Many of the initiatives have the potential to be scaled up or transferred to other industries. In some cases a new solution has been found to a longstanding problem. In some instances the partnerships experienced obstacles e.g. their ability to reach out to smaller or supply chain businesses in supporting their agenda.

The case studies illustrate that the pilot was about learning as well as outputs. They describe what worked well in individual activities, explore which approaches have been most successful and identify learning points. The main 'lessons learned' are summarised below with further detail contained in Annex 1.

Developing business driven apprenticeships: Making apprenticeships more relevant and accessible to smaller companies and as a new route into some industries has increased the number of apprentices and brought new employers on board.

Attracting young people into key industries: To effectively attract young people at school or college, industry representatives need to work with and support teachers and institutions. The most effective engagement takes place when businesses work together at a local level and help schools with logistical issues.

Developing higher level skills: Industries that have a high risk of losing critical expertise need to find ways to accelerate learning and develop skills, in partnership with education institutions. Industrial partnerships provided a collective 'employer voice' that universities find invaluable, and working collaboratively to produce more employable graduates is to everyone's benefit.

Developing skills and building capacity in the supply chain: Smaller supply chain businesses face additional barriers to investing in skills, including their internal budget constraints. Larger businesses can help their supply chain by identifying high quality training and providing resources which can benefit all.

Assuring quality in training provision: Some industries have successfully developed their own ways of assuring quality of providers and training, to ensure greater confidence in what is delivered. Independent quality assurance processes require significant time and resources from business in order to be robust and credible.

Strengthening workforce development: Upskilling the existing workforce is critical to keep pace with new technologies, ensure the delivery of big infrastructure activities and ensure competitiveness and growth. By working together on developing their workforce, businesses shared knowledge, ideas, risks and development costs.

Improving recruitment: Although it takes time and effort to design and implement new approaches to recruitment, there are benefits for businesses and individuals taking a collaborative approach within and across industries, particularly for entry-level roles and apprenticeships. This approach may become even more valuable when the levy is introduced and could support achievement of the government's 3 million apprenticeship target.

Testing new Traineeships and pre-employment programmes: Some businesses in industrial partnerships have used the government's Traineeship programme to engage young people, but many have designed their own pre-employment programmes. Programmes that are tailored to individual businesses and designed around specific jobs are more successful at moving young people onto apprenticeships.

Challenges in recruiting young people (16-18 year olds) to training programmes: The recruitment of 16-18 year olds can be challenging, but the reasons for this are not uniform or straightforward. Businesses found that recruiting 16-18 year olds into Level 3 apprenticeships was easier than for Level 2 apprenticeships, but Level 2 recruitment becomes much easier if applicants are over the age of 19.

Industrial partnerships have broken new ground, found different ways of working and will leave a legacy of strong networks. The majority of businesses involved have committed to continue playing an important role in developing UK skills and productivity. Many of the activities proved to be successful and will continue. Each partnership is currently in the process of agreeing their future approach and sustainability, but all intend to build on the legacy of Employer Ownership of Skills Pilots.

Introduction

In 2011 the UK Commission for Employment and Skills (UKCES) published the first of two papers setting out a vision for how employers could own the skills agenda, lead the development of the skills they need to compete and make it easier for them to do so.

In 'Employer Ownership of Skills: Securing a Sustainable Partnership for the Long Term',⁴ UKCES invited organisations to submit proposals that "create greater employer ownership, place skills right at the heart of the growth agenda, create real opportunities for those in and out of work and deliver better return on investment in terms of public expenditure." This first round of projects were relatively small in scale and were led by an employer working within their own business network.

The learning from the first round of projects was reported in 'Employer Ownership of Skills Pilot: Building the Momentum'⁵ and an even more ambitious second round was launched which saw the creation of larger sector-wide industrial partnerships in important sectors of the economy. The Energy and Efficiency Industrial Partnership (EEIP) was first to agree their grant offer in March 2014 and by the end of the year all eight were in place:

- Aerospace Growth Partnership Skills Working Group
- Automotive Industrial Partnership
- Creative Industries Partnership
- Energy and Efficiency Industrial Partnership
- Nuclear Industrial Partnership
- Science Industry Partnership
- Tunnelling Industrial Partnership
- Tech Partnership

Government put considerable financial support behind the employer ownership vision by funding the Employer Ownership of Skills Pilot (EOP), setting out to test how it might be possible to better target public funds by allowing businesses to make

decisions about where to invest. As part of the bid assessment process each proposal was assessed against a number of criteria including innovation and value for money.

The development of industrial partnerships by leading employers is a significant step forwards in building a skills system led by business not government. They have been created as independent, employer-led bodies, with much of their initial activity funded through EOP.

Industrial partnerships were established as a means to test a new way of doing things. The pilot funding offered the opportunity to design and deliver both training and broader skills infrastructure in ways that suited the needs of employers; testing approaches outside of the mainstream system, such as apprenticeships which are designed by employers but are not compliant with the Specification of Apprenticeship Standards for England.

Project delivery and performance measurement for the pilot is monitored by the Skills Funding Agency (SFA) and the Department for Business, Innovation and Skills (BIS), and primarily focuses on participation outputs and value for money indicators. All measurements are benchmarked against the cost of delivering a mainstream level three apprenticeship.

As with most pilots there have been significant challenges as well as successes:

- Legal and contractual requirements determined that an intermediary was needed, but most of the lead businesses also actively wanted to utilise a Sector Skills Council, viewing them as valued partners. With the exception of the Tunnelling Industrial Partnership where Crossrail took responsibility, pilot funding was routed through Sector Skills Councils and National Skills Academies. There were three main reasons for this:

- Employers wanted to delegate the administrative burden of contractual arrangements and some routine aspects of project co-ordination;

⁴ <http://webarchive.nationalarchives.gov.uk/20140108090250/http://www.ukces.org.uk/publications/employer-ownership-of-skills>

⁵ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/305784/employer-ownership-of-skills-building-the-momentum.pdf

- Intermediaries provided technical expertise (e.g. Trailblazer standards writing); and

- Individual businesses were cautious about carrying the financial risk and complexities of a government contract (e.g. State Aid) for a wider partnership.

The majority of industrial partnership activities are co-funded through money from EOP. Contracting the pilot activity took longer than the partnerships anticipated and the need for them to be held by intermediaries (because of state aid rules for example) meant the final contracts did not always offer the flexibility that employers had hoped for.

At the time of their launch the expectation was the pilots would be funded to March 2017. Following the change in government in May 2015 a decision was made to reduce the pilot timescales with government funding ending in March 2016. This decision was made in order to redirect resources to support the government's new target to deliver 3 million Apprentice starts by 2020. While the government remains committed to employer ownership their agenda is now focused on apprenticeship reform and the implementation of the apprenticeship levy.

This shortening of the delivery window has restricted the partnerships' capacity to demonstrate wider sector impact and report on qualitative outcomes.

This report looks at the lessons learned and experiences of the industrial partnerships and offers observations on what worked well and what was less successful. It does not look at performance or contractual issues. It explores the original principles of employer ownership and how much of the vision for industrial partnerships has been achieved. The second section of the report looks at some of the activities delivered through the industrial partnerships. Nine themed case studies in Annex 1 explore some of the challenges industrial partnerships set out to tackle and which of the approaches have been most successful.

What have industrial partnerships achieved?

This section of the report assesses the progress of the industrial partnerships against the main principles set out in the original vision for employer ownership⁶ by asking the following five questions:

- **Have industrial partnerships resulted in stronger employer leadership?**
- **Have industrial partnerships demonstrated the benefits of collective action on skills?**
- **Has the pilot resulted in increased employer investment in skills?**
- **Have industrial partnerships resulted in better targeting of funds?**
- **Have industrial partnerships identified innovative approaches to skills and workforce development?**

Stronger employer leadership

The extent and seniority of business leadership has been impressive. Leaders from high profile businesses are actively involved in the industrial partnerships.

All eight industrial partnerships are chaired by influential business leaders; some by the CEOs of FTSE 100 companies or household names such as National Grid (Steve Holliday), Channel 4 (David Abraham) and Cisco (Phil Smith).

Membership of the boards is drawn from senior people in a range of different roles in leading UK businesses.

The involvement of these decision makers has helped to raise the profile of skills in the companies involved. For example, Sally Cabrini, Business Services Director of United Utilities reported that:

“The Energy and Efficiency Industrial Partnership has definitely changed how

United Utilities engages with the skills agenda, both internally and in collaboration with other companies. It has brought employers together on an unprecedented level to work on skills issues which are shared challenges across our industries. The partnership has helped ensure that the profile of our own skills challenges continues to be a real priority in our boardroom.”

Business leaders have been actively involved, for example in chairing boards, personally leading activity, meeting with Ministers and networking with other businesses across the partnerships and beyond. In many cases leaders have involved their teams (for example skills, training or HR staff), but this has been to utilise their expertise rather than to delegate and step back.

Importantly, these senior people have been very ‘hands on’. For example, Murdo Allan, Director of Health, Safety, Sustainability and Technical Training at UK Power Networks, chairs the Energy and Efficiency Industrial Partnership’s Independent Assessment Service,⁷ and José Lopes, who is the Head of Technical Excellence at Jaguar Land Rover, has led on the development of the Automotive Industrial Partnership Apprenticeship Matching Service.⁸ Small employers have also led large, high profile initiatives. David Keeling, Chief Operating Officer of Bango, a small cutting edge IT business, chairs the employer panel for the Tech Industry Gold quality scheme.⁹

Business leaders have set up an ongoing dialogue with government Ministers and officials to demonstrate their personal support for the employer ownership concept and of the industrial partnerships, and to highlight how the partnerships can contribute to policy development and delivery. Their main message has been that a collaborative, cross industry approach is crucial for the long-term prosperity of their industries and the UK economy.

⁶ [Employer Ownership of Skills: Securing sustainable partnership for the long term](#) – December 2011

⁷ [Energy and Efficiency Industrial Partnership’s Independent Assessment Service](#)

⁸ [Automotive Apprenticeship Matching Service](#), launches March 2016

⁹ [Tech Industry Gold](#)

As well as meeting with government, the Chairs of the industrial partnerships have met regularly with each other. Events hosted by UKCES have allowed them to exchange views about the development of the partnerships, wider policy issues and discuss how things have worked in practice. Commissioner Nigel Whitehead, Group Managing Director, Programmes & Support, BAE Systems has led for UKCES.

Influential employers have also shown leadership within their own sector, influencing other businesses across the wider industry to get involved, and in particular to take on apprentices. As a result, greater numbers of businesses (particularly SMEs) have engaged for the first time. For example, the regional aerospace alliances¹⁰ participate in the Aerospace Growth Partnership Skills Working Group¹¹ ensuring the supply chain's involvement in shaping and benefiting from activities. The Science Industry Partnership reported that 20% of businesses involved in their apprenticeship recruitment programme¹² were taking on apprentices for the first time.

Many industrial partnerships operate as the skills 'action wing' of their related industrial councils and look to implement, influence or design actions to address the skills and employment needs highlighted in the related industrial strategy. There is crossover in membership of industrial councils and industrial partnership boards, ensuring good communication between councils and partnerships. Some employers also have interest in more than one industrial partnership e.g. Siemens, Jaguar Land Rover.¹³

As previously mentioned the partnerships regard the Sector Skills Councils (SSCs) as valued partners. Some stakeholders including the Department for Business, Innovation and Skills (BIS) have questioned the level of influence that the SSCs have over the partnerships' investment decisions. Consequently, partnership boards have been challenged to demonstrate that employers

lead the decision making process and give direction to the SSCs.

Board members have been challenged to hold each other to account for the delivery of activity; to operate with the same rigor as they would within their own businesses. There is peer-to-peer challenge and accountability. Some industrial partnerships have developed governance that is akin to a business board arrangement, demonstrating ownership of the agenda and personal accountability. Employers involved in the Tech Partnership have created a not-for-profit company limited by guarantee. This is a significant shift from an employer network (using an intermediary to hold the contract) to a model where partnership board members directly drive activity for which they are fully accountable.

The benefits of collective action on skills

Businesses quickly saw the benefit of collective action. Employers have said that the opportunity to try out new ideas, work together to develop new programmes and money to pilot them has meant that 'real' things happened rather than what many described as the *'talking shops'* of the past. Annex 1 provides examples of how this has resulted in greater purchasing power from providers¹⁴ and how resources have been directed to support smaller businesses.¹⁵

Across the industrial partnerships employers from competing businesses are working together on joint activities. The reality is that most companies compete for business, and working together has not been the norm. The industrial partnerships changed this landscape and brought companies together to work on solutions that benefitted not only their own company but also the industry as a whole. For example, BMW and Jaguar Land Rover, with products competing in the same market, have worked together on developing the ProLead initiative aimed at building the capability of their supervisory staff.

¹⁰ Regional Aerospace Alliances are membership organisations representing the aerospace supply chain businesses. There are five based in Wales, the Midlands, West of England, Farnborough and North West.

¹¹ The industrial partnership for the Aerospace industry

¹² [Technical Apprenticeship Service](#) (TAS)

¹³ Siemens are part of Tech Partnership and Energy and Efficiency Industrial Partnership and Jaguar Land Rover are part of Automotive Industrial Partnership and Tech Partnership

¹⁴ See Annex 1.1 Developing business driven Apprenticeships - Science Industry Partnership SMART Apprenticeship

¹⁵ See Annex 1.4 Developing skills and building capacity in the supply chain

Mark Stewart, General Manager and HR Director of AIRBUS and Chair of the Aerospace Growth Partnership Skills Working Group says:

"I feel the Industrial Partnership provided a catalyst that saw companies who previously were not inclined to work together joining forces to address the current and future skills needs of their sector. We cannot lose the momentum or opportunity this sectoral offering has provided."

Fiona Tobin, Business Development Manager, AgustaWestland said the industrial partnerships "created the glue to make competition translate into collaboration."

This is not to be underestimated. Businesses have reported huge benefits in terms of time and resources and sharing risk. Fiona described the role of the industrial partnership in bringing together competing businesses as a *"force for good"*.

As well as cross business collaborations, employers from different industries are working together for the first time to address common interests. For example, power, water, waste and gas companies like United Utilities, Viridor and E.ON worked together to develop the Energy and Efficiency Industrial Partnership's pre-employment pilot programme¹⁶ and they have now established other forums and networking groups to discuss approaches to shared challenges. At the 2015 Skills Show employers from competing energy companies Alstom, E.ON and SSE collectively represented the sector. Many people commented on how remarkable it was to see competitors standing together to promote a shared industry agenda of attracting young people.

Larger employers have supported small businesses and their supply chain on a much larger scale.¹⁷ Small employers in the energy and utilities, nuclear, aerospace and automotive industries have been positive about the fact that the industrial partnership has seen a shift to include businesses further down the supply chain in both decision-making and activity. Barry Brooks, Executive Director, EU Skills reports smaller businesses saying that their role in shaping the industrial partnership and

determining priorities was getting 'a piece of the action' for the first time.

There has also been evidence of a developing dialogue between the industrial partnerships and networks such as Local Enterprise Partnerships (LEPs). The Aerospace Growth Partnership Skills Working Group is currently identifying the LEPs with a strong aerospace presence. It is engaging in dialogue with LEPs that regard aerospace as key to local economic growth to influence and inform skills provision and allocation of European funding. The Department for Business, Innovation and Skills (BIS) is keen to continue discussions with the employer groups. In 'English Apprenticeships – Our 2020 Vision'¹⁸ (Dec 2015) The Secretaries of State for Business, Innovation and Skills, and Education jointly say,

"Nobody understands the skills employers need better than the employers themselves. That is why we are placing them in the driving seat. They are designing apprenticeships so that they focus on exactly the skills, knowledge and behaviours that are required of the workforce of the future".

The Employer Ownership of Skills Pilot was set up to test the concept of directing funding through groups of employers. The government's focus has however now shifted to focus more on supporting individual businesses, for example in the way the apprenticeship levy is expected to be distributed. 'A levy will put employers at the heart of paying for and choosing apprenticeship training, and place the funding of apprenticeships on a sustainable footing.' (English Apprenticeships- Our 2020 Vision: Dec 2015). A collaborative industry approach is still called for in documents such as the National Infrastructure Plan for Skills¹⁹ and the partnerships themselves are keen to retain the industry wide approach to skills they have started.

The government's focus in terms of funded support for skills is now directed mainly at apprenticeships and at individual employers. Employers also recognise the policy intent that public skills funding will be spent directly on training rather than infrastructure. Within this context the partnerships are considering what they can achieve working together.

¹⁶ See Annex 1.8 – Testing new approaches to traineeships and pre-employment programmes

¹⁷ See Annex 1.4 – Developing skills and building capacity in the supply chain which provides examples from the nuclear, and aerospace industries.

¹⁸ [English apprenticeships: our 2020 vision 7th December 2015](#)

¹⁹ [National Infrastructure Plan for Skills](#) – September 2015

The industrial partnerships are also beginning to adapt and explore different models for sustaining their influence and activity. Early indications are that some of the businesses involved in industrial partnerships may be prepared to pay for coordination and technical support through a subscription model.

Increased employer investment in skills

The partnerships have encouraged business investment in skills. In particular, cash investment has been high with over £14.5 million coming from business. Overall, to date, activity led by industrial partnerships has attracted over £34 million of employer investment alongside over £37 million of government money. The following table shows how this is split out:

Investment Type	Actual to date ²⁰
Employer Cash Investment	£14,534,500
Employer In-Kind Investment	£16,678,900
Total Employer Investment	£34,226,200
EOP Funding	£34,408,600
Other Public Investment	£3,012,800

To date businesses have invested over £16.5 million of 'in-kind' investment. Employers place a high value on these contributions, contending that tangible commitments like use of premises and staff time has a real cost to business. Few of the programmes could have functioned without these contributions and some businesses expressed frustration that this was not fully recognised.

The availability of public funds helped some businesses to invest more. The consensus is that funding played an important part in bringing people to the table. For some businesses involvement in the industrial partnership provided a way of justifying additional expenditure.

Chris Mullen, Head of Manufacturing Fujifilm Diosynth Biotechnologies said: *"The industrial partnership provided momentum and kicked-started thinking. It galvanised us."*

There is a danger that the early closure of contracts might adversely affect this kick-start to investment. Employer ownership funding has had a positive effect in encouraging businesses to invest, but with pilots of this scale and nature, it takes a while to measure the long term effects. Very little formal evaluation has taken place within the pilots, mainly because it was scheduled towards the end of the contracts. Ending the contracts in 2016 may reduce evidence of impact. Without substantive evidence of return on investment or business benefit, decision makers find it difficult to justify committing resources to skills development.

For example, the recruitment of trainees as a pre-cursor to apprenticeships has been a success, but it is yet to be proven whether young people from these cohorts achieve more and become a valuable asset to the business.

Collaboration through the partnerships also appears to have a positive 'domino effect'; both individual businesses and broader industries are prompted to take action and invest when they see others doing so, or see a solution that works.

One practical observation about the co-investment process is the time it can take for businesses to obtain funds internally. Some large corporate entities can have lengthy sign-off processes and many work internationally.²¹ This can impact on activity delivery planning.

Better targeting of funds

The EOP set out to test how it might be possible to target public funds to better align with industry needs, the theory being that businesses are best placed to make decisions about where to spend on skills to support growth.

The industrial partnerships did this at an industry-wide level. They determined priorities by drawing together the experience of the businesses involved and sector LMI to agree the most pressing challenges and design solutions that work for the industry. As a result, each industrial partnership's remit looks very different. This was the right approach; the partnerships gained commitment from

²⁰ IP Investment profile data taken from Item 2 of November's Employer Ownership ODG Meeting: Budget and Financial Performance as at 5th November 2015

²¹ For example of AgustaWestland needs sign off by their Head Office based in Rome

business because they have been able to focus on business critical issues.

José Lopes, Head of Technical Excellence at Jaguar Land Rover and Automotive Industrial Partnership Chair said: *“For the Automotive Industrial Partnership the common goals and ambitions of the sector towards achieving the skills roadmap, set out in ‘Driving Success: UK Automotive strategy for growth and sustainability’, has given the impetus to continue with collaboration going forward.”*

Programmes of work and delivery methods vary. For example, the Energy and Efficiency Industrial Partnership placed strong emphasis on developing better entry routes for young people, but the Science Industry Partnership needed to address the demand for higher level skills. Similarly, delivery methods have been tailored to the industry, not constrained by a uniform offer.²²

Where industrial strategies existed the partnerships made a strong link between industrial strategy in defining the initial focus of their pilot activities. A number took on a formal role and became the skills arm of their industry council. For example, the Automotive Industrial Partnership is formally accountable to the Automotive Council and the Nuclear Industrial Partnership supports the skills dimension of the nuclear strategy. This means that they have a role in ensuring that investment in skills is aligned to the challenges faced by the industry. For example, the nuclear industry is about to embark on a new build programme, at the same time as ongoing decommissioning. Latterly the EEIP has been exploring how it aligns the government’s National Infrastructure Plan to assess skills demand.

Many industrial partnerships took a long-term view about how to ‘futureproof’ their industry. Rather than simply focus on immediate skills priorities, or the availability of government support, businesses committed time and resource²³ to long term industry challenges. Going forward the test will be whether the partnerships maintain the momentum of collaboration without EOP funding. All recognised the importance of creating a strong

‘talent pipeline’, addressing problems like an ageing workforce and recognising specific drivers such as large infrastructure activities. In industries such as aerospace, plans can reach as far forward as 30 years. Responses to the challenge of meeting the skills needs of the future range from encouraging children as young as nine to take a different view of manufacturing to planning for the loss of high level expertise in the nuclear industry.²⁴

Some industrial partnerships have also developed models to support ongoing identification of need, at both business and industry level. The nuclear Capability Model identifies skills needs within each business and uses this information to secure high quality provision through trusted providers.

Many partnerships have begun to develop clear progression routes. They are creating flexible pathways between college/ university and work based routes. This will provide a strong foundation for the current government’s ambition to ensure that there are coherent routes through professional and technical education in key industries.

As the industrial partnerships developed their plans so policy also moved on. For example, in parallel to determining their EOP funded priorities the automotive sector was also developing new Trailblazer apprenticeship standards. As a result the employers decided not to include apprenticeship delivery in their EOP plan but channelled apprentices through the mainstream onto the newly developed Trailblazer pilots.

In other instances industrial partnerships set over-ambitious targets, particularly in relation to programmes recruiting young people between 16 and 18.²⁵ 26 In some instances this was because the employers did not have a full understanding of the barriers e.g. access to transport links for young people, or availability of relevant local training provision. The result was that there have been examples of significant mismatch between the target and what could practically be delivered.

²² Annex 1 sets out how the partnerships took very different approaches to the delivery of training and other initiatives

²³ Including meeting a minimum 20% cash investment requirement.

²⁴ See Annex 1.2 Attracting young people into key industries - Nissan’s Art of Manufacturing and Annex 1.3 Developing higher level skills - developing subject matter experts in the nuclear industry

²⁵ See Annex 1.9 ‘Challenges in recruiting young people (16-18 year olds) to training programmes

Innovative approaches to skills and workforce development

The pilot has tested out different types of innovation. Some of what's new is 'transformative innovation'; testing a brand new solution against an old problem, such as the Energy and Efficiency Independent Assessment Service. Much of the innovation is about ways of working. In these cases the solutions themselves are not necessarily ground breaking, but are innovative as a result of where and how they're implemented.²⁶

Most of the industrial partnerships' activities have been about testing something that was new to the industry. For example, pre-employment programmes were both approached differently and tried in new contexts. Pre-employment training is completely new to the nuclear sector where it's illegal to have under 18s on site. The participating businesses had to address a range of issues, but more than one of the industry's key businesses now consider traineeships to be a valuable recruitment pipeline.²⁷ In the energy and utilities industries employers designed pre-employment programmes that are completely different to anything the Department for Work and Pensions have seen before.²⁸

Some innovations are being scaled-up or rolled out beyond the scope of the pilot. Models were tested in one place and then replicated in other parts of the UK. For example, the Energy and Efficiency Industrial Partnership's pre-employment programme which originated in the North West has now been successfully piloted in Scotland. There has been international interest in some of the industrial partnerships work. For instance BMW took the 'Meister' model from Germany, and working with Jaguar Land Rover, adapted it for UK business as 'ProLead' and now there is interest from BMW sites in other countries in learning from this approach.

Part of a pilot is about learning from what doesn't work. Some activities worked less

well because new approaches were tested in isolation, rather than as part of a mainstream change. In some cases, this made the education sector less responsive to investing the time and effort into developing new programmes on what could be a one-off basis.

Similarly, innovation involves trial and error. That means that there is greater risk that things will go wrong, things will need to be changed, or just take longer than anticipated. It is likely that there will be changes to the numbers, or timing of outputs. If innovative approaches are to be given a chance to work, then this needs to be built in to how the programme is monitored and broader success measures are required.

²⁶ Annex 1 outlines examples of innovation in the delivery of training, quality assurance and recruitment

^{27/28} See Annex 1.8 Testing new approaches to traineeships and pre-employment programmes

Summary of lessons learned

The first of the two sets of lessons learned relate to assessing progress against the original vision for industrial partnerships. The second set focus on what was learned from the activities that have been piloted.

Lessons learned against the vision

Influential business leaders led the process of developing the industrial partnerships from the start. **Strong leadership** was central to bringing the partnerships together to define their skills needs, develop solutions and reach a consensus on investment decisions. These leaders continue to drive the agenda; bringing businesses together, including competitors, to champion the skills agenda for their sectors. To ensure wide-scale sector representation effort needs to be maintained to attract interest and support from smaller businesses that may be interested but disconnected from the skills agenda

This **collaborative approach** has been a constant theme across the industrial partnerships. Businesses recognised that in some areas they can achieve more by working together but forging these relationships takes time. They share ideas and approaches to tackling skills needs. Businesses don't automatically collaborate on skills but the partnerships provide a platform for this to take place where there is a shared need.

Once priorities were identified the partnerships were able to **target spending**. Where there are industry strategies or skills strategy these helped to give direction to determine where spending should be targeted. Strategies with a longer and wider view, reflecting issues such as product life-cycles or emerging policy issues that might impact on the sector (e.g. low carbon technologies), helped to inform the decision making process and the need to 'future proof' their industry's skills needs. Businesses demonstrated they were prepared to invest time and resources into activities beyond those that have short-term business benefits.

Several industrial partnerships have benefitted from being close to decisions about the future of the industry. Industry councils have also benefitted from dedicated business leadership on the skills dimension. Businesses are far more likely to begin to invest or continue investing where there is evidence of success, and many businesses have come to expect a public contribution. There is a history of government investing in skills, and businesses often regard financing skills development as a cost rather than an investment. The Employer Ownership of Skills Pilot (EOP) required investment by the industrial partnerships and prompted a move towards a culture of **co-investment**.

Innovation takes time and involves risk. Piloting different approaches means that not everything will work, meet deadlines or deliver projected volumes. This needs to be built in to how a programme is managed.

It is more difficult to test innovation in isolation than as part of a mainstream change. It is also more problematic for the education sector to invest the time and effort in pilot activity than they would for a permanent programme.

Lessons from the pilot activities

Through the activities they delivered the industrial partnerships have learned many lessons about what does and does not work. In some cases this has led them to remodeling and in other cases bringing activity to an early close. The following is a summary of the lessons learned. For more detail refer to Annex 1.

For businesses in key sectors to thrive they need to have a 'pipeline' of young people interested in pursuing careers in their industries. The partnerships report that **attracting young people** to an industry can be more successful if businesses work together.

The most effective engagement is at local level where businesses are known. Industry needs to work with schools and colleges and be aware of timetable restrictions and how to support the curriculum. Practical support such as covering material, transport and accommodation costs are also appreciated by the schools. Supporting teachers to support students is key to success, especially in industries that are more complex and less understood. This may help recruitment by improving their capacity with advice on career routes and recruitment pathways.

An industry wide approach to **recruiting apprentices** could benefit both businesses and young people. This may become even more valuable when the levy is introduced and could support achievement of the government's 3m apprenticeship target.

A focus on opening up opportunities to a wider pool of candidates has helped some industries to find strong recruits. Employment rates following pre-employment programmes recruiting from the local community have been higher than the mainstream. It does however take time and effort to develop new recruitment pathways, but there are significant gains to be made when employers come together to tackle this in a co-ordinated way.

Not all young people are ready to start straight onto an apprenticeship and sometimes require a 'bridging' course in the form of a pre-employment programme. Several partnerships tested **new approaches to traineeships and pre-employment programmes**. Young people enrolling on traineeships are moving on to apprenticeships, and evidence shows that when a pre-employment programme is shaped to a specific business need, the chances of being offered an apprenticeship are even higher. One of the most important factors for employers designing and delivering a pre-employment programme is recognition and subsequent referrals from Jobcentre Plus. Their championing of this programme increases the likelihood of success.²⁹

There have been problems recruiting young people (aged 16-18) to traineeships. There were different reasons for this but the two most common were that young people did not

understand the traineeship concept and that there is competition amongst employers and education providers for students.

Pre-employment programmes work well in some industries, but some employers feel the government's Traineeship model may be too restrictive. Businesses want flexibility in programme design and fewer restrictions on recruitment. Likewise programmes tailored to individual businesses and designed around specific jobs are very successful.

Most industrial partnerships have committed resources to **developing business driven apprenticeships** with a focus on making them more relevant and accessible to smaller companies. However it is important not to underestimate the effort needed to engage and promote to smaller businesses even where these businesses are within an existing supply chain. Where this has been successful it has increased the number of apprentices and brought new employers on board.

The pilots and Trailblazers have provided employers the opportunity to design apprenticeships that work for them. This has made a big difference to how businesses view them. Many businesses who have recruited apprentices within the pilots now see them as part of the long-term solution to skills shortages and an ageing workforce.

Assuring quality in training provision is important in giving businesses confidence that they are getting training that is relevant and to the quality they need. Some industries have successfully developed their own ways of assuring quality of providers and training. They benefit because they get the training they want and have greater confidence in what is delivered. Independent quality assurance processes require significant time and resources from business in order to be robust and credible. Some business industries have concluded that it is better to accredit providers than individual courses.

Industrial partnerships have seen businesses from across the supply chain working together. The supply chain is only as strong as its weakest link. **Developing skills and building capacity across the supply chain** is critical in ensuring its performance. Smaller

²⁹ See Annex 1.8 Testing new approaches to traineeships and pre-employment programmes

businesses can struggle to access a new supply of skilled labour but by partnering with larger businesses they can access support and advice on how to grow their skills, including taking on apprentices. Those businesses with greater resources and expertise see the business driven incentives to strengthen their suppliers' capabilities. Providing help to identify high quality training removes a significant barrier for small companies.

Training budgets can also be difficult to prioritise for smaller businesses and financial assistance is important. Evidence of impact would support the business case for investment. Making apprenticeships a viable and attractive option for small business can be resource intensive and expensive, but will have long term benefits.

It is clear that **strengthening workforce development** remains a high priority. The skills and competencies of the existing workforce underpins competitiveness and growth, and upskilling the existing workforce is critical to keep pace with new technologies or win major infrastructure projects. Many small businesses find it hard to balance the demands of short-term business pressures with planning longer term investment in skills, but by working together on developing their workforce, businesses can share knowledge ideas, risks and development costs.

Industries that have a high risk of losing critical expertise need to find ways to accelerate learning and develop skills including **developing higher level skills**. Individual employers and the wider industries are beginning to recognise the value of developing a vocational route that supports progression and provides an alternative source of higher skills. Working collaboratively on higher level programmes benefits both businesses and universities because it produces more employable graduates. Industrial partnerships can provide a collective 'employer voice' that universities find invaluable.

Recruitment of young people (16-18 year olds) to programmes was a challenge for many of the industrial partnerships. The reasons for this were not uniform or straightforward.

There were patterns related to age and level of training. For example, Level 3 apprenticeships were easier to recruit than Level 2, but Level 2 recruitment (to pre-employment programmes and apprenticeships) becomes much easier if applicants can be over 19; traineeships were harder to recruit to than apprenticeships. Some industrial partnerships faced barriers from schools when trying to access young people to recruit to apprenticeships and traineeships.

Taken as a whole the lessons learned demonstrate the complexities and challenges the partnerships face. They identify some barriers to change; that even with employers in the driving seat, where they interface with other stakeholders e.g. schools, colleges, universities, young people, these stakeholders need to share the same vision and ambitions as the partnerships.

What next for industrial partnerships?

The industrial partnerships have strong leadership and have witnessed the benefits of collective action. The early withdrawal of Employer Ownership of Skills Pilot (EOP) government funding has had a major impact on projected outcomes, but most of the industrial partnerships have a broader ambition that goes beyond the delivery of EOP funded activity. They have begun to gain momentum, both individually and as a collective of eight partnerships with common objectives.

This means that most industrial partnerships will continue in some form after EOP funding ends in March 2016. The form that they take and what they will be called will vary, but senior business leaders have committed to continue to work together to influence policy and increase productivity across key industries of the UK economy.

Collective action continues through Apprenticeship Trailblazers, employer groups piloting the new approach to occupational standards, providing feedback on plans for the apprenticeship levy and the reform of technical and professional education. Some industrial partnerships are taking forward new initiatives that they have prioritised for their industry or finding ways to sustain pilot activity.

Will any of the current programmes of work continue after March 2016?

Each partnership has negotiated a Scheme Closure Offer Letter with BIS. The majority of government funded activity will cease in March 2016. Apprenticeships that are not completed will be transferred to SFA funded providers.

Not all industrial partnerships have strong sustainability plans and it will fall to each to decide if and how they continue. Where partnerships do have plans these were designed to begin at a later stage and to support a gradual transition from co-funded pilots to employer-funded activity. Whilst the partnerships themselves and some of the

activities are likely to endure, early closure of the pilot will result in lost opportunities in some areas.

Large businesses understand the need to build capacity in their supply chain, but cannot always justify the level of additional resource needed to do this. The industrial partnerships have created the opportunity for these large companies to work more formally and consistently with their supply chain and to begin to demonstrate the benefits of building capability. Small and micro businesses also need to take ownership of their skills needs, understand the benefits to their business and proactively engage in the agenda.

There is a view among employers that, had funding been phased out in a way that allowed some key programmes to continue, this would have given industrial partnerships the chance to demonstrate the business case and increase the likelihood of securing employer investment for continuation. Demonstrating return on investment for large and small companies is vital if business investment is to continue. It is harder to make a case for this without formal evaluation of impact.

Will industrial partnerships continue to work with government?

The industrial partnerships have created a new dialogue between government and employers. The very fact that government engaged with the industrial partnerships and supported them with considerable funding has brought many employers to the table. Most remain keen to maintain their involvement in the industrial partnerships and continue to work with government.

The industrial partnerships will continue to engage with the Department for Business, Innovation and Skills (BIS) and other government departments to deliver their objectives. They have already begun to do this. The Tech Partnership, for example,

is working on identifying how the industry will ensure it has the skills and capacity to meet Home Office announcements on cyber security; The Science Industry Partnership is supporting four ministerial councils on skills in life sciences and industrial sciences and the Aerospace Growth Partnership Skills Working Group needs to ensure that they have the capacity to deliver large Ministry of Defence contracts. The Nuclear, Tunnelling and Energy and Efficiency Industrial Partnerships have begun talking to government about how they might support their industries to meet the challenges set out in the £411 billion National Infrastructure Plan.

What will the industrial partnerships look like in the future?

Each industrial partnership is taking a different approach to its future structure, role and sustainability. Decisions are ongoing, but a range of approaches are being considered by industrial partnership boards.

Industrial partnerships may:

- Continue as a strategic skills group for the industry, in some cases on behalf of an industry council.
- Seek to sustain the partnership through an employer membership model where services are offered for an annual membership fee.
- Implement self-funding models for individual activities or services.
- Seek alternative sources of (industry related, local or European) funding to match employer contributions.
- Become a legal entity and continue to operate as an industrial partnership.
- Regroup around a new infrastructure priority (for example the tunnelling employers are moving on to work with the Thames Tideway project).

In addition, the industrial partnerships are both individually and collectively exploring ways that the apprenticeship levy might support wider activity relating to apprenticeship delivery in their industry.

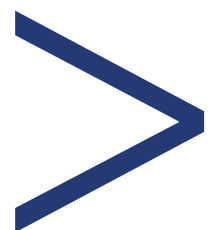
Conclusion

Industrial partnerships have made real steps forward in showing what can be achieved when businesses work together for the good of their industry. They have tested new approaches demonstrating that real progress can be made on challenges such as increasing the number of apprenticeships, increasing recruitment and improving the quality and relevance of training. The amount of cash that businesses have invested is substantial, which shows that businesses are prepared to invest when they have greater control over how money is spent. Perhaps the most remarkable achievement is how many businesses have committed to work together, and how that commitment has been sustained, even in the face of considerable challenge.

Collectively, the industrial partnerships can be the voice of skills for the industries they represent, and as a group their voice is even more powerful. In most cases partnerships are still considering and defining its future role. There is an opportunity to use this collective business leadership to support and implement the fundamental changes that the skills system is currently undergoing.

Annex 1:

Industrial Partnership Employer Ownership of Skills Pilot Case Studies



1.1 Developing business driven apprenticeships

Lessons learned

- Making apprenticeships more relevant and accessible to smaller companies has increased the number of apprentices and brought new employers on board.
- Introducing apprenticeships as a new route into some industries has been a success. Many businesses who have recruited apprentices now see them as part of the long-term solution to skills shortages and an ageing workforce.
- The pilots and Trailblazers have provided employers with the opportunity to design apprenticeships that work for them. This has made a big difference to how businesses view them.

What were the industrial partnerships trying to address?

Many industries face a big challenge; skills gaps and an ageing workforce make it more difficult to fight off competition. The government's National Infrastructure Plan³⁰ plans to invest £411 billion in a number of large projects, increasing demand for skilled workers in some sectors even more. To address these challenges businesses need to look beyond traditional methods of recruitment.

Some science based industries have little history of recruiting apprentices. The focus has been either on academic qualifications or experience. There's now a widespread recognition that in order to thrive, companies need to evolve their recruitment models and look for new sources of talent.

Some industries didn't have apprenticeship frameworks or didn't rate the ones they had. Some businesses were not satisfied that the provision on offer really met their needs, or didn't have the time or purchasing power to get what they wanted.

The industrial partnerships identified that many small companies don't employ apprentices because they don't have time to engage with training providers and identify the best products, or simply don't know how to recruit and train one. There is too much bureaucracy, especially for employers who don't have dedicated training or HR teams. BAE Systems uses its links with local businesses to help them recruit apprentices.

One such apprentice is Natasha Schofield, an engineering apprentice employed by Magellan Aerospace. She spends time training at BAE Systems training facility as well as with Magellan Aerospace.

Natasha Schofield said: "At first I thought apprenticeships were a good way to earn money and learn on the job but after learning with BAE Systems I realise it is an excellent way to also gain qualifications and learn the differences between two companies. This gives me a wider knowledge of how different companies operate."

How are the problems being tackled?

All of the industrial partnerships are doing something to improve how apprenticeships meet the needs of industry. Some have focused on content or delivery; others at looking at increasing the number of apprentices in different parts of the sector or in businesses that have not traditionally taken people through this route.

The water industry had existing apprenticeship frameworks, but employers felt these were not fit for purpose. Through the Energy and Efficiency Industrial Partnership, two new Level 3 apprenticeship Trailblazers were developed. There are now 62 apprentices training to be either Water Technicians or Utilities Engineering Technicians, across three water companies.

Phil White, Technical Training Manager United Utilities said: "To be leading on such an important piece of work is really exciting. United Utilities decided to take an active role in

³⁰ [National Infrastructure Plan for Skills September 2015](#)

the development of these new standards, after we realised that our current frameworks weren't as effective as they could be. By improving these standards we're able to raise the bar for future United Utilities employees and make sure that our apprentices have all the skills they need to succeed."

The industrial partnerships provided opportunities for large 'prime' companies to extend their apprenticeship programmes and facilities to local companies in their supply chain. Some are supporting the co-ordination of apprenticeship programmes for large companies over multiple sites.

This has increased numbers, but perhaps more importantly introduced apprentices into companies that have little or no experience of taking on young people. In 'Developing skills and building capacity in the supply chain' examples of supporting apprenticeships in supply chains are explored further.

Seeing apprenticeships as part of a career path rather than training for a particular job is becoming more common. With the introduction of higher apprenticeships and the emerging degree apprenticeships, there are now opportunities to join at Level 3 and progress through to Level 5 in many roles. The nuclear operative apprenticeship, developed by the Nuclear Industrial Partnership, provides an entry point into the industry with jobs in Process Operations and Decommissioning, both of which are vital for the industry. Completion of the apprenticeship will also enable apprentices to apply for Associate Membership of the Nuclear Institute, as well as creating access to further development opportunities.

Apprenticeships in their current form are relatively new to the tunnelling industry due in part to the lack of an apprenticeship framework that takes account of the specialist nature of the industry. Through the industrial partnership, employers have collaborated to develop programmes such as the new materials technologist apprenticeship and a new tunnelling Trailblazer. As a result, some companies will take on apprentices for the first time.

The tunnelling industry now plans to take on at least 20 apprentices. Without the

infrastructure provided by the industrial partnership it is unlikely that a single employer would have been able to make this happen. The programme benefits from a dedicated materials testing lab in the state-of-the-art [Tunnelling and Underground Construction Academy](#) (TUCA), which was developed by Crossrail and partners in Ilford, Essex. The Tunnelling Industrial Partnership is now developing a new Trailblazer standard in Tunnelling Operations. With the addition of further standards this will result in a clear career pathway in tunnelling.

The digital industry traditionally recruits graduates, but increasingly apprenticeships are equipping people with relevant, up to date skills and experience of the workplace. The Tech Partnership launched [Tech Industry Gold Apprenticeships](#) to raise standards and increase uptake of high-quality apprenticeships. These programmes meet industry standards and provide employers with confidence that training has been quality assured. Programmes are customised to individual employers' needs. Already eight training providers are offering 27 assured apprenticeship programmes and 2700 apprentices have been recruited to these programmes, including 280 apprentices to the first ever cyber security apprenticeship.

The Tech Partnership is also working on 12 new Trailblazer apprenticeship standards and over 200 employers are involved. These are expected to support 5000 apprenticeships a year across the industry.

Case study: Science Industry Partnership SMART Apprenticeship Programmes

At the outset of the Science Industry Partnership (SIP), science industry businesses recognised they have an ageing workforce and a shortage of essential skills. This will get worse unless employers swiftly start to invest in new talent.

Historically, many employers in the sector do not employ apprentices, preferring to recruit graduates; many employers felt that existing provision didn't give them what they wanted. The SIP aimed to boost the number and quality of apprentices and demonstrate that apprenticeships are a viable alternative to graduate recruitment.

Employers in the partnership, led by GlaxoSmithKline (GSK), came together very early to create the new apprenticeship model. They wanted to do something different; to test and pilot a new approach where funds were directed by employers, rather than providers.

The SIP's [SMART apprenticeship programme](#) is tailored to the needs of individual employers. It gives them choices about the content of their apprenticeships as well as how they are delivered. They are able to take units from different apprenticeship frameworks, use non-accredited courses and access different elements of the framework from different providers. Through central procurement arrangements, the SIP is able to drive down costs, securing the best deal from the provider market, sometimes purchasing on a unit by unit basis. The SIP works with over 50 training providers and there is a quality assurance process implemented by the SIP.

The results of the SMART Apprenticeship programme are demonstrated both in terms of the volume of apprentices now being taken on by the industry (over 900 to date)³¹ and the increase in businesses recruiting apprentices for the first time. Employers have commented that they have started to see real talent coming through and the flexibility of the SMART model has made it easier to get what they want, when they want it. They see themselves 'in the driving seat' because they have the purchasing power to secure what they need for their business and a better understanding of price and what the money can buy.

In order to overcome the risk for smaller employers, the SIP chose the [Technical Apprenticeship Service](#) as their specialist apprenticeship partner (an Apprenticeship Training Agency). This allowed them to employ apprentices on behalf of companies. 144 employers are currently using this programme.³²

This approach has created a new interest in vocational routes and provided employers with a flexible and responsive system.

Chris Mullen, Head of Manufacturing at Teesside-based biopharmaceutical firm, Fujifilm Diosynth Biotechnologies said: *"Coming together with other employers to talk through issues was very rewarding and far more so than many other training groups I have been part of."*

Chris puts this down to the solution-focused nature of the discussions.

He compares this approach with past experiences and acknowledges that companies just don't talk to each other enough. The SIP worked with Chris to source providers, broker delivery arrangements and support the recruitment of five apprentices. Chris describes the impact of having young people on site as "very exciting." The feedback about the apprentices from across the business has been excellent, and they are keen to take on more apprentices in the future.

^{31/32} Data as of end Q6

1.2 Attracting young people into key industries

Lessons learned

- Attracting young people to an industry can be more successful if businesses work together.
- The most effective engagement is at local level.
- Industry representatives need to make it easy for schools and colleges by working within the confines of their timetable and curriculum, and by breaking down barriers such as cost, transport and accommodation.
- Supporting teachers to support students is key to success, especially in industries that are more complex and less well-understood.

What were the industrial partnerships trying to address?

Businesses need to appeal to young people to secure their future workforce. This often involves working with schools, colleges and universities.

Activities with schools can help build company reputations, support communities and provide employees with development opportunities, but ultimately businesses need to recruit people with the right skills. This can be a particular challenge in industries that need people who are well qualified in maths and science. To meet the demand for skilled technical staff in the science industries the number of apprentices needs to increase.

Many of the industries that the industrial partnerships represent have skills shortages and an ageing workforce, so they quickly recognised the need to attract more young people. For example, the Aerospace Growth Plan states a need to “develop and deploy a school engagement strategy that inspires our future apprentices and engineers”.

Employers are also concerned about the low number of women entering some sectors. This is a particular challenge for the digital industry; just over 5300 students sat ‘A’ Level Computing in summer 2015 of which only 456 were female.³³

How are the problems being tackled?

The industrial partnerships support businesses to engage with schools, colleges and universities. They provide an opportunity to turn individual, ad-hoc activity into a

programme of collective and systematic events. They have demonstrated the importance of employers working together and identified a number of approaches that work well.

Relationships between schools and businesses are shown to work well at a local level with schools and pupils responding well to familiar businesses. Local employers are more likely to be known - friends and relatives may work there - and the company has an established reputation in the community.

Supporting teachers to support students is also important. This is especially true in industries that are complex and less understood. Giving teachers the opportunity to visit local companies and see for themselves how modern businesses operate, providing them with resources that relate directly to their schemes of work, working with them to plan the programme of activity and helping them build their knowledge of new careers, are all important.

Whilst much of the activity focused on 14 -16 year olds, some of the industrial partnerships identified that engagement needs to begin earlier. In some ways a younger cohort is easier to work with; there is less pressure on the timetable; pupils are more open to new ideas; and there is less gender imbalance in terms of interests. However, it potentially requires more attention to be paid to content, teaching style and resources. At the other end of the spectrum there are some innovative and interesting ways in which sectors are engaging with universities, such as the Subject Matter Experts programme supported by the Nuclear Industrial Partnership.³⁴

³³ [Joint Council for Qualifications A-Level Results](#) 2015

³⁴ This is covered in ‘Higher Level Skills’

The Tech Partnership runs a programme called [TechFuture Girls](#) which is aimed at girls aged 10 –14. It teaches them transferable skills and opens their eyes to the possibilities of a career in technology. Resources and support are provided for after-school clubs that introduce technology through activities based on music, sport and fashion. Using these interests, the club teaches skills ranging from coding to cyber security; data management to video editing. The Tech Partnership found it important to ‘make it easy’ for schools by working within the confines of their timetable and curriculum, and breaking down barriers such as cost, transport and accommodation.

The Tech Partnership also has programmes which bring together employers of all sizes to tackle skills shortages locally and promote technology apprenticeships to teenagers. These approaches have highlighted the enthusiasm of local employers to get involved. A well-received Tech Partnership event in Cambridge attracted 500 young people and gave them the opportunity to talk to over 25 local employers.

David Keeling, COO of Bango, a Cambridge-based business said: *‘The event brought together young people and local employers to raise awareness of the broad spectrum of careers, and showcase opportunities, including 60 live apprenticeships. It was fantastic to see how passionate and keen employers were to meet and attract future talent. Bango’s engagement with local schools has continued since the event, with visits to schools on a monthly basis to engage and inspire young people about careers in the tech industries.’*

The Science Industry Partnership (SIP) has over 170 Science STEM (Science, Technology, Engineering, and Mathematics) ambassadors as part of their [STEM Careers Programme](#). These ambassadors are professionals who volunteer from industry. They are provided with a set of novel resources to take into schools to attract and inform young people about the huge range of rewarding STEM careers.

One example is an interactive periodic table quiz which tests students’ knowledge of science in the real world –from the ingredients of soap through to what’s in

perfume. With a large illuminated screen and sound effects signalling the right and wrong answers, it draws crowds at careers fairs.

The Nuclear Industrial Partnership ran a series of STEM workshops for pupils in years 10 and 11. These two day events included practical activities, information on career opportunities, interview and job search skills and a trip to an employer’s workplace. Almost 500 pupils attended the events and 20-40% were female. Feedback suggests that the activities resulted in many pupils being motivated to work harder and a quarter were more likely to choose STEM subjects.

Attracting young people into those industries that most urgently need able recruits is a massive challenge. Co-ordinated action at industry level helps, but a more widespread review of barriers and approaches would assist. This may be something that the newly established [Careers and Enterprise Company](#) is able to address.

Case study: Nissan’s Art of Manufacturing

Nissan’s Tyneside plant developed their ‘Art of Manufacturing’ programme, aimed at 9 and 10 year olds, after a visit to Nissan Mexico.

As part of the Corporate Social Responsibility programme in Mexico, Nissan worked with children to introduce them to work and encourage them away from gangs. The programme was based on a model developed at Nissan’s headquarters in Japan and is known as *Monozukuri Caravan*. The literal meaning of monozukuri is ‘production’, but in Japanese, monozukuri implies more than simply making things - it can be best compared to the word ‘craftsmanship’.

The programme was transferred to north-east England to attract young people and influence their career choices as early as possible. The programme is offered to all year 6 children in the region who visit in groups of 30, and involves a full day visit to the site and a project linked to their year 6 curriculum. The projects are assessed and the ‘winner’ rewarded. The visit involves ‘learning through doing’ and includes a hands-on Lego®™ production line and practical working with manufacturing equipment.

The programme differs in two main ways to other school engagement activities. Firstly, the content has been designed in collaboration with teachers to ensure that it is pitched at the right level. This even extends to the design of the feedback form. Pre-work ensures that children are well-prepared for the visit and get more out of the day.

The second major difference is that Nissan worked with schools to understand and remove some of the barriers that schools face when running external visits. For example, they arrange and pay for the transport, ensure that all staff have up-to-date CRB checks and carry out risk assessments.

Peter Hampson, Deputy Head Teacher at Swalwell Primary School in Gateshead was hugely complimentary about the programme, He said:

"The Art of Manufacturing initiative has been immensely valuable for the pupils (and for myself as a teacher) and we have all gained a tremendous amount from our visits. I now have a much greater understanding of the possible career choices available to pupils when they get older, which makes me more able to advise them in the future.

Thank you so much for the wonderful experiences you provided for us. I am sure that in a few years you will be inundated with job applications from the boys and girls in our school. The visit has inspired us all!"

This programme was a new venture for Nissan in the UK and the Automotive Industrial Partnership has enabled the pilot to be scaled up. The programme has now rolled out to other businesses in the sector, including Toyota in Derby and the North West Automotive Alliance. Nissan has 'trained the trainers' to ensure the effectiveness of the programme. By September 2015 almost 5000 children had attended the programme. This far exceeded planned numbers and there is now a long waiting list. But this was not always the case. At the beginning, Nissan staff had to visit schools to sell the benefits and attract visits.

It is too early to measure impact, but children who attended in 2012-13 will soon be making their GCSE choices and it will be interesting to see the decisions they make.

1.3 Developing higher level skills

Lessons learned

- Individual employers and the wider industries are beginning to recognise the value of developing a vocational route that supports progression and provides an alternative source of higher skills.
- Working collaboratively on higher level programmes benefits both businesses and universities because it produces more employable graduates. Industrial partnerships can provide a collective ‘employer voice’ that universities find invaluable.
- Industries that have a high risk of losing critical expertise need to find ways to accelerate learning and develop skills.

What were the industrial partnerships trying to address?

Across the UK, most industries are facing the challenge that by 2022, two million more jobs will require higher level skills.³⁵ Businesses will need to find qualified staff to fill these roles, but numbers are not the only problem. Businesses also report that many graduates lack relevant skills and industry knowledge and as a result are not work ready. Some industries also have a problem recruiting to very specialist areas.

Businesses and universities find working together ‘one-to-one’ time consuming and recognise that ad hoc relationships may not produce results that work across the entire industry. Several of the industrial partnerships found that they could play a role in supporting better collaboration between higher education and industry. This went some way to ensuring that higher education did more to meet industry needs and to help universities with the huge task of ensuring that what they deliver is up to date and relevant.

How are the problems being tackled?

The industrial partnerships brought businesses together with universities to communicate the skills needs for the industry, design curricula and build upon ad-hoc work to make it more systematic. They are also directly supporting skills development activities that will benefit industry now and into the future. Working collectively with universities has meant economies of scale and more sharing. This shared approach is unlikely to have happened without the industrial partnerships’ role in co-ordinating relationships and providing a collective view.

Case study: Degree apprenticeships in the digital industry

The Tech Partnership identified that businesses wanted something different from the traditional three-year undergraduate course. They wanted specific technical skills, gained through experience in the workplace, and a broader subject knowledge. They wanted to ensure that not only were there sufficient people with these skills but that they were the *right* skills– those that are relevant to the current and future job market.

In October 2014, businesses came together with a small number of universities and worked together to design a new Degree Apprenticeship. This new type of apprenticeship fully integrates academic and on the job training. The apprentice is employed from day one in a digital career whilst undertaking an honours degree. As a result 300 new young people (twice the number originally planned) have been recruited and are studying at nine universities.

Jenny Taylor, UK Graduate, Apprenticeship and Student Programme Manager at IBM outlines the benefits of the new approach: *“The apprentice gets a job in the industry of their choice, while graduating without any debt and the employer gets a highly motivated young person who, because of the time spent in the workplace, quickly becomes productive.”*

In developing the new Degree Apprenticeship, employers were very much in the driving seat. Unlike most new qualifications they determined, for example, when apprentices would be in the workplace and what the assessments would look like.

³⁵ QAA (2008), Learning from Academic review of higher education in further education colleges in England 2002-07

Amy Magistris, one of the first students to take a degree apprenticeship at IBM said: *"I was keen to start work as soon as I could but wanted a degree to underpin my 'on the job' experience. Being a degree apprentice gives me everything I want in a single package. It's unbelievable!"*

Case study: Developing subject matter experts in the nuclear industry

The nuclear industry relies on subject matter experts for its technical leadership. These people operate in highly specialised fields and have gained their expertise over a considerable time; 20-30 years in some cases. Many of them are nearing retirement. So, as well as recognising the need to grow higher level skills in the industry, there is an urgent replacement demand. There is the added challenge that many science graduates, who have the potential to develop into these roles, are not attracted to the industry.

The Nuclear Industrial Partnership responded to this challenge with the National Nuclear Laboratory (NNL). They worked closely with a range of universities to develop an approach that engaged with potential Masters or PhD graduates. They encouraged them to look to the nuclear industry for their future career and developed ways to 'short-circuit' the time it takes to become an expert.

In response, the NNL developed a 2-day residential course to introduce the students to the nuclear industry. The programme aims to 'demystify' the industry and demonstrate the range of work and opportunities for innovation and development. This is supplemented by activities such as arranging for visiting research fellows to deliver a tailored programme, enhanced contact with industry specialists to contribute to an increase in work readiness, and secondments into industry for university staff and postdoctoral researchers.

To date 135 graduates have visited and linked with a dedicated person from NNL who commits to work with them on their ongoing research. Many of the graduates involved in the programme have changed their views about the industry and the hope is that many will apply for roles in the sector.

Case study: Aerospace Masters Bursary Scheme

The Aerospace Growth Partnership Skills Working Group identified that having the right skills at the right time is one of the key challenges for the industry. Many of the products the industry develop have very long life-cycles - 30 years is not uncommon. This creates its own challenges, not least retaining skilled people who may have taken 10-15 years to develop their knowledge.

To support the development of advanced aeronautical engineering skills, the industrial partnership has put in place the Aerospace Masters Bursary Scheme. Sponsored by large employers, the aim is to support learners to undertake courses that are approved by industry as relevant. The scheme has supported 500 students to date, 15% of which were women (compared to an industry average of 10.6%).³⁶

Hania Mohiuddin, an undergraduate from the University of Sheffield said: *"Applying for the bursary was one of the best decisions of my career so far. I would not have been able to stay and get a further degree without this extra financial assistance and support".*

³⁶ Aerospace Growth Partnership Skills Working Group data - 10.6% of aerospace and mechanical engineering MScs were awarded to females in 2009 - 12.

1.4 Developing skills and building capacity in the supply chain

Lessons learned

- Working together benefits both large businesses and those in the supply chain. Small businesses benefit from a new supply of skilled labour and larger businesses benefit from increased capacity in the firms they rely on to deliver high quality products and services.
- Providing help to identify high quality training removes a significant barrier for small companies.
- Making apprenticeships a viable and attractive option for small business can be resource intensive and expensive, but will have long term benefits.
- Training budgets are difficult to prioritise for smaller businesses and financial support is important. Evidence of impact would support the business case for investment, but more needs to be done to identify who can pay.

What were the industrial partnerships trying to address?

Large companies need to have confidence in the quality of their supply chain if they are to win major contracts. Industrial partnerships recognised the need to build skills in their industries' supply chains by supporting and incentivising smaller businesses to invest in this area.

Smaller businesses need support and resources to help them with skills development and apprenticeships. Businesses reported that training budgets are tight and often the first to be cut when profits are threatened. Even if businesses are keen to train, identifying the right training programmes and providers can be an onerous task.

How are the problems being tackled?

The industrial partnerships work across supply chains to help businesses collaborate for mutual benefit. Success depends on better alignment between what training providers offer and what businesses need, better communication and a willingness to share risk.

In many industrial partnerships relationships are being fostered that have given businesses in the supply chain a stronger voice and greater involvement in addressing skills challenges. These connections are likely to remain, even after the life of the projects.

The original Supply Chain Apprentices for Nuclear (SCAN) programme was developed to help supply chain companies in the nuclear industry to take on apprentices, many for the first time. SCAN provides businesses with a financial contribution towards the cost of employing new or additional apprentices. This money was given by the prime businesses because they recognised the value of building capacity.

Following on from this, under the Nuclear Industrial Partnership the programme also supports apprentices to do additional training (over and above the standard apprenticeship framework) that makes them more able to '*hit the ground running*' and therefore more employable in a smaller business. Feedback from businesses confirms that apprentices who have had the opportunity to do courses like these are better-rounded and more ready for work.

Case study: Project management in the aerospace industry

One of the challenges identified by the Aerospace Growth Partnership Skills Working Group was the need for a common approach to project management throughout the supply chain. Better project management skills are needed to manage increasing complexity in the aerospace industry and help to ensure that projects are delivered to time,

cost and quality. To work effectively together, businesses need to improve their project management capabilities.

To address this need, the industrial partnership ran training throughout member companies and built a network to increase consistency in managing projects. The programme provides accredited project management qualifications and additional support tailored to each businesses' needs (such as procurement cycles or regulations).

AgustaWestland led the programme development and reported that it was well-received and could be replicated across the sector. In the pilot, the prime companies did not work with their own supply chain, but further roll-out of the programme will change this, allowing primes to benefit from getting to know the strengths of their supply chain and how best to assist them.

Case study: Apprenticeships in the supply chain

The UK's aerospace industry has 17% of global market share placing it second only to the US and making it the largest in Europe. It is home to a number of large aerospace companies including BAE Systems, Rolls-Royce and Airbus. These businesses depend on many smaller companies who are at the cutting edge of technology and offer highly specialised services.

Apprenticeships are a well-established route into a career with BAE Systems, who recruit over 800 apprentices each year. The programme is popular and oversubscribed, but rather than lose high calibre candidates, BAE Systems approaches local businesses, including those in their supply chain, offering to provide practical support so they can recruit these would-be apprentices into their own businesses. BAE Systems then takes responsibility for recruitment, assessment, training, and administration and reduces the burden on smaller companies that either have limited resources to support apprentices or do not have access to high-quality, relevant training facilities. The model provides a way in which large companies can support their supply chain (and future supply chain companies) to grow their business and strengthen the industry as a whole.

Dennis Boyle, Shop Floor Manager at Techni-Grind said: *"Ben has been a real gem for us and brought skills to our business which has helped to boost our productivity and efficiency. The training he has received on the BAE Systems apprenticeship scheme at the Preston Training Centre has been invaluable to Ben and to our business. And the support the company continues to offer us has been first-class. As a small business, we are not in a position to set up an apprenticeship scheme like the one BAE Systems has, so being able to benefit from getting apprentices like Ben has been great"*.

Benjamin Sharples, an apprentice at Addison Engineering said: *"I chose to do an engineering apprenticeship because I enjoy the hands-on aspect of learning and the concept of learning many different skills excites me. Since starting training with BAE Systems, I have learnt that there is a wide range of skills to learn rather than using the same skills day in and day out. Apprenticeships are a great way of learning at the same rate as many others and allow for different age groups to mix and work well as a team."*

Richard Hamer, Education Director & Head of Early Careers at BAE Systems, added: *"These are the companies we depend on for our business so it's important that we support them."*

BAE Systems is currently training 55 apprentices on behalf of 14 small businesses and boasts a 100% retention rate, which BAE Systems attributes to a combination of a robust initial assessment and recruitment process and the additional support and pastoral care provided to both the apprentices and the local businesses.

1.5 Assuring quality in training provision

Lessons learned

- Some industries have successfully developed their own ways of assuring quality of providers and training. They benefit because they get the training they want and have greater confidence in what is delivered.
- Independent quality assurance processes require significant time and resources from business in order to be robust and credible.
- Some business industries have concluded that it is better to accredit providers than individual courses.

What were the industrial partnerships trying to address?

Individual industries are often concerned about the relevance, authenticity, flexibility, accessibility and quality of training available and want an approach that results in a better return on investment. However, the time taken to identify quality providers, to negotiate relevant courses and to agree a price can be difficult unless they have their own training department.

There is a general view across the industrial partnerships that the current processes for assessment and accreditation of qualifications required by Awarding Organisations can be more trouble than they are worth.

The Energy and Efficiency Industrial Partnership (EEIP) found that for many organisations in the energy sector, the cost and time involved in the accreditation of bespoke programmes was completely prohibitive.

Their employers wanted a system that was less bureaucratic, offered up-to-date qualifications, and gave them the confidence that their training needs were being met. Ultimately, they wanted a system that they owned.

How are the problems being tackled?

All of the industrial partnerships have an interest in quality assurance. As a minimum they are interested in providing businesses in their industry with a 'quality mark' that gives reassurance of the providers' ability to offer quality training. In some cases, they are

taking it a stage further to denote that the provider has been assessed as capable of creating individuals with both technical and work-ready skills. By taking this approach businesses within the industrial partnerships are taking a leadership role to define what 'quality training provision' looks like.

The Science Industry Partnership (SIP) has established an employer-owned quality system for accrediting new qualifications and assessment, and has built up a network of over 100 accredited training providers.³⁷ A group of employers from the SIP make up the Quality Working Group which has oversight of the process and endorses providers. Providers agree to an ongoing assurance process, which includes feedback from employers, to ensure they continue to deliver a quality product. The group also provide independent scrutiny and challenge of the Science Industry Assessment Service (SIAS). SIAS focuses on the end assessment of apprenticeships and the SIAS award is recognised by businesses as a currency that demonstrates the individual has met the industry standard.

The Creative Industries Partnership and The Tech Partnership both use a quality mark. The Creative Industries Partnership 'Tick' is awarded to courses that can prove they connect with industry, teach professional skills and ensure that learners are work-ready. The course must undergo a rigorous assessment process conducted by experts working in the creative industries. Likewise, the Tech Partnership's 'Tech Industry Gold' mark is awarded by a panel of experts from technology firms. Eight training providers are already offering 27 Tech Industry Gold

³⁷Data as of end Q6

apprenticeship programmes with plans to expand further.

In order to ensure that learners are assessed in a fair and objective manner, independence and impartiality are critical. Where the business can be the customer and the provider, the question of independence remains a live topic. There is a fine balance between allowing employers to own and drive the system, while still maintaining an impartial view about standards and the assessment of those standards. The industrial partnerships involved in the development of these new approaches have sought to address this. They have created independent panels of employers to make the necessary judgements while recognising that those judgements must be supported by robust evidence and expertise.

Case Study: Energy and Efficiency Independent Assessment Service (EEIAS)

The Energy and Efficiency Independent Assessment Service (EEIAS) brings together all of the industry's occupational standards, training and development programmes. The EEIAS puts quality in the hands of business. Governed by 14 employers and 6 external stakeholders, EEIAS oversees four assessment and assurance panels with representation from more than 40 businesses. EEIAS is looking to formalise its role by applying to Ofqual to become a recognised body capable of assessing, assuring and developing qualifications for the industry. The quality assurance and approval framework is in place with quality teams appointed, 66 approved providers and 189 products approved to date.

Despite this work only starting 18 months ago, businesses now set the agenda, determine course content and develop ways to provide assurance. E.ON have been working with the EEIAS since the start. Tammy Bristow, Industry Qualifications and Standards Manager praised the approach, saying:

"The EEIAS are supportive and empathetic to the challenges of employers which makes the assessment process itself very consultative. They listen and offer support and guidance where necessary and encourage us to do things differently. This freedom has allowed us to be

creative with our apprenticeship programmes and we now have a learning journey for our apprentices that is new and exciting for everyone involved."

The new system has been tested through apprenticeship Trailblazers and feedback suggests that employers are confident that it will be credible and viable. The success of these new arrangements are dependent on employers continuing to use and fund this new approach.

1.6 Strengthening workforce development

Lessons learned

- It is clear that workforce development remains a high priority. Upskilling the existing workforce is critical to keep pace with new technologies, ensure the delivery of big infrastructure projects and ensure competitiveness and growth.
- By working together on developing their workforce, businesses can share knowledge, ideas, risks and development costs.
- Many small businesses find it hard to balance the demands of short-term business pressures with planning longer term investment in skills.

What was the industrial partnerships trying to address?

Up to 90% of the current UK workforce will still be in work in the next decade.³⁸ Ensuring these people have the right skills is vital to maintain competitiveness and growth.

Some industries have very specific operating environments that lead to specific workforce development needs. For example:

- The tunnelling industry works on projects that often have fixed life cycles and some projects get delayed. Individuals and businesses need mobility. A workforce with transferable skills, who are trained to industry agreed standards have more opportunity to work across the wider construction industry.
- The automotive industry is experiencing major growth and needs its supply chain to keep pace. Large automotive businesses have developed expertise in lean management processes. This has led to significant improvements in production rates and quality. Disseminating this expertise through the supply chain is critical to reduce costs and ensure reliability and consistent quality.
- For aerospace, the development of a new aircraft can take several decades. Employers need to ensure that when people leave the business critical knowledge is not lost. This is critical to businesses throughout the supply chain.

How are the problems being tackled?

Employers across each industrial partnership are working together to develop solutions that reflect these challenges.

Approaches vary. Some, such as the Creative Industries and Science Industry Partnerships, are focused on helping small businesses access high

quality workforce development opportunities. Others, like Nuclear, have arrangements in place to help smaller businesses define their workforce development needs. Some have developed initiatives to address industry-wide problems such as project management, others are allowing individual businesses to access training that met specific needs at a particular point in time.

The Tunnelling Industrial Partnership is currently examining the importance of behaviours at work. They are considering how to set behavioural standards for employees working underground. The right attitude to safety and responsibility for others is paramount and so how people behave is as important as what they can do. Employers have agreed to define an industry-wide course based on pooling best practice.

Tom Lane, Training Manager at Morgan Sindall and Tunnel Skills Forum Chairman explained: *“Tunnelling Talent has provided an opportunity for large clients and contractors to come together with a common goal – to raise Health & Safety and quality standards in tunnelling and, ultimately, better define and assess the competence of the tunnelling workforce. After an initial focus on Health & Safety and quality, we’re now focusing on the crucial need for a consistent benchmark of the essential attitudes and aspirational behaviours required of the workforce in the modern tunnelling environment. This is important for employers and clients alike”.*

Case study: The Innovative Advanced Problem Solving Programme

The innovative Advanced Problem Solving (APS) Programme is led by Toyota Motor Manufacturing (UK) Ltd on behalf of the industry to introduce more consistency into

³⁸ [Growth Through People UKCES](#) (2014)

the way problem-solving is tackled across the sector.

Mike Khanna, Business Planning and Improvement Director at Stadco, estimates that *"the benefit to the business so far is £400,000 - the training has been very cost effective"*. The company sent 24 delegates from across its four plants. One example of 'on the ground' benefits was in their electrophoretic paint facility, which is used to apply a protective coating to parts used for vehicle manufacture. The company had low utilisation and high running costs and one of the programme delegates devised a way of doubling efficiency and reducing costs.

So far 176 people have completed or are undertaking the APS programme, with 30 of the 31 companies taking part being SMEs from the supply chain. The programme has delivered almost £4 million in quality cost savings for the businesses to date. The benefits also include providing the industry with a common standard and suite of tools for advanced problem solving and address an industry need for transferable, in depth problem solving skills. The programme is now being rolled out across the UK.

Case Study: Knowledge Management

The aerospace industry consists of thousands of specialist companies ranging from small components manufacturers to prime contractors. The sector can work to product life-cycles of 30 years or more. In a highly specialised sector the movement of people in and out of businesses creates a risk; the loss of vital knowledge and expertise. This affects business continuity and 'corporate memory' resulting in delays in the product development life cycle, failure to meet customer specifications and increased costs.

The industrial partnership developed a Knowledge Management programme. This focuses on employers working with businesses in the supply chain to improve their ability to retain industry knowledge and expertise. The programme uses a knowledge management toolkit that businesses can use to plan their workforce needs. By identifying current and future skills needs they can make decisions and prioritise investment in the skills of their workforce.

The project is currently in its pilot phase. Businesses testing the toolkit can access networking sessions where they can share knowledge and learn from other businesses about how they retain staff and identify risks. Aerospace company GKN has already reported that as a result of implementing knowledge management the company has been able to identify 44 'at risk' expert roles and training has been implemented to address this. The training will be completed by March 2016.

1.7 Improving recruitment

Lessons learned

- An industry wide approach to recruiting apprentices could benefit both businesses and young people. This may become even more valuable when the levy is introduced and could support achievement of the government's 3m apprenticeship target.
- A focus on opening up opportunities to a wider pool of candidates has helped some industries to find strong recruits.
- Employment rates following pre-employment programmes recruiting from the local community have been higher than the mainstream.
- It takes time and effort to develop new recruitment pathways, but there are significant gains to be made when employers operate collaboratively.

What were the industrial partnerships trying to address?

Recruitment (including new entry routes, apprenticeships and higher-level skills) is a priority for all the industrial partnerships. They recognise the need to tackle challenges such as an ageing workforce, new technologies and the skills demands that huge infrastructure projects will put on the workforce.

As well as finding more effective recruitment methods some industries recognised the need to broaden the pool of recruits. The industrial partnerships realised that businesses sticking to traditional recruitment methods were missing out on talent. For the Energy and Efficiency Industrial Partnership (EEIP) and the Creative Industries Partnership, there was a focus on diversity and bringing in more young people from different ethnic and other under-represented backgrounds. Other industries challenged their selection criteria (based predominantly on academic achievement) because this automatically excluded huge numbers of young people who are not in employment, education or training (NEET).

How are the problems being tackled?

The Creative Industries Industrial Partnership supports the "Creative Access" initiative which will see nearly 300 black, Asian, and minority ethnic (BAME) young people recruited into living wage internships. The interns will gain

first-hand experience with 150 employers, with opportunities ranging from training on the sets of shows like EastEnders and Holby City, to assisting with curating an exhibition at the South Bank Centre. The interns also attend monthly master classes where they can meet and learn from industry leaders. Other industrial partnerships have used bursaries to incentivise recruitment, such as the Aerospace Masters Bursary Scheme.³⁹

The EEIP's Council, chaired by National Grid, set a clear challenge for gaining access to a wider pool of talent. A pre-employment programme, led by United Utilities, involves seven employers from the utilities sector working with NEET young people. At the end of the first programme 93% of the young people had secured a job. They also said they had gained confidence and felt that their personal skills had developed.

The Nuclear Industrial Partnership's Transition Programme, although small scale with ten learners per year, is a popular and innovative way of tackling recruitment issues. They have taken people with previous engineering experience - for example in oil and gas - and 'topped them up' with the skills they need for the nuclear industry.

Case study: The Automotive Apprenticeship Matching Service

The automotive sector's demands for talented, qualified employees has never been greater. It is estimated that two million new

³⁹ See Annex 1.3 Developing higher level skills

entrants will be needed by the time primary school pupils reach working age.⁴⁰

This is likely to be made more difficult by the fact that major UK infrastructure projects will require the same kinds of expertise, and so competition for skilled people will increase. When recruiting apprentices, there is a tendency for large businesses to have an oversupply of suitable applicants, whilst smaller ones struggle to attract enough. The Automotive Industrial Partnership, led by Jaguar Land Rover, wanted to find a way of levelling this out. Their solution was to establish the Automotive Apprenticeship Matching Service to redirect high quality talent from over-subscribed automotive apprenticeship programmes to companies within the sector that have opportunities. The initiative is in its pilot phase and is due to start recruiting apprentices at Level 3 and above in early 2016. Supply chain companies have been invited to register their interest and a series of events are taking place to explain how the scheme will work.

The approach brings considerable economies of scale. Perhaps more importantly it results in a positive outcome for more young people for whom rejection by one of the 'big names' does not mean the loss of an apprenticeship opportunity.

There are a number of questions still to be explored, including how the scheme will become self-financing beyond the pilot, how supply chains will be supported once they have recruited apprentices and the role of the training providers. As well as this, the introduction of the levy should result in more businesses recruiting apprentices, thus increasing demand for the service.

⁴⁰ [Female Trailblazers: an insight into women in manufacturing and engineering. Semta/DLA Piper 2015](#)

1.8 Testing new approaches to traineeships and pre-employment programmes

Lessons learned

- There were problems recruiting young people (aged 16-18) to traineeships. There were different reasons for this but the two most common were that young people didn't understand the Traineeship concept and that there is competition amongst employers and education providers for able students.
- Young people enrolling on traineeships are moving on to apprenticeships. Evidence shows that when a pre-employment programme is aligned to an industry or business, the chances of being offered an apprenticeship are even higher.
- Pre-employment programmes work well in some industries, but the official Traineeship model is too restrictive; there needs to be flexibility in programme design and fewer restrictions on recruitment.
- One of the most important factors for employers designing and delivering a pre-employment programme is recognition and subsequent referrals from Jobcentre Plus.
- Programmes that are tailored to individual businesses and designed around specific jobs are very successful.

What were the industrial partnerships trying to address?

The government's Traineeship programme was set up in 2013 to help unemployed young people develop the skills and experience to progress to an apprenticeship or long-term work. It can last up to six months, and must include mathematics and English teaching and assessment, and an element of work experience. To be eligible for a Traineeship, young people must be aged between 16-24, qualified below Level 3, and have little or no work experience. The training provider responsible for the Traineeship programme must be Ofsted rated outstanding or good.

The industrial partnerships have delivered Traineeships that adhere to this model and a wider range of pre-apprenticeships, pre-employment and structured work experience programmes. Some wanted to develop a route into their industry for young people, but preferred a more flexible approach, which was possible within the pilot. Others wanted to test how traineeships might work for their industry.

How are the problems being tackled?

The industrial partnerships use a variety of models and methods to deliver pre-

employment and traineeship programmes. Some choose to do it 'in house' and deliver individually designed programmes, others choose to partner with a college.

Many of the employer-designed pre-employment programmes are showing early successes in meeting business needs and moving young people into quality jobs.

However, recruitment to these programmes can be difficult. The main challenge with the delivery of many pre-employment programmes and traineeships is the difficulty in recruiting young people (aged 16-18) to the programmes in the first place. The reasons for this are explored in 'Challenges in recruiting young people (16-18) to training programmes'. The most common reasons however related to young people's lack of understanding of the concept of a 'traineeship' and more general issues relating to competition for able students in this age group. One of the most important factors for employers designing and delivering a pre-employment programme (outside of the government Traineeship model) is the recognition and subsequent referrals from Jobcentre Plus.

In all cases, these programmes demonstrate the value in offering potential recruits the opportunity to experience the workplace and have direct contact with employers. This visibility leads to real jobs and apprenticeships for a greater range of young people. For businesses, it can provide a valuable source of employees who are work ready and in some cases have a good grounding in the industry.

Case study: Nuclear industry traineeship programme

The Nuclear Industrial Partnership developed a unique traineeship programme, led by Alstom. It focused on giving young people exposure to construction and engineering and insight in to what it would be like to work in the nuclear industry. As well as class-based study the trainees undertook training at Alstom sites to give them an understanding of the practical skills required to work in the industry. Of the first cohort of 18⁴¹ to complete the programme all were interviewed by Alstom and nine were offered places. The remaining nine secured apprenticeships with supply chain companies or went on to further training.

Alstom has already found that those on their apprenticeship programme that came through the traineeship route are already proving to be 'better'.

Kevin Benson, UK Competency and Funding Manager at Alstom said: *"In the first few weeks of their apprenticeship we can see that the former trainees are further ahead and better at working together with others"*.

The programme took some time to get going. Few applications were received, making it difficult for training providers to get a large enough cohort to make delivery feasible. When recruiting the second cohort for Doosan Babcock, the programme was renamed a 'Pre-Apprenticeship Scheme' which was more attractive. As the nuclear industry struggles to take on under-18s (due to age-related access restrictions on nuclear sites) Alstom and Bridgwater College use their own training facilities to enable trainees to learn and gain a real sense of the industry. This was a new venture and Alstom admit

that at the beginning not everyone thought it would work. There is now a firm view that it has been a success and they *'would certainly want to do it again'*.

Case study: Hart Biologicals

Hart Biologicals has worked alongside Middlesbrough College as part of the Science Industry Partnership (SIP) Traineeship Programme. The programme consists of 10 weeks in college studying a range of subjects including health and safety, CV writing and working in the science industry. After the college time, the students spend three weeks on work placement. Keighley Campbell, Research and Development Manager at Hart Biologicals said: *"The programme was definitely worthwhile"*.

The programme allows young people to experience working in a real life situation, giving them an insight into the skills required to be successful in a particular industry. It also gives them an understanding of job roles and an awareness of the attitudes and behaviours they need to become effective apprentices. For employers it is an opportunity to identify future talent as well as support the young people in their locality.

One young trainee decided to do an apprenticeship because she hadn't decided which sector she wanted to work in and also wanted to improve her confidence before she embarked on an apprenticeship programme.

There is some criticism about the traineeship scheme because, unlike apprenticeships, it does not guarantee young people a job. However, evidence shows that when the programme is aligned to particular industries and particular companies, the chances of being offered an apprenticeship are much higher. There are also wider benefits to young people and to businesses.

Case study: Energy and Efficiency pre-employment programme

The Energy and Efficiency Industrial Partnership's (EEIP) top priority is youth employment, and this was reflected in their early development of a pre-employment programme for NEETs aged 16-24 in the North West of England, which started in

⁴¹This refers only to the 18 that were supported via the Employer Ownership of Skills Pilot (EOP).

September 2014. The pilot programme was led by United Utilities and involved seven employers from the power, water and waste management industries. It has since been rolled out to four other regions in England, with British Gas, UK Power Networks, Siemens and Northumbrian Water each taking a lead. The programme has also been successfully delivered in Scotland, with SSE leading, showing the innovation extending beyond the Employer Ownership of Skills Pilot (EOP).

The 10 week programme was developed by employers starting from a 'blank sheet of paper'. It consists of two weeks of 'work readiness' training followed by up to 8 weeks work experience with a host business. This employer is directly involved with the pre-screening and selection process based on attitude and behaviour. A number of factors led to this programme being developed as a pre-employment programme rather than an official Traineeship. This includes the requirement for the main elements of the training programme to be delivered by a training provider judged to be good or outstanding by Ofsted, and secondly, that young people are eligible for a Traineeship only if they are between 16 and 24 and qualified below Level 3 and have had little work experience. The employers in the EEIP were keen to own and lead on the programme and therefore chose to deliver the training themselves. In terms of eligibility, employers wanted to include young people with and without formal qualifications and work experience and from a range of backgrounds. The diversity of the recruits is a key feature of the programme.

To date, 83 candidates have progressed through the programme with over 70% moving from being NEET into employment or further training. The recent London Pilot, led by UK Power Networks has supported 10 of 12 programme starters to progress into paid employment, demonstrating the effectiveness and successes possible through business-led provision.⁴²

The wider impact on individuals and employers involved has been considerable. One of the managers, Wayne Singleton from Siemens said: *"I learned as much as the young people"*.

In addition to the opportunities created by the pilot, the sector recognises that the current situation cannot be relied upon for the longer term especially with the average age of employees in the sector at 47, and up to 50% of the workforce due to retire in the next ten years. Raising the profile of the sector and its attractiveness to young people is therefore key.

The role played by the Department for Work and Pensions (DWP) is a very important factor in the success of the project with different parts of government working together to find a solution, by 'flexing' the DWP rules to enable young people on benefit to qualify. DWP understood what employers were trying to do and worked hard to make it happen. With support from DWP's Strategy team and the Work Services Director in the North West of England, the EEIP's pre-employment programme has been recognised as a quality opportunity for young people, and Jobcentre Plus were able to provide full support to the programme, and make referrals to it. This support has continued as the programme has rolled out to other regions.

There are many lessons to learn from the development of this pilot pre-employment programme, not least that, to be successful, employers must have the opportunity to adapt national programmes to suit their own needs. The employers in this programme developed a viable and cost-effective alternative pre-employment offer focused on content and delivery methods including numeracy and literacy that met what they saw as important for their industries. Without the changes to the eligibility rules, it is doubtful that this pilot would have succeeded and it raises the importance of building trust and goodwill across the various government agencies.

A cost analysis suggests that for each 10 week programme, the costs per learner to the public purse are consistent with other pre-employment programmes at around £1000. In addition to this, the cash contribution from employers is matched at around £1000 per learner, and in-kind contributions from employers provide a further substantial resource to support the programme (up to an additional £2000 per learner).

⁴² Energy and Efficiency Industrial Partnership data - These numbers are for the NEET regional programmes and do not include the E.ON traineeship or SSE Scotland provision.

Zoe Green, Customer Adviser, United Utilities (part of the EEIP's first pre-employment programme cohort) said: *"At the age of 17, the prospect of securing a full time job with potential to develop myself seemed impossible. Then I was made aware of [the programme] and knew that this was for me and a way of developing my skills and getting into the wider workplace. I now have a permanent job at United Utilities [...] I love my job, the environment, my work, colleagues. Who would have thought three months ago that I'd be talking to customers, and even better understanding a water bill? I'm very proud of myself and what I've achieved, thanks to a scheme which helps people like myself".*

1.9 Challenges in recruiting young people (16-18 years old) to training programmes

Lessons learned

- Recruitment of 16-18 year olds is a challenge for many of the industrial partnerships, but the reasons for this are not uniform or straightforward.
- Level 3 apprenticeships are easier to recruit than Level 2.
- Level 2 recruitment (to pre-employment programmes and apprenticeships) becomes much easier if applicants can be over 19.
- Traineeships are harder to recruit to than apprenticeships.
- Some industrial partnerships face barriers from schools when trying to access young people to recruit to apprenticeships and traineeships.

What were the industrial partnerships trying to address?

In general, industrial partnerships struggle to recruit young people between the ages of 16 and 18. A number of programmes didn't meet projected targets and in some cases funding has been withdrawn because output milestones haven't been met. Although this problem is common to a number of industries and programmes, the reasons appear to be different.

There are common themes; young people's lack of awareness of the industry, a lack of understanding of the term 'traineeship', and there being no tradition of recruiting young people in some industries. Equally, in some situations there were some specific requirements such as the need for applicants to hold a driving license.

There are different degrees of difficulty in recruiting this group, depending on the level of qualification businesses were recruiting to. Those that recruit apprentices at Level 3 find it easier to attract young people 16-19 than those recruiting at Level 2.

Those that recruited apprentices at Level 2 find it easier to recruit over 19s than 16 – 18 year olds. This may be because young people over 19 are coming through the Jobcentre Plus route and had greater motivation to apply (or were subject to benefit sanctions). Some programmes recognise this and adapted their pre-employment programmes

to recruit from a wider age range.⁴³

Conversely, those young people applying for Level 3 programmes are likely to have more choices, having achieved 5 GCSEs at A-C. Where they do apply for work based training, it tends to be an informed decision.

Some companies find it difficult to reach young people to tell them about the opportunities on offer and there are particular challenges in working with schools. Anecdotal evidence suggests that some schools do not welcome employers or their representatives and in some cases, employers even pay third parties to talk to young people on their behalf. There was a perception amongst many businesses that schools '*hang on to young people into the 6th form*'.

Experiences are more positive where the school recognises the value of a particular employer as a recruiter, either because they are local or a well-known brand. These companies have no trouble recruiting apprentices and trainees and often had a huge number of applications.⁴⁴

It is harder to recruit to traineeships. This appears to be because they are less well-known as a concept and because they do not offer employment from the start. One industrial partnership talks about the importance of keeping young people 'warm' from the first interaction e.g. work experience or factory visit.

⁴³ See Annex 1.8 Testing new approaches to traineeships and pre-employment programmes - outlines how the Energy and Efficiency Industrial Partnership recruited from a wider age range age of 16-24 years

⁴⁴ See Annex 1.2 Attracting young people into key industries

Whether industrial partnerships are able to meet outcome targets for programmes recruiting 16-18 year olds is affected by a range of additional factors. One industrial partnership submitted targets that were over ambitious; driven by employers who were extremely keen to do something positive for young people. Another industrial partnership successfully used quality marked colleges and private providers to recruit to their programmes. It is clear that recruitment at Level 2 is problematic, whereas those that only agreed to provide Level 3 apprenticeships usually meet their targets.

The proportion of young people who complete 'A' levels and then go onto university is over 90%. This means that getting them into the workplace at 16 is vital for those industries that have technical skills gaps. This is a complex area that would benefit from further research. It is not a new problem, but more needs to be understood about the role schools and colleges play in competing for this cohort, the impact of careers advice and teachers, and young people's perception of both different industries and apprenticeships/traineeships.

The UK Commission for Employment and Skills (UKCES) is a publicly funded, industry-led organisation providing strategic leadership on skills and employment issues across the UK. Together our Commissioners comprise a social partnership that includes senior leaders of large and small enterprises (including non-profits), trade unions, further and higher education institutions and representatives from the Devolved Administrations.

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