

Innovation Delivery Partnerships: The Potential for a new approach to regional innovation-driven growth?

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EXECUTIVE SUMMARY

Since the closure of the Regional Development Agencies (RDAs), the work of Local Enterprise Partnerships (LEPs) and the rigour of the Science and Innovation Audits have provided direction in identifying and harnessing respective regional strengths, also known as smart specialisms. LEPs are also looking to align their particular strengths with national innovation strategy, as outlined through the Grand Challenges. However, there is a gap around how this can be brought together and translated into practical delivery on the ground, with the multi-stakeholder approach it demands.

Unconventional Connections (see Annex 3) were tasked by the North East LEP to help them develop a new model for addressing this gap in the North East (and potentially beyond) that was set out by the Director of Innovation, Alan Welby. The working title is “Innovation Delivery Partnerships” (IDP).

Drawing on the quadruple helix concept (that suggests innovation should involve collaboration between the business base, research base, public sector and integrating citizen/user perspectives), an IDP would bring together key stakeholders and regional assets, to identify and leverage innovation opportunities in a more systematic and joined-up way. The aspiration is that they would combine activities and marshal assets so the “sum is more than the total of the parts” whilst also addressing gaps by initiating new actions.

Unconventional Connections explored how this might best work through a combination of desk research and stakeholder interviews.

The work identified the following eight critical success factors:

- **Proactively seek to establish new partnerships** that harness and catalyse previously untapped potential that exists within the region. The action of bringing together individuals and organisations to form new partnerships and investing in collaboration capacity building is the primary intervention the LEP can make to achieve its aims.
- **Balance of structure and flexibility:** Developing a framework that provides a consistency of approach (so, overarching vision statement, expectations around evaluation etc) whilst allowing flexibility for each IDP to respond to what a particular opportunity area requires and to determine its own measures of success.
- **Investing in relationships**, as much as process, to ensure stakeholders are effectively engaged and have “ownership” of an IDP. This is perhaps the key underpinning element to get right.
- **Developing a shared language and understanding with stakeholders.** This can then inform how mechanics such as governance and evaluation are shaped but also help to articulate agreement what an IDP is and isn't. So, what is in-scope but equally out of scope. Once animated, this would then help to keep an IDP “on task” and mitigate against mission creep.
- **Positioning the model sensitively in the space between the LEP and the wider system.** So, ensuring strategic connection and accountability but with freedom to act as a “neutral convenor” in how it works with and engages stakeholders from different cultures and organisations.

- **Understanding the barriers to successful collaboration** for both universities and businesses and considering how an IDP approach can remedy these and be effectively positioned.
- **Creating the right culture by** convening the right people to form an IDP, having clear leadership and skilful facilitation to build a shared mission, values and ways of working that transcend (but pay attention to) narrower organisational interests.
- **Opportunity driven rather than fund driven:** starting with the opportunity area and then identifying possible funding routes as opposed to being initiated with the aim of chasing any particular funding opportunity.

In response to these findings, this report makes the following headline recommendations:

- **Design and deliver workshops with external stakeholders** to build wider support, develop the concept further and to also develop a shared language around IDPs. Workshops should consider what an ideal IDP would look like and also start to agree principles around mechanics such as evaluation, governance etc. The workshops should be orientated around a “co-design” philosophy to enable buy-in and also ensure practicability of the concept. Developing a shared language should be a key aim of these workshops and help to articulate agreement what an IDP is and isn't. So, what is in-scope but equally out of scope. Once animated, this would then help to keep an IDP “on task” and mitigate against mission creep. These discussions can then inform the development of a pilot (see below).
- **Initiate an action learning pilot:** Given the innovative nature of the IDP approach, the best way to explore many of the structural questions that arise may be through an action learning pilot. This would also be true to the spirit of making the approach a truly shared endeavour with the relevant constituencies by involving them in a process of shared exploration and co-design. This could then be used as the basis for gradually bringing the concept to scale and leveraging investment and support through establishing a “proof of concept”.
- **Appoint a small, expert team to be the neutral convenor:** Challenges around building collaboration and trust between stakeholders that exist in different domains stands out as a critical success factor, and possibly the key underpinning thing to get right. Therefore, the report authors envisage that the LEP could commission a small independent team with an understanding of innovation, building teams between organisations and facilitation. The team would play the role of “neutral convenor” in engaging stakeholders and holding the process for animating an IDP pilot and keeping it on task.

We propose the following process for setting up an action learning pilot for an IDP:

- Summarise the broad regional economic studies and SIA analysis to extract the ideas and suggestions for economic opportunities.
- Issue this document as part of a Call for Evidence that invites ideas, proposals for a High Value Opportunity (HVO) that could be the basis for an IDP and set out selection criteria.

- Talk with those offering interesting HVO ideas to understand the proposed ideas, the assets and resources they can bring to the table.
- Draw upon the conversations to identify the best candidate for a pilot (based on selection criteria) and identify and invite the membership for the IDP.
- Training/briefing for IDP members in the key skills associated with successful collaboration.
- Bring stakeholders together around the selected opportunity area in a Sandpit format workshops.
- Facilitate the preparation of a collaboration agreement.

- Facilitate conversations in the IDP to create a business case, legal entity, programme, structures and interventions, funding bids, etc. In parallel do this in a way that team builds and generates a shared spirit of collaboration. So, the process is as important as the content.
- Work with the IDP team to identify interventions that will build the necessary socio-technical innovation eco-system that will lead to the innovation becoming viable.
- Build clear basis for relationship with the LEP.
- Monitor, evaluate and capture learning to inform what happens next with the IDP model.

1 INTRODUCTION

BACKGROUND

Unconventional Connections are working with the North East LEP to help them develop a new model for how innovation can drive regional economic growth. The working title is “Innovation Delivery Partnerships” (IDP) and was originally set out by the Director of Innovation, Alan Welby.

“Innovation” can refer to many different things and is often misunderstood as being the same as “invention” or as a value that should drive a business in an abstract way. We take “innovation” to refer to the process of taking something new, invented or developed (whether a technology, product or process) and creating value in the real world. Public sector innovation focuses on the impact that can be achieved in relation to a set of policy aims or service improvements. The focus of IDPs is on innovation where the delivery of value in the real world can build economic activity, create wealth and grow employment. Although ideally, the innovation would also generate social value by addressing policy challenges such as ageing populations, rural economies, inclusive growth etc. Given the regional focus of the North East Local Enterprise Partnership, they must also deliver these impacts within the region, albeit the activity may extend well beyond it.

Drawing on the quadruple helix concept (that suggests innovation should involve collaboration between the business base, research base, public sector and integrating citizen/user perspectives), an IDP would bring together key stakeholders and regional assets, to identify and leverage innovation opportunities in a more systematic and joined-up way.

The search to establish a new model of supporting innovation-driven economic growth is in response to a recognition that there is a gap in the NE eco-system. Since the closure of the Regional Development Agencies (RDAs), the work of Local Enterprise Partnerships (LEPs) and the rigour of the Science and Innovation Audits, has provided direction in relation to identifying and harnessing respective regional strengths. The LEP is also looking to align these with national innovation strategy, as outlined through the Grand Challenges. However, there is a gap around how this can be translated into practical delivery on the ground.

The North East LEPs’s March 2019 Applied Digital Technologies SIA is an obvious starting point for considering how the IDP model would take its bearings strategically. The key findings were that:

- Manufacturing plays a critical role in the North East economy, accounting for a larger proportion of GVA and employment than across England or the UK. Within this, automotive, chemicals and pharmaceutical manufacturing form key clusters of activity. Supporting these key sectors to grow and development will be important for the North East’s economy growing forward.
- Applied digital technologies will be important in helping these sectors to innovate, grow and develop. Given the emerging nature of these technologies, it is not possible to measure the scale of the applied digital technologies sector in the North East directly.

Data on the wider ‘information and communications’ sector indicate that whilst this sector accounts for a smaller proportion of GVA and employment in the North East than England or the UK as a whole, it has experienced a period of significant growth.

- The key market drivers in relation to the development of applied digital technologies for advanced manufacturing include:
 - Automotive manufacturing – desire for more connected supply chains; desire from OEMs to future-proof manufacturing facilities; rapid expansion in global connectivity; changing consumer markets; and rising labour costs.
 - Chemicals manufacturing – mitigating supply chain risks; more efficient data management; safety management; and growing international competition in the sector.
 - Pharmaceutical manufacturing – tackling counterfeiting; product traceability; rise of individualised medicines; increased regulation; and recognition of efficiency gains.
- Given that the global market for applied digital technologies for these three sectors are projected to be in the hundreds of billions within the next 2-3 years, helping bring together digital businesses in the North East with the region’s advanced manufacturing businesses to develop applications is a major opportunity to grow this sector’s size and contribution to the local and national economy.

The wider strategic context within which the IDP positioning will need to be considered includes:

- The North East LEPs Strategic Economic Plan, its areas of strategic importance and the policy levers such as Skills, Business Growth, Infrastructure and Transport that underpin delivery in: Digital; Advanced Manufacturing; Health & Life Sciences; Sub-sea, Offshore & Energy Technologies; Energy.
- The wider North. In particular, the work of the 11 Northern LEPs with UKRI and other partners to understand how they can best promote and progress innovation in the North of England. The partnership is assessing how they can harness the distinctive and world class science and industry assets and capabilities across the North. The Review identified the North as having four prime capabilities: Advanced Manufacturing, Energy, Health and Digital.
- Wider SIAs such as Offshore Renewable Energy.
- The Government’s 2017 Industrial Strategy White Paper that set out a long-term plan to raise productivity through investment in the skills, industries and infrastructure of the future. It set out 4 grand challenges – major social needs that can give direction to private sector investment and help strengthen supply chains. One of these is Growing the Artificial Intelligence and data driven economy, which can be expected to be the focus of substantial national level Government support.
- The uncertainties and challenges associated with Brexit and the particular form these may take in the North East.

The NE LEP, as is true of most LEPs, does not have access to substantial financial resources to deploy and a key challenge to the establishment of IDPs is the need to intervene in a way that will harness regional innovation potential without this.

However, the approach has the potential to:

- Provide an interface that helps to align innovation with other policy levers (e.g business growth, skills, transport etc) at a practical, delivery level
- Create a delivery structure that can enable strategic opportunities to have strong business cases that can secure funding, whether public sector grants (such as the replacement funds for ERDF) or private finance.
- Establish a framework to direct academic, commercial and other partners towards ways to achieve real regional economic impact and provide them with a structure within which they can combine their resources
- Provide a model that could then adapted by other regions, thus helping to resolve a common challenge that all LEPs grapple with and potentially building a national network of IDP hubs based in different regions but with spokes located more widely
- Provide points of engagement with regionally based “competency clusters” for national bodies around particular sub-sections of Grand Challenges.

The design principles below articulate the key guidelines that were the starting point for exploring, testing and working-up the IDP concept.

- A sharp focus on delivery. An IDP would be informed by regional and national strategy but be focussed on translation into action – across short, medium and long- term time horizons.
- Born out of the economic opportunity. So, an IDP could grow out of a particular challenge – such as ageing well – where there is a clear “market” or demand within the region (but could quite probably exist beyond this geography), or out of an economic strength that could be combined to address wider national or international markets. Its initial manifestation and development would primarily focus on the specific regional economic opportunities presented by this and how to anchor the economic payback in the region. The intention is that challenges are articulated at a more granular level than has been the focus to date of SIAs and smart specialisation analyses.
- Identified and established through a transparent process so that there is a clear mandate and credibility across relevant communities and stakeholders.
- Form follows function. The membership of an IDP, and its programme of activity, would be rooted in the economic opportunity, and what is uniquely required to develop and exploit it. So, the IDPs would develop organically and take different forms, open to adapting best practice from elsewhere.
- These mini-ecosystems would draw in key partners and assets from inside the region but also from outside. There would need to be a clear rationale for what elements of the ecosystem need to be regional in order to ensure the value is retained. Delivery is however focussed in the region
- But with consistency of Governance structure. A relationship with the LEP is key to connect wider strategy with IDP activity whilst consideration would also be needed around an accountable body/partner for receiving funds.
- Lean, self-generating and self-funding. Seed funds are anticipated but ultimately an IDP would need to be entrepreneurial, agile and able to take advantage of the association with the Regional strategies and LEP to compete for funds – at a regional level, national level and private finance. “oven ready” investment propositions would be developed to attract funding.

- Built on relationships. The model would be about building the social capital and relationships for collaboration. Members would be jointly curating an eco-system around a particular economic opportunity and looking to combine resources, networks and knowledge.

The NE LEP Board welcomed this initiative from the Director of Innovation. There needs to be a piece of work to establish an approach to developing IDPs, drawing on lessons learnt from similar initiatives. This report reflects this exploration and our findings.

2 METHODOLOGY

The North East LEP tasked Unconventional Connections with submitting the concept to a rapid review, assessing it against best practice and working it up so that there is a proposition that can be discussed more widely.

The key elements involved:

- identifying and understanding similar models which could inform the planning of the IDP implementation
- developing a high-level framework of themes to identify the critical success factors that are likely to be important in assessing the potential for an IDP approach
- Using the above to develop a draft model and process flow for prototyping an IDP approach

During August and September 2019, Unconventional Connections reached out to a cross-section of national stakeholders from its networks including:

- Innovate UK
- HEFCE
- An expert in design led innovation
- National Centre for Universities and Businesses
- Specialist academics and consultants with substantial experience of working on regional economic development and innovation and collaborative structures

Interviewees (listed in Appendix A) were selected on the basis of their ability to assess the concept in the context of both wider national developments and also best practice from similar initiatives. The design principles and background were used as a way to start the conversations but each interview took a direction that best reflected the interviewee's knowledge and experience. Generic questions included:

- What is your reaction to the concept? What do you see as its particular strengths and challenges?
- What similar models from elsewhere could we learn from? How have models with similar challenges found solutions?
- How could this model interact with the replacement funds for ERDF?
- What would success look like for an IDP?

In parallel, the team carried out desk research (sources listed in Appendix B) to assess both:

- Conditions for success in developing similar partnership and delivery focussed innovation models – the intention was that this could inform the actual design of how an IDP is developed
- Interventions for supporting innovation competency clusters – the intention was that this could then form a helpful “menu of interventions” that an IDP could draw from as it looks to accelerate activity around an emerging strength.

3 FINDINGS

THE BROAD MODEL

The consensus from the interviews was that the IDP concept is seeking to address a recognised gap in the innovation eco-system in the face of a tight economic climate. It is clear that the NE is not alone in grappling with this and they welcome what is seen as an ambitious and innovative development.

In particular, there is a view that regions may provide the right geography for developing such novel collaborations – although it will be important to get the balance right between a focus within a region with an ability to draw in national and international players.

Different models and types of intervention exist and all include the aim of "achieving economic growth" but they do this through an emphasis on different levers:

- Enterprise Zones: creating a geographic cluster of businesses
- Incubators/accelerators: driving growth of start-up/early stage technology-based companies through
- Catapults: investment in facilities and capabilities that will de-risk innovation for businesses and bring together corporations and SMEs
- University science parks: connecting a collection of companies with leading academics
- Open innovation programmes: enabling big businesses to articulate challenges and find SMEs or research that have potential solutions
- Networks: creating a space where different entities within a common domain can explore and build relationships.

Each of these creates a particular set of conditions for growth to take place but will also impose constraints and some level of artificiality that can result in unintended consequences (eg the preferential policies offered by Enterprise Zones can lead to businesses simply relocating to benefit from these, which does not necessarily result in much additionality).

Thus, for instance, the Catapult model is defined by:

- **How its focus is chosen:** Tackling new and emerging technologies in areas where there are large global market opportunities and a critical mass of UK capability.
- **What it does within the landscape:** Attempting to bridge the gap between research and commercialisation, working closely with academia, the research industry and the public and private sectors. The Catapults are distinct from other forms of innovation in that they are intended to address specific market failures and enable risks to be taken that would not ordinarily be undertaken by the commercial market.
- **What is provides its participants:** Providing access to infrastructure, expertise and capabilities that are generally not available in the market

The IDP concept could similarly be defined by the following statements:

- **How its focus is chosen:** Bringing together key stakeholders and assets within the North East region, to identify and leverage specific High Value innovation opportunities emerging from the regions unique mix of research, commerce and public service, that can support regional economic growth through a focus on regional, national or global market opportunities.
- **What it does within the landscape:** Using the unique convening power of the LEP to reach out across the region to its rich and diverse communities to pro-actively facilitate the establishment of new economic teams from different organisations but the potential and enthusiasm to take forward new economic opportunities.
- **What is provides its participants:** Providing a combination of collaboration capacity building and brokerage to enable strong successful new partnerships to develop, and a close, supportive relationship with the LEP Executive that will enable them to secure the resources to become sustainable.

Ultimately any initiative that is established will be heavily influenced by its source of finance and what it has to do to secure this, whether it is through commercial activity, securing grants or attracting private investment.

Thus, while the Big Innovation Centre report on the Catapult network concluded that the Catapults have not realised the potential that they could have had in catalysing the different sectors within which they operate, the business model that is predicated on them becoming able to generate a significant amount of their funding, means they are less focused on the national interest and the public good and more on what funding programmes seek and are willing to invest in. A question arises here as to how the IDP model would manage this dynamic. So, ensuring that funds are identified through a business case process anchored around the opportunity area (rather than chasing funds and then attempting to bend a proposal into the fund requirements).

The study leading up to the creation of Imperial West made the point that, a key ingredient to the entrepreneurial component of a cluster ecosystem is access to risk capital. In the UK the venture capital infrastructure is less developed than for example in the US, making it a priority for the IDP model to include support for attracting private funding.

A SUCCESS FRAMEWORK AND MEASURES

The Catapult programme has attempted at different times to define and measure its success, with mixed results. The programme, like this one, was setting out into uncharted waters and there was no blueprint to follow.

This brought a considerable element of uncertainty and complexity to the endeavour. The decision was taken to define success and ambitions in high level terms and to let each Catapult assess the barriers to growth/commercialisation that its particular sector/tech area faced and then define its priorities for intervention and engagement, which would, in turn, result in a disparate set of outputs and outcomes, some more measurable than others.

While this has been criticised by the evaluations of the programme, we believe that

it is necessarily helpful to attempt to impose a restrictive model of the outcomes you are seeking to achieve from IDPs. The challenges that Catapults found in coming up with a single consistent way of defining and measuring success will apply in the case of IDPs and we feel each should be challenged to define its own outcomes and success measures – but there is no doubt that these should be identified and then used to drive progress.

Having a model that is clear and helpful while also being flexible is highlighted in a report for Nesta reviewing evaluations of collaboration programmes. They find that it can often be necessary to adjust many different aspects of a programme over time.

It must also be remembered that the LEP is not directly providing substantial financial resources to the IDPs and, as such, will have limited levers or potential sanctions with which to enforce any desired model of behaviour. Clearly, whatever sources of funding or support each IDP does secure will have much more influence over this.

THE ROLE OF THE LEP/MCA

Our interviews and research have highlighted tensions in how the IDPs are positioned, owned and held accountable in their wider relationship with the LEP/MCA.

There are benefits from the LEP having some ownership of the IDPs:

- This enables alignment with wider strategy and encourages LEPs to have a “place leadership” role – so, acting as a fulcrum to bring partners (and interests and policies and delivery) together in a holistic way.
- The LEP could share some of its place-making ambitions and aspirations as part of the search for suitable challenges and opportunities. This could take the form of potential for procurement of new solutions/services or an openness to make policy that supports the establishment of key sectors. The NE history with housing and its strengths in this sector illustrate the potential and also some of the pitfalls.
- With the extreme level of uncertainty and fluidity at national level, and beyond, one of the main values the LEP can offer the IDPs is intelligence about potential future funding opportunities and national initiatives or structures that could be useful to them. This could make a big difference to IDPs’ ability to prepare strong business cases, etc.

However, there are considerations with regards to how the LEP positions itself:

- Clearly there will be a considerable element of risk and the appetite for “closeness” to IDPs within the LEP/MCA will need to be considered – being associated with this could deliver substantial returns but also attract criticism.
- Whether LEPs generally have the capability and culture to provide sufficient and effective support to IDPs
- Whether a close association with the LEP would restrict the IDP’s ability to act in the best interests of its partners/owners - one of the key strengths of the Catapult network was its independence from InnovateUK and ability to act in the best interests of businesses and its members. Some interviewees said that IDPs need maximum freedom

to act and be agile rather than getting tangled up in process. This will also be a factor in seeking to recruit people into the IDP, who may feel they need maximum freedom to make their own decisions.

- To avoid organisational politics, they may also need to be seen as an honest broker, working in the spaces between the LEP and other organisations in the regions rather than as an envoy for the LEP.
- Whether the expectation the IDPs put on the LEP might be unrealistic and challenging given the need for the LEP to retain impartiality. A clear sense of boundaries and expectations might be helpful up-front.

There is no clear answer about this but any approach needs to find a way of bridging these tensions.

Looking at the potential resources that the LEP could either directly provide or, through funding external provision, make available to the IDPs, there would be value in the following:

- Holding the IDP to account in relation to its mission and objectives, providing support and challenge externally as a Critical Friend – this could be part of a general function that “owns” the IDP model and curates the emerging network of IDPs
- Supporting each individual IDP with relevant information and support regarding new opportunities, funding, Government initiatives, wider national programmes, etc. and could even support the IDP team in bid writing, etc.
- Training and coaching of key individuals within the IDP in the key collaboration skills and helping them to reflect on and resolve issues that arise within the partnership.
- A more independent evaluation function of the IDP model commissioned through a suitable expert body that offers a combination of formative evaluation that feeds back insights and suggestions based on evidence of progress within the IDP and wider collaborative structures, and summative evaluation that assesses the IDP model as a whole against the ambitions that it was set up to achieve, making the findings available in published form to inform a wider debate about the model as a source of “best practice” nationally.

The review of the Catapult model is instructive, again with regards to establishing the right dynamic for the IDP concept. They were classified as private sector companies which enabled them to act in an agile, responsive and flexible way, driven by a commercial mind-set and be trusted with IP and commercially sensitive information. This meant, however, that InnovateUK has no control around board appointments or much of their business decisions.

One way to manage these tensions is to establish someone within the LEP team who can champion and support the IDPs, providing as much advice, intel and support as possible, while the IDP’s ability to access funding is subject to the same rigour and scrutiny through your standard Assurance systems.

Clear success measures against which each IDP is assessed and that determine their eligibility for follow-on funding will also provide a measure of LEP influence over their behaviour.

Certainly, one of the outcomes from going on the journey to potentially establishing a group of IDPs is that it will materially affect the relationship of the LEP with the regional economic actors and how this is managed could make a big difference to the quality and dynamic of relationships.

THE ROLE OF UNIVERSITIES

Creating the conditions and structures that lead to HEIs contributing will also be key.

Universities can bring a range of potential contributions to this work. They could be involved in the early analysis of where there might be good prospects of IDPs focusing or else as direct contributors to individual IDPs:

- direct technical contributions to the innovation,
- market/opportunity/challenge understanding and analysis
- help with business management approaches and innovation process support
- provision of graduates with required skills for the resulting sector.

The value to the institution of providing each of these will be very different.

Engaging with HEIs must recognise the “perfect storm” they are in around reform agenda, VC pay, real term contraction in tuition fees, CEF, pensions, the implications of Brexit etc. There is a risk to manage where engagement with regional growth is seen as a “nice to do” and deprioritised in the face of competing concerns. Our research found that securing significant contributions from HEIs contributions to the regional growth agenda will be more likely if:

- The senior leadership are committed to playing an active part in driving regional economic growth as part of their agenda (and this is more common in the less research intensive institutions, but the former polytechnics are characterised by pockets of excellence rather than excellence across the board)
- The contribution will enhance their global reputation and represents exciting internationally significant research
- There is some clear route to getting funded
- The work can be badged as an Impact activity flowing out of their existing research (This could include research that is about societal challenges and social impacts of trends that suggest potential opportunities)
- An academic is personally excited and interested in the challenge and opportunities being explored and engagement with an IDP is positioned to in alignment with their

interests. This clearly takes a more nuanced and tailored form of engagement to build a relationship and secure buy-in.

Research that supported the formation of the Imperial West science park associated with Imperial College is instructive. It makes two relevant points:

- Commercialization expertise and translation capabilities in universities cannot be taken-for-granted. ... Selection of individual academics, through competitive entry practices, can be a crucial lever to foster an academic culture that promotes interaction with start-ups and large corporations.
- To widen the appeal of and IDP to foreign corporations, entrepreneurs and academics, the LEP may want to integrate its vision for internationalization into its vision for IDPs.

BUSINESS PARTICIPATION

In order to secure the participation of businesses in the IDPs, their own distinct motivations will also need to be recognised.

The NESTA review of evaluations of collaboration programmes suggests that firms collaborate with each other for a number of reasons:

- saving transaction costs where there are incomplete contracts,
- attaining economies of scale and scope,
- using networks as a way to increase synergy, efficiency and power,
- accessing complementary resources to exploit firms' own resources and learning from partners, thereby creating new capabilities and thus enhancing competitiveness,
- creating and exploiting high risk high opportunity situations,
- decreasing R&D costs by pooling risks and co-opting competition.

They collaborate with universities in order to access leading edge research knowledge, research infrastructures or research services, to develop in-house capabilities or to identify potential future employees.

A study commissioned by the World Economic Forum looked at the potential for and barriers to SMEs working with large established firms. This provides valuable insights into the range of issues that can require careful handling and the challenges in building successful business-business collaboration.

This report focuses on collaborative innovation between young, dynamic firms and large, established businesses, leveraging the resources of both to create value that spills over from firms to customers to entire economies.

The common challenges they found and suggested response strategies for firms were grouped into three "layers"—Prepare, Partner and Pioneer. World Economic Forum research suggests that often the most significant challenge and the greatest positive impact springs from how well firms prepare to collaborate: having well-defined objectives, a carefully-designed business case, suitable organizational processes. A supportive culture and links to

relevant networks are important predictors of success, yet are commonly underappreciated by both young and large firms. The fact that many are not well prepared for collaboration suggests that support can be needed to enable attempts to collaborate to be successful.

The World Economic Forum study emphasised the role of policy in enabling the availability of education relevant to collaboration. Indeed, it is at the firm level that skills and capabilities for collaboration are most needed, and where policy-makers can tangibly contribute. Firms keen to engage in collaborative innovation acknowledge the capability deficit that exists at present to engage in and effectively manage collaborations. The long-term goal should be to create a generation of business leaders who value and support corporate cultures where taking carefully calculated risks linked to innovation is seen in a positive light.

A specific area where education and direct support could be provided is intellectual property. Most young, innovation-intensive companies lack the resources for expert legal advice to assist them in registering their intellectual property or engaging in negotiation with large, established businesses. Nor do they have the time or specialized knowledge themselves. Policy-makers could therefore develop relevant “intellectual property guides” for young, dynamic firms to increase their understanding of this complex regulatory field.

In order to attract the attention of commercial players, the focus must be on developing strong business propositions and considering how businesses will be encouraged and supported in collaborating.

In particular, as each IDP takes shape, there will need to be clarity about what particular value the industrial partners will be looking to get from it and how this can be reflected in the Terms of Reference (TOR), legal agreements regarding IP sharing and other design features.

PEOPLE ISSUES: CULTURE, BEHAVIOUR & RELATIONSHIPS

The importance of the culture within the IDP and the relationships between the partners (both organisational and individuals) was a recurring theme and arguably the most important theme arising from both the research and interviews. A number of factors were identified as critical to success.

Groundwork and preparation

This is important to identify the areas of shared interest and to define the purpose. It is also critical in warming people up, securing buy-in and smoothing out tensions so that they can be resolved or managed when the group is brought together.

Clarity of Purpose and Participant Selection

In *The Art of Gathering* Priya Parker describes a process of *thoughtful exclusion* and avoiding diluting purpose through over-inclusion. So, knowing what you want to do and having a sharp selection process to convene the right people, avoiding inviting people out of obligation. Specific to an IDP, this might mean, involving the people with a genuine understanding and openness to collaborating and finding new solutions, who have sufficient

backing within their organisation to act/commit resources but who are also able to see things through the lens of the partnership rather than being too wedded to organisational interests.

The NESTA review of evaluations of collaboration programmes found that programme success was found to be closely aligned with the characteristics of the participants. They argue that this implies a need for matching partners with a track record of collaboration with new partners or defining new areas and topics for collaboration.

Additionally, the fostering of a strong and positive brand image was found by a study commissioned by NESTA into collaboration programmes to increase the attractiveness of the scheme to high-quality participants, to increase motivation through a sense of 'belonging' and recognition and to increase the likelihood of additional networking throughout the programme rather than between the collaborating partners alone.

Clear Leadership

A sense of an agreed model of leadership within the group. Often one person who can synthesise views, keep minds focussed on the mission and also with the legitimacy and freedom to get things done. There is a distinction here between leadership around decisions/content (what we refer to here) and leadership around process (see below on facilitation). Priya Parker describes how well-meaning attempts to create a power-free gathering, often result in a vacuum which can then mean that a gathering's original purpose is distorted and muddled as competing agendas arise.

Facilitation/someone who holds the process

Giving due attention to how an IDP is facilitated and nurtured. So, recognising that if you want people to behave differently and break-out of organisational scripts, you need to create an environment that encourages collaborative behaviours. Priya Parker describes the subtleties of how the venue, room configuration, size of group and style of facilitation can all impact on the energy, relationships and dynamism of a group.

The NESTA study of networks found that they can fail for a variety of reasons, but lack of trust and commitment are major causes. The collaboration study also found that effective collaboration depends on mutual trust – that workloads and benefits will be shared equitably and that shared information will remain within the confines of the partnership.

This suggests that, unless the group that make up the IDP are already an effective team, there will need to be some facilitation to ensure a trusting set of relationships develop. A study of brokerage as a function to support innovation collaboration between diverse entities provided some useful insights into this.

It highlights that there is generally a social gap between two or more groups that may wish to work together. The gap can be in terms of cognitive, communicative, organisational, social, cultural, functional, or geographical distance. These distances are very real between academics, business people, public officials, so, an IDP approach would need to consider how the facilitation can work with the issues that result from them.

When this gap is large between innovating partners a special interpretation function is needed - brokerage. This can mean (i) making people on both sides of a structural hole aware of the interests and difficulties of the other group, (ii) transferring best practices, (iii) drawing analogies between groups ostensibly irrelevant to one another, and (iv) making syntheses of knowledge interests.

This will involve a process and cannot be reduced to an individual action or single meeting. An innovation collaboration planning session will often require a lot of preparatory work to be successful.

Trust will also depend on establishing clear and agreed terms for the exploitation of any intellectual property associated with the IDP – whether background and owned by the respective participating organisations or newly created as a result of the IDP's activities. The Advanced Manufacturing Research Centre has particularly benefitted from carefully thought out and negotiated Collaboration Agreements, which ensure that all its members, whether academic, corporate or SME are comfortable that they will achieve the value they are looking for from collaborating.

IDP CAPABILITY/CAPACITY

The model of the IDP appears to suggest that the capacity to run each IDP will come solely from the member organisations, at least until/unless they are able to secure additional support to grow. This is in contrast to most models of on-going innovation-based economic growth stimulation (Catapults, etc.), where there is some form of central animation or executive function. This is what creates the capacity to then organise and drive engagement across partners or reaching out to find new partners and keep the momentum.

A major challenge for Catapults, network organisations, science parks, etc. is arranging services or other resources that will attract and retain the participation of a network of members.

The main alternative form that collaboration takes (with no externally provided capacity) is where it is driven by either an opportunity to band together and win funding, or a direct commercial transaction. In the former, it is often the university that provides some capacity to drive the project or the major customer or larger business make some capacity available.

The need for some capacity to facilitate network formation and development is identified by the NESTA review. They make the point that, while all firms in a network benefit from being part of a network, the establishment and management costs are borne largely by the network organiser. Public intervention can therefore be used to mitigate this 'free-rider' effect.

The NESTA review of collaboration initiatives made a similar point. They argue that collaboration management capacity is a major determinant of success, particularly in collaborations which involve novel partnerships, new research topics or where the anticipated research outcome cannot be guaranteed or the potential for unexpected outcomes is high.

It seems critical to us that some investment is made into capacity to animate each IDP, even if there is a clear expectation that the partners will also match this from their own resources. The skills and make-up of the individual/team that carry out this function will be a key determinant of success.

SUMMARY OF KEY FINDINGS

The work identified the following critical success factors:

- **Proactively seek to establish new partnerships** that harness and catalyse previously untapped potential that exists within the region. The action of bringing together individuals and organisations to form new partnerships and investing in collaboration capacity building is the primary intervention the LEP can make to achieve its aims.
- **Balance of structure and flexibility:** Developing a framework that provides a consistency of approach (so, overarching vision statement, expectations around evaluation etc) whilst allowing flexibility for the IDP model to respond to what a particular opportunity area requires and to determine its own measures of success
- **Investing in relationships**, as well as process, to ensure stakeholders are effectively engaged and have “ownership” of an IDP. This is perhaps the key underpinning element to get right.
- **Developing a shared language and understanding with stakeholders.** This can then inform how mechanics such as governance and evaluation are shaped but also help to articulate agreement what an IDP is and isn't. So, what is in-scope but equally out of scope. Once animated, this would then help to keep an IDP “on task” and mitigate against mission creep.
- **Positioning the model sensitively in the space between the LEP and the wider system.** So, ensuring strategic connection and accountability but with freedom to act as a “neutral convenor” in how it works with and engages stakeholders from different cultures and organisations
- **Understanding the barriers to collaboration** for both universities and businesses and considering how an IDP approach can remedy these and be effectively positioned
- **Creating the right culture by** convening the right people to form an IDP, having clear leadership and skilful facilitation to build a shared mission, values and ways of working that transcend (but pay attention to) narrower organisational interests
- **Opportunity driven rather than fund driven:** starting with the opportunity area and then identifying possible funding routes as opposed to being initiated with the aim of chasing any particular funding opportunity.

10 RECOMMENDATIONS AND PROCESS FLOW

RECOMMENDATIONS

In response to the findings, this report makes the following headline recommendations:

1 Engage stakeholders through workshops:

To build wider support, develop the concept further and to also create a shared language around IDPs, workshops with external stakeholders should be held. Workshops could consider what an ideal IDP would look like and also start to agree principles around mechanics such as evaluation, governance etc. Developing a shared language should be a key aim of these workshops and help to articulate agreement what an IDP is and isn't. So, what is in-scope but equally out of scope. Once animated, this would then help to keep an IDP "on task" and mitigate against mission creep. These discussions can then inform the development of a pilot (see below). The workshops should be orientated around a "co-design" philosophy to enable buy-in and also ensure practicability of the concept.

2 Initiate an action learning pilot:

Given the innovative nature of the IDP approach, there are many questions that are difficult to answer in the abstract. So, for example, determining the right mid-way point between consistency in approach and flexibility in how an IDP evolves in response to what a challenge area requires. The best way to explore many of the structural questions that arise may be through an action learning pilot. This would also be true to the spirit of making the approach a truly shared endeavour with the relevant constituencies involved by involving them in a process of shared exploration and co-design. This could then be used as the basis for gradually bringing the concept to scale and using as the basis for leveraging wider investment and support through "proof of concept".

Such a pilot could combine the search for strong potential High Value Opportunities with preparing all those who might be involved and fostering collaborative relationships. An illustration of how this could work is outlined in the draft process flow.

3 Appoint a small, expert team to be the neutral convenor

Challenges around building collaboration and trust between different stakeholders stands out as the critical success factor. A key insight from the interviews and desk research is that there is considerable "distance" between the worlds of academics, enterprise and public sector which will need some active bridging to deliver working collaborations. In addition, an IDP delivery team that is too closely associated with the LEP may skew the dynamic and stymie collaboration and genuine partnership that transcends organisational interests.

Therefore, the report authors envisage that the LEP could commission a small "free floating" team that has both the authority and blessing of the LEP but also sufficient freedom to work in the margins. The team would play the role of "neutral convenor" in engaging stakeholders and holding the process for animating an IDP pilot and keeping it on task.

Commercial - Sensitive

The team would potentially also be well placed to provide training/coaching in the skills and behaviours associated with successful collaboration, backed up by access to appropriate legal advice to enable the establishment of the necessary collaboration agreements.

This team would need the right blend of both innovation knowledge with skills, sensitivity and experience around stakeholder engagement, team development, mediation and facilitation skills.

PROCESS MODEL

Starting point

Any one IDP will need an initial insight or trigger around which it is based. This should be aligned with the areas of focus identified in the SIAs/smart specialisation/Regional economic plan and could be one of:

- a very particular challenge or opportunity manifest in the region where there is some evidence that the region has a near unique combination of assets that could address this – the aim would be to form one or more teams of particular individuals and organisations that seem well formulated to develop and implement a solution.
- a sectoral strength/cluster that would seem to have the potential to deploy their collective assets and expertise to address a range of needs/opportunities – this would be expected to establish a number of teams around particular projects.
- an area of academic excellence within one or more university departments that is anchored in the region and where a group of businesses could work closely with them to convert these into commercial potential.

Model to pilot

This model is an attempt to animate the right conversations that will then create the relationships and build an IDP group.

This would potentially involve the following process:

- Summarise the broad regional economic studies and SIA analysis to extract the ideas and suggestions for economic opportunities.
- Issue this document as part of a Call for Evidence that invites a wide range of responses to some broad questions but is basically aiming to flush out core concepts, ideas, proposals for a High Value Opportunity (HVO) that could be the basis for an IDP.
- Spend time talking directly with those offering interesting HVO ideas and other stakeholders to understand their particular take on the proposed ideas, the assets and resources they can bring to the table, incentives/driver also particular barriers/concerns around collaboration – creating a buzz of excitement and energy
- Draw upon the conversations to identify the pilot area and to identify, engage and invite the IDP membership.
- Commission or deliver training, guidance and coaching for participants in the key skills associated with successful collaboration
- Bring stakeholders together around this in Sandpit format workshops to attempt to build the core “IDP team” for the pilot area that has a shared sense of mission, goals, roles and responsibilities.
- Facilitate the preparation of a collaboration agreement.

- Facilitate conversations in the IDP to create a business case, legal entity, programme, structures and interventions, funding bids, etc. So, using the opportunity area as the anchor and devising a programme and identifying sources of funding in response to this.
- Work with the IDP team to identify interventions that will build the necessary socio-technical innovation eco-system that will lead to the innovation becoming viable
- Build clear basis for relationship with the LEP – combining coaching and support with monitoring and review

Monitoring and evaluation

From the Review of the Catapult programme, the provision of being recognised as an IDP and access to any funding should be conditional on:

- All IDPs defining their **clarity of purpose**, which is critical for them to be successful. This could be determined by the IDP itself at its inception but could be something that evolves in response to circumstances and what it discovers. Success metrics could be determined by the IDP itself but evaluation could be carried out by an external body.
- Building upon this purpose, IDPs providing **robust, focused business** plans supported by measurable milestone plans that will lead to economic benefits for the NE economy through addressing clearly articulated market failures.
- A recognition that an IDP does not continue to benefit from the support of the LEP in perpetuity but that, based on the evaluation, it learns, evolves and either folds or is allowed to “spin off” to simply be an independent part of the NE economic landscape.

ANNEX 1: INTERVIEWEES

Alongside desk-based research the project team conducted a small number of series of in-depth interviews with a cross-section of stakeholders from across the wider innovation system (from national bodies to academics to design experts) to test thinking, inject challenge and generate new insights.

Name	Organisation	Role
Andrew Basu-MacGowan	National Centre for Universities and Business (NCUB)	Head of Policy for Smart Specialisation, Innovation and Place
Jim Dawton	Impeller Ventures	Director and Joker in Residence within a number of institutions identifying potential HVOs
Professor Kiran Fernandez	University of Durham	Professor of Operations Management/Associate Dean for Internationalisation in the Business School
Professor Ed Ferrari	University of Hallam	Director of the Centre for Regional, Economic and Social Research (CRESR)
Helen Lazarus	HCL Consulting	Business growth strategy and programme consultant
Kevin Richardson	UK Research & Innovation (UKRI)	Lead on Universities and Local Growth
Dr Deborah Spencer	University of Oxford	Deputy Head of Industrial Research Partnerships
Lee Viney	Innovate UK	Regional Manager

ANNEX 2: BIBLIOGRAPHY/RESOURCES

Source	Originator/Author	Details available at:
Catapults – overview, original logic, evaluation	Innovate UK (2014)	https://catapult.org.uk/wp-content/uploads/2016/04/Hauser-Review-of-the-Catapult-network-2014.pdf https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/662319/catapult-programme-evaluation-framework.docx.pdf https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/662509/Catapult_Review_-_Publishable_Version_of_EY_Report_1_.pdf
<i>Catapult to Success: Be Ambitious, Bold and Enterprising</i>	Big Innovation Centre (2013)	https://catapult.org.uk/wp-content/uploads/2016/04/Catapult-to-Success-2013.pdf
<i>Reverse Funnel Innovation Explained</i>	Jim Dawton, Impeller Ventures (2016)	http://honey.co.uk/wp-content/uploads/2016/06/June2016_Output_SO_V5-2.pdf http://impellerventures.com/about
<i>Collaborative Innovation – Transforming Business, Driving Growth</i>	World Economic Forum (WEF) (2015)	http://www3.weforum.org/docs/WEF_Collaborative_Innovation_report_2015.pdf
<i>Collective Creativity and Brokerage Functions</i>	Satu Parjanen and Vesa Harmaakorpi Lappeenranta University of Technology, Lahti School of Innovation, Lahti, Finland (2010)	https://www.academia.edu/23163337/Collective_Creativity_and_Brokerage_Functions_in_Heavily_Cross-Disciplined_Innovation_Processes
<i>Impact of Innovation Policy Schemes for Collaboration</i>	NESTA and University of Manchester Institute for Innovation Research (2012)	http://www.innovation-policy.org.uk/share/NESTA_Compndium_collaborative_20120528_linked.pdf https://www.nesta.org.uk/feature/innovation-policy-evidence/
<i>Innovation Network Policies</i>	NESTA and University of Manchester Institute for Innovation Research (2012)	https://www.nesta.org.uk/report/the-effects-of-innovation-network-policies/

UKSPA presentation – ASPECT/Aspire tool for assessing science parks	UK Science Parks Association (UKSPA)	http://www.ukspa.org.uk/sites/default/files/ABOUT%20UKSPA_Quality.pdf http://www.ukspa.org.uk/sites/default/files/UKSPA%20Aspire%20Final%20-Brochure.pdf http://nimbusvault.net/publications/koala/inimpact/papers/inkt14-019.pdf
<i>Imperial West as a world-leading Innovation District</i>	Imperial College London Business School (2014)	https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=2ahUKEwj1lujAh4_kAhV1XRUIHWARDf0QFjACegQIAhAC&url=https%3A%2F%2Fwww.imperial.ac.uk%2Fpeople%2Fd.gann%2Fdocument%2F2306%2FIWInnovDistrictReport%2F%3FIWInnovDistrictReport.pdf&usg=AOvVaw2uRvI4v8Zw0dREDJziqpse
<i>Industrial revolutions: capturing the growth potential</i>	Centre for Cities (2014)	https://www.centreforcities.org/wp-content/uploads/2014/07/FINAL_Centre-for-cities-report2014.pdf
Innovation Toolkit for Science & Innovation Network (SIN) officers	NESTA (2015)	https://media.nesta.org.uk/documents/tradecraftinnodiplomats_innovationpolicytoolkit.pdf https://www.nesta.org.uk/toolkit/innovation-policy-toolkit-introduction-to-innovation-policy-and-collaboration/
<i>The Art of Gathering</i>	Priya Parker (2018)	https://www.priyaparker.com/

ANNEX 3: UNCONVENTIONAL CONNECTIONS



Specialists in Innovation Strategy

Our expertise across innovation, policy development, international project management and extensive network of contacts will help ensure your project's success.

We offer:

- **Whitehall knowhow**, including excellent relationships across the UK Government and its agencies– helping us to help you get the lowdown on wider innovation strategy and opportunities and to navigate Government.
- **Extensive networks** that reach into a range of research institutions, businesses and entrepreneurs – helping us to provide you with novel and transformative opportunities to collaborate
- **Sector expertise** with a strategic, but also lived, understanding of how innovation works, from Government to business level – helping us to understand your needs and to offer strategic but also practical recommendations
- **Strategy nous:** we have between us, over 30 years of experience in analysis, policy development and strategy making – you give us your challenge, we will handle it
- **Flexibility and pragmatism:** through an unrivalled network of associates and a “can do” approach – for each project, we put together the right team, specific to your needs, to get the job done.

Our work will help you:

- Develop new insights
- Identify new partnerships
- Secure stakeholder engagement and commitment
- Define what you want to do, explore your options and articulate strategy and delivery plans to make it happen.

Recent/current projects:

- Developing strategy on how to apply UK clean energy technology in Africa and South East Asia - Funded by UK Government partners with extensive engagement of industry and academic stakeholders
- Supporting a Local Enterprise Partnership to explore how they can exploit strengths in particular technologies to benefit the region's industrial base
- Advising a large national networking business on how to grow its services for Government Departments
- Advising a Local Enterprise Partnership on the design and implementation of a new partnership model to drive economic growth through innovation in their region
- A range of projects with Chinese partners including work for Chinese clients to facilitate the flow of sustainable food and agriculture products and technologies between the UK and China.

Who we are:

Dr Nick Rousseau

Nick has over 20 years of experience of working in UK Government with foreign Governments and businesses. For five years, he was Head of International Innovation Strategy at the Department of Business, Innovation and Skills. Innovation collaboration programmes were a particular focus for this work and Nick helped set up the Newton programme and led Government to Government policy dialogues, established a semi-independent Expert Group on UK-China collaboration and investigated the practical barriers to collaboration.

Other initiatives Nick has led include:

- Devising, leading and organising, with FCO, the largest ever UK-Brazil innovation round table
- Devising, leading and organising, with UKTI, the G8 Innovation Conference and UK-US Financing Innovation event bringing a group of US Venture Capital fund managers to the UK for the Olympics
- Founding and setting up the Woven Network, a volunteer-run Community Interest Company that supports the community of those interested and involved in insect farming for food or feed in the UK and increasingly internationally
- Founding and establishing a local food growing cooperative in Sheffield.

To provide a fulcrum for bringing together his wide-ranging interests and networks, Nick set up Unconventional Connections in April 2016 – working with a network of Associates to drive and support opportunities for innovation collaboration.

Alongside this, Nick is working with Loughborough University on a £38m UK Government/World Bank funded programme to drive a transformation in the way people cook across the developing world to contribute to carbon reduction and health benefits.

Nick holds BA, MSc and PhD degrees in psychology from the universities of Cambridge, Loughborough and Sheffield with a focus on psychology and user-centred system design.

Luke Owen

Luke has over 12 years of experience of working in UK Government at national, regional and local levels. As an all-round generalist with a curious mind and appetite for exploring, Luke ranged across a number of roles including working with Lord Heseltine on his review of UK competitiveness, managing ministerial offices, developing national innovation strategies, managing relationships with key UK innovation bodies and representing the UK at the European Commission. He more recently developed strategies for Innovation and Inclusive Growth at Sheffield City Region.

Luke became a Senior Associate at Unconventional Connections in 2018 and also runs a coaching and organisational development practice (www.windgather.org). He is a trained facilitator and also offers skills around stakeholder engagement, team building, strategy development and project delivery.

Luke has an MSc in Environmental Sustainability, the APM qualification in Project Management, a post-graduate qualification in Organisational Development and is a certified integral development coach.