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**Innovation 50: Supporting innovation in small and medium sized enterprises in Essex (UK) –
An institutional perspective**

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Abstract

This paper contributes to our understanding of success factors for innovation and growth within small and medium sized enterprises (SMEs) in the UK. It reports on the results of a 3-year project (“Innovation 50”) launched in early 2015 with the aim to identify 50 of the most innovative and growing SMEs in Essex county. The research project intended to establish the key factors of high growth for SMEs, the challenges they face as well as their innovation support needs in order to inform Essex County Council’s future direction for its Innovation Support Programmes.

Following a literature review of theoretical and practical work undertaken in the area of innovation support and public policy, an online survey amongst local SMEs was used to identify 50 high growing enterprises with significant (product, process or marketing) innovations. In-depth semi-structured interviews with chief executives of the 50 enterprises were conducted and helped to identify a range of themes in relation to the SMEs success factors, institutionally-bound barriers to innovation and support needs.

We found the most innovative and successful SMEs in our sample exhibit significant overlaps in the areas of leadership and management as well as responsiveness to change and approaches to customer relationship management. The main areas for targeted innovation support have been identified as entering new markets, digital marketing and conversion and dealing with the challenges that growth presents. The resulting implications for innovation policy and institutional change are put into perspective of current strategic considerations for the Essex economy.

1. Introduction

Regional innovation systems and institutional frameworks set up to support innovation are of increasing importance for economic growth and prosperity. To remain competitive in a fast-paced capitalistic world, the ability to learn and cooperate efficiently to create new ideas and relevant applications is crucial. To support such development, institutional frameworks within regional innovation systems need to constantly change in line with evolving priorities (Martin et al., 2011).

This paper adopts North's (1990) definition of institutions, including the distinction between formal institutions (e.g. official laws, rules and regulations) and informal ones (e.g. traditions, habits and norms), which significantly influence the behaviour of individuals and organisations. In the regional innovation systems literature, the configuration of formal and informal institutions differs considerably across regions and has a major impact on the innovation performance of local firms. The latter are seen as the main actors within (regional) innovation systems, together with policy makers and universities (Asheim and Gertler, 2005).

Institutions can meaningfully influence innovative activities in a region and policy makers have developed a range of tools to enhance institutional frameworks supporting innovation. In a period of sustained economic uncertainty, Essex County Council (ECC) understands that future developments and growth come largely from the efforts of the business community. One of the key goals of Economic Growth Strategy (EGS), developed in 2012, is to stimulate activity that would benefit employers, employees and ultimately society. More specifically, ECC wished to be active in supporting key business sectors to attract more organisations to locate in Essex and to encourage entrepreneurship and enterprise via start-up businesses. These ambitions were set out in the Essex Innovation Programme (EIP) which helps companies to develop and exploit their creative and innovative ideas, by providing them with experienced professional sector support to help them to grow (Invest Essex, 2012).

The EGS re-affirmed a commitment to Enterprise and Innovation and resulted in efforts being stepped-up to attract new investment into Essex, supporting existing businesses to grow by helping them innovate and trade globally and offering support for new ventures. In its Vision for Essex 2013 - 2017, 'Where Innovation Brings Prosperity', ECC set out an ambitious agenda outlining the priorities in which its strategic direction was rooted (Invest Essex, 2012). In line with ECC's strategic objectives, the Innovation 50 project aims to provide a framework for the design of Innovation Support Programmes (ISPs) and related initiatives at a regional or local level. In doing so, the principal aims of Innovation 50 are:

- undertake an analysis of success factors and challenges of innovative and growth-oriented SMEs within the county of Essex;
- examine what support mechanisms these firms access and the impact of public and private support interventions;
- propose a new policy framework for small business development and growth support which can facilitate increased rates of innovation and growth within the Essex region;
- foster links and partnering arrangements, including Knowledge Transfer Partnerships (KTP), with Anglia Ruskin University and other agencies;
- celebrate and promote the business successes of the region via a series of regular events.

Based on the initial review of the underlying literature, to meet these aims it was agreed that at least 200 SMEs in Essex would be surveyed via an on-line questionnaire with the principal objectives as follows:

1. to identify particular trends that may provide useful data to ECC as it continues to refine its Essex Innovation Programme (EIP) initiatives;
2. to identify 50 of the most innovative and successful SMEs and undertake further detailed qualitative research via individual company interviews. This would identify key characteristics and challenges that would contribute to the future development of Essex's ISPs.

Since the inception of Innovation 50 in 2015, a number of considerations have emerged which are contributing to the realignment of ECC's strategic direction. In particular, the UK Government's Industrial Strategy, launched in late 2017, sets out a long-term plan to boost the productivity and earning power of people throughout the UK, building a Britain fit for the future. The vision includes:

- ideas: the world's most innovative economy
- people: good jobs and greater earning power for all
- infrastructure: a major upgrade to the UK's infrastructure
- business environment: the best place to start and grow a business
- places: prosperous communities across the UK

Furthermore, ECC's Organisation Strategy was released in 2017, which made recommendations in relation to the development of skills and infrastructure. The report also contained a number of issues that would need particular attention. This is in tandem with the East of England Science and Innovation Audit which confirms that, although the region has outstanding and world-class science investment, those assets could be used more effectively to deliver more consistent economic (and societal) impact. It also confirms that, although close to London, the region experiences difficulties in terms of developing the relevant skills. As evidenced in this paper and explicitly addressed in the final section, ECC's most recent strategic priorities are closely aligned to the Innovation 50 work undertaken in relation to SME needs, such as skills development, capacity building and infrastructure.

The remainder of the paper is structured as follows: section 2 provides a brief overview of the relevant literature on ISPs and section 3 outlines the research methodology. Section 4 presents the analysis of the data collected through a focus group, online survey, and face to face interviews. The related findings in terms of key trends and individual SME issues are discussed. Section 6 summarises the main conclusions and recommendations derived from the study.

2. Literature review

Innovation Support Programmes (ISP) and the evaluation of their effectiveness have been the subject of a number of studies in various parts of the UK such as the Centre for Enterprise, University of Glamorgan (Pickernell et al., 2008), Surrey Business School, University of Surrey (Gray et al., 2012), and internationally including Ireland (Kenny, 2015), Thailand (Wiboonchutikula, 2001) and India (Pachouri and Sharma, 2016), amongst others. In-depth qualitative research on how local authorities have approached the design and content of their support mechanisms is still limited and there is a lack of consensus on a particular conceptual framework in the field.

This leaves the question as to whether the range of activities designed to support innovation is based on systematic research, anecdote or supposition of the general principles and practice of good management. Whilst it is recognised that external inputs can be very important for SME growth, there are variations in the innovation support available to the small business sector (Prowle and Lucas, 2017). This may have resulted in inequality in relation to access to human resources, technology and knowledge. Jack and Anderson (2002) describe a context of embeddedness of entrepreneurial activity that needs to occur in both the company and the district or region that surrounds it. Whilst all levels of government and local authorities need to encourage start-up and entrepreneurial activity, it is just as important to support growth and survival and ISPs should reflect this.

Innovation is widely recognised as a key determinant to the future prosperity for new ventures and existing businesses. Countries that report high venture or private equity investments have seen this directed to areas where innovation is prevalent (Lewis et al., 2014). In the UK, it has been recognised that changes in the international economy will result in an increase in competition from global markets (BIS now BEIS, 2013). Innovation has therefore been seen as an important national priority and support centrally has been introduced to encourage growth in research and development and intellectual property activities. This commitment has been reflected again in the national Industrial Strategy (BEIS, 2017) which focuses on innovation and growth in key business, design and manufacturing sectors.

Commentators have also identified a range of themes that might determine innovation and the success, or otherwise, of SMEs, which have included: the entrepreneur, including their traits, skills and motivation; the nature of the firm; for example, its size, location, legal structure and the strategy of the business, including finance, market positioning and networking (Gray et al., 2012). These themes were echoed in a research project on behalf of BIS undertaken by Stephan and Hart (2015) and a number of leading Harvard Business School contributors, such as Moss Kanter, Dyer and Christensen have published widely on the key characteristics of innovators and their companies. They have suggested that finding the Innovator's DNA (Moss Kanter et al., 2009) can help others find the path to growth and success.

Although much has been written on measuring small business growth, Dobbs and Hamilton (2007) concluded that no single overarching model for business growth exists. Foley and Green (1989) suggested that, in the absence of a universally accepted definition of growth, success has been interpreted in a variety of ways. Cases have been made for different metrics to measure growth, for example, Smallbone et al. (1995) recommended an increase in revenue to be a reliable factor. Storey (1994) recommended staff employed (and increases) as a valuable measure. Carter and Jones-Evans (2000) suggested that a more objective measurement would be increases in profits or assets. Another important, but somewhat less common measure, is growth in productivity (Nelson, 1991). These

approaches however, can be problematic because the factors that influence one growth measure, e.g., an increase in profits, may not necessarily impact on another such as the number of employees.

Fadahusi (2012) suggested that whilst measures such as asset value, market share and profit may generate more objective data, it is still more pragmatic to use measures such as number of employees and revenue. This is because of the relative ease in obtaining such data and there is less commercial risk for companies in disclosing that information.

The following key conclusions were drawn from this literature review that have a bearing on the delivery of Innovation 50, including metrics for measuring growth, selection criteria, types of innovation and the targeting of ISPs:

- SMEs are crucial to the economy and can be a principal source of regional growth, employment, innovation and poverty reduction. Innovation is widely recognised as a key determinant to the future prosperity for new ventures or existing businesses.
- Studies have revealed that innovation support tends to be based on traditional notions of need and business growth. As a result, start-ups may have received a disproportionate amount of support. ISPs should be targeted towards firms and sectors with the highest growth potential and the specific circumstances of each company should be addressed. Evidence suggests that high growth does not predominately occur in the high-tech sector (for a detailed overview, see Mason and Brown (2013)).
- Research suggests that there are characteristics that can underpin growth and innovation such as leadership, networks and relationship to clients. The identification of these within high growth firms in a region is important to facilitate the development of dynamic capabilities.
- There is no universally accepted measurement of growth. Evidence suggests that increases in turnover and staffing over a three-year period provide a useful and easily accessible basis for the identification of high growth firms, although traditional linear views of growth are becoming less relevant.
- Innovation comprises activities in relation to the commercialisation of products/services as well as novel processes and marketing approaches. In addition, disruptive innovation has been seen as a key business concept.

Table 1: Selection Criteria for Innovation 50 Companies

Growth	<ul style="list-style-type: none"> • Revenues/Sales • % increase over a 3-year period (or less, if trading for a lesser period) • Headcount • Increase in Full-Time Equivalent over a 3-year period (or less, if trading for a lesser period)
Innovation	<ul style="list-style-type: none"> • Product/Service • Process • Market • New territories and markets captured • Business Model
Leadership & Culture	<ul style="list-style-type: none"> • Encouragement for idea generation • Innovation reflected in objectives
IP and Patents	<ul style="list-style-type: none"> • Original designs, technologies and processes. Patents held or applied for

In summary, various quantitative means of measuring growth and their strengths and weaknesses were considered. In addition, a range of qualitative areas such as the nature of innovations, leadership and culture were identified as being crucial to growth. These factors were drawn together to arrive at a set of criteria for determining the Innovation 50 companies, summarised in Table 1.

3. Methodology

In order to meet the aims and objectives of the project, a multiple-methods approach is used as it provides the opportunity to collect rich and insightful information that may be missed when using a single approach or method (Bryman and Bell, 2007). The collection and analysis of quantitative data (business survey) supported the systematic identification of the research cohort (i.e. the Innovation 50 companies) and of the key themes related to company performance and the wider Essex business environment.

A qualitative approach (interviews) subsequently provided for a deeper understanding of the critical success factors (CSF) that have led to growth, validating the results of the business survey. Building a positive relationship with participants was an important aspect of the project, creating an environment of trust and helping to uncover emergent themes that may feed into the suggested ISP framework or form the basis of further study.

One of the most important early steps was the use of a Focus Group. This method is a form of group interview in which there are several participants including a moderator or facilitator. In management and business, the early use of the focus group technique is seen as a way of helping individuals to define problems and work together to identify potential solutions (Hutt, 1979). At its simplest level, a focus group is an informal discussion among a group of selected individuals about a particular topic (Wilkinson, 2004). Broadly speaking, focus groups are collective conversations arranged to discuss a specific set of topics (Kitzinger, 2005) with the primary aim to describe and understand meanings and interpretations of a select group of people (Liamputpong, 2009).

The Focus Group, which comprised ECC, ARU and seven SME representatives, was held in December 2015 with the following aims:

- to inform and engage members of the business community in the Innovation 50 project;
- to discuss the aims and research methodology and canvass views on their appropriateness;
- to consider and test any early key themes or observations arising from an initial review of the literature.

Launch of the business survey

A ‘public call’ was launched in April 2016 together with a dedicated Innovation 50 website (<https://www.anglia.ac.uk/lord-ashcroft-international-business-school/research/projects/innovation-50>). ECC widely promoted the initiative through its business networks, local and social media, its Invest Essex website and through business fairs held in various parts of the county. The public call was announced during an official Innovation 50 launch event, organised jointly by ECC and ARU. Promotional material was also produced, including Q&A leaflets designed to highlight the benefits of participating in the process for SMEs.

In addition, 5000 Essex SMEs were identified using a variety of means, including the Interdepartmental Business Register, ECC’s own economic development networks and ARU library business databases. Links to the online survey were sent by e-mail and applicants could then apply via a brief registration

form on the website for the participation in Innovation 50. Following the registration of the first 200 SMEs, the survey stage of the project was launched in agreement with ECC, whereby each registered SME was invited to complete the online questionnaire.

Selecting the Innovation 50 companies

The survey analysis identified key performance data for each SME and assessed them against the metrics determined in the literature review (see section 2). A qualitative assessment of the companies took place subsequently, focusing on their innovations, achievements and characteristics (such as leadership, culture and idea generation). A shortlist of approximately 70 companies was drawn up. Further clarification was sought from a number of SMEs, leading to the final selection of the Innovation 50 companies.

Interview Process

Semi-structured in-depth interviews with the selected companies took place between November 2016 and March 2017 on their premises and visits usually involved a tour of the workplace, R&D facilities and offices. Each interview lasted about one hour, was recorded using a digital voice recording device and was subsequently transcribed.

A thematic analysis then identified common themes relating to success factors, innovation enablers and barriers as well as issues surrounding innovation support mechanisms and public policy. The next section comprises the analyses of data collected through the focus group, online survey and interviews.

4. Analysis and Outcomes

4.1 Focus Group

The focus group, held in December 2015, comprised 7 SME owners representing companies from a variety of sectors including marketing, product manufacture and services. In addition, the group was facilitated by one ECC and two ARU representatives. The issues to be considered were publicity, securing the participation of SMEs and the survey methods. The main findings of the focus group included:

1. Agreed metrics on turnover and staffing as indicators of growth, taking into consideration that a number of SMEs do not use conventional business models and may rely on a network of consultants and partnerships that would not be reflected in a pure headcount of staff employed.
2. Acknowledging that different interpretations of 'innovation' existed, it was agreed to provide guidance to all potential applicants on what is considered to be innovation, which included innovation in business models.
3. Approval of the draft questionnaire which covered key areas for the business survey, including factors that contributed to growth, innovations, IP, leadership and outlook.
4. Building on feedback from previous feedback (e.g. participants asking for an opportunity to tell the story behind their companies), it was agreed to include open questions as a way of articulating issues that may not be picked up by an online survey alone.
5. Having recognised the importance of using Innovation 50 to celebrate success, members supported a kitemark award for Innovation 50 companies and the format for a launch event was agreed.

The contributions of the Focus Group were particularly important to ensure that the aims and potential outcomes of Innovation 50 would be relevant and beneficial to SMEs. Obtaining agreement on the principal goals of the research project, its methods and survey questions helped to create legitimacy and confirm the relevance of the research for practitioners. Finally, it provided an opportunity to explore how the initiative could be promoted to achieve as much participation from the business community as possible.

4.2 Business survey: applicants and key trends

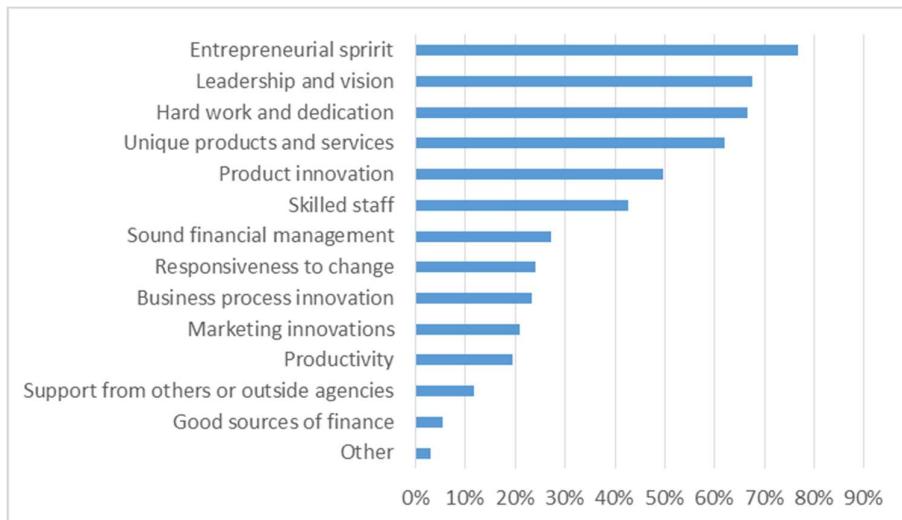
This section outlines the findings of the business survey, starting with an overview of the demographics of applicants (e.g. sector and size) before summarising their view on what makes them successful, on the challenges they face and the corresponding support needs (with a particular focus on talent development), as well as on the relevance of innovation.

The survey took place between May and August 2016 and was completed by a total of 200 SMEs. The applicants were from a wide range of sectors including manufacturing (22%), business services (18%), construction (6%), engineering and energy (10%), charitable services (6%) sports, health and lifestyle (11%) and transport and logistics (7%). In terms of markets served, over 50% were trading primarily in the UK and 37% had global reach. Trade predominately in Europe amounted to 5%.

Over 50% of SMEs were operating as collaborative endeavours or using a mixture of traditional and new models. 45% of respondents described their business model as that of a 'traditional employer'. The large majority of SMEs surveyed (83%) described the outlook for their companies as positive or extremely positive, with 71% of SMEs experiencing an increase in turnover and 76% in their productivity over the previous three-year period. In addition, 70% of respondents indicated that the financial position of their company was 'growing' and 90% were intending to enter new markets.

The survey explored the underlying CSF by soliciting the business owners' views on the key contributors to growth and innovation. Respondents were asked to choose five from a list of CSF that they believed had contributed to their success. The responses provide interesting insights and could help inform future support areas (Figure 1).

Figure 1: Factors critical to success



The five factors that rank the highest are 'entrepreneurial spirit and drive', 'leadership and vision', 'hard work and dedication', 'unique products or services' and 'product innovation'. These results confirm the shared narrative on the entrepreneurial spirit of Essex as well as the focus on providing products and services which differentiate from competitors' offer. Other high-ranking factors are 'skilled staff' (in line with the findings of the previous section), 'sound financial management' and 'responsiveness to change'. These themes were further explored during the interview stage to provide the basis for the development of ISPs and, more generally, future growth models for Essex.

SMEs were asked to comment on their support needs and some preliminary conclusions could be drawn from the survey data. Three quarters of the applicants faced challenges that would benefit from outside support or expertise. Figure 2 shows the areas considered important to enable future growth (or stability). 37.5% of the SMEs indicated that they had had public innovation support from ECC.

The highest rated support needs are 'Marketing' (23%), 'Entry to new markets' (19%), 'Developing business processes' (11%), 'Staff development' (6%) and 'Legal including Intellectual Property' (7%), 'Financial strategies' (5%) and 'Accommodation issues' (3%) were also mentioned. The low level of need for support concerning 'Leadership and management skills' appears to confirm the findings on the factors critical to success.

The definitions of the proposed categories for support needs were quite broad and therefore prone to be interpreted in different ways by respondents (e.g. the choice of "financial strategies" could point to a need to seek additional finance as well as the wish to manage existing resources more effectively). Moreover, 24% of respondents reported support needs which remain unspecified ('Other') and were explored more fully during the interview stage.

Figure 2: SME Support Needs



As mentioned above, ‘unique products or services’ and ‘product innovation’ ranked high in the list of CSF. Not surprisingly, over 70% of companies reported that innovation was crucial to their success and over 20% considered it as important. These results signify a massive commitment to innovation, reflecting the consideration for its positive effect on growth (all applicants were asked to demonstrate growth in revenues/turnover). In terms of innovation types, almost 50% was in product innovation, process and marketing innovations accounted for 26% and 10% respectively. These results indicate that the vast majority of SMEs was involved in developing and taking to market new products.

The survey addressed possible obstacles in implementing or commercialising innovative ideas, a topic particularly relevant for developing future ISPs. Over 36% of companies had experienced difficulties, 34% had sometimes faced difficulties and, encouragingly, over 29% of SMEs had faced no significant difficulties. Available capital finance from within the company was the predominant issue (33% of respondents), 23% felt that they lacked the necessary skills or needed help and outside expertise and 17% of companies experienced more pressing day-to-day matters in connection with operational demands.

The management of intellectual property rights (IPR), including patents and trademarks, was also explored in the survey. Over 39% held patents or trademarks, of which 40% reported that they had managed to commercialise their IPR. Although this figure is very encouraging, it highlights the need to explore why the large majority of IPR owners has not yet been able to achieve this or had difficulties in doing so.

Finally, the development of human resources clearly emerged as a priority for the participating SMEs, with 89% of the respondents providing support for it. Moreover, 55% of SMEs were supporting apprenticeships and 53% actively participated in networking opportunities. Considering the relatively low score of support needs in the areas of “Staff development”, these preliminary results seemed to indicate that SMEs take talent development “into their own hands”. This perception was challenged in the interview phase, which highlighted that available skills and recruitment are problem areas for a number of SMEs (see next section).

More generally, the overall trends and themes identified in the initial survey need to be qualified by the fact that, albeit a structured survey was used and guidance was provided, some respondents may have interpreted questions or topics in different ways. The input also varied in terms of how comprehensively the survey was completed and the quality of responses to some of the more 'open' questions.

Nevertheless, the business survey contributed to meeting a number of the key aims of Innovation 50: identify what make these companies successful; categorise and rank challenges affecting their growth and ascertain (corresponding areas) where support is needed; provide a first understanding of the relevance of innovation and the approach to talent development. Table 2 summarises the key themes derived from the survey and discussed above.

Table 2: Summary of Analysis and Themes from Business Survey

Themes	Summary
Business Structures and Future Outlook	<ul style="list-style-type: none"> • Over 50% were using new models including collaboration, networking and partnering • Over 83 % had a positive outlook • Over 71% had experienced increases in productivity and turnover
Critical Success Factors	<ul style="list-style-type: none"> • Entrepreneurial spirit and vision, leadership capabilities, hard work and dedication • Unique services or products, product innovation • Skilled staff • Sound financial management • Responsiveness to change
Challenges and Support Needs	<ul style="list-style-type: none"> • 73% reported challenges and support needs • Key areas for support needs: marketing and entering new markets, however significant proportion (25%) of unspecified needs • 37.5 % had received support from Essex
Innovation and Intellectual Property	<ul style="list-style-type: none"> • 70% reported that innovation is crucial to their success, with over 50% involved in product innovation • 36 % of SMEs had experienced difficulties in terms of commercialising innovations, 23 % lacked skills and needed help to commercialise innovations • 39 % reported the holding of trademarks and patents • 59 % of companies reported challenges in this area
Staff development	<ul style="list-style-type: none"> • 89% of the respondents provide for internal staff training • 55% support apprenticeships • 53% actively participate in networking opportunities

4.3 Interview Results I: SME Selection and Characteristics of High Growth

The applications were assessed on the basis of the metrics derived from the literature review: growth in revenue, staff turnover and the significance and quality of their innovations. A first shortlist with seventy companies was created, followed by additional discussions with a number of SMEs to gain more insights about their achievements and business processes. This led to the final selection of our Innovation 50 (Table 3).

Table 3: Innovation 50 Companies

Acketts Group Ltd	IX Cameras
Advante	Kite Power Solutions Ltd
Atlas Computer Systems	M G Electric (Colchester) Ltd
Birkett Long LLP	Monkey Tower
Blackman and White Ltd	Poulten Selfe and Lee Limited
Brynleigh Technology Ltd	Printech Circuit Labs
Camfaud Concrete Pumps Ltd	SeeClear
Carbon Numbers	Shark Infested Custard Ltd
City & Country	Skilful.co
Colchester Zoo	SKN-RG Performance Skincare
Corporate Battlefields Ltd	Soteria - Smart Safety Solutions Ltd
Coryton Advanced Fuels	Synthetix Ltd
CWind	Technevate (now Globaltech)
Dementia Adventure	Tevva Motors
Df2020 Ltd	The Accumulator
Disarmco	The Cheeky Panda
Dura Composites Ltd	The English Cream Tea Company
eMoov	The Lampshade Company
Estuary Logistics	The Point.1888
EuroGroup Ltd	Ultimotive
Excalibur Screwbolts Ltd	Vertical Systems
George Thompson Ltd	WCM
Glasswall Solutions Limited	WeAreTheCity
Green Air Cars	Windsor Integrated Services Group
ITA-Instruments Ltd	Wishbone Publishing Ltd

The selected SMEs come from a wide range of sectors (e.g. manufacturing, business services, building, engineering and charitable services, see appendix I), including some in their first few years of trading and others that had been established for many years, and comprise a range of business models and staffing levels. In the next phase of the project, these SMEs participated in in-depth semi-structured interviews. The analysis of their outcome is presented in detail in the following

One of the key aims of Innovation 50 was the identification of characteristics and factors contributing to the success and growth of SMEs. The rationale for this was to develop a model of good practice that could be a basis for future ISPs, allowing the promotion of these principles amongst other companies in the region. This issue was explored as part of the survey where companies had identified what they saw as ‘critical success factors’ from their own points of view. The interviews provided an opportunity to explore these areas in greater depth and the following common themes were observed and noted.

Leadership and Management Styles

Innovation 50 companies tended to exhibit very ‘open’ and ‘laissez-faire’ leadership styles. Innovative SMEs, particularly those in highly specialised product design or development, recognised that they were often employing very talented and sometimes ‘quirky’ staff that would not respond well to bureaucratic or ‘controlling’ working arrangements. There was a sense of allowing staff the ‘freedom’ to make mistakes, as in doing so provides an environment where they may be better able to develop and test new ideas and innovations. This was also seen as essential in terms of recruiting key staff and skills.

Leaders also demonstrated ‘entrepreneurial spirit’ which manifested itself in a ‘nothing ventured, nothing gained’ attitude. There was a clear desire to embrace opportunities. This was particularly evident in discussions regarding Brexit, capturing new markets and product development. CEOs also had a very clear sense of pride in their companies and what they had achieved so far. Without exception, leaders were also quick to point out how they value the contributions of their staff, at all levels. Whilst the difficulties and challenges faced by SMEs were acknowledged, there was strong evidence of an open and positive outlook.

On closer observation of the interview findings, it was also apparent that successful companies were finding ways of keeping control of valuable and sometimes scarce resources and had clear objectives and targets that needed to be met for survival and growth. This suggests that the optimum leadership and management style reflected one of a ‘loose tight’ nature. Loose tight leadership involves the creation of space for idea generation and free exploration with control and ‘tightening’ at an appropriate point to ensure that ideas are tested for commercial development for the achievement of company objectives (Kotelnikov, 2005). The evidence demonstrated that, when this leadership style is used effectively, it contributes to good employee relations, idea generation, recruitment and a culture that is free of ‘fear’, whilst ensuring that limitations or key targets are not overlooked.

Innovation Strategy

All Innovation 50 companies indicated that innovation was crucial to their success. There were examples of companies that had been developed on the strength of an initial innovation (inventors and product developers turned entrepreneurs) and more established SMEs that had revitalised their fortunes by finding new uses for existing products or developing new ones. This reinforced the need for appropriate leadership of innovation described in the preceding section of this analysis. There was also evidence of ‘disruptive innovation’ where a small number of companies were servicing and creating markets traditionally held by larger organisations. This had often been achieved by the introduction of new technologies or software applications.

It was also evident that innovation is fully integrated with other business processes in Innovation 50 companies with good examples of company directors and senior staff being fully involved in the development and execution of new ideas. During the literature review, it was established that one of the principal causes of failure to innovate or commercialise innovation was because creative activities

in larger companies tend to be undertaken separately and away from the core business. This has been described as 'innovation in silos'. Essex SMEs demonstrated the opposite with innovation being seen as a key component of the executive role. This was evidenced in examples of senior staff being part of design or production teams as well as having company management responsibilities. In addition, those involved in product design and development were not separated from staff involved in production or delivery. There were also good examples of regular team meetings and briefings where all staff could contribute.

Market Orientation

SMEs were largely demonstrating a customer rather than market focus. This was evidenced by some newer companies concentrating on target clients and bespoke products. In addition, some longer-standing SMEs had moved towards 'agile' or bespoke product delivery rather than establishing traditional service agreements. Such companies were finding that this model had increased longer term levels of revenue and client satisfaction. SMEs are often in a unique position to do this because they are potentially able to offer greater flexibility than larger companies. It is worth noting, however, that this was an issue that was raised during the discussions relating to 'fear of growth'. SMEs knew that to stay successful, their growth should not disrupt their ability to offer client focused services, which in many cases had become the company's Unique Selling Point.

Culture and Structure

Innovation 50 companies were demonstrating the operation of (or willingness to embrace) non-conventional business models. These involved partnering, working with consultants or enjoying the benefits of being based in hub arrangements. This mirrored the findings of the business survey in that SMEs saw non-traditional ways of working as a means of growing without increasing headcount, whilst affording them more flexibility in terms of accessing skills and finance required.

It was also observed that some longer-standing companies had moved away from 'protectionism' against competitors or 'rivals' and were more willing to engage in joint ventures. This supports the findings in the review of literature which suggest that innovation should also extend to organisational arrangements as well as those associated with products, services or markets.

From an organisational cultural perspective, the interview findings supported the observations in relation to leadership. Successful Innovation 50 companies had endeavoured to create 'open' and progressive cultures. A common theme in this regard was ensuring there was no climate of 'fear', in that, staff (within reason) had the freedom to 'try out' or suggest new ideas without jeopardizing their employment. There were many excellent examples of staff involvement with regular briefings, meetings and social gatherings being held. Structures for idea generation existed in many SMEs; providing staff at all levels (whatever their role) with opportunities to participate in the company's future. There were also some good examples of staff reward schemes, including holidays abroad and extra annual leave. A number of companies had excellent flexible working arrangements including working from home. These had assisted with recruitment and staff retention.

Challenges and Change Management

Although this area is closely linked to the leadership, structures and culture issues previously described, it was evident in successful SMEs that their approaches to changing situations was vital to their stability and growth. This manifested itself in two ways. First, it was observed that a positive outlook and a willingness to embrace challenges were of key importance. Second, the most successful SMEs were ones that were 'agile' enough to change if and when it was demanded.

This did not only relate to human resource issues, but also having business systems and processes that could respond to challenges or changing circumstances. This was noted in a variety of ways but was very evident during discussions concerning Brexit. There were many good examples of SMEs reprofiling their supply chains and other processes in response to this. In addition, flexibility was crucial where bespoke contracts and services were being delivered.

Networks

There was strong evidence that successful SMEs tended to be well connected and 15 commented that this had been crucial in their growth. This had manifested itself in a number of ways. These respondents were very good at seeking out and accessing advice and support from bodies such as ECC, local authorities and academic institutions such as ARU. There were also examples of companies who had had direct contact with the Department of Business, Energy and Industrial Strategy, formally the Department of Business, Innovation and Skills and one SME had been invited to be part of a Government led consultative group designed to address UK SME strategies. There were also a high number of interviewees that participated in networking events organised by ECC, local Chambers of Commerce and professional bodies. The only qualifying comment that was made by SMEs on this issue was that events need to be correctly targeted and valuable because it was not always easy to find time to attend the variety of events on offer. The vast majority of SMEs seemed delighted at the networking opportunities that Innovation 50 could offer.

SMEs also commented on the value of entering award schemes. It was acknowledged that Essex had provided support and encouragement in this area. Companies commented that, apart from the obvious promotional benefits of awards, they had fostered new networks as a result. These had had a marked impact on growth. Recognition through competitions and awards was also very beneficial in terms of staff morale. They had also led in some cases to the signposting of services and resources on offer, creating an even larger network. Other advantages included the opportunity to join in commercial endeavours and business development.

Participation in mentorship arrangements was another example of a successful networking opportunity. Interestingly, a small number of CEOs were acting as mentors themselves to other entrepreneurs and described the enormous benefit they had derived as a result. In this regard, five CEOs expressed a willingness to share their knowledge and experience through ECC events or in association with ARU. Table 4 summarises the characteristics of high growth innovative SMEs discussed above, demonstrated by all Innovation 50 SMEs.

Table 4: Characteristics of High Growth Innovative SMEs

Leadership	Loose-tight, entrepreneurial, remaining ‘centred’ in core values whilst growing.
Innovation	Unique products and services, integral to business processes, key component of executive role.
Business Models	Working with or not afraid to explore non-traditional organisational arrangements, partnering, consultants, hubs etc.
Market Orientation	‘Customer’ as opposed to ‘market’ focus, bespoke and ‘agile’ products and service agreements

Culture	Open and inclusive, freedom from ‘fear’ to experiment and contribute, award schemes, staff development, succession planning.
Challenges	Positive approach, agility in terms of systems, people and service contracts, responsive to change.

4.4 Interview Results II: Challenges and Innovation Support Needs

Aiming at identifying key themes that could contribute to the future direction of ISPs, the interview process increased the understanding of the factors that have contributed to growth and innovation and provided more insight into the challenges and issues for each Innovation 50 company. The issues in this regard, as they affect individual SMEs, are contained within an SME needs schedule and have been grouped by the respective SMEs affected. This information has been submitted separately to ECC and provides a basis for teams working in Economic Development to tailor future support to the individual SMEs and more widely where themes are general.

Support Provided

In total, 76% of Innovation 50 companies had received support, assistance with accommodation and logistics issues and networking through professional organisations such as the Institute of Marketing. There were also cases of direct financial and strategic support from Government, Companies that had been recognised in award schemes commented on the usefulness of publicity and networks that followed as a result. It was clear from the discussions that networking and connectivity were vital to success.

A quarter of the companies was or is part of the Essex Innovation Programme (EIP). By far the most useful aspect of this had been ‘mentoring’. This covered areas such as ‘entering new markets’, ‘marketing strategies’ and ‘raising finance’. The mentors (consultants or organisations such as Ford) used by ECC were highly praised and eight companies commented that they could not have made the progress they had done without the access to that support. Many expressed delight that they had been chosen as Innovation 50 companies as they were hopeful of future mentoring support or the continuation of existing arrangements.

The percentage of companies that had received no support was 24%. These tended to be older companies. During the interviews with these companies, there was no sense that they were denied any support but were welcoming the opportunity that Innovation 50 could provide in terms of becoming better known by ECC and the potential that that relationship could bring.

SMEs that had links to universities described this as valuable and at least 30% of the companies were interested in forging greater links with academic bodies including ARU. They saw this as a potential opportunity to attract new skills and product development and testing. It was recognised that in order to stay innovative, these relationships could be invaluable. In addition, a number of SMEs felt that university partnering would be a good endorsement of their company and would contribute to their marketing strategies. As a result of these discussions, a schedule of current and potential Knowledge Transfer Partnership (KTP) opportunities with ARU was produced and handed over to ECC. As of February 2018, two KTPs and two KEEP + projects have been established as a direct result of Innovation 50, while additional collaborative work is currently being discussed with the SMEs.

Marketing strategies: digital marketing and entering new markets

Most SMEs have clear marketing strategies and much has been achieved in this area through EIP mentoring. Nevertheless, a need for support in terms of digital marketing expertise was identified by over 18% of interviewees (nine companies). Topics raised include a greater understanding of the utilisation of new media applications, e-commerce opportunities and conversion to sales.

Companies recognise that the skilled use of social media (e.g. YouTube, Google and Snapchat) could generate new business opportunities; however, they also acknowledge that the area is fast-changing and requires significant investment to acquire and retain the necessary competencies. As these skills are not always internally available, which may be a barrier to developing markets or increasing the size of existing segments, SMEs often necessitate support with specific expertise to take advantage of the possibilities offered.

The identification of new markets and the definition of corresponding entry strategies was raised by 30% of SMEs (15 SMEs). In particular, the expertise needed in navigating unfamiliar cultures, regulations, trade and political systems requires specialist knowledge, not readily available within companies. In this regard, the support obtained by some SMEs was highly regarded, for example to enter Asian markets or develop supply chain arrangements in China.

Intellectual Property

Rules, regulations and processes to protect IPR are complex and the cost of compliance or enforcing them may often be prohibitive, particularly for SMEs venturing into these areas for the first time. This was strongly confirmed in our interviews. Moreover, there was a perception that protection does not necessarily guarantee safeguarding of IPR and concern was expressed about large corporations or territories that may flout the law. Two SMEs suggested that this was a barrier or disincentive to the attempting to enter new markets; one reported that their products had already been copied. This area specifically was raised by five companies but also figured largely as part of the discussions in relation to the exploration of market opportunities beyond the UK.

Accommodation and Planning

Five SMEs are considering changing their existing accommodation. This includes expansion and redevelopment of existing facilities and/or seeking alternative sites and premises. There is also interest in developing hub arrangements and sharing facilities with other SMEs. Two companies expressed their wish to be based where other SMEs operate as an opportunity to share expertise and costs.

Two companies specifically raised concerns about 'planning permission' policy and questioned whether ECC's economic development and planning guidelines were harmonised sufficiently. Overall, there was a desire to create closer ties with the Council on this area, particularly when possibilities and options for growth or relocation are being explored.

Skills

Almost 20% of SMEs consider talent acquisition a priority. This includes senior positions, skilled professional staff for technical roles and entry level posts. A number of companies are interested in creating apprenticeship schemes but either they do not know how to proceed or find the process too convoluted. Some reported that past plans to establish apprenticeships had derailed.

Succession planning is also a concern. It was noted that three companies are overly reliant on the skills of one or a few individuals. The difficulty in attracting skills is primarily explained by 'the pull of London'. Some parts of Essex are difficult to travel to (see section on Infrastructure) or are not

particularly attractive to prospective employees (e.g. companies located in areas where property is expensive or which are geographically remote).

Concerns were also expressed regarding recruitment for senior positions. Six participants commented on their own personal challenges as their companies had grown, particularly in regards of human resource management issues. This is not surprising since many CEOs have gone from ‘inventors’ or product developers to managing large workforces. Other topics leading to the acquisition of new skills include planning and prioritising, financial management and marketing expertise, in line with the outcomes of the business survey.

Developing relationships with educational bodies may help solve this issue and some suggested that Knowledge Transfer between universities and SMEs might not only be a way of developing new products, but also attracting new recruits. In this regard, there is also evidence that once employees join Essex based companies, they tend to stay: staff turnover rates are generally low. This suggests that recruitment difficulties relate to perceptions and not necessarily about the jobs or situations on offer.

Partnering and Networking

In order to support expansion, nine SMEs expressed a desire for greater networking, particularly in relation to common issues and exploring commercial opportunities. In addition, ‘pairing’ of companies who face similar challenges (and who are not in direct competition) was suggested as a way of cost-effectively doing this. It was also felt that general networking (particularly amongst Innovation 50 companies) could be beneficial and may be a way of addressing accommodation, skills, training and management development issues. Eleven (as evidenced in the analysis of the initial questionnaires) were already operating non-traditional business structures and models and saw the scope to pursue this further.

Fear of Growth

One of the most interesting themes uncovered in the interviews is the ‘fear of growth’, proving the value of the multiple methods approach adopted: it is unlikely that these concerns could be detected in a survey and it is a subject which has received little attention in the literature. Although this term (suggested during a Project Team meeting), in itself, sounds dramatic, it does reflect the feelings of CEOs of at least 10% of SMEs.

Whilst all Innovation 50 companies would have growth as a strategic aim, some are mindful that such expansion could lead to changes in their organisational structures and cultures. There is concern that the small, energetic, innovative teams could lose those characteristics as a ‘hierarchy’ develops or new roles are established. Six companies described themselves as having a ‘family feel’ and were cautious about recruiting to additional management or leadership roles. It is apparent in a large number of cases that the core team is often the reason innovation has occurred (and often had led to the company being formed in the first place). Expansion, while remaining centred to corporate values and retaining the innovative team dynamics, is an area of concern. In addition, SMEs pointed out that as their operational demands grow, they must still find time to innovate in the way they had previously been doing. Some of the longer standing SMEs had experienced fear of growth and change on the part of long serving staff. This had presented human resource management challenges which were referred to under the skills theme in this section.

Infrastructure

Confirming the survey results, during the interviews there was almost unanimous support for ‘Essex as a great place to do business. Four SMEs did, however, identify some infrastructure issues. These included the poor state of the Liverpool Street line, particularly as it serves the London Southend airport; the road systems, particularly the A12; the railway station in Colchester and the amount of road works (and resultant congestion) that seemed to take place around the County. In addition, some SMEs in rural areas still experience WIFI connectivity issues. There were also suggestions for improved signage, particularly in the Colchester area.

It is understood that good infrastructure is paramount to the success of existing SMEs and for attracting others to the area and therefore should continue to be a major consideration in Economic Development Policy. It was recognised that Essex is attempting to address these issues positively and three commented also on the opportunities for attracting skills and business on the completion of Crossrail.

Government and Policy

Some SMEs identified concerns and challenges that were not necessarily regional or county level issues but related to national policies and legal frameworks and how they affect small businesses. These included difficulties in the late processing of VAT repayments, complexities with and an inability to obtain export licences (which can cause considerable liquidity problems for SMEs who are reliant on a small number of orders). Differences in banking regulations; even to those extending within the EU, were also identified. It is also worth noting that some of the issues in respect of IPRs discussed earlier in this report, i.e. costs and difficulties in navigating the process, may also be matters of central policy.

As the interview process took place in the months after the UK voted to leave the EU, it was an opportune time to canvass SMEs’ thoughts about the issue. In this respect, no major concerns were expressed about Brexit (as of January 2017). The issue of uncertainty was raised but, at that time, there was only one example whereby a proposed investment had not occurred, although four other SMEs stated that they had noted some hesitation amongst their clients in placing orders or contracts. SMEs on the whole were positive about the market opportunities that could be ahead and five saw potential for markets in Asia and the US.

Nine respondents were very aware they may have to re-profile their cost structures where there are increased costs on imports. This has tended to be approached positively with many companies attempting to minimise the need to pass costs on to the customer. Two companies, for example, used the opportunity to review their business processes, which resulted in financial savings within their supply chains. Further comment was difficult because much would depend on Government Strategy and the implications of Brexit which would not be known for some time. SMEs tended to be of the view that, if ECC were considering providing support in this area, it would probably be best extended to information exchange, updates, networking and spreading good practice.

5. Conclusions and Recommendations

This section draws together the themes identified in the various research stages, with particular focus on the observations of key characteristics of innovative and growing SMEs derived from the interviews with Innovation 50 company owners. In line with Mason and Brown (2013), we suggest an increased focus of the institutional framework for innovation support on HGFs in Essex across a variety of sectors. Our results demonstrate that high growth and innovation are exhibited within firms from a range of sectors in the regional economy. This also suggests a somewhat reduced focus on start-ups in high technology sectors as currently practiced, shifting attention towards a “market pull” approach to innovation support as opposed to a “technology push” approach. More emphasis should be placed on mentoring initiatives supported by experienced entrepreneurs from the private sector and networking between firms of different sectors.

The research findings demonstrate the challenges and themes that can be addressed to support Innovation 50 companies’ growth and development. In addition, the findings relating to the characteristics of successful companies, and most valued aspects of current ISPs, can be used to spread principles and practice more widely across the region. Table 5 summarises our conclusions in the form of potential features of an innovation support framework in Essex, based on comments received and issues identified.

Table 5: Potential Features of an Innovation Support Framework for SMEs in Essex

ECC Mentoring	Continuation or commencement of targeted mentoring to include identified needs such as e-commerce, digital marketing, IP, patents, sources of finance, entry to new markets and managing growth; whilst preserving positive aspects of existing arrangements (fear of growth).
Mentoring via external organisations	Extension of mentoring arrangements with larger corporations (e.g. Ford) or academic partners to address areas such as product development and evaluation, entry to new markets, leadership, contracts, policy and HR skills.
Mentoring and training networks	The establishment of ‘mentor champions’ from existing Innovation 50 SMEs to provide support to others, particularly in areas of leadership development, HR issues, fear of growth, IP and entering new markets. Note: A number of CEOs interviewed were very interested in participating in ECC training and development initiatives and working with academic partners such as ARU in this regard.
Innovation 50 Group	Much interest was expressed in the continuation of the I50 network group. This could be helpful in establishing partnerships, generating ideas, commercial opportunities, information exchange, briefing on key issues such as Brexit and for ECC monitoring and impact assessment. This will also help to ensure that Innovation 50 is kept vibrant and continues with enthusiasm and purpose.
Pairing and Networking	Interest was shown in pairing (or creating small networks of) SMEs that have similar development issues, challenges or needs. This could provide cost effective and supportive solutions for areas such as IP, contracts, HR issues, digital marketing and service agreements.

Workshops and Conferences	Create opportunities at networking events to cover strategies for digital marketing, e-commerce and challenges of a growing business. Workshops also provide a forum for briefing on key policy issues such as Brexit, obtaining finance (growth funding from Central Government)
Knowledge Exchange with Academic Partners	The identification of opportunities for knowledge exchange with academic partners such as ARU should be established to work on areas identified, e.g. product research, development and evaluation. This may also help with skills and expertise shortages experienced by some SMEs and provide a basis for future recruitment.
Accommodation and Planning	Review latest and future requirements for SMEs affected. Explore opportunities for joint working/hub arrangements. Facilitate search for larger or more suitable premises where required. Ensure planning and development guidelines policies are correctly aligned for economic development and company expansion.
Apprenticeships	Provide advice and guidance on the establishment of apprenticeships and the identification of managing agents to be used in future. Encourage the spread of good practice from SMEs who are 'apprentice scheme champions'.
Promotion and Recognition	Continue efforts to promote Essex as a 'great place to do business' to encourage prospective job applicants to key professional and technical roles and businesses to relocate here. Use key Innovation 50 companies and partnerships with academic bodies as case studies. Support the publication of articles for academic and professional journals, press and social media. Continue with Award Schemes at County and Borough levels to recognise and reward achievement. In the light of the significant benefits to promotion and networking, signpost and support SMEs to participate in other schemes nationally run by Government, professional or media bodies.
Government and Policy	Continue channels of communication with appropriate personnel and bodies to seek clarification, change and lobbying and levying opportunities in relation to the wider SME landscape. Extend invitation to those who can clarify or influence policy to participate in initiatives and conferences. Issues may include VAT regulations, export licences, IPRs, banking regulations across different territories, delayed payment of SME invoices (cashflow) and post Brexit.

Parts of the ISP features summarised in Table 5 have already been taken on board by some Economic Development officers in Essex and we suggest that support activities in these areas are enhanced. Furthermore, according to the most recent strategic considerations in relation to economic development in Essex, the County aims to attract new larger businesses into the region and to increase

its number of larger SMEs, whilst achieving sustained growth for its high-growth firms and target sectors. Furthermore, it has been found that Essex presents many opportunities but these are not necessarily matched by appropriate and available skills (see ECC Organisation Strategy, 2017 and the East of England Science and Innovation audit, 2017). In order to support ECC's strategic priorities and the outcomes of Innovation 50, the following areas for further action are recommended:

1. Supporting High Growth

Target SMEs that have shown the capacity for high growth, i.e. those firms that have demonstrated a 20% increase in turnover over a three-year period and that have a staffing complement of 50+ employees. The focus should be on priority sectors such as digital, manufacturing, finance and life sciences. There are Innovation 50 companies with a staffing compliment of over 50 staff and five SMEs over 100; one at 180. These could be the focus of activity to assist in growth to 250+ employees. In addition, it would be useful to undertake a similar study with larger companies in Essex to identify key characteristics and strategies for growth.

Explore possibilities for higher level mentorship, leadership and capacity development, including planning guidelines to allow for expansion where appropriate.

2. Skills and Talent Management

Continue efforts to promote Essex as a great place to work and do business by using case studies of Innovation 50 companies. Support the publication of articles in press, professional and academic journals and social media.

Continue and develop Knowledge Transfer with ARU and other academic partners to provide additional expertise and potential future recruits.

Provide guidance and advice on the establishment of apprenticeships and the identification of managing agents suitable for individual sectors. Use 'apprentice scheme champions' to promote and disseminate good practice.

3. Infrastructure, Land and Buildings

Review progress in relation to infrastructure issues identified through Innovation 50, including road and rail networks, signage and WIFI connectivity. Ensure that Planning Guidelines meet growing business requirements.

In reviewing its key aims outlined in Section 2, Innovation 50 has successfully identified:

- a cohort of 50 Essex companies who have demonstrated growth and innovation;
- the key challenges and issues faced by those SMEs;
- key characteristics of high growth and innovative companies;
- aspects of current innovation support that have had the greatest impact and;
- the proposal of measures that could help to support stability, innovation and growth within those SMEs and the wider business community to be included in future ISPs.

In doing so, Innovation 50 has also produced a methodology that can be used again in the future to support the development of other ISPs. In this respect, Essex could consider the possibility of repeating the exercise so that a second and even third wave of SMEs could be targeted. One of the key strengths of the process is that it has been vibrant insofar as involving members of the business community at various stages. Indeed, many of the early findings of Innovation 50 have already formed the basis of workshops and events. There have also been steps being taken by Economic Development Officers to

include initiatives and programmes based on Innovation 50, in their work at local level and in incubation hubs. Companies have also been provided with feedback as the initiative progressed. This has not only included Innovation 50 companies, but also other businesses working in hubs or the Business Incubation Centre at ARU.

In terms of the future of Innovation 50, apart from the measures which may form part of future ISPs in Essex, the companies themselves could have a valuable role to play considering additional strategies and initiatives. In addition, they can act as models of good practice that can be disseminated throughout the region via engagement activities and mentorship. Their individual cases can be highlighted in future promotional strategies.

Innovation 50 has provided a unique opportunity to contribute to the development of ISPs by using a process that has been underpinned by a structured research methodology and one that has engaged all stakeholders, including SMEs, ECC Economic Development Teams and ARU. The foresight on the part of ECC in committing to such an ambitious project as part of its EGS is acknowledged and applauded. The commitment and enthusiasm of business owners has been exceptional and this, in itself, has been one of the prime benefits of the exercise. It has been a process that SMEs could engage with and has demonstrated ECC's commitment to growth and innovation in its region. It has been pleasing to note that certain economic development activities at County and Authority level have already been influenced by the early findings of Innovation 50 and a number of the key areas identified are influencing strategies used by the Economic Development Teams and in Growth Hubs. It is hoped that the outcomes of the project will be a sound basis on which ECC can further develop its support initiatives and continue to see growth and innovation flourish in the County.

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Appendix I: Innovation 50 SMEs

Company Name	Product or Service	Innovation Type	Date Formed	Employees
Acketts Group Ltd	Security Systems and Management	Market	1992	18 + partners
Advante	Transport, Site and Plant Services	Product	1963	50
Atlas Computer Systems	Software Development	Market/Product	2007	18 in Essex (+ London office)
Birkett Long LLP	Solicitors and Legal	Marketing	1821	180
Blackman and White Ltd	Cutting Machines and Composites	Product	1865	25
Brynleigh Technology Ltd	Electronics and Circuit Boards	Process	1994	24
Camfaud Concrete Pumps Ltd	Suppliers of Concrete Pumps	Process	1985	105
Carbon Numbers	Engineering Carbon Reduction	Business Processes	2013	13
City & Country	Bespoke Property Development	Process	1962	166
Colchester Zoo	Zoological Gardens	Service	1963	145 + seasonal
Corporate Battlefields Ltd	Corporate Development	Product/Service	2006	23
Coryton Advanced Fuels	Bespoke Fuel Blending	Process	2010	40
CWind	Offshore Wind Services	Product	2010	100
Dementia Adventure	Charity for Events and Activities	Service	2009	55
Df2020 Ltd	Chatbot Technologies	Product	2014	2 + network
Disarmco	Munitions Disposal	Product/Service	2011	9 + network
Dura Composites Ltd	Fibre Glass Composites	Product	1996	55
eMoov	Online Estate Agency	Product	2008	72
Estuary Logistics	Freight Management	Marketing	2011	35
EuroGroup Ltd	Seating and Upholstery	Market/Product	2009	40
Excalibur Screwbolts Ltd	Manufacturer of Screw Fittings	Product	1989	6 + network
George Thompson Ltd	Sustainable Fruit Farming	Process	1948	60
Glasswall Solutions Limited	Cyberthreat Technology	Product	2005	25
Green Air Cars	Transportation and Software	Product	2011	20
ITA-Instruments Ltd.	Laboratory Equipment Design	Product	2014	4 + network
IX Cameras	High Speed Photo Technologies	Product	2014	20 + network
Kite Power Solutions Ltd	Composites and Energy Solutions	Process	2011	11

Company Name	Product or Service	Innovation Type	Date Formed	Employees
M G Electric (Colchester) Ltd	Electro Mechanical Products	Market/Product	1978	20
Monkey Tower	Scaffolding Solutions	Product	2005	3 + network
Poulton, Selfe and Lee Ltd	Electronic and Glass Instruments	Process	1997	40
Printech Circuit Labs	Electronics and Circuit Boards	Product	1980	32
SeeClear	Mirror Cleaning Solutions	Product	2013	6 + network
Shark Infested Custard Ltd	Gaming Software and Apps	Process/Business Model	2013	4 + network
Skilful.co	Training Software Solutions	Product	2015	4 + network
SKN-RG Performance Skincare	Organic Beauty Products	Market	2011	4 + network
Soteria Ltd	Personal Security Software	Product	2014	4 + network
Synthetix Ltd	Software Development	Service/Product	2001	12
Technevate Ltd	Sports and Healthcare Products	Product	2015	10
Tevva Motors	Electric Vehicle Technology	Product	2013	10
The Accumulator	Fitness Programmes	Market/Product	2014	2 + network
The Cheeky Panda	Bamboo Tissue Products	Product/Marketing	2016	6 + network
The English Cream Tea Company	Packaged Cream Tea Hampers	Market/Product	2011	4 + network
The Lampshade Company	Bespoke Lampshades	Product	2011	9 + network
The Point.1888	Brand Management	Business Model	2015	12
Ultimotive	Supplier of Automotive Parts	Product	2004	12 + network
Vertical Systems	Travel and Back Office Systems	Product	1981	45
WCM	Automotive Parts Production	Process	1950	95
WeAreTheCity	Opportunities for Women	Market/Product	2008	6 + network
Windsor Integrated Services	Waste Management Services	Market	2006	30
Wishbone Publishing Ltd	Fine Art Publishing	Service/Process	2013	12 + network