technopolis group

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Economic Impact Evaluation of the Regional Talent Engines Programme

Final report

Laura Sutinen, Paula Knee, Vivek Seth, Guillermo Larbalestier, Tia J'nae Murray, Rita Cimatti

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Executive Summary

Introduction and Purpose

The Royal Academy of Engineering (the Academy) commissioned Technopolis to evaluate the impact of its Regional Talent Engines programme (RTE), which supports early-stage entrepreneurs in regions with limited resources for start-ups. The programme, launched in 2022, aims to foster innovation, entrepreneurialism, and regional talent retention. It does so by supporting mid-to-late career professionals from engineering backgrounds to set up their own business outside the South East of England. RTE's support package includes cohort-based training, coaching, and a discretionary £20,000 grant. By the time of the evaluation (January to September 2021), the programme operated in Northern Ireland, North West of England, Yorkshire and the Humber, North East of England, and Wales.

Methodology

The evaluation employed a theory-based mixed-methods approach. It combined primary data collection, econometric estimations, and economic impact analysis with contribution analysis to assess programme impact. The study focused on awardees from cohorts 1 to 4, encompassing participants from all regions except Wales. Four research questions (RQs) guided the evaluation, with answers and recommendations outlined below.

RQ1: To What Extent Has the Programme Supported Target Entrepreneurs in Starting and Growing Ventures?

RTE has attracted growing interest from the intended target audience. While many participants were already running businesses prior to joining, the programme has clearly accelerated business development and enhanced survival rates. At the time of evaluation, most businesses had not reached significant sales figures. However, the supported ventures across the regions had collectively created 64 new jobs, contributed £5m in Gross Value Added, and secured £7.7m in financial investment. The programme has been effective in helping businesses move forward, even if the direct financial returns are still materialising.

RQ2: Which Elements of the Programme Do Participants Value Most?

Participants have a generally positive view of RTE. They have especially appreciated the grant funding and the tailored, wrap-around support. They also highly valued the expertise of the delivery team, and the programme's focus on communication and presentation skills. However, feedback indicated that the follow-up support and alumni community were lacking at the time of research. This concern may have improved with the introduction of two new Enterprise Hubs in the target regions, providing additional support and networking opportunities for alumni.

RQ3: To What Extent Is the Programme Following Best Practice for Similar Interventions?

The RTE programme is in line with best practices observed in similar interventions, demonstrating efficiency, effectiveness, and value for money. The programme's six-month duration, intensive support, and decentralised delivery are key components aligned with other delivery and literature. Additionally, the Benefit-Cost Ratio (BCR) (comparing net GVA to programme spend) of 1.3 indicates that the programme offers good value for money relative to other observed early-stage business support, which generally demonstrated BCRs

under 1.0. However, opportunities exist for enhancing collaboration with other business support providers, which could improve the participant experience.

RQ4: How successful has the programme been in developing entrepreneurship skills and capabilities across the UK?

RTE has shown strong success in developing a range of entrepreneurial skills among participants. Reported improvements in technical, managerial, and entrepreneurial skills were statistically significantly greater than those observed in a control group. Participants attributed these improvements directly to the programme, which also boosted their entrepreneurial confidence. These results suggest that RTE is highly effective in building the capabilities needed for successful entrepreneurship.

RQ5: How far is the Regional Talent Engines Programme providing added value in supporting engineering and technology entrepreneurs?

RTE is unique in focusing on engineering entrepreneurs, an underserved group in the regions supported. While all the regions offer a range of offer for technology-focused start-ups, none specifically target mid-to-late-career professionals. The provision of grant funding also distinguishes RTE from most other regional support initiatives. Most of the programme's key objectives—such as pursuing business ideas and maintaining economic activity—have been met, with RTE's contribution playing a considerable role in achieving these outcomes.

RQ6: What contribution, if any, has the programme made to government levelling up objectives?

RTE aligns with the previous government's Levelling Up goals, including increasing productivity and jobs in targeted regions and enhancing regional pride and community. The programme's outputs and outcomes suggest it is contributing to these objectives. While the change in government during the evaluation period may affect the direct relevance of Levelling Up goals, RTE continues to support broader industrial strategies, especially in place-based development.

Recommendations

While the RTE programme is largely effective, the study identified some opportunities for future focus:

- Improved Integration with Local Business Networks

RTE could benefit from closer integration with local business support networks in the target regions. This would help identify more potential applicants and provide graduates with access to a broader support ecosystem after programme completion.

- Enhanced Alumni Engagement

Although participants value alumni events, many individuals face barriers to attending London-based events due to time and financial constraints. Regional, and potentially cross-regional, alumni events would be valuable for fostering ongoing connections and support within the programme's network.

- Additional Support for Private Funding Navigation

Many participants stated a need for further assistance in navigating the private funding landscape, including venture capital and angel investors. Although awardees reported improved confidence in pitching, more practical advice and connection opportunities would help graduates secure funding and scale their ventures effectively.

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1 Introduction

The Royal Academy of Engineering (the Academy) appointed Technopolis to undertake an evaluation of their Regional Talent Engines (RTE) programme. The purpose of the study is two-fold. Firstly, the study aims to provide evidence of impact and on the quality of programme delivery to help inform Academy planning on the programme's future. In particular, it will enable the Academy to make changes to programme design and delivery which can benefit future planned cohorts. Secondly, the study looks to provide evidence of the programme's economic and societal impact for the programme's funders and government stakeholders.

This report represents the final output from the study. Having previously prepared an evaluation plan for the study, this report summarises the findings from our work.

1.1 The Regional Talent Engine Programme

1.1.1 Context and objectives of RTE

Launched in 2022, the Regional Talent Engines (RTE) programme is a pre-accelerator programme offered by the Royal Academy of Engineering. The programme's rationale is to support entrepreneurialism in regions with a limited level of support for start-ups and early-stage entrepreneurs. At a high-level, RTE aims to foster innovation and a culture of good entrepreneurial practices and retain talent in target regions. In addition, the programme seeks to contribute to regional and national prosperity.

The background to RTE was in a broader, £2m Academy aim to support economic recovery and build resilience as part of the Levelling Up and Build Back Better agendas for 2021-22. As part of it, the Academy took on the objective of enabling the retention and circulation of engineering talent by delivering support for engineers to launch new careers as entrepreneurs. RTE was launched as a result of this objective.

1.1.2 Programme offer

In pursuit of the above aims, RTE is designed to offer support in a cohort-based training and resource model. The programme accepts applications at regular intervals. In terms of activities, participants receive a six-month package of support. The programme provides a structured set of training modules over the course of six months, with the training content adjusted each year to align with the participants' needs and demographics. During this time, participants also receive one-on-one coaching from the training providers based on their individual needs.[1] Participants also receive £20,000 to support them on their entrepreneurial journey. In addition, they have access to wider Academy resources including peers, networking and showcasing opportunities, signposting to further support and resources available in the region, as well as use of the Academy's regional hubs and offices. The aim of this delivery model is to enable participants to 'take the leap' from paid work into full-time entrepreneurialism.

After graduating the programme, participants remain eligible to wider benefits of the Academy's Enterprise Hub, ranked the 9th Leading Startup Hub in Europe for 2024 by Financial Times. More specifically, this includes indefinite access to the Hub's premises in Northern Ireland, Wales, and Scotland, and access to the Academy's mentors and wider expert networks.[2]

[1] In Northern Ireland, the training and coaching is provided by Ignite Northern Ireland, while in the other regions, St Johns carries out the training and coaching activities in collaboration with local partners

[2] Source: https://enterprisehub.raeng.org.uk/regional-talent-engines

1.1.3 *Target regions*

RTE has offered the programme in Northern Ireland (NI), North West of England (North West / NW), Yorkshire and the Humber (YH) and North East of England (North East / NE) for four Cohorts starting in 2022. As a later addition, the programme has begun to take on participants in Wales in Cohort 4. The breakdown the awardees between Cohorts 1-4 and by area is shown in Table 1, below.

Table 1 Awarded RTE participants per Cohort and Region

	Cohort 1 (03/22)	**Cohort 2 (11/22)**	**Cohort 3 (06/23)**	**Cohort 4**	**Total**
Northern Ireland	11	8	6	11	**36**
North West of England	2	10	11	9	**32**
Yorkshire and The Humber	3	5	7	4	**19**
North East of England	3	4	6	7	**20**
Wales	N/A	N/A	N/A	7	**7**
Total	**19**	**27**	**30**	**38**	**114**

Source: RTE monitoring data

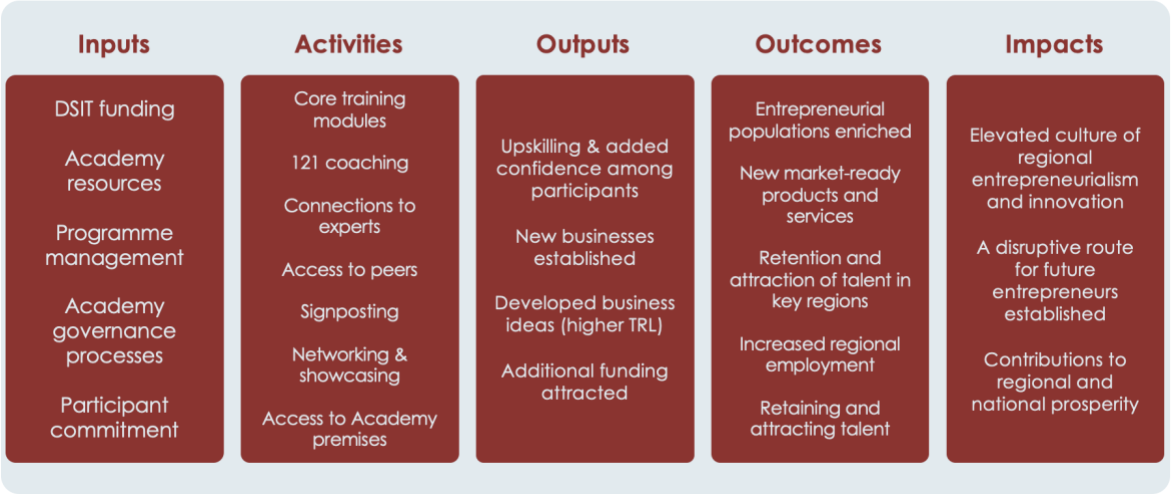
1.1.4 *Eligibility*

The programme has a fairly specific target audience but has narrowed over time. Cohort 1 originally targeted recent Further Education (FE) graduates and mid-late career engineers who had clear technical ideas that they wanted to develop into a business. However, from Cohort 2 onwards, the Academy decided to target only mid-career professionals in the field of engineering. Desired participants are professionals with an interest to become entrepreneurs and a technical idea with potential to become a scalable business. The specific audience was also deemed to be in line with the Levelling Up agenda by supporting individuals to make career changes and generate business activity in the regions.

1.2 Programme Theory of Change

Our understanding of the programme's Theory of Change (ToC) is below in Figure 1. From there, we summarise key elements and mechanisms driving the change.

Figure 1 Regional Talent Engines Theory of Change



Source: RTE documents and Technopolis review

1.2.1 Inputs and activities

The RTE programme leverages the following inputs: Firstly, across the first three Cohorts, the Academy has committed approximately £3.8m in funding towards all delivered activities and resources. In addition, the Academy provides resources from its networks (including access to experts, Fellowship mentors, and wider Enterprise Hub Community and Alumni programme), programme management, and programme governance processes. Finally, the programme leverages participants' own commitment to participation.

The activities of RTE consist broadly of the programme offer, which we have summarised above in section 1.1.2.

1.2.2 Outputs, outcomes and impacts of RTE

As programme outputs, participants are expected to have accumulated key skills and confidence as entrepreneurs, and for new businesses to have been established. Business ideas, which selected applicants have brought forward, are expected to have been developed to a higher Technology Readiness Level (TRL) and the business ventures are anticipated to be in a position to attract additional follow-on grant and/or equity funding from a range of external sources.

As outcomes of the above, graduated participants are hoped to retain their role as entrepreneurs (as opposed to returning to other work), continue to develop their technology into market-ready innovative products and services, and create more employment within their regions as their businesses grow, including retaining and attracting engineering talent.

More widely as impacts, the RTE-supported individuals and businesses are expected to contribute to a culture of entrepreneurship in their regions, inspire and inform further entrepreneurialism, and contribute to the regional (and national) prosperity.

1.3 This evaluation

The present impact evaluation looked to identify and measure the outputs, outcomes and impacts achieved by RTE to date, and in particular focusing on the results from Cohorts 1-3. To do this, we have conducted data collection in two phases, first focusing on primary data, and then sourcing secondary data.

1.3.1 *Research Questions*

As set out in our Evaluation Plan, developed closely alongside the Academy, this report looks to answer the following research questions:

1. To what extent has the programme supported target entrepreneurs in starting up and growing successful ventures?
2. Which elements of the programme offer have participants valued the most?
3. To what extent is the programme following best practice for similar intervention types?
4. How successful has the programme been in developing entrepreneurial skills and capabilities across the UK?
5. How far is the Regional Talent Engines Programme providing added value in supporting engineering and technology entrepreneurs?
6. What contribution, if any, has the programme made to government levelling up objectives?

1.3.2 *Our evaluation approach*

Our evaluation approach is in line with best practice as set out in the Department for Science, Innovation and Technology's (DSIT) best practice guidance for research, development and innovation programmes. [3] It centres on developing an accurate Theory of Change to explain how the programme should operate and assessing progress against it. As recommended in the guidance, our approach also makes use of self-perceptions of beneficiaries to help understand intangible benefits, benchmarks findings against other comparable programmes, and uses Theory Based Evaluation (TBE) approaches to understand which longer term effects are likely to occur.

A central element of the evaluation is understanding the counterfactual. In other words, we sought to understand what would have happened in the absence of RTE. This way, we could more accurately determine the true impact of the programme by isolating the effects that can be directly attributed to the programme itself and distinguish them from changes that would have occurred naturally or due to other external factors. There are limitations to counterfactual approaches as it can be difficult establishing suitable and comparable counterfactual approaches to reliably determine the outcomes in lieu of the programme.[4]

We have assessed the counterfactual in the following ways:

- **Self-reported additionality**. To establish some level of counterfactual in any scenario, we asked programme beneficiaries to give their own view on what they could have achieved in the absence of the programme, and how far the programme has contributed to the outcomes relative to other factors. The surveys sought this feedback across a range of different outcome areas, including business performance, and skills development. Responses on self-reported additionality were also used to feed into modelling the net additional economic impacts of the RTE on the wider economy. Self-reported additionality provides us with a reasonable sense of the perceived alternative where the RTE intervention

[3] https://www.gov.uk/government/publications/what-methods-work-for-evaluating-the-impact-of-public-investments-in-research-development-and-innovation

[4] Source: https://assets.publishing.service.gov.uk/media/5e96cab9d3bf7f412b2264b1/HMT_Magenta_Book.pdf

had not taken place but can be prone to limitations like the social desirability bias.[5] To this end, we sought to complement this method with a control group.

- **Control group.** We have used a control group of unsuccessful applicants given that they share many characteristics with successful applicants. We have used unsuccessful applicant survey responses to quantify how their skills levels have changed since applying to the RTE; and to assess how successful their businesses (where applicable) have been in comparison to the performance of RTE-supported businesses. The survey findings were complemented with a handful of interviews with this population.

  The evaluation originally planned to identify a matched comparison group for the companies supported by the programme using external databases such as FAME or Crunchbase. This would have formed a second control group of businesses that were highly similar to RTE beneficiaries. Developing a matched comparison group requires a rich and comprehensive panel dataset with information on businesses' finances (revenues, expenses), demographic information (size, industry, location), and other metrics that we could use as the basis for matching. This, however, has not been possible given a lack of available data on key performance variables for young, pre-revenue SMEs.

- **Contribution analysis (CA).** A contribution analysis is a systematic, theory-based approach used to evaluate the impact of interventions on observed outcomes. It provides a structured method for assessing causality in complex environments by identifying the drivers for all identified impacts. The process involves developing and testing a ToC that outlines how an intervention is expected to lead to specific results. A contribution analysis acknowledges that multiple factors often influence outcomes and seeks to determine the extent to which a particular intervention contributed to the observed changes, By examining the logical links between activities and outcomes, assessing alternative explanations, and considering contextual factors, contribution analysis allows us to make credible claims about an intervention's impact, even in the absence of a counterfactual. In this instance, we leverage evidence collected from our control group to further reinforce our findings against the ToC. A limitation to the process is that, despite its inherent reliance on evidence, it ultimately relies on judgments of plausibility of the contribution claims.[6] Therefore, we deem it best to pair CA with our other, quasi-experimental methods, in line with recommendations in DSIT's evaluation best practice guidance.[7]

1.3.3 Data collection methods

To implement the evaluation approach listed above, we have drawn on the following data collection methods.

Our primary data collection, which took place over the summer period of 2024, encompassed the following elements:

- A survey of RTE participants from Cohorts 1-3 (n = 35, 46% of full population)
- A survey of unsuccessful applicants to the programme (n = 15, approx. 10% of full population)
- Interviews with RTE participants from Cohorts 1-3 (n = 10)

[5] Source: Gower, T., Pham, J., Jouriles, E., Rosenfield, D. & Bowen, H. (2022). Cognitive biases in perceptions of posttraumatic growth: A systematic review and meta-analysis. *Clinical Psychology Review*. 94. DOI: https://doi.org/10.1016/j.cpr.2022.102159

[6] Source: https://scienceetbiencommun.pressbooks.pub/pubpolevaluation/chapter/contribution-analysis/

[7] https://www.gov.uk/government/publications/what-methods-work-for-evaluating-the-impact-of-public-investments-in-research-development-and-innovation

- Interviews with unsuccessful applicants to the programme (n = 7)
- Interviews with external stakeholders (n = 9)

For secondary data, collated and analysed over the summer and early autumn of 2024, we looked to external business databases, FAME, Crunchbase and the ONS, for more comprehensive data on business performance and characteristics. In addition, we leveraged available monitoring data and documentation shared by the Academy and complemented our findings with desk research.

1.4 Report structure

The remainder of the report is structured as follows:

- Chapter 2 examines the businesses that the programme has supported
- Chapter 3 reviews the effect which RTE has had on participant skills
- Chapter 4 examines participants' feedback on programme value
- Chapter 5 reviews established good practices and assesses the extent to which RTE has aligned with them
- Chapter 6 revises the collected evidence to determine the added value of RTE
- Chapter 7 briefly reviews the contributions which the programme has made to Levelling Up
- Chapter 8 discusses our concluding answers to each of the six Research Questions

2 Business support

This section deals with **Research Question 1: To what extent has the programme supported target entrepreneurs in starting up and growing successful ventures?** To do so, we examine four main areas:

- Who is the target audience of RTE?
- Has RTE attracted applications from this target audience?
- Do successful participants match the RTE target audience in profile?
- What have been the programme effects on programme beneficiaries and target entrepreneurs?

2.1 RTE demand and awardee composition

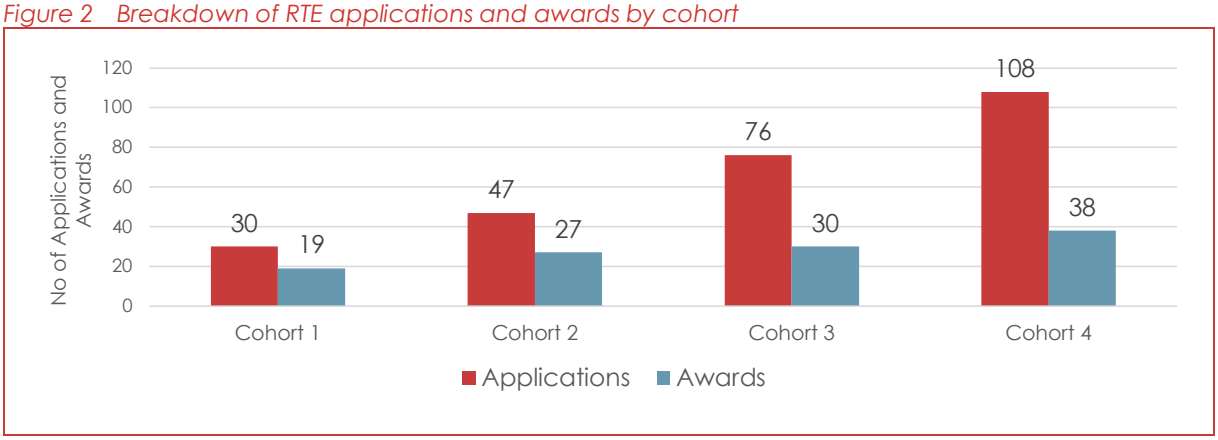
2.1.1 Target audience

The Regional Talent Engines programme seek to empower mid-career professionals with engineering backgrounds to embark on entrepreneurial paths. Targeting Northern Ireland, the North West of England, Yorkshire and the Humber, the North East of England and Wales, the programme also looks to support entrepreneurs who will stay longer term in these locales, contributing to the entrepreneurial talent locally.

2.1.2 Programme interest

One indicator of RTE's ability to reach its target audience is the level of programme interest. If application numbers are low, it will indicate challenges with engaging with relevant individuals. As illustrated in Figure 2, we note a positive trend in demand. While the number of awards has increased by year, the demand has increasingly outweighed the available awards. We do note that the overall increase in demand has slightly evened out.[8] Nonetheless, the number of applications relative to the number awards has resulted in a steadily decreasing application success rate from one cohort to the next (63% in Cohort 1 to 35% in Cohort 4). This also indicates an increasingly competitive programme, and growing demand for it in the key regions.

Figure 2 Breakdown of RTE applications and awards by cohort

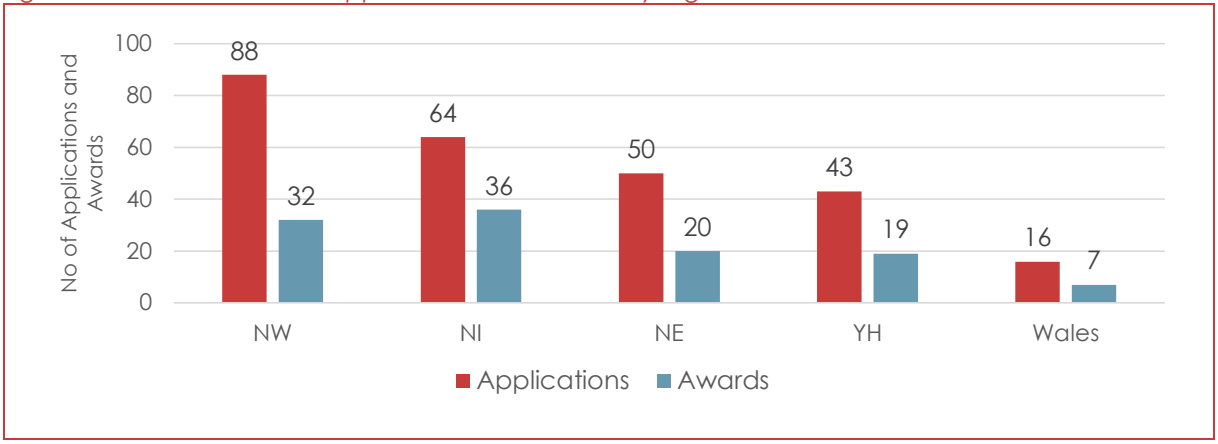


Source: RTE monitoring data

[8] The number of applications in Cohort 3 increased by 62% from Cohort 2. However, to Cohort 4, the increase in applications compared to the previous cohort was 42%

The demand we see develop over the Cohorts is distributed somewhat unevenly between the target regions. The overall breakdown of regional demand (and thus, the programme's competitiveness) is illustrated below in Figure 3. We find that RTE is particularly sought after in North West. Although we include Wales in the regional breakdown, it needs to be noted that RTE has been offered in Wales only once.

Figure 3 Breakdown of RTE applications and awards by region



Source: Royal Academy of Engineering RTE monitoring data

In addition to amassing the highest number of applications over time, North West is also the only region where the demand has consistently increased after every Cohort. The number of applications has similarly increased from Cohort 2 to Cohort 4 in Northern Ireland and North East. By contrast, there has been some fluctuation in Yorkshire and the Humber. With this being said, the application success rate has decreased in all four regions since the programme start indicating growing competitiveness in the application process.

Consulted stakeholders, particularly in North East and Yorkshire and the Humber, highlighted common challenges in the general awareness of RTE. For both areas, stakeholders and participants alike spoke of applicants learning about RTE through word of mouth, rather than via systematic signposting or marketing from local business support actors. Awareness raising in Yorkshire and the Humber and North East has been more difficult due to both areas having less well developed and connected business support ecosystems compared to areas like Northern Ireland. There was an acknowledgement that the Academy and RTE personnel may lack the capacity to developing this ecosystem. Instead, they suggested leveraging Fellows local to the region to reach out to relevant bodies (e.g., HEI alumni networks) to showcase RTE to potential participants, as well as optimising local communication channels.

By contrast, RTE awareness raising activity has been more effective in North West. Participants and unsuccessful applicants there described programme promotion and signposting from a variety of sources (e.g., LEPs, Chambers of Commerce, local development agencies), showing RTE's better connectedness with local actors there. Similarly, both, participants and stakeholders in Northern Ireland indicated a good level of local awareness of RTE. The programme was thought to have launched at a time when little other support offer was available in Northern Ireland. Moreover, despite further support having developed in Northern Ireland, the pre-accelerator nature of RTE remains a rarity.

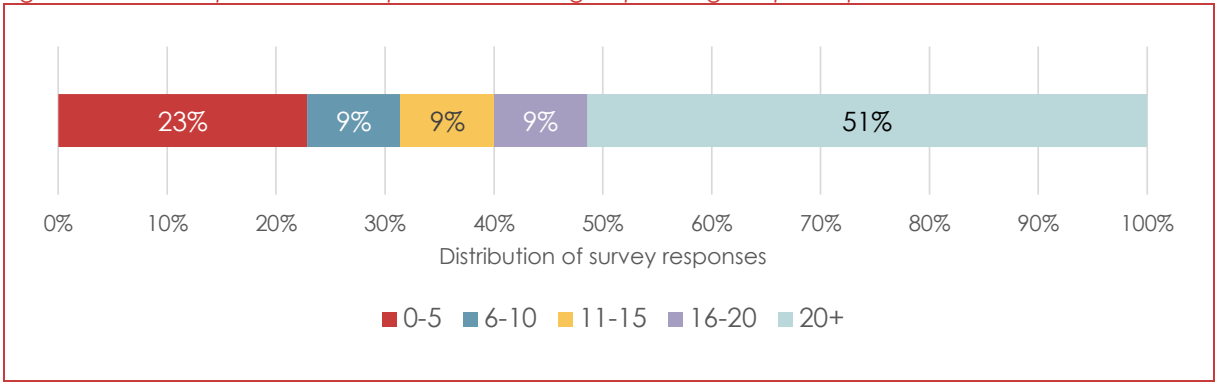
To summarise, RTE attracts a healthy level of interest overall, and we note that the interest has only climbed over time. In particular, the demand for the programme is particularly high in North West and increasing in Northern Ireland and North East. The interest has fluctuated

somewhat in Yorkshire and the Humber however, but all four regions have seen a marked increase in interest since their first Cohorts. Based on interview insight, it appears that there are varying levels of local connectivity and general awareness of RTE. In particular, differences were seen in the perceived capacity to signpost potential applicants to the programme.

2.1.3 *Participant characteristics*

To assess whether the awarded participants aligned with the RTE target audience, we examined programme monitoring data, and asked the surveyed and interviewed participants about their backgrounds. First, we found that the responding participant population broadly aligns with the mid-career professional profile:[9,10] more than half (n = 18) of the respondent participants reported over 20 years of professional experience. That being said, we also recorded 23% of respondents reporting up to five years of experience, indicating an earlier career stage. The full breakdown is summarised below in Figure 4. Examining the indicated amount of professional experience among unsuccessful applicants, we found that this population, too, is broadly made up of more mature professionals – 80% of responding applicants reported 11 years of experience or more. Again, this reinforces the fact that the Academy has successfully secured interest in RTE from mid-career professionals.

Figure 4 Years of professional experience among responding RTE participants



Source: Technopolis survey of participants (n = 35)

Enquiring about applicants' professional experience, we noted that RTE has attracted interest from the intended audience. The Royal Academy considers engineering in broad terms (including technical expertise in academia and non-manufacturing sectors like agriculture). In line with this, consulted participants reported a range of technical professional backgrounds from agriculture to academia, public sector and education in addition to clear-cut engineering experience. Similarly, the consulted unsuccessful applicants reported a range of technical backgrounds with some emphasis on 'pure' professional engineering experience.

In addition to the characteristics above, we also examined the gender breakdown among RTE applicants and awardees. Based on programme monitoring data, RTE awardees appear to be male-dominated with men comprising 77% of all awarded participants between Cohorts 1-4. This said, the aggregate success rate between men and women in monitoring data is highly similar, very slightly favouring women.[11] Based on the monitoring data, with 18% of all

[9] NB: while definitions vary, one interpretation considers mid-career to refer to over ten years of professional experience. Source: https://work.chron.com/midcareer-professional-mean-29000.html

[10] NB: in contrast to mid-career, early-career is considered to refer to first stages to one's professional life, possibly the transition from education to full-time work. Source: https://tenthousandcoffees.com/blog/early-career

[11] Between Cohorts 1-4, women's success rate was 44%, while that of men was 43%.

applications, women consistently apply to RTE far less often than men; at best, women made up 29% of applicants for Cohort 3. Two interviewed stakeholders in different regions discussed the potential of reaching out to 'returning women' (i.e., women returning from parental leave or from living overseas), although they were unsure of the best avenues to do so. This being said, the overall share of women applicants is broadly in line with the share of women business leaders in startups in the UK in 2022 (20%),[12] and higher than the share of women working in engineering and technology in the UK at large (15.7%).[13] Thus, while the gender divide is considerable, women's representation in RTE is even or greater than their wider presence in entrepreneurship and engineering workforce in the UK respectively.

2.1.4 Summary

Based on our analysis, we can ascertain that RTE tends to attract applications broadly from the desired target audiences both in terms of career experience and background. There is a fairly stark gender imbalance among applicants and awardees alike. However, women and men are awarded at a broadly equal rate, and the share of awarded women is in line with the national levels of women start-up leaders.

2.2 Business effects

This section addresses the second part of the Research Question 1**:** To what extent has the programme supported target entrepreneurs **in starting up and growing successful ventures?** Having assessed the programme audience in section 2.12.1, we are interested in the effect on the treated population. This section addresses the broad question of how well RTE has managed to support its participants in starting up and growing their ventures. The section begins with the level of firm creation and moves to consider the business performance of its participants, as well as the broader impacts on the awardee regions and the UK. Finally, we examine how much of the observed effects participants would credit to the programme.

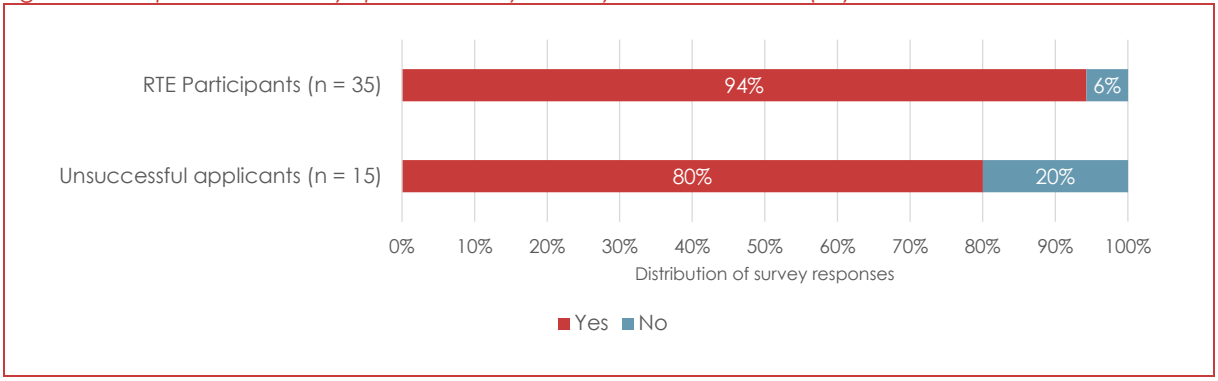
2.2.1 Firm creation

A cornerstone of RTE is to enable participants to become entrepreneurs. To this end, we sought to understand how far programme beneficiaries are presently running companies of their own. Based on the surveyed population, actively running a business is the reality for a vast majority of respondents, as **94% (n=33) reported running at least one business**. As a first line of comparison, we posed the same question to surveyed unsuccessful RTE applicants (n = 15). This comparison yielded a favourable result to RTE participants, as shown in Figure 5 below, with a larger proportion running their own business.

[12] Source: Francis-Devine, B. & Hutton, G. (2024). Women and the UK Economy: research briefing. *House of Commons Library*. URL: https://researchbriefings.files.parliament.uk/documents/SN06838/SN06838.pdf

[13] Source: EngineeringUK (2024). Women in engineering 2024: May 2024 update. URL: https://www.engineeringuk.com/media/bryloncz/women-in-engineering-2024-update-engineeringuk-may-2024.pdf

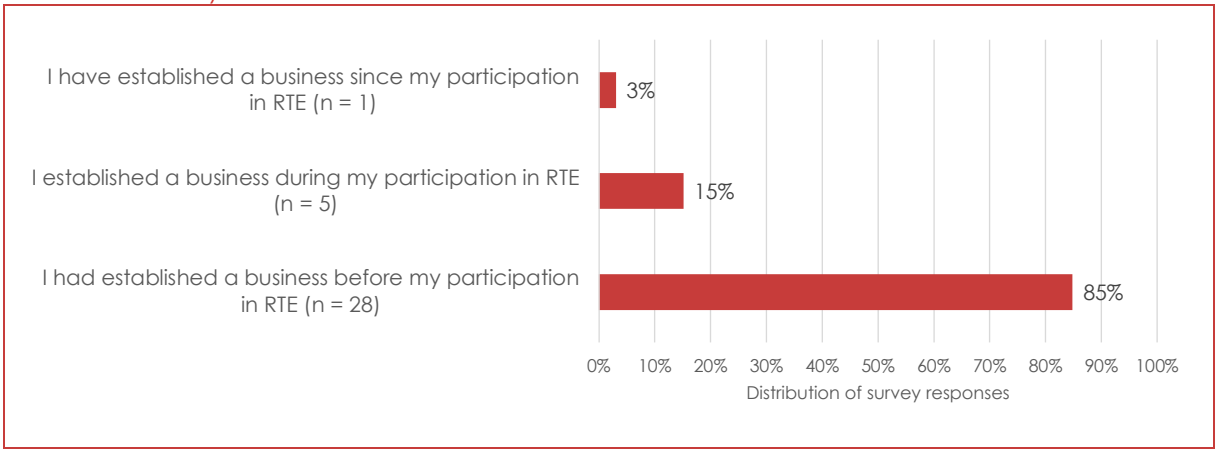
Figure 5 Responses to survey question 'Do you run your own business(es)?'



Source: Technopolis survey (Participants n = 35, Unsuccessful applicants n = 15)

That said, we found that a majority (85%) of surveyed participants **had established at least one business before applying to RTE**. A breakdown of the participants' responses to this query are shown in Figure 6, below. This chimes with evidence from the unsuccessful applicant respondents, 73% (n = 11) of whom reported having started up a business prior to applying. Thus, in most cases, it does not appear that RTE participation is the cause for start-up creation.

Figure 6 Time of business founding among responding RTE participants (more than one response allowed)



Source: Technopolis survey of participants (n = 33)

For representability, we compared the survey result with secondary data of participant businesses. Among the 76 participants, 60 businesses had been registered before RTE awards were granted compared to seven businesses founded after the founder had joined RTE.

However, based on qualitative evidence, it appears that, **although RTE has not facilitated the first step for most participants, it has enabled several participants to take the decisive one**. Many participants indicated through both survey and interview that they had worked on their ideas on the side, or that the businesses had been dormant up until RTE. For many, the dedicated time, training and funding had critically supported the first step to pursuing their businesses full-time.

2.2.2 *Business performance*

To understand RTE's effect on business growth, we reviewed primary and secondary data in relation to common business performance indicators: sales and turnover, jobs created, and equity and grant funding raised following participation in RTE. We assessed these markers

among the participant population, and a control group of unsuccessful applicants. The data compiled for this section will also inform a subsequent section about good practices for a Value for Money (VfM) analysis.

Looking firstly at sales achieved, survey data shows that only 29% (n = 9) respondents indicated having achieved sales in the past 12 months. This is fairly similar to the levels reported by unsuccessful applicants (29%, n = 4). However, the reported value of sales differed drastically. In total, participants reported sales amounting to approximately £440k, whereas those reported by unsuccessful applicants totalled approximately £40k. Analysis of the FAME database further highlights low levels of sales amongst participants. Only three (5%) of the matched RTE-supported businesses reported positive turnover values in their accounts, ranging between £5k and £66k. Lastly, monitoring data collected by the Academy suggests that 42% (n = 13) of participants are currently selling a product or service, but lack information on the value of these sales (Table 2).

Table 2 Sales achieved by RTE-supported businesses and unsuccessful applicants

	n	Mean	Median	Max	Total
Participants - Survey: Sales in the past 12 months	9	£48,967	£20,000	£120,000	£440,700
Participants - FAME: Operating revenue (Turnover)	3	£27,667	£12,000	£66,000	£83,000
Participants - RTE Monitoring data: Trading/selling: "Yes"	13	n/a	n/a	n/a	n/a
Unsuccessful applicants - Survey: Sales in the past 12 months	3	£13,367	£20,00	£20,00	£40,100

Source: Technopolis survey, FAME, RTE monitoring data

The small number of businesses reporting sales aligns with interview insight wherein most consulted participants reported to be in pre-sales, developing the product or service, identifying potential customers or seeking funding. This is unsurprising, however, as new businesses generally take longer to develop and launch a sellable product or service relative to established companies.[14] This is also broadly in line with stakeholder feedback, who remained mindful about the 'youth' of the graduating businesses. Although stakeholders saw great commercial potential among RTE graduates, they deemed it to be too soon right now to see strong sales figures.

Participants do appear to have achieved more in terms of securing investment. Some 66% (n = 23) of respondents reported to have secured subsequent financing since completing the programme. 37% (n = 13) reported having received grant funding and 29% (n = 10) reported securing equity funding. 16% (n = 5) of respondents reported having achieved both. By comparison, only one of the surveyed unsuccessful applicants (7%) reported some form of additional funding since applying to the RTE.

Monitoring data collected by the Academy also provides an account of funding secured by participants since their programme involvement. The findings from these data support survey data, the monitoring data showing that 28 participants (37%) have reported securing grant funding, and 16 participants (21%) have reported securing some form of equity funding. Table

[14] Source: https://www.cadcrowd.com/blog/how-long-does-it-take-to-develop-a-new-product/

3 shows the average and total funding secured by RTE participants and unsuccessful applicants, and the corroboration between survey and monitoring data.

Table 3 Funding secured by RTE-supported business and unsuccessful applicants

	Grant			Equity		
	n	**Mean**	**Total**	**n**	**Mean**	**Total**
Participants - Survey: Further funding	13	£138,308	£1,798,000	10	£362,250	£3,622,500
Participants - Academy Monitoring data	34	£203,972	£6,935,040	16	£510,098	£8,161,560
Unsuccessful applicants Survey: Further funding	1	£36,000	£36,000	0	N/A	N/A

Source: Technopolis survey, RTE monitoring data

We also note that RTE participants have mostly managed to continue pursuing their ventures on a full-time basis. 86% of surveyed participants reported at least 1 FTE currently (indicating a pursuit of the venture full-time), while 48% of respondents reported more than one current FTE. Based on survey data, RTE-supported businesses employ 2.4 FTEs on average. Data on the number of employees available in the FAME database and the Academy's monitoring suggest average values that are broadly similar. By comparison, unsuccessful applicants that run businesses employ, on average, 1.8 FTEs (Table 4), again suggesting improved business performance amongst participants relative to unsuccessful applicants.

Table 4 Employment supported by RTE-supported businesses and unsuccessful applicants

	n	**Mean**	**Median**	**Max**	**Total**
Participants - Survey: Current number of FTE employees (including yourself)	30	2.4	1.1	11.0	71.7
Participants - Fame: Number of employees	40	2.0	2.0	10.0	79.0
Participants - RTE Monitoring data: Number of new staff / jobs created	52	2.7	1.0	13.0	141.0
Unsuccessful applicants - Survey: Current number of FTE employees (including yourself)	9	1.8	2.0	4.0	16.0

Source: Technopolis survey, FAME, RTE monitoring data

2.2.3 Broad economic impacts

Firm-level data on employees and investment can be aggregated to estimate the broader economic impacts attributable to the programme, including the programme's contribution to

gross value added (GVA).[15] Changes in employment and investment secured by the supported individuals and businesses, can also create value in the wider economy.[16]

Aggregating observed and estimated outcomes (namely number of jobs created, investment accrued, and GVA) at firm-level suggests that the RTE has supported the creation of 144 jobs, the acquisition of £15.1m in overall external funding, and contributed £11.6m to UK GVA.

These direct effects, however, mask the genuine additional impact of the RTE on these metrics, as they fail to capture what would have occurred in the absence of the programme (deadweight), benefits that spill over outside the target area (leakage), and impacts on other businesses (displacement). Using a combination of responses collected from surveyed participants indicating the extent to which RTE had contributed to the accrued business benefits, proportion of staff based outside the target region, and market competition,[17] we adjusted the figures to arrive at the net economic impact of the RTE.

Taking this into account, the figures suggest that the RTE has supported the creation of 64 jobs, securing £7.7m of overall investment, and generating £5.0m of GVA in the UK (Table 5). The values associated to each awardee regions are discussed further in Chapter 6.

Table 5 Gross direct effect and net additional economic impacts of RTE

	Number of jobs created amongst RTE-supported businesses	**Investment: Total (£)**	**GVA generated through RTE support (£)**
Gross Economic Impacts	144.5	15,096,600	11,648,036
Net Additional Impacts	64.0	7,678,755	5,066,826

Source: Technopolis analysis of survey and monitoring data; Note: deadweight, leakage and displacement coefficients were applied to compute the net additional economic impacts.

2.2.4 Technology Readiness Level

Beyond monetary estimates, we also sought to measure the technological advancement among RTE participants. Technology Readiness Levels (TRLs) are a method for understanding the technical maturity of a technology during its acquisition phase. Developed by NASA in the 1970s, the Levels ascend from one (basic principles observed) to nine (system is proven and deployed in operational environment).[18] By some definitions,[19] TRLs can be divided into three broader categories, namely, research stages (encompassing early TRLs, 1-3), development (covering TRLs 4-6) and deployment (TRLs 7-9).

[15] Gross Value Added (GVA) is a measure of the value that an individual, business, or industry adds to the economy by producing goods or services, after accounting for the costs of production. It is a commonly applied indicator of economic impact and provides a measure of the wealth generated within the economy (over time) resulting from direct investment in economic activity.

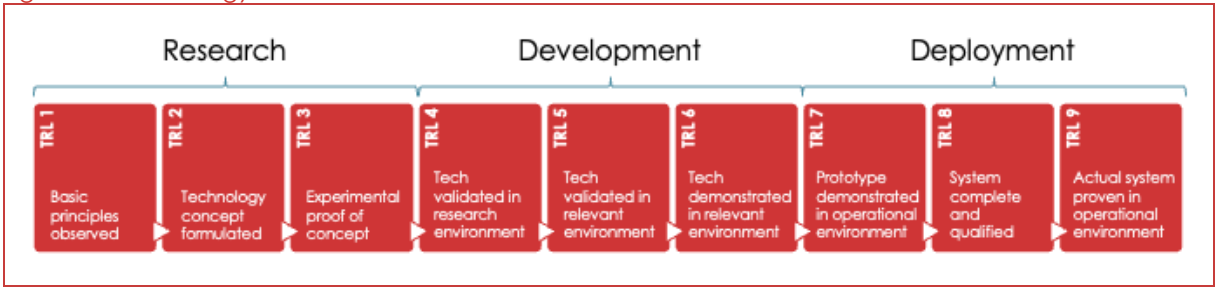
[16] A detailed note on the methodology to modelling economic impacts can be found in Appendix B.

[17] Responses to these questions are analysed further in section 2.2.5.

[18] Source: https://www.twi-global.com/technical-knowledge/faqs/technology-readiness-levels

[19] E.g., Frontiers SI, TWI Global, Cambridge Future Tech

Figure 7 Technology Readiness Levels

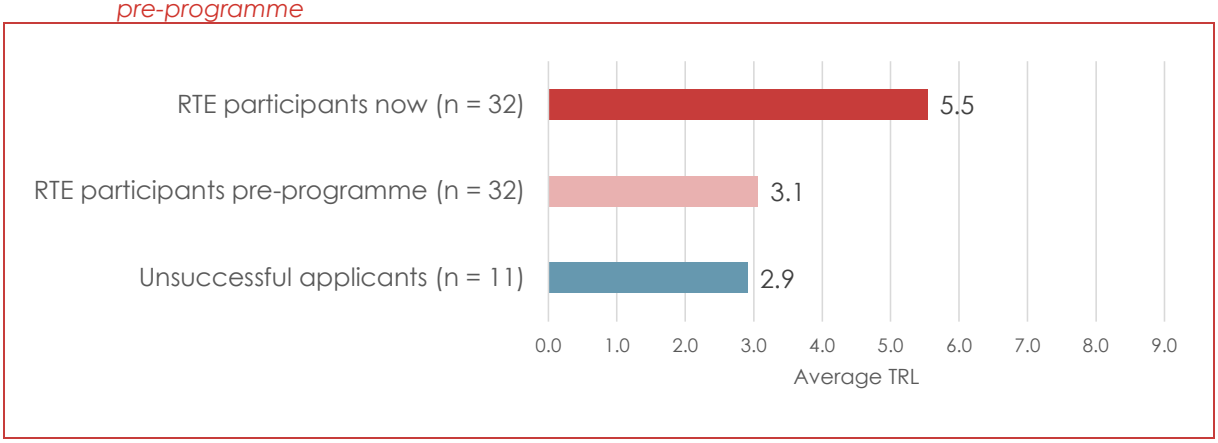


Source: https://frontiersi.com.au/trl/

Comparison between participants and unsuccessful applicants

Consulted participants described a range of products under development reflecting of the variety of backgrounds from which they joined RTE. We noted a trend in data-incorporating and software-based innovations, but the described products also included complete machinery. The applications of the shared products included care industry, space industry and agriculture in addition to the more traditional manufacturing and more universal business diagnostics. To gain a sense of the TRL development among RTE participants, we asked surveyed participants to assess their present technology readiness and compared the results to the TRLs reported by the same participants at the start of the programme.[20] Across the full surveyed population, we found a mean positive change in technology readiness by 2.4 TRLs. By way of comparison, we also asked surveyed unsuccessful applicants (n = 15) to estimate their present TRLs. The mean TRL for unsuccessful applicants (2.9) was much lower than successful ones. In fact, **the technology readiness reported by unsuccessful applicants now resembles more the technology readiness of RTE participants pre-programme than their present technology readiness**. This is summarised below in Figure 8.[21]

Figure 8 Present mean TRLs reported by RTE participants and unsuccessful applicants, and participants pre-programme



Source: Technopolis surveys (participants n = 32, unsuccessful applicants n = 11) and RTE monitoring data

Comparison between participants now and prior to joining RTE

[20] We sourced the pre-programme TRLs from RTE monitoring data

[21] NB: to gain a more robust view of the difference in TRL **changes** between participants and unsuccessful applicants, we have enquired the Academy about possible TRL levels estimated by unsuccessful applicants at the application stage. If those are available, we can add additional analysis in the final report.

Within the participant population, the entrepreneurs rated their present TRLs quite evenly across regions. It is also notable that while there is slightly more regional variety in terms of the pre-programme Technology Readiness (albeit these levels do not differ drastically either), the average TRL has improved by more than one Level in every region. The fairly even average post-programme TRL may suggest that the offer between regions services participants at a broadly similar level of effectiveness.

There is slightly more variety in the latest TRLs reported when observed between Cohorts. Notably, participants in Cohort 2 reported the highest average (6.1) and median (7) post-programme TRL across the three Cohorts, despite its participants having less time up to the present study to develop their technology compared to participants in Cohort 1.

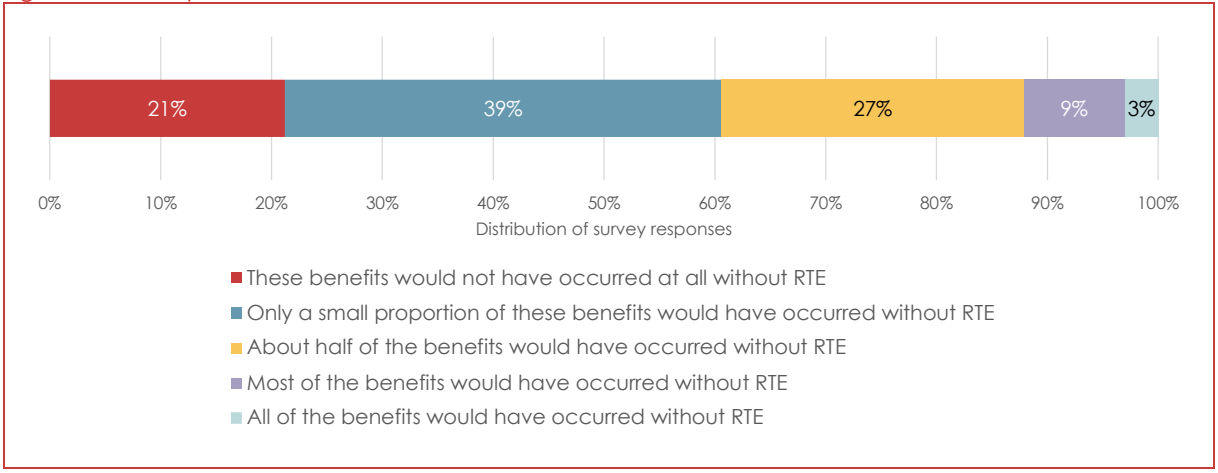
We also note that the average TRL reported before engaging with RTE has slightly but steadily increased from Cohort 1 (2.6 on average) to Cohort 3 (3.7 on average). This would suggest that, over time, participants have joined the programme with slightly more robust ideas. Considering the increasing number of applications by cohort, it is possible that RTE has become more successful in attracting and awarding more matured concepts.

Observing the current TRLs of participants split by cohorts and regions, the results are generally fairly even: mean and median values indicate that, regardless of the Cohort or region, participants tended to report present TRLs between five and seven. This suggests that an average RTE participant is currently in the process of developing their products.[22] That said, we also observe fairly high levels of within-group variation, suggesting both, participants who have not successfully developed their product beyond idea validation, and participants who are market-ready.

2.2.5 *Attribution of business performance to RTE*

Surveyed participants were asked to reflect on the overall business performance and TRL advancement, and how much RTE contributed to them. The breakdown of answers is illustrated in Figure 9, below. While there is some variety to the results, 97% of respondents attributed at least some degree of their achievements to the programme.

Figure 9 Participants' attribution of business benefits to RTE



Source: Technopolis survey of participants (n = 33)

[22] Based on an assessment by TWI, TRLs 1-3 apply to research, TRLs 4-6 to development, and TRLs 7-9 to deployment. URL: https://www.twi-global.com/technical-knowledge/faqs/technology-readiness-levels

Interviewed and surveyed participants provided a wide range of ways in which RTE had supported their business journeys. One commonly cited area was a heightened readiness to present their business to investors. Participants indicated that the programme had provided support here through bespoke coaching to develop a value proposition, ready materials to use in future pitching events, and opportunities to practice pitching during the programme. As a result, participants described increased investment-seeking confidence. In line with this, one stakeholder described RTE graduates appearing especially well-prepared for fundraising opportunities.

Several interviewed participants also described the programme environment (including peers in the cohort and feedback from delivery teams) as vital for the development of their outputs. This was found to apply to the design of the product, but also broader strategy, wherein the range of products are developed with an accelerated market access in mind. Other elements which interviewees raised concerned employees found through the Academy networks, increased collaboration opportunities supported by the reputation gained through the Academy association, and a better awareness of problem areas in the business which to address.

> *"[What was valuable for me was the advice to] deliver on something smaller, strategically pivot, get revenue and customer feedback. We just came off a Catapult and are really trying to monetise our deliverable. That mini pivot recommendation was getting us to a point where we have a chargeable market proposition. If we do go for investment, we will be better prepared than pitching an unfinished idea without customers." – RTE participant*

Source: Technopolis interviews

2.3 Summary

In conclusion, we see varied, but clear signs of performance progress among RTE participants, much of which they credit to RTE. While a majority of consulted participants report being in a pre-sales stage of their entrepreneurial journeys, we have noted improved performance across all major indicators for participants relative to control groups, Moreover, where participants have achieved investment secured in particular, it is not uncommon for them to credit it to resources or training received from the programme.

3 Contribution to skills

This section examines the Research Question 4, **How successful has the programme been in developing entrepreneurial skills and capabilities across the UK?**

3.1 Skills improvement

3.1.1 Summary of our approach to assessing skills improvements

An important feature of the RTE programme is its emphasis on skills development as participants engage in structured modules covering a range of entrepreneurial topics such as market understanding, design skills and recruitment.

One of the core assumptions of this evaluation is that the programme has improved participants' entrepreneurial, technical, and managerial skills. To test this assumption, we asked survey respondents (both successful and unsuccessful applicants) to rate both their pre-programme and current competency levels against different capabilities relevant to each of entrepreneurial, technical, and managerial skills. Using these data, we have benchmarked skills changes for participants against that of unsuccessful applicants – this will help provide some evidence as to whether programme participation itself may have led to skills improvements.

To establish a more robust sense of the programme's contribution to skills development, we applied weights to participants' differences in pre- and post-programme skills levels that reflect their own assessment of the programme's contribution to this change. Table 6 illustrates how the weights were quantified, ranging from 100% (full contribution) to 0% (no contribution).[23]

Table 6 RTE contribution to changes in skills levels (participants)

Survey Question: Overall, would changes in the above capabilities [entrepreneurial, technical, and managerial] have occurred even without your participation in the RTE programme?	**RTE contribution (weight)**
These impacts would not have been realised at all without the RTE programme	100%
A small proportion of these capabilities would have been realised without the RTE programme	75%
About half of the capabilities would have been realised without the RTE programme	50%
Most of the capabilities would have been realised without the RTE programme	25%
All of these impacts would have been realised without the RTE programme	0%

Source: Technopolis survey

3.1.2 Impact on entrepreneurial skills

We assessed participants' development in entrepreneurial skills across several key dimensions, as outlined in Table 7.

Table 7 Entrepreneurial skills assessed

Entrepreneurial skills	**Description**

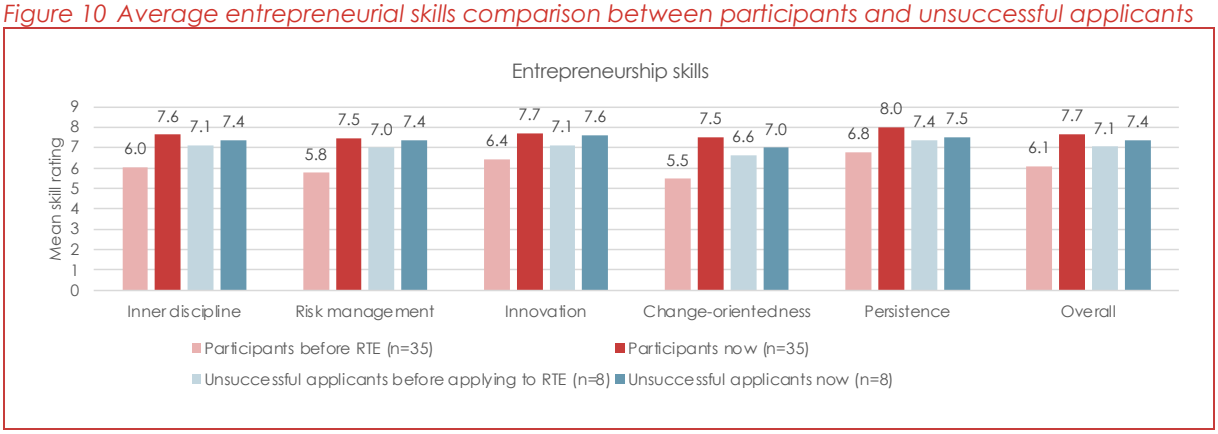
[23]Section 3.1.6 provides further analysis on participants' responses to this question.

Inner discipline	Self-motivation, focus, and commitment required to consistently pursue goals, overcome challenges, and maintain productivity without external supervision or direction
Risk management	The capacity to assess, accept, and navigate uncertainties inherent in business ventures, making calculated decisions to pursue opportunities while minimizing potential negative outcomes
Innovation	The ability to develop new ideas, products, services, or approaches that create value, solve problems, or meet unmet needs, often leading to differentiation, growth, and competitive advantage
Change-orientation	Having the willingness and agility to adapt, evolve and embrace shifts in market dynamics, technology, or consumer preferences
Persistence	Having the determination and resilience to continue pursuing goals, and iterating strategies despite setbacks or challenges, driving long-term success

Source: Technopolis survey

The average entrepreneurship skill levels for participants and unsuccessful applicants before participating in and applying for the RTE programme, respectively, are shown in Figure 10 alongside the average present skill levels. The average scores suggest that across all dimensions participants have shown positive changes in average skill levels after the programme. Unsuccessful applicants also exhibit positive changes, albeit the differences are smaller in magnitude. Interestingly, participants' skills levels before RTE are lower than those reported by unsuccessful applicants, and higher after RTE.

Figure 10 Average entrepreneurial skills comparison between participants and unsuccessful applicants



Source: Technopolis surveys

In Table 8, we have tested the statistical significance of the differing performance between participants and unsuccessful applicants. It presents beneficiaries' average unweighted and weighted differences in entrepreneurship skill levels before and after participating in the RTE programme, and non-beneficiaries' average difference in entrepreneurship skill levels before applying to the RTE and present. The last column in the table shows the contrast in mean differences between the two groups. This contrast helps us to understand the extent to which the positive effects on skills development can be attributed to the programme, as it takes into account changes that might have happened in both groups even without the programme.

The differences suggest that **the biggest impact of RTE has been on change-oriented skills** (i.e., willingness and ability to adapt, evolve and embrace shifts in market dynamics, technology, or consumer preferences) **and inner discipline skills** (i.e., self-motivation, focus, and commitment required to consistently pursue goals, overcome challenges, and maintain productivity without

external supervision or direction). **Further statistical analyses suggest that the overall average positive difference in participants' entrepreneurship skill levels is statistically significant.**[24]

Table 8 Entrepreneurial Skills Change Summary (rounded to 3 d.p.)

Entrepreneurial skills	(1)	(2)	(3)	(4)
	Average unweighted diff. of participants	**Average weighted difference of participants**	**Average difference of unsuccessful applicant**	**Difference (2)-(3)**
Inner discipline	1.600	1.129	0.250	**0.879*** **
Risk management	1.686	1.236	0.375	**0.861** **
Innovation	1.286	0.886	0.500	**0.386**
Change-orientation	2.029	1.486	0.375	**1.111*** **
Persistence	1.229	0.943	0.125	**0.818**
Overall	**1.566**	**1.136**	**0.325**	**0.811** **

Source: Technopolis survey; Statistical significance denoted by stars: * p<0.1, ** p<0.05, *** p<0.01

3.1.3 Technical skills

In the same way, we assessed participants' and unsuccessful applicants' changes in technical skills levels to understand the extent to which the RTE has contributed to these changes. We break down technical skills into seven dimensions, as described in Table 9.

Table 9 Technical Skills

Technical skills	**Description**
Understanding and managing operations	Overseeing day-to-day activities and resources to ensure efficiency, productivity and alignment with strategic objectives
Effective communication	Effectively and efficiently exchanging information among stakeholders, fostering clarity, understanding and alignment
Design skills	Conceptualising, developing and implementing creative and user-centric solutions, encompassing product design, user experience, and visual communication
Development and validation skills	Using methods like experimentation, prototyping and iteration to innovate and improve competitive ideas, products or processes
Understanding of your market	Comprehension of the target audience, industry trends, competitive landscape and customer needs for strategic positioning and sustainable growth
Financial understanding	Understanding and managing aspects like budgeting, accounting, cash flow, financial forecasting for informed decision-making, strategic planning and sustainable growth
Pitching and securing investment	Effectively communicating the value proposition and growth potential of a business, product or service to investors, and persuading them to financially support your venture

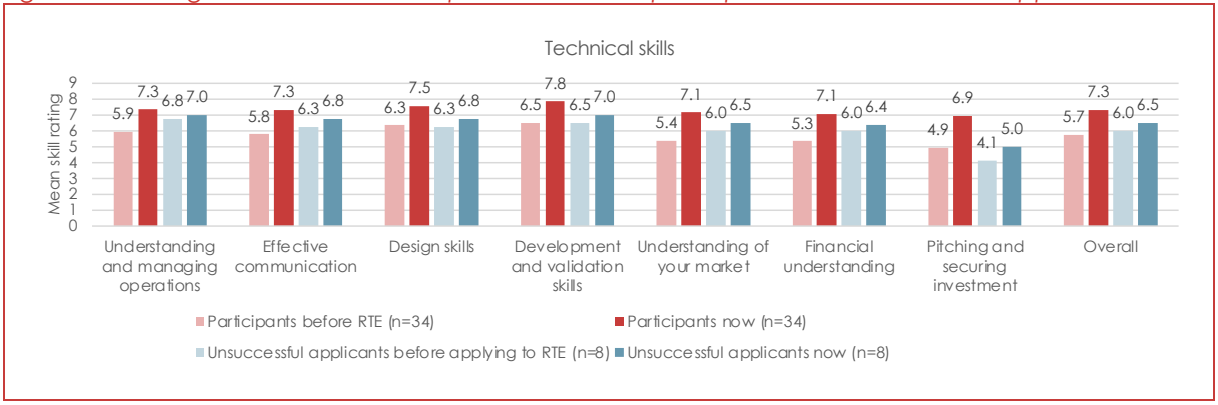
[24] Appendix C provides further details on the calculations to determine the statistical significance of the difference in mean differences between the two groups.

Source: Technopolis

Figure 11 shows the average technical skill levels for participants and unsuccessful applicants before RTE and now. In most cases, the average pre-RTE skill levels of participants are comparatively lower than the average skill levels of unsuccessful applicants. The only exception appears to be in participants' ability to pitch and secure investment.

Both participants and unsuccessful applicants display positive changes in their technical skill levels. However, as the figure suggests, this change is more pronounced for individuals who participated in the programme.

Figure 11 Average technical skills comparison between participants and unsuccessful applicants



Source: Technopolis

Again, we have tested the statistical significance of this performance differential. As shown in Table 10, our analysis suggests that **the biggest impact of RTE has been in developing skills related to financial understanding** (managing budgeting, accounting, cash flow, etc.) **and in developing skills related to understanding and managing operations** to ensure efficiency, productivity and alignment with strategic objectives. Both differences, as well as the overall difference for changes in technical skills, are therefore higher for participants than unsuccessful applicants and are statistically significant.

It is also worth noting that the impact of RTE on skills related to design, development and validation, and pitching and securing investment appear to be positive, but not statistically significant.

Table 10 Technical Skills Change Summary (rounded to 3 d.p.)

Technical skills	(1)	(2)	(3)	(4)
	Average unweighted diff. of participants	**Average weighted difference of participants**	**Average diff. of unsuccessful applicant**	**Difference (2)-(3)**
Understanding and managing operations	1.382	1.088	0.250	**0.838****
Effective communication	1.529	1.096	0.500	**0.596***
Design skills	1.206	0.875	0.500	**0.375**
Development and validation skills	1.353	0.993	0.500	**0.493**

Understanding of your market	1.794	1.265	0.500	**0.765****
Financial understanding	1.735	1.309	0.375	**0.934***
Pitching and securing investment	2.029	1.537	0.875	**0.662**
Overall	**1.576**	**1.166**	**0.500**	**0.666****

Source: Technopolis survey; Statistical significance denoted by stars: * p<0.1, ** p<0.05, *** p<0.01

3.1.4 Managerial skills

Similarly to the analysis on entrepreneurship and technical skills, we assessed participants' and unsuccessful applicants' changes in managerial skills levels to understand the extent to which the RTE has contributed to these changes. We break down managerial skills into seven dimensions described in Table 11.

Table 11 Managerial Skills

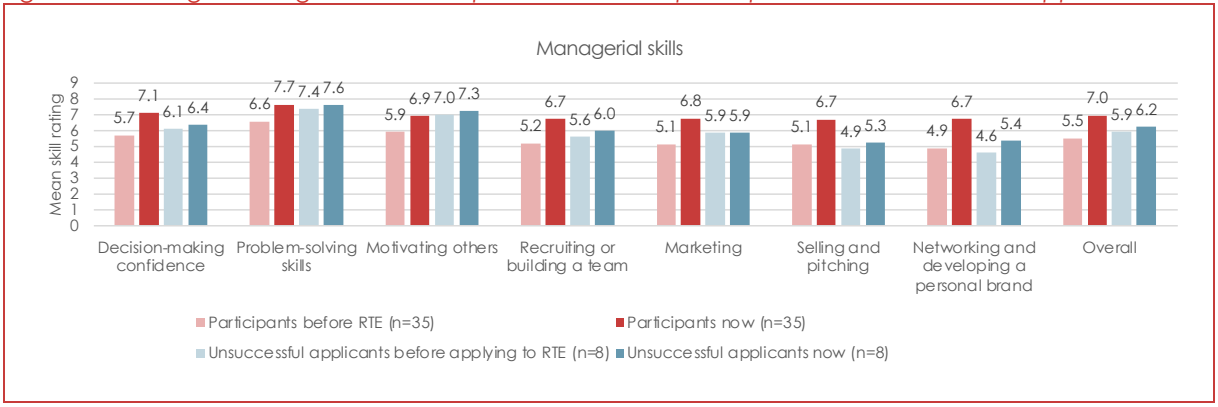
Managerial skills	Description
Decision-making confidence	Self-assurance and conviction in timely and effective and informed decisions, enabling entrepreneurs to navigate uncertainties and seize opportunities
Problem-solving skills:	Ability to identify, analyse and resolve challenges and complexities encountered in business operations, with creativity, critical thinking, and resourcefulness
Motivating others	Ability to inspire, empower, and incentivize team members, collaborators, or stakeholders towards shared goals and aspirations, fostering enthusiasm, commitment, and productivity
Recruiting or building a team	Attracting, selecting, and developing individuals with diverse expertise based on a good awareness of own and business needs; fostering a cohesive and high-performing team culture aligned with the company's vision and objectives
Marketing	Planned activities for promoting products, services or brands to target audiences through various channels and tactics
Selling and pitching	Using persuasion and storytelling to sell product or service to potential customers
Networking and developing a personal brand	Strategically cultivating relationships and an authentic public image to establish credibility, trust, and opportunities within your industry or community

Source: Technopolis

Figure 12 illustrates the comparison of the average managerial skill levels between participants and unsuccessful applicants, both before and after participating and applying for the RTE programme. Participants generally self-assessed lower skill levels before joining the programme than unsuccessful applicants, with the exception of selling and pitching, as well as networking and personal branding.

While both groups have shown improvements, the increase is more evident among participants. Notably, problem-solving skills hold the highest managerial skill rating of 7.7 after completing RTE. In some cases, participants now show higher average skill levels than unsuccessful applicants, particularly in decision-making confidence and problem-solving skills.

Figure 12 Average managerial skills comparison between participants and unsuccessful applicants



Source: Technopolis survey

Again, we have tested the statistical significance of these performance differentials. Table 12 highlights that RTE had the greatest impact on improving skills including marketing, selling, and decision-making confidence. Particularly, marketing was the only skill with a difference greater than one (1.236), indicating a full point increase in participants' marketing abilities. **These improvements, along with the overall increase in managerial skills, are statistically significant**. However, while the programme appears to have a positive impact on skills such as motivation, networking, and personal branding, the differences are not statistically significant.

Table 12 Managerial Skills Change Summary

Managerial Skills	(1)	(2)	(3)	(4)
	Average unweighted diff. of participants	**Average weighted difference of participants**	**Average diff. of unsuccessful applicant**	**Difference (2)-(3)**
Decision-making confidence	1.400	1.029	0.250	**0.779****
Problem-solving skills	1.057	0.779	0.250	**0.529***
Motivating others	1.000	0.714	0.250	**0.464**
Recruiting or building a team	1.543	1.114	0.375	**0.739**
Marketing	1.629	1.236	0.000	**1.236****
Selling	1.571	1.129	0.375	**0.754***
Networking and developing a personal brand	1.829	1.336	0.000	**0.586**
Overall	**1.433**	**1.048**	**0.321**	**0.727****

Source: Technopolis analysis; Statistical significance denoted by stars: * p<0.1, ** p<0.05, *** p<0.01

3.1.5 Overall development

We also calculated average skill levels for participants and unsuccessful applicants across all skill types. We observed a similar pattern in which **the overall average at the point of application was lower for participants than unsuccessful applicants, but that the average overall skill level**

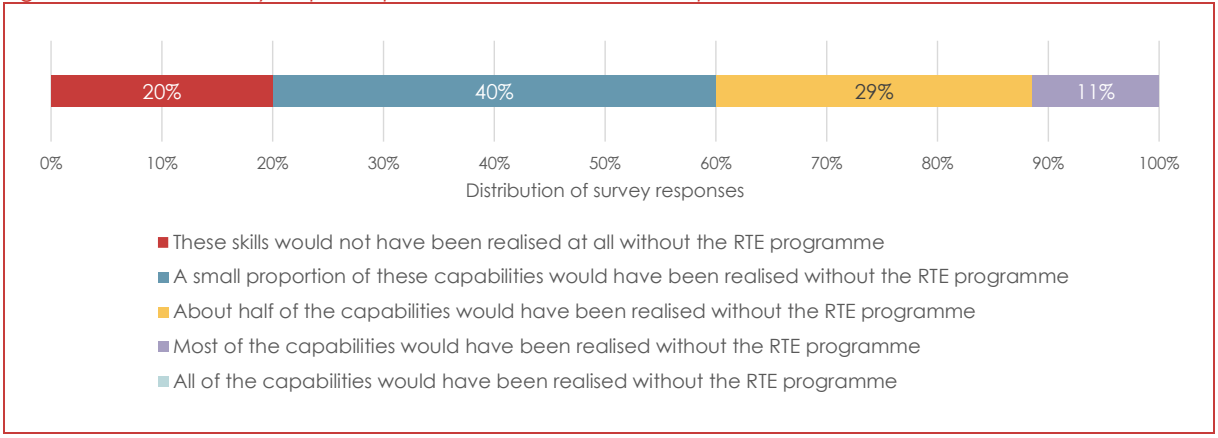
for participants is now higher than unsuccessful applicants. We found the positive difference in mean differences (+0.722) to be statistically significant, **suggesting that the RTE had a positive effect on overall skills development for participants**. Although the difference is small, we also noted that participants who attended the Ignite NI-delivered Cohorta reported slightly higher skills relative to those whose training was delivered by St Johns. This was the case across all three skill categories. With this said, we noted that these skill differences were also reflected in the respective pre-programme skill levels: participants in Ignite NI Cohorts tended to report slightly higher skill levels both before and after RTE.

All in all, the analysis suggests positive and significant effects of RTE on skills development. It is important, however, to exercise some caution in interpreting the results given that the control group sample was small. We are confident in our findings but fully confirming would require a level of analysis of unsuccessful applicants which was not in scope for this study. Lastly, another caveat to the analysis is that respondents were asked to self-assess their skill levels. This subjective assessment inherently introduced a degree of bias in responses.[25]

3.1.6 Attribution to RTE

While we found a positive trend in relation to RTE participants' skill development relative to unsuccessful applicants, we wanted to learn more about the specific role which the programme has played on this development. To address this, we asked surveyed participants to assess the extent to which RTE had contributed to the development of their skills. The result is positive, as all responding participants (n = 35) indicated some share of their skills to have originated from the programme. Moreover, 60% (n = 21) of respondents deemed RTE to have enabled most of their skills acquisition. The full breakdown of aggregate responses is summarised in Figure 13.

Figure 13 Surveyed participants' attribution of skills improvement to RTE



Source: Technopolis survey of participants (n = 35)

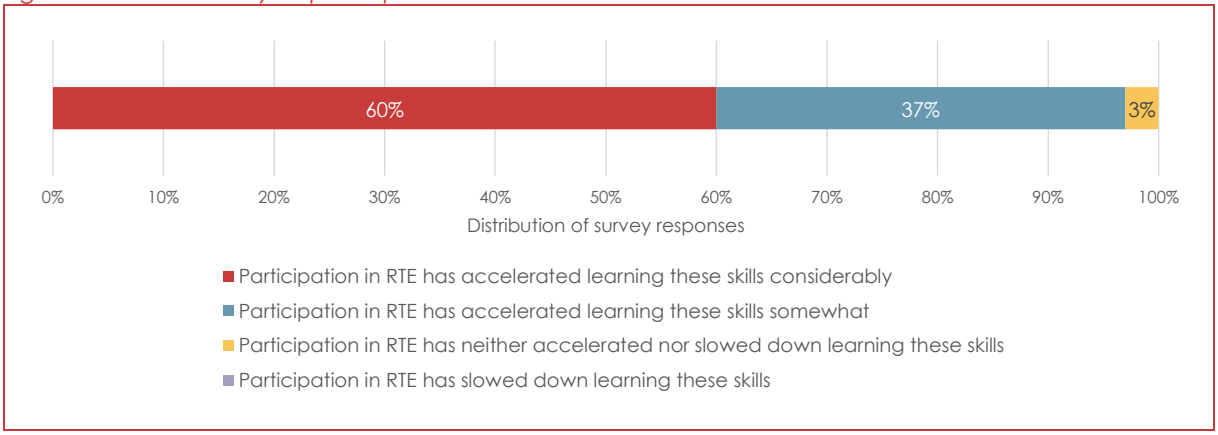
Broken down by delivery partners, Ignite NI and St Johns, we note slightly favourable results for the former. All respondents whose training was delivered by Ignite NI attributed at least half of their present skills to RTE. By comparison, the same was true for 84% (n = 19) of respondents trained by St Johns. We note a high level of variance in attribution between regions whose

[25] Note, as well, that we found a few instances in which respondents indicated *negative* changes in skill levels. We find this to be unlikely and a possible consequence of respondent error to the survey. As a robustness check, we also conducted the analysis assuming that there could be no negative changes (i.e. skill levels can only increase or stay the same, but not decrease). Statistical inference on the difference in mean differences between the two groups remained unaffected.

training was delivered by St Johns, however. In this instance, we would be cautious about determining causality (as opposed to existing individual skill level, for example). With regards to Cohort-based differences, respondents from Cohort 2 appear to have attributed acquired skills to the programme the most: 78% (n = 11) of respondents from the second Cohort deemed RTE to have contributed to most of their skills. The same was true for 44% (n = 4) of Cohort 1 and 50% (n = 6) of Cohort 3.

Similarly, a good majority of surveyed participants (97%, n = 34) deemed RTE to have accelerated the skills acquisition. Across all respondents, 60% (n = 21) deemed RTE to have accelerated their skills acquisition considerably. This is summarised below, in Figure 14.

Figure 14 Surveyed participants' attribution of skills acceleration to RTE



Source: Technopolis survey of participants (n = 35)

Between regions, **all surveyed participants from the North East and Northern Ireland deemed the programme to have accelerated their skills development at least somewhat**. Moreover, over 80% of respondents from Yorkshire and the Humber deemed their skills to have increased considerably faster as a result of RTE. There were no notable differences in the perceived impact on participant skills between the two delivery partners, Ignite Northern Ireland (Ignite NI) and St Johns. More than 70% of respondents taught by Ignite NI, and 60% of respondents taught by St Johns indicated that RTE had accelerated skills acquisition considerably, demonstrating comparable performance between the two providers. Examining the responses across Cohorts, we note that the respondents, who deemed RTE to not have impacted the speed at which they acquired their skills, participated in earlier cohorts. By contrast, **all participants from the latest Cohort deemed RTE to have accelerated their skills acquisition**.

3.1.7 Other skills

Surveyed participants were asked to name particular skills or skill areas to which RTE had especially contributed. The resulting range of responses encompassed a wide range of relevant skills from market understanding to design-thinking. Commercial skills were broadly the largest wider type of skills identified by the participants. This area includes market understanding, value propositions, communication and pitching skills, as well as raising investment more generally. Various aspects of product development (such as design and building a Minimum Viable Product), and business operations (e.g., establishing corporate structures and understanding legal requirements), as well as networking were also commonly named skills areas indicated across all four regions.

Participants in some regions were more likely to report certain skills Improvements relative to other regions. For example:

- Commercial skills were named most often in Northern Ireland, North East, and Yorkshire and the Humber.
- North West, Northern Ireland, and Yorkshire and Humber participants were more likely to report improvements in self-development (e.g., increased self-awareness, mindset pivot, confidence and persistence).

3.1.8 Participant confidence

Confidence is seen as a foundational trait in entrepreneurs by both, researchers and entrepreneurs themselves.[26,27] Confidence is expected to predict the ability to make decisive choices, take controlled risks, and persist through setbacks. The trait is also understood to foster leadership, the ability to inspire and motivate others as well as innovation itself. As such, entrepreneurial confidence can be considered a background factor to several of the measured skills in this study.

The surveyed and interviewed participants were unanimous about the programme's positive effect on their confidence as entrepreneurs. Some went so far as to say that they would have not had the courage to leave paid employment if not for the programme. Breaking down the responses further, nine participants across interviews and surveys described confidence gained in relation to their idea or product. The acceptance onto RTE, along with the space to 'soundboard' ideas and gain feedback had reportedly helped to legitimise their deliverables to themselves. In addition, five consultees talked about an increased confidence in pitching and sell their ideas, while two described the effect of the programme on their self-belief as entrepreneurs as a whole. This feedback is echoed in stakeholder insight. Those who had a view of the matter, described RTE participants as appearing particularly confident or determined. One stakeholder deemed the participants to have a mindset, which gave them good awareness of their businesses, and a willingness to adapt and pivot where necessary.

3.2 Summary

Based on the surveyed responses, RTE participants believe their business skills have improved since joining the programme. Across all the skills measures, participant capabilities have increased by a greater magnitude relative to a control group of unsuccessful applicants. For three traits: change-orientation, financial understanding and marketing, the relative improvement of participants compared to unsuccessful applicants has been statistically significant. That being said, participants tended to attribute a good level of all skill improvements (or the pace at which they had improved) to RTE. Finally, all consulted participants reported some degree of positive impact on their confidence.

[26] Source on external entrepreneur view: https://lisajeffs.com/why-do-entrepreneurs-need-confidence/

[27] Source on research: Maczulskij, T. & Viinikainen, J. (2023) Self-confidence predicts entrepreneurship and entrepreneurial success. *Journal of Business Venturing Insights*. 19. DOI: https://doi.org/10.1016/j.jbvi.2023.e00382

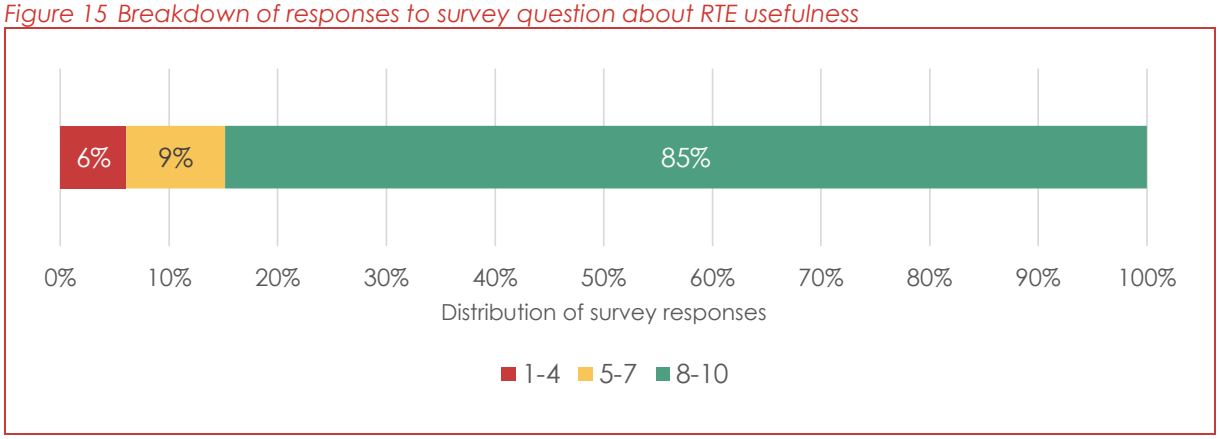
4 Participant perspectives of programme value

The following chapter addresses the Research Question 2: **Which elements of the programme offer have participants valued the most?**

4.1.1 Overall usefulness

We asked RTE participants to assess the usefulness of the programme to their own entrepreneurial journeys on a scale of one (not at all useful) to ten (extremely useful). Of the whole surveyed population, a vast majority (n = 28) assessed the usefulness of the programme between eight and ten. This is illustrated in Figure 15, below. Broken down further, nearly half of all respondents (48%, n = 16) rated the usefulness of RTE as ten out of ten.

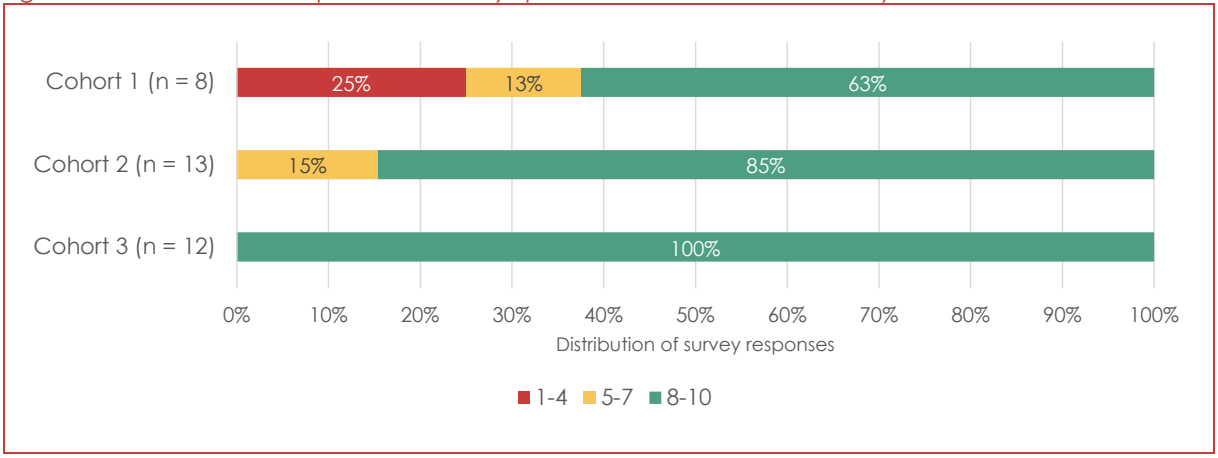
Figure 15 Breakdown of responses to survey question about RTE usefulness



Source: Technopolis survey (n = 33)

As shown in Figure 16Figure 16, respondents seem to have found the programme more useful as time has progressed with later cohorts being more likely to report a usefulness score of 8-10 than earlier ones. In light of the iterative nature of programme design (wherein the design of the delivered course has been revised based on feedback collected from each cohort), these results may suggest that the revisions have successfully improved the programme's relevance to target participants. As an anecdotal example of this, one interviewed participant form Cohort 1 described their experience of choosing electives at the start of the programme as unhelpful. At the time, they felt their knowledge of the elective topics to not be sufficient to make informed choices. They commented on the design change to move this choice further into the programme for subsequent Cohorts as a correct one.

Figure 16 Breakdown of responses to survey question about RTE usefulness by Cohort



Source: Technopolis survey of participants (n = 33)

Finally, measuring the usefulness assessments by region, the positive assessments are distributed fairly evenly with at least 75% of respondents per region rating RTE's usefulness between eight and ten. This would suggest that the quality and relevance of RTE offer does not greatly vary from one region to another.

4.1.2 Most valued aspects and outcomes

Participants were also asked to discuss particularly valuable elements of the programme in both, survey and interviews. The consultations yielded a range of topics, types of support and other aspects.

Most commonly, participants raised the offered funding as a particularly valuable part of the offer. Several participants described the granted sum to have been a deciding enabler for their ventures. For example, one participant spoke of how they used the available funding to purchase necessary equipment towards their product, which had, in turn, enabled them to bring forward their idea to potential investors. Several others described that the funding had enabled them to spend on their deliverables and businesses.

Several participants also praised the tailored, wrap-around nature of the support offer. This had enabled participants to explore different business models and paths to market to identify the ones best suited for their specific venture. Similarly, the programme's focus on developing ideas and their routes to market deemed particularly helpful - the advice and insight was shaped to meet their needs on individual terms. The expertise and experience of the delivery staff was also praised in this regard, and it is apparent that the participants had developed a good level of trust in the overall support.

> *"Their overall approach, being very founder-centric, very economical and efficient in terms of how it was organised. It was a great launch pad. It probably doesn't get the recognition it deserves..." – RTE participant*

Source: Technopolis interviews

A common outcome which the participants especially valued, and credited to the programme, concerned their increased ability to communicate their idea externally. Starting from the application process, RTE was the first instance for many, where they had to describe and sell their ideas. This has not only helped participants to word their proposition, but to organise it into a coherent form for themselves. One participant mentioned that the experience at the application stage would have been valuable in its own right even if the

participant had not proceeded to the programme proper. The programme itself provided opportunities for participants to receive structured training on presenting their proposition, and opportunities to practice this. Several consulted participants spoke of this being an especially valued programme component. To that end, it appears that RTE has been particularly valuable with helping develop an early idea into one which holds value externally.

> *"The idea itself developed through the mentoring of the programme and the people we spoke to, and the reinforcement of the idea when you try to describe it to people. It helped boost your belief in what you were doing" – RTE participant*

Source: Technopolis interviews

Individual participants also recorded other programme elements they valued. These included:

- **The community facilitated by RTE**: being part of a Cohort of like-minded peers where ideas were listened to and shared
- **Networks**: the access to experts and other entrepreneurs and businesses (whether from the Academy or otherwise)
- **The taught content and training in general**
- **Academy credibility**: the association with RTE and the wider Academy had made participants' capabilities seem, in turn, more attractive, and in fact brought on collaboration opportunities
- **A better sense of entrepreneurialism and themselves**: gaining the perspective of what is needed, what needs to be addressed and what strengths to leverage
- **Efficient organisational structure**: RTE was deemed to have successfully built a hybrid delivery model without compromising the tailored approach or a sense of community

4.1.3 Opportunities for future improvements

Participants were asked to reflect on which elements of RTE they would like to see change or cease.

A common answer concerned the level of organised follow-up support. While participants were generally happy with the recruitment and delivery of RTE, some felt the alumni activities to be somewhat lacking. This feedback was particularly prevalent among participants in the North of England relative to those in Northern Ireland. Participants in the latter, by contrast, described a number of instances where they had either reached out or kept in regular contact with the delivery or Academy staff. In particular, they praised the community aspect and opportunities to connect with the broader alumni population, something which Belfast's regional Enterprise Hub and the broader Academy presence there is likely to have facilitated.

In the North of England, participants commented on the struggles in maintaining the broad networks they developed during the programme. While some participants have maintained direct contact with one another, some have reported difficulties in accessing the Academy's wider network. The present lack of an Enterprise Hub in the North is likely to affect this; one participant spoke of receiving several invites to socials in London but remarked that it was not feasible for them to travel down for an hour's get together. Considering the precedent in Northern Ireland, however, It is likely, however, that the new Hubs in Liverpool and Newcastle will support alumni relations moving forward.

4.2 Summary

Based on the collected feedback, RTE participants have found the programme very useful. Indeed, later cohorts have found the programme more useful than earlier ones. When asked for specific programme elements they valued the most, respondents most frequently spoke of the funding provision, the tailored learner-focused nature of the support, and the ability to discuss and present their ideas to an external audience. This was deemed to benefit both, their investment-seeking capabilities and structuring their ideas in the first place. On the other hand, some participants (particularly those in the North of England) wished that the support and community facilitated by the programme extended to the alumni. This may be influenced by the current lack of physical Academy premises in the area.

5 Adherence to good practices

The following section answers the Research Question 3: To what extent is the programme following best practice for similar intervention types? To assess this, we sought feedback from participants, unsuccessful applicants, and stakeholders as to what makes for a good entrepreneurial support programme, and the extent to which RTE has followed these principles. We have also reviewed literature examining best practice in business support delivery, ranging from simple business loans to cohort-based training programmes and integrated resource hubs.[28] We have then assessed the extent to which RTE has followed the best practice principles set out here.

5.1 Conditions for success

A review of Innovations in Business Support by Co-Operatives UK discusses several business innovation support best practices, some of which RTE itself has followed.[29] Firstly, the review underlines the importance of the right conditions for innovative businesses to realise their impact: innovative solutions need to be given the space, time and support to develop and demonstrate their potential.[29] Based on participant and stakeholder interviews, RTE is generally considered very good for the level of monetary and advisory support for early-stage business owners. Consulted participants raised the grant funding as an unmatched enabler for them to dedicate their time to develop their business and deliverable. This view of the offer is shared with the stakeholders who, across studied areas, considered the level of support for early-stage businesses to be both, highly attractive and rare. A stakeholder in Northern Ireland described the grant funding ideal for participants to 'take the leap', as it ensures that the participants are financially secure while focusing on their ventures full-time.

With regards to RTE providing sufficient time for participants to develop, we studied the typical duration of comparable programmes,[28] and found that most cohort-based programmes range from three to six months. This is in line with RTE's offer, indicating that the programme delivery approach is line with the standard approach. At the opposite ends of the spectrum, a few initiatives have run for 8 or 12 months,[30] or 10-12 weeks. The longer programmes in particular help guide businesses to a more mature state compared to RTE. As indicated by several stakeholders, RTE supported businesses are too young to be realising their full potential and may not be fully developed at graduation. Nearly a third of (31%, n = 11) surveyed participants have attended a follow-up accelerator or incubation programme or otherwise reached out for advisory support following RTE. This suggests that while RTE gives entrepreneurs enough time to reach a certain point and put them on a business growth trajectory, beneficiaries do typically need follow-on support for their businesses to become more established.

Evidence also indicates that maintaining close contact with participants, particularly through one-to-one contact, is key to the success of business support programmes. The review of Innovations in Business Support suggests that this approach, which they called transformational (as opposed to transactional) is especially effective in creating trust between advisors and the business founders. The review acknowledges that a relational (i.e., founder-centred) approach often present in transformational business support is considered expensive, but maintains that

[28] NB: We reviewed a total of 38 other offers of support in Northern Ireland, North West and North East for a comprehensive sense of the other available support landscape. A full analysis of the findings and a table of all identified programmes can be found in Appendix F.

[29] Source: https://www.uk.coop/sites/default/files/2023-11/Lit%20Review.pdf

[30] NB: in addition, the very long-term support programmes have been one-off initiatives to date rather than regularly running offers

it has had considerable effects on the confidence and capabilities of serviced business founders. This view is supported by other reviews. The What Works Centre which links 'hands-on' approaches on the one hand, and positive programme outcomes on the other.[31] Similarly, the 2022 evaluation of the Propel Pre-Accelerator by Hatch highlighted a best practice in the access to experienced coaches or mentors for tailored founder needs.[32] In our review of other support offers, we found one-on-one coaching or mentoring in 13 of the 38 reviewed programmes, which suggests that individual coaching is a fairly established feature among the broader business support provision.

RTE participants themselves also stated a preference for close-contact business support. As examples, participants made comparisons between RTE and other support programmes which they had found more 'dogmatic' and discussed the close relationships they held with their coaches and other personnel. RTE's provision of one-to-one support is therefore in line with best practices established in literature, and also follows the example set by numerous other business support offers.

> *"[What sets RTE apart from other entrepreneur support programmes is] supporting others may not get support. Nurture them instead of throwing cash at them"– Regional stakeholder*

Source: Technopolis interviews

5.2 A case for regional support

Recent literature of effective business support delivery has endorsed the devolution and decentralisation of support offers in the UK. Enabling local communities to address the needs of which they have greatest knowledge anticipated to empower regions, and even out the distribution of opportunities which are mostly available in the greater South East.[33] To this end, the approach of RTE, to specifically target entrepreneurialism in North of England, Northern Ireland and Wales is comfortably in line with this macro-level ideal. This is echoed in primary data: RTE participants and external stakeholders both have expressed positive feedback on the availability of this type of support in the regions.

> *"I think that it is a really great programme. There is a real need for it in the regions especially. Having any programme based in the North is already solving a market failure"– Regional stakeholder*

Source: Technopolis interviews

Some debate has, however, been present with regards to the 'soul' of RTE. As an initiative of the Academy with a national reach (rather than a home in any one of the target regions in particular), a small number of stakeholders have questioned how well the programme is able to fully integrate in the local ecosystems while retaining a widespread cross-regional presence. Stakeholder views on the ideal direction were mixed. One felt that RTE should draw on its national presence and, bring together participants and alumni from across the different areas.

[31] Source: https://whatworksgrowth.org/resource-library/business-advice/

[32] Source: https://www.investni.com/sites/default/files/2022-03/propel-pre-accelerator-2017-2021-evaluation.pdf

[33] Source: https://www.uk.coop/sites/default/files/2023-11/Lit%20Review.pdf

Several others, particularly in North of England, however, felt that efforts would be better spent on increasing the programme's presence in the regional ecosystems. Participant feedback and wider literature also supports this regional approach. Participants, especially in North of England (North West, North East and Yorkshire and the Humber), spoke of wanting to maintain contact with their cohorts noting that, locally, there have been fewer structured opportunities to do so. Therefore, while RTE is following best practice in ensuring formal programme delivery is decentralised, there is still scope for a more locally-focused informal support and alumni offer which the target entrepreneurs are keen to see. As mentioned above in Section 4.1.3, the new hubs in North West and North East are likely to address this aspect.

5.3 Importance of acting in a functional support system

Based on New Economy Insights (NEI), the importance of a functional service network is high to business outcomes. These networks of separate support organisations share a mission to support small businesses, and work to be aware of the collective offer to make and receive appropriate referrals. Ideally, involved organisations cooperate to share leads, identify and remove barriers, and share good practices to meet entrepreneurs' needs. It is noted that building a small business is not a linear process but one involving pivots, gains, setbacks and restarts. Therefore, the ability to mix and match available support is thought to be the optimal way to ensure the needs of small business owners are met. To facilitate this need, NEI underlines the importance of service providers to not work in silos but to work collaboratively for best customer journeys.[34] This practice enables entrepreneurs a broader access to the types of support which small businesses need. We have found less systematic evidence about the level of integration which RTE has achieved regionally. Based on participant and unsuccessful applicant interviews, applicants have learnt about RTE from a variety of ecosystem bodies, like LEPs, Chambers of Commerce and other accelerators in most studied regions. However, the accounts from external stakeholders have been somewhat mixed in this regard. In Northern Ireland, where the Academy has established a hub, a good level of dialogue exists between RTE and other regional actors, with multiple organisations there having signposted applicants to RTE. However, one stakeholder there perceived a degree of competition and protectiveness in the ecosystem, particularly from the HEIs.

In North of England, the Academy had no meaningful local connections to draw on to help showcase RTE. Given this, it is understandable that stakeholders there have expressed more concern about the local awareness of RTE. Although interviewed stakeholders agreed about the programme's relevance for their regions, those from North East and Yorkshire and the Humber especially deemed programme awareness to not be as high as it should be. That being said, for Cohort 1, local authorities in North East made efforts to promote RTE. Similarly, according to programme management, there is continuous work across all three regions to communicate with and integrate RTE into the ecosystem. Nevertheless, further progress here is still needed. One stakeholder in North East felt that RTE sits slightly outside of the general ecosystem at present. As a possible remedy, they suggested Academy attendance at the monthly Combined Authority meetings for local support providers. Other North East stakeholders discussed the value of local media (published and social media) as a potential avenue to engaging the relevant communities. It was also noted that the North East ecosystem is fragmented with separate strategies and financial models in. This is likely to pose an additional challenge for RTE's attempts to embed itself locally. The situation is different still in Yorkshire and the Humber, where one stakeholder felt that the business support actors tend to not talk to one another, describing the ecosystem as weak. This again, will make it difficult to embed RTE within a wider business support community. As a solution to operating in poorly connected business

[34] Source: https://neinsights.org/creating-a-robust-network-for-small-business-support/

support environments, stakeholders across the regions suggested that RTE engage with HEIs – these could provide access to alumni, and possible collaborators to help commercialise existing ideas.

As with Northern Ireland, applicants in North West reported a range of regional actors, particularly in Cumbria and Liverpool which has advertised RTE or signposted them to the programme. The applicants (both successful and unsuccessful) in North West also tended to report no knowledge of other local schemes. Some had looked to national ones, but reiterated that there were little to no other pre-accelerator offer locally to their knowledge, which may also explain the demand of RTE in the region as mentioned in Section 2.1.2.

RTE has seen varying success across its target regions in becoming part of a local functional business support system. Some of this variability however, is due to differing contexts. Some regions already have a strong local Academy presence which RTE can draw on. Others lack a coherent wider business support network meaning that RTE and the Academy is having to operate more in isolation.

5.4 Programme value for money

5.4.1 Value for Money analysis

Another way of assessing adherence to best practice is to examine RTE's value for money (VfM). If RTE was delivering effectively, efficiently, and in line with best practice principles, it would generate benefits to a similar cost as other comparable programmes. We have conducted an economic VfM for this study.

Based on provided data on programme spend, we understand that the facilitation of Cohorts 1-3, including participant grants, training delivery, travel, venues and events, has cost approximately £3,795,000. We measured this spend against the net outputs of RTE, as detailed in section 2.2.3. Removing deadweight, we calculated programme outputs, outcomes and the value for every £1 of Academy spend as detailed in Table 13, below:

Table 13 Net output and outcome value and value for RTE spend

Indicator	Net output/outcome	Value for £1 of RTE spend
Jobs	64	N/A[35]
Total investment	£7.7m	£2.11
GVA	£5.1m	£1.50t

Source: Technopolis analysis

We can also use this data to reach a Benefit Cost Ratio (BCR), calculated by dividing the total programme value generated with the total programme costs. Using the net GVA to arrive at a **BCR of 1.3 for RTE**. We use the guidance from the Department for Levelling Up, Housing and Communities, summarised in Table 14, as a general framework for the value for money. In light of the guidance, **the net GVA generated by RTE represents acceptable value for money.** However, it needs to be noted that the framework does not consider the context of the intervention; the same guidance is applied to programmes targeted to pre-start ups and scale-ups alike. **Achieving acceptable value for money as a pre-accelerator is a positive result**. Furthermore, assessing the investment generated by RTE participants in Cohorts 1-3 against the

[35] NB: calculating the number of jobs achieved with £1 of RTE investment was not feasible. However, reversing the calculation, we found that the average programme spend per one additional created job was approximately £59k

same framework, we arrive at a BCR of 2, **which suggests that the secured investments represent high value for money**.

Table 14 Department for Levelling Up VfM guidance

VfM Category	Implied by
Very high	BCR greater than, or equal to 4
High	BCR greater than or equal to 2 and less than 4
Medium	BCR greater than or equal to 1.5 and less than 2
Acceptable	BCR greater than or equal to 1 and less than 1.5
Poor	BCR greater than or equal to 0 and less than 1
Very Poor	BCR below 0

Source: DLUHC appraisal guide. NB: BRC is the 'Benefit-Cost Ratio' which is achieved by dividing the value of all present benefits by the full present value of costs. URL: https://www.gov.uk/government/publications/dluhc-appraisal-guide/dluhc-appraisal-guide#assessing-the-value-for-money-vfm-of-dluhc-interventions

5.4.2 Benchmarking RTE's value for money

To further contextualise these findings, we benchmarked these results against VfM analyses made of other business support programmes. Whilst doing so, we do note that programmes operate in different contexts and in different ways. The simple comparison of CBR and net GVA results cannot factor in the full set of variables, so the results do need to be read with caution. For most comparable results, we looked for other programmes servicing early-stage businesses or founders. To this end, we identified two, of the Propel Pre-Accelerator,[36] and of the Seed Accelerator Programme,[37] both of Invest Northern Ireland. In addition, we looked to the Tech Nation's Digital Business Academy for a comparison with a programme targeting more robust businesses.[38] The results comparison is summarised below, in Table 15.

Table 15 Value for Money benchmark with Propel Pre-Accelerator (Invest NI), Seed Accelerator (Invest NI), and Digital Business Academy (Tech Nation)

Initiative	Regional Talent Engines	Propel Pre-Accelerator	Seed Accelerator	Digital Business Academy
Programme cost	**£3.8m**	£2.8m	£2.1m	£2.2m
Net GVA	**£5.1m**	£1.2m	£1.28m	£11m
BCR	**1.3**	0.42	0.5	5.8
Net jobs	**67**	25	19	115

Source: Technopolis analysis, Hatch Regeneris for comparators for Propel Pre-Accelerator and Seed Accelerator, and SQW for Digital Business Academy.

[36] Source; https://www.investni.com/sites/default/files/2022-03/propel-pre-accelerator-2017-2021-evaluation.pdf

[37] Source: https://niopa.qub.ac.uk/bitstream/NIOPA/10769/1/seed-accelerator-programme-evaluation-august-2019%281%29.pdf

[38] Source: https://assets.publishing.service.gov.uk/media/5a82c388ed915d74e6237837/TCUK_Evaluation_Impact_Evaluation_.pdf

We note that, compared to Propel Pre-Accelerator and Seed Accelerator, RTE is fairly spend-heavy. However, based on the BCR, net GVA and jobs comparison, **RTE performs well relative to the other early-stage business-targeting support programmes**. This further supports our finding that, for a programme for a pre-accelerator, RTE performs considerably well in terms of value for money.

5.5 Summary

We found that RTE adheres to several good and established practices. In particular, the hands-on approach, and six-month programme duration are all endorsed in wider literature. Feedback from RTE participants reflects the prediction from literature that close, tailored support tends to indicate a good level of trust in the support providers.

The broader literature also supports decentralising business support, allowing regions to provide entrepreneurial support in a way that best suits local needs. To that end, RTE again is following delivery best practice. However, other evidence also advocates business support providers building connections with others in the support provision ecosystem. Of this, we have seen somewhat mixed evidence for RTE. While the programme appears highly connected in Northern Ireland, there is other evidence in North of England of lesser local connectivity.

Finally, our Value for Money analysis suggests that the Benefit-Cost-Ratio and generated jobs and GVA of RTE all compare favourably to other support provision for early-stage businesses. It is also notable that these findings pertain to the first three years of the programme. Taking to account the pre-sales stage of most RTE graduate businesses, it is likely that the generated effects will increase still, as graduate businesses begin reaching the market in earnest.

6 Programme added value

This section addresses the Research Question 5: How far is the Regional Talent Engines Programme providing added value in supporting engineering and technology entrepreneurs?

To assess the added value generated by RTE, we consider both, its inputs and outputs. We approach inputs by posing the question about the uniqueness of the programme and what it offers participants over and above what is available elsewhere. We then consider the additionality of RTE's outputs largely in relation to the indicators of business performance discussed in Section 0 and indicators of skills development in Section 0.

6.1 Inputs

How far other programmes have the same target audience

Following a review of 44 other support programmes in the RTE regions, we find that a technology focus is not uncommon. Although an engineering background is rarely an explicit specification, technology-based business ideas appear to be a common focal point. In fact, where a business sector was specified, investment was generally directed towards tech - focused entrepreneurs. This said, we found that the available offer is largely aimed at more established start-ups and scale-ups. A small handful of pre-accelerator programmes (or programmes for pre-launch or launch-stage entrepreneurs) were identified in the North East (e.g., Ignite North East Pre-Accelerator 2024), Northern Ireland (Founder Labs of Invest NI), and North West (Flying Start of Lancashire's Business Growth Hub). **We do note that only one other reviewed programme targeted mid to late-career professionals, or a more mature target audience specifically.[39] Where a specific demographic is mentioned, in most cases it tends to concern students, recent graduates, or women specifically. The mid and late-career professional segment appears to be nearly unique to RTE.** Both, stakeholders and participants noted that the mid-career segment is rarely considered elsewhere.

How unique the RTE offer is

We note that some cohort-based training offers have been present in Northern Ireland, North East, North West and Wales.[40] In terms of the offered support, RTE's training is broadly characteristic of the general cohort-based offer which we found offered the key areas: structured training opportunities and one-to-one coaching. We do note, however, that participants compared RTE positively to previous programme experiences where relevant, describing the approach at RTE as more tailored. In addition, several of the other programmes reviewed have either ended, or do not presently advertise a coming cohort, again making RTE stand out. This being said, a vast majority of those cohort-based support offers were targeted at existing businesses. For some programmes, eligible businesses had to demonstrate a specific turnover or employment growth in past years, while other programmes offered support for growing and scaling up.

Networks or collaborators are a common feature for the reviewed programmes, forging connections with other local entrepreneurs. The level of in-house experience present at the

[39] NB: the other support programme targeted for mature audiences is a 12-week part-funded training programme for senior managers of existing SMEs, so despite the maturity demographic, the profiles of this programme and RTE are fairly different.

[40] NB: desk research resulted in a review of 40 other initiatives across the target regions, including cohort-based training programmes, open resource hubs and financing solutions. With this said, we did not identify any initiatives strictly within Yorkshire and the Humber. As such, we assume that the identified offer is intended to cover North of England as a whole.

Academy was, however, not matched. Finally, support offering non-repayable funding made up a minority among the reviewed support. Rarer still was grant-based funding with only three other programmes found to currently offer grant funding for early-stage businesses. Two of those are offered in North East with half the funding offered by RTE.[41] In addition, Invest Northern Ireland offers a highly similar six-month accelerator to support early-stage innovation-driven businesses. At £25,000 Founder Labs offers slightly more in grant funding, but appears to envision more of an international reach where RTE focuses on building capability within target regions.[42] In the past, Invest Northern Ireland has offered another similar support programme, Propel Pre-accelerator. However, the programme is no longer running.

Based on the above, there is a small handful of similar programmes to broadly similar target audiences. That being said, a majority of the available offer is aimed at more established businesses. Furthermore, we have not been able to identify a single other programme which targets mid to late career professionals specifically. In this sense, **our assumption of the uniqueness of RTE's target and offer is fairly strongly supported**.

6.2 Outputs

Additional economic outputs

In Section 2.2.3 we explained that the estimated gross economic impacts attributed to the programme were adjusted to consider what would have occurred in the absence of the programme (deadweight), benefits that spill over outside the target area (leakage), and impacts on other businesses (displacement).

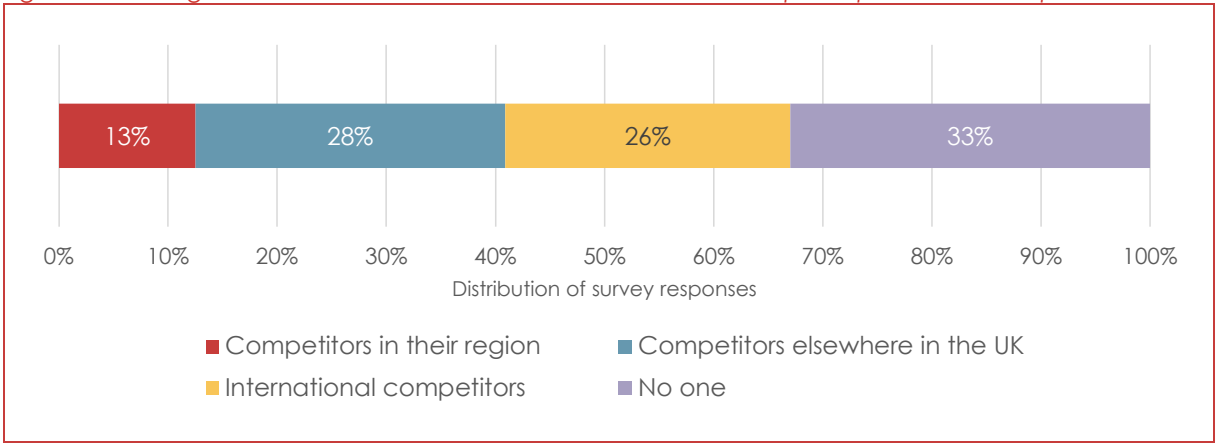
Based on our survey analysis, we found that, of the aggregate 72 jobs created by responding participants, only 3.5 FTEs resided outside of the UK. **This suggests that the created jobs exist largely in the UK.**

In terms of market additionality (and displacement), local competition is generally considered the least likely proponent for participants' market shares. On average, participants reported 13% of market share to be taken over by local competition in the hypothetical event where they might cease operations. This would suggest that the business activities are largely adding to the local economies, rather than competing over existing demand locally. Considering all of UK, the average estimation rose to 41%, while international competition was assessed to take over about 26% of the market share. **On average, 33% of the market share was thought to not be taken over at all, indicating that the RTE-graduated entrepreneurs are creating entirely new and innovative solutions and economic pathways.** This is illustrated in Figure 17, below.

[41] Both, North East Pre-Accelerator (offered by Ignite) and START UP Foundership (at Newcastle University) pair cohort-based pre-accelerator support with a £10k grant.

[42] Source: https://ormeaulabs.com/programs-and-support/founder-labs

Figure 17 Average market share distribution in the event where RTE participants ceased operations



Source: Technopolis survey of participants (n = 22)

As discussed in section 2.2.3 about the economic outputs, outcomes and impacts, we found generated investment and GVA as well as created jobs attributed directly to the programme additionality. **Excluding leakage, deadweight and displacement, we estimated the programme to have contributed £7.7m in net investment, £5.1m in additional GVA and 64 additional jobs** across the four studied regions between Cohorts 1-3.

Additional skills

As discussed in section 3.1.6, we asked surveyed participants about the role which RTE had played in their skills development. In response, every respondent (n = 35) credited some extent of their skills growth to the RTE programme. Moreover, 60% of respondents deemed RTE to have played a deciding role in developing most of their skills. Similarly, nearly all responding participants reported RTE to have an accelerating effect on their skills development. This suggests that the programme has had considerable added value to the capabilities of the treated entrepreneurial population.

6.3 Contribution analysis

The starting point for our contribution analysis has been the Theory of Change. We have used this to develop a series of contribution claims – statements as to how the RTE programme may function as the mechanism for change in the Theory of Change. We have set out both the evidence that strengthens the contribution claim, and evidence that refutes it, enabling us to assess the extent to which the Theory of Change has held true.

Appendix A presents our contribution analysis in full. However, from it, we draw the following conclusions on the Theory of Change.

- **Input and activities to outputs**: the evidence suggests that the **programme has generally achieved most of its target outputs**, particularly in relation to participant skills, confidence, jobs created and business health. Our findings also indicate that RTE has a high level of contribution to these outputs. In relation to RTE's role in creating new businesses, we found that participants had generally set up, or begun to set up, businesses prior to joining. This said, RTE was found to contribute strongly to participants' decisions to pursue businesses full-time. Similarly, while evidence indicates participant keenness to remain in the regions, we have not seen deciding evidence suggesting that the programme enabled this. All things considered however, we can say with some confidence that **RTE has achieved most of its**

target outputs, and that the programme mechanisms have played a substantial role in doing so.

- **Outputs to outcomes**: our analysis suggests **RTE has achieved one of the three target outcomes in the Theory of Change, with positive indications about achieving the other two in the future.**[43] With regard to the causality however, **we were unable to rule out external factors for the achieved outcome** (namely that participants were keen to remain in the regions for other reasons). However, in case of the two other outcomes, we have sufficient evidence to believe that the programme mechanisms have played a large role in their potential future realisation. To that end, our evidence about the added value that the programme has provided with respect to outcomes to date is mixed.

- **Outcomes to impacts:** based on our analysis, we have **limited evidence suggesting that the programme has reached a small number of its target long-term impacts.** In part, this is due to limitations in data collection, and partly due to the young age of the programme. Where indications of impact are captured, our evidence suggests programme causality.

6.4 Summary

RTE has provided added value in a number of ways. While other support is available for technology start-ups, the target audience of mid to late-career professionals is not specifically addressed by other support offers in the key regions. Pairing this finding with the growing volume of applications to the programme, the evidence suggests that RTE addresses a market failure. In addition, RTE is one of only a small number of cohort-based training programmes which also offers funding to early-stage businesses.

In relation to outputs, we find that the first four Cohorts have generated additional GVA, funding in the regions and jobs, most of which reside in the UK. Our contribution analysis also indicates that **RTE has realised most outputs set in the Theory of Change with further evidence suggesting that the programme mechanisms have driven the attainment of those outputs**. Given the young age of the programme, it is unclear at this stage whether longer-term outcomes and impacts will be attained, or what role RTE mechanisms will play in attaining them.

[43] In our analytical framework, we posed that RTE will support the retention of talent in the local ecosystems: the consulted participants have indicated near-unanimously that they intend to remain in their home regions for the foreseeable future. In addition, we theorised that RTE will contribute an increased number of businesses in the regions which, in turn, bring new products and services to market. Based on our evidence, the number of developed businesses emerged from RTE are noted by stakeholders, although it is broadly too early to say whether they make a difference across all target regions. Similarly, we found that RTE participants are on their way to develop new products for the market, and that a subset has reached sales. However, the wider trend suggests that RTE participants are mostly in pre-sales stages at present.

7 RTE contribution to Levelling Up

This chapter addresses Research Question 6: **What contribution, if any, has the programme made to government levelling up objectives?**

While striving to understand the contribution of RTE to the (now former) Conservative Government's Levelling up objectives, it needs to be noted that the Levelling Up agenda will almost certainly be reshaped by the current Labour Government.[44] For this reason, the alignment of RTE outputs, outcomes and impacts with Levelling Up may not as relevant in the long term. However, there are indications that the present Government will continue the focus on place-based industrial strategies.[44] Thus it is worthwhile to observe instances where the results of RTE's activities have influenced outputs in line with Levelling Up. To do this, we examined our findings about the programme design and results detailed in this report against the missions stated in the Levelling Up document.

Levelling Up

Levelling Up the United Kingdom is a White Paper published by the Conservative Government in 2022. This policy document set out the Government's plans and proposals for addressing regional inequalities across the UK and spreading opportunity more equally. The White Paper emphasises the value of the private sector and entrepreneurialism in the process of distributing economic growth and higher productivity across the whole country.[45] Acknowledging that opportunities for the above are concentrated in the South East of England, the White Paper underlines to importance of spreading opportunity more evenly in order to reinforce the overall competitiveness of the UK. The policy document set out medium-term missions to be accomplished by 2030. At the top of the list of missions is the objective to boost productivity, pay, jobs and living standards by growing the private sector with focus on regions outside of the Greater South East. This mission envisions pay, employment and productivity to rise everywhere in the UK with the gap between top performing regions and others closing. Additionally, the mission envisages public investment in R&D outside the Greater South East to increase by at least 40%.[45] Somewhat relevantly, another mission concerns a local sense of community and pride in every area in the UK; by 2030, Levelling Up seeks to restore people's satisfaction with their towns, and engagement in local culture and communities.

RTE's contribution to Levelling Up

Both of the mentioned Levelling Up missions are in line with the objectives set by the Regional Talent Engines programme and are present in the programme's target audience and intended outcomes and impacts. Based on our findings above, RTE is generating well-developing businesses in regions outside of the Greater South East. Moreover, while the offer has not been available for many Cohorts to date, graduated participants have generated GVA and secured funding for further development of their ventures. This in turn has generated economic benefits for the programme's regions, all based outside the South East. The regional breakdown of our findings of participant economic performance (both in gross terms and as net impacts) is below in Table 16 and Table 17 We find that there is some clustering across all economic indicators in Northern Ireland and Yorkshire and the Humber, although all regions show some economic impacts.

[44] Source: https://www.liverpool.ac.uk/heseltine-institute/blog/whatwillalabourgovernmentmeanforlevellingup/

[45] Source: HM Government (2022). Levelling Up the United Kingdom. *Crown Copyright.* URL: https://assets.publishing.service.gov.uk/media/61fd3c71d3bf7f78df30b3c2/Levelling_Up_WP_HRES.pdf

Table 16 Gross Economic Impacts

	North East England	North West England	Northern Ireland	Yorkshire and The Humber	Wales	Total (UK)
Number of jobs created amongst RTE-supported businesses	12.0	34.5	54.5	43.5	n/a	144.5
Investment: Total (£)	405,000	1,443,970	8,754,275	4,493,355	n/a	15,096,600
GVA generated through RTE support (£)	983,399	2,287,411	4,630,138	3,747,089	n/a	11,648,036

Source: Technopolis analysis of survey and monitoring data

Table 17 Net Economic Impacts (adjusting for leakage and displacement)

	North East England	North West England	Northern Ireland	Yorkshire and The Humber	Wales	Total (UK)
Number of jobs created amongst RTE-supported businesses	8.61	12.34	29.60	27.55	n/a	64.0
Investment: Total (£)	226,634	607,300	4,440,495	3,239,697	n/a	7,678,755
GVA generated through RTE support (£)	689,876	758,632	2,559,610	2,412,067	n/a	5,066,826

Source: Technopolis analysis of survey and monitoring data; Note: Different leakage and displacement coefficients were applied to regional and national estimates to compute the net additional economic impacts.

While we have no quantifiable evidence in support of RTE's contribution to the Levelling Up mission on local sense of pride and community, the programme can be considered to contribute to it by design. This is through its dedicated decision to invest in the regions outside of the Greater South East. Based on stakeholder feedback, the programme is contributing to the development of entrepreneurial communities in the regions, and through this, enabling local talent to realise their ambitions to become entrepreneurs.

RTE's contribution to wider local and regional priorities

In addition to Levelling Up, we found that RTE is aligned with a variety of local and regional strategies and priorities.

- **Improved local productivity:** Although the core regions span a large geography in the UK, all appear to face challenges in relation to local productivity and retainment of talent. The creation of 'more and better (or better-paying)' jobs locally is explicitly mentioned in strategies in the North East,[46] areas in Yorkshire and the Humber,[47] and Northern Ireland.[48] In the North West, The Greater Manchester Local Industrial Strategy, envisions higher productivity and pay driven by well-led businesses.[49] Finally, the Welsh government has established economic inactivity as a key challenge, looking to address it through skills-development opportunities and an Economic Contract for businesses.[50] RTE is well aligned

[46] Source: https://www.northeast-ca.gov.uk/downloads/2417/nelep-strategiceconomicplan-jan2019.pdf

[47] Source: https://www.yourvoice.westyorks-ca.gov.uk/LIS

[48] Source: https://www.economy-ni.gov.uk/sites/default/files/publications/economy/10x-economy-summary.pdf

[49] Source: https://www.greatermanchester-ca.gov.uk/media/2132/gm-local-industrial-strategy-web.pdf

[50] Source: https://www.gov.wales/sites/default/files/publications/2019-02/prosperity-for-all-economic-action-plan.pdf

to these priorities: supporting the creation of new high value added, and encouraging and enabling entrepreneurs to remain in their regions.

- **Skills development:** Skills development and opportunities to re-train population were raised in regional and local strategies across all of the RTE locales. Focusing on skills development is among the core drivers of the North East Strategic Economic Plan,[46] and in both, rural and urban areas in North West.[5149] Similarly, the Leeds Local Industrial Strategy, in Yorkshire and the Humber, identifies a local skill gap relative to other parts of the UK.[47] The city seeks to address this with a provision of education and training opportunities in the area.
- **Contributing to priority sectors:** the priority sectors in nearly all target areas align with the RTE focus sectors to some extent. For instance, digital and ICT sectors are in focus in North East, Northern Ireland, North West, and Yorkshire and the Humber.[52] Other common priority sectors in the regions concern healthcare, advanced manufacturing, agri-food and creative industries, all of which are areas that RTE participants can reasonably expect to operate in.

7.1 Summary

RTE is both, designed to, and yielding results contributing to Levelling Up Agenda's objectives. This is especially true for the Agenda's mission around regional productivity. Our analysis has found that the programme has generated a positive net economic impact in all studied regions. While the change in Government means the levelling up agenda may be less relevant now, the programme will still contribute to ongoing commitments around place-based industrial strategies. Similarly, the design and outputs of RTE are in line with some of the core challenges, objectives and key sectors in the target areas and regions.

[51] Source: https://cumbria.gov.uk/elibrary/Content/Internet/538/755/1929/17716/17717/42117101656.PDF

[52] Source: https://www.investwestyorkshire.com/key-sectors/

8 Conclusions and recommendations

8.1 Conclusions

RQ1: To what extent has the programme supported target entrepreneurs in starting up and growing successful ventures?

- RTE has successfully attracted applications from and subsequently supported its target audience: mid to late-career professionals with engineering backgrounds looking to pursue an entrepreneurial path.
  - Programme interest has grow over time, with continual increases in application numbers between cohorts
- A vast majority of programme participants run businesses today. Given the traditionally high failure rates of start-ups, it is encouraging that many supported ventures still exist.
- It appears that many participants ran a business before joining RTE. While programme participation may not have necessarily encouraged them to pursue entrepreneurial activity for the first, the evidence suggests that for many, the programme encouraged participants to dedicate greater time, energy and resource to their own businesses.
- Currently, most supported businesses at are at development, piloting and pre-sales stages. Consequently, their volume of generated sales to date is relatively low. However, in net terms, supported businesses have still generated to the UK economy:
  - 64 additional jobs
  - £5 million Gross Value Added
  - £7.7 million in financial investment
- On average, supported participants have seen a 2.4 TRL increase for their solution since joining RTE.
- The vast majority of survey participants attributed at least some of the business achievements to RTE participation.

RQ2: Which elements of the programme offer have participants valued the most?

- Participants have overwhelmingly found programme involvement to have been very useful for them. They have especially valued:
  - The funding provision
  - Bespoke and tailored nature of support provided
  - The opportunity to develop presentation and communication skills (especially pitching)
- While RTE participants put value to a range of programme aspects, but in particular praise was given to the funding and bespoke support. Expertise on part of the delivery team and in particular, efforts to build participants' communication and presentation skills were noted by several beneficiaries
- While participants have a positive view of the programme, some did note that the follow-on support and alumni community somewhat lacking

RQ3: To what extent is the programme following best practice for similar intervention types?

- RTE is well-aligned to good practices in business support delivery.

- The six-month duration is line with comparable cohort-based programmes while the programme's provision of one-to-one support is also in line with best practices established in literature, and follows the example set by numerous other business support offers

- RTE is also following best practice in ensuring that formal programme delivery is decentralised, albeit there is a need for more informal programme elements (e.g. alumni networks) to have a more local focus.
- Literature stresses the needs for business support providers to not work in silo, but to work collaboratively with other to delivery better customer journeys. While this has been well achieved in Northern Ireland, there seems some scope for improvements elsewhere.
- Value for Money analysis suggests that Benefit-Cost-Ratio of RTE represents acceptable value for money. As the guidance for determining value for money is agnostic towards the type of beneficiary, this result is positive for a pre-accelerator. At 1.3, the Benefit-Cost-Ratio of RTE compares favourably to other reviewed support provision for early-stage businesses (generally under 1.0). This suggests that the Academy is running the programme efficiently, effectively, and in line with best practice principles.

RQ4: How successful has the programme been in developing entrepreneurship skills and capabilities across the UK?

- RTE appears to be highly successful in building participant entrepreneurial skills (e.g. risk management, change-orientation, and innovation), their technical skills (e.g. pitching and securing investment, understanding the market, and communication), and managerial skills (e.g. problem solving, decision making, and marketing).
  - Survey respondents noted that their skills in these areas were better now than prior to programme participation. The magnitude of the skills uplift was also greater than that seen within the control group, and statistically significantly so.
- All surveyed participants indicated that least some of their skills improvements were due to RTE participation
- Participants also commonly spoke about the positive impact that RTE involvement had had on their confidence.

RQ5: How far is the Regional Talent Engines Programme providing added value in supporting engineering and technology entrepreneurs?

- We have found that the specific target segment is not serviced by other programmes in the regions. While there are other technology-focussed start-up support programmes, we have not found any other schemes that target mid to late-career professionals specifically
- There are some close comparator programmes in the North East but even here, they do not match the the level of financial support offered by RTE.
- Many RTE graduates are creating entirely new and innovative solutions
- Our analysis also suggests that most of the programme's target term objectives (namely pursuing a business idea, and maintaining economic activity in the target regions) have been achieved, and that the RTE programme has been an important driving force in achieving these relative to external factors.

RQ6: What contribution, if any, has the programme made to government levelling up objectives?

- The objectives of RTE are closely aligned with two of the Levelling Up missions to increase productivity, jobs and prosperity in the regions and to increase regional sense of pride and community.
- Programme outputs outcomes and impacts to date have contributed to those two missions in particular.
- While the change in Government means the levelling up agenda may be less relevant now, the programme will still contribute to ongoing commitments around place-based industrial strategies.

8.2 Recommendations

- No substantial changes to programme design or delivery are needed. RTE appears to be effectively and efficiently run, its services are in demand, and the programme is making a difference to beneficiaries
- While some work is underway in this area, RTE could benefit from being better-connected to the local business support networks in target regions. This will help access more potential applicants, and give programme graduates access to wider support upon graduation
  - Possible ways of better connecting RTE to local networks is through developing relationships with local HEIs, connecting with local and combined authorities for network support and drawing on the connections and reputations of the Academy's Fellows.
- The graduates would benefit from more alumni events in the target regions. Events are valued by participants but the time and money required for London events is a barrier to participation. Whilst the coming Enterprise Hubs in North West and North East will support with re-connecting alumni together, structured opportunities to do so regionally, and possibly cross-regionally could be valuable to the alumni
- Many participants would benefit from additional support on how to navigate the private funding environment (such as VCs, Angel investors). Although participants reported increased confidence and capability in pitching (and these qualities were reflected in stakeholder feedback), others wished for more connecting support and general practical information in relation to this part of the journey

Appendix A Contribution analysis

Table 18 RTE Contribution Analysis

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
Activities to outputs: Improved skills of individuals	The full range of RTE support gives programme participants the means to develop their entrepreneurship skills, ensuring that participants are better skilled than they were before joining the programme. The RTE programme is responsible for this skills development as participants were unable to access programmes of a similar quality or scope elsewhere.	Participants report improvements in their skills since participating in the programme. Participants have not used any other skills programmes.	<u>Evidence that supports the contribution claim</u> In self-reported skills-assessment, RTE participants indicated a higher rate of skills improvement compared to their unsuccessful applicant counterparts across every listed skills dimension. All surveyed participants also attributed at least some level of skills acquisition to RTE. Qualitative evidence described a wide range of skills from product design to pitching for which the participants credited RTE. <u>Evidence that refutes the contribution claim</u> 83% of participants reported having received other business support, most commonly since RTE. Moreover, there was a small subset of participants who deemed only a small part of their skills-acquisition to have been contributed by RTE. <u>Overall assessment</u> **Hypothesis supported.** Self-reported assessments point to a widespread skills increase among participating entrepreneurs. While participants have undergone other programmes, all attributed at least some level of skills improvement to RTE.
Activities to outputs: new business starts in the region	The knowledge, skills, and contacts gained through the programme gives participants the confidence to start new businesses in the programme regions.	Participants have started new businesses since completing the programme.	<u>Evidence that supports the contribution claim</u> An overwhelming majority (94%) of participants reported running their own business(es) presently. Similarly, 94% of survey respondents planned to reside in their region for the foreseeable future. <u>Evidence that refutes the contribution claim</u> Of those who run their businesses, only 3% of surveyed participants reported having launched it after RTE. A vast majority (85%) had established

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			their businesses prior to participating. Overall assessment **Hypothesis neither supported nor unsupported.** While RTE has reportedly had an accelerating effect on the participating businesses, it appears that nearly all businesses affected by the programme were already in existence at some level prior to RTE. What we found, however, is that RTE has enabled beneficiaries to embark on developing their businesses full-time.
Activities to outputs: Participants staying in entrepreneur-ship rather than returning to other work	Through participating in the RTE programme, beneficiaries feel more confident about running their own business. They also now view entrepreneurship as a more appealing prospect than being an employee.	Participants continue to run their own businesses and/or would like to launch a start-up	Evidence that supports the contribution claim Of the 75 participants in Cohorts 1-3 from NI, NW, WE and YH, 68 had companies listed, of which 59 are active. This can be interpreted as an ongoing success rate of 79%. Among our surveyed participants, 94% reported presently running businesses. They describe active work towards their business and a pipeline of future plans. Qualitative evidence tells us that participants had an idea for their businesses largely independently of RTE. However, reportedly, RTE has taught them about the support infrastructure (e.g., funding landscape) making it possible for participants to launch their businesses. A common type of feedback was that both, the offer and the acceptance onto RTE had had a positive effect on participant confidence as entrepreneurs Evidence that refutes the contribution claim Despite the RTE participants demonstrating a much higher success rate compared to small businesses generally in the UK, a small subset of participants are yet to have established companies, or have had their businesses dissolved or liquidated. Overall assessment **Hypothesis strongly supported.** A vast majority of evidence

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			suggests that RTE has had a positive effect on participant readiness and confidence as entrepreneurs. Data on active businesses among the target population also tells us that, not only are participants interested in running their businesses, but that they are doing so with a higher success rate than what is average in the UK
Activities to outputs: Amount of further funding raised by those supported	By providing training and mentoring in investment raising, participants are better capable in finding investors and securing funding from them. The experiences and skills gained through the programme enables participants to run their businesses better than they could have done otherwise. This makes them more attractive to investors. In addition, programme involvement plus having formal Academy backing, makes participants more attractive to investors.	Increased investment in participants' businesses relative to pre-programme involvement, and relative to a control group. Investors confirm that having Academy backing influenced their decision to provide funding.	<u>Evidence that supports the contribution claim</u> Although our survey data is limited, approximately 66% of surveyed participants reported some level of investment (in the form of equity funding). This compares favourably to unsuccessful participants who reported no equity finding to date. Common feedback from consulted participants concerns their increased skills in securing funding. Some interviewed stakeholders commented positively on participants' pitching skills in venture capital environments. <u>Evidence that refutes the contribution claim</u> Although it may simply be indicative of the business stage, a wide breadth of consulted participants are presently looking to raise funds, Some feedback concerns additional support with this part of the process. No evidence is collected from investors, so views on this side of the process are unknown. <u>Overall assessment</u> **Hypothesis somewhat supported** RTE participants compare favourably to unsuccessful applicants in terms of investment raised. Moreover, qualitative evidence from participants and stakeholders indicates that skills in raising investment (e.g., treating with investors, pitching) have been built. With this said, the lack of views from investor side and the fact that RTE participants

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			are largely at the stage of raising investment at present (i.e., this stage is not complete for most participants) prevents us from completely confirming participant successes in the regard.
Activities to outputs: New jobs created in the region	Because of programme support, participants are able to form new viable businesses in their local areas or grow existing ones. To service this new additional activity, the businesses need to employ additional staff and are able to attract the economically inactive, or those based outside the region. Spillover effects lead to new local jobs in the supply chains of programme participants.	Additional local employment seen amongst participants. Programme participation is directly linked to the viability and growth ability of the business.	<u>Evidence that supports the contribution claim</u> Secondary data indicates that a total of 144.5 jobs were created by the 76 participants, roughly 64 of which we modelled to be additional due to RTE. Based on the responses indicated by surveyed participants, XX% of all created jobs within their remit (n = 35) were within the UK. <u>Evidence that refutes the contribution claim</u> <u>Overall assessment</u> **Hypothesis somewhat supported** Based on our data and modelling, we find that approximately 64 additional jobs were created with deadweight and displacement effects factored in. Little leakage of jobs outside of the UK and limited leakage outside of the region was recorded.
Outputs to outcomes: Increase in number of new engineering companies in UK regions	The business starts have medium-to-long term viability and become established businesses in the region. This leads to an increase in the total number of engineering companies in RTE regions.	RTE supported businesses remain active now. RTE participants have created new engineering companies since their programme involvement,	<u>Evidence that supports the contribution claim</u> Among the 76 investigated participants, 59 active companies are presently registered (with nine more businesses reportedly dormant, dissolved or liquified). RTE-supported businesses have fared relatively well compared to the average young SME in the UK (survival rate of new registered businesses among RTE participants being 87%, compared to the average three-year business survival rate of 56% based on ONS data)[53] According to primary data, moreover, a vast majority (94%)

[53] Source: https://www.ons.gov.uk/businessindustryandtrade/business/activitysizeandlocation/bulletins/businessdemography/2022

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			of these businesses intend to stay in their home regions. Some evidence was obtained from stakeholders suggesting, that the number of new businesses in the regions (North East in particular) has made a difference locally. <u>Evidence that refutes the contribution claim</u> Due to the nature of the data, region and sector-specific data pertaining to young businesses in the five key regions is not available, so matched comparisons could not be made at this time. <u>Overall assessment</u> **Hypothesis somewhat supported**. RTE-enabled businesses are generally looking to remain in their respective regions while also maintaining a survival rate higher than the UK average for young businesses. Limited interview evidence suggests that the number of new businesses and their example is making a difference locally
Outputs to outcomes: Retention of talent in local ecosystems	The creation and/or growth of viable businesses supported through the RTE programme means that engineers and other skilled labour are more inclined to stay in their local area rather than moving away from it to find employment.	RTE participants and their businesses remain in the region that they accessed the programme from.	<u>Evidence that supports the contribution claim</u> 94% of surveyed participants have no foreseeable plans to relocate from the region in which they participated in RTE. Several stakeholders felt that RTE is contributing to a wider tide which is making the regions more attractive. <u>Evidence that refutes the contribution claim</u> While consulted participants express keenness to remain in their regions, there is no evidence of them doing so singularly because of RTE support. <u>Overall assessment</u> **Hypothesis supported**. RTE participants seek to remain in their respective regions nearly unanimously, even if it is unclear whether they would relocate for business-related reasons in the first place. However, stakeholder feedback supports the assumption that RTE is

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			contributing to the regional attractiveness for businesses
Outputs to outcomes: New products and services developed	Following programme participation, RTE beneficiaries now lead viable and well-functioning businesses. These businesses are also better able to develop new products and services and bring them to market.	Company websites and/or beneficiary feedback indicates that new products or services have reached the market.	<u>Evidence that supports the contribution claim</u> Both survey and interview evidence indicates that RTE participants have developed their idea towards a sellable product or service. On average, the TRLs reported by participants at the end of their programme have gone up by more than two levels since. Participant TRLs also compare favourably to those reported by unsuccessful applicants. In addition, several consulted participants credited much of the product advancement to support gained through RTE. <u>Evidence that refutes the contribution claim</u> Less than a third of surveyed participants indicated sales achieved at present. Broadly, consulted RTE participants are in later stages of product development, piloting, or identifying potential customers. <u>Overall assessment</u> **Hypothesis somewhat supported.** It needs to be noted that RTE participants are largely making their way to the market at present, and few have reported complete market-readiness or sales achieved. With this said, participants are making firm progress to this end, building their networks and developing their product to reach the market.
Outcomes to impacts: Foster a culture of entrepreneurship in regional UK engineering sector	The contacts and relationships formed between programme stakeholders (e.g. between different participants, between participants and mentors) and sufficiently meaningful and well-developed that they continue to turn to each other for entrepreneurial support after programme participation. Programme participants gain such a positive outlook on entrepreneurship through RTE that they advocate entrepreneurialism to local contacts.	Continued interaction between different programme stakeholders after the programme. Participants share programme materials and contacts with others in the local network.	<u>Evidence that supports the contribution claim</u> Interview evidence indicates that RTE graduates generally maintain contact with the delivery team, and/or the wider Academy, and make use of resources like networks and events. A subset of consulted participants is also widely linked with external resources (such as established networks) where dissemination can take place. However, data is inconclusive about whether this has realised into actual dissemination. <u>Evidence that refutes the contribution claim</u> Nothing systematic.

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			Overall assessment **Hypothesis is somewhat supported**. There is ample data suggesting that participants tend to keep in contact with Academy staff and resources. Further dissemination has not been explored in data collection, but it cannot be ruled out.
Outcomes to impacts: Inspirational role models to encourage further business creation in the region	Programme participants gain such a positive outlook on entrepreneurship through RTE that they advocate entrepreneurialism to local contacts. Programme participants find their engagement with mentors so effective, that they recommend their mentors to others in their local region. As participants' wider networks become more aware of entrepreneurialism, they in turn decide to start their own businesses.	Participants share programme materials and contacts with others in the local network. Mentors highlight that they are working with contacts of their mentees, and that these mentees are looking to set up their own business.	Evidence that supports the contribution claim Data is inconclusive. Participants were not systematically asked about endorsing RTE or entrepreneurialism. Some anecdotal examples were found where consulted participants had either applied at the endorsement of a previous participant or recommended RTE to their networks, however. Evidence that refutes the contribution claim Nothing systematic was collected. However, some participants tended to believe entrepreneurship to not be for everyone, and thought that RTE rightly is transparent about the challenges. Overall assessment **Hypothesis neither supported nor unsupported**. Despite a few instances of supportive evidence of individuals applying at others' endorsement, data was not systematically collected on material-sharing or endorsements. A small amount of evidence was also pointing in the other direction, wherein entrepreneurialism was not thought to be for everyone
Outcomes to impacts: Contributing to regional and national prosperity	The RTE programme has supported the development of new long-term viable businesses. These businesses are high GVA generating, and do not compete with existing regional or national economic activity. This results in a net increase in GVA both on a regional and national scale.	RTE supported businesses are generating GVA for the UK and the regions supported. Survey evidence indicates low levels of displacement associated with the performance of supported businesses.	Evidence that supports the contribution claim Our econometric estimations indicated a gross GVA of £11.6m, of which approximately £5m was assessed to be additional GVA. Based on survey data, the estimated level of regional displacement is low at approximately 13% of market share. Evidence that refutes the contribution claim

ToC element	Causal hypothesis	Evidence to strengthen hypothesis	Assessment of RTE programme's contribution claim
			Beyond regional scale, nearly half of the average market share is within the UK. Overall assessment **Hypothesis somewhat supported.** For the programme and participant business age, we identified a good level of GVA in the regions, and little regional displacement. However, at a national level the displacement was considerably higher.
Outcomes to impacts: Increased wealth, health and wellbeing of society	Programme participation and/or improved business performance helps to boost confidence which in turn has spillover benefits for the wellbeing of RTE participants.	Participants state a link between programme participation and improved physical and mental wellbeing.	Evidence that supports the contribution claim While aspects of physical or mental wellbeing were not systematically explored in assessment tools, nearly a third of surveyed and all interviewed participants reported RTE to have impacted their confidence considerably. Evidence that refutes the contribution claim A small amount of anecdotal evidence describes the stress involved in being an entrepreneur, although this is never attributed to RTE, whose supportive value interviewees are generally unanimous about. Overall assessment **Hypothesis somewhat supported**. No systematic data was collected on physical or mental health beyond RTE's impact on participant confidence. With this said, there is a general agreement on RTE's positive impact on participants' confidence.

Appendix B Impact modelling: Employment, Investment, GVA

The annex presents the methodology that was used to assess the *additional* economic impact (employment, investment, gross value added) of the Regional Talent Engines (RTE) Programme.

The aim of the assessment was to compute the economic outcomes that can be attributed to the programme, excluding effects that would have occurred in its absence (deadweight), benefits that spill over outside the target area (leakage), and impacts on other businesses (displacement).[54]

The analysis combines primary data collected by the evaluation team via the participants' survey, monitoring data reported by programme participants to the Royal Academy of Engineering, secondary data on business performance and characteristics, and official statistics on GVA and employment by industry made available by the Office for National Statistics (ONS). Outcomes were computed at the firm-level and aggregated to estimate outcomes at the regional and national level.

B.1. Employment

To assess the number of jobs that can be attributed to RTE support, we compared the number of full-time equivalent (FTE) employees reported by participants and the number of new staff reported since receiving the support. Table 19 provides summary statistics on the changes in employment across the awardee regions.

Table 19 Summary Statistics, Change in Employment

	North East	North West	Yorkshire and The Humber	Northern Ireland	All
Count (n)	12	24	14	25	75
Mean	1.0	1.4	14.0	2.2	1.9
Standard Deviation	1.13	1.28	3.98	2.07	2.32
Total	12.0	34.5	43.5	54.5	144.5

Source: Technopolis

B.2. Investment secured

Investment secured by the awardees was calculated as the total of equity funding and grant funding raised. This measure captures the financial resources obtained by the programme participants from both private investors and public sources since completing the award.

presents summary statistics of these funding amounts across awardee regions.

Table 20 Summary Statistics, Investment (Grant and Equity Funding) in GBP (£)

	North East	North West	Yorkshire and The Humber	Northern Ireland	All
Count (n)	12	24	14	25	75

[54] See: *Additionality Guide (Fourth Edition 2014)* published by the former Homes & Communities Agency, https://assets.publishing.service.gov.uk/media/5a7ec4b9e5274a2e87db1c92/additionality_guide_2014_full.pdf; and Scottish Enterprise's Impact Appraisal and Evaluation Guidance, April 2024 Version; https://www.scottish-enterprise.com/media/2g0n5yqq/se-appraisal-and-evaluation-guidance-april-2024.pdf

Mean	33,750	60,165	320,954	350,171	201,288
Standard Deviation	53,076	123,234	1,047,000	789,719	648,993
Total	405,000	1,443,970	4,493,355	8,754,275	15,096,600

Source: Technopolis

B.3. Gross Value Added (GVA)

GVA attributed to each business was estimated using proxy values given a lack of detailed information on businesses' accounts (turnover, costs), in great part due to most RTE businesses yet to report sales. GVA was computed as the product of businesses' change in employment and sector-specific employment to GVA ratios. The latter were estimated using ONS' 2022 estimates for GVA[55] and employment[56] by broad industry group.

Table 21 Summary Statistics, GVA in GBP 2019 constant prices (£)

	North East	North West	Yorkshire and The Humber	Northern Ireland	All
Count (n)	12	24	14	25	75
Mean	81,950	95,309	14	185,206	155,307
Standard Deviation	97,027	98,499	327,988	196,953	201,554
Total	983,399	2,287,411	3,747,089	4,630,138	11,648,036

Source: Technopolis

B.4. Additionality

In the context of RTE additionality refers to the extent to which the outcomes observed can be attributed to the programme beyond what would have happened without it. It is the combination of adjustments (leakage, displacement) that are applied to the gross impacts - reported in Table 19, Table 20 and Table 21 – and to the reference case.

The box below illustrates how *additional impact* is calculated as the net local direct effect of the intervention less the net local direct effect of the reference case. We elaborate on each additionality factor and explain how they were quantified using bespoke questions asked to programme participants via the survey and interpolated averages where applicable.

Net Additional Impact, Equation

$$\boldsymbol{Net\ Additional\ Impact} = [(\boldsymbol{GI} \times (\mathbf{1} - \boldsymbol{L}) \times (\mathbf{1} - \boldsymbol{D})] - [(\boldsymbol{GI}^{*} \times (\mathbf{1} - \boldsymbol{L}^{*}) \times (\mathbf{1} - \boldsymbol{D}^{*})]$$

$$\boldsymbol{Where}: \boldsymbol{GI} = \boldsymbol{Gross\ Impacts}, \boldsymbol{L} = \boldsymbol{Leakage}, \boldsymbol{D} = \boldsymbol{Displacement}, \boldsymbol{and}\ * \ \boldsymbol{denote\ the\ reference\ case}$$

Source: Technopolis, adapted from the *Additionality Guide (HCA, 2014)*

[55] ONS Dataset: Regional gross value added (balanced) by industry: all ITL regions (accessed August 2024); https://www.ons.gov.uk/economy/grossvalueaddedgva/datasets/nominalandrealregionalgrossvalueaddedbalancedbyindustry

[56] ONS Dataset: Region by broad industry group (Standard Industrial Classification) – Business Register and Employment Survey (BRES): Table 4 (accessed August 2024); https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/datasets/regionbybroadindustrygroupsicbusinessregisterandemploymentsurveybrestable4

B.4.1. The Reference Case

The reference case refers to the extent to which outcomes would occur if RTE support had not occurred. To quantify this, we made use of participants' responses to the survey question:

- *Overall, what proportion of the business benefits reported (sales, employees, funding) could have occurred anyway even without RTE Programme participation?*

The table below shows how responses were mapped onto different levels. Observed effects are multiplied accordingly to arrive at a reference value, before applying other adjustments.

Table 22 Additionality Factors, Reference Case

Level	Quant.	Description
None	0%	These benefits would not have been realised at all without RTE
Low	25%	Only a small proportion of these benefits would have occurred without RTE
Medium	50%	About half of the benefits would have occurred without RTE
High	75%	Most of the benefits would have occurred without RTE
Total	100%	All of the benefits could have occurred without RTE
Average	**33%**	

Source: Technopolis, quantified using survey question

B.4.2. Leakage

Leakage refers to the proportion of outcomes of RTE support that benefit areas or individuals outside of the support target area (i.e., region). We used a combination of participants' responses to the following questions in the survey to quantify a leakage factor at the regional and national level:

- *Do you reside in the same region as you did during your participation in the RTE?*
- *As a percentage, what proportion of your staff is: (i) based in the UK, but outside your region;*[57] *(ii) based outside the UK?*

[57] This question may have been misinterpreted, which is why we also made use of participants' responses to place of residence to quantify leakage. Generally, we expected a low level of leakage given the programme design. For awardees that did not respond to the survey, we assumed a *very low* level of leakage of 10%.

Table 23 Additionality Factors, Leakage

Level	Quant.	Description
None	0%	I reside in the same region, and do not plan to relocate & All staff is based in the target region / in the UK
Low	25%	Most of the staff is based in the target region / in the UK
Medium	50%	About half of the staff is based in the target region / in the UK
High	75%	Most of the staff is based outside the target region / the UK
Total	100%	Since completing the RTE programme, I have relocated elsewhere & All staff is based outside the target region / the UK
Average	7%	Regional
Average	4%	National

Source: Technopolis

B.4.3. Displacement

In this context, displacement refers to the extent to which the observed outcomes attributed to RTE support are offset by reductions in the activities of non-beneficiaries, i.e., where supporting one business comes at the expense of another business and, thus, results in no net increase at the regional or national level.

In the same way as leakage, we used different displacement factors to compute net effects at the regional and national level. We used the following survey question to quantify displacement:

- *If you were to discontinue your business activities, what share of your market would be taken by competitors: (i) in your region; (ii) elsewhere in the UK; (iii) by international competitors; (iv) not be taken by anyone?*

Table 24 Additionality Factors, Displacement

Level	Quant.	Description
None	0%	No market share would be taken by competitors in the region / elsewhere in the UK
Low	25%	Some market share would be taken by competitors in the region / elsewhere in the UK
Medium	50%	Half market share would be taken by competitors in the region / elsewhere in the UK
High	75%	Most market share would be taken by competitors in the region / elsewhere in the UK
Total	100%	All market share would be taken by competitors in the region / elsewhere in the UK
Average	18%	Regional
Average	29%	National

Source: Technopolis

Table 25 summarises the net local direct effects of the intervention (i.e., gross effects adjusted for leakage and displacement), the adjusted reference case (i.e., deadweight) and the total net additional local effects as the subtraction of the two.

Table 25 Net Local Direct Effects

	Intervention RTE support: Net local direct effects	Reference case Deadweight: Net local direct effects	Total net *additional* local effects
Employment			
North East	10.7	2.1	8.6
North West	21.0	8.7	12.3
Yorkshire and The Humber	44.1	14.5	29.6
Northern Ireland	33.5	6.0	27.5
All	**92.7**	**28.7**	**64.0**
Investment (£)			
North East	337,708	111,074	226,634
North West	1,053,508	446,208	607,300
Yorkshire and The Humber	6,658,575	2,218,080	4,440,495
Northern Ireland	3,383,692	143,995	3,239,697
All	**10,195,941**	**2,517,186**	**7,678,755**
GVA (£)			
North East	877,094	187,218	689,876
North West	1,285,261	526,629	758,632
Yorkshire and The Humber	3,829,606	1,269,997	2,559,610
Northern Ireland	2,915,023	502,956	2,412,067
All	**7,286,988**	**2,220,162**	**5,066,826**

Source: Technopolis analysis of survey and monitoring data

Appendix C Skills Analysis

To assess the impact of the RTE programme on skills development, we calculated the average skill change among RTE participants and weighted the differences according to respondents' perception on the extent to which the programme contributed to the change. Average skill changes were also computed for a sample of unsuccessful applicants who responded to the survey. The difference of the two (i.e., the *difference in mean differences*) indicates how much more (or less) the participant group has changed compared to the unsuccessful applicants, thus providing an approximation to the programme's impact that considers changes that would have happened in both groups without the programme.

The table below shows the average skill level for participants before RTE and now, the unweighted mean difference and weighted mean difference (columns 1-4). Alongside this, we report the average skill level for unsuccessful applicants at the time of applying to the RTE, the average skill level now, and the mean difference (columns 5-7). Column 8 shows the difference in mean differences and, hence, how much participants skill levels have changed relative to unsuccessful applicants. The standard e

rrors of the means reported in the table are used to determine the statistical significance and confidence intervals of our estimates (columns 8, 9). These results are indicative of the effect of programme participation on skills development.

Furthermore, the standard errors show the precision if these estimates, so a low standard error suggest a higher precision of the estimates. Along with the 95% confidence intervals shown in Column 9, these allow us to reach more reliable conclusions and make data-driven decisions. A 95% confidence interval indicates that we are 95% certain the actual value falls within that range. When the confidence interval does not include zero, such as when comparing how much the RTE program aided participants, we can be certain that there is a significant difference. With only a few exceptions, the confidence intervals closely match the results of the difference in means. For example, the confidence interval for the overall skill category is 0.157 to 1.287. Because this range does not include zero, it indicates a statistically significant effect, implying a clear positive impact on overall skills.

We also ran a series of regressions using a conventional Difference-in-Difference (DiD) design with an interaction term to estimate the programme's effect on skills development. The magnitude of the estimate coefficient of interest is consistent with the differences reported in our analysis and tables, but the set up inherently violates Ordinary Least Squares (OLS) assumptions, thus producing unprecise and biased estimates. The standard errors from these estimations were large, thus leading to a lack of statistical significance. This is due to several factors including selection bias (i.e., the allocation to the programme was not random) and sample sizes being relatively small. Additionally, a lack of information collected on participants and unsuccessful applicants personal and professional attributes beyond years of professional experience constrains our ability to control for other confounding factors. Such characteristics were not asked to unsuccessful applicants in order to reduce respondent burden and maximise response rates.

Given the dichotomous (i.e., categorical) nature of how skill levels were measured, estimating the treatment effect using a logistic regression could potentially be an alternative approach to this estimation. However, logistic regression would still face similar challenges, including issues related to multicollinearity, small sample sizes, omitted variable bias, and ensuring the proper specification of the model. As such, while logistic regression might offer certain advantages over OLS in this context, it would still require careful consideration of these underlying problems to ensure robust and reliable results.

Table 26 RTE contribution to skills development: participants and unsuccessful applicants average scores and difference in mean differences

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Participants (Treatment Group)				Unsuccessful Applicants (Control Group)			Difference in mean differences	95% Conf. Interval
	Before	After	Difference (unweighted)	Difference (weighted)	Before	After	Difference		
Entrepreneurial skills	6.097 (0.249)	7.663 (0.141)	1.566 (0.200)	1.136 (0.180)	7.050 (0.649)	7.375 (0.543)	0.325 (0.253)	0.811** (0.311)	[0.149,1.473]
Inner discipline	6.029 (0.327)	7.629 (0.169)	1.600 (0.229)	1.129 (0.202)	7.125 (0.666)	7.375 (0.596)	0.250 (0.164)	0.879*** (0.260)	[0.348,1.409]
Ability to take and manage risks	5.771 (0.328)	7.457 (0.166)	1.686 (0.274)	1.236 (0.233)	7.000 (0.681)	7.375 (0.565)	0.375 (0.263)	0.861** (0.351)	[0.126,1.596]
Innovation	6.429 (0.291)	7.714 (0.186)	1.286 (0.283)	0.886 (0.204)	7.125 (0.693)	7.625 (0.653)	0.500 (0.267)	0.386 (0.336)	[-0.327,1.099]
Change-orientation	5.486 (0.297)	7.514 (0.185)	2.029 (0.283)	1.486 (0.198)	6.625 (0.680)	7.000 (0.655)	0.375 (0.264)	1.111 (0.329)	[0.413,1.809]
Persistence	6.771 (0.272)	8.000 (0.205)	1.229 (0.284)	0.943 (0.229)	7.375 (0.730)	7.500 (0.567)	0.125 (0.581)	0.818 (0.624)	[-0.594,2.23]
N	*35*	*35*	*35*	*35*	*8*	*8*	*8*	*43*	
Technical skills	5.727 (0.208)	7.303 (0.158)	1.576 (0.210)	1.166 (0.184)	5.982 (0.566)	6.482 (0.602)	0.500 (0.249)	0.666** (0.309)	[0.007,1.325]
Understanding and managing operations	5.941 (0.316)	7.324 (0.218)	1.382 (0.293)	1.088 (0.243)	6.750 (0.590)	7.000 (0.598)	0.250 (0.250)	0.838** (0.349)	[0.115,1.561]
Effective communication	5.765 (0.280)	7.294 (0.233)	1.529 (0.232)	1.096 (0.193)	6.250 (0.726)	6.750 (0.675)	0.500 (0.267)	0.596* (0.330)	[-0.108,1.299]
Design skills	6.324 (0.292)	7.529 (0.175)	1.206 (0.214)	0.875 (0.174)	6.250 (0.861)	6.750 (0.796)	0.500 (0.267)	0.375 (0.319)	[-0.314,1.064]
Development and validation skills	6.471 (0.243)	7.824 (0.191)	1.353 (0.227)	0.993 (0.200)	6.500 (0.756)	7.000 (0.707)	0.500 (0.378)	0.493 (0.427)	[-0.448,1.433]
Understanding of your market	5.353 (0.286)	7.147 (0.212)	1.794 (0.249)	1.265 (0.195)	6.000 (0.756)	6.500 (0.732)	0.500 (0.267)	0.765** (0.331)	[0.060,1.469]
Financial understanding	5.324 (0.337)	7.059 (0.223)	1.735 (0.341)	1.309 (0.282)	6.000 (0.707)	6.375 (0.730)	0.375 (0.375)	0.934* (0.469)	[-0.099,1.967]

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Participants (Treatment Group)				Unsuccessful Applicants (Control Group)			Difference in mean differences	95% Conf. Interval
	Before	After	Difference (unweighted)	Difference (weighted)	Before	After	Difference		
Pitching and securing investment	4.912 (0.325)	6.941 (0.215)	2.029 (0.364)	1.537 (0.288)	4.125 (0.515)	5.000 (0.845)	0.875 (0.350)	0.662 (0.454)	[-0.295,1.619]
N	*34*	*34*	*34*	*34*	*8*	*8*	*8*	*42*	
Management skills	5.522 (0.230)	6.955 (0.212)	1.433 (0.230)	1.048 (0.189)	5.929 (0.506)	6.235 (0.553)	0.321 (0.172)	0.727*** (0.256)	[0.200,1.253]
Decision-making confidence	5.714 (0.311)	7.114 (0.224)	1.400 (0.302)	1.029 (0.227)	6.125 (0.666)	6.375 (0.754)	0.250 (0.250)	0.779** (0.337)	[0.075,1.482]
Problem-solving skills	6.600 (0.285)	7.657 (0.213)	1.057 (0.201)	0.779 (0.166)	7.375 (0.653)	7.625 (0.420)	0.250 (0.250)	0.529 (0.300)	[-0.120,1.177]
Motivating others	5.943 (0.281)	6.943 (0.209)	1.000 (0.259)	0.714 (0.209)	7.000 (0.567)	7.250 (0.620)	0.250 (0.250)	0.464 (0.326)	[-0.220,1.149]
Recruiting or building a team	5.200 (0.280)	6.743 (0.230)	1.543 (0.285)	1.114 (0.236)	5.625 (0.730)	6.000 (0.845)	0.375 (0.375)	0.739 (0.443)	[-0.218,1.697]
Marketing	5.143 (0.302)	6.771 (0.299)	1.629 (0.328)	1.236 (0.271)	5.875 (0.581)	5.875 (0.581)	0.000 (0.000)	1.236*** (0.271)	[0.686,1.786]
Selling	5.143 (0.263)	6.714 (0.286)	1.571 (0.326)	1.129 (0.285)	4.875 (0.639)	5.250 (0.840)	0.375 (0.263)	0.754* (0.388)	[-0.045,1.552]
Networking and developing a personal brand	4.914 (0.299)	6.743 (0.302)	1.829 (0.283)	1.336 (0.240)	4.625 (1.051)	5.375 (0.822)	0.750 (0.750)	0.586 (0.788)	[-1.230,2.402]
N	*35*	*35*	*35*	*35*	*8*	*8*	*8*	*43*	
Overall	5.765 (0.212)	7.284 (0.166)	1.519 (0.195)	1.110 (0.170)	6.243 (0.526)	6.632 (0.542)	0.388 (0.207)	0.722** (0.268	[0.157,1.287]
N	*35*	*35*	*35*	*35*	*8*	*8*	*8*	*43*	
Note: standard errors in parentheses; stars denote statistical significance, *p<0.1, **p<0.05, ***p<0.01									

Appendix D Interview Guides

D.1. RTE Participants

Interviewee	
Organisation	
Cohort	
Region	
Interviewer	
Date and time	

Notes for interviewers

The Royal Academy of Engineering's (the Academy) Regional Talent Engines (RTE) programme is a pre-accelerator programme targeted at mid-career engineers with a viable business idea and aspirations to become an entrepreneur. At present, RTE accepts participants in five locations: Northern Ireland, North East, North West, Yorkshire and the Humber and Wales. Programme participants undergo a six-month programme with a mixture of taught courses and one-to-one coaching and are awarded an equity-free grant of £20,000.. The taught material covers several aspects of entrepreneurialism and business management (from product development to sales) and is reviewed and updated after every cohort (so participants in each cohort will not have had exactly the same content). The programme was launched in 2021 and implemented as groups (cohorts) of 15-20 participants and the current cohort is the fourth.

More detail is provided in our scoping report and on the Academy's website.

If applicable, review available information provided by the interviewee from the survey. The point of the interview is to gain an in-depth understanding of the business, and so, to build on the information we may already have. Please review the monitoring data [link] and look up the business/entrepreneur online beforehand.

In the monitoring data, please make note of 1) the Cohort so you know when (or approximately when) the interviewee participated in the programme, and 2) the region, for an understanding of where they were when they participated – it is important for us to understand if they have remained in the region or relocated.

***The key purpose of the interviews** is to gain a deeper understanding of (1) the impact of the RTE programme for the specific business idea (has it been developed further and what are the plans for it) and the person involved (are they still keen on being an entrepreneur); (2) which elements of the RTE programme were particularly beneficial to achieving (1); (3) what would have happened in the absence of the RTE programme; (4) how the RTE programme fits into the wider landscape of business support – how unique it is (both regionally and nationally).*

Introduction:

Thank you for filling out the survey and also thank you for taking part in this interview. The Royal Academy of Engineering has commissioned Technopolis to carry out an impact study of the Regional Talent Engines programme. The goal of this study is to understand the nature and effectiveness of the programme, and to inform decision-making for future iterations of the programme.

To do this, we are interviewing various stakeholders. This interview will focus on your views and experiences of participating in the programme, the entrepreneur support landscape more generally, and your experiences after the participating in the programme. There are no right or wrong answers, we welcome your full and open insights. The interview will last no more than 30 minutes.

Data protection:

Your participation in this interview is voluntary and you can withdraw your participation and information at any time.

Your input will feed into wider analysis of the processes and impacts of the RTE programme. This will be presented as aggregated, anonymised results in the published evaluation reports. If we use any quotes in the report, they will not be attributable to individuals.

Are you happy to proceed with the interview on these terms? (if interviewee is unhappy to proceed, we can offer to rule out using quotes from this interview)

	YES	NO
CONSENT GIVEN TO CONDUCT INTERVIEW		

Do you consent to this conversation being recorded for note-taking purposes? The recordings will not be shared with anyone outside the study team and will be destroyed in 90 days.

If you would like more information on our privacy policy I can share this with you: https://www.technopolis-group.com/privacy-policy/

Are you happy for the interview to be recorded?

	YES	NO
CONSENT GIVEN TO RECORD INTERVIEW		

1.1 Business profile

1. Could you tell me about the business idea you were developing (or thinking of developing) and hoped to progress via the RTE programme?

   What are the key features of the business idea you were seeking to develop via the programme? *(Note to interviewers: we are seeking to understand the types of features below, please prompt/ probe as necessary to gain this understanding)*

   a) What was/is the product/service/process?

   b) What sector is it in?

   c) Who is the target customer for the product /service?

   d) What stage of development was the technical idea was at the time of applying?

   e) What stage was the business at the time of applying? (e.g. was the business incorporated,

   f) What was the size of the business when you applied? (in terms of number of employees, and turnover)

   g) Where was the business located when you applied?

2. Can you tell me about your situation before you applied for the RTE programme? For example, were you working in engineering? How long have you been working in engineering? Were you employed in another company (than the one you were seeking to develop)?

1.2 Engagement with the RTE programme

Interviewer: please check from monitoring data when the interviewee participated. How long ago the participant graduated from the programme

3. How did you become aware of the RTE programme?

4. Could you please describe your **motivation for applying** to RTE?
   a) What were your main aims and objectives for participating? *(what was the participants hoping to achieve via participation)*
   b) Were there any particular features of RTE that made it attractive to your circumstances and needs at the time you applied?

5. Which elements of the training and coaching you received during the programme were particularly valuable to you?

   (Note to interviewee: the offer is somewhat tailored and updated from one cohort to another, and 121 coaching is tailored to participants' own objectives. Therefore, each interviewee may have had a slightly different experience. If the participant has filled out the survey, please look at their answers about programme use beforehand)

   a. Have you applied anything you learned from the training programme or coaching to grow your business or within your work in another way? If so, what and how? *(Note: clarify and record if the learnings applied arose from the training (taught content) or the one-to-one coaching)*
   b. Were there any aspects of training and coaching that you would like to have had available **that weren't**? Is yes, what were they?

6. How valuable was the funding element of the RTE programme? *(Note: clarify and record **how they used the funding** as well as how valuable it was to them)*

7. How well did the programme structure and time-commitment work for you? *(Note to interviewers: we are seeking to understand the types of features below, please prompt/ probe as necessary to gain this understanding)*
   a. In terms of fitting it into your schedule / making time for it?
   b. To what extent did you find the balance of in-person vs online content appropriate?
   c. How would you rate the intensity of the workload? (i.e. right amount of work for the time, too little, too much?)

8. Since the programme, have you made use of other Academy resources (e.g. networks, signposting, mentors, the Academy's facilities at their Enterprise Hubs)? *(please use prompts as relevant)*
   a. What did you use?
   b. How useful was it?

c. Have you kept in contact with the delivery personnel? If so, what have you discussed or accessed via them?

9. Is there any Academy support you would like but have not yet gotten (either due to a difficulty of access or because it is not there)?

1.3 Business benefits

10. Could you describe any benefits to your business / business idea gained from your participation in the RTE programme? *(Note for interviewer: check survey responses for anything relevant; prompt for things like critical product development, IP applications, a better understanding of market, business operations established, investment gained)*

11. Did the programme have any effect on your interest or confidence in being an entrepreneur?

    (Prompt if needed: had you already decided on being an entrepreneur before participating and or has participation reinforced, increased or reduced your interest in being an entrepreneur?)

12. To what extent has the RTE programme helped expand or deepen your professional network, be that with customers, potential customers, technology providers/ suppliers or potential partners or collaborators?

    (Prompts if needed: did any collaborations with other participants, access to peers, etc arise via introductions made by the RTE coaches or the Academy)

13. What would have happened if you hadn't participated in the RTE programme? *(use below as prompts)*
    a. In terms of developing your commercial product/service
    b. In terms of growing your leadership skills
    c. In terms of establishing your business operations
    d. In terms of seeking investment

14. Can you tell me about your next steps for taking business *idea/ venture forward? (please follow the prompts – **noting that the location question is important to capture**)*
    a. In terms of the technology / idea reaching the market
    b. In terms of business growth / scale up. What are your plans for growing revenue, staff, seeking further investment / funding?

15. In terms of location – where is it currently based and where do you expect to be based in the coming years? If you plan to move from your current location. Why is that the case?

16. Are there any particular challenges at this current stage of your business where you would welcome further support from the Academy?

1.4 Business support landscape in general

Thinking about the wider landscape of business support, we are interested to understand how RTE compares to other schemes and fits into the landscape

17. What other forms of business support (if any) have you sought and/or used?
    a. Are these national schemes or schemes available at the regional /local level?

    (Note to interviewer: please clarify with the interviewee (and record) if they have used the schemes they mentioned or have just looked into them or applied to them but not used them)

    Prompts:

    a. *Applied for funding (e.g. IUK schemes)*
    b. *Participated in other accelerators (or plan to)*
    c. *Engaged with LEPs, Growth Hubs or Chambers of Commerce for additional resources or advice*

18. Is there anything particularly unique and valuable about the RTE programme *compared to other programmes and schemes*? (if so, in what way?)

19. If you have sought or received other support since participating in RTE, did you receive advice or signposting to these resources from the RTE delivery team or the Academy?

1.5 About the RTE programme

20. Thinking about your full experience with the RTE programme *(all questions to be asked):*
    a. What was most valuable to you?
    b. What worked less well or could have been done differently?
    c. Was there anything you wish there could be more of?

Interviewer: please, summarise the main points raised during the interview (state of business/idea prior to programme, main characteristics and state of the business/idea now, main benefits from RTE, views of the support landscape more generally, feedback to the programme.

Is this accurate?

1.6 Closing

21. Do you have anything else you would like to raise that we haven't covered in our questions?

22. (Thank you)

D.2. Unsuccessful Applicants

Interviewee	
Organisation	
Cohort	
Region	
Interviewer	
Date and time	

The Royal Academy of Engineering's (the Academy) Regional Talent Engines (RTE) programme is a pre-accelerator programme targeted at mid-career engineers with a viable business idea and aspirations to become an entrepreneur. At present, RTE accepts participants in five locations: Northern Ireland, North East, North West, Yorkshire and the Humber and Wales. Programme participants undergo a six-month programme with a mixture of taught courses and one-to-one coaching and are awarded an equity-free grant of £20,000. The taught material covers several aspects of entrepreneurialism and business management (from product development to sales) and is reviewed and updated after every cohort (so participants in each cohort will not have had exactly the same content). The programme was launched in 2021 and implemented as groups (cohorts) of 15-20 participants and the current cohort is the fourth.

More detail is provided in our scoping report and on the Academy's website.

If applicable, review available information provided by the interviewee from the survey. The point of the interview is to gain an in-depth understanding of the business, and so, to build on the information we may already have. Please review the monitoring data [link] and look up the business/entrepreneur online beforehand.

In the monitoring data, please make note of 1) the Cohort they applied to so you know when (or approximately when) the interviewee applied to the programme, 2) the region (column G), for an understanding of their location – it is important for us to understand if they have remained in the region or relocated. Finally, please check whether the interviewee had made it to the interview stage (column F); if they did, they were offered 3 online training sessions, around business modelling, value proposition and pitching, prior to the interview.

***The key purpose of the interviews** is to gain a deeper understanding of (1) the impact of the RTE programme for the specific business idea (has it been developed further and what are the plans for it) and the person involved (are they still keen on being an entrepreneur); (2) which elements of the RTE programme were particularly beneficial to achieving (1); (3) what would have happened in the absence of the RTE programme; (4) how the RTE programme fits into the wider landscape of business support – how unique it is (both regionally and nationally).*

Introduction

To interviewer: check if the interviewee has filled out the survey (if yes, thank them for it; if not, please remind them to do so).

Thank you for taking part in this interview. The Royal Academy of Engineering has commissioned Technopolis to carry out an impact study of the Regional Talent Engines programme. The goal of this study is to understand the nature and effectiveness of the programme, and to inform decision-making for future iterations of the programme.

To do this, we are interviewing various stakeholders. This interview will focus on your views and experiences of applying to the programme, the entrepreneur support landscape more generally, and the developments to your skills and business idea. There are no right or wrong answers, we welcome your full and open insights. The interview will last no more than 20 minutes.

Data protection:

Your participation in this interview is voluntary and you can withdraw your participation and information at any time.

Your input will feed into wider analysis of the processes and impacts of the RTE programme. This will be presented as aggregated, anonymised results in the published evaluation reports. Quotes will not be attributable.

Are you happy to proceed with the interview on these terms? (if interviewee is unhappy to proceed, we can offer to rule out using quotes from this interview)

	YES	NO
CONSENT GIVEN TO CONDUCT INTERVIEW		

Do you consent to this conversation being recorded for note-taking purposes? The recordings will not be shared with anyone outside the study team and will be destroyed in 90 days.

If you would like more information on our privacy policy I can share this with you: https://www.technopolis-group.com/privacy-policy/

Are you happy for the interview to be recorded?

	YES	NO
CONSENT GIVEN TO RECORD INTERVIEW		

1.1 Business idea

1. Could you tell me about the business idea you were developing (or thinking of developing) and hoped to progress via the RTE programme?

   What are the key features of the business idea you were seeking to develop via the programme? *(Note to interviewers: we are seeking to understand the types of features below, please prompt/ probe as necessary to gain this understanding)*

   a. What was/is the product/service/process?
   b. What sector is it in?
   c. Who is the target customer for the product /service?
   d. What stage of development was the technical idea was at the time of applying?
   e. What stage was the business at the time of applying? (e.g. was the business incorporated,
   f. What was the size of the business when you applied? (in terms of number of employees, and turnover)
   g. Where was the business located when you applied?

2. Can you tell me about your situation before you applied for the RTE programme? For example, were you working in engineering? How long have you been working in engineering? Were you employed in another company (than the one you were seeking to develop)?

1.2 Engagement with RTE

3. How did you become aware of the RTE programme?

4. Could you please describe your **motivation for applying** to RTE? *(please ask both below)*
   c) What were your main aims and objectives for participating? *(what was the participants hoping to achieve via participation)*
   d) Were there any particular features of RTE that made it attractive to your circumstances and needs at the time you applied?

1.3 Application process

5. Were there any parts of the application process you found especially challenging?

6. Did you receive support or advice on the application process from the Academy or anyone else? Did you find it helpful?

7. Did you receive feedback on your application? Did you find it helpful?

8. Is there anything you would change about the application process?

If application was withdrawn or the applicant did not take the RTE place offered to them

9. What was the reason for withdrawing your application? OR What was the reason for not accepting a place on the RTE programme? *(prompts if needed: were there issues for you regarding the time commitment of participation, other employment commitments, the stage of development of their business)*

1.4 Counterfactual – state of entrepreneurship

10. Are you still pursuing the business idea you had when you applied for RTE?

If pursuing the business idea:

11. Do you believe that your application to RTE was beneficial for your business? *(Note for interviewer: check the monitoring data for whether they made it to interview stage (if yes, they were offered training in preparation), and survey responses for anything relevant)*

If the business idea is shelved:

12. Why is this the case? *(follow-up question below, please ask)*

a. Do you think participation in RTE would have made a difference?

13. More generally, are you still interested in being an entrepreneur? *(follow-up question below, please ask)*

Are you currently pursuing other ideas?

1.5 Counterfactual – other support accessed

14. What other forms of business support (if any) have you sought and/or used?

    b. Are these national schemes or schemes available at the regional /local level?

    (Note to interviewer: please clarify with the interviewee (and record) if they have used the schemes they mentioned or have just looked into them or applied to them but not used them)

    Prompts:

    a. *Applied for funding (e.g. IUK schemes)*
    b. *Participated in other accelerators (or plan to)*
    c. *Engaged with LEPs, Growth Hubs or Chambers of Commerce for additional resources or advice*

15. How relevant have you found these forms of support to your needs?

16. How would you characterise the available support offer more generally?

17. Would you consider re-applying to RTE or other Academy support, or otherwise engaging with the Academy in the future?

1.6 Closing

18. Do you have anything else you would like to raise that we haven't covered in our questions?

(Thank you)

D.3. Stakeholders

Interviewee	
Organisation	
Central/regional	
Interviewer	
Date and time	

Notes for interviewers

The Royal Academy of Engineering's (the Academy) Regional Talent Engines (RTE) programme is a pre-accelerator programme targeted at mid-career engineers with a viable business idea and aspirations to become an entrepreneur. At present, RTE accepts participants in five locations: Northern Ireland, North East, North West, Yorkshire and the Humber and Wales. Programme participants undergo a six-month programme with a mixture of taught courses and one-to-one coaching and are awarded an equity-free grant of £20,000.. The taught material covers several aspects of entrepreneurialism and business management (from product development to sales) and is reviewed and updated after every cohort (so participants in each cohort will not have had exactly the same content). The programme was launched in 2021 and implemented as groups (cohorts) of 15-20 participants and the current cohort is the fourth.

More detail is provided in our scoping report and on the Academy's website.

Please check the interview tracker whether this is a central or a regional stakeholder; if regional, please find out in advance which region(s) the stakeholder is relevant to.

***The key purpose of the interviews** is to gain a deeper understanding of (1) the impact of the RTE programme for the specific business idea (has it been developed further and what are the plans for it) and the person involved (are they still keen on being an entrepreneur); (2) which elements of the RTE programme were particularly beneficial to achieving (1); (3) what would have happened in the absence of the RTE programme; (4) how the RTE programme fits into the wider landscape of business support – how unique it is (both regionally and nationally).*

Introduction

Thank you for taking part in this interview. The Royal Academy of Engineering has commissioned Technopolis to carry out an impact study of the Regional Talent Engines programme. The goal of this study is to understand the nature and effectiveness of the programme, and to inform decision-making for future iterations of the programme.

To this end, we are interviewing various stakeholders. This interview will focus on your insights as a stakeholder, your views of the programme and its viability, impacts perceived thus far and how the RTE offer contributes to the key regional ecosystems. There are no right or wrong answers, we welcome your full and open insights. The interview will last no more than 45 minutes.

Data protection:

Your participation in this interview is voluntary and you can withdraw your participation and information at any time.

Your input will feed into wider analysis of the processes and impacts of the RTE programme. This will be presented as aggregated, anonymised results in the published evaluation reports. Quotes will not be attributable.

Are you happy to proceed with the interview on these terms? (if interviewee is unhappy to proceed, we can offer to rule out using quotes from this interview)

	YES	NO
CONSENT GIVEN TO CONDUCT INTERVIEW		

Do you consent to this conversation being recorded for note-taking purposes? The recordings will not be shared with anyone outside the study team and will be destroyed in 90 days.

If you would like more information on our privacy policy I can share this with you: https://www.technopolis-group.com/privacy-policy/

Are you happy for the interview to be recorded?

	YES	NO
CONSENT GIVEN TO RECORD INTERVIEW		

1.1 Introduction

1. [For all] Please introduce yourself and your organisation

2. [For all] Could you describe how you first became aware of, and (if relevant) began to engage with the Academy's RTE programme?

3. [If part of the Academy] Can you explain your role in relation to RTE?

   [If an external stakeholder] Can you describe your involvement, engagement or collaboration with RTE?

4. [If an external stakeholder] How is this engagement managed, for example do you have a formal or informal role, do you engage on an on-going or ad hoc basis?

5. [For all] In terms of the **overall aim of RTE and its offer to participants** RTE in relation to its target audience
   a. Would you change anything regarding the **aims** or **offer** of the RTE?
   b. Would you change anything **about the way that the RTE was implemented or managed**?

6. [For all] Is the RTE well-resourced for its purpose? *(prompt: e.g., in relation to their capacity to take on participants per cohort, its ability to provide a sufficiently beneficial package of support)*

1.2 Impact

7. [For all] In your view, how well is RTE known / established in the regions it is targeting / your region?

8. [For all] In your view, has the programme contributed to increased volumes of entrepreneurship in the target regions (/ your region)? *(please check all dimensions below)*
   a. Increased volumes of new engineering-based businesses (*[For regional]* is this making a difference locally?)
   b. Increased volume of entrepreneurialism more generally (i.e. overall interest in / readiness to establish a business) *[spillover]*
   c. Increases in the volume or uptake of entrepreneurial support
   d. Increased volume of business investment/funding

e. Is there more interest in entrepreneurship in the region as a result?

9. [For all] Are you aware of specific success stories coming out of the programme? *(possible prompts below, no need to go into every detail)*
    a. In terms of successful scaling
    b. In terms of considerable investment (stories of funding secured)
    c. In terms of innovation activity or capability (R&D or other collaboration, training, equipment, organisational changes)
    d. In terms of general growth (provision of new employment, increased turnover)

10. [For all] In your view, are there particular competences which RTE graduates exhibit relative to other businesses?

11. [For all] Thinking more broadly, has RTE has contributed to **broader impacts** in the regions (/ in your region)? For example: *(interviewed: please check for all types of impacts listed)*
    a. Improved economic performance
    b. Any societal benefits
    c. Improved reputation of the region(s) for entrepreneurs and investors

1.3 RTE in wider context (including additionality)

12. [For all] How well-placed is the RTE offer in the local ecosystems? *(please ask both listed)*
    a. Does it address a market failure?
    b. Are there areas that you believe the programme should cover but does not?

13. [For all] Are you aware of other, similar programmes which target the same, or similar, need or key demographic? Either locally or nationally *(please cover all aspects below)*
    a. How does RTE compare to those in terms of:
        I. Reception
        II. Effectiveness
        III. Brand
    b. To your knowledge, are there any particularly good practices present in one, other, or both?

14. [For all] In your view, what makes RTE stand apart from other entrepreneur / business support programmes (including other local initiatives and other Academy programmes)

15. [For all] Do you see potential for RTE to expand to other regions?

16. [For all] Where else do you believe the RTE offer would be effective?

1.4 Closing reflections

17. [For all] What one thing do you believe about RTE as it currently stands has been essential to RTE's ability to deliver on its aims and objectives?

18. [For all] Is there anything else you would change about RTE? *(Note to interviewer: noting that this may been covered sufficiently in Q5)*

19. [For all] Do you have anything else you would like to raise that we haven't covered in our questions?

(Thank you)

Appendix E Survey questionnaires

E.1. RTE Participants

1.5 Introduction

Thank you for taking the time to reply to this survey. The Royal Academy of Engineering has commissioned Technopolis Group to evaluate the Regional Talent Engines (RTE) programme.

The evaluation aims to understand the impact that the RTE programme has had both on skills, and on business performance. The evaluation will also play an important role in helping the Academy better design future programmes. One of our key evidence sources are RTE programme participants.

As set out in the introductory email by *[programme manager]*, you have received this 10-minute survey as an individual or business founder that has participated in the RTE programme. The objective of this survey is to better understand the nature and impact of this engagement. All responses will be treated in strict confidence, and only reported at the highest possible level of aggregation.

We thank you in advance for your time and support to this important exercise.

Confidentiality and data

Your participation in this survey is voluntary and you are able to withdraw at any time. You are free to request the withdrawal and deletion of your submission and data at any time. The evaluators operate in compliance with GDPR and take all steps to ensure the protection and confidentiality of your personal information. For further information on your rights and how to contact Technopolis, please refer to their Privacy Notice: http://www.technopolis-group.com/privacy-policy. For any queries, please contact Laura Sutinen at laura.sutinen@technopolis-group.com.

Page break

1.6 Profile

1. Please state your gender: [Drop-down box]

- Man
- Woman
- Non-binary
- Prefer not to say

2. Please indicate the number of years of professional experience prior to participating in the RTE programme: [Single-line text box]
3. Please provide the Company Registration Number (CRN) of your business (if applicable): [Single-line text box]

Page break

1.7 Choosing the programme

4. Why did you choose to apply for the Regional Talent Engines programme?

[Comment box]

5. In the absence of this programme, what would you have done? Tick all that apply [Tick boxes]

- Used an alternative publicly funded scheme
- Used a private sector scheme
- Sought help from friends and family
- Not looked for any support at all
- Other – please specify [comment box]

Page break

1.8 Skills and IRL

In this section, we are interested in the entrepreneurial and leadership capabilities which you have accumulated to this day. In addition, we would like to invite you to think about the difference in these capabilities before participating in the RTE programme.

Your responses will not be shared with anyone outside the study team. All data will be aggregated with those provided by other respondents – we are interested in how these skills have changed across all participants rather than at the individual level.

For each of the following questions, please rate your level of capabilities in relation to all listed dimensions on a scale of 1 (no capability) to 9 (fully realised capability).

6. Entrepreneurship skills

Entrepreneurship skills	Now	Before participating in RTE
Inner discipline: self-motivation, focus, and commitment required to consistently pursue goals, overcome challenges, and maintain productivity without external supervision or direction	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Ability to take and manage risks: the capacity to assess, accept, and navigate uncertainties inherent in business ventures, making calculated decisions to pursue opportunities while minimizing potential negative outcomes	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Innovation: the ability to develop new ideas, products, services, or approaches that create value, solve problems, or meet unmet needs, often leading to differentiation, growth, and competitive advantage	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Change-oriented: having the willingness and agility to adapt, evolve and embrace shifts in market dynamics, technology, or consumer preferences	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

Entrepreneurship skills	Now	Before participating in RTE
Persistence: having the determination and resilience to continue pursuing goals, and iterating strategies despite setbacks or challenges, driving long-term success	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

7. Technical skills

Technical skills	Now	Before participating in RTE
Understanding and managing operations: overseeing day-to-day activities and resources to ensure efficiency, productivity and alignment with strategic objectives	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Effective communication: effectively and efficiently exchanging information among stakeholders, fostering clarity, understanding and alignment	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Design skills: conceptualising, developing and implementing creative and user-centric solutions, encompassing product design, user experience, and visual communication	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Development and validation skills: using methods like experimentation, prototyping and iteration to innovate and improve competitive ideas, products or processes	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Understanding of your market: comprehension of the target audience, industry trends, competitive landscape and customer needs for strategic positioning and sustainable growth	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
~~**Contractual, IP and legal understanding:** knowledge of relevant laws, regulations and compliance requirements to mitigate risks, protect assets and ensure legal and ethical conduct~~	~~[Drop-down scale of 1-9]~~	~~[Drop-down scale of 1-9]~~
Financial understanding: understanding and managing aspects like budgeting, accounting, cash flow, financial forecasting for informed decision-making, strategic planning and sustainable growth	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Pitching and securing investment: effectively communicating the value proposition and growth potential of a business, product or service to investors, and persuading them to financially support your venture	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

8. Management skills

Management skills	Now	Before participating in RTE
Decision-making confidence: self-assurance and conviction in timely and effective and informed decisions, enabling entrepreneurs to navigate uncertainties and seize opportunities	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Problem-solving skills: ability to identify, analyse and resolve challenges and complexities encountered in business operations, with creativity, critical thinking, and resourcefulness	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

Management skills	Now	Before participating in RTE
Motivating others: ability to inspire, empower, and incentivize team members, collaborators, or stakeholders towards shared goals and aspirations, fostering enthusiasm, commitment, and productivity	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Recruiting or building a team: attracting, selecting, and developing individuals with diverse expertise based on a good awareness of own and business needs; fostering a cohesive and high-performing team culture aligned with the company's vision and objectives	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Marketing: planned activities for promoting products, services or brands to target audiences through various channels and tactics	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Selling and pitching: using persuasion and storytelling to sell product or service to potential customers	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Networking and developing a personal brand: strategically cultivating relationships and an authentic public image to establish credibility, trust, and opportunities within your industry or community	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

Page break

9. Overall, would changes in the above capabilities have occurred even without your participation in the RTE programme? Please select one: [Radio button options]

- These impacts would not have been realised at all without the RTE programme
- Only a small proportion of these capabilities would have been realised without the RTE programme
- A substantial proportion of these capabilities would have been realised without the RTE programme
- Most of the capabilities would have been realised without the RTE programme
- All of the capabilities could have been realised without RTE programme

10. Are there any skills in particular to which RTE especially contributed? Please describe:

[Comment box]

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11. Please indicate the Investment Readiness Level of your idea now and before participating in the RTE programme:

Investment Readiness Level (IRL) is a framework developed by Cheltenham Consultants to assess the maturity and readiness of start-ups and innovations for investment

	Now	Before participating in RTE
1. **Concept**: a viable proposition with no tangible product or market validation	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

	Now	Before participating in RTE
2. **Potential market:** competitive analysis of the market	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
3. **Problem/Solution validation**: clear understanding of the problem and a viable solution demonstrated	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
4. **Prototype Validation**: Validation of the product or service through pilot testing or beta trials	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
5. **Product-market fit**: evidence of market demand and scalability potential demonstrated	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
6. **Revenue Model Validation**: validation of the business model, revenue streams, and scalability	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
7. **Minimum Viable Product liked:** MVP is not only viable, but well-received by the target market.	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
8. **Scalability, demonstration of delivery:** demonstrable capacity to deliver the product or service at scale	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
9. **Metrics-based growth:** KPIs and metrics demonstrate growth and inform decision-making and strategy	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

12. Overall, would changes in the Investment Readiness Level you indicated have occurred even without your participation in the RTE programme? Please select one: [Radio button options]

- These impacts would not have been realised at all without the RTE programme
- Only a small proportion of these capabilities would have been realised without the RTE programme
- A substantial proportion of these capabilities would have been realised without the RTE programme
- Most of the capabilities would have been realised without the RTE programme
- All of the capabilities could have been realised without RTE programme

Page break

1.9 Performance

13. Do you run your own business(es)?

- Yes
- No

If you answered 'No', can you please tell us about reasons for this?

[Comment box]

[Skip logic: if respondent selects no (or leaves the question unanswered), they skip to **'After the RTE programme'** section]

14. When did you establish your business(es)? [Tick boxes]

- I had established a business before my participation in RTE
- I established a business during my participation in RTE
- I have established a business since my participation in RTE

Please briefly describe your business(es) including the year(s) in which it was/they were established:

[Comment box]

You have previously provided data about the following elements to the Academy. We would like to collect updated data to better understand how your business, and those of other programme participants, has changed since being involved in the RTE programme.

Please note that data provided will be treated in the strictest confidence and will not be shared outside the Technopolis study team. Figures provided will only be reported and analysed in aggregate.

Please provide us with the following details:

	Answer
Current number of FTE employees (including yourself)	[Single-line text box]
Equity funding since completing programme (£)	[Single-line text box]
Grant funding since completing award (£)	[Single-line text box]
TRL level post programme (self-assessment)	[Drop-box with TRLs explained]
Have you achieved sales of your product / service? (Y/N)	[Single-line text box]

If you indicated sales achieved, please estimate the volume of sales achieved (£) in the past 12 months: [Single-line text box]

Page break

Overall, what proportion of the business benefits reported on the previous page could have occurred anyway even without RTE Programme participation? Please select one. [Radio button options]

- These impacts would not have been realised at all without RTE
- Only a small proportion of these benefits would have occurred without RTE
- A substantial proportion of benefits would have occurred without RTE

- Most of the benefits would have occurred without RTE
- All of the benefits could have occurred without RTEr

As a percentage, approximately what proportion of your staff is based… [Drop-down list of following options:

	Proportion of staff
In the UK, but outside of your region (i.e. the region where you participated in RTE)	• 100% • 75% • 50% • 25% • 0%
Outside of the UK	• 100% • 75% • 50% • 25% • 0%

Hypothetically, if you were to discontinue your business activities, what share of your market would be: (please estimate a percentage, with the three figures combined totalling 100%)

	Percentage
Taken by competitors in your region	[Single-line text box/drop-down scale]
Taken by competitors elsewhere in the UK	[Single-line text box/drop-down scale]
Taken by international competitors	[Single-line text box/drop-down scale]
Not be taken by anyone	[Single-line text box/drop-down scale]

Page break

1.10 After the RTE programme

15. Do you reside in the same region as you did during your participation in the RTE programme? Please select one: [Radio button options]

- I reside in the same region, and do not plan to relocate
- I reside in the same region, but plan to relocate
- Since completing the RTE programme, I have relocated elsewhere

16. Have you accessed any other business support in addition to the RTE programme?

- Before participating in RTE [Tick box]

- During participating in RTE [Tick box]
- After participating in RTE [Tick box]

Please describe any other forms of support you have accessed:

[Comment box]

Page break

1.11 Final thoughts

17. Are there any aspects of the RTE programme which you would:

- Keep [Comment box]
- Remove [Comment box]
- Do more of [Comment box]

18. Please add any final reflections about the Regional Talent Engines programme and its effect on your business and skills as an entrepreneur

    [Comment box]

19. If you are willing to participate in a 15-20-minute interview over the phone or virtually to further discuss your participation in the RTE programme, then please provide your details below. Any details you share will not be shared with anyone outside the Technopolis study team.

    Name [Single-line text box]

    Preferred email address [Single-line text box]

Page break

Thank you for participating in the survey. Your response provides valuable insight in our evaluation of the Regional Talent Engines programme and supports future decision-making for the programme.

Submit

E.2. Unsuccessful Applicants

1.1 Introduction

Thank you for taking the time to reply to this survey. The Royal Academy of Engineering has commissioned Technopolis Group to evaluate the Regional Talent Engines (RTE)programme.

The evaluation aims to understand the impact that the RTE programme has had both on skills, and on business performance. The evaluation will also play an important role in helping the Academy better design future programme. One of our key evidence sources are those that unsuccessfully applied to RTE. We keen to understand what applicants did and achieved in the absence of RTE support. All responses will be treated in strict confidence, and only reported at the highest possible level of aggregation.

Confidentiality and data

Your participation in this survey is voluntary and you are able to withdraw at any time. You are free to request the withdrawal and deletion of your submission and data at any time. The evaluators operate in compliance with GDPR and take all steps to ensure the protection and confidentiality of your personal information. For further information on your rights and how to contact Technopolis, please refer to their Privacy Notice: http://www.technopolis-group.com/privacy-policy. For any queries please contact Laura Sutinen at laura.sutinen@technopolis-group.com.

Page break

8.3 Profile

1. Please state your gender: [drop-down menu]

- Man
- Woman
- Non-binary
- Prefer not to say

2. Please indicate the number of years of professional experience prior to applying to the RTE programme: [Single line text box]
3. Please provide the name of your business (if applicable): [Single line text box]
4. Please provide the Company Registration Number (CRN) of your business (if applicable): [Single line text box]
5. Please indicate the year and region in which you applied to the RTE programme:

Year of application	**Drop-down box with options as below**
Year of application	(2021-2023)
Region	(NI, NE, NW, Y&H, Wales)

Page break

8.4 Skills and IRL

In this section, we are interested in the entrepreneurial and leadership capabilities which you have accumulated to this day. In addition, we would like to invite you to think about the difference in these capabilities before applying to the RTE programme.

Your responses will not be shared with anyone outside the study team. All data will be aggregated with those provided by other respondents – we are interested in how these skills have changed across all respondents rather than at the individual level.

For each of the following questions, please rate your level of capabilities in relation to all listed dimensions on a scale of 1 (no capability) to 9 (fully realised capability).

6. Entrepreneurship skills

Entrepreneurship skills	Now	Before applying to RTE
Inner discipline: self-motivation, focus, and commitment required to consistently pursue goals, overcome challenges, and maintain productivity without external supervision or direction	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Ability to take and manage risks: the capacity to assess, accept, and navigate uncertainties inherent in business ventures, making calculated decisions to pursue opportunities while minimizing potential negative outcomes	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Innovation: the ability to develop new ideas, products, services, or approaches that create value, solve problems, or meet unmet needs, often leading to differentiation, growth, and competitive advantage	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Change-oriented: having the willingness and agility to adapt, evolve and embrace shifts in market dynamics, technology, or consumer preferences	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Persistence: having the determination and resilience to continue pursuing goals, and iterating strategies despite setbacks or challenges, driving long-term success	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

7. Technical skills

Technical skills	Now	Before applying to RTE
Understanding and managing operations: overseeing day-to-day activities and resources to ensure efficiency, productivity and alignment with strategic objectives	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Effective communication: effectively and efficiently exchanging information among stakeholders, fostering clarity, understanding and alignment	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Design skills: conceptualising, developing and implementing creative and user-centric solutions, encompassing product design, user experience, and visual communication	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Research and development skills: using methods like market research, experimentation, prototyping	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

Technical skills	Now	Before applying to RTE
and iteration to innovate and improve competitive ideas, products or processes		
Understanding of your market: comprehension of the target audience, industry trends,, competitive landscape and customer needs for strategic positioning and sustainable growth	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
~~**Contractual, IP and legal understanding:** knowledge of relevant laws, regulations and compliance requirements to mitigate risks, protect assets and ensure legal and ethical conduct~~	~~[Drop-down scale of 1-9]~~	~~[Drop-down scale of 1-9]~~
Financial understanding: understanding and managing aspects like budgeting, accounting, cash flow, financial forecasting for informed decision-making, strategic planning and sustainable growth	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

8. Management skills

Management skills	Now	Before applying to RTE
Decision-making confidence: self-assurance and conviction in timely and effective and informed decisions, enabling entrepreneurs to navigate uncertainties and seize opportunities	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Problem-solving skills: ability to identify, analyse and resolve challenges and complexities encountered in business operations, with creativity, critical thinking, and resourcefulness	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Motivating others: ability to inspire, empower, and incentivize team members, collaborators, or stakeholders towards shared goals and aspirations, fostering enthusiasm, commitment, and productivity	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Recruiting or building a team: attracting, selecting, and developing individuals with diverse skills, expertise, and personalities, fostering a cohesive and high-performing team culture aligned with the company's vision and objectives	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Marketing: planned activities for promoting products, services or brands to target audiences through various channels and tactics	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
Selling and pitching: using persuasion, storytelling and relationship-building to communicate the value proposition of an idea, product or service to customers, investors or stakeholders	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

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9. Please indicate the Investment Readiness Level of your idea at present and before applying to the RTE programme:

Investment Readiness Level (IRL) is a framework developed by Cheltenham Consultants to assess the maturity and readiness of start-ups and innovations for investment

	Now	Before applying to RTE
10. **Concept**: a viable proposition with no tangible product or market validation	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
11. **Potential market:** competitive analysis of the market	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
12. **Problem/Solution validation**: clear understanding of the problem and a viable solution demonstrated	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
13. **Prototype Validation**: Validation of the product or service through pilot testing or beta trials	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
14. **Product-market fit**: evidence of market demand and scalability potential demonstrated	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
15. **Revenue Model Validation**: validation of the business model, revenue streams, and scalability	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
16. **Minimum Viable Product liked:** MVP is not only viable, but well-received by the target market.	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
17. **Scalability, demonstration of delivery:** demonstrable capacity to deliver the product or service at scale	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]
18. **Metrics-based growth:** KPIs and metrics demonstrate growth and inform decision-making and strategy	[Drop-down scale of 1-9]	[Drop-down scale of 1-9]

Page break

8.5 Performance

10. Do you run your own business(es)? [Tick boxes]

- Yes, one I was running before applying to RTE
- Yes, one I set up since applying to RTE
- No

If you answered 'No', can you please tell us about reasons for this?

[Comment box]

[Skip logic: if respondent selects no (or leaves the question unanswered), they skip to 'Impressions of the application process' section]

Please briefly describe your business(es) including the year(s) in which it was/they were established:

[Comment box]

We would like to collect updated data to better understand how your business, and those of other programme applicants, has changed since applying to the RTE programme.

Please note that data provided will be treated in the strictest confidence and will not be shared outside the Technopolis study team. Figures provided will only be reported and analysed in aggregate.

Please provide us with the following details:

	Answer
Current number of employees / jobs created	[Single-line text box]
Equity funding since completing programme (£)	[Single-line text box]
Grant funding since completing award (£)	[Single-line text box]
TRL level post programme (self-assessment)	[Drop-box with TRLs explained]
Have you achieved sales of your product / service? (Y/N)	[Single-line text box]

If you indicated sales achieved, please estimate the volume of sales achieved (£) in the past 12 months: [Single-line text box]

Page break

8.6 Impressions of the application process

11. What do you think are the main factors behind your application being unsuccessful?

[Comment box]

12. Did you receive an invite to an interview? [Radio button options]

- Yes
- No

[Skip logic: if respondent selects no (or leaves the question unanswered), they skip to 'Have you accessed any other forms of business support since applying to the programme' question]

Did you receive training prior to your interview? [Radio button options]

- Yes
- No

[Skip logic: if respondent selects no (or leaves the question unanswered), they skip to 'Have you accessed any other forms of business support since applying to the programme' question]

Please estimate the usefulness of the interview training which you received prior to your interview on a scale of 1 (not at all useful) to 10 (extremely useful) : [Drop-down scale of 1-10]

Please provide more detail in the below space.

[Comment box]

13. Have you accessed any other forms of business support since applying to the programme?

- Yes (please specify) [Tick box]
- No [Tick box]

If you selected 'Yes', please specify

[Comment box]

Page break

8.7 Closing

14. Please add any final reflections about the Regional Talent Engine programme or entrepreneurial support in your region more generally

[Comment box]

15. If you are willing to participate in a 15-20-minute interview over the phone or virtually to further discuss your entrepreneurial journey and reflections of the RTE programme, then please provide your details below. Any details you share will not be shared with anyone outside the Technopolis study team.

Name [Single-line text box]

Preferred email address [Single-line text box]

Page break

Thank you for participating in the survey. Your response provides valuable insight in our evaluation of the Regional Talent Engines programme and supports future decision-making for the programme.

Submit

Appendix F Support benchmarking

We have undertaken a light-touch review of pre-accelerator and scale up programmes delivered in the UK. The desk research resulted in a benchmarking exercise where we have categorised business support initiatives and services in the key regions where RTE is also offered.

We have analysed the collected evidence and drew comparisons with the design and delivery of RTE to show adherence to common practices.

From the review, it is clear that there is no standard offer for business support programmes, therefore there is a wide variety in each region and for each specific initiative. RTE aligns with other programmes where its offer focuses on **teaching and training**. Most programmes are often **cohort-based** like RTE, though the number of participants per cohorts varies, with numbers ranging from 5 up to 30 businesses.

Apart from specific business support services, such as those offered by Growth Hubs on access to finance, investing or sales, training is usually provided by industry stakeholders or experienced entrepreneurs and it is tailored to the cohorts' needs.

Among the programmes analysed, **1-2-1 coaching** is sometimes explicitly mentioned as part of the offer; when it is not specified, there might be an expectation for participants to create their own personal connections for more tailored coaching.

In terms of **structure**, RTE aligns again with other offers which present eligibility criteria and support participants' business journeys after a successful process of application. Regarding programme's **duration**, most range between the 3 or 6 months, therefore RTE's offers is in accordance with the span of time proven more effective for the best outcomes. At the opposite ends of the spectrum, only a few initiatives run for 8 or 12 months or 10-12 weeks. **Alumni** communities do not seem to be a common offer for these types of programmes. Instead, the majority of programmes is delivered in a **hybrid format**, similarly to RTE.

Similarly to how RTE targets engineers or engineering-related business ideas, the majority of business support initiatives also have a **sector focus** (health, food, manufacturing), often encouraging digital and tech business ideas. While the target audience for participation is not necessarily linked to a specific **age demographic**, apart from universities' business support initiatives targeting recent graduates, eligibility is linked to a specific **business readiness stage** for accelerator and scale up programmes (TRL/CRL). For example, Boost Lancashire Growth Hub requires business to be achieving growth rates of 20% per annum over three years to be able to apply to its Scale Up programmes. Some programmes and services, especially in the North West, specifically target **women**-led businesses.

In regard to **funding**, most programme and services limit their support to delivering the training and offering access to networks and partners. Among those programmes that offer funding, the most common type is equity funding. Therefore, RTE's offer of £20K equity-free grant funding is unmatched in the business support landscape. The funding amount chosen by the Academy also seems to be within the optimal range; in fact, funding provided ranges between £10K - £30K.

In conclusion, from the benchmarking exercise and the review undertaken between RTE and other business support programmes, RTE's additionality can be found in the following elements:

- First, its specific target audience is unique. Differently from any other programme, RTE targets mid-career engineers and engineering-related business ideas.
- Second, while many programmes guarantee networking benefits and events as part of their offer, RTE's biggest added value lies in something no other programme offers, which is

access to its Fellows and the fact that 1-2-1 coaching is often delivered by Academy Fellows themselves.

- Finally, RTE sits in a very small minority of programmes that provide equity-free funding. Ignite's North East Accelerator 2024[58] and Newcastle University's Start Up Foundership[59] also offer equity-free funding, but their offer is limited to £10K, putting RTE's offer of £20K equity-free funding at an advantage.

The table below is a list of 24 comparators that the benchmarking analysis is based on. Our initial review covered 38 identified business support programmes; however, within this range, we ruled out offers that were not strictly relevant for comparison with RTE, such as loan-based support, scope, or service-based support.

	Name	Programme info		Organisation(s)
1	Future Club	https://sci-techdaresbury.com/campus-life/future-club/	Region: NE Cohort-based: Yes Duration: NA Funding: NA	Sci-Tech Daresbury
2	NE Pre-Accelerator 2024	https://www.ignite.io/founders/pre-accelerator	Region: NE Cohort-based: Yes Duration: 5 months Funding: grant funding, £10K	Ignite
3	NE Accelerator 2024	https://www.ignite.io/founders/accelerator	Region: NE Cohort-based: Yes Duration: 2 months Funding: No	Ignite
4	Launch Programme	https://www.ignite.io/founders/launch-programme	Region: NE Cohort-based: Yes Duration: 6 weeks Funding: No	Ignite
5	NatWest Entrepreneur Accelerator	https://www.natwest.com/business/business-services/entrepreneur-accelerator.html#who	Region: UK Cohort-based: Yes Duration: 6 months Funding: NA	NatWest Group
6	Start Up Foundership	https://www.ncl.ac.uk/careers/startup/foundership/	Region: NE Cohort-based: Yes Duration: 6 months Funding: grant funding, £10K	Newcastle University
7	Propel Pre-Accelerator NI	NA	Region: NI	Ignite NI – now closed
8	Spark It	https://www.nibusinessinfo.co.uk/business-support/spark-it	Region: NI	NiDirect, Invest NI
9	Ulster Bank Accelerator	https://www.ulsterbank.co.uk/business/business-services/accelerator.html	Region: NI	Ulster Bank
10	Founder Labs – Accelerating Innovation Programme	https://www.investni.com/support-for-business/support-for-high-potential-start-ups	Region: NI Cohort-based: NA Duration: 6 months Funding: £25K	Ormeau Labs, Eagle Labs
11	Digital Catapult - Tenfold NetZero Accelerator Programme	https://www.digicatapult.org.uk/apply/open-calls/opportunity/tenfold-	Region: NI Cohort-based: NA Duration: 4 months Funding: grant, £20K	DAERA

[58] https://www.ignite.io/founders/accelerator

[59] https://www.ncl.ac.uk/careers/startup/foundership/

		netzero-accelerator-programme/		
12	Accelerator 2024	https://balticventures.uk/accelerator/	Region: NW Cohort-based: Yes Duration: 4 months Funding: £30K	Baltic Ventures
13	Deep Tech Incubator	https://lyvalabs.com/deep-tech	Region: NW Cohort-based: NA Duration: NA Funding: equity and match funding	Lyva Labs
14	Growth Catalyst	https://www.boostbusinesslancashire.co.uk/services/growth-catalyst	Region: NW Cohort-based: Yes Duration: NA Funding: NA	Boost Lancashire Growth Hub & Role
15	Flying Start	https://www.boostbusinesslancashire.co.uk/services/flying-start	Region: NW Cohort-based: Yes Duration: NA Funding: NA	Selnet (on behalf of Boost Lancashire Growth Hub)
16	Women in Enterprise	https://www.boostbusinesslancashire.co.uk/support-directory/women-in-enterprise	Region: NW Cohort-based: NA Duration: NA Funding: NA	Boost Lancashire Growth Hub
17	Scale to Thrive	https://www.boostbusinesslancashire.co.uk/scale-to-thrive-application-form	Region: NW Cohort-based: Yes Duration: 8 months Funding: NA	Growth Company (on behalf of Boost Lancashire Growth Hub)
18	Women Scaling Up	https://www.twozerolancs.com/programmes/women-scaling-up-2023/	Region: NW Cohort-based: Yes Duration: 12 months Funding: co-funded	Role (Two Zero - funded by Lancashire County Council)
19	High Growth Innovation Sprint Programme	https://www.scaleupinstitute.org.uk/programmes/innovation-sprint-programme/	Region: NW Cohort-based: NA Duration: 3 months Funding: NA	SME Productivity & Innovation Centre (PIC) @ Edge Hill University
20	GM Ascend	https://www.businessgrowthhub.com/programmes/ascend-scale-up/	Region: NW Cohort-based: Yes Duration: 6 months Funding: NA	GM Business Growth Hub
21	Accelerator	https://www.techstars.com/accelerators/london	Region: London, EU Cohort-based: Yes Duration: 3 months Funding: NA	TechStars
22	Help to Grow	https://labs.uk.barclays/what-we-offer/our-programmes/help-to-grow/	Region: UK Cohort-based: NA Duration: 12 weeks Funding: NA	Barclays – Eagle Labs
23	Industry Bridge	https://labs.uk.barclays/what-we-offer/our-programmes/industry-bridge/	Region: UK Cohort-based: NA Duration: NA Funding: NA	Barclays – Eagle Labs
24	Northern Accelerator (until June 2023) Scale-up programme	https://northernaccelerator.org/	Region: NE, NW Cohort-based: Yes Duration: NA Funding: £50K	Durham, Newcastle, Northumbria, Sunderland and Teesside universities
25	Start-Up Accelerator Programme	https://events.newable.co.uk/events/1288/business-wales-accelerated-growth-	Region: Wales Cohort-based: Yes Duration: 10 weeks	Business Wales

		programme-start-up-accelerator	Funding: NA	
26	Internet of Things Accelerator (IoTA) Programme	https://www.f6s.com/internetofthingsacceleratorwales/about	Region: Wales Cohort-based: Yes Duration: not known Funding: £50k (equity)	Innovation Point, The Accelerator Network, Barclays Eagle Labs, Inspire Wales and the Development Bank of Wales
27	Family Business Leadership Academy	https://kpmg.com/uk/en/home/services/enterprise/family-business-services/family-business-leadership-academy.html	Region: Yorkshire and the Humber Cohort-based: Yes Duration: 30 weeks Funding: NA	University of Leeds, KPMG
28	SPARK - Business Start-up Services	https://cees.leeds.ac.uk/profiles/spark-business-start-up-services/	Region: Yorkshire and the Humber Cohort-based: No Duration: NA Funding: NA	University of Leeds
29	Start-up West Yorkshire	https://www.wybusiness-skills.com/business-support/start-up/enterprise-west-yorkshire/start-up-west-yorkshire/	Region: Yorkshire and the Humber Cohort-based: No Duration: NA Funding: NA	West Yorkshire Combined Authority
30	Northern Max Accelerator	https://www.ad-venture.org.uk/news/NorthernMaxAccelerator2024/	Region: Yorkshire and the Humber Cohort-based: Yes Duration: 10 weeks Funding: NA	West Yorkshire Combined Authority, Leeds City Council, City of Bradford, 10x10, AD:Venture
31	Help to Grow: Management	https://www.leedsbeckett.ac.uk/business-services/support-for-small-and-medium-sized-businesses/help-to-grow-management/	Region: Yorkshire and the Humber Cohort-based: Yes Duration: 12 weeks Funding: NA	Leeds Beckett University

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