

# Subsidy Control Principles Assessment

## Royal Academy of Engineering Enterprise Hub

Section 12 of the Subsidy Control Act 2022

### “Regional Talent Engines” : Early-stage entrepreneurship support for engineering and technology founders in levelling-up regions of UK

Assessment Framework Component	Recommended Evidence
<p><b>Policy objective</b> (Subsidy Control Principle A)</p> <p><b>Step 1</b></p>	<p>With renewed political focus on tackling the UK’s high levels of regional inequality, policies to support the starting and scaling of new ventures are key. The Royal Academy of Engineering’s Enterprise Hub is particularly focused on supporting the UK’s entrepreneurial ecosystems to promote a more sustainable society and inclusive economy, across the whole of the UK.</p> <p>As such, the regional entrepreneurship programme builds on the Academy’s place-based approach (articulated in its <a href="#">Engineering Economy and Place</a> study, published in 2023), and by ensuring targeted measures, tailored to suit the unique economy, geography and expertise of individual places, aligns fully with government policy objectives.</p> <p>The UK government’s “<a href="#">Levelling Up the United Kingdom</a>” White Paper, recognising that economic growth and the higher productivity which drives it has been over-concentrated in specific areas, particularly the South East of England, sets out an ambition to boost productivity, pay, jobs and living standards by growing the private sector, especially in those places lagging with below average growth levels; with the gap between the top performing and other areas closing by 2030.</p> <p>This ‘levelling up’ framework champions policy and funding mechanisms that can critically “improve productivity, boost economic growth, encourage innovation, create good jobs, enhance educational attainment and renovate the social and cultural fabric of those parts of the UK that have stalled and not – so far – shared equally in our nation’s success.” The White Paper identifies six factors that will help drive levelling up.</p> <p>This regional entrepreneurship intervention aligns fully with the government’s framework and, as designed, will help replenish, in particular, the capitals below (where they are weak or depleted).</p> <ul style="list-style-type: none"> <li>• Intangible capital – innovation, ideas and patents.</li> <li>• Financial capital – resources supporting the financing of companies.</li> <li>• Human capital – the skills, health and experience of the workforce.</li> <li>• Institutional capital – local leadership, capacity and capability; and potential agglomeration effect.</li> </ul>

Assessment Framework Component	Recommended Evidence
	<p>“A vibrant, high wage, high skill economy requires above all unleashing private investment, encouraging enterprise and supporting a dynamic business sector that can create jobs, nurture skills and invest in innovation; secure adequate access to finance, particularly among rapidly-growing small and medium-sized enterprises (SMEs); and improve access to good infrastructure – physical and digital – allowing people to connect and collaborate.” By supporting highly innovative and scale-able innovation the regional entrepreneurship programme addresses this need.</p> <p>Critically people would not have to leave their community to start a business or grow and prosper and with each part of the UK achieving its potential, the economy as a whole would be both larger and more equal.</p> <p>Essentially, the policy objective for the Regional Talent Engine programme is to:</p> <ul style="list-style-type: none"> <li>• Support the commercialisation of innovative engineering ideas, primarily through the creation and growth of engineering startups in ‘levelling up’ regions of the UK.</li> <li>• Enable more access to finance and business support for startups outside of the south east of England, addressing regional inequalities: more than half of accelerators are currently based in London <a href="https://www.beauhurst.com/accelerating-the-uk-report/">https://www.beauhurst.com/accelerating-the-uk-report/</a></li> <li>• Retain talent within local ecosystems, so that individuals are not relocated towards the capital.</li> </ul> <p>The core aims of the Regional Talent Engines are to encourage the retention, development and circulation of engineering talent within local ecosystems, by:</p> <ol style="list-style-type: none"> <li>1. enabling talented and ambitious individuals to venture successful and scalable new engineering or technology businesses.</li> <li>2. developing and supporting enterprise initiatives that strengthen and enhance existing capability within UK regional ecosystems.</li> <li>3. facilitating development and delivery of more and better engineering solutions that materially benefit the environment and regional communities.</li> </ol> <p>The desired outcome of the Regional Talent Engines entrepreneurship programme is an increased number of excellent engineers with substantially developed skills and capabilities to enable them to lead the formation of a commercially successful technology startup in levelling up regions of the UK.</p> <p>The awards help to address market failures by:</p> <ul style="list-style-type: none"> <li>• Supporting experienced engineers who need financial support and skills development to accelerate and establish a new startup and re-enter the economy</li> <li>• Provide localised finance and support to individuals in levelling up regions of the UK, helping to retain talent and avoid a drive towards the capital</li> <li>• The uncertainty of the viability of early stage products leads to the inability to raise finance or suboptimal terms. Regional Talent Engines addresses this by supporting founders to validate their innovative idea and give them the skills they need to make a startup business ready.</li> <li>• The scheme provides an open process for experienced engineers to access entrepreneurial training and coaching to enable them to successfully secure financial support to establish a new startup, so that</li> </ul>

Assessment Framework Component	Recommended Evidence
	<p>entrepreneurialism does not depend on personal financial means and connections.</p> <ul style="list-style-type: none"> <li>• Upfront costs: the nature of creating an innovative engineering or technology startup usually involves upfront investment in product or service development before entering the market, to prove efficacy, market need and scalability. This creates a financial barrier to entering the market. Whilst early-stage private investment can help the startup address these barriers, such investment requires evidence of the potential of the business, which can usually only be provided by the founding engineering entrepreneur developing their business plan and associated skills. The Regional Talent Engines entrepreneurship programme support helps founders get their propositions investment ready, and thus in a position to be assessed for market investment.</li> <li>• Information asymmetry: The engineering founders will have a much higher level of knowledge of the particulars of their technology than potential investors, who in turn have a higher level of knowledge of the business world. As part of building relationships with investors the engineers must clearly articulate the distinctive know-how that goes into their product, so that the investor can evaluate the credibility of the startup business plan. The Regional Talent Engines entrepreneurship programme address this through enhancing the skills of engineers to communicate with potential investors and customers.</li> <li>• Uncertainty and risk: With 90% of tech companies failing before they reach 5 years old there is obviously tremendous uncertainty about whether a novel startup can thrive. This can discourage talented engineers from committing the next stage of their careers to establishing a startup. The Regional Talent Engines entrepreneurship programme reduces this risk in two ways; by enabling the awardee to cover their living costs while they dedicate their time to building their skills and a new business, and also by providing the skills, networks and guidance that gives the potential entrepreneur the confidence to face and manage the risks that might otherwise prevent them entering the market.</li> <li>• Externalities: The Regional Talent Engines entrepreneurship programme is also intended to support progressive leadership skills in founders, such that they develop sustainable and inclusive businesses addressing societal challenges through technology. Such positive social benefits are likely to be undervalued by purely market price investment, hence the support programme to promote them is unlikely to happen without public funding.</li> </ul> <p>Similar policy objectives are captured within the Support for SMEs category within the Local Growth Streamlined Route. The objectives of the scheme align with two of those of the local growth streamlined route:</p> <ul style="list-style-type: none"> <li>- to encourage entrepreneurialism and diversity in the market through support to start-up enterprises</li> <li>- to improve access to finance for small and medium-sized enterprises looking to grow</li> </ul> <ul style="list-style-type: none"> <li>• For those with an idea who are yet to start a business, or new entrepreneurs looking to take their first steps to growth, the difficulties in getting loans or other forms of finance can be more acute. This can have the effect of limiting the establishment and growth of start-ups to those with the personal capital and connections to finance them, rather than those with the best ideas and ability. A further very real challenge</li> </ul>

Assessment Framework Component	Recommended Evidence
	<p>exists in the barriers surrounding access to equity based on geography. London's dominance of equity finance markets is well documented, with <a href="#">British Business Bank</a> reporting in 2021, 1,286 deals worth £11.9 billion taking place, in London alone representing 66% of investment and 49% of deals in the UK. This follows reports by the British Business Bank, BEIS and the HM Treasury's Patient Capital Review (British Business Bank, 2017, 2018b; Patient Capital Review: Industry Response, 2017) that also point to regional disparities in the provision of equity finance in favour of London, East and South East and report a marked increase in the concentration of equity deals by volume in 2017 (52% of the total) and by value (65% of the total) in the London region. Furthermore over 80% of all equity investment in the UK by non-UK investors is attributed to London based firms.</p> <ul style="list-style-type: none"> <li>• The Regional Talent Engines programmes sets out to provide experienced engineers with the skills and professional network to address these challenges and help provide a more equitable playing field for founders and support investment in innovation from a much wider, more diverse talent pool. The Regional Talent Engines programme actively addresses other equality, diversity and inclusion challenges not least, including women founders in engineering and founders from ethnic minority backgrounds, amongst other under-represented groups.</li> </ul>
<p><b>Appropriateness</b> (Subsidy Control Principle E)</p>	<p>There is no obvious regulatory or commercial loans approach to addressing the policy objective set out above. As an organisation we do not have either the scope, capacity or knowledge of the new technologies to deliver those activities ourselves, and this would not meet the objective of upskilling mid-later career engineers or promoting new startups in levelling up regions of the UK. We also do not have the power to regulate in this field.</p> <p>Potentially other organisations such as universities or technical colleges could provide skills training programmes to enable these individuals to become better entrepreneurs, but it is unlikely that would provide the depth and quality of development support that a programme focussed on the most talented potential founders offers, it would likely come at a financial cost to the individual, and it would not free up their time to focus on establishing a new startup.</p> <p>Other means of assistance such as loans would delay the action, compound issues around uncertainty and risk, and not provide the springboard needed to push for growing entrepreneurship within levelling up regions across the UK. By their nature, engineering startups often involve unproven technology, so offer minimal collateral for loans. On equity investment, the beneficiaries of the subsidy award are often unlikely to even have a company in which to invest and, as an organisation, we do not have the capacity to make such investments and doing so would complicate and hinder the intended use of the funding.</p> <p>Taking on board the above, we are of the view that no other potential option would deliver all the benefits to meet the objectives that we have identified.</p>

Assessment Framework Component	Recommended Evidence
<p><b>Baseline no-subsidy scenario</b> (Subsidy Control Principles C &amp; D)</p>	<p><u>No increase in number of start ups</u> In the absence of the subsidy, the individuals would be unlikely to have access to the same level of funding and specific skills development support that enables them to flourish and grow. It is highly likely there would be fewer startups being established in levelling up regions.</p> <p><u>Growth challenges for start-ups in levelling up regions</u> Those that are established will have weaker leadership skills and business knowledge to support the sustainable and inclusive growth of their company and may therefore be more likely to fail in the longer term.</p> <p><u>Narrow founder demographic</u> Without access to the subsidy, many (mature) experienced engineers (often with dependents and significant personal financial commitments) would not have the financial means to establish a startup, further entrenching regional inequality. Therefore by not creating the conditions that can allow experienced engineers to pursue a start-up pathway founder demographic stereotypes are also compounded.</p> <p><u>Unable to retain talent in levelling up regions</u> Some of the engineers may have no option other than to pursue startup finance or programmes that are based outside of their region, (for example in London), resulting in a relocation of engineering talent.</p>
<p><b>Step 2</b> <b>Additionality Assessment</b> (Subsidy Control Principles C &amp; D)</p>	<p>The retention of experienced engineering talent in levelling up regions is a key programme objective. The subsidy will allow the beneficiary to remain in their levelling up region to establish an engineering startup, which would not have occurred otherwise. By supporting the individual at such an early stage it is not 'business as usual' because, at the time the support is given, the startup is frequently not even a business yet. Without the subsidy, it is (a) unlikely the individual would have the time and financial means to go about establishing a new startup; and (b) if they did commit to pursuing a start-up pathway, it is very likely that they would need to move outside of the region to receive the necessary skills and training required to be successful.</p> <p>The benefit is in principle available to any experienced engineer with an innovative technology they wish to pursue as a startup but is competitive as the scheme is highly selective in its operation. Fellows of the Royal Academy of Engineering and others with substantial experience of engineering entrepreneurship select from numerous applications only those talented engineers with the greatest potential to benefit from the financial and non-financial support provided. The scheme is available and publicised through local avenues of business support, such as LEPs, economic development agencies, regional incubators and the Academy's website and social media platforms.</p> <p>It is not always reasonable to exclude beneficiaries from the process as this would require understanding their personal financial situation.</p> <p>The particular blend of training, coaching and mentoring by Academy Fellows (i.e. experienced and expert engineering and technology innovators) is only available via successful application to the competitive selection process. There is no market alternative to the Regional Talent Engines programme. Without the subsidy, experienced engineers in the levelling up regions where the programme is targeted would not be able to take up the opportunity to access</p>



Assessment Framework Component	Recommended Evidence
	<p>the Academy's expert network, with a negative impact on their chance/degree of success.</p> <p>By providing financial support in the form of the Regional Talent Engines award the programme goes some way to provide a means of supporting personal commitments for the duration of the training and coaching programme. Business as usual costs are unlikely to be a factor, given the early ideation stage programme criteria, i.e. the majority of applicants will be some distance from having actually started a business.</p> <p>The programmes application and award criteria and Academy's governance framework provides a controlled environment within which expert panels review and select only those candidates who are best positioned to benefit from the support in order to meet the overarching mission of "harnessing the power of engineering to build a sustainable society and inclusive economy that works for everyone". As such, applicants who are not considered to be "in need" of the training and coaching programme (i.e. already possess the skills and access to network required to establish and finance a startup), will not be supported on the basis that the programme will only support additional activity.</p>
<p><b>Proportionality and Minimising Distortion</b> (Subsidy Control Principle B &amp; F)</p> <p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Step 3</b></p>	<p>The most likely risks of negative effects on competition and investment are outlined below:</p> <ul style="list-style-type: none"> <li>• Uneven playing field: awarding a subsidy can create an advantage for one startup over another, leading to the possibility of a competitive advantage for the subsidised startup. Given the very early-stage nature of the award (TRL 2-4) and the small scale, it is unlikely that the subsidy would create any real advantage.</li> <li>• Distortion of the market: Subsidies can distort the free market by artificially promoting certain types of businesses or industries over others. This can lead to inefficiencies if funds are directed towards startups that wouldn't have been competitive without governmental assistance. Regional Talent Engines benefits go to very early-stage companies that are pre-competitive, with many not even incorporated at the time of the award. At the scale of these awards (£20,000 in financial grant, plus non-financial benefits and typically 30 awards per year) it is very unlikely they will distort the market.</li> <li>• Misallocation of resources: Not all startups are worthy of support. Subsidies might end up supporting startups with weak business models or ideas, leading to wastage of public resources. The careful selection applied to Regional Talent Engines beneficiaries means that they only go to recipients that experienced experts believe will benefit substantially from the programme's skills development and be able to achieve a credible business model around their technology.</li> <li>• Overreliance or dependency: startups may become dependent on the subsidy and struggle to survive once the subsidy ends. This can inhibit the development of self-sustaining business models and lead to market instability. Given the small scale of the Regional Talent Engine award and the six-month duration, there is a very low risk of reliance on this funding. Individuals are provided with the learning and support to build sustainable business models and to understand how to make their business thrive from private investment sources and how to become profitable in the longer term.</li> <li>• Discouraging private investment: startups that become overly reliant on subsidies may discourage private investment in the sector. As the subsidy is awarded to those at a very early stage, it is unlikely many will</li> </ul>

Assessment Framework Component	Recommended Evidence
	<p>have a startup that is at the point of being investment-ready, with the aim of the subsidy to give them the skills needed to reach that point.</p> <ul style="list-style-type: none"> <li>Encouraging risky ventures: Subsidies could potentially encourage overly risky ventures. With the promise of government funds, entrepreneurs might undertake projects that they otherwise wouldn't, leading to potential financial instability. Again, whilst the six months of support does help reduce barriers for entrepreneurs to create startups, it is unlikely to encourage reckless risk-taking. Similarly, the careful selection of awardees by expert panels makes sure that excessively high-risk ventures are rejected and do not receive any benefits.</li> </ul> <p><b><u>The nature of the instrument</u></b>  The nature of the subsidy is in the form of a grant, which can be a more distortive form of subsidy but one that we are of a view is the best instrument to achieve our policy objective. It is the best mechanism to kickstart a would-be entrepreneur into realising their and their startup's potential.</p> <p><b><u>The breadth of beneficiaries and the selection process</u></b>  The programme supports a broad range of beneficiaries, with many mid-late career engineers eligible to apply. They must be based in the UK in a levelling up region, have at least 5 years' experience in an engineering or technology environment, and have an innovative technology that is at TRL 2 or above. The business may or may not be already incorporated. If it has, it must not have raised substantial private investment or have more than a few limited sales. (The programme's assessment panel will determine what is considered to be 'substantial' taking into account the amount of investment raised or revenue generated on a case-by-case basis, proportionate to the amount of the award and relative to the level of need and impact the panel deems to be required to help provide the skills and support necessary to secure successful startup). The selection process is competitive, as described above, with Fellows of the Royal Academy of Engineering and others with substantial experience of engineering entrepreneurship selecting from numerous applications only those talented engineers with the greatest potential to benefit.</p> <p><b><u>The size of the subsidy</u></b>  The size of the subsidy is designed to enable individuals to free up their time and get their idea off the ground, recognising that these are very early-stage technologies which have a high risk of failure. Therefore, it is unlikely to distort the market given that the majority of beneficiaries will not even have established a business yet. The subsidy is well balanced with the £20k provided to support the living costs of the individual for six months while they work on the project. This reduces the risk to the entrepreneur by enabling them to have the time freed up to work on their skills. Skills and networks that give the individual the confidence to face and manage the risks that might otherwise prevent them entering the market. The level of support will be subject to review and reasonable amendment by the programme steering group at regular (annual) intervals. Further, the appropriateness of funding levels will also be included within external programme review Terms of Reference at 3-5 year evaluation points.</p> <p><b><u>The nature of the costs being covered</u></b>  The £20k is offered to secure the experienced engineer's time and commitment to the programme and their startup. This support helps to ensure that while they are working on their skills they are also working on getting their proposition business ready. This relatively small injection of funds acts to remove the deterrent risk posed to an individual when having to consider investing their</p>

Assessment Framework Component	Recommended Evidence
	<p>own funds into a novel business idea, while at the same time helping them to maintain an acceptable standard of living and freeing up time to commit fully to their innovation. The non-financial benefits the beneficiaries receive come in the form of training and coaching (approximately valued at £6,000 per individual). At this value, the subsidy is well below £100k which is considered to be a very small grant for startups in the UK. The nature of the costs covered by the award are far off from any actual trading, further reducing the potential impact of the subsidy on competition.</p> <p><b><u>The timespan over which the subsidy is given</u></b> The duration of the award is six months and a full-time award where awardees are expected to be fully engaged and committed. It is provided on a one-off basis.</p> <p><b><u>Performance criteria</u></b> Regular reporting is required of all beneficiaries in the form of 1-2-1 calls with an account manager, an end of project report, and an annual follow up report. Performance criteria for beneficiaries are process-oriented – they must devote time and effort to the process. If beneficiaries do not engage in the process sufficiently or misuse funds outside of the scope, the Academy is entitled to recover the award. Feedback is collected throughout the programme, with adjustments and improvements made as and when required.</p> <p><b><u>Ringfencing</u></b> The programme provides support to specific UK levelling up regions recognised to be at a competitive disadvantage with regards access to finance and support to help launch new, highly innovative engineering and technology startups. Eligibility criteria is set specifically and applied consistently to ensure that only those individuals who are committed to a potentially IP-rich engineering and technology startup, within the levelling up regions where the programme is available are supported.</p> <p><b><u>Monitoring (awardee level)</u></b> Eligibility measures are clearly articulated and monitored to prevent applicants from outside of dedicated levelling up regions to access the support. At panel review stage, assessments of the candidate’s need and potential to participate fully and develop as a result of the training and coaching elements of the programme are actively considered – this includes the likelihood and degree of change/individual growth the programme seeks to be able to support (i.e. candidates assessed to not be in a position to take-up or appreciate the full benefit of the programme – either because they are too early or already too far progressed on their entrepreneurial journey – will be considered unsuitable. Further, during the training programme, each awardee’s commitment to the region within which they are based is closely monitored, with access to training and funding suspended and, ultimately withdrawn / clawed-back if required to address failure to comply with programme objectives – the support and retention of talent in specific levelling up regions.</p> <p><b><u>Monitoring and evaluation (programme level)</u></b> A full, formal programme evaluation will be carried out by an independent third party at 5 years, with an internal interim evaluation at 3 years. The programme steering group will review progress routinely with formal review of programme delivery and award impact to the Academy’s Enterprise Committee on an annual basis.</p>



Assessment Framework Component	Recommended Evidence
	<p>Such reviews will assess whether any aspect of market conditions or other assumptions have changed and if so, what, if any implications this might have for the programme objectives, design and/or delivery.</p> <p>The programme logic model will be reviewed internally on an annual basis, with the Academy's Business Planning structure and externally at 3 and 5 years, per above.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><b>Step 4</b></p> <p><b>Balancing Exercise</b> (Subsidy Control Principle G)</p>	<p>The expected benefits are the increased creation and growth of engineering startups in levelling up regions of the UK with more engineers benefitting from better leadership skills and talent being retained in local ecosystems. In turn this will lead to more technology-based solutions to societal challenges as well as increased employment and economic prosperity.</p> <p>The potential negative effects on competition of very early-stage support to innovative startups are as noted above, primarily:</p> <ul style="list-style-type: none"> <li>• Uneven playing field</li> <li>• Distortion of the market</li> <li>• Misallocation of resources</li> <li>• Overreliance or dependency</li> <li>• Discouraging private investment</li> <li>• Encouraging risky ventures</li> </ul> <p>As highlighted above, Regional Talent Engines is carefully designed to minimise all these risks. Moreover, even without such careful controls, the negative effects of support for innovative startups are widely recognised to be negligible relative to the benefits. Hence, such support is allowed directly for grants to start-ups within the Local Growth streamlined route, and likewise well-established within the EU aid for start-ups/ innovation aid for SMEs exemptions.</p> <p>Because of the extremely high levels of uncertainty involved in assessing the value of very early-stage high-tech companies, it is not possible to give useful quantitative values of these benefits and negative effects. No similar valuations are given for any similar subsidy schemes that give grants directly to business, even though those are larger, less targeted and more likely to lead to negative effects.</p> <p>Again, it should be stressed that the small amount of support available via the programme is awarded to individuals to support their personal circumstances, while participating in a 6-month training and coaching programme – as such the benefit is largely accrued to the skills and know-how of the individual.</p> <p>In summary, we conclude that the benefits of the Regional Talent Engines scheme in achieving the specific policy objective of supporting the increased creation and growth of engineering startups in 'levelling up' regions of the UK and retaining talent in local ecosystems outweigh the negative effects on competition of the indirect subsidy received by those newly created businesses.</p>