

Innovation funding

Summary

Public funding for innovation in small companies plays a vital role in enabling high-tech startups to survive, grow and scale. For larger companies, this funding facilitates collaborative R&D and supports R&D investment in the UK.

Funding programmes delivered by Innovate UK and several other public funding agencies are excellent at supporting engineering innovation. However, there is a notable gap in support for late-stage development and demonstration activities.

Agencies should continue to provide and develop innovation funding programmes, exploring opportunities to increase flexibility and models for participation.

Innovation funding for small companies

Innovation is an inherently risky process, and the benefits may only materialise over very long timescales. Consequently, government funding has a pivotal role in supporting small high-tech companies to conduct R&D and develop innovative products and services before they can reach market or attract significant private investment.

Innovation funding creates the following benefits for companies:

- Increases the amount of R&D done.
- De-risks investment in highly innovative work.
- Drives collaboration and access to a broader R&D network.
- Acts as a signal of quality to private investors.
- Consortia-based projects improve understanding of the sector and create access to potential customers.
- Non-financial support linked to funding is also hugely valuable.

→ See also *Non-financial support for innovation*.

Innovate UK, the UK's innovation agency, is a major route for UK public innovation funding. Since 2007, it has delivered around £2.5 billion in innovation grants and supported more than 8,000 organisations¹.

Interviewees highlighted other organisations that provided a positive experience of public funding, such as:

- **Regional agencies** – Scottish Enterprise
- **Government departments** – Department of Health and Social Care's National Institute of Health Research and the Department for Business, Energy and Industrial Strategy's Energy Entrepreneurs Fund
- **Public-private sector initiatives** – Aerospace Growth Partnership
- **Independent organisations and charities** – the Royal Academy of Engineering

All small companies

interviewed have received public funding and emphasised that it played **a vital role in their survival, innovation and growth**.

“Our experience working with Innovate UK has been very positive. The grant has allowed us to explore new ideas and to engage with new partners, and the management of the whole process has been very efficient.”

Professor Costas Pantelides FEng,
Managing Director, Process Systems
Enterprise Ltd

Innovation funding for large companies

Large companies also work with Innovate UK and other funders as recipients of grants, collaboration partners, and sources of matched funding for collaborative projects.

Similarly to small companies, funding facilitates high-risk R&D projects, helps attract or maintain R&D projects in the UK, and drives collaboration, including between companies that may not otherwise work together.

“Working in consortia-based public innovation projects has supported our growth, through both technology development and increasing understanding of the future market.”

Dr Caroline Hargrove FREng, Chief Technology Officer, McLaren Applied Technologies

While innovation funding is an area of strength for the UK, there are opportunities for improvement. Interviewees suggested several ways that programmes can help increase collaboration and investment by large companies in the UK:

- UK innovation funding lacks agility compared to competitor countries, particularly in Asia, making it difficult for large companies in fast-moving sectors to participate and for thematic programmes to meet real business needs.
- Opportunities for some large companies can be limited by the high amount of investment and strict criteria required for participation in R&D programmes, particularly those in sectors with lower profit margins and with traditionally low investment in R&D, such as process engineering for consumer products or the construction sector.

“Funding calls can be narrow and limited. To engage with collaborative projects we really need them to be available when we have a business need.”

Emma McLeod, Research Principal – Process Technology, Mondelez International

“Public innovation funding has been the lifeblood of our company to date. Without it we could not have got our game-changing green product to this stage.”

Dr Sam Chapman, Chief Executive Officer, Kenoteq

“Collaborative R&D projects, including those funded by Innovate UK, have allowed us to innovate beyond the scope of our company, and to grow and scale up more rapidly as a business and achieve more high value engineering and science jobs here in the UK.”

Professor Graeme Malcolm OBE FREng FRSE, Chief Executive Office, M Squared Lasers

To increase business R&D investment:

Government funding for innovation is incredibly valuable. However, interviews identified areas with potential to leverage further business participation and investment in R&D:

- **Increase flexible funding opportunities.** Greater flexibility in scope, timing and size of programmes would allow more companies to access the right support at the right time to meet their business needs. Open programmes amounted to only 5% of Innovate UK’s allocations in 2017/18².
- **Streamline processes.** While companies appreciate the importance of a rigorous process, application and grant management can be burdensome, particularly for companies with non-academic roots.
- **Protect grant funding.** In contrast to grants, many companies find loans an unattractive option for supporting risky R&D and innovation activities. However, innovation loans may have a role to play in supporting near-to-market innovation activities.
- **Increase support for late-stage development and demonstrator projects.** The gap in funding for late-stage development must be addressed. → See also *Late-stage development and demonstrators*.
- Design grants to meet the needs of service-based companies. → See also *Innovation in engineering services*.



This explainer is part of a series based on interviews with individuals responsible for making decisions on R&D across a wide range of engineering companies.

→ See *Introduction* explainer to find out more.