

# Collaboration between businesses

## Summary

R&D collaboration between engineering businesses brings a wide range of benefits and takes many forms.

Large companies and innovative SMEs work together to help pull new technologies through to application, supporting growth across large and small companies.

The UK has a vibrant community of innovative SMEs, but so do many competitor countries. To remain competitive and attractive, support for SMEs must continue to improve, including through innovation support schemes and access to finance.

Collaboration across supply chains is important and can bring broader benefits for the UK economy. However, in some sectors the UK supply chain has been hollowed out over recent decades.

Business to business collaboration can happen in a number of ways, from pre-competitive collaboration between large companies in consortia, to corporate venture capital investments in SMEs.

### Interviews identified two main types of business collaboration that can influence R&D investment decisions:

- > Collaboration between large companies and innovative SMEs.
- > Collaboration across supply chains.

## Collaboration between large companies and innovative SMEs

In sectors such as defence, large companies work with innovative SMEs to test new technologies in real-world applications. These collaborations help pull technologies through to market and drive growth across large and small companies.

Most large companies interviewed collaborate with SMEs across the world, seeking the best possible partner for the problem at hand.

Large companies interviewed regard the UK as having a vibrant community of innovative SMEs with good opportunities for collaborative R&D. However, there is strong international competition with many countries, such as the US, China and Israel, also fostering the growth of high-quality innovative SMEs.

*"In the chemicals sector, the supply chain has been hollowed out, making R&D in the UK more difficult and forcing investment abroad. In contrast, we found it reasonably easy to find UK suppliers for bespoke engineering or automation work in the manufacturing and R&D areas."*

**Former Director of R&D, large company**

## Many Innovate UK programmes support collaboration between large and small businesses

A large part of Innovate UK's core funding is spent on business to business collaboration, and it also offers further support via the following:

### Innovate UK Knowledge Transfer Network (KTN)

KTN specialise in cross-sector collaboration and mediate networks of business, academics and other providers of innovation support.

For example, FeTu is a Yorkshire-based company that designed a revolutionary 'green' energy device targeting carbon reduction across a broad range of systems and industries. KTN introduced FeTu to potential academic and commercial partners, which led to the company growing and hiring four employees<sup>1</sup>.

### Catapult Centres

Innovate UK funds Catapult Centres, which are a series of physical centres that bring together businesses, scientists and engineers to work on late-stage R&D to take new ideas into the market.

For example, Catapults offer a platform for large companies to try new solutions with supply chain partners. Train-maker Alstom funded a competition via the Transport Systems Catapult that led to an SME developing a new way to fit train windows that saved days of manufacturing. The four runner-ups were also added to the company's supplier roster<sup>2</sup>.

## Collaboration across supply chains

All engineering companies depend on good supply chains to deliver successful innovation. This type of R&D collaboration is particularly important in highly fragmented sectors, such as construction.

Many large companies are happy to work with companies across the world but find it easier to work with local partners for certain types of work.

Local supply chain collaboration can result in broader benefits for the local economy, building local jobs, and increasing business access to customers.

Several sectors, such as chemicals manufacturing, have had their supply chains depleted over recent decades, with few mid-sized companies remaining in the UK. This makes it more difficult for large companies to find UK partners, pushing work overseas and increasing imports. As a result, the UK fails to maximise the benefits from R&D investments by large companies. Weakening of supply chains also decreases the skills pool, making the UK less attractive for further investment.

"The majority of our R&D investment is spent in collaboration with SMEs. We work with the best companies and technology wherever they are based in the world. There are great examples of innovative companies in the UK, but also many others in countries from the US to South Africa."

**Phil Newman, Head of Innovation, Anglo American**

"We find UK SMEs to be highly innovative and a great source of new products that help us deliver better services to customers."

**Steve Cox, Engineering and Technical Director, Electricity North West**

## Case study

### Aerospace Growth Partnership

Aerospace Growth Partnership is a UK public-private partnership that coordinates several programmes that are aimed at strengthening the UK aerospace supply chain<sup>3</sup>.

Its *Sharing in Growth* programme provides an intensive four-year programme of business support for mid-sized companies, with training in manufacturing, procurement and strategy. It is funded and delivered by industrial and government partners. Since 2013 it has supported 64 companies, securing 4000 supply chain jobs<sup>4</sup>.

Its *National Aerospace Technology Exploitation Programme* (NATEP)<sup>5</sup> supports technology development for companies in the supply chain by providing innovation funding and mentoring from large companies. Since 2013, the scheme has funded 113 collaborative technology projects with 267 companies<sup>6</sup>.

These programmes have strengthened the UK aerospace supply chain, building skills, jobs and economic growth, and promoting innovation across the whole sector.

## To increase business R&D investment:

→ The UK should continue to build on initiatives to help SMEs develop and grow to maintain a competitive environment for business collaboration.

→ See also *Tax incentives, Innovation funding, Non-financial innovation support*.

→ Develop initiatives to strengthen the UK supply chain in key sectors. These should be developed jointly by industry and government, learning lessons from the Aerospace Growth Partnership and similar initiatives.



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.

1 *FeTu Case studies*, Knowledge Transfer Network. <https://ktn-uk.co.uk/case-studies/fetu>. Accessed September 2018.

2 *Engaging the SME Supply Chain*, Catapult. <https://catapult.org.uk/success-stories/engaging-sme-supply-chain/>. Accessed September 2018.

3 *The Aerospace Growth Partnership*. <https://www.theagp.aero/the-agp/supply-chain/> Accessed September 2018.

4 *Sharing in Growth*. <https://www.sig-uk.org/> Accessed September 2018.

5 *National Aerospace Technology Exploitation Programme*. <http://www.natep.org.uk/about> Accessed September 2018.

6 Presentation to Glasgow Aerospace conference, NATEP, 2017. [https://www.gla.ac.uk/media/media\\_558877\\_en.pdf](https://www.gla.ac.uk/media/media_558877_en.pdf) Accessed September 2018.

