

# Public procurement

## Summary

Public procurement has the potential to have a transformative effect on companies' investment in R&D in the UK.

It provides a huge opportunity to stimulate innovation. However, engineering companies have found that decisions on public procurement prioritise low cost over best value, and risk aversion hinders the introduction of innovative solutions. If public procurement processes discourage R&D and innovation, it can push businesses to move those activities to other more receptive countries.

Radical change to public procurement in the UK is needed to realise its potential, creating a culture that takes appropriate risks and focuses on outcomes.

The public sector is a major customer for many innovative engineering sectors



energy



construction and infrastructure



health



telecoms



The UK public sector spends **£268 billion a year on procurement**, equivalent to 14% of GDP<sup>1</sup>.

For companies where the government is a major customer, public procurement processes are a key determinant of R&D spend. Market requirements, trends and buying patterns play a huge role in determining the strategy for engineering companies, including R&D investment and its direction.

## The challenge

**Public procurement is one of the most significant interventions that government makes in the economy.** Companies find UK public procurement too focused on achieving the lowest cost and an accountable process. This is important, but can be at the expense of seeking the best outcomes and creates a strong aversion to risk. Public procurers can also be relatively closed to new ideas and approaches. This means:

- **Less money for R&D.** Companies are forced to offer the lowest cost options, leaving them with less money available and less incentivised to conduct R&D.
- **Less incentive for new approaches.** The lack of opportunities for risk-sharing means that companies are not encouraged to propose innovative methods and solutions, so government may miss opportunities that deliver the best results.
- **Lack of collaboration.** Collaborative relationships between buyers and suppliers are vital for successful innovation as they ensure there is good understanding of the buyer's needs and offer opportunities for co-creation of innovative solutions.
- **Innovation relocates abroad.** Companies who supply goods to the public sector in several countries may move their innovative work to places where customers recognise its value.



Of the **11 companies interviewed** for whom the public sector is a major customer, **nine said procurement is a barrier for investment in R&D.**

Innovation can improve the outcomes delivered by public procurement if it is allowed to.

## Public procurement is a complex process with the potential to promote or stifle R&D and innovation at numerous stages:

### Profit capping

Profit capping plays an important political role in industries such as regulated utilities and defence. However, it can strongly disincentivise R&D investment. Not only does it decrease funds available for R&D, it also makes it difficult for companies to attract high risk investors that are willing to support innovative work.

### IP handling

Owning IP is key for many companies so that they can maximise returns from R&D investment. The way IP is handled, both in procurement and in government-funded innovation, must be unambiguous, providing clear incentives for companies to invest in R&D and supply innovative goods and services to the UK government.

**“The uncertainties over Intellectual Property ownership need to be resolved so as not to discourage defence innovation happening in the UK.”**

*Dunne Review 2018<sup>2</sup>*

### Services

There are additional challenges in incentivising R&D investment through procurement of services. This is because procurement tends to be based on person-hour cost, and it is difficult for companies to demonstrate the benefits generated from R&D investment in building experienced and highly-skilled staff. This is a challenge in the private sector as well as the public sector.

 See also *Innovation in engineering services*.

**“Strict profit capping in the UK Ministry of Defence defence programmes has led directly to a decreased appetite for R&D spend.”**

**Nigel Whitehead CBE FEng, Chief Technology Officer, BAE Systems**

## There are discrete examples of UK public procurement processes supporting and benefiting from private sector innovation:

### The Small Business Research Initiative<sup>3</sup>

The Small Business Research Initiative awards public sector contracts to SMEs to develop innovative products to meet the needs of the public sector. The scheme started in 2008, and the maximum annual expenditure was £81 million in 2014 to 2015.

Participants find it valuable, supporting them to create new companies, develop and launch new products and attract equity investment.

However, the scheme has been underutilised across government and has had relatively little impact on broader public procurement processes. In addition, the focus on small companies does not address the broader challenges in using public procurement to support R&D and innovation by companies of all sizes.

### Highways England Innovation Fund

Highways England has ringfenced £150 million between 2016 and 2021 for innovation<sup>4</sup>. The fund supports collaboration with industry to trial new technologies for improving safety, customer experience or environmental impact. While it has had a slow start<sup>5</sup>, companies interviewed are positive about the opportunities that the fund provides for the acceleration of new technologies such as connected and autonomous vehicles, pulling these innovations through into practice in the road network.

Highways England is also adjusting its processes to better support innovation through procurement, such as developing a single point of contact for innovators to propose new ideas.

## Building Information Modelling<sup>6</sup>

Public procurement accounts for around 30% of the UK construction market<sup>7</sup>. Building Information modelling (BIM) is a collaborative approach for designing, creating and maintaining infrastructure, underpinned by digital technologies. It increases the efficiency of construction projects and enables collaboration across the whole supply chain.

Government procurement processes have stimulated the development and uptake of BIM in the construction sector through: clear targets for all central government departments to use BIM Level 2 by 2016; training of government staff to use the system; and close working with industry to support embedding of the technology in industry processes.

## To increase business R&D investment:

- The need for improved public procurement processes to effectively stimulate innovation and R&D investment in the private sector has long been recognised but it is clear that there is still scope for transformational change.
- Applying best practice in intelligent procurement to incentivise and support innovation by companies of all sizes should be a major focus of the government's work to increase business R&D investment. This must include strong leadership and vision, robust specification and planning, the involvement of intelligent clients, incentives to encourage the right behaviour and good management of risk.
- This is a complex challenge with numerous stakeholders and conflicting drivers and constraints. Further work is required to find solutions, but this must involve cultural change in government and greater willingness to establish and accept appropriate levels of risk.



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 *Building our Industrial Strategy: Green Paper*, HM Government, 2017.
- 2 *Growing the contribution of defence to UK prosperity*, Philip Dunne MP, 2017.
- 3 *Leveraging public procurement to grow the innovation economy: An independent review of the small business research initiative*, David Connell, 2017.
- 4 *Innovation, Technology and Research Strategy*, Highways England, 2016.
- 5 *Highway England's approach to delivering schemes through its ring-fenced funds*, Office of Rail and Road, 2018.
- 6 *Building Information Modelling. Industrial strategy: government and industry in partnership*, HM Government, 2012.
- 7 *Government Construction Strategy 2016-2020*, Infrastructure and Projects Authority, 2016.

