

UK Futures Programme Competition brief:

Addressing skills deficiencies in the Off-site construction sector

April 2014



The UK Futures Programme – competition brief:

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Summary

The UK Commission for Employment and Skills (UKCES) invites applications for public contribution to innovative projects which aim to tackle barriers to the development of the off-site construction industry, with a specific emphasis on skills. Proposals must be business-led and backed with private co-investment.

A webinar briefing for interested parties will be held on Tuesday 3rd June. The deadline for submission of proposals is midday on Wednesday 18th June with interviews for shortlisted bids on Thursday 24th, Friday 25th, and Monday 28th July. Successful proposals will be announced by Friday 15th August.

This document outlines the nature of the off-site construction competition. It should be read alongside the 'UK Futures Programme: an introduction' and accompanying guidance for applicants.

Background

The UK has one of the largest construction sectors in Europe and has the opportunity to benefit from the forecast growth in the global construction market to 2025. Although it was hit hard by the recession, the construction industry is one of the most important sectors to the UK economy, contributing £90 billion in output, providing seven per cent of all jobs and fertile ground for start-ups. Wages and skill levels are higher than average. UK construction firms have also been successful in international markets to the tune of £1.2bn of exports in 2010.

Off-site construction is one of a number of modern methods of construction that is increasingly driven by technology. It has the potential to change the way the construction industry builds and operates. There's no universal definition of off-site, but we are focussing on the larger scale type of assembly, including: large scale modules and panelised systems; units of fully enclosed space (e.g. rooms) to complete buildings.

Only a small proportion of construction occurs off-site in the UK. Estimates for 2013 suggest the current

value of the sector is likely to be seven per cent of total construction output with a potential to achieve much more.

Off-site technologies have the potential to address some of the industry's most pressing challenges, including the need for new homes and the impetus of the low-carbon agenda. The opportunities reach beyond the sector through the supply chain. Off-site construction has close links with manufacturing as prefabricated components and materials are assembled in factories before moving to an onsite construction environment. Growth in off-site construction will lead to jobs and growth in manufacturing.

Nevertheless, weak demand in the UK has suppressed the market for off-site, with industry reluctant to adopt innovative technologies, and financiers and insurers unwilling to invest in what are seen as new, untested technologies. However, the market for off-site is more established in Scandinavia, Austria and Germany and there are real opportunities for the UK to compete globally in a buoyant international arena.

The Invitation

UKCES research¹ with employers in the off-site construction industry identified a series of skills challenges holding back the potential of the sector. This section sets out those challenges and invites innovative proposals that will develop, test and/or scale collaborative, employer-led solutions to address one or more of them. These industry skill challenges align with the broad themes identified in the 'UK Futures Programme: an introduction' document. The sector has potential to grow in both domestic and international consumption and represents a potential growth area for the UK economy. To achieve this, it needs to develop high level skills.

Given the potential of off-site to drive growth in the construction sector and change the way the construction sector operates, it is no surprise that it has implications for skills need, supply and use. The nature of the building process requires a different blend of skills. In particular:

¹Research findings: www.ukces.org.uk/publications/er74-technology-and-skills-construction

1. Greater collaboration between professions in off-site construction:

Professionals in occupations in off-site construction increasingly need to have an understanding of the interaction between the principles of design, construction, manufacturing and engineering. An understanding of interaction of different materials is essential.

2. Project management:

The skills to effectively manage the interface between the off-site and onsite environment are critical and require skills in timing, sequencing and scheduling.

3. Design and IT skills:

The digital process covering the design, construction and operation of buildings will drive productivity and create demand for combinations of design and IT skills, more generally.

4. Marketing and business development:

Effective marketing increasingly requires a sound technical understanding of the product or service being sold. This emphasises a combination of high level technical skills such as engineering or design with strong customer service skills. A further dimension to this is the ability to promote and communicate an understanding of the industry to financiers and insurers.

If the UK construction industry is to exploit the potential of off-site construction, multi-skilling, interdisciplinary collaboration and greater flexibility within a number of job roles is crucial. If the demand for off-site increases, there is a very real chance skills shortages will damage profitability and competitiveness. The current training and qualification offer for off-site is considered to be largely inadequate by employers. Provision is fragmented and companies generally create their own, bespoke, in-house training.

There is clearly scope for industry wide collaboration to tackle these challenges and we invite proposals to develop, pilot and/or scale innovative solutions. At this stage we do not wish to invest in further research on the nature of skill requirements in the industry.

Successful proposals will bring employers in the industry together with key partners to tackle these skills challenges as part of a wider agenda to advance the industry. For example, projects may involve developing and piloting new methods of fostering collaboration in the sector; bringing together industry partners to develop a business plan for the development of the sector in localities or hubs or to establish an interface between innovation and commercial application;

developing and piloting programmes of learning to address skill deficiencies tailored to the needs of the sector; and identifying innovative means of stimulating demand. These are illustrations of the type of activity we expect to invest in; the UKCES does not intend to prescribe the solution. Applications must demonstrate how the proposed project will address the problems identified in the sector.

Eligibility and success criteria

We are keen to receive proposals from employers and representative bodies in the off-site construction industry across the UK. Proposals must meet the core criteria of:

- Strong employer leadership/engagement
- Public and private contributions
- Innovation
- A clear path from problem to solution which demonstrates the potential for impact
- Testing and shared learning.

Proposals must align with the scope of this competition if they are to pass the gateway question as part of the assessment process (application form). A clear majority of the project's objectives and activities should be aligned with this competition brief and the output(s) of the project will address the problems/issues identified.




Proposals to continue a project previously funded with public, or indeed private investment, must demonstrate how they intend to build on and develop the project through transformative, context specific or adaptive innovation (see Innovation guidance). Proposals that seek support for the continuation of their project unchanged will not be eligible. This applies to Employer Investment Fund and Growth and Innovation Fund projects as well as projects supported with other sources of funding.

Public and private contributions for off-site construction sector

The UKCES is prepared to invest up to £180,000 per successful proposal with a total investment pot of up to £600,000 available for this competition.

Before submitting a proposal applicants are asked to consider the accompanying document on Public and Private Contributions. This sets the expectations around the nature and size of co-investment in each stages i.e. development/piloting/scaling. We expect that most projects that meet the criteria for this competition will primarily benefit employers. As such,

we expect proposals in response to this competition to be backed with high levels of employer co-investment. Expectations about the balance of public and private contributions to the development, piloting and scaling stages of a project are set out below:

 <p>Development</p>	<p>Employers will have an active interest in shaping the product/service being developed and can see long term benefit to supporting the project. Public investment mitigates risk allowing the project to go-ahead and supports innovation and wider learning. UKCES is likely to provide the majority contribution.</p>
 <p>Piloting</p>	<p>Piloting identifies if the product/service works and is of benefit to the intended user. We expect employer contributions to be higher than the development stage reflecting proximity to market. Risks are present but less than in the development stage. UKCES contributions aim to mitigate risks and support the emphasis on wider learning about what works. Although the public contribution is expected to be less than the development stage it may still provide the majority investment.</p>
 <p>Scaling</p>	<p>The implementation or scaling-up of a product or service may be more costly but if success and the benefits are more likely, private contributions are expected to cover the majority of the project costs. The public contribution will again facilitate wider learning, mitigate risk and will continue to be backed with non-financial support.</p>

Timing

The timings of this competition require that the majority of the UKCES' co-investment in the project is provided by March 2015. Applicants should therefore develop their proposals with this in mind.

Commissioner leadership

The UK Futures Programme is being led by Scott Waddington, Chief Executive SA Brain and Co Ltd

and UKCES Commissioner. This competition will be led by Bill McGinnis, UKCES Commissioner and Northern Ireland Adviser on Employment and Skills. The competition will be managed by Simon Temperton, Senior Manager at UKCES.

Application process

The table below sets out the timetable for the competition. An application form with guidance is available from: www.gov.uk/ukces

Activity	Date
Competition announced	Wednesday 30th April
Webinar briefing	Tuesday 3rd June
Submission of proposals - Competition closes	Wednesday 18th June
Interview for shortlisted proposals	Thursday 24th, Friday 25th July and Monday 28th July
Bidders informed of decisions	By Thursday 15th August
Successful projects to start	From September

Further information and guidance

Further information is available from the UK Futures Programme website www.gov.uk/ukces and it is important that applicants read the accompanying guidance documents:

- UK Futures Programme: an introduction
- Guidance for Applicants
- Application Form

Questions on the process and scope of the competition can be submitted via enquires.futuresprogramme@ukces.org.uk