Candidate Information

Position:	Digital Construction Engineer - KTP Associate - Clarke
School/Department:	Business Support Programmes
Reference:	26/113530
Closing Date:	Monday 10 August 2026
Salary:	£30,000 - £41,000 per annum. One of the key KTP benefits is access to a £5,000 training and development budget over the 30-month project.
Anticipated Interview Date:	Wednesday 23 September 2026
Duration:	30 months

JOB PURPOSE:

To deliver a Knowledge Transfer Partnership (KTP) project for Clarke in partnership with Queen's University Belfast to streamline a digital and physical workflow for façade construction by combining reality capture technologies with AI-driven automation to deliver faster, smarter and more sustainable outcomes.

Employed and supported by a team of academic experts from the University, you will be based at Clarke, Ballymena, Co. Antrim. As a KTP Associate, you will lead on the delivery of the following key project stages:

Stage 1: Analysis of existing workflow, identifying gaps and opportunities. Conduct competitor analysis to confirm market gaps and establish the project direction.

Stage 2: Improving and Consolidating BIM Tools and Processes across the Business

Stage 3: From BIM to Digital Twins for Enhanced Logistics, Storage Management, and Progress Monitoring

Stage 4: Developing AI-based Solutions to Manipulate and Use Data from LiDAR and Sensors for Construction Site Digital Twins

Stage 5: AI and Generative Design and/or Operation Tools for Integrating Digital Twin Data with BIM Automation

Stage 6: Consolidation and Embedding of Knowledge in Developed Tools and Processes

Please note that Queen's reserves the right to close the advert early once 80 applications have been received.

MAJOR DUTIES:

1. Plan, manage and coordinate the items of work as laid out in the project plan (project work plan will be provided by Supervisors). Plan day-to-day activity and contribute to the planning and management of the project, approximately 3-6 months in advance.
2. Coordinate the definition of technology requirements and then research and evaluate the best fit technologies that will fit Clarkes processes.
3. Implement and embed the new technologies and related processes with-in Clarkes.
4. Attend training modules (mandatory and additional job-specific training). This may be local, national and international. Ensure that all training and development activity is scheduled to ensure that progress on the work plan objectives is not interrupted or delayed.
5. Plan and manage day-to-day resources to ensure the project runs to time and on budget.
6. Coordinate and obtain approval for planned expenditure/allocation of resources with the Management Committee and Steering Group, and monitor travel and development budgets and produce a Personal Development Plan which will ensure best use of financial resources.
7. Build relationships with both company and university staff to ensure effective working practices are established.

8. Liaise with company staff on a daily basis. Contribute to training of staff in the company and university as required, which may include the supervision of placement students or other staff members as required.
9. Attend and contribute to any appropriate meetings, both in the company and the university as required. Present regular progress reports to members of the Steering and Management Groups and to external audiences.
10. Perform any other additional duties as agreed by the Local Management Committee and Steering Groups to contribute to the development of the company, the university and the Associate.
11. Establish contacts with additional groups and organisations (other KTP Associates, other university departments, other industrial contacts, and Innovate UK) as required to develop knowledge and understanding and form relationships for future collaboration.
12. Act as an Ambassador for the Knowledge Transfer Partnership Programme.

ESSENTIAL CRITERIA:

1. Applicants should hold a first or upper second-class honours degree (or equivalent) in Architectural Engineering, Civil or Structural Engineering, Mechanical Engineering, Digital Engineering, Architecture, Architectural Technology or closely related discipline, or a course which falls within the Built Environment.

   Where candidates hold an international degree, the equivalency of this to a UK degree classification (i.e. 1st class, 2.1, 2.2 etc.) must be clearly defined within the application.
2. Significant relevant work experience.
3. Relevant experience of business needs analysis and evaluation of technologies, processes and workflows to identify and recommend effective digital solutions.
4. Relevant experience of driving the integration of digital processes and software.
5. Relevant experience and demonstrable knowledge of BIM including demonstrable experience of using Revit and NavisWorks*.

   (*may be demonstrated through the completion of a module, student project or placement).
6. Relevant and demonstrable knowledge of digital construction, and experience in digital construction and manufacturing software platforms.
7. Candidates must demonstrate the ability to work independently while contributing effectively within a team structure. Experience managing deadlines, planning work packages, documenting outputs, and presenting technical findings clearly to varied audiences is important.
8. Relevant experience of practical problem-solving in real or simulated project environments.
9. Ability to think logically, create solutions and make informed decisions.
10. Strong analytical and problem-solving skills, with a focus on innovation and process improvement within the digital construction realm and methodological rigor.
11. A high level of numeracy and the ability to interpret data.
12. An interest in digital innovation within construction, design, manufacturing, or the built environment is essential.
13. Knowledge of construction processes and manufacturing.
14. High level IT skills including a strong interest in technology, software and the integration of both.
15. Continuous learning mindset, with a desire to stay up-to-date on the latest digital tools, technologies, and construction methods.
16. Demonstrable experience applying technical or analytical skills to complex problems, either through academic projects, research, industry placements, or employment. This may include developing structured methodologies, analysing data, modelling systems, improving technical processes, or implementing digital solutions within a defined framework.
17. Demonstrate confidence in learning new technologies and software platforms and integrating multiple digital tools into coherent workflows, with the ability to apply them in practical, real-world concepts.
18. Strong oral and written communication and presentation skills.
19. High level of IT skills.
20. Ability to present technical ideas and improvements to both academic and industry audiences.
21. Ability to deliver training and follow-up support to operatives.
22. Ability to feed findings from the project back to senior leadership and where required rolling out within the business and within the Clarke teams.
23. Ability to evidence quantitative reasoning, critical thinking, and confidence in working with technical information.
24. Demonstrate initiative, self-direction and the ability to manage and prioritise work within a structured project framework.
25. Ability to translate emerging technologies into practical and scalable solutions.
26. Self-motivated, capable of working independently, with a drive and ambition to succeed.
27. Ability to work effectively as a member of a group.

28. Enthusiasm for research/project area.
29. Well organised, strong attention to detail and ability to meet tight deadlines.
30. An interest in staying with the Company (Associates are normally invited to apply for permanent positions).
31. Ability to take part in Associate management courses (requiring two one-week periods in England).
32. Willing/able to travel throughout the UK and Ireland and abroad as necessary.
33. Ability to attend work place (Clarke, Ballymena, Co. Antrim) daily and travel to other work locations as required.
34. Above all, we are seeking candidates who demonstrate curiosity, adaptability, and a genuine interest in applying research-led digital innovation to practical industry challenges.

DESIRABLE CRITERIA:

1. Hold, or be about to obtain (by September 2026) a postgraduate qualification in a relevant subject area, or academic research experience.
2. Hold, or be about to obtain (by September 2026) a postgraduate qualification in BIM or Digital Construction.
3. An additional qualification in a relevant technological field (e.g. Computer Science or related discipline), is also desirable.
4. Substantial relevant work experience.
5. Experience and demonstrable knowledge of digital design tools such as parametric modelling software, 3D laser scanning, photogrammetry, point cloud processing.
6. Relevant experience of using Autodesk Dynamo.
7. Demonstrable knowledge of the challenges associated with integrating AI into operational workflows, including data structuring and validation.
8. Knowledge of parametric design.
9. Knowledge of digital twins and digital twin ontology.
10. Relevant experience of data analysis, programming, computational design, machine learning, automation, digital workflow development.
11. Experience of construction processes, façade systems, manufacturing principles, or design coordination environments.
12. Relevant experience working on multidisciplinary projects, engaging with industry partners, or contributing to innovation-focused initiatives.
13. Relevant experience in computational design, scripting, automation, or data-driven workflow development (developing scripts, working with APIs, building digital tools, or improving efficiency through process automation).
14. Relevant experience of definition of digital environment, capability to assess demonstrational tools where the applicant has implemented and embedded technology/software.
15. Familiarity with structured information management or lifecycle data processes within construction, particularly where digital information supports compliance and long-term asset management.
16. Applicants must adequately evidence how they have gained relevant experience/knowledge/skills in detail, using examples and dates where appropriate to demonstrate that they meet these requirements. Listing duties/skills/modules/assignment titles without supporting evidence will be insufficient for shortlisting.
17. Ability to influence people effectively.
18. Tenacious and committed to achieving goals.

ADDITIONAL INFORMATION:

Please note that the Shortlisting Panel cannot make assumptions on your experience or qualifications; it is the responsibility of the applicant to evidence their suitability for the role. As such your Application Form, CV and/or Cover Letter must clearly demonstrate how your Qualifications and Experience meet the Essential Criteria and, where possible, Desirable Criteria, as listed in the Candidate Information Booklet. Please ensure that you address all the criteria in the person specification and provide evidence to support your statements.

Knowledge Transfer Partnerships help forward thinking companies innovate for growth. They do this by connecting organisations who have an innovative idea with the knowledge and expertise to help deliver it. This dynamic three-way partnership formed between an inspired graduate, the university and the company means that the graduate, known as the KTP Associate, provides the link between an expert academic team and a dynamic organisation. This bridge gives the graduate unique and exceptional access to both world class academic support and experts from within the business.

For all KTP projects, the graduate is employed by the University but contracted to work at the business premises on a day-to-day basis, under the business' basic terms and conditions including holidays and hours of work. As a member of university staff, KTP Associates can join the University pension scheme, gain access to university resources including the Library. Please note that KTP Associates are not eligible for financial support for relocation from the University.

A KTP provides a fulfilling employment opportunity where you can apply your knowledge to turn a key strategic innovative idea into reality and although the KTP Programme is aimed at recent graduates, any suitable qualified graduate may apply. Each KTP Associate role is a fully salaried job and last between 12 months and three years with approximately 70% of Associates offered employment by the host business at the end of the project. Projects can be in any sector and for businesses of all sizes. Each KTP Associate will have a travel/training budget to provide funding for job-specific training and further professional development. Two, one-week residential management training modules are also included as part of the package.

KTP aims to help businesses improve their competitiveness and productivity through the better use of knowledge, technology and skills held within the UK knowledge base. KTPs are funded by UKRI through Innovate UK with the support of co-funders, including the Scottish Funding Council, Welsh Government, Invest Northern Ireland, Defra and BEIS. Innovate UK manages the KTP Programme and facilitates its delivery through a range of partners including the Knowledge Transfer Network (KTN), Knowledge Bases (in this case, Queen's University Belfast) and Businesses.

Applicants must adequately evidence how they have gained relevant experience/knowledge/skills in detail, using examples and dates where appropriate to demonstrate that they meet these requirements. Listing duties/skills/modules/assignment titles without supporting evidence will be insufficient for shortlisting.

Informal enquiries can be directed to: ktp@qub.ac.uk.

More details are available at www.ktp-uk.org.