# TestReach

## IStructE Works with TestReach to Offer Frequent and Flexible Exams with Integrity, for Candidates Located Worldwide

The Institution of
**StructuralEngineers**

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## Background

The Institution of Structural Engineers (IStructE) is a professional body with over 31,500 members operating in over 100 countries. The Institution is the world's largest membership organisation dedicated to structural engineering. It upholds standards, shares knowledge and provides a voice for the profession. Membership of the Institution is global benchmark of competence and technical excellence. The Institution is an internationally recognised source of expertise on structural engineering and public safety within the built environment.

The Institution runs a variety of written exams around the world, but the new challenge faced by IStructE was to run examinations for a multiple-choice Structural Behaviour qualification. A pilot exam was offered in test centres and universities around the UK but this approach was difficult and time-consuming to organise and limited the number of candidates who could take part. The Institution also wanted to offer the course internationally and on a more frequent basis, but organising test centres worldwide would have added enormously to the already high administrative burden. The pilot exam could therefore not be offered globally which restricted access for candidates to the qualification. IStructE began looking for an online solution: one that would give more flexibility, reduce the administrative burden, give candidates a positive exam experience, while upholding the integrity of the examination.

## Solution

IStructE decided to work with TestReach to offer a flexible online solution to candidates worldwide. TestReach was the first choice as it met the important requirement that any online exam must uphold the same rigorous standards that the Institution had for the in-person exams. TestReach included software for the creation and management of exams, with the integral option of exam delivery via secure, remote proctoring. Remote proctoring exam delivery

meant that candidates could sit their exam with complete security from any location – all they needed was a laptop with working webcam and microphone, and access to an internet connection.

With TestReach, the software to run exams and live proctoring delivery are provided within one complete application, which enables a very secure exam process. All data is in one system, so there is complete visibility across exam papers, candidate enrolments and the number of candidates who are remotely proctored. The supervisors are trained by TestReach and offer a knowledgeable and friendly service. No candidate can access their exam on TestReach without coming through the authentication procedure, unlike other providers where passwords can be given out to access the exam, with the risk they can be compromised. It was essential to IStructE that the remote proctoring would be high quality and done live, in real time, and not via algorithms. The service was to be the equivalent of an exam room, with candidates watched 100% of the time.

IStructE also welcomed other features TestReach provided, including extensive question banking functions, the option to create randomised test papers from the question bank, and detailed test and question reports.

## Results

The Certificate in Structural Behaviour is a very high standard of exam, with a 70% pass mark, and the integrity of the exam had to be maintained while being offered worldwide. Exams are available to candidates via an on-demand process, so candidates in any location or time zone can sit their exam at a time and place that suits them. "Now we don't have to organise test centres, the numbers enrolling on this qualification continue to grow worldwide," said Rebecca Carey, Head of Membership and and Education at IStructE. "It is a much more positive experience for our candidates and is much less intrusive, as they don't have to travel to sit their exam. This is even more important now during the global Covid-19 pandemic.

Even with the pandemic restrictions, the delivery of this exam has not been impacted whatsoever, and we have actually seen more candidates take the exam while they have been in lockdown."

IStructE's question paper is composed of multiple-choice questions with negative marking, to prevent candidates from guessing. By using linear-on-the-fly testing, a randomised paper is created for each candidate which helps prevent exam content being compromised. Answer options are also randomised, to further increase security. If a candidate has to do a re-sit, the system prevents any questions being re-used in the second exam paper.

IStructE utilises the test reports to access results, which are reviewed before issuing marks to candidates. Question reports are accessed in order to see how often certain questions are appearing, and how often they are answered correctly or incorrectly. If candidates regularly struggle with a specific question, the question can be highlighted to the author to have it reviewed. Questions can also be retired easily if they need to be checked, which has been a helpful feature.

"Obviously there is a lot of work to get set up in the beginning but it wasn't painful," said Carey. "We transferred all our questions to the TestReach team who uploaded the question banks and assembled the papers. They were great to work with and were very helpful. We then did some training on the administration side so that we can upload candidates, see results and access reports ourselves, and it all functions very well. Also our candidates are happy with the quality of the product, they like to be supervised by a human who is welcoming and professional. If they are unsure of something during the exam they can speak to the supervisor or use the chat function, and this is very reassuring."

"There are a range of other exams that we run, which include a lot of different question types, and we are now looking to move some of them online too. Using TestReach will help us to do this without undermining the integrity of our exams."