The Cambridge Assessment Group is a department of the University of Cambridge, made up of three exam boards. It has over 20 years experience in researching the development of e-assessment solutions and is fully committed to the development of e-assessment options across its qualification offer. These include both vocational and general qualifications.

Cambridge Assessment provide a number of technology based solutions with assessment techniques ranging from on screen testing to the use of e-portfolios for storage of digital performance based evidence.

Most of the penetration is in the vocational sector, namely VRQs such as the word processing suite, like Clait which is an IT application assessment, keyskills, adult basic skills, numeracy and literacy. With regard to assessment in terms of a more portfolio based assessment which is obviously different to testing or exams, we have a history of supporting the use of e-assessment for e-portfolios within NVQs and in some project based areas of GCSE work which now tends to be more focused on controlled assessment rather than course work.

The reasons for adopting and introducing e-assessment are varied. Service improvement has always been a key factor, the ability in general to improve turnaround time for assessments and results has by default introduced enhanced quality assurance procedures as well.

The key benefits of e-assessment are potentially accrued by the delivery organisation, for example the more efficient use of assessment material or it might be with regard to more effective use of assessment if you are able to assess things in a more reliable or valid way. Those benefits will be accrued by learners, as they may be given more opportunities to engage with assessment and therefore allow them to dictate their courses and assessment opportunities in a more flexible way or it may result in a faster turnaround or result or outcome, enabling them to generate evidence in a much richer and wider way than they might do through paper and pencil forms of assessment.

Cambridge Assessment recognises that there is a wide scope for the application of technology to support assessment – For the outcomes to maintain their integrity and credibility the assessment and use of technology must be 'fit for purpose'.

Within the organisation we have a guiding principle which is termed the Cambridge Approach, a method grounded in a belief that assessment outcomes have to have value, they must be a
combination of reliable, in the sense of it is an assessment instrument that can be consistently applied and also importantly it must be valid, and in terms of maintaining confidence the overall solution must be robust and resilient. A combination of those three things, reliability, validity and robust resilience are the three factors that we consider”.

"Learner expectations have added to this drive towards e-assessment. There is now a generation of learners who are incredibly comfortable with and so immersed in technology that to do things differently becomes increasingly alien to them. This presents interesting challenges in terms of e-assessment”.

"We have recognised is that as each year goes by each new generation becomes increasingly comfortable with the concept of interacting with technology becoming more technology literate which will change some of their expectations about how they generate information and how they interact with information which in turn fuels their expectations about how they might generate evidence for an assessment or even interact with that assessment”.

"There are still difficulties in marrying the skills set with the infrastructure – both internally and externally. Cambridge Assessment believe in the “hidden team” - the human resource married with the technology resource. A balanced combination is required to develop a suitable level of expertise and confidence in e-assessment”.

"We provide a range of guidance, whereby we help them define the sort of roles that might be required to support an e-assessment solution. One of the big changes people experience moving towards e-assessment is that it requires a wider team to be involved in the process, including more administration staff, might include invigilators, might include technical staff”.

"Assessment design must match the level of knowledge or skills that are to be assessed. Technology should not be used for the sake of it – it should enhance the reliability, validity, accessibility or efficiency of the assessment process without impacting on the quality or outcome”.

"One of the main constraints in the mainstream educational sector is regards to capacity where assessments traditionally offered infrequently but to high volume, do not allow enough access to the computer equipment on a given day. We need to start to think differently about how these sessions might be deployed, either by spreading that volume across multiple locations or by introducing more on demand forms of assessment so that volume load can be spread more evenly across sessions at different times of the year”.
"There are also some very real constraints around fit for purpose, there are some areas where I think we need to be very careful about the forms of assessment that we look to introduce simply because it might be convenient to do so with the existing technology and remember that we have to remain true to the original assessment concepts if we are going to retain the integrity of the assessment itself.

VO

" Cambridge Assessment also gives much consideration to the whole area of accessibility. It is a general truism that the more assessment goes down the innovation route the more potential there is to create accessibility issues".

Dialogue
“Accessibility relates to the extent to which assessment opportunities can be provided to as broad a group as possible without the technology itself being the factor that constrains that access”.

VO

"E-assessment provides two key opportunities: to assess things differently (in new ways), and to assess different things (previously ignored domains and concepts). It heralds the potential to venture into new domains by allowing judgements about such things as process (e.g problem solving) and contribution (eg team work, collaboration)."

Dialogue

E-assessment can be used to assess existing domains differently and that might relate to on demand or adaptive testing and in those contexts, ensuring there is guidance around quality assurance. We can also use e-assessment to assess different things, for example problem solving skills, contributions to team work and collaborative skills, areas that aren't necessarily traditionally defined through curriculum".

VO

" The diversity of subject domains and the complexity of such can present some additional challenges for e-assessment.

Dialogue

There are some subject areas which tend to lend themselves better to objective forms of assessment with the opportunity to apply e-assessment solutions. If your perception of e-assessment is automated, we have to be careful that we don't convert everything to very pure objective forms of assessment such as multiple choice as many forms of assessment, include a mix of assessment from pure objective questions to a more extended response.

For our organisation, most e-assessments involve what we would class as computer mediated assessment where the technology is used to both deliver and capture the evidence returned from the student but that will still be judged by humans".