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Dear Mr Bradley

FRC Discussion Paper on Technological Resources

We are pleased to respond to the FRC's Discussion Paper *Technological Resources: Using technology to enhance audit quality, March 2020* ("DP"). Our detailed response is provided in the attached appendix, and our observations on key industry trends, and views on what should be prioritised, are outlined in this letter.

We have observed the following trends relating to technological resources in audit:

- **The availability of technological resources that enhance audit quality continue to increase:** Sustained investment by both firms and the wider digital sector is providing an increasing number of opportunities for proven technological resources to be adopted by audit teams.
- **The adoption of technological resources is increasing and is improving audit quality:** This is being driven by:
 - *Increasing confidence that technological resources deliver audit quality benefits.* Examples of key benefits are presented in the appendix (Q1).
 - *Increasing digital skills in the workforce.* For example, our firm has an incremental training programme called EY Badges. This enables our people to invest in their own skills and careers by earning digital accreditations in areas such as data visualisation, data science and data integration, and in sectors such as Retail, TMT and Utilities. The accountancy institutes and other firms are also investing in training programmes which are helping to increase digital awareness, skills and confidence within the auditing profession.
 - *Reducing barriers to adoption.* A wider range of technological resources are becoming available, which in turn are reducing barriers to the adoption of other technologies (e.g., data extraction technologies are reducing adoption barriers for audit teams wishing to use our EY Helix Analyzers and corresponding work programmes).
- **Third-party technology and service providers are increasingly responding to demand from challenger audit firms:** We are seeing anecdotal evidence that suggests third-party companies are now helping audit firms to address their historic challenges relating to technological resource availability and adoption.

In our view the following matters should be prioritised, in the context of using technological resources to enhance audit quality:

- **Greater emphasis should be placed on the “scale adoption” of available technology resources:** There is too much emphasis on emerging technologies (such as predicative analytics, machine learning and natural language processing). This could distract the sector from using more accessible, scalable and proven technologies, and transforming audit methodologies to integrate these technologies to enhance audit quality more effectively. Whilst auditing standards are not a barrier to adoption, they could do more to encourage and normalise the use of technology in audits e.g., by including more technology enabled examples and scenarios in application guides.
- **Debate and consensus to clarify the Ethical Standard (ES) position on using data from an audited entity to train Artificial Intelligence (“AI”):** As currently drafted the ES could prohibit the use of data gathered in one audit for use in another, regardless of whether it is aggregated and anonymised, in situations where consent is required from the audit client that owns the data. Even if consent is granted by that company, and the data/knowledge learned from its audit is put to use elsewhere, that may constitute a favour granted by the company to the audit firm. We assume this would fail the “trivial or inconsequential test” in the ES, and if so, the auditor in question would have breached its independence from the company.

In addition to this ES barrier, there also remains the outstanding question for the audit profession of “what constitutes an adequate level of transparency relating to the use of audited entity data for any such AI training purposes?”. Even with ES clearance, merely adding further detailed terms and conditions into audit engagement letters does not constitute sufficient transparency. The profession needs to establish a transparent and consistent approach, supported by both regulator and professional bodies, which enables explicit consent from companies that are audited to be obtained.

- **Increasing independence challenges relating to technology companies:** The consolidation of business technology solutions within a few large players (e.g., Microsoft, Amazon, Google, Apple) gives rise to independence challenges for the auditors of those companies. For example, the ability to use Microsoft Azure or Amazon Web Services to support business critical applications supporting the audit process, can be interpreted to present independence issues under the ES. EY’s in-house technological resources used in the audit process can also be limited because we cannot use certain “components” from these audited companies e.g., open source software components where a relationship with Google, a company we audit, exists. This situation can also apply to small and mid-sized technology companies, with the results that certain audit firms maybe locked out of using those innovative technologies, or the choice of auditors for the technology company is limited.

In addition, even when an audit relationship does not exist between a technology company and an audit firm, it can also be interpreted as an independence issue for the audit firm under the ES, if the firm is using solutions or services within its audit processes from a technology company which itself forms a relationship with the company that is audited (e.g., the technology company sells the same solution or service to both parties or uses data from the

company that is audited to train AI, which is then in turn used by the audit firm in its audit processes).

EY and other large firms continue to invest globally in both the availability and adoption of technological resources that help to drive audit quality. Maintaining this investment, and sustaining the benefits it provides, is critical for restoring trust and confidence in the auditing profession. Therefore, whichever organisational changes are required of audit firms, including operational separation, it is in everyone's interest to ensure this does not disrupt and jeopardise the development and use of this technology in the future.

We would very much welcome a meeting with you to discuss our response, and I would therefore be grateful if you could contact me please to help arrange this. Also, for the avoidance of any doubt, our views provided in this response may be published by the FRC.

Yours sincerely



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Appendix

	EY's responses
1	<p><i>Do you agree that the increasing use of technological resources, including AI and other advanced tools, enhances the quality of audits, beyond the benefits derived from efficiency gains? If so, what are the indicators of enhanced quality?</i></p> <p>Yes, we agree that the increasing use of technological resources is enhancing audit quality beyond efficiency gains. Key underlying indicators of audit quality enhancement are outlined below:</p> <p>Improved connectivity with audited entities: Technology is enabling us to connect more effectively with the companies we audit and their underlying technological systems, bringing several audit quality benefits. For example, it has:</p> <ul style="list-style-type: none"> • brought greater transparency and clarity over audit requirements - for example, tasks that are still outstanding, owners of actions, dependencies on others and overall timetable requirements; • improved the security, precision and speed of communications and interactions with companies that we audit; and • reduced the need to depend on staff at the audited entities for access to data and information for the purposes of the audit (reducing errors, increasing efficiency and eliminating risks relating to the integrity of data/information provided). <p>These benefits to audit quality are particularly visible during the COVID-19 situation, where connective technology is enabling us to sustain the quality and resilience of our auditing activities, despite not being able to visit or work from audited entity sites.</p> <p>Improved business understanding and risk assessment: Technology is helping our audit teams to deepen their understanding of key business processes, user activities and controls, faster and further than ever before. This is enabling them to sharpen their focus on the areas of highest audit risk and interest, intensifying their scepticism with precision-guided and fact-based questions.</p> <p>Technology is also enabling our auditors to "correlate" full populations of audited entity data (as part of annual risk assessments and first year engagements), helping us to use such "data relationships" to identify and respond more quickly, and earlier in the audit cycle, to specific risks and non-routine matters e.g:</p> <ul style="list-style-type: none"> • if/how revenue related and cost transactions link through to cash postings; and • what posting activity is occurring that does not relate to cash, and whether these require testing. <p>Enhanced professional scepticism: Technology gives audit teams faster, easier and more robust access to an entity's data and information, enabling them to challenge more effectively the entity's explanations and informing the auditor on facts relevant to assumptions underpinning key management judgements and estimates e.g:</p> <ul style="list-style-type: none"> • validation of how internal controls are covered during periods of change and/or periods of absence of key personnel; and

- producing independent scenario testing models for reperformance and analysis of key estimates, such as provisions or impairments.

More effective sharing of global knowledge and best practices: Technology and data analytics are enabling auditors to identify, target and share more effectively:

- technical knowledge, including case studies, interpretations and application guides; and
- best practice assets and experiences from our global business, e.g., EY Atlas (our technical library) and our Digital Audit Sharing Hub (DASH) - our platform for sharing hundreds of EY Helix Custom Analyzers, to improve audit quality in areas of specific risk.

Enriched knowledge from use of wider information sources: Technology and data analytics are not only helping us to obtain/analyse large volumes of audited entity data, they are enabling us to enrich that data with external and third-party information, at scale.

This provides better information on facts, trends and benchmarks that enhance audit quality by enabling greater scepticism and knowledge, better decisions and more precise responses to risk e.g: via our third-party data assets (e.g: stock market data and asset valuation data), we are able to perform audit testing on entire populations of data using such data sources, for example, appraising valuations by the companies that we audit and short selling positions. Through the use of these technical resources, our professional practice teams and audit teams receive more accurate, more real time information to inform their decisions, improving audit quality through the more rapid identification and cascade of relevant information and industry best practices. A further emerging example is our use of iXBRL digestion technology and Regulatory News Service (RNS) data feeds, combined with data analytics and visualisation, to assess industry wide responses to COVID-19 events. Our goal is to identify best practices, trends and impacts on company reporting timetables to shape our own EY response. Enrichment is also happening via more advanced use of existing data we obtain from companies that we audit. For example, enriching auditor scepticism and knowledge through the use of advanced pattern and trend recognition techniques, such as EY GLAD (General Ledger Anomaly Detector).

Reduced sampling risk: Technology is helping us to reduce sampling risk from our audit procedures, through the transformation of our audit methodology, leveraging technological resources to provide more robust ways of working and new forms of audit evidence derived from correlation of data at whole population levels e.g:

- we are reducing the need for sampling to satisfy IPE requirements, by using more robust data extraction technologies; and
- we are performing full population substantive testing via reperformance techniques (e.g., fixed asset depreciation, inventory provisions and payroll deductions).

Indirect benefits: The use of technological resources is also benefiting audit quality in less direct ways, for example:

- *Attraction and retention of talent:* We receive positive feedback from our audit colleagues, in particular those at more junior levels, that they are more engaged in a digitally rich working environment, with the opportunity to use and improve advanced technologies (e.g., global cloud-based platforms, data analytics, mobile office, smart solutions). Technology resources are reducing

	<p>time spent on routine, non-judgemental tasks involved in the audit, thus driving greater opportunity for skills development and experience handling higher risk, non-routine, judgemental areas of the audit - improving both audit quality and people engagement. We consider that this working environment is helping us compete in the “war for talent” across the profession and other sectors.</p> <p>Looking forward, as AI is embraced more widely amongst auditors, this also adds a step-change in the opportunity to enhance further audit quality, by identifying even more complex patterns and relationships in data, e.g:</p> <ul style="list-style-type: none"> • learning from large volumes of sector specific business data, in order to help auditors to identify non-routine, contrary or unusual business activity; • assessing key spreadsheets for potential errors and/or risks of override; • analysing characteristics within and across audit files to preventatively detect improvement opportunities; and • deploying document intelligence to directly assess source documentation, such as paper or unstructured data relating to contracts, for risk impacting terms or trends.
2	<p><i>Do you believe that challenger firms are currently at a disadvantage in the use of new technology? If so, what remedies would you suggest?</i></p> <p>No, because challenger firms that develop and implement the right strategy, with an appropriate commercial setup, are not disadvantaged. Whilst EY’s proprietary technologies (e.g., EY Canvas, EY Helix and EY Atlas) are not available to other firms, other solutions are available in the open market that provide a similar digital experience and capability. References are made to such providers in Sir Donald Brydon’s report <i>Assess, Assure and Inform, Improving Audit Quality and Effectiveness</i> (“the Brydon Report”) (24.1.17), with examples we have seen including:</p> <ul style="list-style-type: none"> • Inflo Software Ltd. provides client connectivity solutions and audit focussed data analytic services; • Validis, Osmo Data Technology, AudiCon and ACL provide data extraction and analysis capabilities • Croner-i / CCH provide digital technical libraries and knowledge sharing platforms. <p>Technology is a fast moving and increasingly accessible domain, with emerging solutions and innovations rapidly becoming “the norm”. Therefore, we predict that the gap between “leading” and “lagging” digital capabilities in the profession will increasingly reduce, not increase, for those firms who are on a sustained strategy and pathway of digital adoption. Other firms may fall behind, but this is not because the technology is not available or inaccessible to them, it is because they choose not to adopt.</p> <p>To help these and other firms adopt and/or make greater use of technological resources in their audits, clearer guidance is needed from the standard setters on how audit evidence is achieved through such technological resources. Whilst auditing standards are not a barrier to adoption, they could do more to encourage and normalise the use of technology in audits, for example, by including more technology enabled examples and scenarios in application guides.</p> <p>EY’s Global strategy is dominated by “build not buy” technology projects, as this leverages our global scale and provides an opportunity for us to fully control the exact scope, direction and pace of our digital journey. We believe that some challenger firms require less diverse and complex technology, with a comparatively lower emphasis on taking the lead in digital innovation. Therefore, the technology needs of these firms can be met more expeditiously and effectively by third-party providers (eg: Inflo Software Ltd).</p>

The biggest challenge and opportunity for all audit firms - challenger firms included - is the time lag between “available” and “adopted” technology. We would encourage efforts across the audit profession to focus on minimising the “adoption lag”, rather than use valuable resource to extend further the availability of emerging technologies. We believe this will deliver more substantial benefits to audit quality across the whole profession. Examples of areas that will accelerate adoption of available technology include:

Removing barriers to the adoption of AI: Whilst recommended in the Brydon Report (24.1.8), a number of opportunities to use audit entity data to “teach” AI in ways that enhance audit quality are not currently adoptable, as the profession still needs to reach a position of clarity on how the use of audit entity data for such purposes married with audit ethical standards.

Continuing transformation of learning, development and qualification syllabuses: Opportunities to use common learning, development and qualification platforms to accelerate skills necessary in our profession for the adoption of technology should continue to be exploited. Audit firms need to work closely with regulators and institutes (e.g., ICAEW, ACCA and CIMA) as well as universities to encourage the development of apprenticeships.

Greater standardisation and availability of key data sources: To reduce barriers to future enrichment of audit technologies, common data sources relevant to the profession could be centrally compiled, managed and shared and potential risks to future auditor data access, caused by the migration to ‘cloud’ finance systems, further assessed. Such measures would help the industry to simplify and standardise “clean” external reference data sets and futureproof a more data driven sector to the rapidly unfolding migration to cloud. For example:

- Reference data to enable higher quality director relationships testing (currently available from Companies House, but only one query at a time);
- Ensuring cloud software providers can fully support auditors’ data access needs, by, for example, reinforcing the need for such finance systems to support data access to full populations of data linked to audit common data model frameworks (e.g., publications from the AICPA); and
- Maintaining and allowing access for certified audit firms to libraries which supply further structured data sources (for example, from Regulatory New Feeds), enabling audit firms (or their 3P outsourcers) to query centrally managed, reliable data sources at scale. This could be used for audit events relevant to a sector, portfolio segmentation purposes or specific procedures relating to an audited entity.

Creating debate on the industry’s commercial framework: The industry does not yet appear to be following commercial strategies that see technology costs drawn out in consistent or transparent ways for audit stakeholders. Most audit fees continue to be comprised of only ‘time and material’ costs. This in turn means that stakeholders are less aware of and able to assess the scale and nature of digital costs and benefits to audit quality from different audit firms and, internally within firms, technological resources risk being seen as another overhead to delivery to be minimised. We would welcome industry initiatives that help change such inherited legacies on how technology resources are perceived, given the value they bring to audit quality. Such steps would also incentivise further innovation and adoption of technological resources and enable challenger firms to pass through their external costs more easily to the companies they audit.

3 *Other than investment, what do you believe are the key challenges auditors face in the increasing utilisation of automated tools and techniques within the audit process? Again, what remedies would you suggest, to overcome these challenges?*

Some auditors seeking to increase their use of automated tools and techniques within the audit process will find this task particularly challenging, and for various reasons. Examples of these challenges and suggested remedies are listed below:

Audited entity reluctance to support adoption of technological resources: Whilst not as prevalent as previously, we continue to see audited entities who resist the auditors' desire to use their standard technologies - for example, resisting use of collaboration technologies; requiring audit firms to use audited entity software preferences; preferring to extract data themselves, instead of using standard audit firm provided data extraction technology. Whilst these measures can have very good reasons, there can be occasions where restrictions are not well founded, increasing challenges to audit teams to adopt such "standard" technological resources. Whilst we do not consider interventions are required currently, as use of technological resource increases and standardisation becomes more necessary to enhance audit quality, there may become a point when audit firms licensed and regulated in the UK are required to use certain technologies in their audits.

Fear of change: This is a traditional headwind to technology adoption, as change requires Responsible Individuals (RIs) to move from what is perceived as a safe, regulator-inspected approach, to something less tried and tested. This can be addressed through continued support provided by the FRC and others on the use of technology in the audit. At a more practical level, regulators can encourage firms to continue to refine their methodologies to ensure appropriate application guidance and/or work programmes are provided to enable auditors to understand the audit evidence and wider benefits to audit quality that technological resources are designed to address.

Lack of direct references within ISAs and ISA guides: ISAs could, over time, enable the FRC to gradually "normalise" the use of technology in audits, the sort of technology currently regarded as highly advanced and innovative. Certain ISAs could be revised to show how, when and where certain types of "accredited" technology could/should be used in the audit methodology, and what might constitute an appropriate level of documentation (or procedural evidence) for the purposes of independent inspections.

Technological resource 'overload': The pace of change with the volume of new available technologies can affect the auditor's ability to adopt. Without a disciplined approach, emerged technologies that do not have clearly articulated audit benefits and linkage to audit methodology can saturate auditors, and distract them from adoption of technology where benefits at scale are opportune. Before driving adoption, emerging technologies must be robustly integrated into audit methodologies 'hand in hand' with the development of the technology itself. Delivery at scale considerations also need to be appraised, before such technologies are made available.

Digital skills and mindsets: Ensuring that auditors possess the necessary digital skills and growth mindset are also key to ensuring technologies are appropriately utilised. The accountancy institutes and professional training organisations have a critical role to play in this regard, by incorporating the use and comprehension of audit technology into accountancy training curricula, with greater emphasis on the value of coaching and work-shadowing on digital skills development, and the need for continuous learning, rather than point in time, classroom based learning.

<p>4</p>	<p><i>Does the current assurance model or the auditing standards represent an obstacle to technological innovation? If yes, then what specific standards, objectives, requirements or guidance cause practitioners' particular difficulties?</i></p> <p>We do not consider that UK ISAs present an obstacle to technological innovation, but we do consider they could be revised to help encourage and normalise the use of technology in audits (see response to Q3).</p> <p>The FRC's Ethical Standard, as currently drafted, creates a barrier to the use of a company's data to create and evolve AI algorithms, for use in future audits (see our opening remarks on the use of AI in the cover letter, and our response to Q2). The auditing profession needs to navigate an appropriate way to use AI in order to enhance our technological solutions, whilst also complying with our ethical standards.</p>
<p>5</p>	<p><i>Do you believe the current level of training given to auditors - both trainees and experienced staff - is sufficient to allow them to understand and deploy the technological resources being made available?</i></p> <p>Yes, it is sufficient both in terms of the training and underlying professional curriculum. However, as mentioned above, we would encourage a broad interpretation of "training" when relating to technological resources. In our experience, what is needed for successful adoption is more coaching and on-the-job enablement support from highly experienced, specialised individuals (in addition to traditional (e.g: classroom based or virtual) training courses and "in engagement team" supervision.</p> <p>On the job learning and support from specialists or technology champions is vital to auditor confidence, the adoption of technology and the effective realisation of audit quality benefits. Accordingly, a greater focus by regulators on the extent and use of high-quality coaches and specialist enabling teams, rather than traditional L&D programmes / qualifications, would benefit the profession's future use of technology.</p>
<p>6</p>	<p><i>What firm-wide controls do you believe are appropriate to ensure that new technology is deployed appropriately and consistently with the requirements of the auditing standards, and provides high quality assurance which the firm can assure and replicate more widely?</i></p> <p>Robust quality control measures must exist for all technology used for audit purposes. This should be required of technologies developed 'in house' by firms themselves, or those technological resources developed by third party providers.</p> <p>The use of specialist teams also enhances audit quality. As experts in their fields, including the use of technological resources, this reduces the risk of error and improves the quality of outcomes. For example, by using specialist (and often centralised) teams to support data extraction, transformation and EY Helix Analyzer loading activities, we ensure the right data is robustly being transferred into the right technological assets for audit teams to use, with confidence, in their Digital Audit procedures.</p> <p>In addition, quality control mechanisms such as Audit Quality Reviews (AQRs) check that technological resources have been utilised properly.</p> <p>For technology assets, it is vital that firms develop and operate appropriate "quality control" procedures. In many cases, this may require additional scope of assessment, assessing the intended consequence and impact that the technological resource will have. Such additional quality controls are often referred to as a "certification" process.</p> <p>Such difference in terminology is intended, as certification goes further than quality control, often into areas that are not directly related to the technological resource itself:</p>

	<ul style="list-style-type: none"> • <i>Quality control</i> verifies the robustness of technology assets (ensuring they are “fit for purpose” and “performing as intended”). Quality control thus applies to all technological resources used for audit purposes, including those which are customised to individual audited entity situations. • <i>Certification</i> goes further and is a process that inspects the quality of the impact of the technology (e.g., the link with audit methodology, and how effectively the technology drives different actions and behaviours). <p>For technological resources used at scale, in standard ways, it is vital for them to be “certified assets”, and not just “quality controlled”, as it is the audit quality outcomes that need to be robust, not just the underlying technology asset itself.</p> <p>This rigour should apply whether the technological resource is in house developed or vendor supplied (the latter pathway must not become an opportunity to ‘outsource the risk’).</p>
7	<p><i>Are you aware of the use of new technologies in analysing and interpreting information provided by auditors - including, for example, auditor’s reports? If yes, then do you foresee implications for the form and content of auditor’s reports?</i></p> <p>We are aware of maturing technologies that are enabling further analysis and interpretation of wider company reporting, but we are not aware of entities outside of auditor themselves and the companies that are audited performing analysis on audit reports at scale. Examples of areas where we are seeing technologies maturing that would enable such analysis include:</p> <p>Advanced analytics technologies: Such as natural language processing (NLP) technologies and sentiment analysis technologies. We consider further maturity of these advanced technologies a welcome development, both within the profession and externally, as mechanisms to increase transparency, reliability of information and the identification and sharing of best practices; and</p> <p>Machine readable reporting: iXBRL and the debate over the integrity and reliability of electronically filed documents. The electronic tagging of company reports is itself undergoing a significant change. Under the new European Single Electronic Format (ESEF) Regulation, consolidated annual accounts prepared in accordance with IFRS by companies with securities admitted to trading on a regulated market, have to be tagged. When published under the Transparency Directive (2004/109/EC), these accounts must be prepared in electronic format (XHTML format with iXBRL tagging). The ESEF Regulation applies to annual accounts for financial years beginning on or after 1 January 2020. In our response to question 1, we provide an example where EY has been using machine readable reporting for ourselves, to enhance audit quality.</p>
8	<p><i>What do you see as being the main ethical implications arising from the greater use of technology and analytics in an audit?</i></p> <p>As mentioned above, we consider the main area worthy of ethical debate for the sector relates to the development of intellectual property, such as AI and technology ‘connectors’, using data or in areas that could be perceived as creating some form of relationship with an audited entity.</p> <p>As technological resource use and sophistication continues to rise, the need to access and use data in more advanced ways will rise. These needs will continue to put tension into the ethics of using company data or working with an audited entity technology ‘stack’, in order to further improve audit quality.</p>

In our cover letter, we refer to the potential of auditors of larger technology firms being at increasing risk of disadvantage from not being able to integrate the offerings of those audited entities into their technological resources.

Further examples of such future, audit quality beneficial use of audited entity data include:

Development of Artificial Intelligence: As audit firms (or their third-party suppliers) are increasingly able to maintain extensive 'big data sources' relating to audited entities, the opportunity to use such non-publicly available entity data for audit purposes beyond their own audit rises. This enables firms to learn at an audit level, through technology rather than its staff base, and share that learning at a portfolio or segment level (as already occurs via specialist staff). For example, large volumes of cross-company transactional data, would help to train advanced algorithms to support, in more extensive and complex ways, existing audit procedures, such as the identification of higher risk, non-routine events and the response to fraud risks;

Development of Data Access components: Where Business A uses a finance system supplied or cloud-hosted by Business B, both of which are audited by the same firm; it is currently challenging to work with business B to create data access technologies (whether as an 'inhouse' developed component or to enable Business B to integrate such connective features into their offering);

Development of intra-business audit tests: Where a business being audited has a customer or supplier also audited by the same firm, it would now be technically possible to validate certain debtor/creditor relationships between those firms directly within their individual sub-ledgers, thus effectively providing strong forms of third party evidence to both audits. Such cross use of audited entity data between audit engagement is not currently done, as it conflicts with ethical standards. Such benefits to audit quality are already been seen in areas where such ledger data is available in the public domain, and thus accessible without ethical standard implication, for example, within blockchains such as cryptocurrencies;

9 *Do you believe there is value in the UK having consistent data standards to support high quality audit, similar to that developed in the US?*

We have assumed this question is asked in the context and reference made in the Brydon Report, 24.1.4.

From a financial ledger point of view, global data standards to support high quality audit already exist in several forms, whether published by governing bodies (eg: AICPA) or developed in house by larger firms to create their own global standard (in the absence of such a globalised standard). We do not therefore consider there to be a need nor value in adding 'another' data standard to those country or firm standards that already exist and are available to all. Instead, and accepting the challenges behind this comment, we would prefer to see efforts made to:

- Identify key sources of data (within audited entities and external to them) beyond existing 'core finance ledger' data standards, which offer audit quality improvement in the future - thus making such additional data more accessible to the profession;
- Work across the sector to ensure that emerging finance technologies used increasingly by audited entities (eg: 'Cloud' Finance systems supplied as SaaS (System as a Service) technologies, such as Xero, Dynamics 365, Oracle Fusion etc) have the appropriate data access features available to enable efficient auditor access to full populations of audit relevant data.

10 *Do you agree that threats to auditor independence may arise through the provision of wider business insights (not as part of the audit itself) drawn from the interrogation company data? If so, what measures would mitigate this risk from crystallizing?*

Yes - we agree with the potential concerns raised in the Brydon Report (24.2) and therefore the critical importance of firms maintaining robust independence policies and procedures.

However, we do not believe that auditor independence is at risk from conversations with audited entities that related to business insights. If anything, such conversations are a necessary part of the auditor's duty to understand the business and its key risks, and report observations relating to processes and internal controls to management and those in charge of governance. Such insights are often derived from the use of technology resources in the audit, as audited entities themselves often do not have access to such technologies nor do they operate through the 'auditor lens'. The discussion around potential business insights is critical to risk understanding and that 'reconciliation' between business and auditor lens. It is potentially in the public interest for auditors to share their analysis with an entity, in particular for the development of small to medium businesses who, on their own, cannot invest in such analysis.

We consider that sufficient, adequate mitigating measures are already in place to protect auditor independence from threats relating to the provision of wider business insights. As examples:

- Auditors are already not permitted to deliver certain services to audited entities that go beyond business insight discussions, such as leading change projects for their audited entities, implement financial systems or be part of the delivery of financial processes.
- Mandatory Audit rotation addresses potential medium to long term risks and
- Stakeholder, audit committee and regulatory governance, control and scrutiny exist over non-audit services performed.

This also advantages the desired Multi-Disciplinary Model (MDM) that the sector is keen to foster and grow within auditing e.g., skills, insights, skepticism, specialist knowledge to scrutinize and challenge the relevant aspects of a company's accounts. This MDM is the same mindset that is helping the sector to develop and adopt technological resources, which are improving audit quality.

One area we would encourage sector debate on relating to auditor independence, is to do with the evolution of third-party supplier of technological resources and services to audit firms. As presented in our covering letter, increasing use of third-party technology solution and service suppliers can create complex scenarios relating to relationships between audit firm, the technology supplier and the company that is audited, which could be interpreted as an independence issue for the audit firm under the ES even if they are not the auditors of the third-party technology supplier. Two examples are given in our covering letter, relating to the potential use of the technology solution by both the audit firm and the company that is audited, and the technology firm's use data from the company that is audited to train AI, which is then used within the audit processes of the audit firm. This 'single use' of a technology resource, to both operate and control the business, and then audit it, not only creates a potential single point of failure 'in the system', but also risks a perception of some audit firms seeking to 'work around' independence expectations of the ES via the use of technology company intermediaries. For the use of audit quality improving technological resources to grow, whether in-house developed or third party provided, we would encourage debate and greater clarity over ES interpretations so that progressive, consistent, independent and audit quality enhancing arrangements are supplied to and operating within the audit sector.

<p>11</p>	<p><i>Do you agree that audit documentation can be more challenging when an audit has been conducted with automated tools and techniques? If so, please identify specific areas where is a problem.</i></p> <p>Audit documentation when using automated tools and techniques does present some unique challenges not least the nature and extent of documentation required. As our experience of automated techniques and tools has grown, we have continued to refine the related documentation and this has been recognised in the latest FRC Thematic on Use of Technology in the audit, “The documentation of that evidence on the final audit file is, in general, much improved”.</p> <p>One area where we have faced a challenge around the extent of documentation is for engagement specific customised automated techniques rather than automated techniques performed in standard automated tools. The extent of documentation for these types of techniques varies depending on the complexity of the tool and the data sets used within it. The data transformation activity can also be complex and there is a need to ensure the related documentation is concise, comprehensible and sufficient.</p> <p>The IAASB Technology Working Group non-authoritative support material on audit documentation when using automated tools and techniques (April 2020) provided useful practical direction on extent of documentation depending on nature of the procedure being performed and the results along with useful clarification on retention of earlier versions of analysis where iteration has occurred. Further clarification and authoritative guidance in this area would be welcome.</p> <p>Further areas of challenge relate to documenting thought processes applied when using technological resources - for example, the dynamic nature of thinking enabled by technology blurs the line between risk assessment and response, making it harder to document in accordance with standards. In addition, when AI enabled techniques are deployed, documentation by audit team members becomes even more complex, as the assessment processes are performed by the technology itself. Further clarification, guidance and examples on what is necessary to support such techniques in documentation would be welcome.</p>
<p>12</p>	<p><i>Have you encountered challenges in dealing with the volume of ‘exceptions’ arising from the use of more complex or comprehensive data analytic procedures?</i></p> <p>At first yes, as auditors get a deeper understanding of the company they are auditing, its transactions and risks. It is important to note that the power of technology is not just to find more exceptions, it is also to form robust links between data sets, and thus enable more automated risk profiling within processes and transactions - hence splitting routine (low risk) from non-routine (high risk) business activities/transactions.</p> <p>Appropriate methodology can then be put in place to guide the auditor through their responses to these data sets. Firms that go on fishing trips, generating large lists of exceptions (often containing large numbers of false positives) are misusing their technology with counter-productive results.</p> <p>Before such methodology is developed by firms, volumes of exceptions do indeed present challenges. For example, as part of EY’s investment in emerging technologies, we have had Process Mining capability for some time, but our methodology to appropriately handle findings from the technology continues to be an area of investment, so that the technology not only identifies ‘exceptions’, but can have method applied to these items to distinguish which matters require audit investigation and which need no further audit response.</p> <p>AI is another opportunity to help improve the targeting of risk in large data sets. It can learn from across entities and sectors, and digest third party / open-source data.</p>

13 *Do you agree that the use of third-party technology vendors raises potential ethical challenges for auditors and, if so, which potential safeguards would you see as effective in reducing this threat to an acceptable level?*

Challenges relating to the use of third-party technology vendors can raise ethical and independence challenges for Audit firms. Therefore, EY has robust, global independence procedures in place which govern such relationships. Such vendors are referred to as "Audit Client Vendors" (ACVs).

Challenges relating to potential or actual ACVs are extensive and growing in complexity. Example of these challenges include:

- Constraints on the development of technological resources, not necessarily as simple as "by" or "with" that vendor, but also covering technological resources operated by or hosted by that vendor and those technological resources containing components owned by the vendor (for example, where rights exist over open source components). We provide comments on this in our cover letter and a further example in our answer to question 8 (the second example). Complexity in this area is rising significantly, especially as the use of open source and cloud technologies grow. Whilst we consider current safeguards adequate, the growing complexity is increasing risks of error and risks either reduced choice of auditor for these vendors or putting auditors of such technology vendors at a technological and thus audit quality disadvantage;
- Where the same service, based on technological resources, is being used by both the audit firm and the company that this audit firm audits, there are new forms of potential conflicts in interests and independence challenge emerging for the industry. We comment on this in our cover letter and provide further detail in our response in question 10 (final paragraph). New safeguards may be required to create consistency and reduce independence threats, for example:
 - requiring audit firms to write restraints of trade clauses into their contracts with such technology vendors, to prevent a business and their auditor being reliant on the same technological solution or service; and/or
 - requiring audit firms to seek approval from those charged with governance that the same technology solution or service, as used by the company audited, can be used as part of the audit (to at least ensure transparency of the risks).
- Where audit related data is being stored within third party vendor systems (e.g: Microsoft Azure), raises the challenge and risk that this third party could gain access to audit related data of other companies. Safeguards against this risk are critical, including for example the use of independently provided encryption keys.
- Where feedback is provided to third party vendors in order to improve their offering, raises the risk that company data is shared with third parties as part of that feedback. Necessary safeguards to this risk include policies and procedures that remove company related data from such feedback or systems, before it is handed over to the third-party vendor.

14 *Do you agree that the increasing usage of third-party providers presents challenges in audit documentation and, where relevant, how have you dealt with this?*

We do not feel able to comment on this question, as EY's strategy is to build specific audit technologies at a global scale for our own internal use. We therefore have no significant experience of third-party provider documentation relating to technological resources.