This publication highlights the impact of technology when applying certain aspects of the International Standards on Auditing (ISAs). It focuses on specific considerations for planning an audit in accordance with ISA 300, *Planning an Audit of Financial Statements*, that may be relevant when the auditor uses the capabilities of automated tools and techniques (ATT).

**What Are ATT?**

Audit procedures can be performed using a number of tools or techniques, which can be manual or automated (and often involving a combination of both). Practitioners may use various terms in practice to describe tools or techniques that are automated. For example, applying automated analytical procedures to data during risk assessment procedures or further audit procedures are sometimes referred to as data analytics.

Although the term ‘data analytics’ is sometimes used to refer to such tools and techniques, the term does not have a uniform definition or description. This term is too narrow because it does not encompass all of the emerging technologies that are being used when designing and performing audit procedures today. In addition, technologies and related audit applications will continue to evolve, such as artificial intelligence (AI) applications, robotics automation processes and others. Therefore, the IAASB uses the broader term automated tools and techniques.

**Applying the ISAs: Use of ATT**

In applying the ISAs, an auditor may design and perform audit procedures manually or through the use of ATT, and either technique can be effective. Regardless of the tools and techniques used, the auditor is required to comply with the ISAs.

In certain circumstances, when obtaining audit evidence, an auditor may determine that the use of ATT to perform certain audit procedures may result in more persuasive audit evidence relative to the assertion being tested. In other circumstances, performing audit procedures may be effective without the use of ATT.

**Technology is Ever-Changing**

As technology evolves and new approaches to auditing develop, the relevance of a particular ATT and its relative advantages may change.
The auditor may consider using ATT when performing audit procedures, including risk assessment procedures and further audit procedures. The auditor may find that effectively deploying ATT involves proper consideration of the implications for the audit at the planning stage.

When establishing an overall audit strategy and developing an audit plan in accordance with ISA 300, the auditor may consider the possible use of ATT including when:

(a) Performing preliminary engagement activities.
(b) Determining the nature, timing and extent of planned risk assessment procedures under ISA 315 (Revised 2019).¹
(c) Determining the nature, timing and extent of planned further audit procedures at the assertion level under ISA 330.²
(d) Determining the nature, timing and extent of resources, including using the work of an auditor’s expert, necessary to perform the engagement.
(e) Determining the other planned audit procedures that are required to be carried out so that the engagement complies with ISAs.
(f) Planning the nature, timing and extent of direction and supervision of engagement team members and the review of their work.

The possible use of ATT during the audit and how this may affect the auditor’s planning activities are matters for the auditor’s professional judgment given the circumstances of the audit engagement.

1. **How does the possible use of ATT in an audit engagement affect planning activities?**

The possible use of ATT during the audit may affect planning activities including preliminary engagement activities, determining the nature and extent of procedures, including risk assessment procedures and further audit procedures, determining the timing of the procedures, and considering the competence and capabilities of the human resources necessary to perform the engagement.

**Preliminary Engagement Activities**

When ATT is to be used in performing audit procedures, preliminary engagement activities may include discussions with the entity’s management about matters such as:

- What data may be used for performing procedures using ATT and how it is intended to be used.
- The quality and reliability of data, including how management maintains integrity of data, relevant processes and controls, and who has access to the data.

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¹ ISA 315 (Revised 2019), *Identifying and Assessing the Risks of Material Misstatement*.
² ISA 330, *The Auditor’s Responses to Assessed Risks*. 

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• When data will be available to access, prepare and analyze in performing audit procedures.
• Where the entity’s data will reside before and after performing the audit procedures.

When relevant, discussions may also include any legal or regulatory requirements related to the entity’s data based on the country or region in which it resides, including when data may need to leave that location. The engagement letter may also need to address matters related to data access and residency.

**Determining the Nature and Extent of Procedures**

When there is an opportunity for ATT to be used on an audit it is useful to consider how ATT may be used to perform an audit procedure, which assertions the procedure intends to address, and which ATT are available to the auditor.

The initial consideration may take into account procedures performed on similar engagements (e.g., another audit engagement used ATT when performing a procedure on a similar balance) or knowledge gained during previous period’s audits (e.g., a certain procedure was unnecessarily repetitive or inefficient and could benefit from automation).

The appropriateness of ATT may be based on the nature of the client’s business and transactions (e.g., ATT may be particularly appropriate when there is a high volume of similar transactions that are subject to automated processes and controls), the software and technology used by the client and the ease of acquiring data. The auditor may also consider any new ATT available and if it is authorized for use by the firm.

**Determining the Timing of Procedures**

When ATT are used in performing audit procedures, the timing of procedures may be affected in the following ways:

• Obtaining and preparing the data ordinarily is a prerequisite to performing an audit procedure using ATT. The audit plan may therefore need to include key milestones to extract and, when relevant, organize or “cleanse” data ready for use in ATT, allowing sufficient time for such activities to be performed. For some engagements, there may be key time points where data needs to be obtained, before or after certain accounting routines are completed.

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3 ISQM 1, *Quality Management for Firms that Perform Audits or Reviews of Financial Statements, or Other Assurance or Related Services Engagements.*

ISQM 1, effective from December 15, 2022, describes the firms’ responsibilities in relation to technological resources.

Consideration of how ATT may be used to perform a procedure may take into account the ATT made available by the firm, including which ATT are required to be used in accordance with the firm’s policies or procedures, and whether there are other ATT that the firm has authorized for use.
• Evaluating whether the information is sufficiently reliable for the auditor’s purposes, including whether it is accurate and complete, may require more time when there is a greater variety and volume of data to evaluate.

• Allowing sufficient time to address the outcome of the procedure, for example planning appropriate time for:
  o If the auditor needs to refine their understanding of the entity and the design of the procedure (e.g., by refining the parameters or population); or
  o When the auditor investigates the exceptions identified through ATT in the audit procedure.

**Competence and Capabilities**

In accordance with ISA 220, the engagement partner needs to be satisfied that the engagement team, and any auditor’s experts who are not part of the engagement team, collectively have the appropriate competence and capabilities. When ATT are being used on the audit, this determination may include the ability of personnel to implement the technology or have appropriate experts in place, particularly when the technology is more complex.

When determining the engagement team members to be assigned, the engagement partner may consider the complexity of the ATT to be used in performing the procedure and the difficulty of obtaining the data to use in the ATT. Specialized resources, whether internal or a service provider, may be of use in accessing data and assessing the accuracy and completeness of data. The firm’s policies or procedures may require the engagement team to involve specialized resources (such as an internal IT audit group) when specific circumstances are expected to be encountered on the audit.

2. **Who may be involved in planning activities when ATT may be used in performing audit procedures?**

When there is an opportunity for ATT to be used on an audit, it may be useful to include service providers, ATT specialists or potential engagement team members with specialized skills, in the

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4. ISA 500, *Audit Evidence*, paragraph 9
5. ISA 220, *Quality Control for an Audit of Financial Statements*, paragraph 14
6. ISA 220 (Revised), *Quality Management for an Audit of Financial Statements*, paragraphs 25 - 28
planning process, in order to identify specific opportunities for using ATT and design appropriate audit procedures.

The involvement of these individuals may assist in:

- Evaluating if the ATT is appropriate for use in the circumstance and whether the ATT is likely to be effective.
- Understanding and agreeing on the objective and scope of the procedures to be performed using ATT.
- Understanding what data will be needed to perform the procedures using ATT.
- Understanding the output of the ATT and what analysis and evaluation needs to be performed to conclude on the results of the audit procedure and the audit evidence obtained.
- Establishing the nature, timing and extent of direction and supervision of the members of the engagement team, and the review of their work, including consideration of the skills and expertise of those performing direction, supervision, and review responsibilities.

Where ATT are not already being considered for use in an engagement, the periodic inclusion of a specialist or other individual who focuses on ATT in the audit planning meeting or planning process may provide alternative perspectives to the audit approach.

**Example of how an ATT “Champion” may provide alternative perspectives to the audit approach when engaged in the planning process**

Some firms may utilize internal “Champions” to assist teams when designing and performing procedures using ATT. These individuals may have expertise in identifying opportunities for using ATT, designing and performing procedures using ATT, or responding to outliers, exceptions, deviations or unexpected issues that may occur.

An audit team performing a long-running engagement, which has followed a consistent audit approach, may benefit from asking the Champion to review their audit plan and attend their audit planning meeting or other engagement team discussions. The Champion may identify financial statement areas, such as those resulting from high volume or predictable transactions and suggest ways that ATT may be utilized effectively to respond to identified risks. Similarly, the Champion may review the risk assessment procedures planned and identify opportunities for use of ATT, for example, identifying how data visualization can be used when designing preliminary analytical procedures, or how robotic process automation (RPA) may be utilized when performing journal testing.

During the planning meeting, the alternative perspective and questions posed, by the Champion may result in a more effective discussion of how the audit plan may be tailored for that engagement and its unique risks and circumstances, even where ATT are not ultimately used.
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The IAASB develops auditing and assurance standards and guidance for use by all professional accountants under a shared standard-setting process involving the Public Interest Oversight Board, which oversees the activities of the IAASB, and the IAASB Consultative Advisory Group, which provides public interest input into the development of the standards and guidance. The structures and processes that support the operations of the IAASB are facilitated by the International Federation of Accountants (IFAC).

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