



# **Digitalisation of External Quality Assurance Procedures and Practices in quality assurance agencies from the EHEA Countries**

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## Introduction

This report provides a comprehensive analysis of the digital transformation affecting quality assurance procedures and practices implemented by quality assurance agencies (QAAs) within the member states of the European Higher Education Area (EHEA). It explores the depth of digitalization in quality assurance, with a keen focus on data management and sharing. Moreover, the report highlights exemplary practices, offering insights into those that hold potential for wider application across the EHEA. Data for this report was gathered through a survey of QAAs, complemented by in-depth interviews with a select group of agencies.

This study was conducted as part of the Implementation and Innovation in quality assurance through peer learning (IMINQA). The work for the study was led by the Romanian Agency for Quality Assurance in Higher Education (ARACIS). The project is co-funded by the Erasmus+ Programme.

IMINQA is an umbrella project to support the work of the Bologna Process Thematic Peer Group C on Quality Assurance. The project has focused not only on quality assurance in the broad sense and thereby work on the implementation of the key commitment in all EHEA countries while making use of the peer support method but also dived into some specific themes with an innovative focus like: Micro-credentials, European Universities and Digitalisation of QA processes.

The aims of Digitalisation of QA processes thematic package:

- ✓ Map the situation of QA systems in EHEA countries from the perspective of digitalisation as well as data management and sharing,
- ✓ Reflect on a medium-term vision for enhancing QA processes and procedures based on technology.

## About the report

Digital transformation has become a central theme in the development of higher education in the context of rapid technological developments and accelerated by global changes forced by the pandemic. The definition of digital transformation in higher education extends beyond the simple adoption of innovative technologies; it implies a profound change in organisational structures, in people, values, systems and organisational structures that must adopt a new model.

The present report analyses the results of the survey addressed to QAAs from the EHEA, focusing on the impact and challenges of digital transformation on their internal operations and external quality assurance processes. It highlights the QAAs strong commitment to digitalisation, identifies crucial areas for improvement, and provides actionable recommendations for future strategy development, backed by data-driven arguments. This report emphasises the development of a comprehensive strategic plan for digitalisation as a cornerstone for success. It advocates for investments in technology and infrastructure, prioritises data security and privacy, and promotes a culture of collaboration and innovation.

The conclusions and recommendations regarding the integration of digital transformation into the quality assurance processes of the quality assurance agency are outlined. These insights aim to enhance operational efficiency, improve stakeholder engagement, and ensure that QA practices are aligned with educational and technological advancements.

### Methodology

Data collection was carried out through a survey disseminated to QAAs in EHEA member countries to obtain information on digital maturity and activities carried out on the implementation of digital transformation. The emphasis was on various domains, including the utilisation of digital tools to enhance internal workflows, augmenting data precision and optimising resource allocation, employing digital technologies in external functions such as accreditation, periodic assessments, and stakeholder engagement, all directed towards improving transparency and efficiency.

Alongside the survey, focus groups were organised (as breakout sessions during ENQA General Assembly 2024 in Malta and BFUG TPG C meeting November 2024, Ghent) and semi-structured interviews were performed with members of QAAs (AQ Austria, UKA (Sweden), AIC (Latvia), SQAA (Slovenia)), offering a contextualised viewpoint on the obstacles and opportunities related to the digitisation process. The gathered data was methodically examined to discern overarching patterns, factors promoting the adoption of digital technology, and obstacles encountered by organisations. This research led to the formulation of targeted recommendations to assist QAAs in the efficient execution of digital initiatives, fostering a sustainable digital transformation tailored to the contemporary requirements of the higher education system.

### European Higher Education Area context

Digitalisation in higher education has become a crucial strategy for enhancing the efficiency and effectiveness of quality assurance processes. QAAs across Europe are increasingly adopting digital tools and systems to streamline operations, improve transparency and effectiveness in both internal and external QA processes and enhance communication between stakeholders.

Many QAAs are implementing software solutions for data management, document handling, and communication. This facilitates better data analysis and reporting, allowing for more informed decision-making.

The use of online platforms for submissions and evaluations has been growing. These portals allow institutions to submit reports and evidence digitally, reducing the need for paperwork and physical meetings.

Virtual peer reviews are becoming more common, especially post-COVID-19, where travel and physical meetings are restricted. This ensures that QA processes continue seamlessly without geographical limitations. With increased digital activity, ensuring data protection and privacy becomes a critical concern.

The digitalisation of QA processes has the potential to transform how quality assurance is conducted in higher education across Europe. By overcoming challenges related to security, infrastructure, and change management, QAAs can enhance their capability to ensure high educational standards and adapt to the evolving educational landscape.

### General data on the survey

The survey (see Appendix 1) was distributed online to QAAs in the 46 countries of the EHEA. In total 32 responses from 26 countries were received. Typically, there was one response from each country, except for Spain, which provided 5 responses, and Belgium, where 3 responses were received.

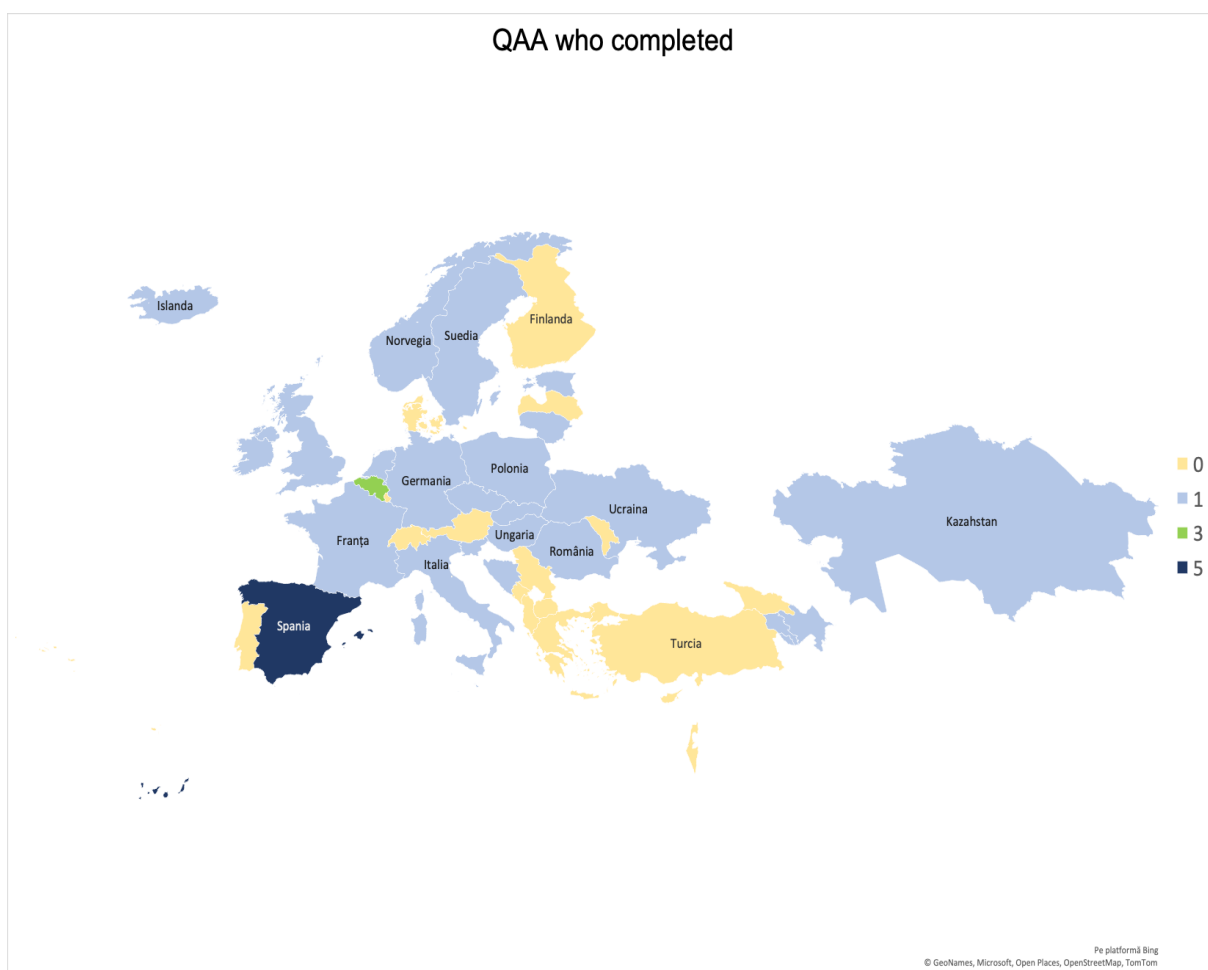


Figure 1: Countries where respondent agencies are located

Respondents to the survey included a diverse range of professionals, such as board members, senior advisors, executive and general managers, senior specialists in international cooperation, and QA experts. This varied expertise ensures a comprehensive perspective on the integration of digital tools and practices within QA processes.

## The results of survey data analysis

Digital transformation is increasingly becoming a cornerstone of effective QA, enabling agencies to enhance their operations and better serve educational institutions. The survey explores how these agencies are adapting to technological advancements, the extent of digital tool adoption, and the impact on their quality assurance processes. In the following, we aim to shed light on the current landscape of digitalisation of the QA processes and practices and highlight opportunities for further improvement.

The following sections present the results of the analysis of the responses to the questionnaire, organised by key themes. Each section includes detailed comments and conclusions drawn from the findings, providing a comprehensive overview of the insights gathered.

The survey presented in Appendix 1 was designed to evaluate the respondents' perceptions of specific digitalization aspects, using a quantifiable scale from 1 to 5, where 1 represents a low level of satisfaction or agreement, and 5 represents a high level. The percentages represent the satisfaction rate of the respondents in relation to the levels of the predetermined scale.

## Digitalisation of internal and external processes

### Need for a strategic plan on digitalisation

In today's fast-changing educational environment, having a strategic plan for implementing digital technologies in quality assurance processes is crucial. This plan helps quality assurance agencies effectively integrate new tools, improve their operations, and better engage with stakeholders.

According to the data collected only 43.75% of the QAAs that responded to the survey have a digital transformation plan, highlighting the urgent need to develop and implement such plans to remain competitive and relevant in the contemporary educational landscape.

Of the QAAs that developed digital transformation plans, 14.3% focused their efforts exclusively on the digital transformation of internal processes. These include the digitalisation of internal workflows, optimisation of administrative procedures and the improvement of internal resource management. Most agencies (78.6%) have integrated both internal and external quality assurance processes into their digital transformation plans. This approach indicates a recognition of the need to synchronise and optimise both internal operations and external interactions with HEIs. 7.1% of agencies indicated that their strategic plans on digital transformation address internal and external processes, but these measures have not yet been implemented.

The strategic plan tackles the following:	Structure %
a) Agency's internal processes	14,3



b) Both	78,6
c) Other answers: <b>Agency's internal processes EQA procedures also targeted but not yet implemented</b>	7,1
<b>Total</b>	100%

Figure 2: Approaching strategic plans at the QAAs level

64.3% of the agencies that have a digital transformation plan reported that the agency's decision-making body adopted it, indicating a significant rate of formal approval of these initiatives at the agency level, and only 14.3% of agencies reported that the plan was not required to be adopted by the decision-making body.

Interestingly, 21.4% of respondents provided other explanations regarding the status of digitisation plans. For example, in some cases, digital transformation was not achieved through a formal strategic plan, but through a series of activities led by the agency's data and information technology (IT) department. These activities were aimed at streamlining internal processes by implementing new human resources (HR) software, expert application platforms, project management platforms and cybersecurity awareness initiatives. Some agencies have indicated that the process of adopting digitisation plans is ongoing, suggesting that steps are underway to formalise and strengthen their digital transformation strategies.

The timeframe of agencies' digital transformation plans varies significantly. Most agencies (92.9%) adopted multi-year plans, with an average duration of 3.67 years. This multi-year approach reflects the complexity and scale of digitisation initiatives that require considerable time and resources to implement effectively. In detail, of the 13 agencies with multi-year plans, one reported a 2-year plan, three agencies have 3-year plans, one 3-5-year plan, three 4-year plans, and three 5-year plans.

These findings highlight that while there is a trend towards multi-year digital transformation planning, there are also alternative approaches that allow for greater flexibility and adaptability. The diversity of time horizons and methodologies may be due to differences in resources, priorities and capacities of QAAs planning cycles, highlighting the need for tailored strategies to achieve digitisation goals.

**Case example. The interview with AQ Austria.** The interview discusses the digitalisation journey of AQ Austria, emphasising their gradual progress in this area. Initially, the organisation lagged behind overall digitalisation trends but has recently accelerated their efforts, particularly over the last two to three years. The focus is primarily on internal digitisation, aiming to increase efficiency by mapping processes and developing a comprehensive digital strategy. The interviewees highlighted the importance of internal tools, such as Confluence, which is utilised for knowledge management to enhance transparency and organisation in their processes. Currently, the organisation is navigating the challenges associated with external quality assurance due to the lack of purpose-built tools.

### Which are the driving factors in developing agencies' digital transformation plans

In analysing the responses to this section, only those from agencies that indicated they have a strategic plan for the digitalisation of their activities were considered.

The following chart illustrates the driving factors in developing agencies' digital transformation plans. Digitalising specific processes to improve internal efficiency was considered highly important, with most agencies assigning it a high priority level (94%). This highlights the agency's understanding that digital tools can significantly streamline workflows, reduce manual effort, and ultimately free up valuable resources for other critical tasks. Information management and data sharing were also prioritised (94%), reflecting the need for transparency and effective collaboration. Building an integrated data-sharing system, including HEIs and public authorities, was another major factor of interest. Ensuring data security and personal data protection was deemed essential for the success of digitalisation initiatives (72.5%). This awareness of security issues reflects the sensitive nature of the data handled by QAAs and the increasing importance of data protection in digital environments. Agencies also recognised the importance of adapting internal processes based on the conclusions from quality evaluations (66.64%). Cost optimisation and compliance with legislative requirements were important but not central factors (46.7%). Additionally, the need for continuous staff training was not seen as crucial to supporting the digitalisation process.

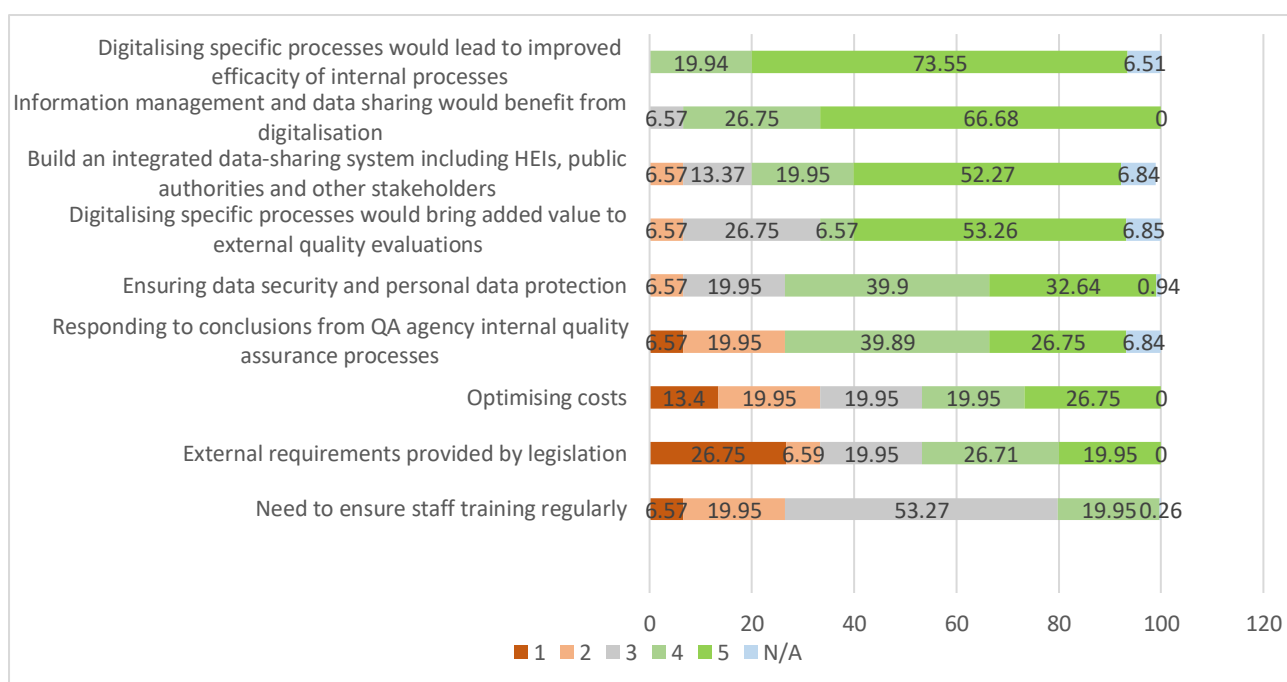


Figure 2: Factors in the development of strategic digital transformation plans

#### Case example. The interview with AQ Austria.

AQ Austria has already implemented a special platform for external evaluations across all procedures, including audits and accreditations. While the platform is utilised by universities, some gaps remain, particularly regarding specific accreditation procedures where access for site visit plans is limited. AQ Austria is optimistic about complete integration of core processes in their software by the end of 2025, suggesting that the transition to digitalised evaluations will occur within a singular year rather than over several years. The agency also intends to explore further digitalisation of additional processes, including internal knowledge management and potential integration with accounting software.

These findings highlight a clear trend towards digitalisation driven by internal process improvements and data management needs. However, the varying priorities across different factors indicate that QAAs are taking a nuanced approach to digital transformation, balancing multiple considerations. Emphasizing the importance of factors like staff training and external requirements is crucial, as agencies need to focus on these areas to ensure their digital transformation strategies are comprehensive and sustainable. Prioritizing personnel training is vital for navigating the complexities of digital transformation effectively.

#### Main difficulties in designing and implementing digital tools

The survey results reveal a diverse range of challenges faced by QAAs in their digital transformation efforts and highlight that the primary challenges in designing and implementing digital tools are more related to resources and skills rather than resistance or technical infrastructure.

QAAs identified several significant challenges in implementing digital tools. Among these the resources needed and associated costs were considered the greatest challenge (67.6%),

indicating that limited budgets might hinder the adoption of new technologies. Interoperability and compatibility between new and old systems were also major concerns (44.2%), highlighting technical difficulties in integrating digital solutions into an existing environment. Staff competences were also seen as a significant obstacle (38.3%), indicating the need for ongoing training to ensure effective use of new technologies. Data security and protection were prioritised, reflecting the importance of maintaining compliance and safeguarding sensitive information. Outdated or inadequate infrastructure was not seen as a major impediment (20.6%), still emphasising the need to modernise existing equipment and systems. Resistance from HEIs to the implementation of digital tools, has the lowest weighted average, and a large portion of the responses are in the "low impact". Also, a high percentage of N/A responses. The responses to resistance to change within the organisation are fairly evenly distributed, indicating a mixed perception of its impact.

#### Case example. AQ Austria is adapting existing market solutions

AQ Austria encountered considerable difficulties in the creation of bespoke software, prompting a strategic shift. The agency now favours adapting existing market solutions over undertaking difficult and costly creation from the ground up. This perspective mitigates financial and operational risks, enabling the agency to concentrate on resource efficiency and ongoing process enhancement using digital technology. AQ Austria skilfully integrates digitisation with cost management and personnel development, facilitating rapid and efficient adaptation to the evolving requirements of the educational landscape.

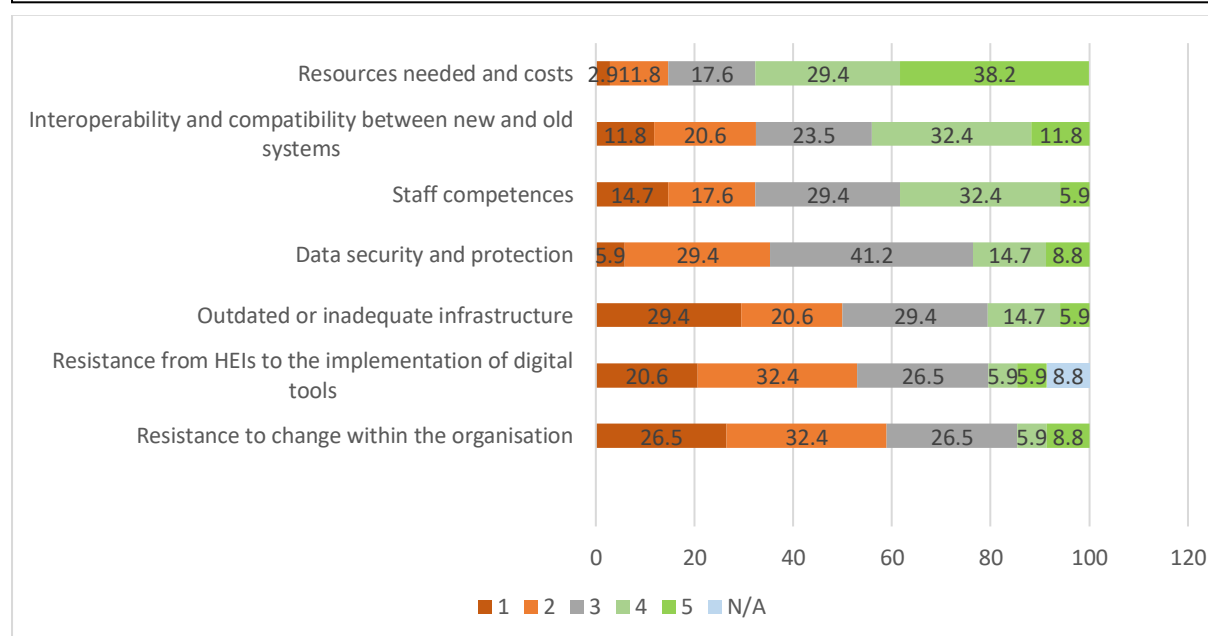


Figure 3: Challenges in designing and implementing the digital tool

Overall, these results paint a picture of a sector that is generally ready and willing to embrace digital transformation but faces significant resource constraints. Addressing these financial and skill-related challenges will be important for QAAs to successfully implement and leverage digital tools in their operations. Future strategies should focus on securing adequate resources, enhancing staff competencies, and developing integrated, secure digital solutions that can coexist with legacy systems.

**Case example. AQ Austria and HEIs.** The relationship between AQ Austria and higher education institutions regarding the implementation of digital tools was debated during the interview. It highlights that while a survey indicated some resistance based on concerns about data security and compatibility with existing systems, the majority of institutions are indeed receptive to digital advancements. AQ Austria has introduced a new upload tool for application submissions, which has been well-received, simplifying the previous process that required physical copies. The discussion also mentions existing digital tools, such as a complex software associated with funding for universities, as well as AQ Austria's own use of the Confluence platform for collaboration and process mapping. These efforts signify a move towards improving internal operations and enhancing collaboration within the organisation.

### Main objectives for using digital tools in external Quality Assurance processes

The survey results paint a picture of QAAs that are actively embracing digital transformation, with a clear focus on enhancing efficiency, accessibility, and stakeholder engagement.

According to the data collected, QAAs have established several key objectives for using digital tools to support external quality assurance processes. One of the primary objectives was to increase efficiency using online platforms and mobile applications (97.1%), reflecting the desire to optimise operations and reduce the time required for document analysis, focusing on direct interaction with members of host universities. In the context of reducing time and supporting peer reviewer analysis it is worth to mention some specific tools like: AI-powered summarization tools, text analytics software, automated keyword extraction tools, or document comparison software. The high priority given to increased efficiency through digital tools indicates that agencies see technology as a key driver in optimising their external processes and resources. Additionally, agencies placed significant emphasis on increasing the accessibility of assessment results for HEIs, students, academics, employers, and other stakeholders (70.6%), underscoring the importance of transparency and effective communication. Enhancing collaboration and communication among various stakeholders to support quality assurance transparency was identified as another essential objective (73.5%). Furthermore, agencies aimed to improve assessment outcomes by using specialised platforms and advanced algorithms developed in-house (64.7%). The interest in improving assessment outcomes through specialised platforms indicates that agencies are not just digitising existing processes but are looking to leverage technology to enhance the quality and depth of their evaluations.

Agencies are currently implementing a range of digital tools to significantly enhance the depth of their evaluations. For example, they are utilizing text analysis and data visualization to

uncover hidden patterns and insights that surpass the capabilities of traditional manual review. This includes employing sentiment analysis to grasp the tone of feedback and visualizing data trends for more profound analytical insights. Furthermore, agencies are automating the report writing process in peer reviews by using tools to generate standardized report sections, such as summaries or metrics, which automatically populate templates and create feedback paragraphs. These innovative practices are freeing reviewers from repetitive tasks, allowing them to focus more on delivering thorough, qualitative analysis.

Another crucial objective was to increase the flexibility and adaptability of the external assessment process (53%) to respond rapidly to the changing needs of the educational system. The automation of evaluation processes, such as data collection and report writing, including infographic reports, was considered essential for streamlining and modernising evaluations. Automation of evaluation processes received a more mixed response, with 50% rating it as high priority. This suggests that while automation is important, agencies may be cautious about fully automating certain aspects of their evaluation processes or using advanced technologies like AI.

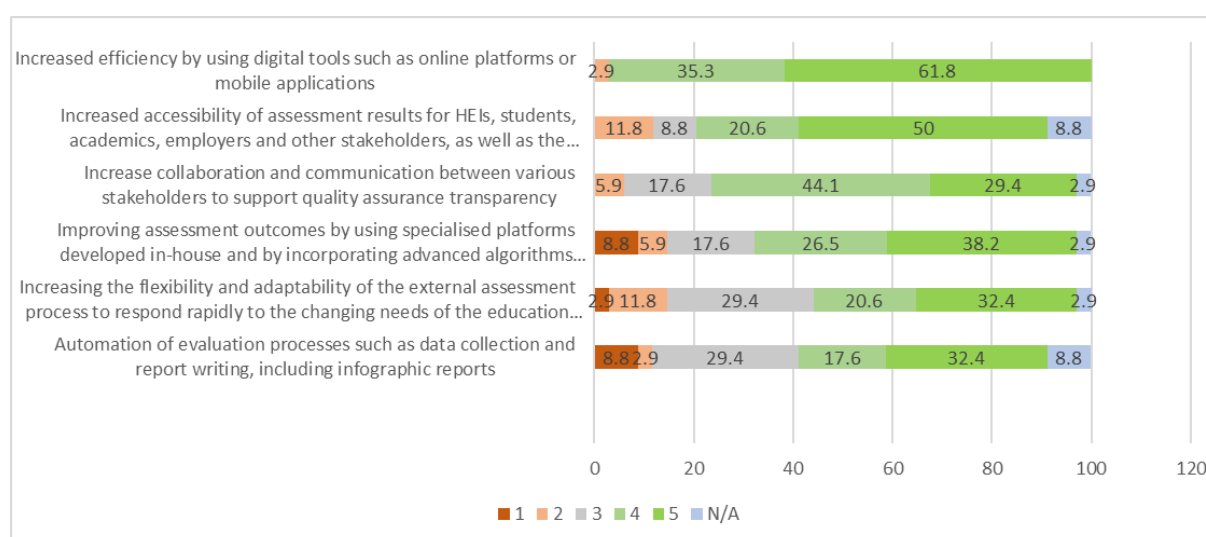


Figure 4: Digital tools to support External Quality Assurance processes

In a nutshell, these results indicate that QAAs are strategically embracing digital tools to enhance their core functions, with a focus on efficiency, accessibility, and stakeholder engagement.

### Main benefits of using digital tools in external quality assurance processes

Agencies have anticipated or observed several key benefits of using digital tools in conducting external evaluations. Real-time data collection and analysis were recognised as crucial (94.1%), as they allow for swift adaptation to beneficiaries' needs, thereby improving the responsiveness and efficiency of the agencies. Increased access to and better management of information (91.1%), along with data-based decision making, were identified as significant advantages, highlighting the important role of data in supporting decision-making processes. Enhanced flexibility and accessibility for beneficiaries were considered essential goals (58.8%),

emphasising the need to make evaluations more accessible and adaptable. The use of data analysis tools was also recognised as a key benefit (58.8%) for improving the transparency and consistency of assessments. Real-time monitoring and reporting, leading to increased transparency, were also seen as important advantages (44.1%), underscoring the need for continuous visibility and clear communication in quality assurance processes. The strong emphasis on real-time data collection and analysis suggests that agencies are moving towards more dynamic and responsive quality assurance models.

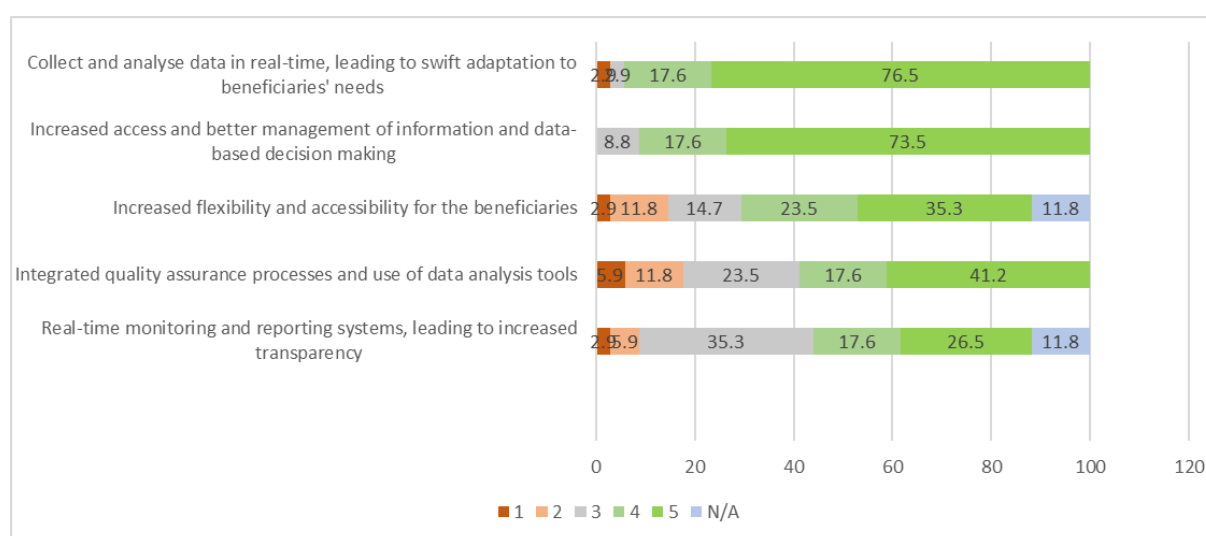


Figure 5: Benefits of using digital tools in external quality assurance processes

These results indicate that QAAs are not only recognising but actively pursuing the benefits of digital transformation. However, the varying levels of importance assigned to different benefits also indicate that agencies may be at different stages of their digital journeys. While some are fully embracing advanced digital capabilities, others may be more focused on foundational improvements in efficiency and data management.

**Case example. SQAA (Slovenia)** is using a specific platform, primarily for communication with external stakeholders, such as higher education institutions. It facilitates the submission of applications for accreditation and evaluation and connects with other institutional systems for data exchange. The external system is hosted on the Ministry of Education's servers to ensure high security and compliance. The platform links to other institutional and ministerial systems, enabling two-way data exchange for seamless data transfer. Large universities often have their own systems that directly feed data to the agency's external system. Smaller institutions rely on the agency's external system for updates.

**Case example. Management of full cycle of evaluation at AIC (Latvia).**

The agency developed an in-house system (with third-party development) to manage the full cycle of evaluation for higher education study programs. This includes user registration, authentication, document submission (text fields, document uploads with size limits, links to public documents), expert panel creation, document review, and report generation. The agency successfully implemented a comprehensive system for managing the evaluation process, incorporating essential features for efficient workflow and data handling. However, the system's functionality is not fully automated, particularly concerning report generation.

for enhanced security. Data exchange is facilitated, but the process isn't fully automated; HEIs often prefer email communication over using the designated platform. Expert reports are produced manually and then integrated into the internal system. The agency strives for a more seamless digital exchange of information, but this is currently hampered by resistance to change and technological limitations.

Significant progress has been made in digitising external communication, primarily through a secure external system, yet challenges remain in achieving full digital integration and overcoming stakeholder resistance to using the provided platform for communication.

### Improvements in internal work due to digitalisation

The survey results paint a picture of QAAs that are experiencing significant improvements in their internal operations through digitalisation, particularly in areas related to document management, accessibility, and communication.

Access to information and tools (85.2%) allowing work from any location at any time has improved flexibility and the ability to respond quickly to beneficiaries' requests. Document management systems have facilitated the organisation, storage, and access to important documents (70.5%), allowing efficient collaboration across teams and with beneficiaries. The high importance placed on document management systems and increased accessibility of information suggests that agencies are moving away from paper-based processes towards more efficient, digital-first approaches. Additionally, communication between departments and teams has been enhanced (67.7%) using collaboration platforms and online communication tools. Automating repetitive administrative processes, such as data collection, report generation, and document management (70.6%), has reduced manual tasks and increased efficiency. Collecting and analysing data on the quality of education and identifying risk areas have been optimised (47.1%), contributing to more precise and informed evaluations. The importance given to improved communication and collaboration tools highlights the recognition of the need for better internal connectivity in an increasingly complex and fast-paced work environment.



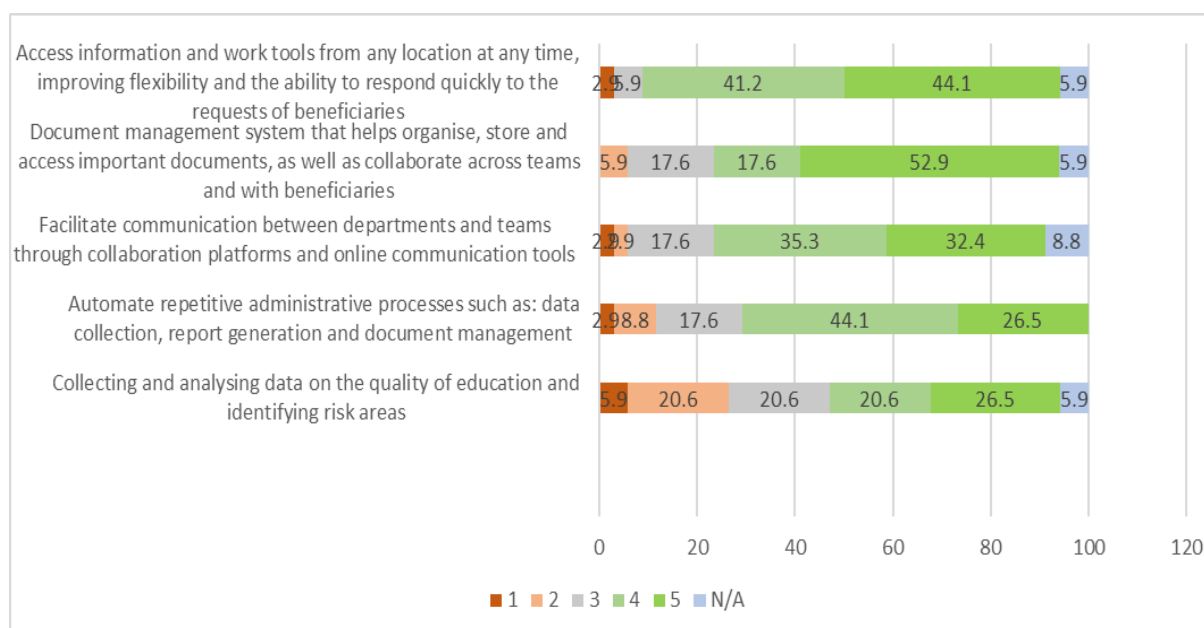


Figure 6: Improvements of Internal Work Due to Digitalisation

These results indicate that digitalisation is having a profound and positive impact on the internal operations of QAAs. The improvements span across various aspects of their work, from document management and administrative processes to communication and work flexibility.

**Case example. SQAA (Slovenia)** has custom-built a platform for managing internal workflows, data, and communication among agency employees. It handles various tasks, including tracking evaluation procedures, managing employee time and tasks, maintaining public records, generating reports and statistics, and managing a register of experts. This system is hosted internally within the agency's network for enhanced security and control. The system tracks the status and phases of accreditation and evaluation procedures, manages tasks and activities related to these processes, and stores relevant documentation. Also, the platform manages all internal and external meetings, conferences, and events, including scheduling, participant management, and document storage. Finally, the system generates various statistics and reports related to higher education, automating data collection and analysis for use in internal reports and publications. This reduces manual work and ensures data consistency.

While the expert reports themselves are still manually generated, metadata about the reports (submission date, author, links etc.) are entered into the agency's internal system to automate some aspects of report management.

**Case example. AQ Austria** has developed Confluence platform, used primarily for data storage and collaboration, with all data hosted on internal servers rather than in the cloud. Although the system incurs ongoing licensing costs, it provides important functions for knowledge management, project management, and collaborative writing. The platform facilitates the organisation of accreditation procedures, allowing reviewers to collaboratively draft reports and manage timelines effectively. A demonstration of the system highlights its structure, which includes a stringent access authorisation system tailored to different user groups to maintain high security standards.

**Case example. 2024 ENQA General Assembly Breakout sessions - Digitalisation and data informed QA.**

Participants discussed how internal quality assurance processes must evolve to accommodate advancements in digital technology and AI, stressing the importance of staying connected with real-world practices, especially in fields such as nursing and engineering that rely heavily on simulation and digital assessment tools. There is a recognition of the need for detailed discussions about integrating AI into both internal and external evaluations, given the slow uptake observed in feedback from quality assurance agencies regarding the use of AI.

**Case example. Internal Workflow and Digitalisation at UKA (Sweden).**

The agency uses Public 360, a software primarily designed for governmental agencies, to manage internal workflows, archival, and activity management. This software is customised to their needs but has proven challenging to fully implement, with automation remaining limited. They also use a self-built internal system, separate from Public 360, with limited integration between the two. A third tool, Red Pill (a Google Docs-like platform), is used for collaborative document editing, but faces significant resistance from users favouring email communication. The agency's efforts towards internal digitalisation are still in progress. Resistance from employees accustomed to traditional methods and the complexity of the software implementation have slowed progress. Full integration of their systems remains a future goal.

**Case example. AIC (Latvia) - Data Management and Automation.**

The e-platform utilises structured data, facilitating automated generation of statistics and comparisons. The system connects to the Ministry of Education's system for automatic information transfer. The possibility of AI integration for document evaluation and answering questions related to legislation and standards is also explored.

The platform facilitates internal communication between different commissions within the agency. However, collaboration with external expert panels is not fully integrated within the system; the use of SharePoint or similar collaborative platforms is suggested as an improvement. The agency actively seeks better communication methods with HEIs and expert panels.

### Digital tools that support online visits

The survey results illustrate a trend among QAAs towards the selective adoption of digital tools to facilitate site visits, with a notable preference for established communication technologies rather than more specialised or immersive options. Video conferencing is essential (94.1%), allowing users to communicate in real-time with people in different locations, thereby facilitating efficient interactions. The overwhelming adoption of video conferencing highlights its crucial role in maintaining effective communication and assessment capabilities, especially in situations where physical visits may be challenging or impossible. Online presentations of locations or spaces using multimedia (55.9%) presentations accessible online provide an interactive and informative means of sharing data. The significant relevance placed on online presentations suggests that agencies value the ability to provide access and multimedia information about assessment locations. Live



streaming allows the live transmission of events or activities, ensuring wide coverage and increased accessibility. Virtual tours guide users through different points of interest within a location, offering the possibility to explore locations remotely. However, a significant portion (38.2%) rated them as low relevance, indicating that while some agencies find value in this technology, it's not universally embraced. Mobile applications are used to provide access to information about visited places or activities and to allow users to interact with them. 360-degree virtual views enable users to explore a location or virtual space through a web interface or app, providing an immersive and detailed experience.

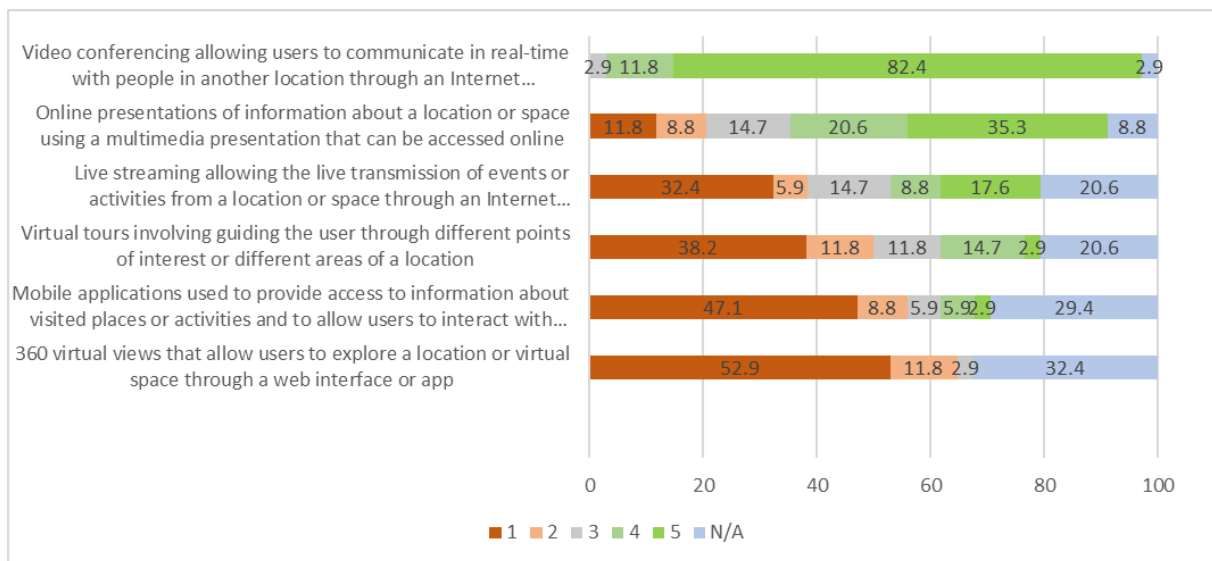


Figure 7: Digital tools used to support online visits

Overall, these results indicate that QAAs are embracing digital tools to support site visits but are doing so pragmatically. They are prioritising technologies that facilitate clear communication and information sharing, while being more cautious about adopting more specialised or immersive technologies. This approach suggests a balance between leveraging digital capabilities and maintaining traditional assessment methodologies. As agencies become more comfortable with basic digital tools, they may gradually explore more advanced technologies to enhance the on-site visit experience.

Looking forward, these insights suggest that the future of site visits in quality assurance processes is likely to be increasingly hybrid, combining physical presence with digital tools for enhanced communication and information sharing. As technology continues to evolve and agencies gain more experience with digital tools, we may see increased adoption of more advanced technologies to further enhance the effectiveness and efficiency of on-site visits in quality assurance processes.

### Digital tools used to support internal work

The survey results indicate that QAAs are incorporating digital tools into their internal work processes, with a particular focus on established communication and collaboration

technologies. This suggests a measured approach to digitalisation, where agencies are primarily adopting familiar and widely used digital solutions to support their operations.

Video conferencing emerges as the most widely adopted and highly relevant tool (94.1%). This near-unanimous consensus underscores the critical role that real-time communication technology plays in facilitating internal collaboration and meetings. Online collaboration platforms such as Google Suite and Microsoft Teams are also considered highly relevant (94.2%), pointing the strong recognition of the value of integrated platforms for real-time collaboration on documents and activities. The widespread adoption of video conferencing and online collaboration platforms highlights their crucial role in maintaining effective communication and teamwork, especially in an era of increased remote work. E-mails and calendars are frequently used (88.9%) for planning and organising meetings, ensuring effective coordination of activities. Document Management Systems (DMS) allow electronic documents to be stored, edited, shared, and managed securely and accessibly (61.7%). Specialised mobile applications facilitate communication and access to data and information at any time and from anywhere, contributing to operational flexibility.

Artificial intelligence technology for data analysis and decision-making shows limited adoption, indicating it is not yet widely used. This suggests that AI integration is still in its early stages for most QAAs. The limited adoption of AI technology for data analysis and decision-making suggests that this is an area for potential future growth. As agencies become more comfortable with basic digital tools and accumulate more digital data, they may increasingly explore AI capabilities to enhance their analytical and decision-making processes.

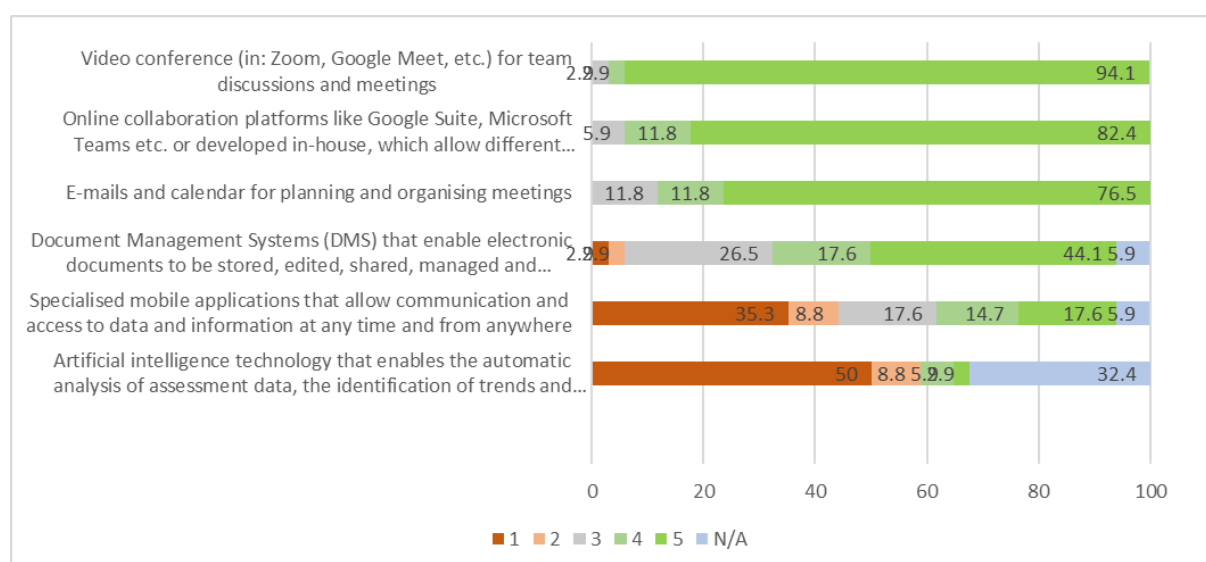


Figure 8: Digital tools used to support internal work

These findings show that QAAs are using a variety of digital tools to facilitate internal work, with an emphasis on document management, communication, and teamwork. While they are more cautious about embracing more specialised or sophisticated technology, they are giving priority to those that enable effective teamwork and clear communication.

## Organisational structures in digitalisation

Most agencies have not yet established a dedicated digitalisation department, with 84.37% of respondents saying they do not have such a department. Only five agencies mentioned they have established a digitalisation department. This suggests that although digitalisation is recognised as important, many agencies have not yet taken the necessary steps to create formal structures dedicated to this function. This also reflects the small size of many agencies in terms of overall employee numbers. For the agencies that have established a digitalisation department, the staff structure varies from only full-time employees to 0.5 part-time positions and to extensive use of dev-ops<sup>1</sup> contractors alongside the existing staff.

Regarding staff hiring, there are varied practices among the agencies with a digitalisation department. One respondent said they have 1.5 permanent employees and three external consultants. Another respondent mentioned that hiring duration depends on the type of staff, with some employees being permanent and civil servants while others are recruited for up to six years. Two agencies said their staff is hired on permanent contracts. Hiring practices are often bound by the legal framework in which the agency operates and might not have anything to do with the profile of the role as being linked to digitalisation.

## Security and sustainability

### Data security and confidentiality in the QAAs activities

Agencies implement a range of measures to ensure data security and confidentiality in their internal and external work. There is a notable focus on access control and adherence to regulatory standards, suggesting these are key priorities in their approach to data protection. Limiting access to collected data to authorised personnel only is a widespread practice (88.6%) aimed at preventing unauthorised access and protecting sensitive information. Implementing a data security policy that complies with applicable standards and regulations (85.3%), such as GDPR or HIPAA<sup>2</sup>, is essential for legal compliance and data protection. Using encryption to protect sensitive data is another important measure (56%) adopted to ensure information confidentiality.

These results indicate that QAAs are taking data security and confidentiality seriously, with a primary focus on basic measures like access control and policy compliance. However, the varying levels of prioritisation across different measures suggest that there may be opportunities for some agencies to enhance their security practices, particularly in areas like staff training, continuous security assessment, and incident response planning.

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<sup>1</sup> refers to a set of practices that combines software development (development) and IT operations (operations), aiming to shorten the development lifecycle and provide continuous delivery of high-quality software

<sup>2</sup> GDPR – General Data Protection Regulation, a regulation in EU law on data protection and privacy.

HIPAA – Health Insurance Portability and Accountability Act, a US law that provides data privacy and security provisions for safeguarding medical information.

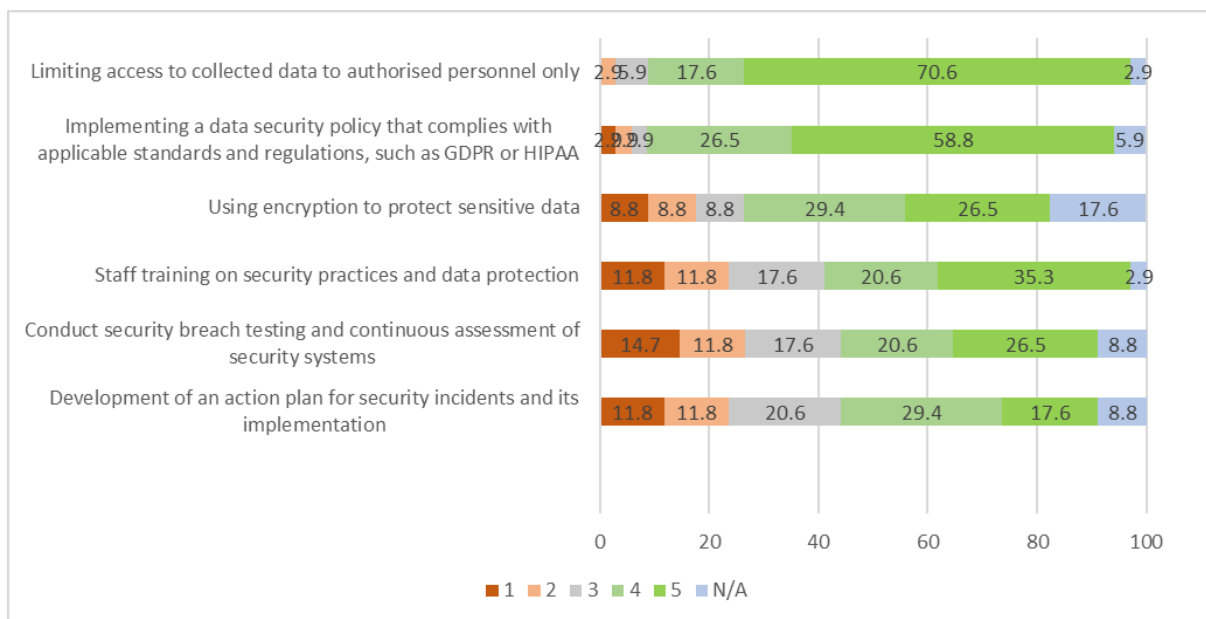


Figure 9: Data security activities in agencies.

**Case example. Data security and privacy at AQ Austria.** One topic of the interview has focused on AQ Austria's approach to ensuring data security and privacy amid digital transformation, emphasising compliance with regulations such as GDPR. The agency hosts its hardware in-house, maintaining high standards of data protection with comprehensive backup mechanisms to prevent data breaches. AQ Austria's security measures include restrictive access to sensitive information, reinforcing the importance of confidentiality, especially due to the public administrative role of the agency. The agency has not experienced any cybersecurity incidents and employs a cautious approach to information sharing, such as preventing direct access to email addresses on their website. Additionally, while using Confluence for collaboration, the agency carefully manages access rights for external reviewers and institutions, ensuring a clear separation of data visibility based on user roles.

#### Case example. Data security and privacy at UKA (Sweden).

The agency prioritises security. Their external system is hosted on the Ministry of Education's servers, ensuring high security and compliance with GDPR regulations. Their internal system is also secure but hosted on their own servers. Strict protocols govern data exports, particularly those containing personal information. The agency has robust systems, but the limitations imposed by data protection regulations, specifically GDPR, restrict their options for cloud-based solutions and increase complexity and administrative overhead.

**Case example. The level of security implemented SQAA (Slovenia).** The external system's location on the Ministry of Education's servers ensures a high level of security and compliance with strict governmental rules and regulations. Regular penetration tests are conducted. Digital certificates are required for access, ensuring high security standards. The internal system, hosted on the agency's own servers, maintains a high level of security through controlled access within the agency's internal network, using usernames and emails for authentication. Backup systems are also in place.

### Security systems used to support online visits.

QAAs implement a range of security systems to support online visits and protect sensitive data. A key measure is controlled access to the platforms used (42%), which restrict users to certain areas or information on the server related to the visit, ensuring that users only have access to the information necessary for their role in the visit process. In addition, firewalls are used (61%) to protect the server against cyber-attacks and block suspicious activities. To ensure data recovery in the event of incidents, agencies create backup copies of information stored (61.3%) on the designated server for the visit. The adoption of firewall protection and data backup measures indicates a strong focus on safeguarding against external threats and ensuring data resilience. Monitoring user activity within the dedicated visit system is another critical practice (75%) for detecting and preventing unauthorised or suspicious actions. In addition, data encryption is used to protect the confidentiality of information transmitted (32.45) between users and the server or cloud used for the visit. The varied responses to encryption, user activity monitoring, and authentication methods highlight the diverse approaches to security across different agencies. This could be due to differences in technological capabilities, specific security requirements, or varying perceptions of risk associated with these measures.

The diversity in responses underscores the complex landscape of security in quality assurance processes, where agencies must balance the need for robust protection with practical considerations such as ease of use and resource constraints.

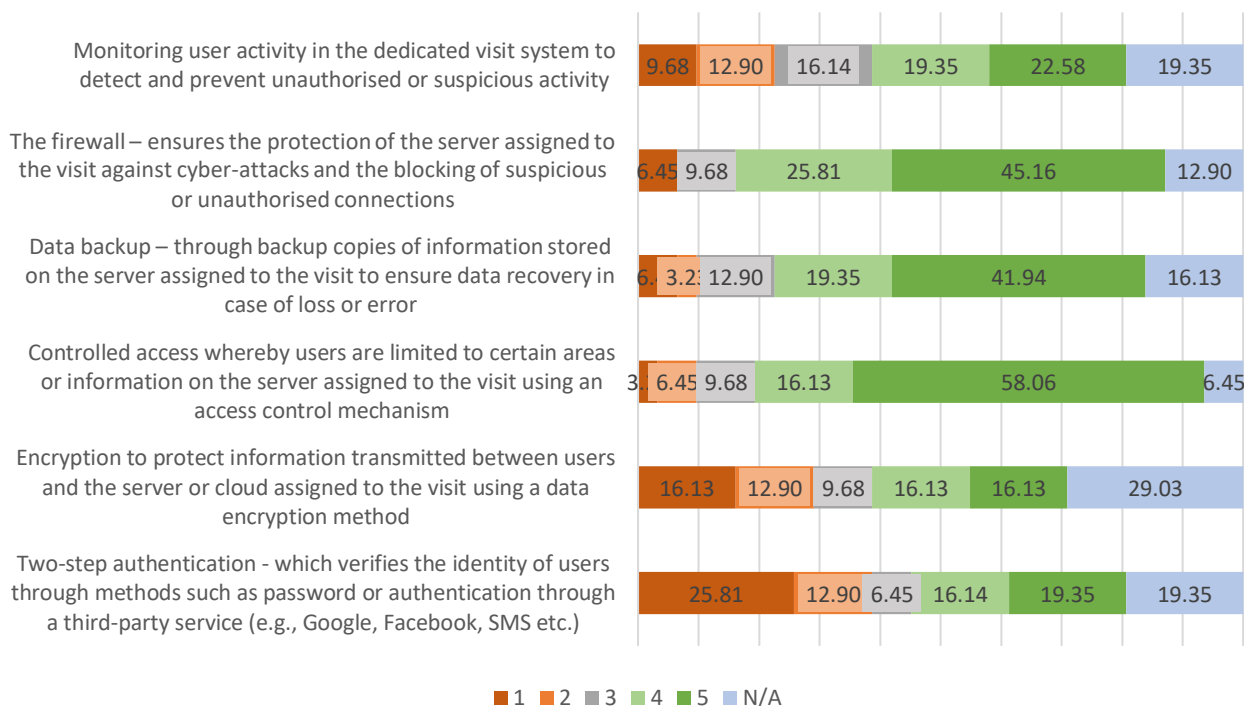


Figure 10: Security systems used to support online visits

Some of respondents highlighted that, oftentimes, the clouds or online folders with information to support site visits are created and controlled by the HEIs themselves, and they create access (usernames and passwords) for evaluators.

### Organisation and frequency of staff digital competencies training

QAAs strive to organise digital competencies training sessions for their staff, with the majority (approximately 66%) confirming that such sessions are held. The frequency of these sessions varies, with most being organised on a need or demand basis. Some employees participate in these sessions once a year or twice a year, while others attend two or more times per quarter. Training sessions are supported by both the agencies' own employees and through outsourcing, depending on the topic and specific needs. Additionally, some agencies combine these two methods to provide comprehensive and up-to-date training.

#### Case example. UKA (Sweden) - Employee Training.

The agency employs formal training workshops for large-scale updates and informal training during weekly meetings, allowing for recording of sessions. There's no systematic training for all internal systems; support is provided on an ad-hoc basis. They recognise a skill gap related to digital literacy, but a standardised and comprehensive training program is lacking. Training is reactive rather than proactive, contributing to employee resistance. A systematic training program is necessary for improved user adoption and efficiency.

## Partnerships and communication

### Media channels used for communication and information dissemination.

The survey results indicate that QA agencies are using a variety of media channels to communicate with stakeholders, with a clear emphasis on mobile-optimized websites and professional networking platforms.

The role of social media in external quality assurance (QA) evaluation, varies significantly,

#### **Case example. 2024 ENQA General Assembly Breakout sessions - Digitalisation and data informed QA.**

Training and Staff Involvement: The discussions emphasise the importance of building staff competence incrementally, as well as recruiting individuals with backgrounds in statistical learning to facilitate understanding and application of AI tools.

#### **Case example. AIC (Latvia) - Training and Adoption.**

The agency recognises the importance of providing training to users. User training is viewed as crucial for successful system implementation and continued user engagement. There was initial resistance to the system, but overall feedback from users has been positive. The document suggests the need for ongoing practical training workshops for universities to improve the adoption and effectiveness of the system. The positive feedback suggests that the platform is valuable, but ongoing training efforts are needed to address initial resistance and maintain user engagement.

serving as a tool to inform agencies' activities more broadly. Some agencies utilise platforms like LinkedIn to track professional developments and gather insights into alumni outcomes, indirectly informing evaluations. Others may employ X (Twitter) or Facebook for public consultations, soliciting feedback on institutional practices and proposed changes. While offering potential for broader stakeholder engagement, agencies must carefully consider the ethical implications and develop clear guidelines for data collection and analysis to ensure a credible and transparent evaluation process.

Most agencies use social media channels to engage with HEIs and stakeholders, with approximately 78% of agencies confirming the use of these channels. The agencies reported that agency's website, optimised for mobile device use, is a crucial tool for ensuring accessibility and user interaction; LinkedIn (41.1%) is used for building professional networks, finding partners, and promoting products and services; video platforms like YouTube (26.5%) are used to create and share educational and marketing content, facilitating effective visual communication; Facebook and X (Twitter) are used to post news, quick updates, and to interact with beneficiaries and partners; Instant messaging applications like WhatsApp allow rapid and efficient communication, being used for logistical purposes during site visits; and Instagram is used to showcase products and services and to increase brand visibility.

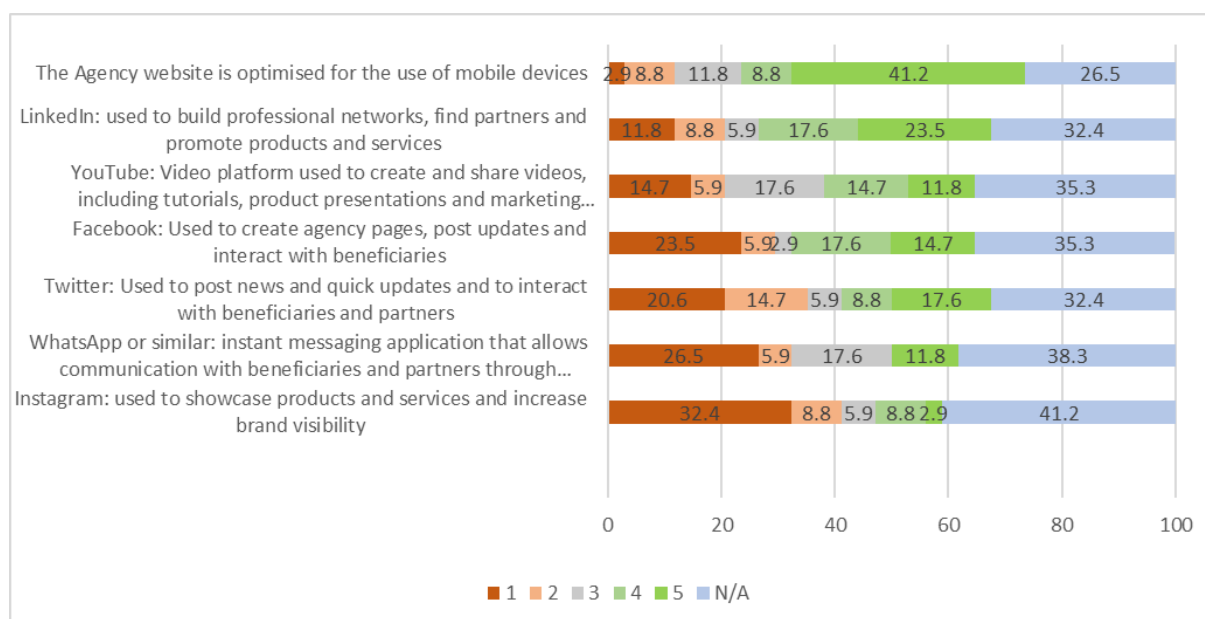


Figure 11: Channels used for communication and information dissemination.

These findings suggest that QAAs are adapting their communication strategies to the digital age but are doing so selectively. They appear to be prioritising channels that offer professional networking opportunities and mobile accessibility over more casual social media platforms.

### Security methods for media channels

The survey results reveal varied approaches to security methods used by QAAs for information dissemination. About half of agencies reported implementing a variety of security methods to protect the media channels used in their operations. Among these methods, passwords and other authentication mechanisms are commonly used (53%) to ensure that only authorised individuals can access sensitive information. Agencies (47%) also rely on firewalls as a key solution to defend against cyber-attacks and block suspicious activity. To preserve confidentiality, access to conversations is limited to authorised personnel. In addition, encryption software is used to secure the content of the conversations, ensuring that the data transmitted remains protected. The agencies further emphasise the importance of regularly monitoring conversations to detect inappropriate behaviour or suspicious activity, which helps prevent security breaches.

These findings suggest that while QAAs are implementing basic security measures, there may be room for more advanced and comprehensive security approaches. The considerable number of "not applicable" responses across various measures indicates that many agencies may not have fully developed security strategies for information dissemination.

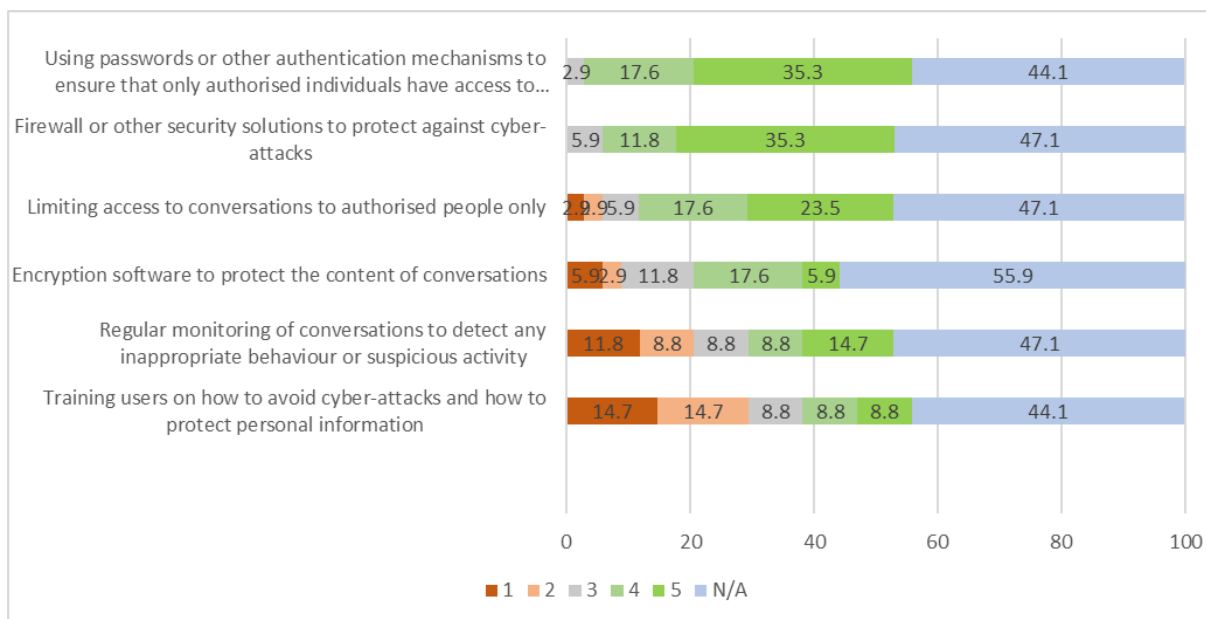


Figure 12: Security methods for information dissemination.

### Digital tools for reporting and communication of external quality evaluation results

The survey results indicate that QA agencies are using a range of digital tools for reporting and communicating external quality evaluation results, with a clear emphasis on agency websites and organised digital document management.

The agency website is universally used (100%) to ensure transparency and accessibility of information. This suggests that agencies prioritise having a centralised, easily accessible location for stakeholders to access information. Document management systems enable (58.8%) the sharing and access to quality assessment results in electronic format, facilitating collaboration and quick access to data. International online databases are used (53%) to centralise and share information among various institutions, ensuring global comparability. The significant adoption of international online databases and document management systems indicates a trend towards more systematic and potentially standardised approaches to sharing and storing evaluation results.

The limited adoption (14.8%) of comparative platforms and interactive infographics suggests that many agencies may not yet be leveraging more advanced data visualisation and comparative analysis tools. This could be an area for future exploration as stakeholders increasingly expect more interactive and comparative information.

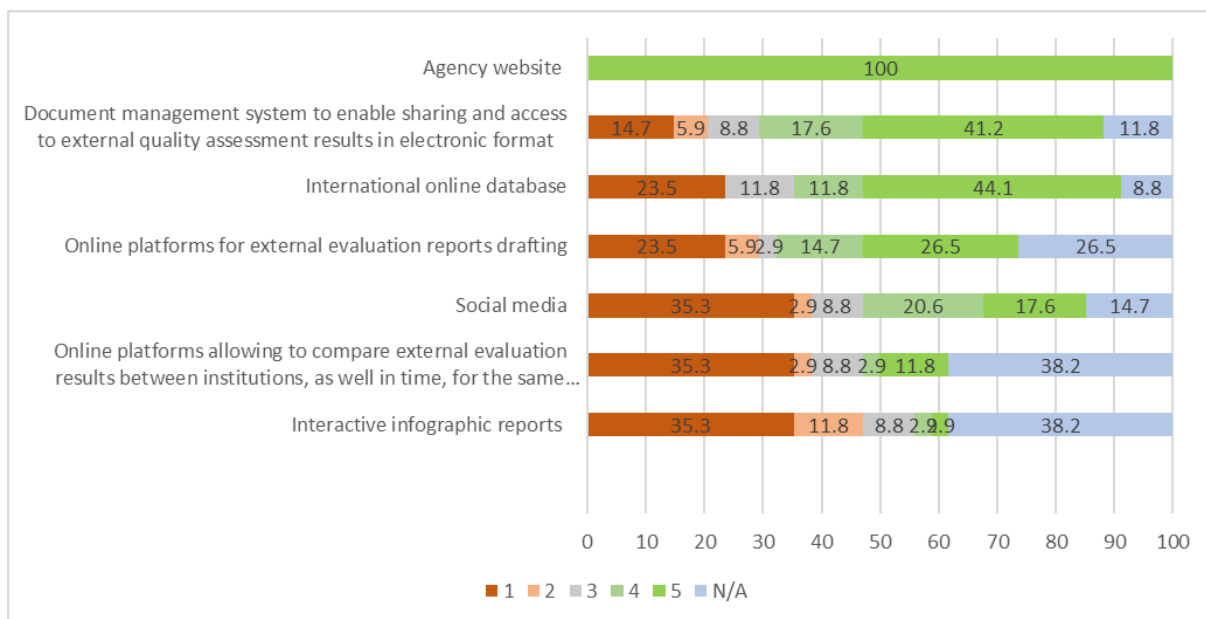


Figure 13: Digital tools used by QAAs

These findings suggest that while QAAs have established core digital tools for reporting and communication, there may be opportunities for further development in more advanced and interactive digital solutions. The diversity in responses also underscores the varied approaches to digital communication across the sector, reflecting differences in resources, stakeholder expectations, and national or institutional contexts.

### Accessible information and tools on the agency website

The survey results indicate that QAAs prioritise comprehensive and transparent information on their websites, with a clear emphasis on providing guidance, standards, and detailed process information to stakeholders, particularly HEIs undergoing assessment.

Guidance and references for HEIs preparing for external evaluations are essential for providing support and clarity in the evaluation process. The high relevance (100%) placed on guidance materials and detailed process information suggests that agencies recognise the importance of clarity and support in the quality assurance process. This approach aims to ensure that HEIs are well-prepared and fully informed about what to expect during assessments. Information on national or international quality assurance standards helps align processes with global requirements. Detailed information on the stages of the assessment process and relevant events are available (95.8%) to ensure transparency and proper planning. Evaluation results, including final reports and decisions, are published to inform all stakeholders about the conclusions of the evaluation processes.

Agency contact information, including email addresses and phone numbers, is accessible (82.3%) to facilitate communication. Follow-up procedures and the evaluation schedule, including deadlines, are clearly presented (70.65%) to ensure efficient organisation. Press releases and news (76.5%), as well as information on appeals and complaints procedures and outcomes (70.6%), are available to maintain transparency and accountability. Agency

activities, such as projects and support opportunities for evaluated institutions, are also published to ensure ongoing support.

These findings reveal that QAA websites effectively serve as public repositories of quality assurance information, spanning the entire process from preparation to follow-up, thereby fulfilling the ESG's crucial demand for transparent and readily available data, including EQA reports.

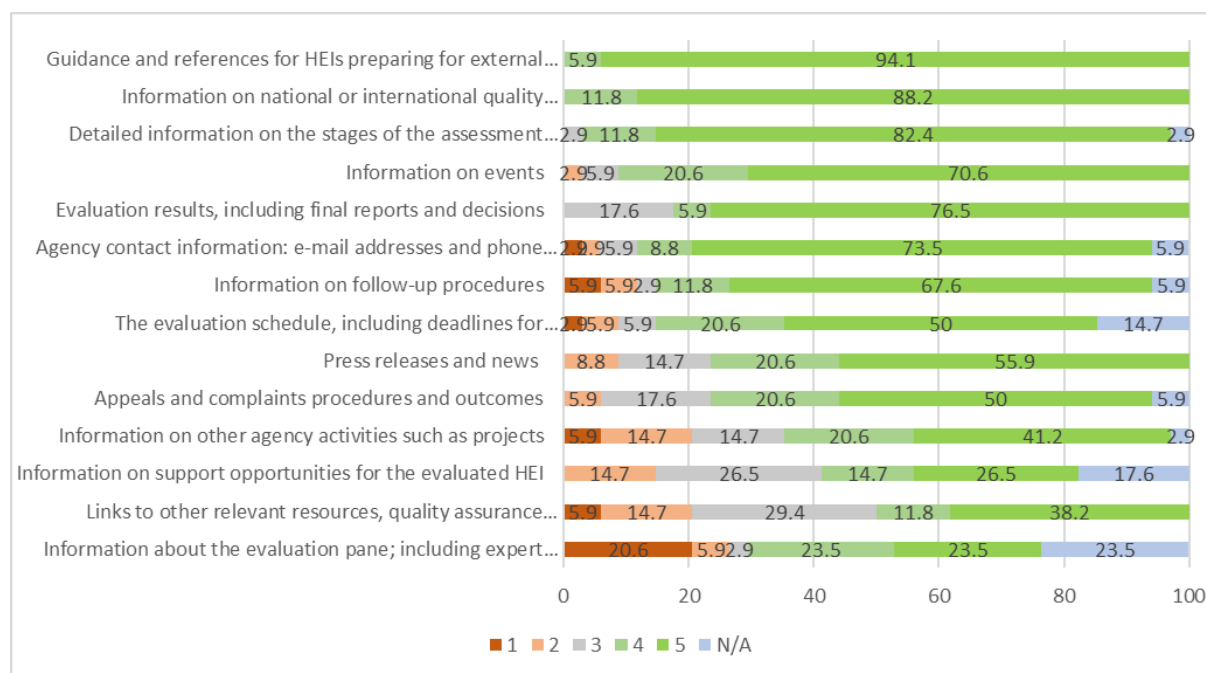


Figure 14: Key resources and information available on the QAAs website.

### Challenges in collaboration with HEIs during the digital transformation process

The survey results indicate that QAAs face various challenges in collaborating with HEIs for digital transformation, with system incompatibility and data security emerging as the most prominent concerns.

Incompatibility with existing systems, both in terms of digital technologies and universities' internal processes, is a major challenge (32.3%) and highlights the complex nature of integrating new digital tools into existing educational and assessment infrastructures. Ensuring data security and personal data protection are essential concerns (29.4%), requiring stringent measures to prevent security breaches and underscores the critical nature of handling sensitive information in educational settings. Costs and allocation of resources by HEIs are also critical aspects (26.5%), as institutions need to invest significantly in digital infrastructure and staff training. The mixed responses regarding costs and resource allocation, coupled with the high percentage of "Not Applicable" answers, suggest that financial challenges vary significantly across different contexts. These findings suggest that while QAAs are moving towards digital transformation in collaboration with HEIs, they face a complex landscape of technical, security, and resource-related challenges. The diversity in responses also underscores the varied experiences across different agencies and educational contexts.

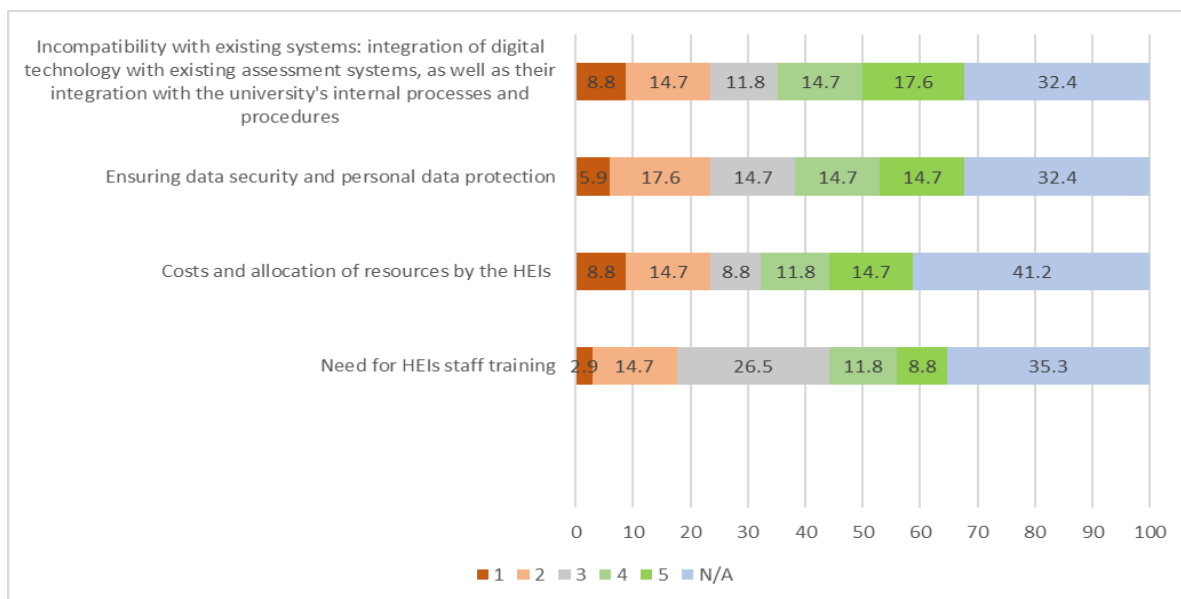


Figure 15: Challenges in the integration of digital technologies.

### Collection and interpretation of data from HEIs

Agencies were asked whether they collect data from HEIs and interpret these data for different purposes. A significant percentage of 62.5% of agencies responded affirmatively, indicating a clear trend of using data to improve quality assurance processes. Data collection methods vary among agencies, with information gathered either as part of HEIs' self-evaluation reports or through separate, often continuous, data collection processes. This continuous approach suggests a commitment to ongoing monitoring and evaluation rather than periodic assessments. The types of data collected vary, but the most frequently mentioned include student satisfaction, academic progress of students, graduate tracking, human resources, international mobility and employer satisfaction with the quality of graduates.

#### What type of data are being collected:

Variant answer	Weight in total (20) %
a) Students' satisfaction	55%
b) Academic progress of students, graduation rates	60%
c) Graduates tracking	45%
d) Employers' satisfaction on graduates quality	35%
e) International mobility	45%
f) Financial	35%
g) Human Resources	65%
h) Research outcomes	35%

The widespread adoption of diverse data collection and analysis practices among QAAs reflects a shift towards more evidence-based quality assurance in higher education. This

approach enables agencies to make informed decisions, identify trends, and provide targeted support to HEIs in their quality improvement efforts.

### Involvement of stakeholders in the digital transformation process

Regarding both internal and external stakeholder involvement, 21.9% of agencies reported that stakeholders actively participate in all stages of the development process, providing feedback, recommendations, and input. This reflects a commitment to collaboration and co-creation, ensuring that stakeholder perspectives and needs are integrated into the digital transformation process. 53.1% of agencies said that stakeholders only participate in certain stages of the development process, such as providing feedback or examples of good practices. This suggests that while the importance of stakeholder involvement is recognized, there is still room for improvement in some agencies, or it is not relevant in certain cases.

A reduced number of agencies (12.5%) inform stakeholders about the transformation process without active involvement in decision-making or development, while 9.4% do not involve stakeholders in their digital transformation process.

These results suggest that while most QAAs recognise the value of stakeholder input in their digital transformation processes, the extent and nature of this involvement vary significantly.

This diversity in approaches stems from a combination of factors, including agency resources, cultural contexts, strategic priorities in the quality assurance sector, the unique digital transformation pathways each agency is pursuing, and relevance for different stakeholder groups.

#### **Case example. UKA (Sweden) - Stakeholder Involvement.**

The agency engages stakeholders through regular meetings and utilises feedback mechanisms. They face resistance from HEIs, primarily due to the perceived inconvenience of using the external system. They recognise that overcoming this resistance requires continued efforts to improve the user-friendliness of the systems and communication processes. The agency also acknowledges a need to prioritise change management within their own institution. To effectively address the challenge of overcoming resistance to digital tools, enhancing user experience and establishing clear communication strategies are crucial for the successful implementation of digital initiatives.

### Risks assessment

Agencies have identified several significant risks associated with the implementation of digital tools in their processes. One major risk (64.8%) is related to cybersecurity, which can affect the confidentiality of information and the integrity of IT systems. This risk is considered important because data breaches can have severe consequences for agencies and their stakeholders.

Another significant risk (50%) is the increased costs related to the implementation, maintenance, and upgrading of technology. These costs can become a financial burden for agencies, limiting the resources available for other essential activities. Additionally, there are concerns about becoming too dependent on technology, which can lead to major dysfunctions



in the event of failures or data loss. User accessibility and digital competencies are also critical aspects.

Ensuring user accessibility and building digital skills are crucial for successfully implementing digital initiatives. Agencies must ensure that all users have access, regardless of their digital skill level or the equipment they have. This requires providing extra support and training. Additionally, customizing technology to fit the unique needs of each study program presents another challenge, highlighting the need for flexible and adaptable digital tools to address diverse educational requirements. Moreover, uncertainties about the accuracy and reliability of the information collected through these tools can affect the quality of evaluations, which is a major concern that needs addressing.

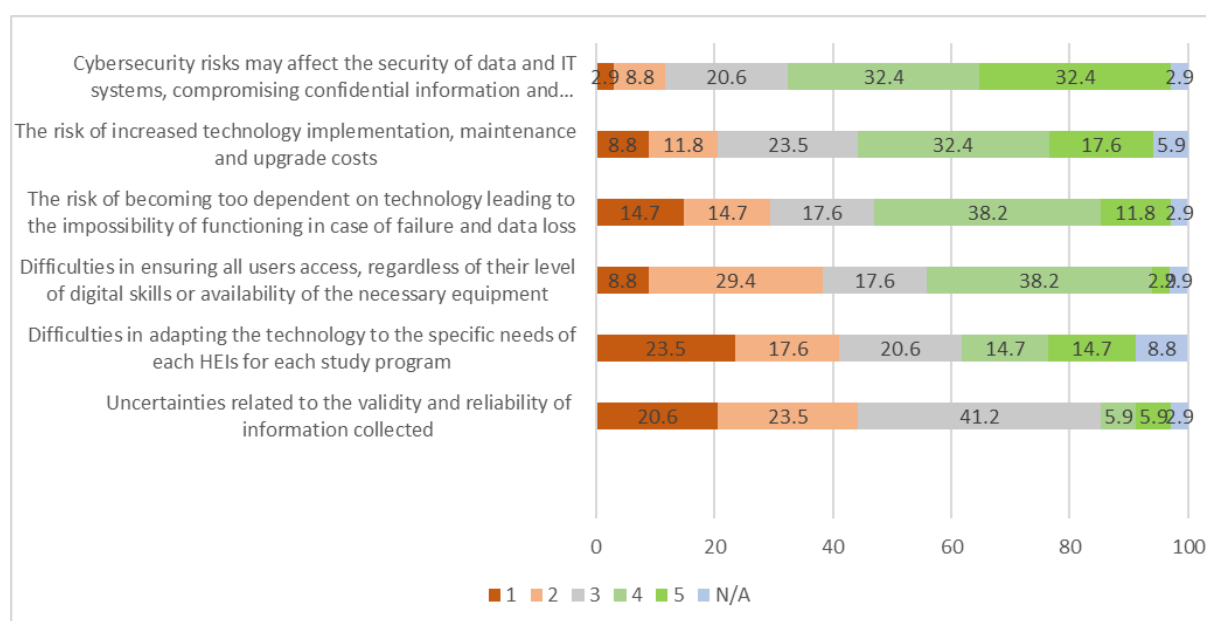


Figure 16: Risks and challenges associated with the implementation of digital technologies

#### Case example. BFUG TPG C meeting November 2024 Ghent

The discussion delved into critical aspects of cybersecurity, highlighting data security breaches and system vulnerabilities that often result from specific technology choices. It also explored compliance risks associated with regulatory mandates, operational risks tied to system failures, and the complexities of collaborating with third-party entities. Furthermore, the impact of human factors on security incidents was scrutinized. The dialogue emphasized the importance of thoroughly assessing vulnerabilities, crafting comprehensive mitigation strategies, and robustly adhering to data protection regulations. The overarching objective was to fortify the protection of sensitive information while ensuring the agency's operations remain reliable and efficient.

## Perspectives on digitalisation of quality assurance processes

The survey results provide a picture of QAAs that are actively planning to enhance their internal and external quality assurance processes using digital tools, with a clear emphasis on user satisfaction, efficiency, and adaptability. A sizeable portion of agencies, approximately

65.6%, indicated plans for further strategic developments in the digitalisation of both external and internal quality assurance processes.

For external quality assurance processes, the most prioritized goal by agencies is to increase user satisfaction through efficient and user-friendly services, as emphasized by 50% of respondents. Following this, 46.9% of agencies focus on automating processes to boost efficiency and cut costs. Equally, 43.8% of respondents aim to develop new services that align with legislative changes and meet beneficiary needs, as well as enhance the evaluation process's efficiency and transparency. This simultaneous emphasis on service development and evaluation process optimization indicates a balanced approach between innovation and the refinement of current practices. Lastly, increasing stakeholder participation is considered the least prioritized action, acknowledged by 28.1% of respondents. This suggests that, while the importance of stakeholder engagement is recognized, it may not be an immediate focus for many agencies.

Variant answer	Weight in total (32) %
a Automation of external processes to increase efficiency and reduce costs.	46,9%
b The development of new services and solutions that meet the needs of the beneficiaries in accordance with the legislative changes in the field.	43,8%
c Increase user satisfaction by providing efficient and user-friendly services.	50,0%
d Increasing the participation of interested parties in evaluating the quality of education.	28,1%
e Increasing the efficiency of evaluations by optimising the evaluation processes and increasing the degree of trust of the beneficiaries in their correctness	43,8%

When it comes to internal quality assurance processes, the development of an IT system to facilitate internal information management is a top priority, with 62.5% of the respondents indicating its importance. Increasing employee satisfaction by providing a modern and efficient work environment has also a significant focus, supported by 56.3% of the agencies. Training staff in the use of new technologies to increase productivity was highlighted by 40.6% of respondents

A key objective identified was ensuring the interoperability of data provided by Higher Education Institutions (HEIs) for the effective distribution of internal tasks, which was acknowledged by 31.3% of respondents. The somewhat lower emphasis placed on data interoperability might indicate that some agencies have already tackled this challenge successfully or that they consider other priorities to be more urgent in the immediate future.

Variant answer	Weight in total (32)
a) Increasing employee satisfaction by providing a modern and efficient work environment.	56,3%

b) Development of an IT system to facilitate internal information management.	62,5%
c) Staff training in the use of new technologies to increase their productivity.	40,6%
d) Ensuring the interoperability of data provided by HEIs for the distribution of internal tasks	31,3%

## Conclusions from the break-out sessions - BFUG TPG C meeting November 2024, Ghent

### 1. Strategic Planning and Implementation

Successful digital transformation in QAAs requires a well-defined strategy encompassing clear goals, resource allocation, and a phased approach. Adaptability and flexibility in choosing development methods are important. Diverse approaches to system development are acceptable, prioritising robust design and reliability regardless of whether development is in-house or outsourced. Digitalisation should be a strategic process, carefully evaluating both benefits and drawbacks for stakeholders, and not rushing into implementation.

### 2. Data Management, Interoperability, and Security

Effective data management practices are essential, requiring attention to data quality, security, interoperability, and compliance with regulations. AI tools offer potential benefits, but careful implementation is necessary to mitigate risks to data security and privacy. Balancing data privacy with data sharing is crucial. Robust security measures are vital. High data quality standards are essential. Aligning data collection processes and structures across systems is critical for interoperability. Integration with larger databases is beneficial. AI can enhance efficiency but poses risks to confidentiality. Digital tools can enhance QA processes, but careful consideration is needed to avoid adding burdens to stakeholders. Maintaining data quality and procedural integrity is crucial when shifting from physical to online evaluations.

### 3. Stakeholder Engagement and Training

Successful digital transformation hinges on effective stakeholder engagement and comprehensive training programs. Resource sharing and collaborative platforms can help address the needs of QAAs with limited resources. Addressing resistance to change within organisations is vital. Increased investment in training and shared platforms for collaboration is necessary to support QAAs with limited IT resources.

### 4. AI in Quality Assurance

AI holds significant promise for enhancing efficiency in QA processes, particularly in automating tasks such as report generation and summarising large volumes of data. However, careful consideration of the ethical and practical implications, including data security and potential biases, is essential for responsible AI implementation. AI should be viewed as a skill to be integrated into QA practices, carefully managed to avoid misuse.



## Key benefits of digital implementation. Recommendations.

The survey sought to explore the impact of digital transformation on various aspects of quality assurance, particularly focusing on how digital tools enhance efficiency in internal operations, external quality assurance processes, communication, and stakeholder engagement.

### Increased efficiency and automation in internal QA processes

Respondents identified increased efficiency as the most significant benefit of digital implementation (76.5% of respondents rated this benefit as highly important), and this benefit extends significantly to internal QA processes.

Digital tools streamline internal workflows by automating repetitive tasks like data collection, report generation, and document management. This allows staff to focus on higher level tasks such as analysis, evaluation, and strategic planning. For example, agencies are using automated data collection systems to gather information from HEIs more efficiently, reducing the time spent on manual data entry and allowing staff to focus on analysing the collected data and preparing evaluation reports.

**Recommendation:** *QAAs should prioritise the automation of repetitive tasks, such as data collection, report generation, and document management, to free up resources for more strategic initiatives within internal QA processes.*

### Enhanced data management and analysis in internal QA processes

The survey highlights the positive impact of digital tools on data management within internal QA processes, with 73.5% of respondents emphasising the benefits of improved information access and data-driven decision making.

Digital tools provide agencies with greater access to data, enabling them to analyse trends, identify patterns, and gain deeper insights into the quality assurance process.

Agencies are strengthening their internal processes by using data analysis tools to manage and evaluate data from Higher Education Institutions (HEIs). This approach helps agencies clearly identify the strengths and weaknesses of HEIs, enabling them to make more accurate recommendations. As a result, the review processes become more efficient, improving the overall effectiveness of the agency's internal operations.

**Recommendation:** *To elevate the effectiveness of internal QA processes, QAAs must implement advanced data management systems that facilitate real-time data collection, analysis, and reporting. By seamlessly integrating these systems with other digital tools, agencies can enable data-driven decision-making, enhancing the efficacy not only of their internal quality assurance activities but also of their overall operational performance.*

## Increased efficiency and automation in external evaluation processes

The survey highlights the significant impact of digital tools on improving efficiency in external evaluation processes, particularly through automation of repetitive tasks and streamlined data analysis. This is evident in the responses of 76.5% of respondents who rated this benefit as highly important.

Agencies are leveraging digital tools to enhance the external quality assurance by streamlining submissions, enabling efficient remote evaluations, improving peer review collaboration, facilitating data-driven analysis and reporting, increasing transparency and accessibility, and automating data gathering and reviewer training. This allows for faster turnaround times for evaluations and frees up staff resources to focus on higher-level activities, such as analysing findings and developing recommendations. For example, agencies are using online platforms to manage the entire evaluation process, from sending out requests to HEIs to collecting feedback and generating reports.

**Recommendation:** *QAAs should prioritise the development and implementation of digital platforms and tools specifically designed to streamline and automate certain aspects of external evaluation processes, such as online survey tools, automated report generation software that compile and present standardised data summaries, metrics, and visualisations, automating the creation of factual outputs, and collaboration platforms for sharing feedback and reports.*

## Improved communication and collaboration

Digital tools are significantly impacting communication and collaboration between various stakeholders, including HEIs, public authorities, and other stakeholders. 44.1% of respondents highlighted the positive impact of digital tools in this area, which is particularly relevant in facilitating both internal and external communication processes.

This improved communication enables a more collaborative and efficient quality assurance process. For instance, agencies are using online collaboration tools to facilitate meetings and discussions with HEIs, enabling them to share information and work together on quality assurance initiatives. This also extends to communication with other stakeholders, such as government agencies and the public. To effectively integrate national data into the organisation's review and analysis systems, a focus on the practical implementation of data ingestion, processing, and utilisation is essential, through detailed data pipelines, clear system integration, robust data quality and security measures, and illustrative practical use cases.

**Recommendation:** *Agencies should invest in collaboration platforms and communication tools that enable seamless communication and collaboration among all stakeholders. This can improve the flow of information, reduce ambiguity, and facilitate more effective partnerships, further enhancing the efficiency of both internal and external quality assurance processes.*

*Additionally, it is beneficial to consider cross-stakeholder engagement to develop shared or compatible data systems, aiming to reduce the administrative burden across the higher education sector.*

**Recommendation:** *In the case of new systems are introduced, QAAs should implement robust data migration strategies. This involves carefully planning the transfer of data from legacy systems to new systems, ensuring data integrity and accuracy.*

### **Increased flexibility and adaptability**

The ability of digital tools to enhance the flexibility and adaptability of quality assurance processes is a key benefit, as reported by 32.4% of respondents.

Digital tools empower agencies to remain agile and responsive to the dynamic demands of higher education. By leveraging online survey tools, agencies can rapidly collect and analyze feedback from stakeholders regarding new quality assurance initiatives. This capability allows them to swiftly adjust and refine their strategies based on real-time input, fostering greater transparency and accessibility. Such adaptability is essential for optimizing both internal and external quality assurance processes, enabling agencies to effectively address evolving needs and challenges in the higher education landscape. This flexibility ensures that agencies can continually align their efforts with the latest developments and priorities in the sector.

**Recommendation:** *Agencies should focus on cultivating a culture of adaptability and flexibility to effectively navigate new challenges and opportunities within their internal and external quality assurance processes. By focusing on these traits, they can use digital tools more effectively to stay ahead in responding to changing needs.*

**Recommendation:** *Agencies should implement a holistic integration strategy that involves performing a detailed evaluation of current systems, establishing standardised data protocols, and leveraging integration platforms to enable smooth communication between systems.*

### **A strategic roadmap for digital transformation in QAAs**

This roadmap provides a comprehensive and structured approach to digital transformation for QAAs. It emphasises the importance of strategic planning, stakeholder engagement, and continuous improvement while addressing key areas such as security, interoperability, and resource allocation. The addition of sections on emerging technologies and accessibility ensures that the roadmap is forward-looking and inclusive.

By following this strategic approach, QAAs can effectively embrace digital transformation and position themselves for a future where data-driven decision making, improved communication, and greater efficiency are at the heart of quality assurance processes in higher education.

**Develop a comprehensive digital transformation strategy.**

This is the foundation of the entire digital transformation process. A comprehensive strategy ensures that all digital initiatives are aligned with the agency's overall mission and goals. It should include:

- ✓ a clear vision of what the digitally transformed agency will look like
- ✓ specific, measurable objectives for each area of operation
- ✓ a timeline with key milestones
- ✓ a thorough analysis of current digital capabilities and gaps
- ✓ identification of priority areas for digital transformation
- ✓ a plan for resource allocation

The strategy should be flexible enough to adapt to changing technologies and needs, yet robust enough to provide clear direction.

### **Address resistance to change**

Digital transformation often faces resistance due to fear of job losses, discomfort with new technologies, or concerns about changing established processes. Addressing this resistance is crucial for successful implementation. This involves:

- ✓ clear communication about the reasons for and benefits of digital transformation
- ✓ involving staff at all levels in the planning and implementation process
- ✓ providing support and resources to help staff adapt to new technologies and processes
- ✓ celebrating early successes to build momentum and enthusiasm
- ✓ addressing concerns and misconceptions promptly and transparently

### **Invest in staff training and development**

The success of digital transformation largely depends on the ability of staff to effectively use new technologies and adapt to new processes. This investment should include:

- ✓ comprehensive training programs tailored to different roles and skill levels
- ✓ ongoing learning opportunities to keep pace with evolving technologies
- ✓ development of digital leadership skills among management
- ✓ creation of a culture of continuous learning and innovation
- ✓ opportunities for staff to experiment with new technologies in a low-risk environment

### **Strengthen data security and privacy**

As agencies become more digital, the importance of robust data security and privacy measures increases. This involves:

- ✓ developing comprehensive data security policies and procedures
- ✓ regular security audits and vulnerability assessments
- ✓ implementation of advanced security technologies (e.g., encryption, multi-factor authentication)
- ✓ staff training on data security best practices



- ✓ compliance with relevant data protection regulations (e.g., GDPR)
- ✓ development of incident response plans for potential data breaches (ranging from targeted cyberattacks to unintentional data exposures)

### **Prioritise interoperability**

Ensuring that different systems and platforms can communicate and share data seamlessly is crucial for efficient operations. This includes:

- ✓ adopting open standards and friendly interfaces where possible
- ✓ adopting a strategic and forward-thinking approach to digital transformation, ensuring that selected solutions are not merely short-term fixes but sustainable, long-term investments that enhance quality assurance processes
- ✓ development of data standards to ensure consistency across different platforms
- ✓ regular testing and optimisation of data flows between systems
- ✓ collaboration with other agencies and institutions to develop shared standards

### **Secure adequate resources**

Digital transformation requires significant investment in technology, training, and often organisational restructuring. This involves:

- ✓ developing a detailed budget for digital transformation initiatives
- ✓ exploring various funding sources (e.g., government grants, partnerships with tech companies)
- ✓ prioritising investments based on potential impact and alignment with strategic goals
- ✓ considering both initial implementation costs and ongoing maintenance/upgrade expenses

### **Strengthen collaboration with HEIs**

Effective quality assurance requires close collaboration with HEIs. In the context of digital transformation, this means:

- ✓ regular dialogue with HEIs about their digital needs and challenges
- ✓ collaborative development of digital quality assurance tools and processes
- ✓ sharing of best practices and lessons learned in digital transformation
- ✓ joint pilot projects to test new digital approaches to quality assurance
- ✓ alignment of digital standards and practices across the higher education sector

### **Continuously monitor and evaluate progress**

Regular assessment of digital transformation efforts is crucial for success. This includes:

- ✓ development of clear performance indicators for each digital initiative
- ✓ regular collection and analysis of data on digital tool usage and effectiveness



- ✓ soliciting feedback from all agencies' internal and external stakeholders
- ✓ periodic review and adjustment of the digital transformation strategy
- ✓ benchmarking against other agencies and international best practices

### **Embrace emerging technologies**

Staying abreast of technological advancements ensures that the agency remains effective and efficient. This involves:

- ✓ regular horizon scanning for relevant new technologies (e.g., AI, blockchain)
- ✓ pilot projects to test promising new technologies

## **Final Conclusions**

While digital transformation presents significant challenges for quality assurance agencies, it also offers tremendous opportunities to enhance the efficiency, effectiveness, and relevance of quality assurance in higher education. Success will depend on a strategic, comprehensive approach that balances technological innovation with organisational change management and a strong focus on stakeholder needs and experiences. As the higher education landscape continues to evolve, digitally transformed quality assurance agencies will be better positioned to adapt and continue fulfilling their crucial role in ensuring educational quality and standards.