

STRATEGIC BUSINESS PLAN

ISO/TC 171, Document Management Applications

EXECUTIVE SUMMARY

Document management applications are an essential element in helping to control the life cycle of information, from creation through to archival and final disposal. With an increasing reliance on information in today's business world, the drive to manipulate, store, access and transmit information plays a dominant role. When disaster strikes, it becomes critically important to get our organizations back to normality again as quickly as possible, by restoring the normal flow of information within the organization and with its business partners.

The level of complexity facing today's organization in managing information is rising. In the past, many IT departments have controlled the implementation of technology in the organization. Now, the end users are applying great pressure on their IT departments as the availability of feature rich technology in normal use within the home (such as digital tablets and smart phones), and the use of collaborative technologies that are publicly available (such as cloud services) can bring significant business benefits. However, their use can challenge organizational policies and can increase business risks, particularly in the area of information security.

International standards can provide business benefit by enabling interchangeability and interoperability so that organizations can adapt to these new technologies faster and allow their users to take advantage of them.

The resource available to ISO/ISO/TC171 focusses on the standardization of technologies related to all phases of information life cycles, including capture, indexing, storage, retrieval, distribution, communication, archival and disposal. The TC provides standardization guidance on quality control and integrity maintenance in the field of document management by specifying procedures and process to support and promote the admissibility and integrity of the organization's information. The efforts of this TC do not stop with procedures and processes but includes specifying the file formats such as PDF and XML based StratML that can be used to exchange information. ISO/TC 171 also focuses on the input and output quality of documents and maintaining that quality of documents are exchanged between systems. It also provides standardized file formats to make documents and information more accessible to those with disabilities and supporting specific requirements of sectors such as engineering and long-term preservation. ISO/ISO/TC171 also supports an ISO archive of Micrographics standards.

The work of ISO/ISO/TC171 will further contribute to provide portability, retrievability, compatibility, interchangeability, and sustainability between document management systems across global operations. This work will ensure that organizations have the best policies and practices in place to protect their information and meet legal requirements while making information accessible to those that need it.

1. INTRODUCTION

1.1 ISO technical committees and business planning

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

2. BUSINESS ENVIRONMENT OF THE ISO/TC

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

Organizations are dealing with an ever-increasing volume of information that comes from sources inside and outside the organization. It comes in many formats all of which need to be managed so that members of the organization can easily locate and use it when needed. Over a decade ago, the term ECM, Enterprise Content Management, was introduced to help businesses identify and understand the importance of unstructured information (content) and help to align the appropriate technologies to the business processes. Over the years, ECM has been viewed as a strategic decision that helps organizations to operate in a more effective manner (such as by moving from paper-based systems to digital systems). The connection of technology to process has led to viewing information as business critical.

Organizations are adopting and implementing technologies to strengthen their information management architectures and digitally transform their processes. Research shows:

- 55% of organizations are bound by cost and productivity;
- 53% of organizations are seeking better ways to improve their information sharing and collaboration.

This move to digital systems often requires more than technology to be successful. People, processes and governance are vitally important. The technologies used to conduct business in a digital environment can include but are not limited to:

- Enterprise Content Management (ECM);
- Electronic Document Management (EDM);
- Document Imaging and Mobile Capture;
- Workflow;
- Cloud or SaaS storage;
- Collaboration, sharing and handling tools;
- Portable Document Format (PDF).

Modern workforces need access to information on a 24/7 schedule. This enables them to collaborate and interact with each other and the systems infrastructure on a needs basis.

2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC:

Several factors contribute to the development of the market served by ISO/ISO/TC171:

- Cost reduction, optimisation and automation of processes;
- Demonstration of compliance with legislation and/or regulation;
- Compliance with standards;
- Electronic signature implementation;
- Security and privacy concerns;
- Business efficiency;
- Robustness and reliability of business information;
- Transition to digital (paper free) working;
- Greater use of internet or cloud based solutions for collaborations and telework;
- Increased usage of handheld devices (mobile technology) to conduct business;
- Market consolidation;
- Implementation of eGovernment efforts of countries worldwide;
- Emergence of the Systems of Engagement concept;
- Email and instant message proliferation and need to manage them.

Vendor issues/factors:

- Increased vendor consolidation into global products is creating some push back from the local market used to more tailored solutions to suit a specific regulatory requirement;
- Regulation and capability to comply with current relevant standards in order to achieve the legal security that the system is designed for;
- Trusted system is a key issue in terms of benefits for the vendor;
- Open system and interoperability;
- Price sensitivity;
- Environment is starting to play a big role;
- Long-term preservation of digital information;
- End user issues/factors affecting market;
- Enhancement of information sharing;
- Process time reduction;
- Data mining efficacy;
- Meet users' needs;
- Ease of use;
- Integration with existing systems;
- Lower cost of doing business;
- Ease of access to information;
- Meeting compliance requirements;
- Tolerance with old 'command and control' technologies;
- Legal regulations;
- Mobile devices;
- Social media demands affecting the market.

In many organizations, information is in a state of chaos, and not fulfilling business needs. As organizations increase their use of social media (such as blogs, Twitter WhatsApp, and Facebook), they will have to understand and control the business information flowing through these systems.

Organizations understand how to control paper documents. They also may be using digital images of documents with the assurance that they are able to locate the necessary information in these formats. Many of these organizations also hold archival quality information on micrographics systems. There is a growing variety of delivery models for document management functionality. Cloud computing and blockchain technologies are areas of significant interest and in some organizations widely used. These techniques will not necessarily require new standards but existing standards need to be adapted to cover them. Whether information exists in physical or a digital format, the capturing processes need to be streamlined and quality control procedures established to ensure that the information could be relied on as evidence of business activities.

Social business is on the upswing, which means that more information is being created and used in a large number of apps and blogs. This is another area of potential standardization or adaptation of existing standards to meet the social business and needs.

3. BENEFITS EXPECTED FROM THE WORK OF THE ISO/TC

The standardization work of ISO/TC 171 will further contribute to provide portability, compatibility and interchangeability between document management systems across global business operations and allow improved use of information in a mobile society. As businesses and governments worldwide continue to recognize the value of document management technologies, this work will promote the principles for trustworthy information governance, thus ensuring that organizations have the best policies and practices in place to protect their information and be able to demonstrate how they meet their legal and regulatory requirements.

The work of ISO/ISO/TC171 will help organizations to:

- Identify existing business processes where paper-based information exists and manual processes are still used, and facilitate their improvement through the implementation of document information technologies;
- Ensure that document management technologies such as optical character recognition, information capture, analytics and auto-classification are integrated with enterprise systems;
- Position information capture processes to occur as early as possible in an overall business process for the handling of information as it enters an organization;
- Ensure that conformance to industry regulations can be demonstrated;
- Enable interoperability including the use of mobile devices to manage and use information more effectively;
- Increase acceptance by the users and management of an organization by being able to demonstrate the trustworthiness of their products and services and how they meet or exceed standards requirements;
- Protect technology and product development investments;
- Reduce overall costs for procurement, manufacturing, compliance and risk mitigation;
- Use robust file formats that can be easily included in workflows and can be accessed on many devices, thus enhancing the file format's usability;
- Improve the usability of file formats for specific purposes, i.e., engineering, 3D work applications and for specific tools, i.e., assistive technology to enable information to be accessible by all;
- Facilitate the long-term preservation of digital information;
- Support the long term use of micrographics systems.

Worldwide, there is a growing interest in addressing the assessment of the compliance to the relevant standards. Many public and private organizations are looking for the certification of their systems in order to demonstrate the trustworthiness of the information managed by those systems.

Transparency and openness are important concepts in business. For organizations to be transparent and open, they need to organize and manage their information in accord with established good practices that reinforce the legal value of the information. The work provided by ISO/ISO/TC171 enables this transparency and openness of information in organizations.

The new directions and trends impacting the industry include:

- organizations that are employing content analytics to mine their data;
- much richer document content, including rich multimedia, semantics and 3D;
- repurposing information;
- implementing mobile strategies for information capture, searching, editing, access, viewing, etc.;
- social networking and media use;
- using digital signature technology to enable secure information management;
- management of privacy and security in relation to information as this is critical due to the number of attacks on organizations' computer systems;
- use of auto-classification technology to automate the organization of information;
- improvement to the accessibility of information for everyone, including those with disabilities;
- using information to convey intelligence and thus having increased impact on process workflows.

Standard methods are necessary for assessing quality, together with minimum performance levels at all stages in the information life cycle and for each of the systems components, services and procedures.

4. REPRESENTATION AND PARTICIPATION IN THE ISO/TC

4.1 Membership

The membership of ISO/ISO/TC171 can be found at:

<http://www.iso.org/committee/53650.html?view=participation>

4.2 Analysis of the participation

There is an audience for the work from ISO/ISO/TC171 as exemplified by the national bodies that are identified by the ISO/ISO/TC171 membership (see 4.1).

The membership of ISO/ISO/TC171/SC1 can be found at:

<http://www.iso.org/committee/53666.html?view=participation>

The membership of ISO/ISO/TC171/SC2 can be found at:

<http://www.iso.org/committee/53674.html?view=participation>

This level of membership of the two subcommittees further reflects the interest in the work performed by the technical committee.

Typically, ISO/ISO/TC171 meets face-to-face (including virtual attendance when requested) along with all its subcommittees once per annum (typically in May). Each SC and their working groups are free to meet (either face-to-face or virtually) as necessary to progress their work.

Often, meetings are co-ordinated with other ISO TC's, such as ISO/TC46 and ISO/TC130, allowing delegates that attend multiple meetings to make full and efficient use of their time and costs.

5. OBJECTIVES OF THE ISO/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

5.1 Defined objectives of the ISO/TC

ISO/TC 171 will promote the importance of an efficient information life cycle, where that information is managed in micrographic, paper or digital form through the development and maintenance of the standards managed by ISO/ISO/TC171.

ISO/TC 171 has identified and agreed the following objectives for itself to:

- promote the recognition of the trustworthiness and evidential value of information;
- publish standardized terminology;
- define standards for technologies, methods and equipment to help users and vendors create and use criteria for assessing the integrity and quality of information, storage media and related equipment;
- develop uniform test methods;
- encourage compatibility and portability;
- promote control methods for the tracking of documents;
- provide guidance on the implementation, inspection, and quality control procedures for the use of storage media for the preservation of information;
- define standards for file formats that will promote interoperability, efficiency and enhance workflows.

5.2 Identified strategies to achieve the ISO/TC's defined objectives

As document management technologies and their user needs have evolved, ISO/TC 171 has modified its scope several times since its creation in 1979 to meet those needs. These changes have created new markets, particularly in the area of standardized file formats. ISO/TC 171 has shown to be capable to respond to the changing needs in information management. The current scope was approved by the TMB in 2003.

The TC was reorganized in 1994 to ensure a better distribution of the workloads and to improve the efficiency of its work with the purpose of improved alignment with the development of the new document management technologies.

Through the use of project leaders, ad hoc work groups, and reasonable deadlines, ISO/TC 171 has re-energized its committee members to conduct work between meetings and by holding working group meetings more frequently than the annual TC meetings. The development of the work in between formal meeting is stimulated by the committee managers, project leaders and/or ad hoc work group leaders, using virtual meetings as and where appropriate to progress the work between formal TC meetings.

The TC and its sub-committees is making use of joint working groups with other ISO TCs where appropriate to further the standardization work and more effectively utilize the experts. This also provides the industry with a unified message rather than competing directives.

The TC workload is divided among two SC secretariats and therefore the work is conducted in parallel to contribute to the overall efficiency of the work within the TC.

As the archive of micrographics standards is mature and rarely require amendment, a task force (TF1) under ISO/TC171 has been formed to carry out any required administrative work on these standards.

Each SC is responsible to ISO/TC171 for:

- work progress based on the target dates which it has agreed and registered with ISO Central Secretariat;
- preparation of all documents in accordance with the ISO presentation rules;
- adoption of the ISO combined voting procedures where appropriate;
- distribution of the contributions, votes, and resolutions within the times allocated.

In order to maintain the cohesion of the TC and benefit from the total synergy of its members, the TC and its SC's will perform the following activities:

- take full responsibility for its work programme;
- review their work programme at each plenary meeting, withdraw or redefine those projects on which no progress has been made between two annual meetings;
- promote collaboration amongst the TC and SCs by holding Chairman's Advisory Group (CAG) meetings with the chairmen and secretariats
- establish and maintain collaborations and/or liaisons with other TC's and SC's and with industry associations who are working on projects of interest to ISO/TC171 (including TC46/SC11 and TC130) to ensure collaboration in the standardization of imaging technology and electronic documents.
- hold TC and SC meetings annually at similar dates and at the same location, whenever possible (an SC or working group may meet on its own if it wishes).

6. FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE ISO/TC WORK PROGRAMME

The major risks to the standards development process within ISO/TC171 continue to be related to the lack of resources in terms of finance and expertise to support the efforts, as well as the lack of national bodies with available expertise in specific projects.

Many organizations, and SME's, are obliged to adopt short term strategies that are not compatible with standardization activities. As the average development period of a standardization project requires up to three years, few organizations can afford to make their senior experts available and supported for such a long period of time. There is also the issue of new experts joining a project mid-way through a project; old ground may have to be discussed again with the possibility of changes to agreed development plans.

As new workers enter into the job market, they bring with them the latest technology which can be rich in features. Sometimes the technology that workers have in their home or bring into the office is more advanced than the technology supported by their employer. The impact from consumer-oriented technologies on the enterprise also impacts standardization as some believe standardization is no longer needed given the consumer technology that is available.

The needs of end-users and economical stakeholders in the document management sector are changing significantly. While there is a tendency today of participation from private companies involved in electronic information management, the private companies are looking for a quick return on the investment they make by allowing their experts to participate in the standardization processes.

As responsibility for technology shifts from the IT department to the information worker, more line of business individuals are involved in the implementation and maintenance of technology. These line of business individuals are searching for easy to understand guidance in the form of “How to” guides rather than extensive highly technical standards.

ISO/TC171 makes as much use of the virtual meeting technologies as possible to allow as many members to participate in the development processes as possible. Virtual meetings allow member bodies who do not have funds to travel to have a voice in the development effort.

For some, the cost of standards deters them from making an appropriate purchase, which subsequently impedes the use and implementation of standards. Many ISO documents, draft standards, meeting reports, comments, ballots and published standards are not accessible for those with visual impairments. This impedes the participation of experts who have visual impairments in the development process. It is difficult to understand why the standards we develop are not being used within the standardization processes, including in final publications. If ISO is not using ISO/TC171 standards, it is difficult to convince others to use them.

It is difficult to know how well received the standards produced by ISO/TC171 are since there are no download, view or purchase information that is made available to the TC and its associated SCs, hence their usage figures cannot be established.

7. STRUCTURE, CURRENT PROJECTS AND PUBLICATIONS OF THE ISO/TC

This section gives an overview of the ISO/TC’s structure, scope, projects and publications. All of this information is updated regularly and is available on ISO’s website, ISO Online.

The links below are to the TC’s and SC’s pages on ISO’s website:

ISO/TC 171 Home page: <https://committee.iso.org/home/tc171>

ISO/ISO/TC171: <https://www.iso.org/committee/53650.html>

ISO/ISO/TC171/SC1: <https://www.iso.org/committee/53666.html>

ISO/ISO/TC171/SC2: <https://www.iso.org/committee/53674.html>

Click on the tabs and links on these pages to access the following information:

- About (Committee Manager, Chairperson, ISO TPM and EPM, Creation date, Scope);
- Contact details;
- Structure (Subcommittees and working groups);
- Liaisons;
- Meetings;
- Joint working groups.
-

Reference information

- **[General information on the principles of ISO’s technical work](#)**
- **[ISO - Who develops standards](#)**
- **[Resources](#)**
- **[Glossary of terms and abbreviations used in ISO/TC Business Plans](#)**