ISO/IEC JTC 1
Information technology
Secretariat: ANSI (United States)

Document type:	Business Plan
Title:	JTC 1 Strategic Business Plan (November 2013)
Status:	As per November 2013 JTC 1 resolution 2, JTC 1 approves this document as its strategic business plan and resolves to work on the activities defined in this document.
Date of document:	2014-01-04
Source:	JTC 1 Secretariat
Expected action:	INFO
Email of secretary:	lrajchel@ansi.org
Committee URL:	http://isotc.iso.org/livelink/livelink/open/jtc1

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0 Executive summary

ISO/IEC JTC 1 (JTC 1) is the standards development environment where experts come together to develop worldwide ICT standards for business and consumer applications. Additionally, JTC 1 provides the standards approval environment for integrating diverse and complex ICT technologies. These standards rely upon the core infrastructure technologies developed by JTC 1 centres of expertise complemented by specifications developed in other organizations.

This document establishes a strategic business plan (SBP) for JTC 1 for a planning period of three to five years. It also addresses the topic of monitoring the implementation of the plan and measuring the success of actions taken.

The objective of this plan is to elaborate, communicate and gain support for the vision of JTC 1 and for new key areas of work with associated actions. This ensures the vibrancy, relevance and on-going expansion of JTC 1.

The strategic business plan

- positions JTC 1 in its operating environment (includes vision, benefits, value proposition)
- analyses strengths and weaknesses of JTC 1
- identifies new areas of work that JTC 1 wants to become active in (shown in the yearly SWG on Planning JTC 1 Plenary report) lists strategic topics (scanning process for the identification of new work, development time lines, cooperation with other standard setting organizations[1], marketing and branding, testing and trialling of standards, involvement of JTC 1 subgroups in overall business planning)
- identifies actions needed for achieving these goals (and points out risks and dependencies that might prove to be obstacles)
- gives criteria for evaluating success or failure of measures taken

1 Purpose of the document

This clause discusses the audience for the SBP, the time lines as they relate to the SBP, its relationship to, and difference from, regular Business Plans and the Environmental Scan initiative (see Standing Document 4 on the JTC 1 Planning Process), and the review cycle for the SBP. The intent is to address topics that have not yet entered the programme of work of Subcommittees (SCs) nor their study periods, but to anticipate topics that might well do so.

1.1 SBP Audience

The SBP is written for the consumption of a specific set of audiences. These audiences include the National Bodies of ISO/IEC JTC 1, the Subcommittees of JTC 1, Liaison

[1] Standards Setting Organizations is used in this document as a generic term comprising formal standards bodies/SDOs as well as consortia and fora.

organizations of JTC 1 (both at the JTC 1 level and at the SC level), and stakeholders of JTC 1 such as Publicly Available Specification Submitters and the user of JTC 1 standards. In addition, the SBP is also written with external stakeholders in mind, including those who have not yet established a relationship with JTC 1, such as fora and consortia and developing countries.

1.2 SBP Time Horizons

The SBP is written to cover the period from three years from its date of publication to a period of five years from its date of publication. The SBP will be updated yearly.

1.3 SBP Distinction from Regular Business Plans

JTC 1's SC Business Plans[2] address current activities, standards development projects and study periods for topics that might well result in standards development projects. As the average development cycle for a project is three years, the regular Business Plans have a time horizon of approximately three years in the future. Thus, it is the intent of the SBP to project beyond that period into the immediate future and to anticipate the work that might be required and topics to be considered. The SBP will not cover aspects that are included in the regular Business Plans. In addition, it is the intent of the SBP to identify topics that fall outside the current specific work areas of existing SCs that might be covered by existing or perhaps by new SCs.

1.4 SBP Relationship Environmental Scan

The SWG on Planning Environmental Scan activity[3] will provide the source of many of the "Strategy Items" that form the core of the SBP Strategies and Actions. Thus, work on these activities will support the development of the content for the SBP. The time horizon for these activities is beyond the normal planning cycle of JTC 1 and its SCs; proposed standards work resulting from these activities should start within two years from the recommendation, standards delivery should be within a five year time frame, which is also the time horizon of the SBP.

1.5 SBP Review Cycle

The SBP will be reviewed and maintained on an annual basis. This task will be performed by the JTC 1 SWG on Planning. The result and any related recommendations will be sent to the JTC 1 Plenary for approval.

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[2] The Business Plans of the JTC 1 Subcommittees, as well as additional business information on JTC 1, can be found at http://jtc1info.org/?page_id=570

[3] A detailed description of the 'environmental scanning' activity can be found in the Standing Document 4 for the JTC 1 Planning Process. See the collection of all JTC 1 Standing Documents: http://isotc.iso.org/livelink/livelink/open/9384365

2 Overall Positioning of JTC 1

Using different approaches to properly respond to the needs of the market place, JTC 1 will position itself so that it can address new areas in an efficient and value-added way while also maintaining the required standards activities in traditional areas that are necessary for the global ICT market.

2.1 JTC 1's Scope and Vision Statements

The title of JTC 1 is "Information Technology" and its scope is "International standardization in the field of Information Technology"[4].

Information Technology includes the specification, design and development of systems and tools dealing with the capture, representation, processing, security, transfer, interchange, presentation, management, organization, storage and retrieval of information.

JTC 1 has endorsed the following vision statement:

> *JTC 1 is the standards development environment where experts come together to develop worldwide Information and Communication Technology (ICT) standards for business and consumer applications.*
>
> *Additionally, JTC 1 provides the standards approval environment for integrating diverse and complex ICT technologies. These standards rely upon the core infrastructure technologies developed by JTC 1 centres of expertise complemented by specifications developed in other organizations.*

JTC 1 centres of expertise are defined by the JTC 1 work program and by participation in JTC 1 working structures such as Special Working Groups (SWGs), Subcommittees (SCs) and their Advisory Groups (AGs), Working Groups (WGs) and Joint Working Groups (JWGs) (see Standing Document (SD) 10 on Advisory and Ad Hoc Groups available here from the collection of all JTC 1 SDs: http://isotc.iso.org/livelink/livelink/open/9384365).

The concept of ICT takes into account the impact of digital techniques towards the convergence of various domains and technologies into a more global domain called ICT. Convergence is occurring in two dimensions:

- The three basic technologies – information technology, consumer electronics and telecommunications - converge in the sense that the same fundamental technologies are applied in all three areas. This can be termed horizontal convergence; the resulting technology is often called ICT. The advent of ICT demands a closer overall cooperation, in the standardization arena, among the three key international standards organizations: ISO, IEC and ITU.

[4] See the website of JTC 1: http://www.jtc1.org

- Simultaneously, ICT progresses into all aspects of life (business, industry, home, administration, education, charity, etc.) with conventional processes and applications now exploiting the capabilities offered by ICT. This may be termed vertical convergence. New ICT applications are characterized by the involvement of different technologies and high complexity; in general, they cannot be covered by a single standard, but are of an interdisciplinary nature. This demands a closer cooperation between technology-oriented and application-oriented experts, both in product and in standards development.

ICT includes the specification, design and development, integration and interoperability of systems, tools and applications dealing with the capture, representation, accessibility, processing, security, transfer, interchange, presentation, management, organization, storage and retrieval of information, and their related cultural, linguistic adaptability and societal aspects. JTC 1 standardization activities naturally contribute to the overall ICT field and take into account the additional elements included in the ICT definition (vs. IT definition).

In development of ICT standards, JTC 1 recognizes the importance of addressing environmental concerns including climate change, energy conservation and impact on the environment. JTC 1 further recognizes that the ICT sector has a responsibility to minimize impact on the environment, but the ICT sector also has an opportunity to encourage application of ICT technology to other sectors to encourage reduction in environmental impact by those sectors.

Societal Aspects include a broad range of topics for standardization in which society in general has an interest and input; for example, implications and impacts of security, privacy, accessibility, identity, monitoring, and may include digital divide, computing in emerging markets, eCrime prevention, etc.

JTC 1 will work towards eliminating barriers from accessing or participating in JTC 1 activities and its body of work, especially for people with disabilities and older users.

JTC 1's current strength lies in core technologies, providing the foundation for ICT applications and services: coded character sets, cultural and linguistic adaptability, biometrics, IC cards, security, multimedia, databases interface, etc. The work of JTC 1 in these fields also includes proper maintenance of its previous existing standards to secure the investment in products, processes and applications implementing those specifications.

JTC 1 is the place where basic building blocks of new technologies are defined and where the foundations of important ICT infrastructures are laid. JTC 1, in a number of technology areas, has been a source of innovation.

In addition to this well-established focus of work, JTC 1 positions itself as a system integrator to complement its current program of work, especially in areas of standardization where many consortia/fora are active. JTC 1 recognizes and appreciates the diversity and range of standards setting organizations in the ICT sector.

In fulfilling its role as system integrator, JTC 1 seeks to:

- Reach out to other standards setting organizations, including referencing of relevant standards.
- Share information with relevant standards setting organizations, for example about market requirements and inventories of relevant standards.
- Establish relationships that facilitate collaboration with external organizations.
- Encourage development of international standards that respond to market needs.
- Provide a mechanism for standards developed outside JTC 1 to be quickly approved as international standards (Fast Track and PAS processes).
- Develop profiles as appropriate to cope with the needs of specific applications.
- Address the particular needs of Developing Countries.

Examples where JTC 1 has fulfilled its role as a system integrator include the following:

- The Web Services Study Group, which evolved into SC 38 (sharing information on web services standards)
- SWG-Accessibility, which has examined accessibility issues and raised topics for consideration in several bodies.
- SC37 activity in support of International Labour Organization's requirement for worldwide interoperability of “Biometric Based Verification and Identification of Seafarers" (ISO/IEC 24713-3:2009), which is based on SC17, SC27 and SC37 standards.

Integrating technology components from various sources provides significant added value to the work of such sources.

2.2 Benefits of Formal Standardization

As a joint technical committee of ISO and IEC, JTC 1 has the qualities and strengths of ISO and IEC standardization (see http://www.iso.org/iso/about/about for ISO and http://www.iec.ch/about/ for IEC).

As stated in the ISO Code of Ethics (http://www.iso.org/iso/codeethics_2004.pdf), JTC 1 work is organized in a democratic way to develop voluntary, market-driven and globally relevant standards which reflect an agreed consensus of all contributing parties. JTC 1 has developed and successfully implemented additional processes and methodologies to address the specific needs of the ICT community.

JTC 1 standards:

- are globally recognized;
- provide global interoperability; and
- provide sustained development and retention of investment.

JTC 1 National Body participation includes representatives from producers, governmental and public agencies, academia, businesses and other users, ensuring broad-based, open and balanced representation in the standards development process, thus taking into account the relevant societal aspects.

2.3 JTC 1 Value Proposition

The ICT domain relates to a fast moving market. The market that JTC 1 addresses is no longer as homogeneous as it used to be. Hence, JTC 1 has had to take stronger account of the needs of the various market segments and offer tailored solutions for each of the segments.

JTC 1 is the standards development environment where experts come together to define basic building blocks of new technologies and to build the foundations of important ICT infrastructures.

JTC 1's strength comes from its scope, which allows for synergy among diverse areas of ICT standardization. This synergy leads to better and more consistent standards, less overlap and less duplication. JTC 1 provides consortia/fora with an effective vehicle to progress their specifications into international standards. JTC 1 has been and will continue to be a leader in identifying and developing significant ICT standards.

2.4 JTC 1 and its Collaborative Cross-Organizational Environment

Information and Communication Technology (ICT) standardization is a complex ecosystem. Many globally accepted, market driven standards are conceived and developed in other standards development organizations, outside the ISO/IEC JTC 1 International Standards process.

JTC 1 recognizes the value of the work of these other organizations and the contribution they make to international ICT standardization. JTC 1 is able to complement its work programs through a variety of collaborative activities with the objective of providing the best set of worldwide ICT standards.

Through appropriate liaison relationships at both the Subcommittee and Working Group levels, JTC 1 seeks to coordinate standards development with external organizations such that duplication of work is minimal and scarce standards development resources are appropriately applied.

When well-received external standards have been developed in external groups, JTC 1 has developed processes to give these standards appropriate recognition at the ISO/IEC level – this is often very important when world-wide adoption is sought. These approaches not only leverage these existing standards but also avoid duplication of work and provide a consolidated and consistent set of standards.

The processes JTC 1 uses to engage, cooperate and collaborate with other Standards Developing Organizations (SDOs) in the adoption of their standards include the JTC 1 Fast Track (FT) and the JTC 1 Publicly Available Specifications (PAS) Transposition Processes, as well as the ISO Partner Standards Developing Organization (PSDO) agreements with certain SDOs.

In these situations as well as in the internal development of ISO/IEC International Standards, JTC 1 has additionally laid out clear procedures for the Normative Referencing of appropriate material in international standards. JTC 1 recognizes that the community of

world-wide standards developers evolves significantly each year, and continues to expand and improve ways to relate to this community.

2.5 Business Environments in which JTC 1 operates

JTC 1 has to deal with a number of challenging trends:

- trends in technology
- trends in the global IT market
- trends in the IT 'standards environment' (fora, consortia, etc…)

In its efforts to contribute significantly to the formation of the information society, JTC 1 pro-actively seeks areas of new work. In 2008, JTC 1 replaced its Technology Watch with an on-going environmental scan program[5], the purpose of which is to identify, at an early stage, technological trends and the impact standardization may have on those trends. This function will also take into account relevant societal aspects as they may be affected by future technologies.

In addition, JTC1 will continue its effective working relationship with ITU-T, coordination/cooperation with relevant ISO or IEC TCs, and support to consortia/fora interested in obtaining a formal international standard status for their technical specifications.

In this context, JTC 1's ability to act as a system integrator appears to be of the utmost importance in providing value added services to all parties using ICT standards.

3 Analysis

JTC 1 is unique in the world of standardization activities from several viewpoints.

The approval of JTC 1 International Standards by considerable numbers of national bodies gives these documents a significant, world-wide advantage over standards created in local or smaller standards setting organizations.

In addition, though National Bodies are the principal members carrying out JTC 1 activities, through strong liaison activities and technical expert cross memberships with SDO and consortia/fora, JTC 1 benefits from the rapid, market-driven work of these groups. This is amplified by having many technical experts participate not only in local national standardization bodies but also in key SDOs and consortia/fora.

As the only joint technical committee, JTC 1 activities can relate to, and take advantage of, the focus of both ISO and IEC technical scopes – and through an active relationship with ITU, creatively work with that key organization. Few other organizations have this wide scope.

JTC 1 has developed a strong history of consensus building across a wide variety of

[5] See the collection of all JTC 1 Standing Documents: http://isotc.iso.org/livelink/livelink/open/9384365

technical topics, and has a strong reputation of quality standards that are widely implemented. Further, JTC 1 develops standards using a process that is neutral with respect to any particular region, business sector or technical area, and this process does not favour any particular culture or jurisdiction.

After approval, JTC 1 standards are usually supported by stable implementations that reduce the possibility that the standard will change in any significant way over time. This increases the value of JTC 1 standards.

As a worldwide standardization body representing many interests, JTC 1 has the ability to address societal aspects when they truly represent global and not parochial interests.

National body interests that wish to ensure that globally relevant standards are used in local procurement activities can easily and confidently cite JTC 1 standards.

On the other hand, some aspects of JTC 1 have caused concern and JTC 1 should examine these topics for improvement during the 3-5 year planning horizon:

- International Standardization, including JTC 1, is challenged to accelerate its processes to match the speed of market-driven product cycles, and to be viewed as competitive with other standardization organizations in the ICT Sector.

- The need to establish national body consensus before achieving JTC 1 approvals can also cause standards development delays, even though it will often be seen as an advantage to have such consensus before seeking international standardization.

- The business models for ISO and IEC still rely significantly on the sale of International Standards (and the protection of copyright interests), which is a challenge for JTC 1 in the face of freely-distributed standards from other groups.

- Although the use of electronic collaboration tools (e.g. teleconferencing techniques) is rising, the travel costs required to participate in international standards development can be burdensome to some participants. Improved participation and development models are needed.

4 Strategies

Strategies are the broad, theme-based activities that show how JTC 1 will achieve its goals outlined for the 3-5 year planning horizon. They fall into two areas: those related to the technical work areas undertaken by JTC 1, and those that relate to improving both the JTC 1 processes and the usefulness/acceptance of JTC 1 work products.

1. Strategy 1 (S1) Exploration of New Work Areas. The annual Environmental Scan process (further described in the Standing Document 4 on the JTC 1 Planning Process[6]) culminates in recommendations to JTC 1 to propose NPs in new technical areas – which would either be added to existing Subcommittee plans or

[6] See the collection of all JTC 1 Standing Documents: http://isotc.iso.org/livelink/livelink/open/9384365

result in the creation of a new JTC 1 Subcommittee.

2. Strategy 2 (S2) Liaising and cooperating with other standards setting organizations. This function extends the expertise of JTC 1's SCs and provides feedback on how JTC 1 standards are being used. It also helps identify any gaps or inconsistencies that need to be addressed. By working with other standards setting organizations, JTC 1's ability to serve an integration function is enhanced.

   To ensure that global ICT requirements can be met, related works from National Bodies or Category A liaisons as well as publicly available specifications from ISO/IEC JTC 1 Publicly Available Specification Submitters are held to the same thorough technical review and national body approval process. These coordinated efforts result in additional international standards that contribute to a total ICT framework for implementation.

3. Strategy 3 (S3) Marketing and Branding. The appropriate JTC 1 subgroups should consider how to evolve further the valuable market brand associated with JTC 1 developed standards and externally developed specifications. This will require further discussions with ISO and IEC on their overall brand improvement program and the unique role JTC 1 can play. Sharing the value of each SC's program of work with National Bodies and the ICT community will further demonstrate the broad interests that are met through JTC 1 standardization. SC outreach to the general public will be presented in a coordinated way through the use of integrated websites and up-to-date wikis.

4. Strategy 4 (S4) Active Involvement of JTC 1 SCs. The SCs provide a key function in a bottom-up planning process. In order to make the decision making process at the JTC 1 level relevant to all participants, the JTC 1 SCs are encouraged to contribute more actively in the overall planning and working processes of JTC1.

5. Strategy 5 (S5) Engage Developing Countries. JTC 1 seeks to increase Developing Country participation in JTC 1. Developing Countries can benefit from the adoption and development of International Standards. Developing Countries that adopt ISO/IEC Standards created in JTC 1 can remove market barriers through the use of these widely-adopted standards. By participating in the development of such standards in JTC 1, those countries can help ensure that the standards address their needs and at the same time, build internal technical capacity by working with experienced JTC 1 professionals from around the globe.

   JTC 1 benefits by expanding its reach and improving the market relevance of its standards by addressing the needs of Developing Countries.

5 Actions

Actions in the context of the JTC 1 Strategic Business Plan are concrete activities assigned to a specific owner, who is responsible to conclude the activity before, or at, the 'due date'. A specific action could potentially relate to one or more of the strategies listed in the previous chapter. Any strategy must have at least one, but can have multiple, associated actions.

As an example, a strategy to increase the visibility of JTC 1 could result in the following activities or actions: broadly distribute “The force multiplier for ICT innovation: ISO/IEC joint technical committee 1 – JTC 1 Information technology standards” (a 'glossy brochure' to advertise JTC 1), maintain web sites and wikis with current, market relevant information, prepare PR news articles on a regular basis, present JTC 1 at fairs related to the work of JTC 1's Subcommittees, etc.

SWG on Planning proposes the following activities related to the Strategies defined in Chapter 4 above:

1. Collect necessary information (see Standing Document on JTC 1 Planning Process referenced above) as input for the yearly environmental scanning activity by March/April/May.
   Owner: SWG on Planning, relates to Strategy 1 (S1).

2. Identify leaders for the technology areas listed above in S1, establish Study Groups to investigate the situation and find standardization opportunities for JTC 1. Prepare a report for decision to the next JTC 1 Plenary.
   Owner: SWG on Planning, relates to S1.

3. In order to achieve coordinated JTC 1 SC business plans, SC officers need to participate in the SWG on Planning work and analysis process.
   Owner: JTC 1 Chair, relates to S4.

4. SWG on Planning will organize face-to-face meetings at each JTC 1 Plenary (if time permits) to allow for better communication with SC chairs.
   Owner: SWG on Planning, relates to S4.

5. JTC 1 will develop an annual Outreach Plan that reaches out to Developing Countries. This plan will highlight new and important areas of standardization and be tailored for specific Developing Countries to discuss adoption of standards and/or participation in JTC 1 activities.
   Owner: JTC 1 Chair and the SWG on Planning, relates to S5.

6 Risks/Dependencies

JTC 1, like any other organization, is dependent on multiple factors that inter alia arise from the external environment such as the global economic and political situation. The influences of such factors on the performance of JTC 1 are not covered in this SBP. This chapter will list those actions from chapter 5, which cannot be handled/solved by JTC 1 alone, without the active support of organizations outside of JTC 1 or which require a decision from JTC 1's parent organizations ISO and/or IEC.

Such activities that depend on external support or decision making are always associated with the risk that JTC 1 may not be able to finish the activity. Such actions need therefore specific attention to resolve the dependencies.

7 Success Factors and Measurements

In order to evaluate the effectiveness of the long term planning activity of JTC 1, the following criteria will be used to measure success or failure.

- An individual strategy is successful if:
  - it leads to a new work item taken up by existing SCs/WGs
  - a new SC/WG or an Incubator Group is created to work on the proposed strategy
  - the strategy influenced existing standards
- An individual strategy has failed if no SC/WG shows any interest or no progress has been made after a maximum of three planning cycles.
- The quality of the planning process itself is successful if 2/3 of the strategies proposed are successful using the above criteria.
- The JTC 1 planning process has failed if sufficient active participation by SCs cannot be achieved.