Business Plan of ISO/TC 42 Photography

(Updated September 2025)

Executive Summary

This Business Plan for ISO/TC 42 can be considered in two parts. The first of these describes the significant changes that have taken place in the photographic industry over the past two decades. It identifies work that ISO/TC 42 has undertaken to address new photographic imaging technologies, and new stakeholders who are now involved in standards development. It describes changes in the administration of the Technical Committee that have improved operations and shortened the time required to develop ISO/TC 42 standards. It lists our objectives for current and future work and describes risks and challenges that the Technical Committee needs to address.

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Introduction

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.

International standardization and the role of ISO

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade and help protect cultural heritage, human health and the environment.

Three bodies are responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of167 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the International Standard.

An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties,supported by a public comment phase (the ISO Technical Enquiry). ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Publicly Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore notthe same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its

national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so itis not accorded the status of an International Standard.

ISO has made a commitment to support the UN in their Sustainable Development Goals (SDGs) initiative. Organizations and companies looking to contribute to the SDGs will find that International Standards provide effective tools to help them rise to the challenge.

Scope of ISO/TC 42

Standardization primarily, but not exclusively in the field of still picture imaging - chemical and electronic - including, but not limited to:

- definitions for still imaging systems;
- methods for measuring, testing, rating, packaging, labelling, specifying and classifying the dimensions, physical properties and performance characteristics of media, materials and devices used in chemical and electronic still imaging;
- specifications and recommendations of logical and physical characteristics, practices, interfaces and formats for still imaging capture, processing, and output systems; and
- methods, measurements, specifications, and recommended practices for display, storage, permanence, integrity and security of imaging media and materials, and imaging materials deposition.

Note:

Where actual or potential overlap in scope with other TCs/SCs such as ISO/TC 36, TC 46/SC 10, TC 130, TC 171, IEC/TC 100 and ISO/IEC JTC 1/SC 28 exists, coordination through liaison or JWG with the concerned TC should be maintained or actively pursued.

Market Environment and Objectives of ISO/TC 42

In this document 'Photography' shall mean the “acquisition, processing or reproduction of images using chemical or electronic technologies”, based on the definition used in two TC42 standards, ISO 12231 and ISO 19262.

Market Environment

Over the past three decades, photography has undergone major transitions. It has moved from being primarily film-based to being primarily based on digital imaging technologies. As a result, there are a new generation of users of ISO/TC 42 documents that do not have a background in silver halide technology. ISO/TC 42 should keep their terminology needs in mind then reviewing some of our legacy documents. Photographic image capture is now provided by a wide range of products, from D-SLR cameras to mobile and autonomous devices. Photographic images are output using a wide range of printing technologies and image displays. Both digital image capture and display are evolving to formats capable of storing and reproducing images with wider colour gamuts and higher dynamic range than previously available. These changes have provided both opportunities and challenges. It has required the development of new photographic standards, and the revision of standards originally developed for film-based photography, in order to address these new digital technologies, devices, systems, and media.

The total numbers of photographs captured has grown each year, and is expected to continue growing, as more consumers acquire increasingly compact and capable digital capture devices. The total number of classical photographic prints has significantly decreased over the past two decades as many images are now stored in digital formats. In addition sales of premier printed products, such as photo books, large format portraits and reproductions of fine art, has been facilitated by digital printing technologies. The sharing of photographs has been largely responsible for the popularity of many social networks, including Facebook, Twitter, and Instagram. However, the ability to preserve these images for future generations remains an

issue.

The sponsorship of industry standards for photography has also undergone a major transition. The US photographic manufacturer's trade association which had sponsored ISO/TC 42 since its inception, most recently known as I3A, ceased operations in 2012. Fortunately, responsibility for photographic standards had already been transferred to IS&T, the Society for Imaging Science and Technology, in January 2011. Thanks to the leadership of IS&T and ANSI, supportfor ISO/TC 42 standards is solid, and improved administration of the Technical Committee has resulted in more efficient and effective standards development.

1. General description of the market

ISO/TC 42 addresses the businesses and cultural heritage institutes engaged in photography, including suppliers and users of

- Photographic image capture devices, both film and digital, including mobile devices such as camera phones
- Photofinishing equipment and digital printing devices
- Photographic media including
    i. silver halide film, paper, and related photo chemicals,
    ii. dye diffusion thermal transfer materials
    iii. materials (colorants and media) used in inkjet, electrophotography and other digital printing technologies capable of printing photographs, and
    iv. digital image storage media and devices
- Photographic imaging software and services, including image editing software and online photographic storage and sharing services
- Photographic art market, archives and museums.

In years past it was easy to differentiate still picture imaging products from motion imaging products, such as cinematography cameras. With the advancement of digital imaging technologies, these lines are now blurred, and many D-SLR cameras can be used for cinematography as well as for capturing still photos. This represents both an opportunity and a challenge for ISO/TC 42, which must evolve in order to remain relevant to this wide plethora of new photographic devices and systems.

2. Description of the total market

The total sales of photographic products and services cannot be precisely determined, because these products and services are provided by both dedicated photography devices, such as digital still cameras and photo kiosk printers, and by devices used for other purposes, such as webcams and home ink jet printers. Over the last decade, the market for photographic products and services has also become less distinct but enlarged by multi-purpose products such as mobile phones and drones.

Nevertheless, the Camera & Imaging Products Association (CIPA) estimates that the world-wide photographic market includes sales of at least 8.9 million digital cameras, and 9.0 million interchangeable lenses in 2020.[1] In terms of digital camera sales this figure represents less than 10% of peak sales some 10 years before, reflecting a change in photography habits. By way of contrast, worldwide smart phone shipments were about 1,500 million units in the same period.

3. Description of market structure and major market players

The market structure of the photographic industry varies for different products and services. While most electronic camera (including smartphone) product manufacturing and assembly generally takes place in Asia (China, Japan, Korea, Indonesia, Malaysia, Philippines, Thailand, Taiwan, Vietnam and so on), the suppliers of digital still cameras are primarily based in Japan.
Photographic printing equipment is mainly manufactured in the US and Japan, manufacturers for light sensitive and for digital printing photographic consumables are mainly based in Europe and Japan.
The development of photographic imaging software, and on-line photo sharing systems is centered in the US,

while businesses which provide photographic printing services including on-demand production of photo-books and personalized photo-gifts are again distributed throughout the world.
There are emerging market sectors that have relevance to ISO/TC 42. A recent example being included in the work programme is the Machine Vision market sector. This has a global stake holding with some significant user groups in Europe.

4. Benefits expected from the work of ISO/TC 42

Standards developed by ISO/TC 42 promote interoperability between photographic devices and services provided by various suppliers throughout the world. This reduces technical barriers to trade, reduces costs, and enables consumers to enjoy consistent photographic products and services while vacationing anywhere in the world.

Standards developed by ISO/TC 42 permit suppliers and users to use common test methods for specifying product performance and measuring image permanence.

Standards developed by ISO/TC 42 also allow museums, archives and art collectors to care for the objects, preserve them, and share them with a wide on-line audience, aiding art and cultural heritage institutions worldwide in sustainable preservation.

In numerous cases, standards and expertise developed within ISO/TC 42 can be applied in other application areas, such as graphics technology, cinematography and cameras used in autonomous vehicles and machine vision. The work of ISO/TC 42 can also make a contribution to the UN Sustainable Development Goals, for example Target 16.9 "legal identity for all”.

5. Representation of major players in ISO/TC 42

The nations represented in ISO/TC 42 include those of the major photographic industry suppliers. There are current 18 P-members and 20 O-members of ISO/TC 42. The P-members are:

- Australia (SA)
- Belgium (NBN)
- China (SAC)
- Denmark (DS)
- Finland (SFS)
- Germany (DIN)
- India (BIS)
- Ireland (NSAI)
- Italy (UNI)
- Korea (KATZ)
- Japan (JISC)
- Netherlands (NEN)
- Norway (SN)
- Portugal (IPQ)
- Spain (UNE)
- Switzerland (SNV)
- United Kingdom (BSI)
- United States (ANSI)

Major suppliers and users represented by ISO/TC 42 experts include the following companies and organizations:

- Adobe Systems Incorporated
- Agfa-Gevaert
- aKAP Innovation, LLC
- Apple, Inc.
- Art Gallery of New South Wales

- ATLAS Ametek Weathering Services
- Australian Chamber of Commerce
- Australian Industry Group
- Australian Institute of Professional Photographers
- Australian War Memorial
- Basler
- Bern Applied University
- Camera & Imaging Products Association
- The Campbell-Logan Bindery, Inc.
- Canon
- CeweColor
- Digital Transitions
- DxOMark Image Labs
- Epson
- Fujifilm
- FUJIFILM Business Innovation
- Google
- Hewlett-Packard
- i2S Corp.
- Image Engineering
- Image Science Associates
- Imatest, LLC
- INTAGE Inc.
- Konica Minolta
- Leica Camera
- Luckyfilm
- Metropolitan Museum of Art
- Microsoft Corporation
- Mitsubishi Electric Corporation
- National Library of the Netherlands
- The National Museum of Denmark
- Nikon Corp.
- Olympus Corporation
- Panasonic Corporation
- Peleman Industries NV
- Q-Lab
- Qualcomm Technologies, Inc.
- Royal Danish Library
- Royal Library of Sweden
- Rochester Institute for Technology/Image Permanence Institute
- Sandflow Consulting LLC
- Sandia National Laboratories
- Shizuoka University
- Society for Imaging Science and Technology
- Sony Corporation
- State Library of New South Wales
- STMicroelectronics
- Suga Test Instruments Co., Ltd.
- The Swedish National Archives
- Swiss Federal Institute of Technology
- University of New South Wales
- University of Technology, Sydney
- U.S. Army CERDEC NVESD

- U.S. Food & Drug Administration
- U.S. Library of Congress
- U.S. National Archives and Records Administration
- U.S. National Institute of Standards and Technology
- Western Sydney University
- Wilhelm Imaging Research

6. Objectives of ISO/TC 42 and Strategies for their Achievement

Based on the considerations above, ISO/TC 42 has established the following objectives and strategies, in order to develop International Standards for the continually evolving industries that utilise photography in its widest sense.

Objectives of ISO/TC 42

The objectives of ISO/TC 42 are the development of new and updated standards for the capture, storage, sharing, preservation and utilization of photographic images in all forms. In addition ISO/TC 42 should undertake to investigate new areas in industry and society where the work could gain relevance.

Strategies adopted to reach the Objectives

In order to reach these objectives, ISO/TC 42 has adopted the following strategies for our technical efforts:

1. Develop and update standards required to assess the image quality of photographic capture devices, including mobile devices incorporating cameras.

2. Develop and update standards required for the digitization, storage and permanence of images by museums and other cultural institutions and address new challenges in preservation such as carbon footprint reduction.

3. Develop and update image permanence standards for photographic prints, photo books, and for a wide range of applications of digital photographic printing, including but not limited to: signage and wide format display for both, indoor and outdoor usage; medical images; security printing and other specialty printing.

4. Identify stake holding TC's, in which the personalized photo gifts may be handled, such as e.g., textile (photos on T-shirts and other), ceramics (porcelain mugs, …) etc. in order to define a strategy to address quality and stability characterization of photos in these markets (in analogy to JWG27 and JWG14 with TC130).

5. Develop and update image measurement and dimension standards for imaging materials.

6. Develop and update standards for exchange and interoperability of image data, such as photographic metadata, file formats and data transfer protocols.

7. Develop and update permanence standards for the characterization, sustainable storage and preservation of photographic art and cultural heritage objects.

8. Develop standards to measure the performance of 3D/depth detection systems, and investigate the need for 3D image quality standards for electronic imaging, visual perception, identity, and holographic applications.

9. Update standards developed for film-based photographic systems, to address the requirements of digital photography when appropriate, or to indicate if the standard shall not be used for digital

photography devices and systems.

10. Cooperate with ISO/TC 130 (Graphic technologies) and ISO/IEC JTC 1/SC 28 (Office equipment) in areas of particular interest related to image quality, image permanence, and physical durability.
11. Determine the potential for the wider use of TC42 standards in areas not covered by others in the ISO/IEC community. Consider liaison activity to cover areas of common interest.
12. Consider how the distinction between “still picture imaging” and “motion imaging” applies to the modern world of devices which can capture, process, and/or display both still and motion images. Consider whether a future revision of the TC42 Scope is needed to meet industry needs for these still / motion devices.
13. Scope out the opportunity to develop standards in support of the UN Sustainable Development Goals.

Risk analysis

In order to develop appropriate International Standards, it is critical that the leading companies in the digital photographic industry continue to participate in ISO/TC 42. There is always a risk that business conditions will make it difficult for companies to participate, or to provide adequate funding for the administration of ISO/TC 42.

Digital photography devices, such as cameras and printers, can often be used for multiple purposes, such as capturing video images and printing documents. Similarly, digital photographic storage media, such as optical media, can also be used for storing computer data. As a result, in some cases the responsibility for International Standards for these devices and media can be shared between ISO/TC 42 and other ISO or IEC technical committees. Therefore, close cooperation between these technical committees is very important.

There is a risk that the photographic industry that existed as a relatively discrete entity in the past will be subsumed into other standards bodies, such as IEEE or ITU. ISO/TC 42 needs to position itself for continued relevance in a swiftly evolving imaging industry.

Work Programme

The current work programme of ISO/TC 42 is available at:
http://www.iso.org/iso/home/store/catalogue_tc/catalogue_tc_browse.htm?commid=48420&development=on

International Standards and other publications of ISO/TC 42

The list of published International Standards that have been developed by ISO/TC 42 is available at:
http://www.iso.org/iso/home/store/catalogue_tc/catalogue_tc_browse.htm?commid=48420&published=on

[1] Taken from CIPA Report https://www.cipa.jp/e/stats/report.html