



NEW WORK ITEM PROPOSAL	
Date of presentation 2008-10-25	Reference number (to be given by the Secretariat)
Proposer AFNOR	<b>ISO/TC 223 / SC</b> <b>N112</b>
Secretariat SIS	

A proposal for a new work item within the scope of an existing committee shall be submitted to the secretariat of that committee with a copy to the Central Secretariat and, in the case of a subcommittee, a copy to the secretariat of the parent technical committee. Proposals not within the scope of an existing committee shall be submitted to the secretariat of the ISO Technical Management Board.

The proposer of a new work item may be a member body of ISO, the secretariat itself, another technical committee or subcommittee, or organization in liaison, the Technical Management Board or one of the advisory groups, or the Secretary-General.

The proposal will be circulated to the P-members of the technical committee or subcommittee for voting, and to the O-members for information.

See overleaf for guidance on when to use this form.

**IMPORTANT NOTE: Proposals without adequate justification risk rejection or referral to originator.**

Guidelines for proposing and justifying a new work item are given overleaf.

**Proposal** (to be completed by the proposer)

<b>Title of proposal</b> (in the case of an amendment, revision or a new part of an existing document, show the reference number and current title)	
English title	Societal security - Videosurveillance Format for Interoperability
French title (if available)	Sécurité sociétale - Format d'interopérabilité de vidéosurveillance
<b>Scope of proposed project</b>	
This International Standard specifies an exchange format for digital videosurveillance applications. Videosurveillance is a crucial asset in intelligence collection, crime prevention, crisis management, forensic applications etc. Minimum and urgent requirement in societal security is for the authorities to be able to exploit the data collected by the different CCTV systems around a given site. Ultimately, this standard may include minimum image quality requirements to optimize recognition and identification, as well as interface specifications ensuring easy swap of cameras and other equipments.	
Format aspects covered are:	
<ul style="list-style-type: none"><li>- Video format</li><li>- Audio format</li><li>- Metadata formats:<ul style="list-style-type: none"><li>. Descriptive (localisation, camera identifier, camera direction, etc.)</li><li>. Dynamic (date, time, pan tilt, zoom, detections, etc.)</li></ul></li><li>- Multiplex and transport protocol</li><li>- Data security and integrity</li></ul>	
<b>Concerns known patented items</b> (see ISO/IEC Directives Part 1 for important guidance)	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If "Yes", provide full information as annex	
<b>Envisaged publication type</b> (indicate one of the following, if possible)	
<input checked="" type="checkbox"/> International Standard <input type="checkbox"/> Technical Specification <input type="checkbox"/> Publicly Available Specification <input type="checkbox"/> Technical Report	

<b>Purpose and justification</b> (attach a separate page as annex, if necessary)	
<b>Context</b>  <p>Videosurveillance is a key enabling technology for a majority of the activities covered by ISO/TC 223. It is implemented, in numbers, by multiple organizations, public or private, on worldwide level. Full and timely exploitation of video is generally identified as crucial in intelligence collection, in prevention of crime, in crisis management or in forensic applications by the different authorities. This proves to be impossible or very complex to achieve today, as video surveillance systems are not interoperable.</p> <p>This situation which was already bad in the past is getting worse with systems massively switching to digital technologies, in configurations all different from each other. Patterns are getting complex and video can be exploited only if associated to metadata (exact time, geo-location of the scene, camera field of view,...). No dominant industry or de facto standard has emerged so far.</p> <p>Other businesses have standardized video formats and metadata, but such standards do not consider specific videosurveillance needs, security applications not being in the scope of the relevant standardization bodies.</p>	
<b>Objective</b>  <p>ISO/TC 223 appears to be the only body regrouping all the stakeholders interested in videosurveillance interoperability (authorities, critical infrastructure operators, industry, system integrators, research ...). Informal contacts confirm international interest and the current change to full IP (Internet Protocol) creates the right conditions to achieve consensus.</p> <p>It is proposed to rely the project upon the standards available (broadcast, military, consumer electronics,...), create liaisons with relevant bodies and develop an open, non proprietary metadata-rich standard for digital videosurveillance interoperability.</p> <p>NOTE - Although the aim of this standard is not to include patented items in the text to be produced, the attention is drawn to the fact that normative references mentioned may concern items of this nature.</p>	
<b>Target date for availability</b> (date by which publication is considered to be necessary)	
<b>Proposed development track</b> <input type="checkbox"/> 1 (24 months) <input checked="" type="checkbox"/> 2 (36 months - default) <input type="checkbox"/> 3 (48 months)	
<b>Relevant documents to be considered</b> STANAG 4609, SMPTE 336M, ISO/IEC FCD 23000-10	
<b>Relationship of project to activities of other international bodies</b> ISO/IEC JTC 1/SC 29, SMPTE, NATO/NSA	
<b>Liaison organizations</b> ISO/IEC JTC 1/SC 29, DVB, SMPTE, IETF, NATO	<b>Need for coordination with:</b> <input checked="" type="checkbox"/> IEC <input type="checkbox"/> CEN <input type="checkbox"/> Other (please specify)
<b>Preparatory work</b> (at a minimum an outline should be included with the proposal) <input type="checkbox"/> A draft is attached <input checked="" type="checkbox"/> An outline is attached. It is possible to supply a draft by The proposer or the proposer's organization is prepared to undertake the preparatory work required <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>Proposed Project Leader</b> (name and address) Mr Jean-François Sulzer THALES SA jean-francois.sulzer@thalesgroup.com	<b>Name and signature of the Proposer</b> (include contact information) Tony Hittema AFNOR tony.hittema@afnor.org

**Comments of the TC or SC Secretariat**

**Supplementary information relating to the proposal**

This proposal relates to a new ISO document;

This proposal relates to the amendment/revision of an existing ISO document;

This proposal relates to the adoption as an active project of an item currently registered as a Preliminary Work Item;

This proposal relates to the re-establishment of a cancelled project as an active project.

Other:

**Voting information**

The ballot associated with this proposal comprises a vote on:

Adoption of the proposal as a new project

Adoption of the associated draft as a committee draft (CD)

Adoption of the associated draft for submission for the enquiry vote (DIS or equivalent)

Other:

**Annex(es) are included with this proposal** (give details)

X

Date of circulation	Closing date for voting	Signature of the TC or SC Secretary
2008-12-18	2008-03-18	Stefan Tangen

**Use this form to propose:**

- a) a new ISO document (including a new part to an existing document), or the amendment/revision of an existing ISO document;
- b) the establishment as an active project of a preliminary work item, or the re-establishment of a cancelled project;
- c) the change in the type of an existing document, e.g. conversion of a Technical Specification into an International Standard.

This form is not intended for use to propose an action following a systematic review - use ISO Form 21 for that purpose.

Proposals for correction (i.e. proposals for a Technical Corrigendum) should be submitted in writing directly to the secretariat concerned.

**Guidelines on the completion of a proposal for a new work item**

(see also the ISO/IEC Directives Part 1)

- a) **Title:** Indicate the subject of the proposed new work item.
- b) **Scope:** Give a clear indication of the coverage of the proposed new work item. Indicate, for example, if this is a proposal for a new document, or a proposed change (amendment/revision). It is often helpful to indicate what is not covered (exclusions).
- c) **Envisaged publication type:** Details of the types of ISO deliverable available are given in the ISO/IEC Directives, Part 1 and/or the associated ISO Supplement.
- d) **Purpose and justification:** Give details based on a critical study of the following elements wherever practicable. *Wherever possible reference should be made to information contained in the related TC Business Plan.*
  - 1) The specific aims and reason for the standardization activity, with particular emphasis on the aspects of standardization to be covered, the problems it is expected to solve or the difficulties it is intended to overcome.
  - 2) The main interests that might benefit from or be affected by the activity, such as industry, consumers, trade, governments, distributors.
  - 3) Feasibility of the activity: Are there factors that could hinder the successful establishment or global application of the standard?
  - 4) Timeliness of the standard to be produced: Is the technology reasonably stabilized? If not, how much time is likely to be available before advances in technology may render the proposed standard outdated? Is the proposed standard required as a basis for the future development of the technology in question?
  - 5) Urgency of the activity, considering the needs of other fields or organizations. Indicate target date and, when a series of standards is proposed, suggest priorities.
  - 6) The benefits to be gained by the implementation of the proposed standard; alternatively, the loss or disadvantage(s) if no standard is established within a reasonable time. Data such as product volume or value of trade should be included and quantified.
  - 7) If the standardization activity is, or is likely to be, the subject of regulations or to require the harmonization of existing regulations, this should be indicated.

If a series of new work items is proposed having a common purpose and justification, a common proposal may be drafted including all elements to be clarified and enumerating the titles and scopes of each individual item.

e) **Relevant documents and their effects on global relevancy:** List any known relevant documents (such as standards and regulations), regardless of their source. When the proposer considers that an existing well-established document may be acceptable as a standard (with or without amendment), indicate this with appropriate justification and attach a copy to the proposal.

f) **Cooperation and liaison:** List relevant organizations or bodies with which cooperation and liaison should exist.

**ISO/TC 223/ N 112**

Date: 2008-10-15

**ISO/WD**

ISO/TC 223/SC /WG

Secretariat: SIS

## **Societal Security — Videosurveillance format for interoperability**

*Societal Security — Formats d'intéropérabilité de vidéosurveillance*

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This document is not an ISO International Standard. It is distributed for review and comment. It is subject to change without notice and may not be referred to as an International Standard.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Document type: International Standard  
Document subtype:  
Document stage: (20) Preparatory  
Document language: E



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO was prepared by Technical Committee ISO/TC 223, *Societal Security*, Subcommittee SC , .

This second/third/... edition cancels and replaces the first/second/... edition (), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

## **Introduction**

This International Standard specifies an exchange format for digital videosurveillance applications. Videosurveillance is a crucial asset in intelligence collection, crime prevention, crisis management, forensic applications etc. Minimum and urgent requirement in societal security for the authorities is to be able to exploit the data collected by the different security videosurveillance systems around a given site. This is the primary objective of this standard. Ultimately, this standard may provide minimum image quality requirements to optimize recognition and identification, as well as interface specifications ensuring easy replacement of cameras and other equipments.

This standard does not impose implementation methods or technological solutions and concentrates rather on minimum interface requirements to achieve its societal security objectives.

# Societal Security — Videosurveillance format for interoperability

## 1 Scope

This International Standard specifies an exchange format for digital videosurveillance applications.

It is crucial for societal security that present and future videosurveillance systems implement this interface at their collection interface to allow efficient forensics exploitation of the material produced, often in massive quantities.

Format aspects covered are:

- Video format
- Audio format
- Metadata formats:
  - Descriptive (localisation, camera identifier, camera direction, etc.)
  - Dynamic metadata (date, time, pan, tilt, zoom, identification results, etc.)
- Multiplex and transport protocol
- Data security and integrity

Future editions of this standard will incorporate requirements which may prove to be necessary to efficiently operate videosurveillance systems, like image quality or camera and other equipments interfaces.

## 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 13818-1:2000/FPDAM 1 *Information technology –Generic Coding of Moving pictures and associated audio information systems AMENDMENT 1: carriage of metadata over ISO 13818-1 streams*

ISO/IEC 14496-10:2005 *Information technology – Coding of audiovisual objects-- Part 10: Advanced video Coding*

ISO/IEC FCD 23000-10 *Information technology -- Multimedia application format (MPEG-A) -- Part 10: Video surveillance application format*

ITU-R BT.601 *Studio encoding parameters of digital television for standard 4:3 and wide screen 16:9 aspect ratios*

SMPTE 0335M-2001 *Metadata Dictionary Structure*

SMPTE 0336M-2007 *Data Encoding Protocol Using Key-Length Value*

SMPTE RP210.9-2005 *Metadata Dictionary Contents*

SMPTE RP217-2001 *Non Synchronized Mapping of KLV Packets in MPEG-2 System Streams*

STANAG 4609 *NATO Digital Motion Imagery Format*

### 3 Terms and definitions

For the purposes of this document, **the following terms and definitions apply / the terms and definitions given in ... and the following apply.**

**3.1**  
**term**  
text of the definition

**3.2**  
**term**  
text of the definition

## 4 General

### 4.1 Concept of the standard

Videosurveillance systems generic architecture.

Minimum requirements for interoperability

### 4.2 Relation with other standards

The technology outlined is based on commercial systems and components designed to international standards.

Present standard defines a profile of standards and practices which combined will achieve a minimum level of interoperability

### 4.3 Frame rates and definition

Coverage of the 50 and 60 Hz worlds

Standard Definition (to be extended to higher definitions)

## 5 Requirements of the standard

### 5.1 Sampling structures

As per ITU-R BT.1358 (525 & 625 line progressive scan television systems) TBC

### 5.2 Compression

As per ISO/IEC 14496-10:2005 *Information technology – Coding of audiovisual objects-- Part 10: Advanced video Coding*

### 5.3 Metadata

Metadata will be kept in a dictionary, part of the standard.

Metadata dictionary structure will be as per SMPTE 335M-2001

Metadata will be encoded using the Key-Length-Value method as per SMPTE 336M-2007

Dictionary applicable will be a subset of the SMPTE metadata dictionary, eventually updated if items missing ; for the videosurveillance applications, as per SMPTE RP210.9-2005

Embedded time reference for time stamping (TBD)

### 5.4 Multiplex and transport

Remains to be defined (TBD) between MPEG-2 transport approach and RTP (IETF) protocols

If MPEG-2 approach is used, non-synchronized metadata (descriptive) will be arranged as per SMPTE RP 217-2001, while synchronized (dynamic) metadata will be implemented as per ISO 13818-1:2000/FPDAM 1

### 5.5 Data security and integrity

Standard will incorporate optional provisions for mechanisms ensuring that

- Collected contents are properly tracked and have not been corrupted or modified
- Hierarchical access rights control system can be implemented

## 6 Conformance testing and procedures (tbd)