

# INTERNATIONAL STANDARD

---

**Video surveillance systems for use in security applications -  
Part 4: Application guidelines**

Sample Document

get full document from [standards.iteh.ai](https://standards.iteh.ai)



**THIS PUBLICATION IS COPYRIGHT PROTECTED**  
**Copyright © 2025 IEC, Geneva, Switzerland**

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

**About the IEC**

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

**About IEC publications**

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

**IEC publications search -**

[webstore.iec.ch/advsearchform](http://webstore.iec.ch/advsearchform)

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

**IEC Just Published - [webstore.iec.ch/justpublished](http://webstore.iec.ch/justpublished)**

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

**IEC Customer Service Centre - [webstore.iec.ch/csc](http://webstore.iec.ch/csc)**

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: [sales@iec.ch](mailto:sales@iec.ch).

**IEC Products & Services Portal - [products.iec.ch](http://products.iec.ch)**

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

**Electropedia - [www.electropedia.org](http://www.electropedia.org)**

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

**Warning! Make sure that you obtained this publication from an authorized distributor.**

## CONTENTS

FOREWORD .....	6
1 Scope .....	8
2 Normative references .....	8
3 Terms, definitions and abbreviated terms .....	8
3.1 Terms and definitions.....	8
3.2 Abbreviated terms.....	17
4 Planning considerations.....	18
4.1 General considerations .....	18
4.2 Security concept .....	19
4.2.1 General .....	19
4.2.2 Risk assessment .....	20
4.2.3 Selection of security grades.....	21
4.3 Developing the operational requirements .....	22
4.4 Site survey.....	22
4.5 Security of the VSCC room .....	22
4.6 System design including site plan .....	23
4.7 Developing the test plan .....	23
4.8 Installation, commissioning and hand over .....	23
4.9 Documenting the system.....	24
5 Operational requirements specifications .....	24
5.1 General.....	24
5.2 Purpose of the operational requirements.....	24
5.3 Content of the operational requirements .....	24
5.3.1 General .....	24
5.3.2 Basic objective/functionalities .....	24
5.3.3 Definition of surveillance limitations .....	25
5.3.4 Definition of the site(s) under surveillance .....	25
5.3.5 Definition of activity to be captured .....	25
5.3.6 System/picture performance .....	25
5.3.7 Period of operation .....	25
5.3.8 Conditions at the location .....	25
5.3.9 Resilience.....	25
5.3.10 Monitoring and image storage.....	26
5.3.11 Exporting images.....	26
5.3.12 Routine actions.....	26
5.3.13 Operational response .....	26
5.3.14 Operator workload .....	26
5.3.15 Training .....	26
5.3.16 Expansions.....	27
5.3.17 List of any other special factors not covered by the above .....	27
5.4 System operational criteria .....	27
5.4.1 General .....	27
5.4.2 Automation .....	27
5.4.3 Alarm response .....	27
5.4.4 System response times.....	28
6 Technical considerations (equipment selection and performance).....	29

6.1	General.....	29
6.2	Camera equipment.....	29
6.3	Camera and lens selection criteria .....	29
6.4	Camera selection .....	30
6.4.1	General .....	30
6.4.2	PTZ .....	30
6.5	Lens and housing selection.....	31
6.6	Site coverage/numbers of cameras .....	31
6.7	Object sizes and pixel density .....	32
6.7.1	General .....	32
6.7.2	Object size definitions and required pixel density in IP VSS.....	32
6.8	Field of view – Other considerations .....	36
6.9	Illumination .....	36
6.10	IP Video equipment.....	38
6.11	Tamper protection/detection.....	38
6.11.1	Camera tamper protection/detection .....	38
6.11.2	System tamper protection/detection.....	38
6.12	System integration .....	38
7	Video signal presentation .....	39
7.1	Display types .....	39
7.2	Resolution .....	40
8	Transmission.....	41
8.1	Principles.....	41
8.1.1	General .....	41
8.1.2	Selection of IP video performance classes.....	42
8.1.3	Interoperability.....	43
8.1.4	Interoperability with voice communication .....	43
8.2	Wired transmission links .....	43
8.3	Wireless transmission links .....	44
8.4	Key considerations for IP based transmission systems .....	45
9	Video performance characteristics .....	45
9.1	Image compression.....	45
9.2	Frame rate .....	46
9.3	Resolution .....	46
10	Storage requirements .....	47
11	Image storage and export.....	48
11.1	Format of the compressed video data .....	48
11.2	Encryption .....	48
11.3	Basic metadata (time, date, camera identifier) .....	48
11.4	Multiplexing format.....	49
11.5	Image enhancements.....	49
11.6	Image export.....	49
11.7	Replay of exported images.....	50
12	VSCC control room configuration.....	50
12.1	Control rooms or secure viewing area .....	50
12.2	Number, size and positioning of VSS video displays .....	50
12.3	Displays and screens mounted on or off the workstation .....	51
12.4	Recommended display sizes .....	51

12.5	Number of camera images per operator .....	51
12.6	Number of work stations .....	52
12.7	Equipment siting .....	52
12.8	Backup power supply provision .....	52
12.9	Operating temperature .....	53
12.10	Lightning and surge protection .....	53
13	Defining the test plan .....	53
13.1	Purpose of the test plan .....	53
13.2	User acceptance testing/inspection .....	53
13.3	Technical acceptance testing .....	53
13.3.1	Imaging chain consistency .....	53
13.3.2	Image quality .....	53
14	Documentational considerations (pre-installation) .....	56
14.1	General .....	56
14.2	Risk assessment .....	56
14.3	Operational requirements .....	56
14.4	Design specification .....	56
14.5	Site plan .....	56
14.6	Test plan .....	56
15	System installation and commissioning .....	56
15.1	Factory acceptance testing .....	56
15.2	Installation process .....	57
15.3	User acceptance testing, commissioning and handover .....	57
15.4	Declaration of conformance to standards .....	58
16	Final documentation .....	58
16.1	General .....	58
16.2	Complete system drawings .....	58
16.3	System commission (with camera specific audits) .....	59
16.4	Interface descriptions .....	59
16.5	Operating logbook VSS .....	59
16.6	Compliance with legislation (for information) .....	59
17	Operation of VSS .....	59
17.1	General .....	59
17.2	Behaviour in the event of malfunctions .....	61
17.3	At-site visual check .....	61
17.4	Deviation of requirements for at-site visual checks and maintenance .....	62
17.5	Maintenance .....	62
17.6	Inspection (part of preventive maintenance) .....	62
17.7	Service checks (part of preventive maintenance) .....	64
17.8	Repair (corrective maintenance) .....	64
17.9	Improvement .....	64
Annex A (informative)	Video standard formats .....	65
A.1	Current video standard format .....	65
A.2	Pixel densities for recognition of other objects of interest .....	65
Annex B (normative)	Test protocol for VSS target .....	66
B.1	Scope of the test .....	66
B.2	Test prerequisites .....	66
B.3	Preconditions .....	66

B.4	Face selection .....	66
B.5	Live view methodology (faces) .....	67
B.6	Live view methodology (VRN) .....	67
B.7	Recorded view methodology (faces) .....	67
B.8	Recorded view methodology (VRN).....	68
B.9	Motion .....	68
B.10	Faces: scoring criteria.....	68
B.11	VRN: scoring criteria.....	69
B.12	Heads control sheet (for example only).....	71
B.13	VRN control sheet (for example only).....	72
Annex C (normative) Test method of image quality: Guidance for the use of the video test target .....		73
Annex D (informative) Guidelines to specifying VSS parameters and security gradings.....		79
D.1	VSS parameters.....	79
D.2	Suggested building blocks .....	79
D.3	Security gradings .....	80
D.4	Security grading by system view: .....	80
D.5	Security grading by size view:.....	81
D.6	Security grading by application view .....	81
D.7	Number of frames depending on the object speed in a scene width.....	85
Annex E (normative) Detection response testing and acceptability criteria .....		87
E.1	General.....	87
E.2	False and nuisance alarms .....	87
E.3	Setting the response time .....	88
E.4	PTZ response time test procedure .....	88
E.5	Observer cueing and prompting .....	88
E.6	Detection test locations.....	89
E.7	Target camouflage .....	89
E.8	Tests with moving targets .....	89
E.9	Test conditions .....	89
E.10	Testing a 'live' system.....	90
E.11	Detection test results tables.....	90
Bibliography.....		91
Figure 1 – Process visualization .....		19
Figure 2 – Structure of a security concept.....		20
Figure 3 – HD and UHD screen percentages occupied by various categories.....		34
Figure 4 – Pixel density formula.....		35
Figure 5 – Operation of a VSS .....		60
Figure B.1 – Heads control sheet.....		71
Figure B.2 – VRN control sheet example.....		72
Figure C.1 – Test charts .....		74
Figure C.2 – Key to Figure C.1 .....		77
Figure C.3 – Avoiding optical distortion.....		78
Table 1 – Measures depending on security grades .....		23

Table 2 – Example of system feedback – PTZ control responding time, performance and operator .....	29
Table 3 – Group names for test charts .....	34
Table 4 – Typical lux levels .....	36
Table 5 – Examples of display technologies .....	39
Table 6 – Example resolutions .....	41
Table 7 – Wireless transmission options .....	44
Table 8 – Inspection cycles versus security grading .....	60
Table A.1 – Recommendations for recognition of some “non-human” objects .....	65
Table B.1 – Example auditor log sheet .....	69
Table B.2 – Example control room observer log sheet .....	69
Table B.3 – Example camera audit sheet .....	69
Table B.4 – Blank auditor log sheet .....	70
Table B.5 – Blank control room observer log sheet .....	70
Table B.6 – Blank camera audit sheet .....	70
Table C.1 – Test targets .....	73
Table D.1 – Suggested VSS building blocks .....	79
Table D.2 – Security grading by size view .....	81
Table D.3 – Security grading by application .....	81
Table D.4 – Security grading by critical infrastructure .....	83
Table D.5 – Number of frames depending of object speed – Low pixel density objects .....	85
Table D.6 – Number of frames depending of object speed - High Pixel Density Objects .....	86
Table E.1 – Detection test results .....	90

get full document from [standards.iteh.ai](https://standards.iteh.ai)

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Video surveillance systems for use in security applications -  
Part 4: Application guidelines**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 62676-4 has been prepared by IEC technical committee 79: Alarm and electronic security systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2014. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) implementing request for define a security concept (instead of just a risk analysis) (4.2);
- b) selection of security grades (4.2.3);

- c) complete redefinition of pixel densities (6.7) including new test charts (Annex C):
  - upgrade of previous MDORII system with 6 pixel densities (12,5 pixels/meter; 25 pixels/meter; 62,5 pixels/meter ; 125 pixels/meter; 250 pixels/meter; 1 000 pixels/meter) into new O2DCPVS system with 7 pixel densities (20 pixels/meter; 40 pixels/meter; 80 pixels/meter; 125 pixels/meter; 250 pixels/meter; 500 pixels/meter; 1 500 pixels/meter)
- d) operation of VSS (Clause 17);
- e) security grading by size view (Annex D, Table D.2);
- f) security grading by application (Annex D, Table D.3);
- g) security grading by critical infrastructure (Annex D, Table D.4);
- h) tables for number of frames depending on object speed (Annex D, Table D.5 and Table D.6);
- i) general updates of tables in entire document.

The text of this International Standard is based on the following documents:

Draft	Report on voting
79/727/FDIS	79/732/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English

A list of all parts in the IEC 62676 series, published under the general title *Video surveillance systems for use in security applications*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under [webstore.iec.ch](http://webstore.iec.ch) in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

## 1 Scope

This part of IEC 62676 describes the planning, design, installation, testing, commissioning, and maintaining of video surveillance systems (VSS) comprising image capture device(s), interconnection(s) and image handling device(s), for use in security applications within private or public spaces.

The objectives of this document are to:

- a) provide a framework to assist all interested parties in establishing their requirements,
- b) assist specifiers and users in determining the appropriate equipment required for a given application,
- c) provide means of evaluating objectively the performance of the VSS.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

IEC 62676-1-1:2013, *Video surveillance systems for use in security applications - Part 1-1: System requirements - General*

IEC 62676-1-2:2013, *Video surveillance systems for use in security applications - Part 1-2: System requirements - Performance requirements for video transmission*

IEC 62676-2 (all parts), *Video surveillance systems for use in security applications - Part 2-X: Video transmission protocols*

IEC 62676-2-1, *Video surveillance systems for use in security applications - Part 2-1: Video transmission protocols - General requirements*

IEC 62676-3, *Video surveillance systems for use in security applications - Part 3: Analog and digital video interfaces*

IEC 62820-2, *Building intercom systems - Part 2: Requirements for advanced security building intercom systems (ASBIS)*

IEC 62820-3-2, *Building intercom systems - Part 3-2: Application guidelines - Advanced security building intercom systems (ASBIS)*

## 3 Terms, definitions and abbreviated terms

### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

### 3.1.1

#### 4K

#### UHD

standard for ultra high-definition television (UHDTV) defined by SMPTE 2036 to be with 3 840 pixels × 2 160 pixels at 25 fps or 30 fps

### 3.1.2

#### 8K

#### UHD

standard for ultra high-definition television (UHDTV) defined by SMPTE 2036 to be with 7 680 pixels × 4 320 pixels at 25 fps or 30 fps

### 3.1.3

#### at-site visual check

activity to determine and assess the feasibility of implementing the safety concept per camera location to be monitored as well as checks of visible disturbances and defects at site on the monitoring tasks of a VSS that are not evaluated operationally and whether there are deviations from the function of the VSS required in the safety concept

Note 1 to entry: In particular for influences occurring outside of VSS system parts.

Note 2 to entry: The at-site visual check is the responsibility of the operator, who can, however, hand over the inspection to a competent person VSS or to a competent system engineer VSS.

### 3.1.4

#### camera housing

enclosure to provide both physical and environmental protection of the camera, lens and ancillary equipment

### 3.1.5

#### camera sensitivity

image capturing device capability to produce an image in certain light conditions

### 3.1.6

#### characterise

defined functional purpose of a VSS camera to enable characterisation of a target, e.g. person (type of person, gait and action can be characterised) and vehicles (vehicle brand can be characterised) with a pixel density of > 250 pixels/meter

### 3.1.7

#### competent person VSS

person who has been instructed by a competent system engineer VSS about the assigned tasks within the scope of the on-site check and the possible dangers and consequences of improper behaviour

Note 1 to entry: This includes the necessary knowledge for the assessment of the object requirements, with regard to the type of danger and the required function of the VSS, the influence of the use as well as the limits of use and the instruction about the security concept of the video surveillance system, about existing requirements as well as legal requirements or requirements of the operator from safety aspects as personal and property protection measures or to avoid personal injury.

Note 2 to entry: The task requires competences for independent planning and processing of the requirements from the at-site visual check as well as in-depth general knowledge and specialist theoretical knowledge in order to be able to assess to what extent environmental or object changes can influence the effectiveness of a video surveillance system. The recognition of possible interactions from other requirements as well as the development of alternative actions is necessary. Detected deviations shall be securely justified, responsibly communicated and, if necessary, retracted if no other problem solutions can be found.

**3.1.8****competent system engineer VSS**

person who, on the basis of professional technical training, knowledge and experience as well as knowledge of the relevant standards, regulations and directives, is able to assess the work to be carried out and recognise possible hazards

Note 1 to entry: A competent system engineer VSS can be employed by either an installation company/system integrator company, project planning company or at owner or at user of the VSS.

Note 2 to entry: For the field of video surveillance systems, training from the spectrum of electrical engineering in the field of communications, information, microprocessor, measurement and control or general electrical engineering is required, and experience in the respective other fields as well as system knowledge of video security technology shall be demonstrated. Qualification of competence for VSS knowledge can be proven by training certificates of e.g., local security associations or vendors of VSS.

Note 3 to entry: Several years of activity in the relevant fields of work can also be used to assess the professional training.

Note 4 to entry: The activity requires the ability to independently plan and process comprehensive technical tasks in a complex, specialised, changing environment. Integrated technical knowledge and in-depth theoretical knowledge of the subject shall be available. The scope and limits of the possible applications of a video surveillance system shall be known. A very broad spectrum of specialised cognitive and practical skills is required. Work processes are to be planned in a comprehensive manner and assessed with comprehensive consideration of handling alternatives and interactions with neighbouring areas. The competence to guide others and to support them with well-founded learning guidance shall be given. Interdisciplinary complex issues shall be presented in a structured, target-oriented and addressee-related manner. Own and externally set learning and working goals shall be reflected upon, evaluated, pursued in a self-directed manner and answered.

**3.1.9****constant bit rate**

bit rate of a camera stream kept constant regardless of the image quality or movement in the scene

**3.1.10****corrective maintenance**

maintenance carried out after failure detection to restore a VSS to a condition in which it can perform its required function

Note 1 to entry: Corrective maintenance corresponds to repair and serves as a corrective measure after a failure has been detected.

**3.1.11****discern**

defined functional purpose of a VSS camera to enable discerning of a target, e.g. objects and their movements with a pixel density of > 80 pixels/meter

**3.1.12****electronic iris**

automatic electronic shutter which changes the camera sensitivity in relation to the varying light conditions in order to maintain the video output signal within defined limits

**3.1.13****electronic shutter**

arrangement in the camera changing its sensitivity by electronically controlling its exposure time

**3.1.14****event recording**

event controlled recording or storing of image signals for a pre-determined time

Note 1 to entry: Refers to video recording not to system log of events.

### 3.1.15

#### **external synchronisation**

method of feeding reference timing signals to all connected devices to ensure that their video output signals are synchronous

### 3.1.16

#### **focal length**

*f*

measurement of the converging power of a lens, normally expressed in mm, which can be used to determine the angle of view for a given sensor size

### 3.1.17

#### **geo data**

digital information assigning a certain spatial location to the earth's surface

### 3.1.18

#### **High Definition**

##### **HD**

contemporary television standard with 1 920 pixels × 1 080 pixels, interlaced (1 080i) or progressive (1 080p), as defined by SMPTE 274, and with 1 280 pixels × 720 pixels, progressive (720p), as defined by SMPTE 296

### 3.1.19

#### **imaging device**

device that converts an optical image into an electrical signal

### 3.1.20

#### **imaging device illumination**

level of illumination at the photosensitive surface of the imaging device

### 3.1.21

#### **improvement**

additions or changes to a VSS that improve the reliability or functional safety of a VSS during operation without changing its original function

Note 1 to entry: An improvement shall be carried out by a competent system engineer VSS and shall be documented in the operating logbook VSS. An improvement can be, for example, a firmware or software update.

### 3.1.22

#### **inspection (part of preventive maintenance)**

testing for conformity of the relevant characteristics of a VSS by measurement, observation and testing

Note 1 to entry: The checking of all system parts for technical functionality of the VSS is done according to general manufacturer-independent criteria.

Note 2 to entry: An inspection shall be carried out by a competent system engineer VSS and shall be documented in the operating logbook VSS.

### 3.1.23

#### **instructed person**

person who has been instructed in the tasks required for the operation of a VSS by a competent system engineer VSS and is capable of independently operating the VSS

Note 1 to entry: These tasks include the implementation or initiation of protective measures and other measures to avert danger in the event of shutdown or malfunction of plant components as well as the initiation of fault rectification or maintenance in the event of impairments.

Note 2 to entry: The tasks presuppose the competences to independently fulfil technical requirements in a still manageable field of activity, as well as extended general knowledge and extended expert knowledge with regards to the function of VSS and the organizational measures associated with their operation. Furthermore, it is necessary to always keep the level of knowledge about VSS up to date through independent and responsible learning.

**3.1.24****iris**

variable aperture mechanism which regulates the amount of light passing through the lens onto the imaging device of the VSS camera

**3.1.25****lens**

optical device for projecting an image of a desired scene onto the photo sensitive surface of the imaging device

**3.1.26****maintenance**

combination of all technical and administrative measures during the life cycle of a VSS that serves to maintain or restore it to a functional state so that it can fulfil the required function

Note 1 to entry: Maintenance includes the preventive measures of inspection and service checks as well as the corrective measures of repair and improvement. Maintenance is usually carried out on site; certain maintenance measures can also take place as "remote maintenance" by means of remote access with the consent of the operator. Remote maintenance shall be documented in the operating logbook VSS. Maintenance measures shall be carried out by a competent system engineer VSS.

**3.1.27****maintenance company**

company, who employs competent system engineer VSS that can carry out all maintenance measures, at-site visual checks as well as system extensions and modifications and that has a 24/7 on-call service, the necessary spare parts and the required equipment

**3.1.28****National Television Systems Committee  
NTSC**

US standardisation for analogue television

**3.1.29****NTSC resolution**

US standard resolution for analogue television produced by a 525 interlaced scanning system at 29,97 TV frames per second

Note 1 to entry: When digitised, using the ITU-R BT601 recommendation, the NTSC analogue video signal is converted to 720 × 480 pixels at 30 TV frames per second.

**3.1.30****ONVIF****Open Network Video Interface Forum**

open industry forum that provides and promotes standardized interfaces for effective interoperability of IP-based physical security products

**3.1.31****operating logbook VSS**

logbook handed to the operator by the competent system engineer VSS, in which all activities on the VSS will be continuously recorded during the entire lifecycle of the VSS

Note 1 to entry: This includes, among other things, all briefings, the handover of the VSS, all operating events such as malfunctions, hazard alarms and false alarms as well as their causes, all maintenance carried out (preventive: inspections and service checks as well as corrective: repair) and all modifications and improvements to the VSS.

Note 2 to entry: In the operating logbook VSS, the competent system engineer VSS shall refer to the required at-site visual checks and maintenance as well as to the operator's obligation to keep the logbook. The operating logbook VSS shall be kept by the operator or by an instructed person.

**3.1.32**  
**operational requirements**  
**OR**

formal written statement of need, justifications and purpose of the proposed VSS

**3.1.33**  
**operator**

person responsible for the operation of the VSS and for the effectiveness of the VSS as well as for scheduled, fault-free functioning during the lifecycle of the VSS

Note 1 to entry: The operator is responsible for regular at-site visual check and maintenance of the VSS. The term operator is used because the owner of the building/property does not have to be the user of the VSS at the same time

**3.1.34**  
**outline**

defined functional purpose of a camera to enable outlining of a target, e.g. objects and their movements with a pixel density of > 40 pixels/meter

**3.1.35**  
**overview**

defined functional purpose of a camera to enable overview of a target, e.g. objects and their movements with a pixel density of > 20 pixels/meter

**3.1.36**  
**PAL**  
**Phase Alternating Line**

European based standardisation for analogue television

**3.1.37**  
**PAL resolution**

European standard resolution for analogue television produced by a 625 interlaced scanning system at 25 TV frames per second

Note 1 to entry: When digitised, using the ITU-R BT601 recommendation, the PAL analogue video signal is represented with 720 pixels × 576 pixels at 25 TV frames per second

**3.1.38**  
**pan and tilt unit**

motorised unit permitting the horizontal and vertical positioning of the camera equipment

**3.1.39**  
**pan, tilt, zoom**  
**PTZ**

function of a camera control permitting the horizontal, vertical positioning of the camera together with the variation of the focal length of the lens

**3.1.40**  
**perceive**

defined functional purpose of a camera to enable perceiving of a target, e.g. objects and their movements with a pixel density of > 125 pixels/meter

**3.1.41**  
**picture storage**

storing of still or video images