

2026-02-24

System- og softwareudvikling – Livscyklusledelse – Del 4: Planlægning af systemudvikling

Systems and software engineering – Life cycle management –
Part 4: Systems engineering management planning



DANSK STANDARD
Danish Standards Association

Göteborg Plads 1
DK-2150 Nordhavn

Tel: +45 39 96 61 01
dansk.standard@ds.dk

www.ds.dk

DS/ISO/IEC/IEEE 24748-4:2026

København

DS projekt: M390536

ICS: 35.080

Første del af denne publikations betegnelse er:

DS/ISO/IEC, hvilket betyder, at det er en international standard, der har status som dansk standard.

IDT med: ISO/IEC/IEEE 24748-4:2026

DS-publikationen er på engelsk.

Denne publikation erstatter: [DS/ISO/IEC/IEEE 24748-4:2016](#)

I tilfælde af redaktionelle fejl i DS-publikationen kan der skrives til:

editorial-mistakes@ds.dk

ADVARSEL: DS-publikationer revideres over tid. Derudover kan sådanne publikationer ændres ved rettelserblade og/eller tillæg. Der kan også udgives rettelserblade, der udelukkende angår oversættelsen af en publikation. Det er derfor vigtigt at sikre sig, at man benytter en gældende udgave, medmindre fx lovgivning kræver andet. Den enkelte publikations status fremgår af <https://webshop.ds.dk/>. Her kan man desuden tilmelde sig en gratis notifikationservice og følge en udgivet DS-publikations udvikling ved at klikke på "Følg".

En oversigt over forskellige DS-publikationstyper og -betegnelser findes her:

<https://www.ds.dk/publikationstyper>.

Indholdet i dette dokument er ophavsretligt beskyttet, herunder tekst, grafik, billeder og lyd. Fonden Dansk Standard forbeholder sig udtrykkeligt alle rettigheder til at udnytte indholdet til tekst- og datamining, jf. ophavsretslovens § 11 b, stk. 2, og artikel 4 i direktiv (EU) 2019/790. Enhver udnyttelse af indholdet i dette dokument til tekst- og dataminingformål kræver forudgående skriftlig, specifik tilladelse fra Fonden Dansk Standard.

In case of editorial errors in the DS publication, please write to:

editorial-mistakes@ds.dk

NOTICE: DS publications are revised over time. In addition, such publications may be altered by corrigenda and/or amendments. Also, corrigenda may be published solely in relation to the translation of a publication. It is therefore important to ensure that the edition used is valid, unless, for example, legislation requires otherwise. The status of each publication can be found at <https://webshop.ds.dk/>. Here you can also sign up for a free notification service and follow the progress of a published DS publication by clicking on "Follow".

An overview of different DS publication types and designations can be found here:

<https://www.ds.dk/publikationstyper>.

The content of this document, including text, graphics, images, and audio, is protected by copyright. The Danish Standards Foundation explicitly reserves all rights regarding the use of its content for text and data mining purposes in accordance with Section 11b(2) of the Danish Copyright Act and Article 4 of Directive (EU) 2019/790. Any use of the content of this document for text and data mining purposes requires prior, written, specific permission from the Danish Standards Foundation.



**ISO/IEC/IEEE
24748-4**

**Systems and software
engineering — Life cycle
management —**

Part 4:
**Systems engineering management
planning**

*Ingénierie des systèmes et du logiciel — Gestion du cycle de vie —
Partie 4: Planification de la gestion de l'ingénierie des systèmes*

**Second edition
2026-02**



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2026
© IEEE 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO or IEEE at the respective address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Institute of Electrical and Electronics Engineers, Inc
3 Park Avenue, New York
NY 10016-5997, USA

Email: stds.ipr@ieee.org
Website: www.ieee.org

Published in Switzerland

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

Foreword	v
Introduction	vii
1 Scope	1
2 Normative references	1
3 Terms, definitions and abbreviated terms	1
3.1 Terms and definitions.....	1
3.2 Abbreviated terms.....	3
4 Conformance	3
4.1 Intended usage.....	3
4.2 Full conformance.....	4
4.3 Tailored conformance.....	4
5 Key concepts and their application	4
5.1 General.....	4
5.2 System concepts.....	4
5.3 Life cycle concepts.....	5
5.4 Process concepts.....	5
5.5 Organizational concepts.....	5
5.6 Project concepts.....	5
5.7 System of system concepts.....	5
5.8 Model-based SE and digital engineering concepts.....	6
5.9 Information items concepts.....	7
5.10 SEMP development concepts.....	7
6 SEMP content	8
6.1 General.....	8
6.2 Introductory material.....	10
6.3 Technical planning.....	10
6.3.1 Purpose, scope and objectives.....	10
6.3.2 Assumptions, dependencies and constraints.....	11
6.3.3 Schedule and budget summary.....	11
6.3.4 References.....	12
6.3.5 Definitions.....	12
6.3.6 Technical project organization.....	12
6.3.7 Life cycle model selection and adaptation.....	13
6.3.8 Process model selection and tailoring.....	13
6.3.9 Infrastructure and services required.....	14
6.3.10 Communications.....	14
6.3.11 Tools, methods and techniques.....	14
6.4 Technical management processes.....	15
6.4.1 Planning content from project assessment and control process.....	15
6.4.2 Planning content from decision management process.....	17
6.4.3 Planning content from risk management process.....	17
6.4.4 Planning content from configuration management process.....	18
6.4.5 Planning content from information management process.....	20
6.4.6 Planning content from measurement process.....	21
6.4.7 Planning content from quality assurance process.....	22
6.5 Technical processes.....	23
6.5.1 Planning content from business or mission analysis process.....	23
6.5.2 Planning content from stakeholder needs and requirements definition process.....	23
6.5.3 Planning content from system requirements definition process.....	24
6.5.4 Planning content from system architecture definition process.....	24
6.5.5 Planning content from design definition process.....	25
6.5.6 Planning content from system analysis process.....	25
6.5.7 Planning content from implementation process.....	26

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

6.5.10	Planning content from transition process.....	27
6.5.11	Planning content from validation process	28
6.5.12	Planning content from operation process.....	28
6.5.13	Planning content from maintenance process.....	28
6.5.14	Planning content from disposal process.....	29
6.6	Supporting SE activities and plans.....	29
6.6.1	General.....	29
6.6.2	Other plans.....	29
6.6.3	Traceability.....	30
6.6.4	Interface management.....	30
6.6.5	Critical quality characteristics.....	30
6.6.6	Each required critical quality area.....	30
6.6.7	Technology management.....	31
6.7	Annexes.....	31
6.7.1	General.....	31
6.7.2	Organizational project enabling processes.....	31
6.7.3	Agreement processes.....	34
Annex A (normative) Tailoring policies.....		35
Annex B (informative) Expanded process view for systems engineering management planning.....		37
Annex C (informative) Example information item content mapping tables.....		48
Bibliography.....		51
IEEE notices and abstract.....		52

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

IEEE Standards documents are developed within IEEE Societies and subcommittees of IEEE Standards Association (IEEE SA) Board of Governors. IEEE develops its standards through an accredited consensus development process, which brings together volunteers representing varied viewpoints and interests to achieve the final product. IEEE standards are documents developed by volunteers with scientific, academic, and industry-based expertise in technical working groups. Volunteers are not necessarily members of IEEE or IEEE SA and participate without compensation from IEEE. While IEEE administers the process and establishes rules to promote fairness in the consensus development process, IEEE does not independently evaluate, test, or verify the accuracy of any of the information or the soundness of any judgments contained in its standards.

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take 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, ISO and 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 www.iso.org/patents and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*, in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This second edition cancels and replaces the first edition (ISO/IEC/IEEE 24748-4:2016), which has been technically revised.

The main changes are as follows:

- aligns with updates to ISO/IEC/IEEE 15288:2023, ISO/IEC/IEEE 24748-1:2024, ISO/IEC/IEEE 24748-2:2024, ISO/IEC/IEEE 16085:2021, and ISO/IEC/IEEE 29148:2018;
- streamlines and reduces redundancies from the publication of ISO/IEC/IEEE 16326:2019;
- maintains harmonization with new documents within the SC 7 portfolio, including ISO/IEC/IEEE 15289, ISO/IEC/IEEE 15939, ISO/IEC/IEEE 21839, ISO/IEC/IEEE 21840, ISO/IEC/IEEE 21841, ISO/IEC/IEEE 24748-7 and ISO/IEC/IEEE 24748-8;
- addresses feedback from users and the advancement of system-related technologies, including systems of systems and model-based systems and software engineering;

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

- adds a new annex with example information item content mapping tables;
- removes provisions for conformance to process.

A list of all parts in the ISO/IEC/IEEE 24748 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

ISO/IEC/IEEE 15288 provides a common process framework covering the life cycle of human-made systems, from the conception of ideas through to the retirement of a system. It provides the processes for acquiring and supplying systems. In addition, this framework provides for the assessment and improvement of the life cycle processes. This common framework improves communication and cooperation among the parties that create, utilize, and manage modern systems in order that they can work in an integrated, coherent fashion.

The acquisition or supply of a system is usually done within a project. A project prepares and implements the technical planning, resources and schedules necessary to guide the project toward accomplishment of its objectives and proper conclusion. The project's authorization and objectives are documented in an information item typically identified as a systems engineering management plan (SEMP).

This document defines a SEMP as the key vehicle for representing a project's application of systems life cycle processes. In this document, the terms technical planning and systems engineering (SE) planning are used interchangeably to emphasize or differentiate technical contributions in the processes under discussion.

In many organizations, the various responsibilities of technical management are assigned to more than one person. Where the term "technical manager" or "systems engineering manager" is used in this document, the guidance, advice or normative requirement applies to the applicable role within the project or organization.

NOTE ISO/IEC/IEEE 24748-1 and ISO/IEC/IEEE 24748-2 provide guidance on the application of ISO/IEC/IEEE 15288, including definition or expansion of important organization, project, process, and life cycle model concepts and their adaptation for successful project implementation.

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

Systems and software engineering — Life cycle management —

Part 4: Systems engineering management planning

1 Scope

This document:

- provides an expanded view of the processes from ISO/IEC/IEEE 15288 that implement systems engineering (SE) management for the life cycles of technical solutions;
- describes a required information item, termed the systems engineering management plan (SEMP) for the technical management and execution of the SE of technical solutions,
- provides requirements and guidance for the content of the required information item.

This document is applicable to:

- those who use or plan to use ISO/IEC/IEEE 15288 on projects dealing with human-made systems, products and services;
- those who are responsible for the technical management of projects concerned with the engineering of systems;
- those responsible for planning or executing ISO/IEC/IEEE 15288 system life cycle processes at a project level;
- organizations and individuals involved with a technical project management effort;
- anyone developing engineering management documentation to complete technical planning aspects of their project's processes.

This document is intended to provide guidance for two-party situations and can be equally applied where the two parties are from the same organization. This document can also be used by a single party as self-imposed tasks.

This document can also serve as guidance in multi-party situations, where high risks are inherent in the supply and integration of complex systems, and procurement can involve several suppliers, organizations or parties.

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. Click here to purchase the full version from the ANSI store.

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>
- IEEE Standards Dictionary Online: available at <https://ieeexplore.ieee.org/xpls/dictionary.jsp>

NOTE For additional terms and definitions in the field of systems and software engineering, see ISO/IEC/IEEE 24765, which is published periodically as a “snapshot” of the SEVOCAB (Systems and software Engineering Vocabulary) database and which is publicly accessible at <http://www.computer.org/sevocab>.

3.1.1 audit

systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

[SOURCE: ISO 9000:2015, 3.13.1, modified — Notes to entry have been removed.]

3.1.2 include

<information> has either the information or a reference to the information

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.11]

3.1.3 information item

separately identifiable body of information that is produced, stored, and delivered for human use

Note 1 to entry: A document produced to meet information requirements can be an information item, part of an information item, or a combination of several information items.

Note 2 to entry: An information item can be produced in several versions during a project or system life cycle.

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.12]

3.1.4 measure of effectiveness MoE

measures that define the acquirer’s key indicators of achieving the mission needs for performance, suitability and affordability across the life cycle

[SOURCE: INCOSE Systems Engineering Handbook, 5th ed., © 2023 John Wiley & Sons Ltd. Used with permission.]

3.1.5 measure of performance MoP

measure to assess whether the system meets design or performance requirements and has the capability to achieve operational objective

[SOURCE: INCOSE Systems Engineering Handbook, 5th ed., © 2023 John Wiley & Sons Ltd. Used with permission.]

3.1.6 plan

information item (3.1.3) that presents a systematic course of action for achieving a declared purpose, including when, how, and by whom specific activities are to be performed

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.16]

This is a preview of DS/ISO/IEC/IEEE 24748-4:2026. [Click here to purchase the full version from the ANSI store.](#)

SEMP

top-level technical *plan* (3.1.6) for managing the systems engineering effort which defines how the technical aspects of the project will be organized, structured, and conducted and how the systems life cycle processes will be controlled to provide a product that satisfies stakeholder requirements

Note 1 to entry: An alternate title, such as a systems engineering plan (SEP), can be used.

Note 2 to entry: The content of the SEMP can be incorporated into another plan such as a single integrated engineering management plan (IEMP) that includes other management plans such as project, configuration management and risk.

Note 3 to entry: The content of the SEMP can be distributed across multiple plans.

Note 4 to entry: This document does not prescribe the form of the *information item* (3.1.3). The content of the SEMP can be in the form of documents or models or other form(s) appropriate to the context of the project.

3.1.8

technical performance measure

TPM

measure to assess design progress, compliance to performance requirements, or technical risks and provide visibility into the status of important technical parameters to enable effective management, thus enhancing the likelihood of achieving the technical objectives of the project

[SOURCE: INCOSE Systems Engineering Handbook, 5th ed., © 2023 John Wiley & Sons Ltd. Used with permission.]

3.2 Abbreviated terms

CS	constituent system
DE	digital engineering
INCOSE	International Council on Systems Engineering
MBSE	model-based systems engineering
MBSSE	model-based system and software engineering
PMP	project management plan
PLM	product life cycle management
QA	quality assurance
SE	systems engineering
SEP	systems engineering plan
SoI	system of interest
SoS	system of systems
WBS	work breakdown structure