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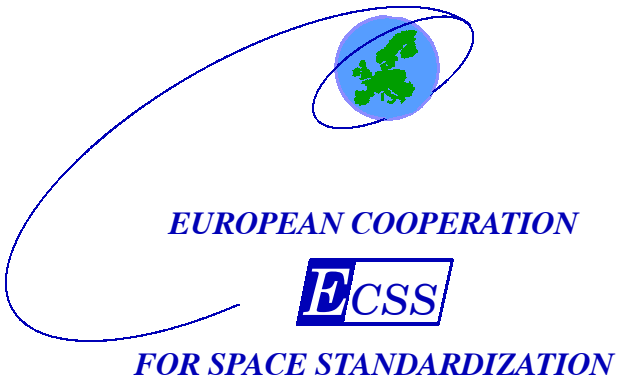

Space engineering

System engineering — Part 6: Functional and technical specifications

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Foreword

This Standard is one of the series of ECSS Standards intended to be applied together for the management, engineering and product assurance in space projects and applications. ECSS is a cooperative effort of the European Space Agency, national space agencies and European industry associations for the purpose of developing and maintaining common standards.

Requirements in this Standard are defined in terms of what shall be accomplished, rather than in terms of how to organize and perform the necessary work. This allows existing organizational structures and methods to be applied where they are effective, and for the structures and methods to evolve as necessary without rewriting the standards.

The formulation of this Standard takes into account the existing ISO 9000 family of documents.

This Standard has been prepared by the ECSS-E-10 Part 6 Working Group, reviewed by the ECSS Engineering Panel and approved by the ECSS Steering Board.

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Introduction

This Standard introduces the strategy of establishing and positioning the Functional Specification (FS) and the Technical Specification (TS) in a project process to improve the effectiveness of its management in terms of performance, cost, schedule and risk.

These two specifications are recommended in ISO 14300-1 in order to focus to customer (or user) needs and to allocate proper time and resources for investigating and comparing a sensible range of candidate concepts, and selecting a preferred solution to be developed or to be purchased.

The FS is the baseline for investigating and comparing candidate concepts, while the TS is the baseline of the business agreement to develop or purchase the selected solution.

NOTE Functional Specification is also referred as "Functional Performance Specification (FPS)" in EN 1325-1.

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1

Scope

This Standard provides an overview of the respective purposes and positions of functional and technical specifications, their required contents, and the process for developing these documents.

This Standard is applicable to all types of space systems, all product elements, and projects.

When viewed in a specific project context, the requirements defined in this Standard should be tailored to match the genuine requirements of a particular profile and circumstances of a project.

NOTE Tailoring is a process by which individual requirements of specifications, standards and related documents are evaluated and made applicable to a specific project, by selection and in some exceptional cases, modification of existing or addition of new requirements.
[ECSS-M-00-02A, clause 3]

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Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this ECSS Standard. For dated references, subsequent amendments to, or revisions of any of these publications do not apply. However, parties to agreements based on this ECSS Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references the latest edition of the publication referred to applies.

ECSS-P-001	Glossary of terms
ECSS-E-10-02	Space engineering — Verification
EN ISO 17666:2003	Space systems — Risk management

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3

Terms, definitions and abbreviated terms

3.1 Terms and definitions

The following terms and definintions are specific to this Standard in the sense that they are complementary or additional with respect to those conained in ECSS-P-001.

3.1.1
constraint
characteristic, result or design feature which is made compulsory or has been prohibited for any reason.

NOTE 1 Constraints are generally restrictions on the choice of solutions in a system.

NOTE 2 Two kinds of constraints are considered, those which concern solutions, and those which concern the use of the system.

NOTE 3 For example constraints can come from environmental and operational conditions, law, standards, market demand, investments and means availability, or the organization's policy.

NOTE 4 Adapted from EN 1325-1.

3.1.2
environment, noun
<product> natural conditions (such as weather, climate, ocean conditions, terrain, vegetation, dust, light and radiation) and induced conditions (such as electromagnetic interference, heat, vibration, pollution and contamination) that constrain the design definitions for end products and their enabling products

3.1.3
environment, noun
<project> external factors affecting an enterprise or project

3.1.4
environment, noun
<development> external factors affecting development tools, methods, or processes

3.1.5
function
intended effect of a system, subsystem, product or part

NOTE 1 Adapted from EN 1325-1.

NOTE 2 Functions should have a single definite purpose. Function names should have a declarative structure (e.g. "Validate Telecommands"), and say "what" is to be done rather than "how". Good naming allows design components with strong cohesion to be easily derived.

3.1.6
functional analysis
technique of identifying and describing all functions of a system

NOTE Adapted from EN 1325-1.

3.1.7
functional specification
document by which the customer establishes the intended purpose of a product, its associated constraints and environment, the operational and performances features, and the permissible flexibility

NOTE 1 This document contains a complete set of provisional technical requirements for a product.

NOTE 2 This term is equivalent to "functional performance specification" as defined in EN 1325-1.

3.1.8
life cycle
time interval between the conceptual exploration of the product introduction to its withdrawal from service

3.1.9
need
what is necessary for, or desired by, the user

NOTE 1 A need can be declared or undeclared; it can be an existing or a potential one.

NOTE 2 The user is a person or an organization for which the product is designed and which exploits at least one of its functions at any time during its life cycle.

NOTE 3 For the space community, the needs are often called mission statement.

NOTE 4 Adapted from EN 1325-1.

3.1.10
specification
document stating requirements

NOTE 1 A specification can be related to activities (e.g. procedure document, process specification and test specification), or products (e.g. functional specification, technical specification)

NOTE 2 Adapted from ISO 9000:2000.

3.1.11
technical specification
specification expressing technical requirements for designing and developing the solution to be implemented.

NOTE The technical specification evolves from the functional specification and defines the technical requirements for the selected solution as part of a business agreement.

3.1.12
verification matrix
matrix that defines the verification strategy for each product technical requirement in terms of methods, level and stages

3.2 Abbreviated terms

The following abbreviated terms are defined and used within this Standard:

Abbreviation	Meaning
IEC	International Electrotechnical Commission
FS	functional specification
PA	product assurance
TS	technical specification

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4

Functional specification and technical specification purpose and description

4.1 Functional specification purpose and description

A functional specification is a document through which a customer expresses his needs (or those that he is responsible for expressing) and the related environment and constraints in terms of technical requirements.

The FS is used for searching for possible concepts, evaluating them and selecting a preferred solution.

The technical requirements contained in the FS provide flexibility to:

- allow potential suppliers to propose the best technical and programmatic solutions,
- facilitate the adjustment among the need or mission statement, the context (e.g. programmatic elements and environmental constraints) and possible solutions.

Note: the intention of the functional specification is not to assume or refer to specific solutions.

4.2 Technical specification purpose and description

The technical specification evolves from the functional specification and defines the technical performances for the proposed solution as part of a business agreement.

The TS is the technical reference for the acceptance of the definition and for the acceptance of the end product.

In that scope, the technical requirements contained in the TS have no flexibility. They are attainable and verifiable, and for each technical requirement, the method of verification (e.g. by test, by analysis) is specified.

4.3 FS and TS content

A specification (FS or TS) is typically composed of three major sets of information:

- General information related to the context of the document (e.g. administrative information, normative documents and informative documents);
- General information related to the context of the project, the product or system;
- Technical requirements (described in clauses 6 and 8).

The specification provides the general information related to its context:

- Administrative information: to provide all the information regarding, for example, the owner, status, identification, distribution list, and management rule;
- Scope: to define without ambiguity the subject of the FS and TS and aspects covered, thereby indicating limits of applicability;
- References: to list all the normative (applicable) documents and standards, with titles, issue revision, and dates that are referred to in the FS;
- Terms, definitions and abbreviated terms: to list the specific terms and abbreviated terms used in the FS.

It also provides general information related to the context of the project, product or system:

- to provide a clear and rapid understanding of the project and the main needs or mission statements;
- to give indications of the market as additional information, as well as information about the context of the project and the objectives (situation of the project in a larger programme, further developments);
- to provide information on the environment and its constraints;
- to detail the different situations of the product or system life cycle.

5

Process for establishing a functional specification and a technical specification

5.1 General

The management of a programme necessitates the establishment of a set of successive states of a product and a network of customer and supplier relationships. At any intermediate level, the supplier of an item acts as customer in specifying components towards its suppliers.

The two first states – the functional state and the specified state – are expressed in a FS and in a TS.

The procurement of products is governed by business agreements constituting the contract between two parties – the customer and the supplier.

A business agreement results from a negotiation process between a customer with a problem to solve, and a supplier with potential solutions. This results in a set of requirements that engages both parties. The list of requirements constitutes an important part of the business agreement and is adapted to the nature of the expected outcome.

Figures through 2 to 5 are provided to help supporting the understanding of a process for establishing a functional specification and a technical specification. The model used for these figures is presented in Figure 1.

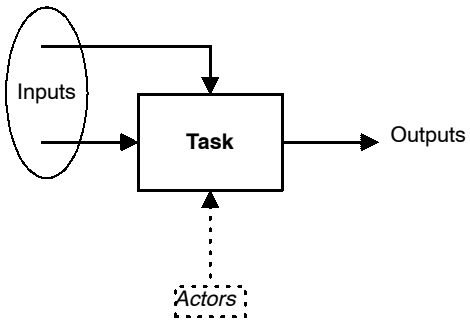

Figure 1: Model presentation

Where:

- The box represents the task to be performed;
- The left- and top-side arrows represent the necessary inputs to the task;
- An arrow on the right-side represents the output produced by the task;
- An arrow coming from below represent the actor involved in performing the task.

Figure 2 presents the macro-process that generates the functional and technical specifications.

This principle can be used at different system levels.

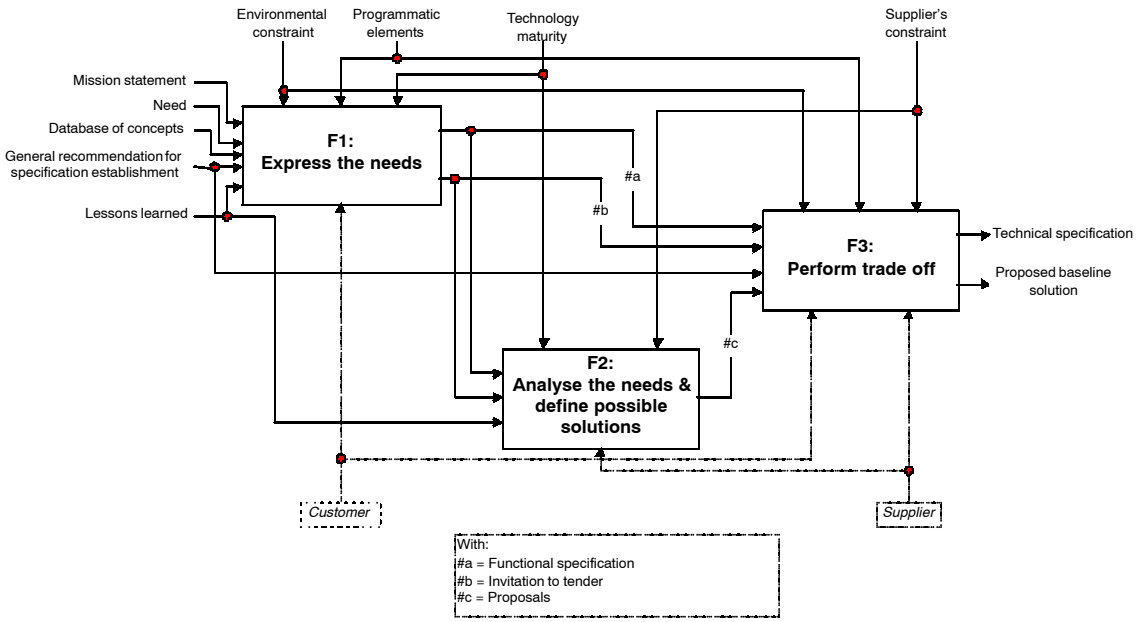

Figure 2: Relationship between the FS and the TS

Where:

- F1 task: the customer expresses the need in a FS (see 4.2);
- F2 task: each bidder analyses this FS and establishes one or more proposals; This task is presented to ensure a consistent approach between the bidders and the customer;
- F3 task: the customer select the supplier/solution and releases the TS (see 4.3).

As part of a business agreement, the customer establishes his needs for the development of a product or a system in a technical specification.

The FS clarifies the global needs (mission statement) and is the technical reference for invitations to tender and consultations.

An FS is also used when a design-to-cost process applies to help in defining the best compromized solution. Moreover, it facilitates the selection of "off-the-shelf" items because it forces to define the needs and constraints even if solutions are preselected.

The technical specification derives from the FS and is compatible with the proposed baseline solution. It is the result of the business negotiation process. It is the baseline for the product or system development.

A TS defines the related set of technical requirements established and used to develop or procure a product or a system as part of the business agreement.

The TS is the technical reference for the design definition and the end product acceptance.

The technical requirements are usually negotiated with the customer and take into account the technical feasibility, availability and cost of the proposed solution.

5.2 Process for establishing a functional specification

For space projects, this process can be divided into two steps:

- establishment of the first issue of the FS;
- identification, evaluation of the different possible concepts to establish the final issue of the FS.

The first step consists of an initial assessment of the project and results in the first issue of the FS, as illustrated in Figure 3. The purpose of this first issue of the FS is to express the customer's need, mission statement, associated environmental constraint and programmatic element in terms of technical requirements (i.e. the problem to solve). This document serves as a basis to initiate the next step.

Note: A functional analysis can be performed to capture the FS requirements (see EN 12973).

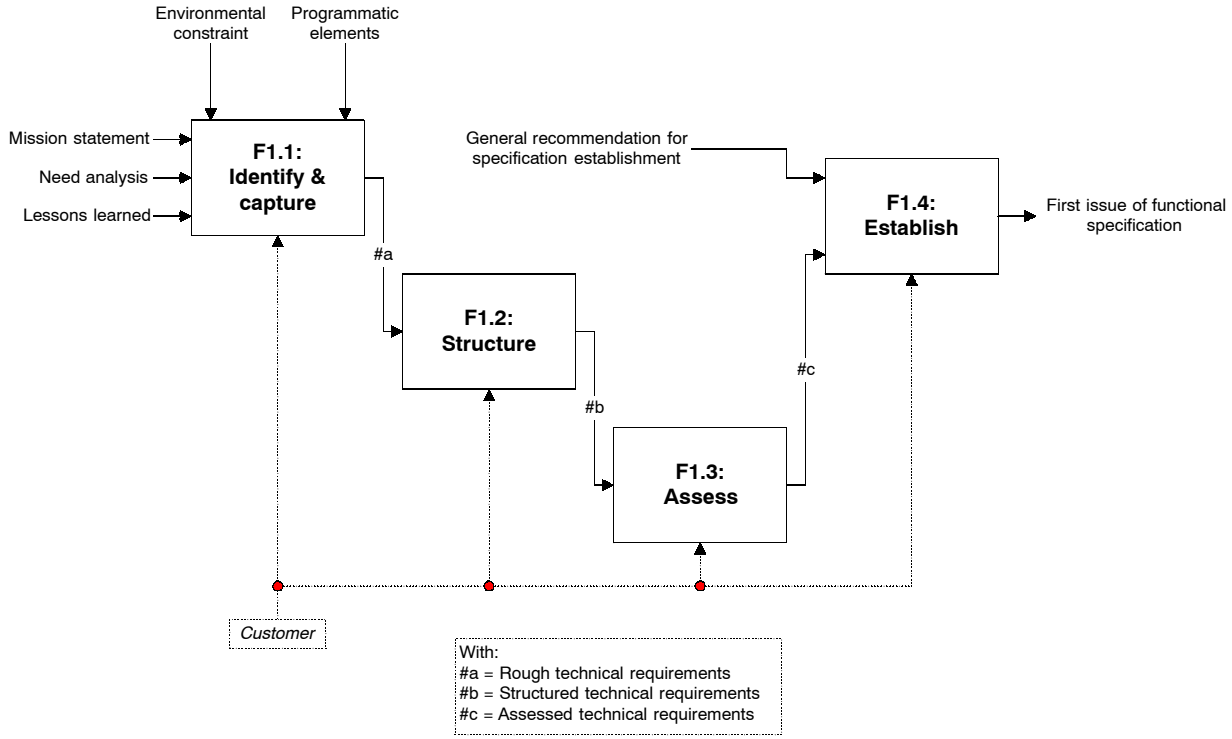

Figure 3: Process to establish the first issue of the FS

Where:

- The F1.1 task: The customer identifies and captures the user's needs or mission statements, associated environments and constraints. He expresses these in terms of technical requirements;
- The F1.2 task: The customer structures, classifies and justifies (see 8.1.1) individual technical requirements;
- The F1.3 task: The customer assesses the entire set of technical requirements for correctness, consistency and suitability for the intended use;
- The F1.4 task: The customer establishes the first issue of the FS and releases it.

The second step consists of the exploration among the different possible concepts ensuring the conformity to the defined needs, then the selection of one concept and results in the final issue of the FS. This final version is progressively drafted from the first issue of the FS and takes into account the induced constraints from the possible concepts. Figure 4 illustrates this process.

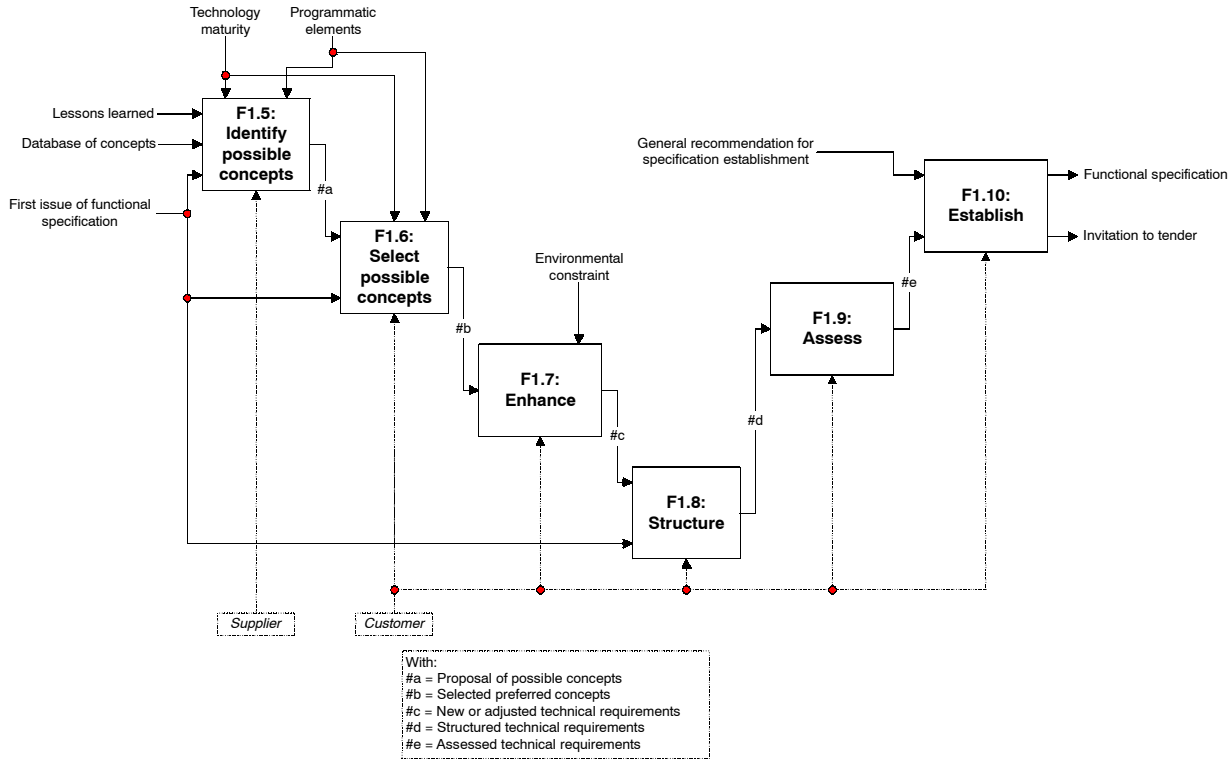

Figure 4: Process to establish the final issue of the FS

Where:

- The F1.5 task: Each candidate supplier reviews the first issue of the FS, identifies and proposes possible concepts;
- The F1.6 task: The customer evaluates and selects preferred concepts;
- The F1.7 task: The customer identifies the need for changes to the first issue of the FS taking into account the limitations and possibilities induced by the selected preferred concepts. Then, he expresses the adjusted or new individual technical requirements;
- The F1.8 task: The customer structures, classifies and justifies (see 8.1.1) the individual technical requirements;
- The F1.9 task: The customer assesses the entire set of technical requirements for correctness, consistency and suitability for the intended use;
- The F1.10 task: The customer establishes the final issue of the FS and releases it.

5.3 Process for establishing a technical specification

A technical specification is a contractual document drafted under the customer's responsibility. As a result of the negotiation process, it expresses the technical requirements in terms compatible with the FS and the capabilities of the selected solution, taking into account the performances, costs and schedule constraints.

Figure 5 presents the TS establishment process. This process takes into account environmental and suppliers' constraints and programmatic elements (including the cost and schedule) and the FS. It allows the customer and the supplier to find a compromise and agree upon the TS.

The process described is independent of the point where the solution to be developed is chosen.

The outcome of this process is an agreed set of technical requirements to be included in the business agreement for development.

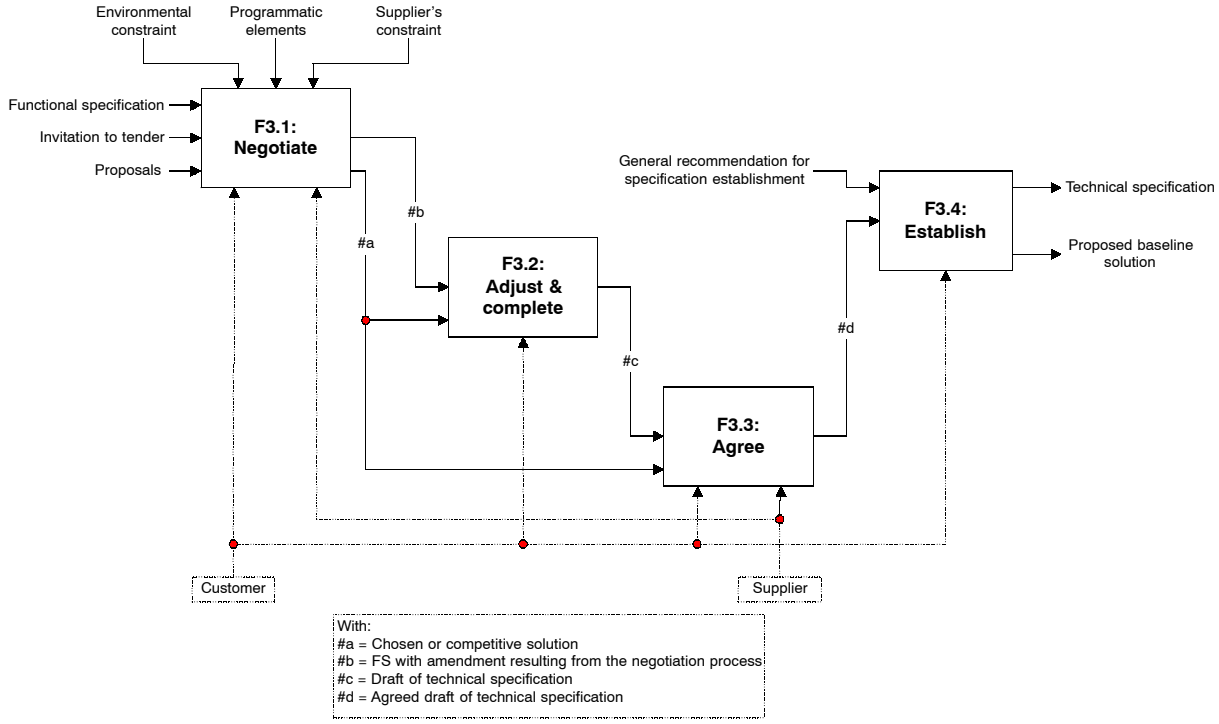

Figure 5: Process to establish the TS

Where:

- The F3.1 task: Both the customer and each candidate supplier negotiate to establish amendments to the technical requirements;
- The F3.2 task: The technical requirements are adjusted and completed according to the result of the negotiation step;
- The F3.3 task: Both the customer and each candidate supplier agree upon the technical requirements contained in the draft issue of the TS;
- The F3.4 task: The technical specification is established as a baseline for the solution to be developed by the signature of the business agreement.

6

Technical requirements description

6.1 General description

The management of the technical requirements is based upon recognition of the attributes of technical requirements.

6.2 Identification of attributes assigned to technical requirements

6.2.1 Introduction

The differing types of technical requirements contained in the FS and in the TS are as follows

- functional requirements,
- mission requirements,
- interface requirements,
- environmental requirements,
- physical requirements,
- operational requirements,
- human factor requirements,
- (integrated) logistics support requirements,
- product assurance (PA) requirements,
- configuration requirements, and
- design requirements.

NOTE These different technical requirements used for the FS are called "user related functions" and constraints in EN 1325-1

6.2.2 Functional requirements description

Functional requirements are statements that define a function that the product shall perform, in order to conform to the needs and requirements of the user.

EXAMPLE 1 The product shall be able to put a satellite into orbit.

EXAMPLE 2 The product shall analyse the surface of Mars and transmit the data so that it is at the disposal of the scientific community.

6.2.3 Mission requirements description

Requirements related to a task, a function or an action performed by a product that yields a specified and observable result.

EXAMPLE The product shall be designed to be put in its final position after a transfer duration shorter than 90 days.

6.2.4 Interface requirements description

Requirements related to the interconnection or relationship characteristics between the product and other items.

NOTE This includes different types of interfaces (e.g. physical, thermal, electrical, and protocol).

EXAMPLE The product shall dialogue with the ground segment using telemetry.

6.2.5 Environmental requirements description

Requirements related to a product or the system environment during its life cycle; this includes the natural environments (e.g. planet interactions, free space and dust) and induced environments (e.g. radiation, electromagnetic, heat, vibration and contamination).

EXAMPLE The product shall operate within the temperature range from 30 °C to 50 °C.

6.2.6 Physical requirements description

Requirements that establish the boundary conditions to ensure physical compatibility and that are not defined by the interface requirements, design and construction requirements, or referenced drawings.

NOTE This includes requirements related to mechanical characteristics, electrical isolation and chemical composition (e.g. weight and dimensional limits).

EXAMPLE The product shall have a mass of (30 ± 0,1) kg.

6.2.7 Operational requirements description

Requirements related to the system operability.

NOTE This includes operational profiles and the utilization environment and events to which the product shall respond (e.g. autonomy, control and contingency) for each operational profile.

EXAMPLE The product shall be designed to accept control of the viewing function from the ground segment.

6.2.8 Human factor requirements description

Requirements related to a product or a process adapted to human capabilities considering basic human characteristics.

NOTE This includes the following basic human capability characteristics

- decision making,
- muscular strength, coordination and craftsmanship,
- body dimensions,
- perception and judgement,
- workload, and
- comfort and freedom from environmental stress.

EXAMPLE The product shall display the information with no more than two windows on the screen at the same time.

6.2.9 (Integrated) logistics support requirements description

Requirements related to the (integrated) logistics support considerations to ensure the effective and economical support of a system for its life cycle.

NOTE This includes the following subjects

- the constraints concerning the maintenance (e.g. minimum periodicity, intervention duration, infrastructure, tooling, intervention modes),
- packaging, transportation, handling and storage,
- training of product users,
- user documentation,
- implementation of the product at the user's site, and
- reuse of the product or its elements.

EXAMPLE The product shall be designed to be installed at the customer's site within two days.

6.2.10 Product assurance (PA) requirements description

Requirements related to the relevant activities covered by the product assurance.

NOTE This can include the following subjects:

- Reliability, availability, maintainability,
- Safety, and
- Quality assurance.

EXAMPLE The product shall conform to the preferred parts list (PPL).

6.2.11 Configuration requirements description

Requirements related to the composition of the product or its organization.

EXAMPLE The product shall have 7 power modules with 2 power outlets per engine.

6.2.12 Design requirements description

Requirements related to the imposed design and construction standards such as design standards, selection list of components or materials, interchangeability, safety or margins.

EXAMPLE The receiver shall use a phase-lock loop (PLL).

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7

Requirements and recommendations for functional specifications and technical specifications

7.1 Requirements and recommendations common to FS and TS

7.1.1 General

a. Technical requirements in the FS (respectively the TS) shall be formulated as defined in clause 8 as applicable to the FS (respectively the TS).

b. The specification shall be identifiable, referable and related to a product or a system.

7.1.2 Responsibility

a. An entity shall be identified to be responsible for the specification.

b. The responsible entity shall define access policy and rights, and distribution list for the specification.

c. The responsible entity of the specification shall define the content and format of the attributes listed in clause 8.

7.1.3 Technical requirements organisation

a. The technical requirements should be grouped by type or in accordance with the different situations of the product or system life cycle in regard of the needs, the environmental conditions and the constraints.

b. The technical requirements shall be unambiguous and not in conflict with the other associated requirements in contractual documentation.

c. The technical requirements shall be consistent (e.g. not in conflict with the other requirements within the specification).

d. Compounded technical requirements should be avoided.

e. Abbreviated terms used in requirements shall be defined in a dedicated section of the specification.

7.1.4 Unique technical reference

a. The specification shall be complete in terms of applicable requirements and reference to applicable documents.

b. A technical requirement shall not call for more than one technical requirement in an applicable referred document.

c. The link to an applicable document shall be stated in the technical requirements.

d. The reference number of the applicable documents cited in the specification shall contain the revision identifier.

7.1.5 Configuration management

The specification shall be under configuration management.

7.1.6 Format

The specification shall be established to be readily exchanged according to the established access policy and rights.

7.1.7 Supplementary information

If a (sub)clause is stated to be informative or descriptive, then this (sub)clause shall not contain any requirement or recommendation.

7.1.8 Restrictions

Functional and technical specifications shall only include technical requirements and exclude requirements such as cost, methods of payment, quantity required, time or place of delivery.

7.1.9 Severity classification

The specification shall provide the scoring scheme for the severity of risk consequences according to EN ISO 17666.

7.2 Requirement specific to the functional specification

In order to allow potential suppliers to propose the best technical and programmatic solutions, a functional specification shall provide flexibility on requirements to facilitate the adjustment of the need, mission statement, programmatic and any possible solutions.

NOTE Good practice avoids proposing or referring to a specific solution in the FS.

8

Requirements and recommendations for characterizing the technical requirements

8.1 Requirements and recommendations for the characteristics of a technical requirement common to FS and TS

8.1.1 Performance

a. Each technical requirement shall be described in quantifiable terms.

b. Each technical requirement should include an attribute that defines the method used to determine the required performance.

8.1.2 Justification

a. Each technical requirement shall be justified.

b. The entity responsible of the technical requirement shall be identified.

c. The entity responsible of the specification shall define what part of the justification shall be included in the specification as informative material.

d. The justification of every technical requirement shall be collected and recorded in a requirement justification file.

NOTE Only requirements that are necessary to meet the customer's need are justified.

8.1.3 Configuration management and traceability

a. Each technical requirement shall be under configuration management.

b. All technical requirements shall be backwards-traceable.

c. All technical requirements shall be forwards-traceable.

NOTE 1 A technical requirement is traceable when it is possible to trace the history, application, or location of a requirement by means of recorded identification.

NOTE 2 The backward traceability is the process to trace back the source of each requirement to the requirement from which it derives.

NOTE 3 The forward traceability is the process to establish that each level requirement is implemented at the appropriate phase of the design and that all requirements are implemented.

8.1.4 Ambiguity

Any detected ambiguity in a technical requirement shall be removed.

8.1.5 Uniqueness

Each technical requirement shall be unique.

8.1.6 Identifiability

a. A technical requirement should be identified in relation to the relevant product or system.

b. A unique identifier shall be assigned to each technical requirement.

c. The unique identifier should reflect the type of the technical requirement.

NOTE In general a technical requirement is identified by a character or a string of characters, a number, or a name tag or hypertext, for example.

8.1.7 Singularity

Each technical requirement shall be separately stated.

NOTE Technical requirements are single or separately stated when they are not the combination of two or more technical requirements.

8.1.8 Completeness

A technical requirement shall be self-contained.

NOTE A technical requirement is self-contained when it is complete and not referring to other requirement

8.1.9 Prioritization

a. A priority should be identified for each technical requirement.

b. Every technical requirement should include an attribute to characterize the priority.

NOTE 1 A technical requirement is prioritized when it has been associated with a level of interest to the user and his commitment to the constraints.

NOTE 2 Priority is the ranking of the different technical requirements in accordance to different levels of interest for the user.

8.2 Requirements and recommendations for the characteristics of a technical requirement in the FS

8.2.1 Flexibility

A FS technical requirement should be flexible, according to the maturity of the project.

NOTE A technical requirement is flexible when a set of indications is given by the owner regarding the possibility of adjusting the level sought for a performance.

8.2.2 Severity

a. A severity indicator shall be identified for each FS technical requirement.

b. The technical requirement should include an attribute to quantify the consequence of failure to fulfil a technical requirement.

NOTE The technical requirement severity is the indicator (score) according to the magnitude of its possible consequences in case of failure or undesired event.

8.2.3 Maturity

a. A maturity indicator shall be identified for each technical requirement.

b. The technical requirement should include an attribute to characterize the maturity step of the technical requirement.

NOTE 1 The technical requirement maturity is a progress indicator in the requirement establishment process. It can be "verbatim", "tbc", "tbd", "in analysis", or "analyzed"

NOTE 2 The customer can include the attribute in the specifications, for internal use.

8.3 Requirements and recommendations for the characteristics of a technical requirement in the TS

8.3.1 Verification

a. A TS technical requirement shall be verifiable using one or more approved verification methods.

b. The template for the verification matrix should be annexed to the TS (see ECSS-E-10-02 for relevant information concerning the content of the verification matrix).

NOTE 1 A technical requirement is verifiable when the means to evaluate if the proposed solution meets the requirement are known.

NOTE 2 The attribute of verification concerns the agreed methods for each technical requirement. The attribute is an input for the verification matrix.

8.3.2 Attainability

A technical requirement shall be attainable taking into account the context of the project.

NOTE 1 A technical requirement is attainable when the capability of being reached or obtained is demonstrated taking into account an identified context such as planning, funding, technology status, skills availability, facilities availability, or procurement availability.

NOTE 2 An attainable requirement can, nevertheless, be at the limit of possibilities.

8.3.3 Tolerance

The tolerance shall be specified for each parameter/variable.

NOTE The technical requirement tolerance is a range of values within which the conformity to the requirement is accepted.

8.3.4 Risk

A risk indicator shall be identified for each TS technical requirement.

NOTE 1 The technical requirement risk is the indicator (index) to measure the effect of an undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence on the project.

NOTE 2 The risk analysis techniques are used to determine a grading for technical requirements. The grading depends on the severity defined by the customer in the FS and on the likelihood of not fulfilling the technical requirement determined by the proposed solution.

8.4 Requirements and recommendations for the wording

8.4.1 General format

a. Technical requirements should be stated in performance or "what-is-necessary" terms, as opposed to telling a supplier "how to" perform a task, unless the exact steps in performance of the task are essential to ensure the proper functioning of the product.

b. Technical requirements should be expressed in a positive way, as a complete sentence (with a verb and a noun).

8.4.2 Required verbal form

a. The verbal form "shall" shall be used whenever a provision is a requirement.

b. The verbal form "should" shall be used whenever a provision is a recommendation.

c. The verbal form "may" shall be used whenever a provision is a permission.

d. The verbal form "can" shall be used to indicate possibility or capability.

8.4.3 Format restrictions

List of terms that shall not be used in a TS requirement

- "and/or",
- "etc",
- "goal",
- "shall be included but not limited to",
- "relevant",
- "necessary",
- "appropriate",
- "as far as possible",
- "optimize",
- "minimize",
- "maximize",
- "typical",
- "rapid",
- "user-friendly",
- "easy",
- "sufficient",
- "enough",
- "suitable",
- "satisfactory",

- “adequate”,
- “quick”,
- “first rate”,
- “best possible”,
- “great”,
- “small”,
- “large”, and
- “state of the art”.

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Bibliography

EN 13292:1999	Space engineering — Policy and principles
EN 13290-2:2000	Space project management — General requirements — Part 2: Project breakdown structures
EN 13290-4:2000	Space project management — General requirements — Part 4: Project phasing and planning
EN 1325-1:1996	Value management, value analysis, functional analysis vocabulary — Part 1: Value analysis and functional analysis
ISO 9000:2000	Quality management systems — Fundamentals and Vocabulary
ISO/IEC Guide 2:1996	Standard and related activities — General Vocabulary
ISO 14300-1:2001	Space systems — Programme management — Part 1: Structuring of a programme
EN 12973:2000	Value management

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ECSS Document Improvement Proposal

1. Document I.D.	2. Document date	3. Document title
ECSS-E-10 Part 6A	9 January 2004	System engineering — Part 6: Functional and technical specifications

4. Recommended improvement (identify clauses, subclauses and include modified text or graphic, attach pages as necessary)

5. Reason for recommendation

6. Originator of recommendation

Name:	Organization:	
Address:	Phone: Fax: e-mail:	**7. Date of submission:**

8. Send to ECSS Secretariat

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