

ECSS Glossary: Drafting Rules and e-Glossary Capabilities

**WG Convener and Members
Training
Version 1.1**

**ECSS Glossary Task Force
16022020**



Training Objective



- ❑ ECSS Glossary training objectives:
 - ❑ Improve terminology use in ECSS.
 - ❑ Add rigour to the use of terms in particular with regard to context.
 - ❑ Remove ambiguity in terms already defined.
 - ❑ Pave the way for inclusion of terminology into the future ECSS data repository system (*handled by the Master Database Task Force*)



- ❑ ECSS Glossary training scope:
 - ❑ Covers ECSS-D-00-01 updated for Section 3
 - ❑ ECSS document template Section 3 “Terms, definitions and abbreviated terms” has the following sub-sections;
 - ❑ Section 3.1 - Terms from other standards
 - ❑ Section 3.2 - Terms specific to the present standard
 - ❑ Section 3.3 - Abbreviated terms and symbols
 - ❑ Section 3.4 - Conventions
 - ❑ Section 3.5 - Nomenclature



ECSS Glossary - Drafting Rules

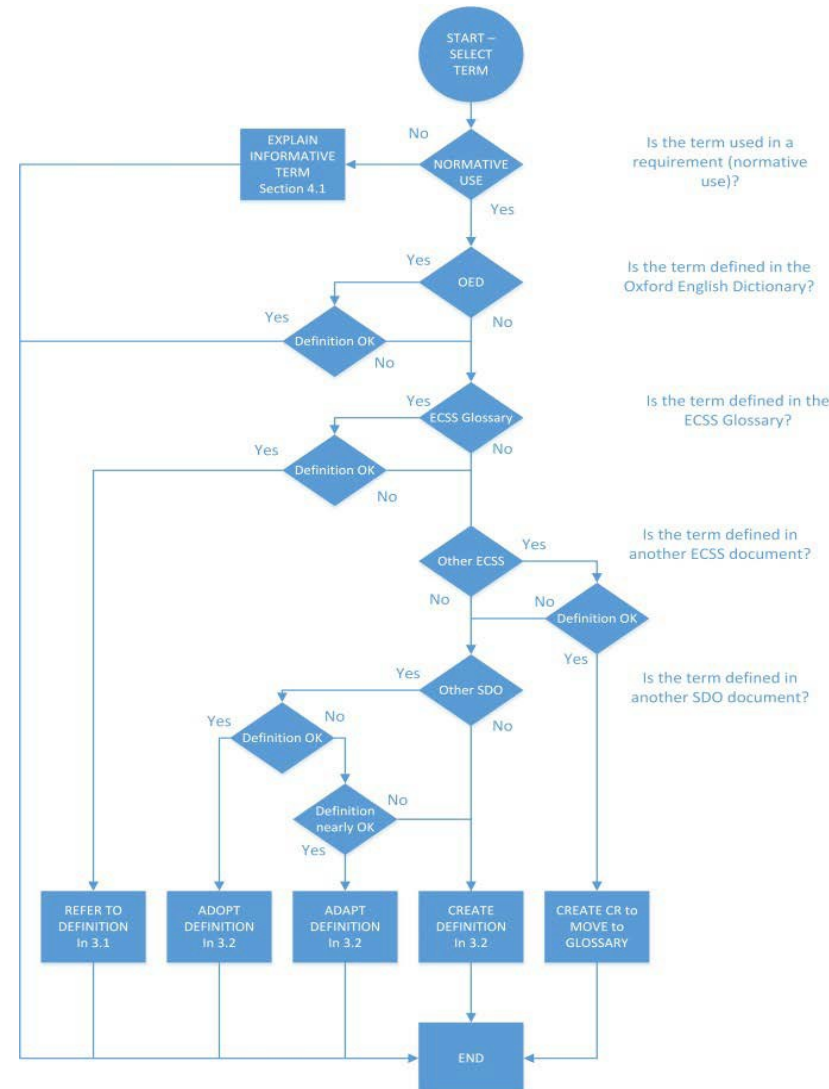


- **Drafting Rules**
- **Web-based**
- **Word Plug-in**
- **Mobile App**

Why drafting rules ...?

“It’s not so much the use of terms ... but the misuse of terms ...

ECSS e-Glossary provides the user a rapid, easy and free access to solve this”



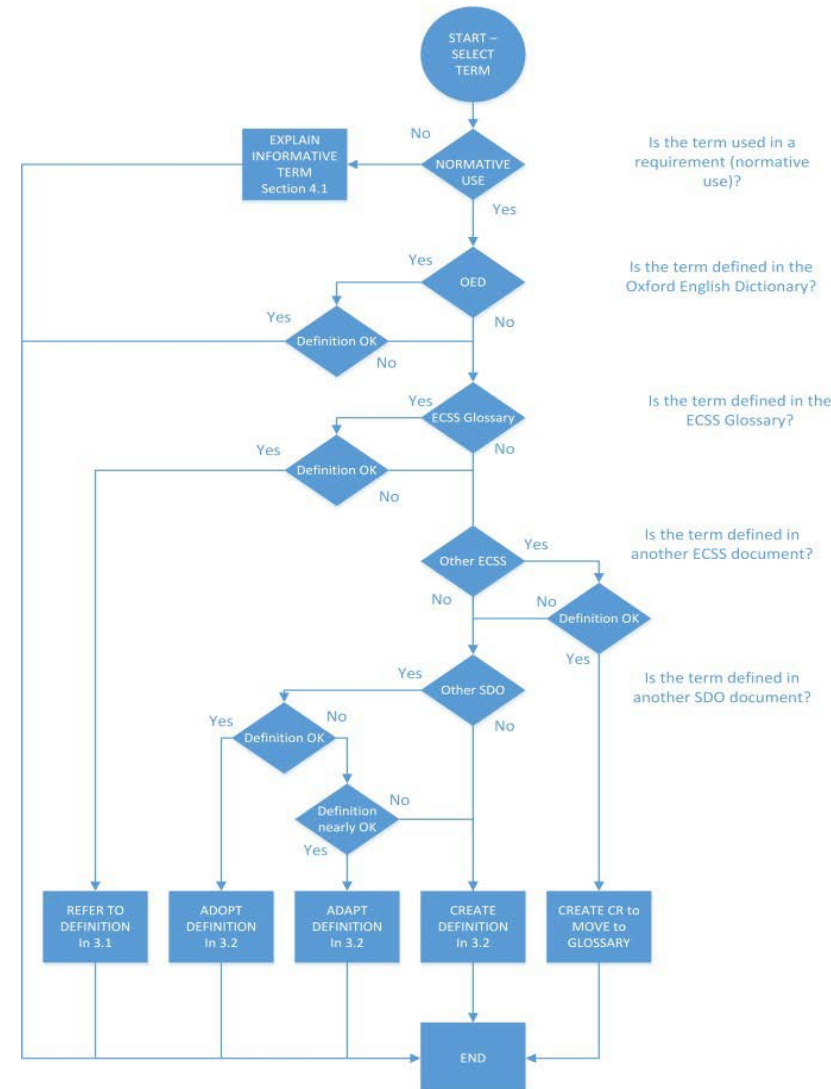
ECSS Glossary - Drafting Rules



Drafting Rules

- Web-based
- Word Plug-in
- Mobile App

- The ECSS Glossary contains all common terms - referred to as “general” terms. Terms specific to a document are defined in that standard - referred to as “local”.
- The Glossary does not contain terms used in their common sense - the Oxford English Dictionary definition applies



ECSS Glossary – Web-based



- Drafting Rules
- Web-based

<https://ecss.nl/>

The screenshot shows the ECSS website interface. At the top, there is a dark blue header with the ECSS logo and the text "European Cooperation for Space Standardization". Below this is a yellow navigation bar with links: HOME, ORGANIZATION, STANDARDS, Handbooks and TMs, GLOSSARY, CONTACT ECSS, MyTeam websites, and Links to other SDOs. A search bar is located on the left side of the page, with the text "Search ECSS website" and a "Search" button. The search results for "human" are displayed in a dark blue box. The results include a "human centred design" entry, which is marked as a "STANDARD" and "DEFINITION". The definition is: "approach to human-machine system design and development that focuses, beyond the other technical aims, on making systems usable". There is a "Change request" button next to the definition. On the left side of the search results, there is a "RELATIONS" section with a list of related terms: "design" (ECSS-S-ST-00-01C), "development" (ECSS-S-ST-00-01C), and "HCD".



ECSS Glossary – User/Use-based



- Drafting Rules
- Web-based
- Word Plug-in

(1 st paragraph)		primary space debris mitigation requirements applicable to all elements of systems launched into or passing through near-Earth space, including launch vehicle orbital stages, operating spacecraft, and any objects released as part of normal operations or disposal actions.	the Scope of the ISO standard.
3.15 re-entry	Modified (NOTE deleted)	process in which atmospheric drag cascades deceleration of a spacecraft or launch vehicle orbital stage (or any part thereof), leading to its destruction or return to Earth	NOTE deleted
6.1.1.3	New requirement	<u>If space debris are released into Earth orbit during normal launch operations, then the number of space debris released, other than those covered by 6.1.2, shall not exceed:</u> <u>a. One, for the launch of a single spacecraft.</u> <u>b. Two, for the launch of multiple spacecraft.</u>	New requirement added
6.1.2.2	Modified (whole text of the requirement)	Solid rocket motors shall be designed and operated to avoid releasing solid combustion products <u>larger than 1 mm</u> into the GEO protected region.	ISO requirement modified to include the maximum size of solid combustion products.



ECSS eGlossary – Mobile App



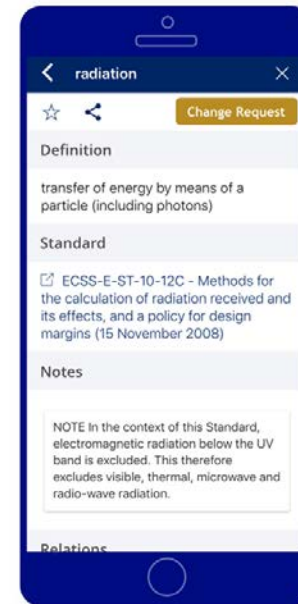
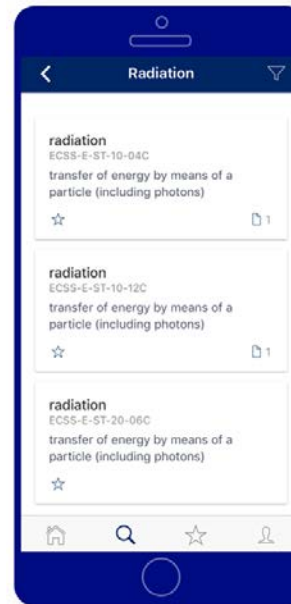
- Drafting Rules
- Web-based
- Word Plug-in
- **Mobile App**

Assisted technical search
User needs oriented

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Now available!!!

go to: www.ecss.nl

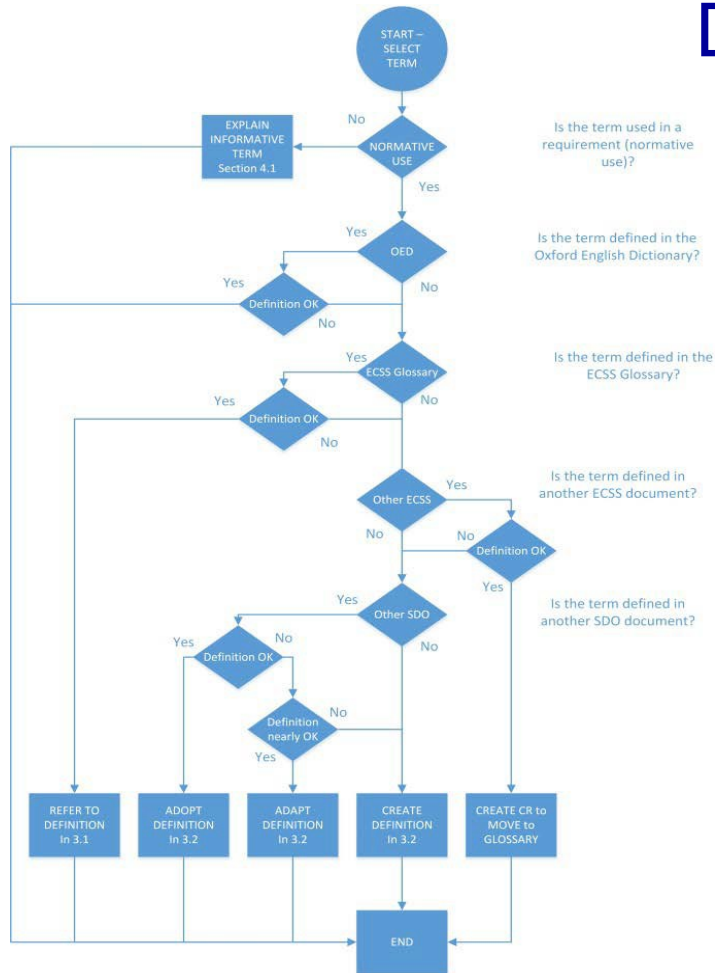


ECSS Drafting Rules – Logi-flow



Do you need a new term?

Watch logi-process video ...



In *creating* a **term** the following shall apply

1. term is to be in the singular form.

Launcher *not* launchers / Training *not* trainings / Equipment
not Equipments ...

2. term consisting of more than one word is only valid when the definition provided is other than the collective definitions of the words of the term.



In *creating* a term the following shall apply

3. synonymous terms are not to be defined
4. a term cannot be a unit or a physical phenomenon already commonly defined



In *creating* a **definition** the following shall apply

1. a definition provides the meaning of a term

NOTE the objective is to provide the meaning of the term and not to detail a specification or explanation

2. a definition is a partial single sentence

NOTE The sentence starts in the lower case and is not punctuated at the end of the sentence.



In *creating* a definition the following shall apply

3. a definition is worded so it can be directly substituted into the text instead of the term

NOTE a definition that fails this criteria may be a convention that is entered in Section 3.4 and not Section 3.2 – see Section 3.5.d.



In *creating* a definition the following shall apply

4. the definition cannot contain formal verbs “shall”, “should”, “may” and “need not” as defined in 3.5.1.



In *creating* a definition the following shall apply

5. A definition of a term does not repeat the term, nor any word used in the term
6. If 5 cannot be met, all or part of a term may be used in the definition where the term is a category

Example - “Class 1 change” is a category of “change” with a unique definition in ECSS



In *formatting* a term + definition the following shall apply

1. Definitions being listed in alphabetic order.
2. Words used in a definition that are existing ECSS defined terms appear in bold.
3. Abbreviation of the term is not included after the term.

NOTE Abbreviations are listed separately in “Abbreviated terms”
(see 3.3).



In *formatting* a term + definition the following shall apply

4. The layout of the "Terms specific to the present standard" clause is compliant with figure 3-2.

3.2.2 recurring product

product which conforms to a qualified design and is produced according to the corresponding production master file



In *creating* an **abbreviation** the following shall apply

- a. The list of abbreviated terms and symbols shall be introduced by the following boilerplate sentence: “For the purpose of this standard, the abbreviated terms and symbols of ECSS-S-ST-00-01 and the following apply:”
- b. A term from which an abbreviation is derived shall be understood as a collection of words which together represent an understandable single concept or idea.



In *creating* an abbreviation the following shall apply

- c. An abbreviated term or a symbol is shall be defined and listed in this clause 3.3 when
 1. it is used in the standard, and
 2. its meaning is not included every time that the abbreviated term or the symbol is used, and
 3. the use of an abbreviation assists with the formatting, reading and understanding of the document.



In *creating* an abbreviation the following shall apply

- d. The same abbreviated term or symbol shall not be used within a document for two different concepts.
- e. The abbreviated term or the symbol shall appear in bold, and the expanded meaning shall be written using lowercase letters (unless they are proper names), and in regular..



In *creating* an abbreviation the following shall apply

- f. For abbreviations derived from an ECSS defined term, the expansion is given in italic font.
- g. The layout of the “Abbreviated terms and symbols” clause shall be as in the example provided in Figure 3.3.

For the purpose of this standard, the abbreviated terms and symbols from ECSS-S-ST-00-01 and the following apply:

Abbreviation	Meaning
DRD	document requirements definition
ECSS	European Cooperation for Space Standardization
ITT	invitation to tender
SEP	system engineering plan



In *creating* an abbreviation the following shall apply

- h. The “Abbreviated terms and symbols” clause shall not include requirements.
- i. Abbreviated terms already listed in ECSS-ST-00-01 “ECSS system – Glossary of terms” are not to be repeated in the standard where these have the same meaning as in ECSS-S-ST-00-01.
- j. The same abbreviation shall not be used within a document for two different terms.



In *creating* an abbreviation the following shall apply

- k. Abbreviations shall consist of
 1. at least two consecutive letters or more,
 2. taken from the first letter of each term they are replacing
 3. letters



In *creating* an abbreviation the following shall apply

- I. Abbreviations shall not
 1. be a statement of a unit (e.g. N = Newton)
 2. contain another abbreviation
 3. consist of characters other than letters from the English alphabet
 4. contain slashes or parenthesis



In *creating* an abbreviation the following shall apply

- m. Parameters may be defined as Abbreviations
- n. Abbreviations shall be in line with normal industry practice and be commonly applied.



Drafting Rules – Conventions.

- ❑ A **convention** is a stated way of “doing things” (i.e. established by its use), and as such provides a “rule-set” associated with a term,
 - ❑ generally in the form of a formulae, typology or logic, that establishes the relationship between a term and desired constituencies, outcome or process. Examples would be:
 - ❑ Graphic image indicating the (physical) relationship of entities – such as terms expressed on a graphical axes
 - ❑ Equation or formulae expressing the terms and their relationship
 - ❑ Choice of units for the significant terms or associated

conductive material	<ESD protection> material with the following characteristics: <ul style="list-style-type: none">• surface conductive type: materials with a surface resistivity less than $10^5 \Omega/\square$.• volume conductive type: materials with a volume resistivity less than $10^4 \Omega\text{-cm}$.
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In *creating* a convention the following shall apply

- c. a convention shall state the formal relationship between entities (e.g. an expression of an equation).
- d. A convention shall not comply with 3.2.c

NOTE a convention differs from a definition, as a convention is to be understood as means a to express how something shall be derived (e.g. done, formulated, classified or inter-related) whilst a definition is a statement of the exact meaning of a term

- For example, the convention for ‘density’ of ‘mass per unit volume of some material or substance’ has it’s origin in the ‘rule-set’ from the formula $\text{density} = \text{mass}/\text{volume}$.



In *creating* a convention the following shall apply

- e. a convention shall provide a reference or source, from which this rule-set is adopted, if other than ECSS.
- f. each convention shall be included in a separate sub-clause within clause 3.4.



In *creating* a convention the following shall apply

- g. The layout of the “Conventions” clause shall be as in the example provided in Figure 3.4 (see over)
- h. The “Conventions” clause shall not include requirements.

Example calling for conventions to be defined from a standard (ECSS-E-ST-10-09

- e. The convention for naming coordinate systems and transformations shall be specified.*
 - f. The notation convention shall be specified.*
 - g. Sign conventions shall be identified and defined.*
- NOTE E.g. rotation around an axis.*



3.4 Conventions

3.4.1 bit 0, bit 1, bit N-1

To identify each bit in an N-bit field, the first bit in the field to be transferred (i.e. the most left justified in a graphical representation) is defined as bit 0; the following bit is defined as bit 1 and so on up to bit N-1.

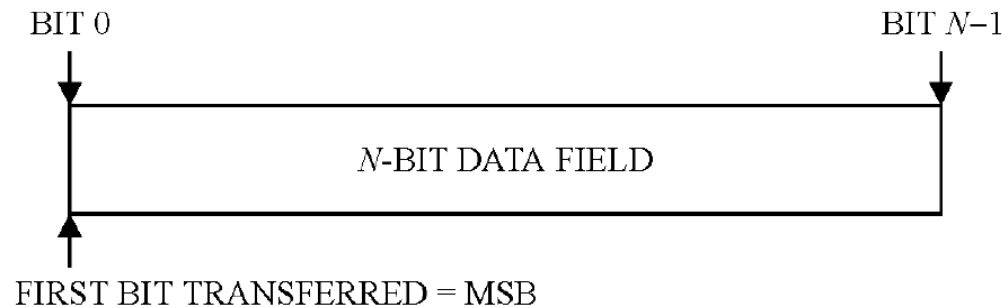


Figure 3-1: Bit numbering convention

Thank you for your time



And with thanks to ECSS Glossary Task Force

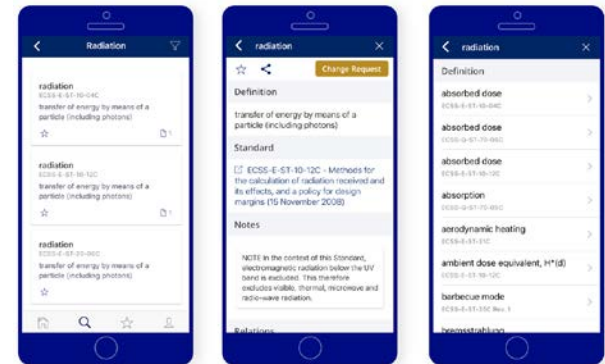
Convener: andrew.herd@esa.int



Back up slides



- **Web-based**
 - Wordpress – interfacing to Sharepoint workflow for Change Request process
- **Word Plug-in**
 - Existing word feature
 - Deployed via the Microsoft Store
- **Mobile App – designed for ECSS**
 - Template
 - Formatting
 - Visual identity
- **Embedding Drafting Rules**
 - ECSS evolution (E-RMS)



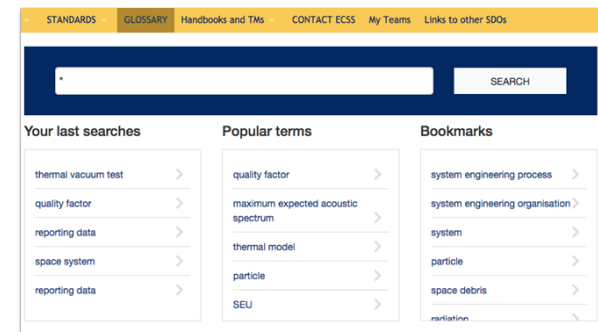
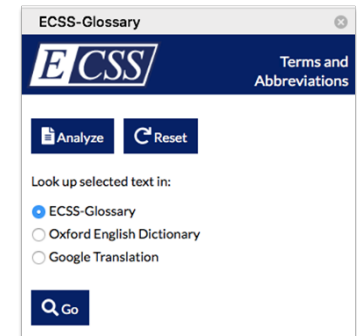
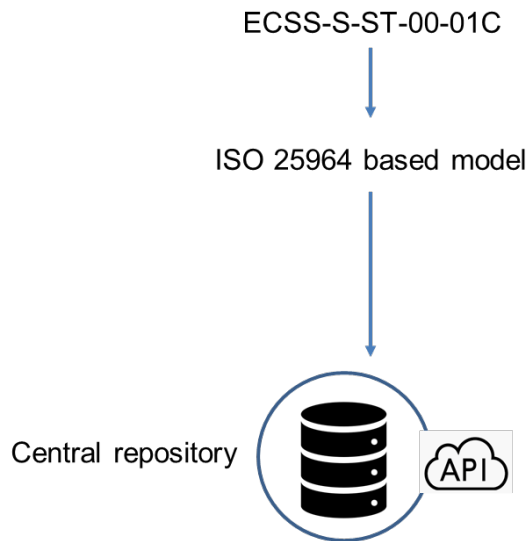
All user-interfaces pointing to the same repository





ECSS eGlossary Use Case

Technical implementation (overview)



ECSS eGlossary Use Case

Technical architecture

- Datamodel implemented on a central database
- For advanced search capabilities we are using the Red Data Search & Discovery platform (based on SOLR)
- 1 API for all connections (Apps) including SOLR.
- 3 Interfaces using the same repository

