



ETIM International classification Guidelines

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1. Introduction

ETIM offers an open standard for the unambiguous grouping and specification of products in the installation sector through a uniform product classification model. This classification uses: product classes, features, values and synonyms that make it easy to find the right product. The product classification itself is no "final product" but offers a structure for an electronic product database and applications such as an online web shop, search engine or configuration software. ETIM classification is multilingual, media neutral and supplier neutral.

ETIM International is the international standardization committee for ETIM. The principal objectives and activities are to develop, maintain, publish and promote the ETIM classification model. The long-term goal of ETIM International is to achieve that the ETIM model becomes the most used technical information model in the involved industries.

This document aims to provide with a brief framework to give formal guidelines on the organization as well as for the content management and quality requirements of the classification work. With the rapidly growing global interest and involvement it now becomes necessary to provide the fundament for a proper ETIM organization, in particular one concept for the administration and one for the technical administration of a uniform global ETIM model. To secure the uniform application and further development of a common ETIM model, it will be necessary to specify basic rules.

This document replaces all previous versions of this document as well as all previously published documents regarding classification guidelines in the respective member countries. Should a previously published version or any other document conflict with this document, the regulation of this document has priority.

2. Organization

2.1. General

ETIM International is a non-profit association governed by the provisions of the Belgian law and has its seat in Brussels. The working language of ETIM International is English. Full membership of ETIM International is open to recognised national ETIM organizations as specified in the present statutes.

The association has the following formal bodies: The General Assembly, the Executive Board and the Technical Committee.

The General Assembly has full powers to achieve the objectives and to ratify the vision and strategy of ETIM International. Each country has one vote in the General Assembly, which decides by majority. The General Assembly is the highest formal body in the organization and will elect the Executive Board to perform operational tasks, it can also set up policy groups and working groups. So ETIM International shall be governed by an Executive Board in accordance with decisions reached by the General Assembly.

The Executive Board is empowered to establish a Technical Committee, of which the chairman is appointed by the Board. This Committee will make proposals for the further development, enhancement and maintenance of the ETIM model. The Technical Committee shall be open to technical experts from the national ETIM organizations.

These guidelines describe the organization of the international collaboration and decision making regarding the ETIM classification. The organization and decision making within the national ETIM organizations is organized separately, but harmonized with the international guidelines to avoid conflicting stipulations.

2.2. Online Database and Service Portal ETIM CMT

CMT is the abbreviation for Classification Management Tool. It is a custom build online software tool to access the international multilingual ETIM master database and to efficiently organize and process additions and requests for change (RFCs) to the ETIM model. CMT is also the communication medium for status updates on RFCs to the requester and other interested members. Members with login can use a personal interest filter (PIF) to select on which classes they want to be informed, in case of RFCs they receive a summary status update every week, this way the amount of unwanted messages is reduced to an absolute minimum. This update includes direct links to the online RFC in ETIM CMT to view the complete request and/or to join the discussion on this request.

A non-conclusive listing of functions in CMT:

- Search, view and print ETIM classes in all available language versions; actual versions but also previous versions. The complete and detailed class history is available (what has been changed, by whom and when). Also reference products (pictures, product id, and links) can be saved to make clear what products should be classified in a certain class.
- Versions of the same class can be compared with each other to easily view the changes (using colours); it is also possible to compare different classes to each other to see what they have in common.
- View all available entities in the master tables, such as groups, features, values, units, synonyms; manage the translations if relevant and see in which classes these entities are used.
- Selections filter to select and print or export groups of classes using all available parameters as selection criteria. Members with login can save an indefinite number of selections to re-use including their PIF as mentioned earlier. Selections can be exported in all available export formats, like XML, Access, TXT, CSV and Excel.
- Add new classes or propose changes to existing classes (RFCs); a complete workflow engine is incorporated to assign tasks in the decision process and to communicate on actual status.
- View all the current RFCs and also RFC history to classes.
- A discussion board is available to involve members in the decision process on RFCs, the same discussion function is available for general discussions on a certain class (which then might lead to a RFC being proposed).
- Functions to prepare an official publication (only for administrators) including a number of standardized pre-publication checks to assure quality and consistency.

2.3. Expert groups

The expert groups (working groups) are the technical bodies in the standardization process. Each country of ETIM International can organize and administrate the structure of own expert groups. They check the content of the ETIM data model, develop own RFCs and check all external RFCs. These proposals shall be prepared in the local language and in English (British English).

The expert groups are composed of representatives from the manufacturers, the wholesalers and other relevant persons (associations, standards organizations ...). Expert

groups can hold a meeting at a national level or even cross-border. Usually, a representative of the relevant staff office should be present.

During a meeting, an expert group will develop existing classes and features or create new classes that are missing in the actual ETIM data model. It is recommended to take minutes to document the result of a meeting for the future. The expert group works out a suggestion, the final solution and decision is the responsibility of the ETIM Technical Committee. The result of a meeting has to be entered into the CMT to allow all ETIM members to evaluate the worked-out RFCs (especially the ETIM Technical Committee). It is not always necessary to meet face-to-face; often it is enough to coordinate change requests by e-Mail, telephone or directly in CMT.

2.4. Local national secretariats and/or -staff offices

As mentioned in chapter 2.1 the organization of the national ETIM organizations is not centrally defined. However some guidelines are given by the statutes to the activities to be performed by the national organizations. For the purpose of this document as technical guidelines we want to distinguish here between administrative and political tasks as the responsibility of the national secretariat on the one hand and technical tasks as the responsibility of the national staff offices on the other hand. Depending on the national situation these two can be combined into one operational service. In this document we will only focus on the technical tasks, for the rest we refer to the current statutes.

Core local ETIM staff office duties:

- Organize the translation in local language(s) of the ETIM classification within the foreseen time frame
- Provide know-how and administrative support to expert groups (or individual members) that are active in their country
- Receive local requests for change and perform a first evaluation for local approval or denial
- Enter approved local requests for change into the ETIM CMT tool and complete and/or check the (British) English translations if necessary
- Act as the communication liaison between the local ETIM members and the international organization regarding RFCs and other model issues
- Participate as empowered delegate in the Technical Committee and the joined activities regarding the model management and maintenance
- Participate actively in meetings and conferences organized by ETIM International concerning the development and promotion of the ETIM classification system
- Organize the distribution of the latest version of ETIM to the local members and promote the use of the latest version
- Avoid the creation of non-uniform versions by respecting the release plan of ETIM International

The above activity descriptions are non-conclusive but are given to indicate the scope and the responsibilities.

2.5. Technical Committee

The ETIM Technical Committee (TC) is the central body for all decisions regarding the standardization process. It has a technical supervision over the complete ETIM model. The TC will formally decide on all proposed RFCs (accept, rework, reject) by using the CMT.

Each member country designates one person as a member of the TC, who is regarded as an ETIM technical expert. The Chairman of the TC shall be appointed by the Executive Board. Each member country has one vote in the TC. The named representative of a member country can designate a substitute delegate if necessary. Each member of the TC can propose guests for an official meeting to the Chairman, but only one named person per country can vote/decide.

Every member in the Technical Committee has one vote. Decisions are made by a simple majority of votes. Abstention is regarded as a "no-vote". If there is a tied vote the chairman decides. At least two times a year, there should be an international face-to-face meeting of the Committee members; the Chairman is responsible for the organization. A transcript of the meeting has to be made, which will be communicated to the TC members and to the ETIM International board. TC members are responsible for informing their national board.

If necessary, the TC works together with other relevant institutions and initiatives.

If an ETIM member does not agree with a decision of the Technical Committee, he can raise an objection to the ETIM board. The objection has to be verbalised written in English and has to include all information to enable a fast and precise final decision of the board members.

Further non-conclusive tasks of the ETIM Technical Committee:

- to make proposals for the further development, enhancement and maintenance of ETIM
- development of these guidelines
- development of CMT
- development of the ETIM data model (beyond the content)
- forwarding information to the ETIM board
- forwarding information to the own member countries
- central administration and coordination of special overlapping nominating features (colours, protection symbols, ...)
- coordination and cooperation with other classification initiatives (e.g. eCI@ss, UNETO, PI, proficl@ss, GS1)
- discuss recommendations for the exchange formats
- responsibility for the English data model, incl. synonyms

3. ETIM Classification Model

What is product classification?

Product classification is simply a logical, unambiguous classification (taxonomy) of products in different product classes (categories), designed so that anyone within the sector can communicate about those products without misunderstandings. The ETIM model gives a listing of the most important technical characteristics of each product class to describe and find the products. Each class has several synonyms, thereby finding the right product is much easier for everyone!

Why product classification?

No double work due to constantly having to manually re-enter information that was already there electronically; Minimisation of failure costs of incorrect orders due to confusing or incorrect product information; High quality of product data, which is even considered a strategic asset these days; Optimal support of product data to numerous

functional applications that use and rely on these data; Efficient product data management;

International concept

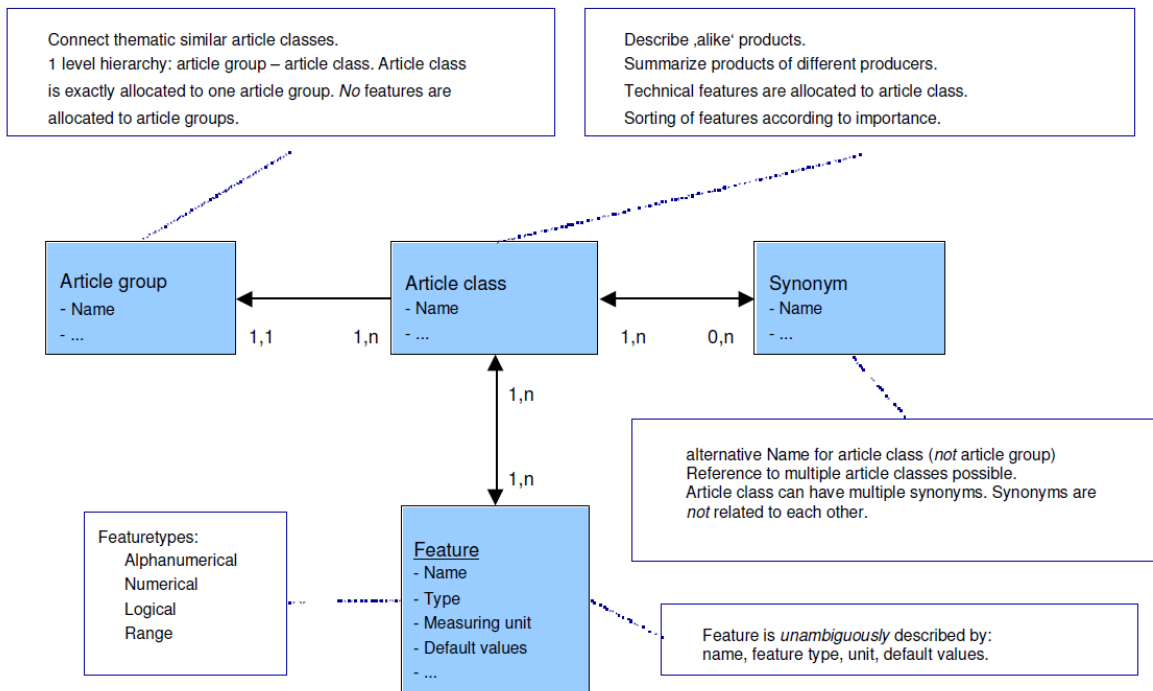
The fundamental idea is the international use of one identical standard ETIM model. The integration of the ETIM structure in the product information management systems of international companies gives suppliers and wholesalers a strategic option to standardize the flow of data and exchange the product information between different countries for all available products.

Model

The ETIM Classification model is built using the following categories or entities:

- Product groups
- Product classes
- Synonyms (Keywords)
- Features
- Values
- Units

A schematic view of the model and its relations:



Picture 1: Logical data model for ETIM

All classes, features, values and units have a clear and unique identifier that is language-independent; the description of the entities however is language-dependent.

Entity	Identifier ID	ID example	Max. length description
Group	EG + 6 digits	EG000017	80 positions
Class	EC + 6 digits	EC000016	80 positions
Feature	EF + 6 digits	EF000138	80 positions
Value	EV + 6 digits	EV000147	80 positions
Unit	EU + 6 digits	EU000015	15 positions (abbreviation e.g. mm) 80 positions (description e.g. millimetre)
Synonym	no ID	-	80 positions

Group:

The ETIM model is a two-level classification model. The two-levels consist of the product group and product classes. The product group is used to order the product classes. Every product class is assigned to exactly one product group. Nevertheless, ETIM is organized flat, because the groups are only for the convenient organization of the management of the product classes. Essential – and that is the real focus of ETIM- is the definition of product classes and their features.

Class:

Describes similar products, bundles products of different manufacturers or suppliers; all product classes have features to specify the technical characteristics of the products in the class, the features of each class are ordered due to their importance and are also structured meaningful (dimensions, features of electrical data, ...)

Feature:

A feature is clearly described by: description, feature type, unit and/or value

Feature types:

A – alphanumeric = list of possible values (e.g. red, green, long, short, ...)

L – logic = yes or no questions (also known as Boolean; "true" or "false")

N – numeric = one numeric value

R – range = two numeric values that limit a range of values

Value:

To each alphanumeric feature of an ETIM class, a fixed list of possible values is assigned; the order of this value list of a feature within an ETIM class is sorted language-dependent; so the value list of the feature "EF000007 – Colour" can be different in each ETIM class that uses this feature.

Unit:

Numerical and range features always need a unit of measurement which defines what value is expected. An exception are features like "number of...". These numerical features do not need a unit.

Synonym:

Also often referred to as "keyword", it means an alternative name for a product class (not for a product group) and a reference to several product classes is possible, a product class can have several synonyms, synonyms are not related to each other. A synonym does not have an ID, it is directly assigned to an ETIM class (language-dependent). The local ETIM organization is responsible for the synonyms in the local language.

Since there is not yet a (native English speaking) local ETIM organization in Great Britain, the TC has the final responsibility regarding the English language version, including the synonyms.

An example of an ETIM class which contains all relevant feature types:

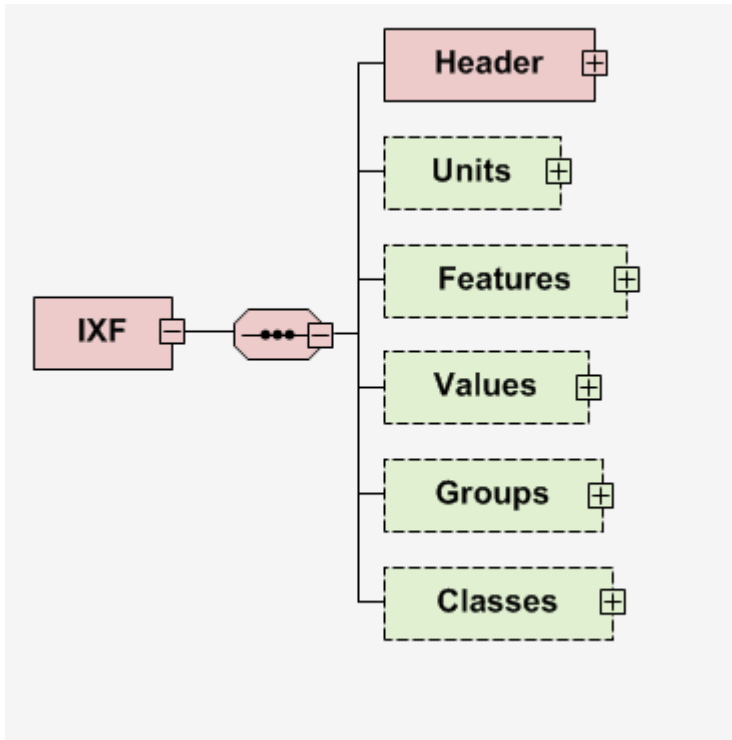
ETIM International - Classification Management Tool - Class Viewer				
Group	: EG000009 - Cable and wire entry systems			
Description	: Cable plug sealing clamp			
ArtClassID	: EC000451			
ArtClassVersion	: 4 (11/26/2007 11:27:14 AM)			
Status	: 5			
<hr/>				
Synonyms: Cable entry; Cable inlet; Cable plug sealing clamp; Insert; Nozzle; Sealing plug				
<hr/>				
Features				
<hr/>				
No.	Description	A/N/L/R	Unit	Value
1	Nominal diameter	N	mm	
2	Nominal size PG	N		
3	Model	A		Open; Closed; Trimmmable (cut away);
4	Sealing range	R	mm	
5	For wall thickness	R	mm	
6	Degree of protection (IP)	A		IP00; IP10; IP12; IPX7; Other; Rubber; Plastic; Other;
7	Material	A		Light grey; Black; White; Natural colour; Other;
8	Colour	A		
9	Halogen free	L		
(End Features)				

4. Release format classification

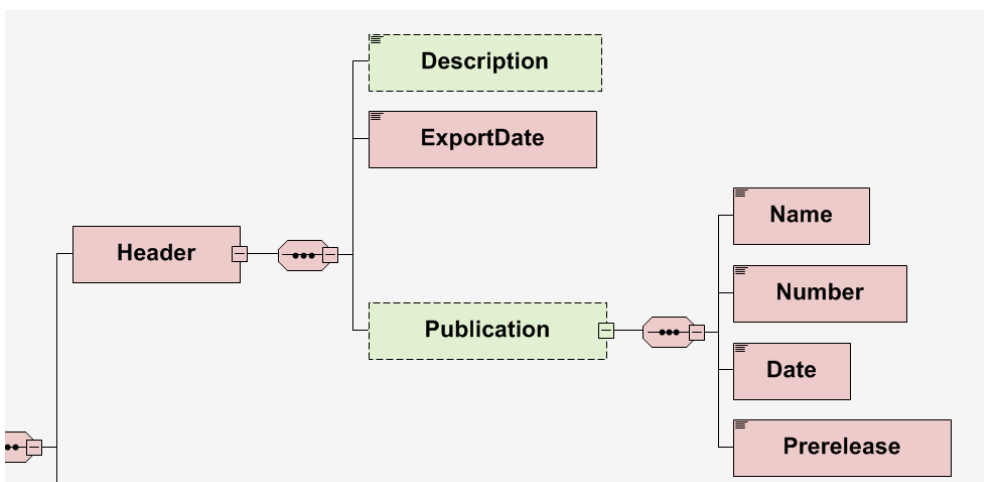
4.1. IXF format

The content of the ETIM model is identical in all member countries, which means that any ETIM class in use in a country has exactly the same features with the same identifying code for all the countries. However, in the past the release format was slightly different per country. Because this could and did indeed cause some confusion, ETIM decided to develop a new uniform international release format based on XML, a modern and flexible carrier for the ETIM model. Every country can still decide to have additional country-specific release formats, as described in chapter 8.2, but starting from ETIM 6.0 ETIM IXF will be considered THE international standard ETIM release format. The ETIM IXF format is multilingual, so it can contain multiple language versions of the ETIM model in one file. Below the summarized XSD diagram is displayed to give an overview of the sections in the format, after that we will focus on the respective sections in more detail. However for the complete and detailed format description we refer to the separate document on ETIM IXF.

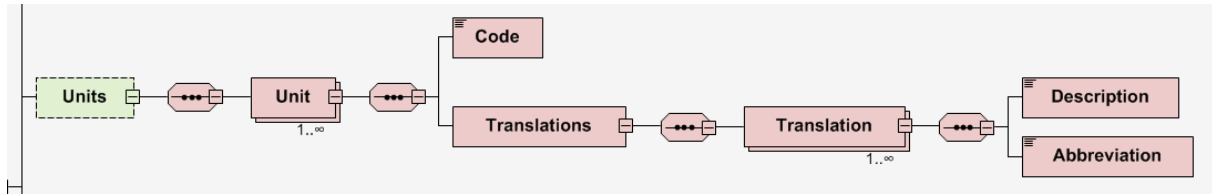
The format is built up with a header section, master tables with all the used groups, features, values, units and the class section defining classes and relating them to groups, features, values and units.



In the header section general information about the release is given. Since the ETIM IXF format can and will also be used for exports from the database that are not official ETIM releases, the header section is divided into two elements that at first impression might seem to overlap each other. In case of an export that is not an official release the "Publication" element can be omitted. The element "Prerelease", a Boolean that indicates if this publication is a pre-release or not, is related to the possibility of using ETIM IXF for a more dynamic release of ETIM, which is explained in chapter 4.3.



The master table for units contains all the units used in this release or export, with its official code (ID) and the respective translations of description and abbreviation, as illustrated in the example below.

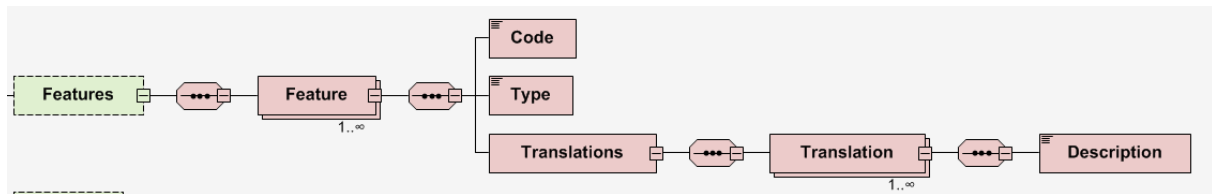


```

<Code>EU000002</Code>
<Translations>
  <Translation language="de-DE">
    <Description>Hekto-Pascal</Description>
    <Abbreviation>hPa</Abbreviation>
  </Translation>
  <Translation language="en-GB">
    <Description>Hecto Pascal</Description>
    <Abbreviation>hPa</Abbreviation>
  </Translation>
</Translations>
  <Description>Hecto Pascal</Description>
  <Abbreviation>hPa</Abbreviation>

```

The master table for features contains all the features used in this release or export, with its official code (ID), the type of feature (A, N, R or L) and the respective translations of the description, as illustrated in the example below.



```

<Feature>
  <Code>EF005497</Code>
  <Type>Range</Type>
  <Translations>
    <Translation language="de-DE">
      <Description>Aderdurchmesser</Description>
    </Translation>
    <Translation language="en-GB">
      <Description>Core diameter</Description>
    </Translation>
  </Translations>
  <Description>Core diameter</Description>
</Feature>

```

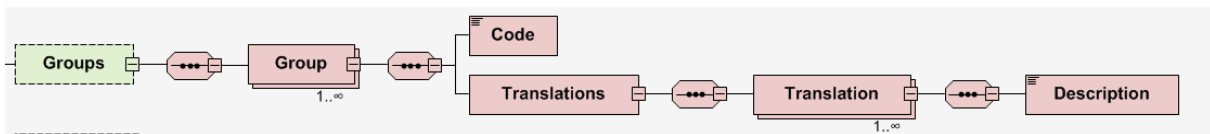
The master table for values contains all the values used in this release or export, with its official code (ID) and the respective translations of the description, as illustrated in the example below.

```

<Value>
  <Code>EV006702</Code>
  <Translations>
    <Translation language="de-DE">
      <Description>Steckverbinder M12</Description>
    </Translation>
    <Translation language="en-GB">
      <Description>Connector M12</Description>
    </Translation>
    <Translation language="sv-SE">
      <Description>Kontaktdon M12</Description>
    </Translation>
  </Translations>
</Value>

```

The master table for groups contains all the groups used in this release or export, with its official code (ID) and the respective translations of the description, as illustrated in the example below.



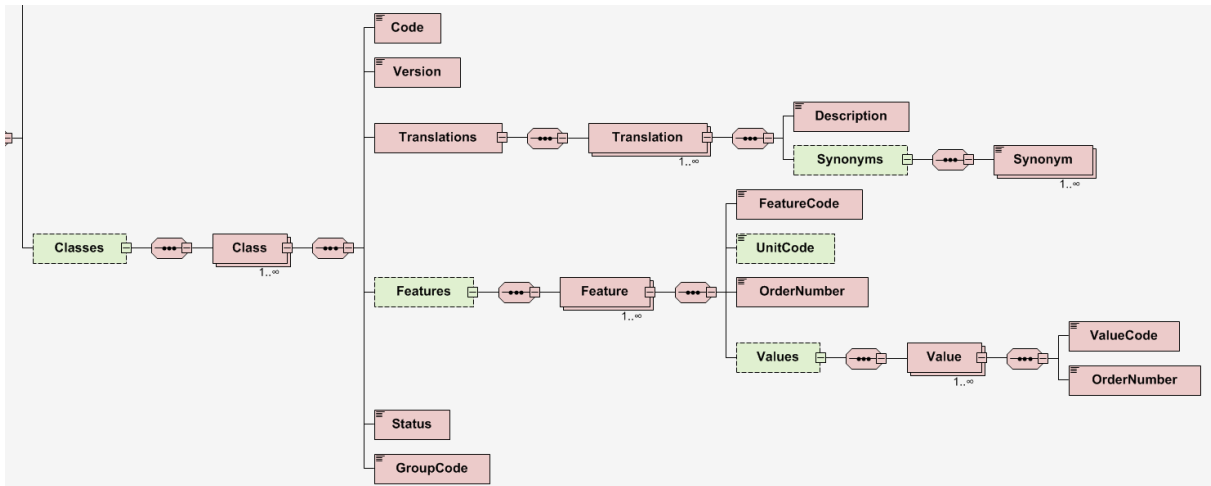
```

<Group>
  <Code>EG000003</Code>
  <Translations>
    <Translation language="de-DE">
      <Description>Schutzschlauchsysteme</Description>
    </Translation>
    <Translation language="en-GB">
      <Description>Protective hose systems</Description>
    </Translation>
  </Translations>
</Group>

```

Finally the "classes" section defines all the classes included in the release or export. The following elements are defined per class:

- The class code (ID)
- The class version
 - Please note that this class version is no longer related to the release version, as it was in the past! A new class will have version 1 and the class version only changes if the class has been changed.
- The translation part gives the translations of the official class name, but also the language dependent synonyms per language version.
- The relations between the class and its allocated features, values and/or units including the display order.
- The status of a class, which will always be "Published" if it concerns an official release, in case of a pre-release the value "ReadyForPublication" can occur for classes that are changed after the latest official release.
- Finally the class is attributed to a group



What the above diagram does not indicate is that the ETIM IXF format also contains change codes on CLASS level, on CLASSFEATURE level and on CLASSFEATUREVALUE level. These change codes indicate if an element is new, changed, unchanged or deleted.

```

</Class>
<Class changeCode="Changed">
<Code>EC010033</Code>
<Version>3</Version>
<Translations>
<Translation language="en-GB">
<Description>Plastic slide plate, feed-through tile</Description>
<Synonyms>
<Synonym>Plastic slide plate, feed-through tile</Synonym>
</Synonyms>
</Translation>
<Translation language="nl-NL">
<Description>Kunststof glijschaal dakdoorvoerpan</Description>
<Synonyms>
<Synonym>Glijschaal</Synonym>
<Synonym>Knobbel</Synonym>
<Synonym>Kunststof glijschaal dakdoorvoerpan</Synonym>
<Synonym>Regenschaal</Synonym>
<Synonym>Scharnierstuk</Synonym>
</Synonyms>
</Translation>
</Translations>
<Features>
<Feature changeCode="Unchanged">
<FeatureCode>EF024327</FeatureCode>
<UnitCode>EU570448</UnitCode>
<OrderNumber>1</OrderNumber>
</Feature>
<Feature changeCode="New">
<FeatureCode>EF025219</FeatureCode>
<OrderNumber>2</OrderNumber>
<Values>
<Value changeCode="New">
<ValueCode>EV005866</ValueCode>
<OrderNumber>1</OrderNumber>
</Value>
<Value changeCode="New">

```

These change codes are automatically generated at the export from the ETIM database, related to the release version it is being compared to, based on the selections given in the command line.

Selection Export	
Export Format:	ETIM IXF 1.0
Selection:	E5 - ETIM INTERNATIONAL - PINNED E4 - ETIM INTERNATIONAL - PINNED
Multiple Languages (?):	<input checked="" type="checkbox"/> EN <input checked="" type="checkbox"/> DE <input type="checkbox"/> SE <input checked="" type="checkbox"/> NL <input type="checkbox"/> ES <input type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> CH <input type="checkbox"/> C2 <input type="checkbox"/> PL
Send e-mail when ready to (?):	mh@etim.nl
<input type="button" value="Request Export"/>	

4.2. Country specific formats

The ETIM IXF format as described in chapter 4.1 is the international master or source format for all the member countries. However, local ETIM organizations are free to choose other additional formats in which they want to make the ETIM model available to their local members. This is often done to serve specific needs of users or more general software applications.

It is also possible to communicate additional country-specific elements that are not in the core ETIM model. For example: The Netherlands has an old class coding system for ETIM classes called UBIM, where EC000001 is coded as 6550-039. This coding system has no international relevance, but is still of interest to some Dutch user groups. Although no longer in the official release from version ETIM 6.0, the local Dutch staff office will still maintain this additional coding for some time. A country specific format can be used to communicate ETIM with these additional UBIM codes.

ETIM International has neither direct involvement nor responsibility in the definition and distribution of country specific formats, other than to facilitate these in the CMT database. The ETIM CMT master database already supports a range of exports formats like ASCII (TXT), CSV, ACCESS and EXCEL. Please contact your local staff office for more information on country specific formats in your country.

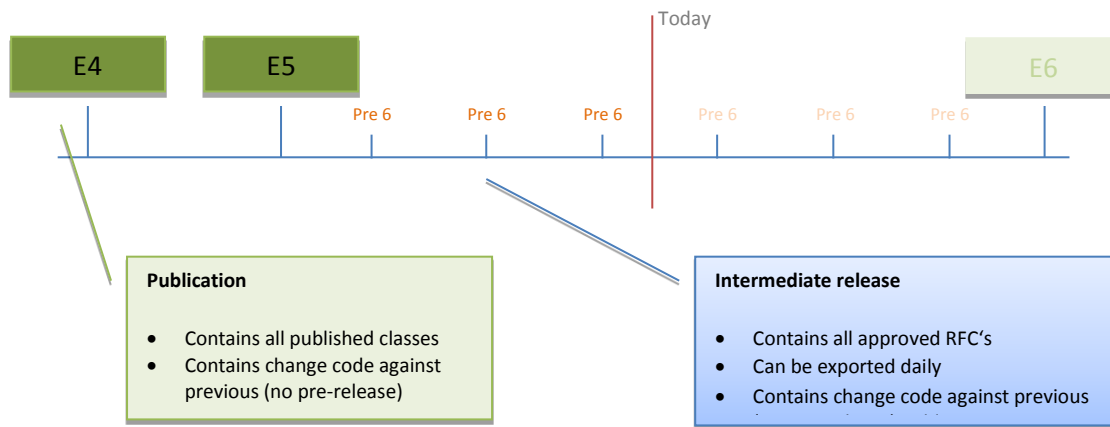
4.3. Dynamic release

The time period between official international ETIM releases is momentarily around three years. This time period is determined by factors like adaptation time, version stability and time for development cycle. It is clear that a standard needs version stability, which can be considered an advantage of a standard and cannot be expected to be able to adapt to market- or product changes real time. This will not change for the official release, the version that everyone is expected to support.

On the other hand however, the market is asking ETIM more and more to provide a more flexible solution, a solution that makes it possible to anticipate the next publication. This means using new classes, features or values already for internal applications. This means being able to communicate this information bilaterally between two trading partners, if both support this information. This means having an option of spreading the internal work load involved in adapting the classified product information to a new ETIM release.

For those countries interested in offering a more dynamic solution to release changes to their members ETIM International will support so called "intermediate releases". This intermediate release contains all classes that are "Published" or "Ready to publish" at the moment of export. Each country can decide if it wants to offer an intermediate release or not, and if so, if they want to have a continuous dynamic release (daily or weekly) or not (ETIM 6.1 etcetera). See example scheme below.

Timeline publication & pre-releases



Clearly there are restrictions to an intermediate release. Everyone is expected to support an official ETIM version; intermediate releases are always optional for those who wish to use them and are either for internal use or bilateral exchange only. Moreover, class changes that are "ready to publish" can still be revoked depending on the arguments; of course this should be exception rather than the rule.

We strongly advise that software tools using the dynamic publication visualize the upcoming changes, additions and deletions so that the manufacturer and also the user of the data can see and decide which features and values to fill and/or use.

A dynamic or intermediate release is identified in the ETIM IXF format by the header element "Prerelease" and always gives the changes related to the current official ETIM release using the change codes as explained in chapter 4.1. For more technical details we refer to the format description document on the ETIM IXF format.

5. Exchange format for classified product data

The ETIM data model is completely uniform, differing only in the language.

The exchange format for classified product data, not to be confused with the release format for the data model, however is set and defined by each local ETIM organization individually. ETIM International recommends the BMEcat® standard, which is the most common exchange format within the ETIM countries.

The BMEcat®-Standard was introduced in November 1999 in cooperation with the BME e.V. (German Federal Association for Materials-Management, Procurement and Logistics) as a standard for electronic data-transfer of multimedia product-catalogues. It is based on the internet-standard XML (Extensible Markup Language) as a universal platform and manufacturer-independent exchange-format. Catalogues created in this generally-accepted format prevent special individual solutions for different customers.

The BMEcat®-standard today counts as one of the most strongly accepted formats for e-business. Numerous well-known companies e.g. American Express, AUDI, Bayer, BMW, Deutsche Bahn, Philips, Siemens, VISA and many others take part in the BMEcat® initiative.

However, in some countries specific national formats are still in use and accepted as sector standard, sometimes in addition to BMEcat®. To get the information which data format is currently established in an ETIM country, please contact your local ETIM office.

6. Processes and procedures

A support contact per country is appointed, who will organize and coordinate the (local) process of generating change requests to the current ETIM version. Whether this is done by appointing working groups or otherwise will be left to the country's own judgement. The support contact will be responsible for entering change requests in the ETIM CMT portal, after which they can be processed and decided on. This chapter describes the possible processes, the workflow and the decision making.

6.1. Development of new classes

When new classes are proposed first a check will be done to ensure that the products are not already covered by existing classes or should be seen as an extension by changing existing classes. The country staff office will perform this first check which will be verified by the TC. If the request for a new class will be estimated as an extension to an existing class the necessary changes to the existing class will be proposed and are further to be processed as such. When it is clear that the respective products have no interference or overlap with existing classes the request will be developed as a new ETIM class. See further chapter 6.4 for general provisions to RCFs.

6.2. Changes to existing classes

Changes to existing classes can be of different nature:

- The complete deletion of an existing class
 - Arguments can be various: can be old products that no longer exist; product classes that are moved to a more general class (generalisation); product classes that are split up in more specific classes (specialisation); classes that appear to be double. In case of deletion where possible the code(s) of the replacement class(es) will be indicated.
- Textual improvements to class names, synonyms, features or values
 - Since these changes are always language dependent they can be handled within the responsibility of the local staff office without approval of the TC as long as it is made sure that the meaning of the entity is still in accordance with the intended meaning, the English translation is leading to determine the intended meaning
- The addition or deletion of synonyms
 - Since these changes are always language dependent they can be handled within the responsibility of the local staff office without approval of the TC
- The addition of a new feature
- The deletion of an existing feature
 - Because this can have great impact on already available classified product data in the market a clear argumentation why deletion is asked for is vital for the decision process
- Change of unit to an existing feature (N- or R-type)
 - Mostly in case of errors occurred at entering into CMT, for example Length in "ml" changed to "mm"

- Caution is advised when making unit changes such as Length in "mm" changed to "m", since if a supplier overlooks the change at a release change it has a severe impact on the correctness of his data
- The addition of a value to an existing feature
 - Important is to make sure that the additional value does not affect the meaning of existing values. Example: if the value list for the feature "Material" already contains the value "Plastic", the addition of the value "PVC" would make the list inconclusive, since PVC is also plastic
- The deletion of a value from an existing feature
 - As with the deletion of features a clear argumentation is asked for
- Change of the EG group to which a class is attributed.

6.3. General improvements

The TC and/or the staff offices can initiate general improvements to the ETIM model to improve the model quality, which can have impact on individual classes. Usually these improvements are related to consistency or doublings in entities. However the TC can decide to dose the execution of this type of changes in time to keep the impact of changes within reasonable limits. General improvements are usually a result of the application of guidelines that are determined. For guidelines see chapter 7.

Examples:

- Consistency in the use of abbreviations. In most language versions words like "maximum" are abbreviated as "Max."
- Consistency in the use of punctuation marks like "x/y" instead of "x / y"
- Doublings like "Type of lamp" versus "Lamp type"

Note: In CMT we can give double features or values the status 'deprecated'. This means that they still exist in the ETIM tables since they are used in actual class versions, but can no longer be found or selected when entering new classification. The status of 'deprecated' elements is made clear by displaying them in a lighter shade of grey as the example below, making them easy to recognize. If then a class containing 'deprecated' elements is under construction (for other reasons), the opportunity is used to change the 'deprecated' element to its successor. This way the change is the least disturbing for suppliers using the specific class. When there are no more class versions using the deprecated element it will no longer appear in the ETIM release (but still exists in the ETIM master database while used in previous versions!).

EF021982	With piezo ignition	L
EF021983	Facility for remote control	L
EF021450	With remote control	L
EF000781	Protection	A

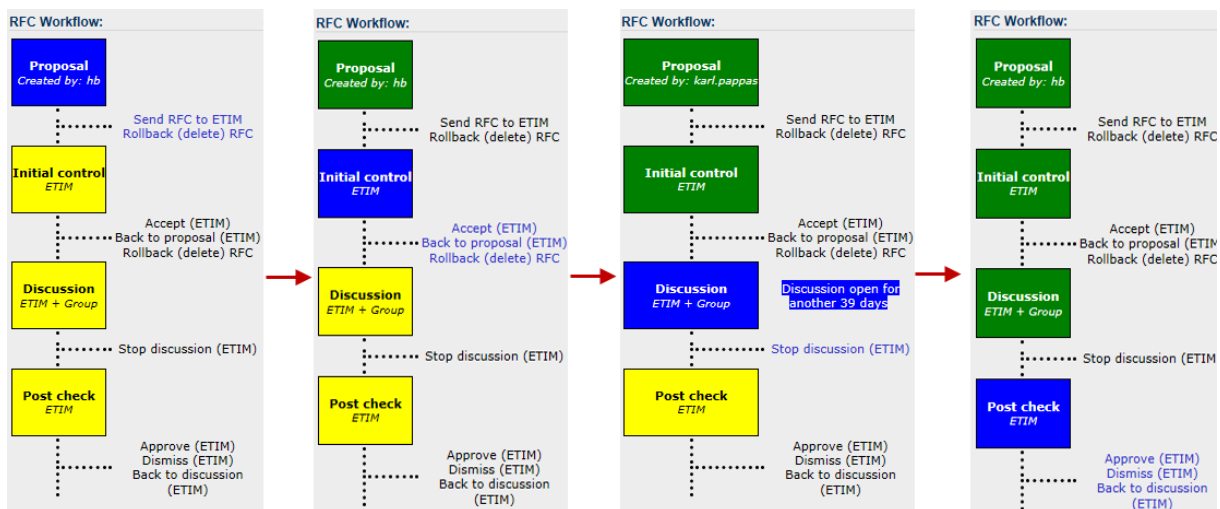
6.4. General provisions to RFCs

Regardless of the nature of the development (new class, change to existing class, general improvement) the procedure to hand in, process and decide an RFC is the same. This chapter gives some general provisions on RFCs and describes the workflow and decision making.

First some general provisions to which an RFC has to comply with to be accepted as a valid RFC:

- The communication language for RFCs and discussion is English. All proposals (content) are to be entered in the countries own language(s) as well as in (British) English
- To make clear to other stakeholders which products are dealt with the addition of reference products (pictures, preferably also manufacturer product numbers) is mandatory
- The general description of the RFC gives a clear summary of the nature of the changes proposed, like "Add synonym ES" or "Delete feature because of changed regulations"
- The general description of the RFC gives a clear indication of who requested the RFC

The workflow, as incorporated in the CMT tool, knows four phases in the RFC process, these are clearly indicated at the status page of an RFC, see example below of all the subsequent phases:



Phase 1 – Proposal

In this phase the requester can prepare his RFC by entering the requested changes directly in the CMT system. In this phase the RFC is not yet visible in lists with RFC overviews and will not yet be notified to stakeholders. When the requester finishes his request he can send the RFC to ETIM, or if he decides to withdraw his request he can roll back the complete RFC.

Phase 2 – Initial control

As soon as the requester has sent in his request the workflow initiates a notification to the ETIM administrator groups (always TC members) that a proposal for a change request has been handed in through CMT. The RFC is assigned to the person that should consider it and respond to the requester within 7 days if his request is accepted (set open for discussion), set back to proposal (additional information requested) or rolled back (dismissed). In this phase a brief check is done if the RFC complies with ETIM rules and regulations. In case the RFC is dismissed of course a clear argumentation is given, like the person is not entitled to propose RFCs, the proposed class already exists, etc. When the RFC is regarded as a valid RFC and it is accepted by the administrator, it is assigned to and automatically set to the next phase in the workflow. Admittance of an RFC in this phase can be done by all individual administrators and does not require approval of the full TC.

Phase 3 – Discussion

In this phase the RFC is set open for discussion for a period of 60 days, all allowed stakeholders (ETIM members) can participate in the discussion using the discussion board to an RFC. For minor changes (only additions, this to the judgement of the TC), the TC can decide to skip the discussion phase, to make it possible to enable a quick implementation. At the start of this phase a notification is sent (by weekly summary at this time) to everyone that has indicated he wants to be informed to changes in this class or group of classes. Notification is organized by PIF (personal interest filter), as described in chapter 2.2. All discussion entries are also included in the weekly status update on changes.

After 60 days the discussion term will be automatically closed by the workflow engine and a notification is sent to the administrator group.

Phase 4 – Post check

Depending on the status of the discussion the administrator could decide to extend the discussion term with another 60 days. If the discussion is not extended, the administrator will estimate if the RFC is ready to be scheduled for decision making by the TC. There are basically three scenarios in this:

- If there is no discussion or the discussion has led to an agreement on the RFC, the RFC will be scheduled for approval by the TC.
- If the discussion has not led to an agreement on the RFC but to the opinion of the TC a workable compromise is feasible, a proposal for a final RFC proposal is done by the TC by e-mail to the involved parties. After receiving the response to the proposal the RFC will be scheduled for final decision making.
- If the discussion on the RFC is substantial and if in the opinion of the TC an easy agreement on the RFC is not expected the TC can organize a (physical or teleconference) meeting intended to find a compromise solution. If no compromise can be reached the TC will take a decision on the RFC considering all interests as good as possible. If necessary the TC will ask for an investigation to be performed by neutral experts.

The decision of the TC will be notified to the requester. If the RFC is dismissed a proper argumentation will be given why the RFC is dismissed. If the RFC is approved, the class version status will be automatically set to "ready for publication", the class version is available in intermediate releases and will officially be published at the next official release.

The decision of the TC is open for appeal to any ETIM member that has objections to the decision; such has to be done within 30 days after the TC decision by e-mail to cmt@etim-international.com with reference to the RFC-id and with a clear argumentation of the objection. The TC will answer to the appellant if his objection is admissible and if so the objection will be scheduled for examination in the next TC meeting. The TC will communicate its reasoned decision on the objection to the appellant. If the appellant disagrees with the decision of the TC on his objection a final appeal is open to him directly to the executive board.

6.5. Publication

An (official) ETIM publication consists of the collection of unique classes (no multiple versions of one class) fixed at a certain moment in time. A publication has a name and a date. Depending on the format the publication contains change codes reflecting the changes compared to the previous official ETIM publication. A publication contains only classes with status "Published" except when it is a dynamic publication.

Release planning will be proposed by the ETIM International Board and communicated to the involved countries in time. Prior to an official release the Technical Committee will provide a beta version which can be examined and released via internet to all involved persons.

7. Guidelines classification

7.1. Naming rules:

- Group names, class names, feature descriptions and synonyms in all ETIM-languages should preferably begin with a capital letter.
- Values begin with a capital letter or a small letter depending on the definition of the ETIM language version.
- Other definitions are possible but must be consistent within a language version.
- Descriptions should preferably not contain abbreviations and words should not be shortened. Exceptions are generally defined solutions as Max. etc. When abbreviations are used, they should be used consistently within that language through the complete model.
- Descriptions may contain letters, numbers and in exceptional cases special characters.
- The following special characters should be avoided (only fragmentary list):
„ “ ; # _
- For class names the singular form has to be chosen.
- The descriptions are in accordance with the general use by product specialists. Official terms and spellings should be used.
- Descriptions must be selected manufacturer-neutral.
- Descriptions cannot exceed the length of 80 characters; a shorter term should be preferred where possible and useful.
- If multi-unit words (compound nouns) are written with or without a dash is not defined consistent. In the region of features, dash should be avoided if possible.
- The use of abbreviations is based on the customary of each subsector; within the data model it should be consistent.
- Descriptions that contain a number or that are separated by a slash should be written consistent within the language version:
 - number + adjective: with or without dash or blank (e.g. 5polig, 5-pole)
 - number + Unit: with blank (e.g. 5 mm)
 - dash for "to": without blank (e.g. 4-5)
 - multiplication: without blank (e.g. 4x5)
 - break values: with blank (e.g. 1 1/8)
 - separations with slash: without blank (e.g. Aluminium/plastic)

7.2. Guidelines for product groups

ETIM groups serve as a structural support for the expert groups and the Technical Committee and to simplify the navigation through the classification. They can be used as a catalogue structure, but this is not the primary function. A group must contain at least two product classes.

7.3. Guidelines for product classes

Product classes describe similar products. They summarize products, which can be characterized by similar features. A product class is defined by technical features and each product must be assigned to exactly one product class.

If products cannot be classified, appropriate product classes must be created. It should be ensured that there is no overlap with existing classes.

The change of a class name is only permitted if this has no effect on the products assigned to that class. If there would be a change of the meaning, the old class has to be deleted and a new class has to be created.

Some general rules for ETIM classes:

- Class names must be unique. To avoid naming conflicts, the descriptions should be as precise as possible. Non-specific descriptions such as "cover" should be avoided because they can occur in many areas of ETIM.
- Class names must be selected manufacturer-neutral. The descriptions are intended for professionals in the relevant field and characterise the professional class.
- The singular form has to be chosen.
- The data model must be structured in such a way, that every product must be assigned to exactly one class. The ETIM classification data model does not allow classifying a product (with an identical product number) to multiple ETIM classes.
- Each class must be assigned to exactly one ETIM product group.
- For each class synonyms have to be defined. The class name is always used as a synonym.
- Each class must have at least one feature.
- The same feature can only be used once in the same class.

The following actions for classes are allowed:

- Create (a new class)
- Modify (an existing class)
- Delete (an existing class)

If a class should be deleted, it must be remarked where the products of the deleted class should go:

- generalisation:
there will be one or more classes (new or already existing), that are more general (e.g. delete the classes "Lawn scarifier" and "Lawn aerator" and create a new class "Lawn scarifier/aerator")
- specification:
there will be one or more classes (new or already existing), that are more specific (e.g. delete the class "Hammer" and create new classes "Claw hammer", "Smith hammer", "Chisel hammer")

- exception:
a class could be deleted without compensation if the products, described by the class, do not exist anymore at all

Accessory classes

Accessory classes can be of use to be able to classify products that can be seen as an accessory to a main product (that normally exists as a separate class in ETIM). For these products mostly a deep specification is not necessary, because they only fit as accessory to a certain make (brand) or model. To make the solution for accessory classes in ETIM as consistent as possible some general rules for these classes were agreed on:

- The class name is generally composed as "Accessories for...."
- Preferably the name of the accessories class refers to the main product class it relates to (if any), e.g. "Accessories for ballast" when the name of the main product class is "Ballast".
- The first feature always should be EF000215 "Type of accessory"
- All the values listed in "Type of accessory" should also be entered as synonym (in all languages). Excluded are of course values like e.g. "others" – they shall not be entered as synonym.
- The number of further features should be as limited as possible.

7.4. Guidelines for synonyms

Some general rules for ETIM synonyms:

- Each class has at least one synonym: the class name
- In addition more synonyms are useful
- General concepts such as colours or non-specific words, that aim to increase the number of matches, are not permitted as synonyms
- The spelling of synonyms has no specific rules, but should not contain abbreviations; per term only one spelling in the list is recorded
- For synonyms the singular form has to be chosen.

7.5. Guidelines for features

7.5.1. General guidelines for features

To each product class features are assigned, at least one.

The features characterise the **most important objective technical properties**. Ideally, all features of an ETIM class fit to all products which can be assigned to that class.

The features should enable the user of product data a useful pre-selection within a large range of products. They are not intended to describe a product in such detail that it finally enables to select between the last two remaining products in a selection. At this point the manufacturers own free description (in the product data exchange file) should clarify the difference in addition to the general and standardized ETIM features.

Another function of a feature list is to describe the class and to differentiate it from another class.

Each feature is specified by:

- Description of the feature
- Feature type A/L/N/R

- Unit (depending on the class within the feature is used; only possible for the feature type N and R)
- Values (depending on the class within the feature is used, only possible for the feature type A)

Some general rules for ETIM features:

- The number of features of a class should be limited to the most important technical characteristics for selecting the right product.
- At a definition of features for a class, the features are taken from a "feature base table". Only if the desired feature does not exist or cannot be replaced by similar one, the requester can define a new feature.
- A feature description must be unique. It should only occur once (with the same feature type A, N, R or L) in the whole model.
- The use of numerical, logical or range features is preferred to the creation of alphanumerical features.
- Numerical and range features usually need a unit of measurement. The assigned unit should be based on normed standards such as the ISO standard. Exceptions are features with the expression "Number of..." These numerical features do not need a unit.
- Alphanumerical features are always closed. I.e. for every alphanumerical feature a value list must be defined, which contains all possible values. The list must be defined during the creation of a feature and it should contain at least three values. The exception of two values is possible, but not in combination with one real value and the value "others".
- The deletion of features from a class is generally permitted but should only be used in exceptional cases.

Colours

- The ETIM model should not contain manufacturer-specific colours.

Manufacturer-specific colours can maybe be handed over with the product data exchange format (BMEcat® for example does allow it) to the target system, so the information is not lost.

7.5.2. Guidelines for sort numbers of features

Each feature list within a class is sorted according to their importance and is also structured meaningfully (dimensions, features of electrical data ...). This order is part of the data model and is the same for all language versions. It can be used for example to show the order of features within an online search engine.

7.5.3. Guidelines for description of features

Here some rules for the description (name) of the features:

- A feature description must be unique within the data model in combination with its data type.
- The renaming of features (except for the spelling correction without changing the meaning) and the changing of units should be avoided. If renaming should imply a change in meaning or in case of a unit change the existing feature has to be deleted and a new feature is created with a new ID.
- Features that describe limits (minimum/maximum) always have the addition "Min." or "Max." at the beginning of their descriptions.
For example: maximum power output = <Max. power output>

This rule may be waived on the basis of linguistic characteristics but within a language version conformity is needed.

7.5.4. Guidelines for type of features (A/N/L/R)

There are four different types of features within the ETIM classification model:

Alphanumeric

Alphanumeric features can be a combination of letters and numbers. They are always univalent, that means, only one value can be chosen, never 2 or more. This must be respected when creating a value list within a feature of a class.

The values are not only assigned to a feature but additional to a class. So each value list is different depending on the class.

If a value list within a feature of a class is not complete, the value "others" can be added.

Numeric

To a numeric feature one real number can be assigned.

Logical

Within the ETIM data model, a logical feature is designed to give the answer yes/true or no/false (Boolean). But these values are not part of the data model but part of the exchange format.

Range

This feature type allows the definition of a value range of real numbers through a minimum and maximum value (value pair).

Example: <Measuring range> »10 - 500« »mA«

Measuring range

If there is only one value (minimum = maximum), in the exchange format although two identical values

Example: <Frequency> »50 - 50« »Hz«

If data type Range is not in every case visible by the description of the feature.

7.6. Guidelines for alphanumerical values

Each value is defined as a translatable or non-translatable value. Most values are translatable, that means the description can be different in the varying language versions. Non-translatable values have exactly the same description, indifferent in which language version because they are language-independent:

Examples for non-translatable values:

- Numbers like „1“, „2“, „3“, ...
- Combinations of numbers and language-independent units like „90 mm“, „100 m“
- Standardized designations like „RJ45“ or „IP40“
- Values that display e.g. the real imprint of an product are written with capital letters, e.g. "DOWN", "HEBEN", "OMLAAG"
- For values which represent a dimension in inch, the unit should be figured with the word "inch" (translated in the respective version language) not with the symbol "

If the spelling of the capital letter of the first word of a value is not consistent in all actual ETIM languages this value is automatically to be treated as translatable (language-dependent).

Guidelines for sort numbers of alphanumerical values

The order of a value list of a feature within an ETIM class is a mixture of language-independent assorting (values like "None", "Others", "Not applicable") and language-dependent values (most values).

The value list of a feature can be different in each ETIM class that uses this feature.

This order is part of the data model. It can be used e.g. to show the order of values within an online search engine.

7.7. Guidelines for units

If a unit should be assigned to a numeric or a range feature, it must be taken from the ETIM "unit base tables".

7.8. Generally applied features

The following rules have been established within the ETIM data model: The material a product is made of can be defined by the following two features:

- Material
- Material quality

8. Glossary

CMT	= Classification Management Tool
RFC	= Request for Change
TC	= Technical Committee
XML	= eXtensible Markup Language