



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 technical 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.

Formal bodies

The association has the following formal bodies: The General Assembly, the Executive Board and the Standardization 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 Standardization 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 Standardization Committee is open to technical experts from the members.

Membership

Full membership of ETIM International is open to recognised national ETIM Country Member organizations as specified in the present statutes. In addition to Full Country Members, under certain conditions we also allow Country Sector Members, where ETIM is represented by different organizations for separate industry sectors. Finally, also Multi Country Membership (or regional

membership) is allowed if a recognized national ETIM organisation is operating in more than one country.

In addition to country membership, ETIM International has recently introduced a Global Industry Membership, which is open to manufacturers, wholesalers, buying groups and contractors that are already (and will remain) member of at least 5 different national ETIM Country organizations. Global Industry Members have direct access to and participation in Standardisation Committee and expert groups – alongside national ETIM organizations. Global Industry members do not have a vote in the General Assembly.

Industry sectors

ETIM currently is used and has members representing the following sectors:

- Electrotechnical (coded as E in CMT)
- HVAC and plumbing (coded as W in CMT)
- Building materials (coded as B in CMT)
- Shipbuilding (coded as M in CMT)
- Tools, hardware and site supplies (coded as T in CMT)

Only the electrical sector is represented by all ETIM member countries. The ETIM membership directory that you can find in the general download section on our public website has an overview of active sectors per country.

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 favourites filter 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 number 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 favourites selection as mentioned earlier. Selections can be exported in all available export formats, like XML, 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 an 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 (working) groups

The expert groups (working groups) are the technical bodies in the standardization process. Expert working groups can be organized locally or internationally.

Local (national) working groups

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 the system language 'ETIM 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 have 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 Standardization 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 Standardization 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.

The ETIM SC has put in place some procedures to avoid overlapping or conflicting results from parallel local expert group sessions. Requested, planned or active local expert groups are required to be listed in the SC expert group board in Trello (collaboration tool to organize tasks and projects), so they are visible to other countries that also have requirements for the same product group. When there are expert groups active in multiple countries for the same product group, this expert groups board is used to coordinate the efforts. In addition to the Trello board, each expert group can open a discussion group on our community website, where discussion on specific topics is easily organized. This way we manage to combine local expertise with international consensus in the most pragmatic and efficient way.

International working groups

International expert group meetings are difficult to organize (location and time) and involve high costs (travelling) for those involved. So usually, expert group meetings are organized at local level and only in exceptional cases on international level, if the issues at hand require this. We distinguish between product working groups and general working groups.

The sector SC can initiate product working group meetings for product group related topics/issues, to which they can invite Global Industry Members and/or relevant external experts. Preferably but not necessarily these external experts are local ETIM members. Product working groups will be organized as physical meeting only when deemed necessary, but can also be digital or online.

For topics that generally concern the ETIM standards, not related to a specific sector or product group, general working groups can be started cross-sectoral. The SC coordination group can initiate general working groups, whether or not requested by one of the sector SCs.

2.4. Local ETIM organization

2.4.1. 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, see also more detailed information in chapter 2.4.2.
- 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 system language 'ETIM English' (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 Standardization 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.

2.4.2. Local language versions

ETIM is an open standard and is available for free to everyone. This includes the coding structure and the system language ('ETIM English'), but NOT all local language versions. The following guidelines apply to local translations:

- The local ETIM organization is responsible for and has ownership of the local ETIM language version.
- Ownership concerns the file with translations that is prepared by the local ETIM organization. It does not involve copyright in the sense that other parties would be prohibited to make their own translations.
- ETIM International will always only accept and promote as official language version the one produced by the local ETIM organization
- The local ETIM organization decides who can have access to their local language version. ETIM International promotes the free availability of language versions, since our final goal (having ETIM classified product data) is best served by that. But ETIM International also understands that limiting access to language versions for 'members only' can help convince companies to become a member, especially in the start-up-phase.

- Language versions that are not open for all are still visible in ETIM CMT for everyone. So, you can see all languages, but release and export files are only available to local members. Please also notice that is important that ETIM is open for all, meaning that anyone in any member country should have the opportunity to become a member of the local ETIM organization.

Open languages at this moment are ETIM English (our 'system language'), Belgian-Flemish, Belgian-French, Dutch, Finnish, German, Italian and Norwegian.

2.5. Standardization Committee

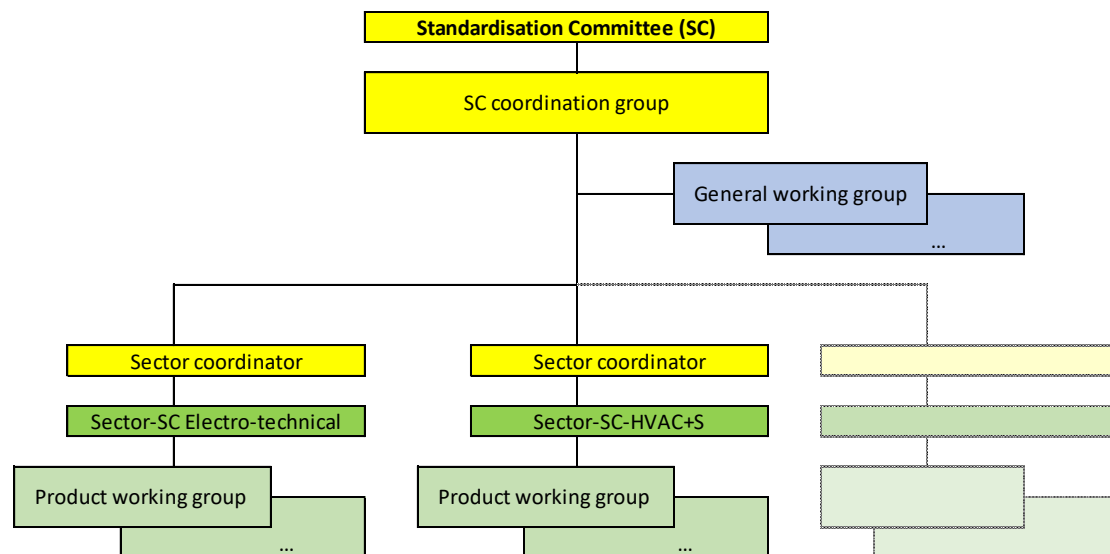
The ETIM Standardization Committee (SC) is the central body for all matters regarding the standardization process and formally reports to the ETIM International board. It has a technical supervision over the complete ETIM model. The SC will decide on all proposed RFCs (accept, rework, reject) by using the CMT and can also submit proposals to the board for approval (for matters beyond the model content). The board can ask the SC for advice in technical matters.

Each country- or global industry member designates one person (per active sector) as a member of the SC, who is regarded as an ETIM technical expert. The Chairman of the SC shall be appointed by the Executive Board.

The SC is the formal assembly of all SC members from all countries and sectors, but as an overall committee they will only physically meet once a year.

For each active sector in ETIM a sector SC will be defined, that will be presided by a sector coordinator. Since a sector SC will mostly focus on product related issues that are usually not of interest to all members, they will usually not have general meetings. Instead, they will organize product working group meetings. Representatives of sector SCs can also participate in general working groups regarding issues on model structure etc.

Each sector SC will appoint 1 or 2 sector coordinators, who will take responsibility for the coordination of the activities within their sector SC. These coordinators will also be part of the SC coordination group, responsible for the overall coordination and organization within the SC.



Formal SC decisions will not be taken at physical SC meetings, but approval will always be organized by digital/online voting. Each member (Global Industry Member or country) has one full vote. If multiple sectors are involved per country, that are represented by different organizations, local

coordination is requested on how to vote. The votes of all Global Industry Members together will not exceed 49% of all maximum number of votes. So, when the number of Global Industry Members in the future should be equal or more than the number of country members, their individual votes will be recalculated in a way that the total Global Industry Member votes represent 49% of the total overall votes. Abstention is regarded as a “no-vote”. If there is a tied vote the chairman decides.

A transcript of each meeting has to be made, which will be communicated to the SC members and to the ETIM International board. SC members are responsible for informing their national board.

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

If an ETIM member does not agree with a decision of the Standardization Committee, he can raise an objection to the ETIM International 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 Standardization 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 International board
- forwarding information to the own member countries
- central administration and coordination of special overlapping nominating features (colours, protection symbols, ...)
- technical coordination and realization of collaborations with other classification initiatives, within the framework of the cooperation as agreed by the board and/or the General Assembly (e.g. ECLASS, APPLiA/pi, GS1)
- discuss recommendations for the exchange formats
- responsibility for the ETIM English data model, incl. synonyms

3. ETIM Classification Model

3.1. Introduction

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.

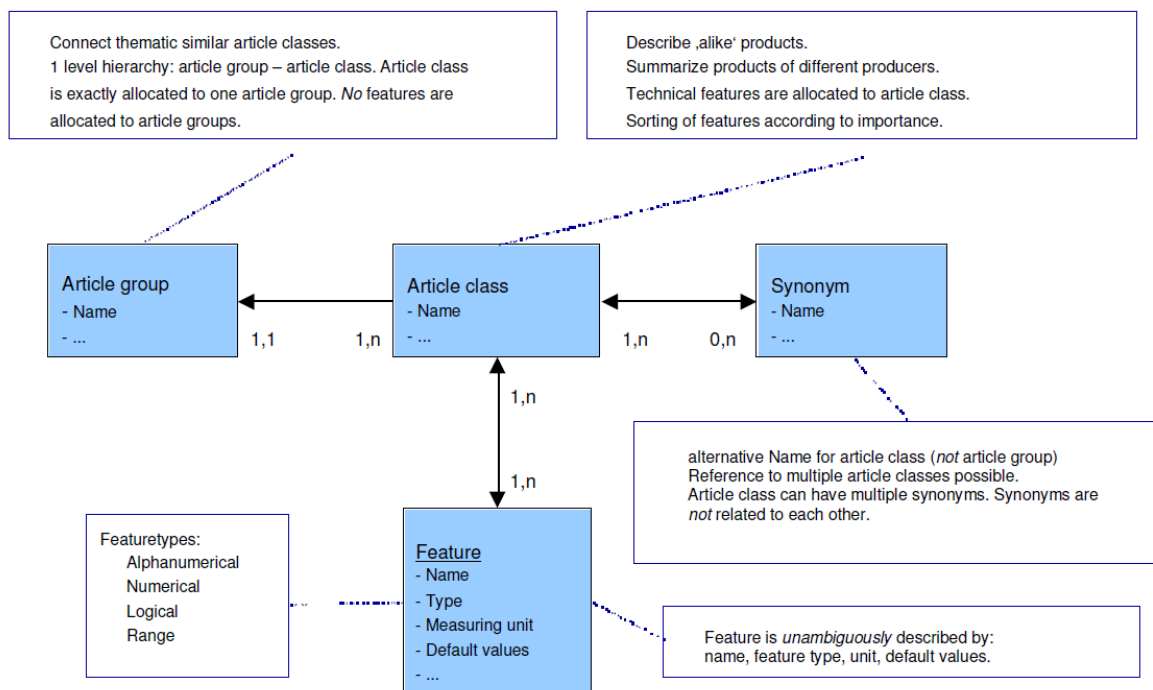
3.2. The model

3.2.1 ETIM basic 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

3.2.1 ETIM MC

ETIM MC or Modelling Classes is an extension to our basic classification model, specifying parameters for representation of products as 3D geometric objects. As such, ETIM MC enables uniform exchange of 3D product data among users and CAD software. ETIM MC was purposefully developed as an extra layer around the core model, leaving the basic model untouched. In other words, no added complexity if you only use the basic ETIM classification.

ETIM MC is described in separate documentation (format and guidelines) and is for now considered out of scope for this document.

3.3. Product groups and classes

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.

A product 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, ...).

3.4. Features

3.4.1. Basic features

In the basic ETIM model we use the following 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 (interval) of values. The ETIM range feature is considered to be a closed range, so an interval which includes all its limit points, mathematically denoted as [a..b].

Each feature in ETIM is identified by a unique EF code and is clearly described by its description and feature type. So, the feature type is fixed for each feature code. Features with the same description (like “Nominal voltage”) but with a different feature type are identified with a different EF code.

A feature in ETIM does not have a standard unit (N, R) or value list (A). The unit or value list for a feature is defined on class level and so can be different for each class where the feature is used.

3.4.2. Local standard features

Local standard features are features that refer to a local (national) standard, like for example “Circuit integrity according to BS 6387 CWZ”, where BS is British Standard.

With already 20+ national ETIM organizations active in the ETIM development, the number of these features in the (basic) ETIM model would ‘explode’, where most of them are only important locally. But still these features are important and data suppliers must be able to include these in the product data exchange. Therefore, we designed local standard features, identified with special codes like EFUK0001, that link the feature to the country (in this case UK) that issued the standard. All local features will be translated in all available languages, but can be easily filtered out by each user (on the specific codes) if not relevant for the user.

Some more details about local standard features:

- As usual, all feature types are possible (A, N, R, L)
- Imperial units do NOT apply to local standards features (NO EFI codes!). For local standards, either the metric or the imperial unit is relevant (at least that is what we suppose). So, for local standards there should be no need to have both units. Our imperial unit solution allows to define 2 different units for the same feature. If there is only one unit, you don’t need it, the first unit can also be inch, feet or any other imperial unit.
- No “Local standard values” are needed – we will still use ‘normal’ EV values
- We will still supply ONE ETIM model, not one per country
- A data transfer with ETIM BMEcat (or any other exchange format) is possible
- In CMT we will have 2 feature blocks (in one screen):
 - The basic features, sorted reasonable like today
 - The “Local standard features”, sorted by their identifier
- All basic features are still mandatory, all local standard features are optional (or can be defined as mandatory on country level)
- A data supplier is free what national standards he will use, depending on the data receiver

3.5. Values

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.

3.6. Units

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.

Since ETIM is now no longer just used in Europe but globally, we had a difficult challenge regarding units in the classification model. Where we use metric units in Europe, in North America they use imperial units. What makes it even more complicated is that often the unit is the same (like Watt, Volt, Lumen, ...) and in other cases different (like millimetre versus inch). To tackle this problem, we introduced a second unit field in our database for imperial units, which is only filled when the feature has a different unit for the metrical and imperial system. See screenshot below for an example in CMT. For more information on how we made this work in the data exchange without changing the exchange format, see chapter 4.4. on metric versus imperial release.



Features					
Translations					
Discussion					
Reference products					
Mappings from this					
Mapping					
Code	Description	Type	Unit	Unit (imp.)	
1 EF007094	Width sensor	N	mm	inch	
2 EF007111	Diameter sensor	N	mm	inch	
3 EF007283	Height of sensor	N	mm	inch	
4 EF007334	Length of sensor	N	mm	inch	
5 EF007084	Rated operation current I _e at AC-15, 24 V	N	A		

To find if a unit has an imperial equivalent and what that would be, just click on or go to the (metric) unit details and see the remark field for the corresponding imperial unit code.

Home / Units / Unit

EU570448: Millimetre

Remark

Imperial equivalent = EU000051.

3.7. Synonyms

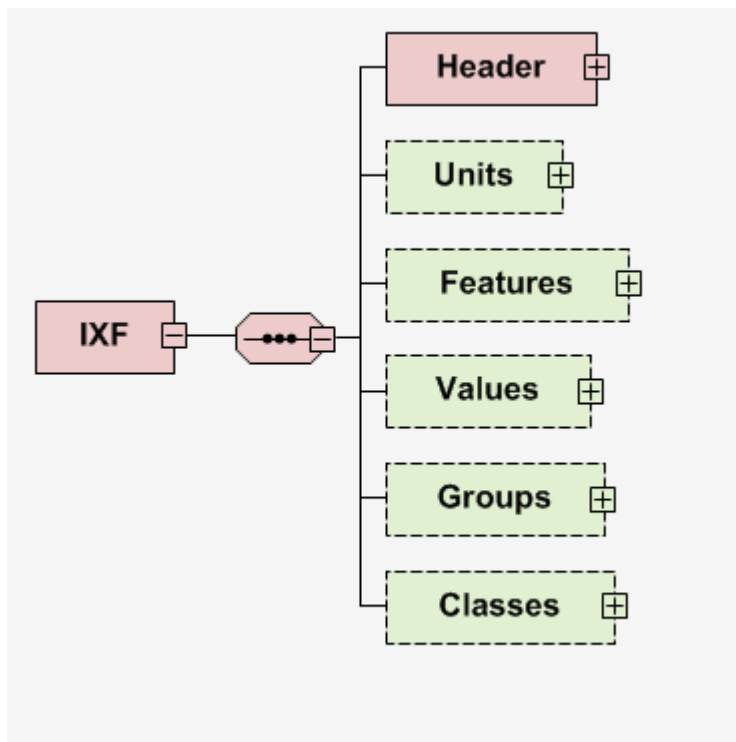
Also often referred to as “keyword”, it means an alternative name for a product class (not for a product group) and a reference to several product classes is possible, a product class can have several synonyms, synonyms are not related to each other. A synonym does not have an ID, it is directly assigned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

4. Release format classification

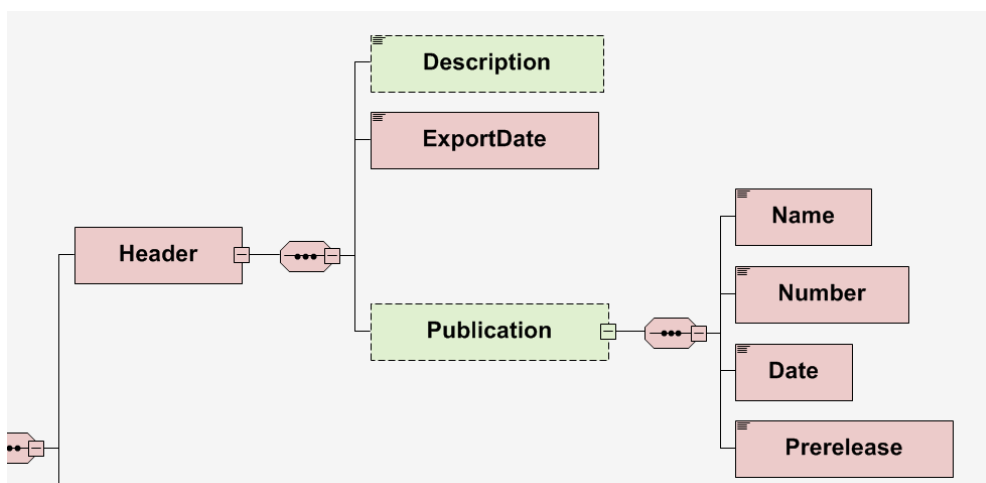
4.1. IXF format

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 4.2, but starting from ETIM 6.0 ETIM IXF is 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.

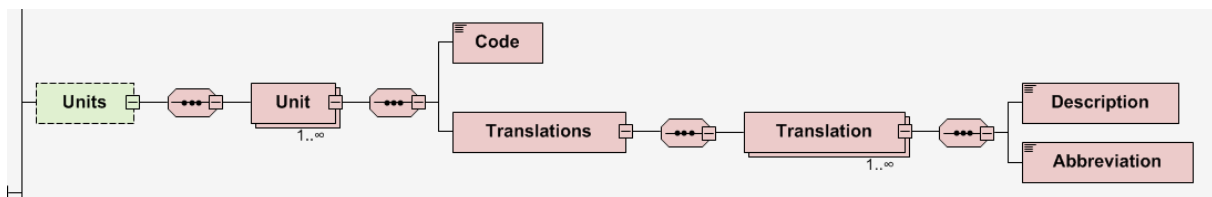
The format is built up with a header section, master tables with all the used groups, features, values, units and the class section defining classes and relating them to groups, features, values and units.



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 “Pre-release”, 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.

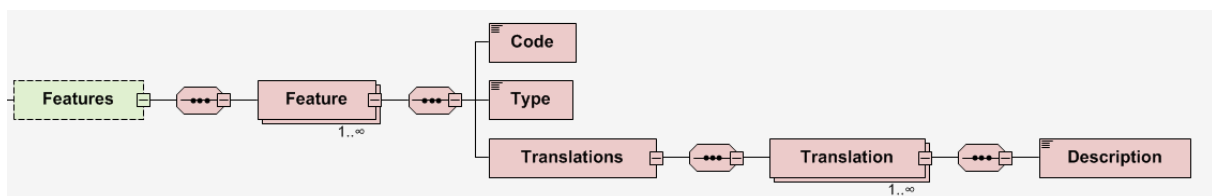


The master table for units contains all the units used in this release or export, with its official code (ID) and the respective translations of description and abbreviation, as illustrated in the example below.



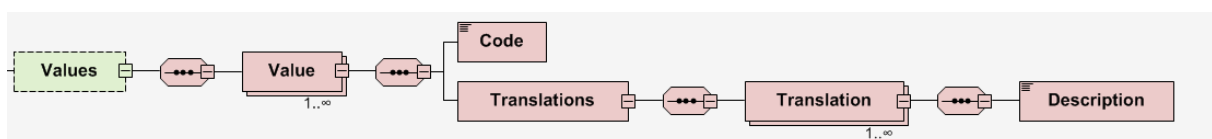
```
<Code>EU000002</Code>
<Translations>
  <Translation language="de-DE">
    <Description>Hekto-Pascal</Description>
    <Abbreviation>hPa</Abbreviation>
  </Translation>
  <Translation language="en-GB">
    <Description>Hecto Pascal</Description>
    <Abbreviation>hPa</Abbreviation>
  </Translation>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

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.



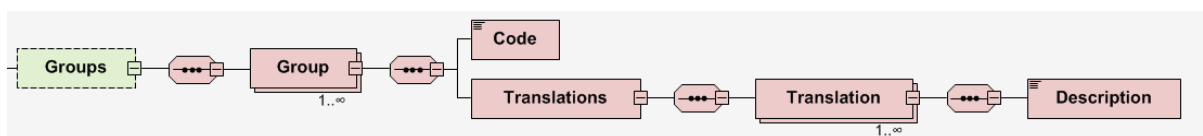
```
<Feature>
<Code>EF005497</Code>
<Type>Range</Type>
<Translations>
  <Translation language="de-DE">
    <Description>Aderdurchmesser</Description>
  </Translation>
  <Translation language="en-GB">
    <Description>Core diameter</Description>
  </Translation>
</Translations>
```

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>
```

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.



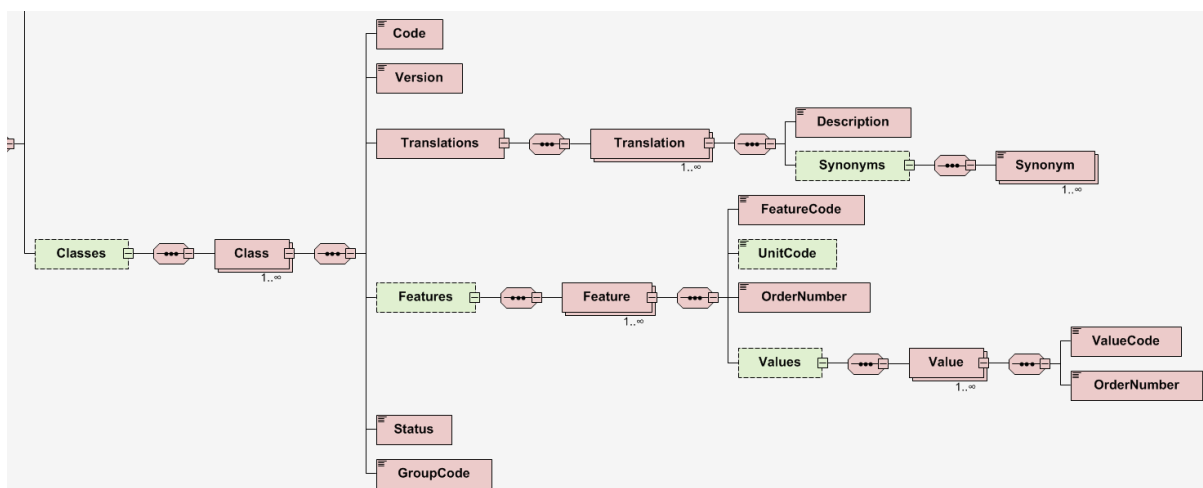
```

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

```

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 glijsgaal dakdoorvoerpan</Description>
      <Synonyms>
        <Synonym>Glijsgaal</Synonym>
        <Synonym>Knobbel</Synonym>
        <Synonym>Kunststof glijsgaal 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>
      </Values>
    </Feature>
  </Features>

```

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:

Selection:

Multiple: ☒ EN ☒ DE ☐ SE ☒ NL ☐ ES ☐ B1 ☐ B2 ☐ CH ☐ C2 ☐ PL

Languages (?):

Send e-mail when ready to (?):

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.

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 exports formats like CSV and EXCEL. Please contact your local staff office for more information on country specific formats.

4.3. ETIM API

In addition to our downloadable file containing the complete ETIM model structure, ETIM also offers webservices for direct access to the model via the ETIM API (Application Programming Interface). The ETIM API is continuously updated and started with a few base services, but now offers full access to the model.

The ETIM API services are developed in Swagger, an open-source software framework that helps developers to design, build and document REST webservices. Visit the [ETIM API dedicated webpage](#) to test the services and find the documentation you need.

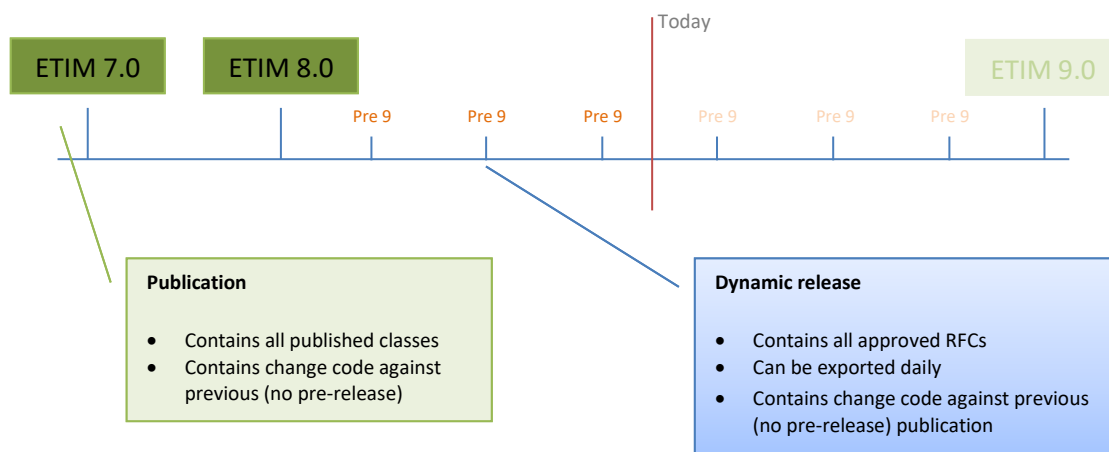
4.4. Dynamic release

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 workload 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 “dynamic releases”. This dynamic 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 a dynamic release or not, and if so, if they want to have a continuous dynamic release (daily or weekly) or not (ETIM 8.1 etcetera). See example scheme below.

Timeline publication & pre-releases



Clearly there are restrictions to a dynamic release. Everyone is expected to support an official ETIM version; dynamic 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 advice that software tools using the dynamic release 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 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 and the dedicated document on ETIM Dynamic release, which you can find in the download section on our website (under classification and format).

4.4. Metric versus imperial release

As explained before the ETIM model now supports the addition of imperial units of measurement, if they are different from the unit used in the metrical system. In this chapter we will explain how this is implemented in the ETIM release format and how it works in actual data exchange without changing the ETIM BMEcat exchange format.

Only in CMT (see screenshot in chapter 3) you will see both units next to each other, length is still length, whether it is expressed in meters or feet. But if we make an export (release) from CMT you can choose to have metric units, imperial units or both.

Export current selected classes ✕

Name

Export Format ▼

Compared to ▼

Features ☐ Metric ☐ Imperial ☒ Both

Languages ☐ ETIM English ☐ Belgian Flemish ☐ Belgian French ☐ British English ☐ Danish ☐ Dutch ☐ Finnish ☐ French ☐ German ☐ Norwegian ☐ Italian ☐ Polish ☐ Spanish ☐ Swedish ☐ Swiss French ☐ Swiss Italian

Send e-mail to

At the export for the features with imperial units a different code is assigned to distinguish it from the metrical variant. So, for example you can have an EF007220 for Busbar thickness in mm and an EFI07220 for Busbar thickness in inch.



So, the separate EFI code (still related to the original metric one) makes it unambiguous again. And as you can see for the example below, it is now possible to unambiguously exchange both the values for the metric and imperial unit at the same time.

```

<FEATURE>
  <FNAME>EF007337</FNAME>
  <FVALUE>0.5</FVALUE>
  <FVALUE>16</FVALUE>
</FEATURE>
<FEATURE>
  <FNAME>EFI07337</FNAME>
  <FVALUE> 0.0197</FVALUE>
  <FVALUE> 0.6299</FVALUE>
</FEATURE>
<FEATURE>
  <FNAME>EF007343</FNAME>
  <FVALUE>0.5</FVALUE>
  <FVALUE>10</FVALUE>
</FEATURE>
<FEATURE>
  <FNAME>EFI07343</FNAME>
  <FVALUE>0.0197</FVALUE>
  <FVALUE>0.3937</FVALUE>
</FEATURE>

```

4.5. Release version notation

The notation for ETIM releases has been quite diverse in the past. It is important that we use a consistent notation in all formats and documentation. ETIM decided for an official notation as "ETIM-8.0" for official releases and "DYNAMIC" for dynamic releases. Any ETIM documentation that is not yet compliant with this notation will be changed at first occasion (release or revision).

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.

ETIM International has released guidelines on how to use the BMEcat® Version 2005 standard for the exchange of ETIM classified product data, including country specific regulations. See the dedicated ETIM BMEcat guideline document, which you can find in the download section on our website. ETIM also offers its members the use of the ETIM BMEcat certification tool to validate and certify their ETIM BMEcat files to the ETIM BMEcat guidelines and the ETIM classification releases. You can find this tool following the links on the top of our homepage.

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 SC. 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 SC 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 SC
- 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.
- Change of the sector(s) to which a class is attributed.

6.3. General improvements

The SC 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 duplicates in entities. However, the SC 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”
- Duplicates 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:

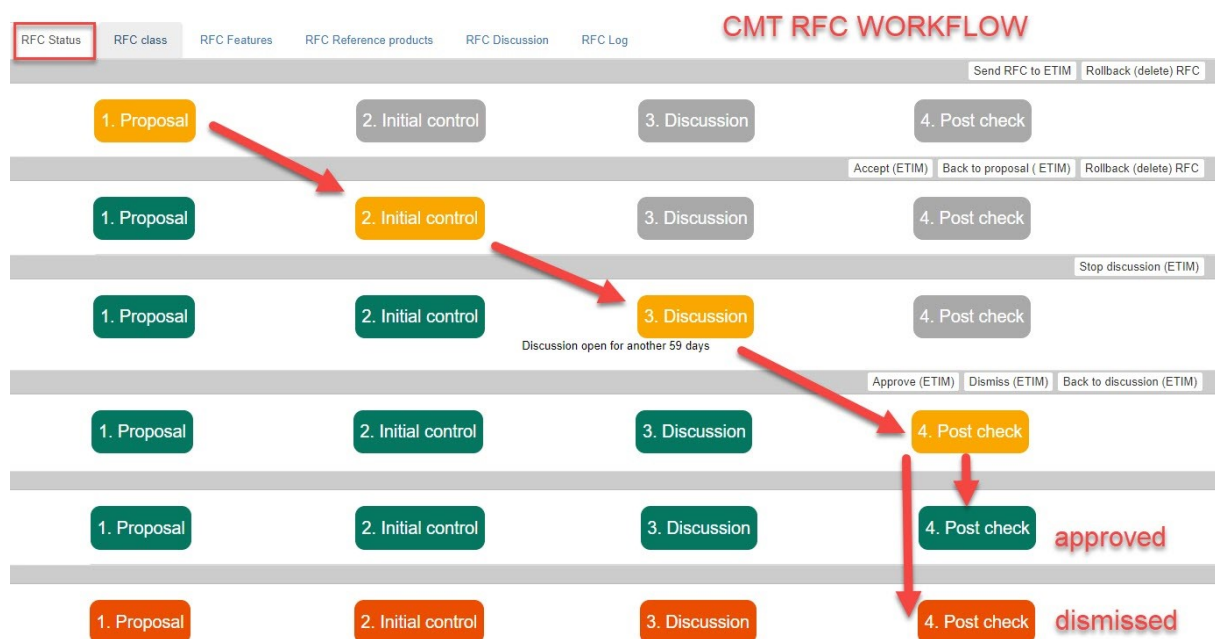
- The communication language for RFCs and discussion is English. All proposals (content) are to be entered in the countries own language(s) as well as in the system language ‘ETIM English’ (British English)
- To make clear to other stakeholders which products are dealt with the addition of reference 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

RFC checks/processing includes:

- Verifying if there is not yet an existing class for the products at hand (for new classes)
- Assess if a new class is not too specific or too general
- Verifying if a new class has been assigned to the proper product group

- Check consistency with related classes (e.g. naming of classes for accessories should be consistent with class for main product)
- Check if general RFC info is entered correctly (title, requester, type of request,...)
- Check if a (new) class is assigned to the proper sector(s)
- Check if the arguments for the proposed changes are sufficient including reference products
- Assess if the proposed features are correct for the products at hand
- Check if proposed new features comply with ETIM guidelines and do not exist already, consistency feature sorting etc. When new features or values have been created unjustified, these have to be deleted again right away to avoid further 'pollution'.
- Replace possible deprecated features and values (marked to be deleted in time) with successor (this is actually maintenance, but still part of RFC process)
- Check completeness language requester and completeness and correctness of ETIM English translations. Also check if the other translations (of existing features and values) fit within the context of the products at hand.
- Report (via CMT logging) of possible imperfections that need to be adjusted before the request can be accepted (or report of changes I did to the RFC myself if that was more pragmatic). If necessary, consult with requester for explanation or discussion.
- Accept RFC and set to discussion status
- After discussion period has ended check if there are remarks received from others (and judge/weigh these) and check if possible requested changes have been implemented. If necessary, extend discussion period and report back via RFC log the remaining issues to requester.
- Eventually approve or (with argumentation) dismiss the request.

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 SC 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 SC.

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 SC), the SC 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 the user's favourites selection, 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 SC. 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 SC.
- If the discussion has not led to an agreement on the RFC but to the opinion of the SC a workable compromise is feasible, a proposal for a final RFC proposal is done by the SC 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 SC an easy agreement on the RFC is not expected the SC can organize a (physical or teleconference) meeting intended to find a compromise solution. If no compromise can be reached the SC will take a decision on the RFC considering all interests as good as possible. If necessary, the SC will ask for an investigation to be performed by neutral experts.

The decision of the SC 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 dynamic releases and will officially be published at the next official release.

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

If the appellant disagrees with the decision of the SC on his objection a final appeal is open to him directly to the executive board.

6.5. Specific CMT procedures

6.5.1. Class translation and synonym updates

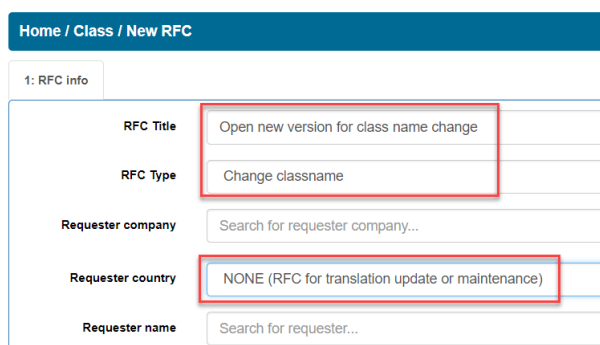
The procedure to enter class translations (new or changes) or add synonyms does not follow the standard RFC procedure. To avoid many separate RFCs for each translation update, class translations and synonyms can be added and edited continuously until the class is published.

Some basic 'need to know' things first:


- The class translation of a published class in ETIM is part of an ETIM release and cannot be changed online in CMT.
 - So, if you want to add or change class translations for published classes (like update for ETIM 8.0) you will always have to send an Excel to the international staff office with as column names ARTCLASSID, ARTCLASSVERSION, LANGUAGECODE and ARTCLASSDESC. We will then upload it in the database, please note that the ARTCLASSVERSION column is very important to connect the translation to the right class version!
- If the class translation is for the next release (or dynamic release) then you can enter it in CMT if your login allows you to do so.
- Class Translations are no longer part of an RFC and no longer in the RFC tab pages.
- Before you can add or change class translations or synonyms there has to be a new version of the class first. So, if there was no other (approved) RFC yet to the class you still have to open one to create a new working version.
- All this might seem unnecessary complicated, but the RFC processes in the CMT database are not that easy, so there is no easier solution.
- There are 3 scenarios as described below:

Existing class - no open RFC yet:

- Open a new RFC and use as RFC title "Open new version for class name change" or "Open new version for synonyms" and set RFC type to "Change class name" or "Add/delete synonyms".



- Now a new version of the class is created, and anyone (with sufficient rights) can change class translations till the class will be published again. Just send the RFC in, the staff office will approve it or close it if it is no longer needed.
- Now leave the RFC by clicking on the highest version number and then click on the Translations page. You can now change translations by just clicking on the class translation you want to change. Change the translation and click OK.



ETIM International

EC000010 - Combination of contactors

Class version: 4 5 6 7

Compare to version: 4 5 6 7

RFCs (1)

[Create new RFC...](#)

9610 [Open new version for class name change](#)

Home / Classes / Class

Combination of contactors

Class code EC000010

Sector E

Group code EG000017 - Low-voltage industrial con

Features
Translations
Discussion
Reference prod

Translation	Synonyms
Beveiligingssamenstelling	Aanzetter ✗ ; Au Motorstarter ✗ ; Omkeerschakelaar Sterdriehoekstarter
Contacteurs Assemblés	Bloc de contacteur Combinaison de pr Contacteur étoile
Automatische sterddriehoekschakelaar	Aanzetter ✗ ; Au Motorsterddriehoek Omkeerschakelaar Sterddriehoekstarter
Add translation...	Add synonym...
Combination of contactors	Automatic reversing Motor starter ✗

- You can see the changed translation(s) by comparing to the previous (published) version

Features
Translations

EC000010 - CHANGED TRANSLATION DEMO

Class version: 4 5 6 7

Compare to version: 4 5 6 7

RFCs (1)

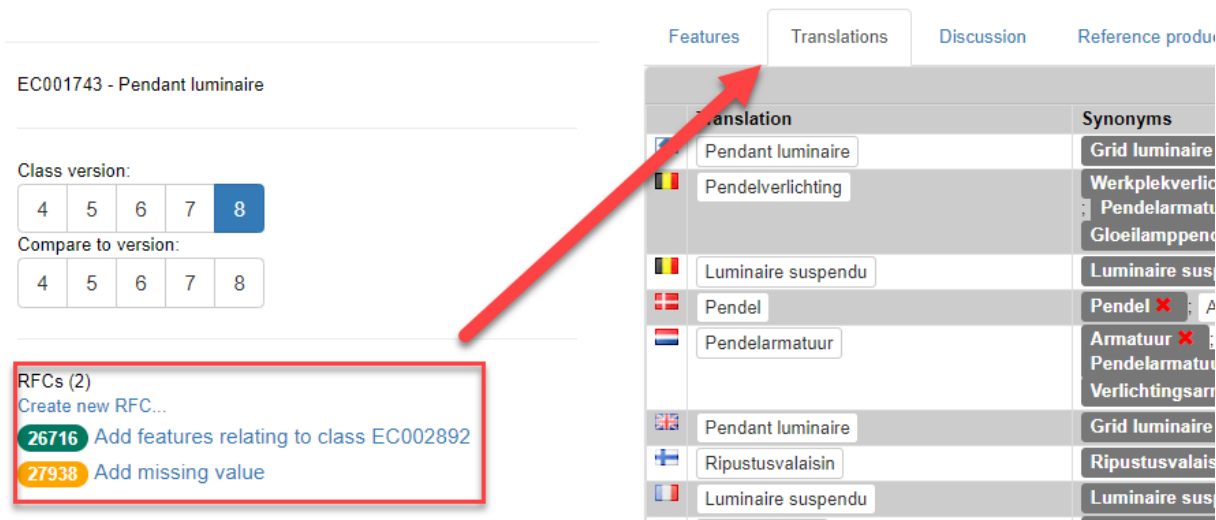
[Create new RFC...](#)

9610 [Open new version for class name change](#)

Translations	Synonyms
Beveiligingssamenstelling	Aanzetter Automatische omkeerschakelaar Omkeer Omkeerautomaat Omkeerschakelaar Sterddriehoekcombinatie Sterddriehoek
Contacteurs Assemblés	Bloc de contacteur Branche de cons étoile/triangle Commutateur de triang
Automatische sterddriehoekschakelaar	Aanzetter Automatische omkeerschakelaar Omkeercombinatie Omkeercontactor Sterddriehoekcontactor Sterddriehoek
(no translation)	
Combination of contactors → CHANGED TRANSLATION DEMO	Automatic reversing switch Automatic contactor Reversing safety Reversing switch Starter combination CHANG
Schützkombination	Automatischer Stern-Dreieck-Schalter Schützkombination Sternschütz Verbr

Existing class – with already open RFC:

- If the concerning class already has the status 'under construction' or 'ready to publish', so there was already one or more RFCs to the last published class you can just go directly to translations. But please verify that there is at least either an RFC "Open new version for ..." already or another RFC that has been approved, like in the example below. The reason is that if we would dismiss the only open RFC the new version of the class will be rolled back, and the added translations will be lost again. For the rest proceed as before.



EC001743 - Pendant luminaire

Class version:

4 5 6 7 **8**

Compare to version:

4 5 6 7 8

RFCs (2)

Create new RFC...

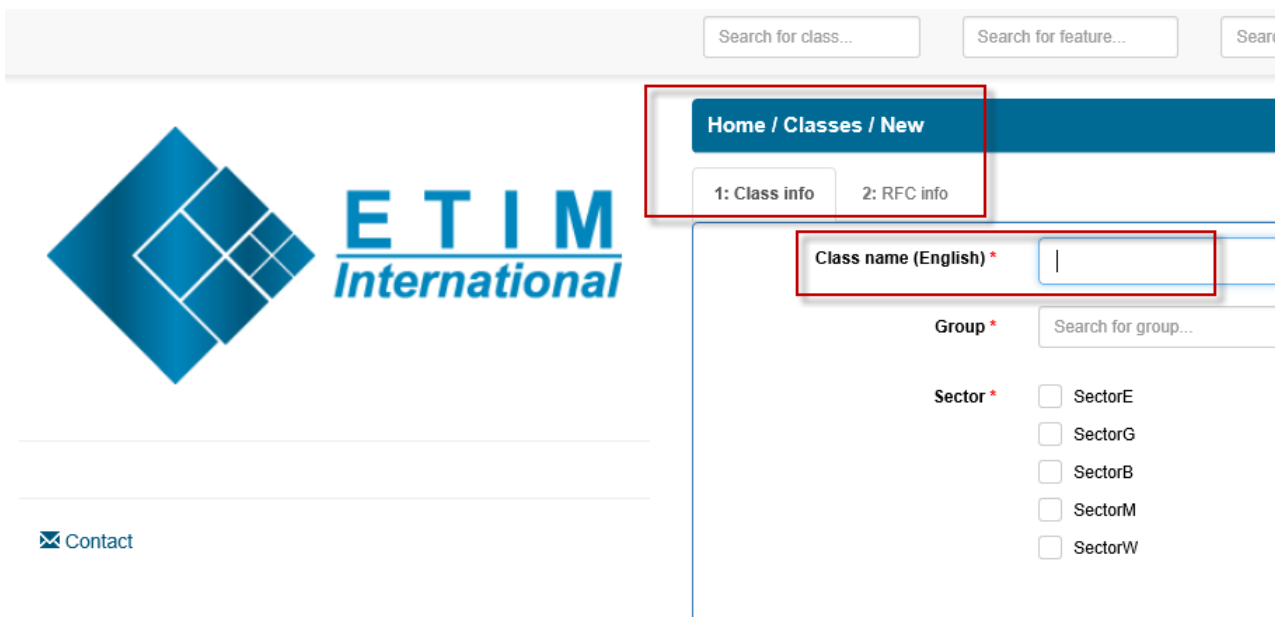
26716 Add features relating to class EC002892

27938 Add missing value

Translation	Synonyms
Pendant luminaire	Grid luminaire
Pendelverlichting	Werkplekverlichting
	Pendelarmatuur
	Gloeilamppend
Luminaire suspendu	Luminaire sus
Pendel	Pendel X
Pendelarmatuur	Armatuur X
	Pendelarmatuur
	Verlichtingsarr
Pendant luminaire	Grid luminaire
Ripustusvalaisin	Ripustusvalais
Luminaire suspendu	Luminaire sus

New class - no open RFC yet:

- The info fields for a new class have been split up in 2 parts: Class Info and RFC Info. In the Class info part, it is now mandatory to start with the **English class name** (system language)! Please make sure this translation is as accurate as possible since it is the key to others for translation! In the next step RFC info for the usual information on an RFC.



Search for class... Search for feature... Search

Home / Classes / New

1: Class info 2: RFC info

Class name (English) *

Group * Search for group...

Sector *

☐ SectorE

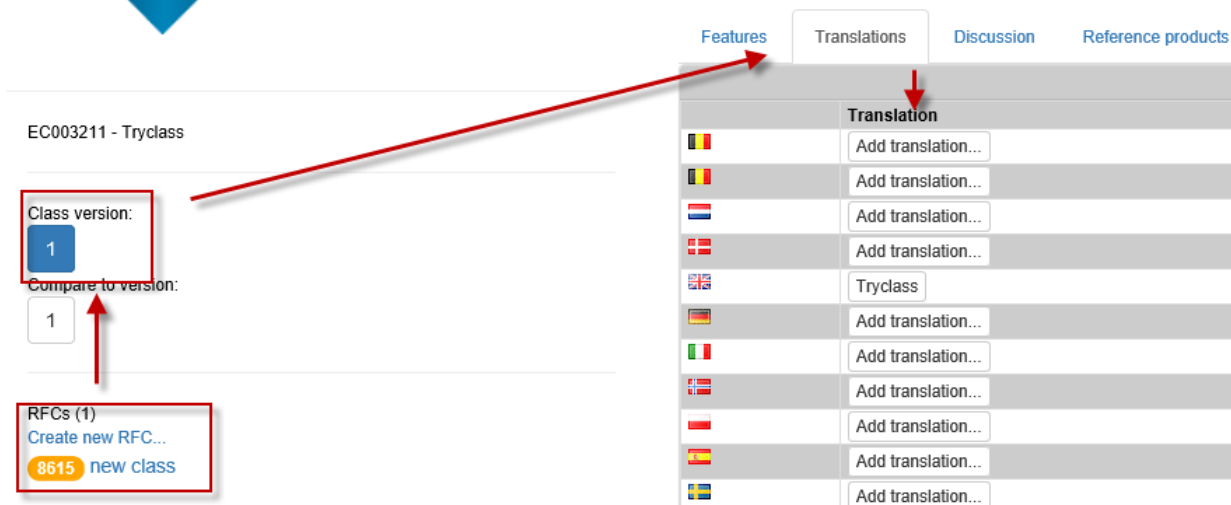
☐ SectorG

☐ SectorB

☐ SectorM

☐ SectorW

- As before, by clicking on the class version (always 1 for a new class) you can add the translation and synonyms for your own language version.



6.6. 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 release.

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

7. Guidelines classification

7.1. Naming-, notation- and translation rules:

- Translations to local language versions have to be as close as possible to the original translation (ETIM English and/or source language for changes), to prevent inconsistencies in the meaning of groups, classes, features, values and units in different languages. Inconsistencies can cause severe issues when used as source for further translations in other languages.
- Descriptions, naming- and notation conventions should be used as consistent as possible within each language version.
- 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:
 - o number + adjective: with or without dash or blank (e.g. 5polig, 5-pole)
 - o number + unit: with blank (e.g. 5 mm)
 - o number + greater than/smaller than/equal to symbol (<>): without blank
 - o dash for "to": without blank (e.g. 4-5)
 - o multiplication: without blank (e.g. 4x5)
 - o in exception to the previous, numbers with commas or negative numbers should be written with blank, like „0,2 - 0,6 bar“ or “-1 - 0 bar”
 - o break values: with blank (e.g. 1 1/8)
 - o separations with slash: without blank (e.g. Aluminium/plastic)
 - o Number + corner degrees should be noted like 45° (not 45 degrees)

7.2. Guidelines for product groups

ETIM groups serve as a structural support for the expert groups and the Standardization 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

7.3.1. General 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 has to be assigned to one or more sectors (implemented as Boolean fields on class level in our database). The sector assignment enables to filter and/or export from our database (CMT) only those classes that are relevant for the specific sector(s). This is also important to compose the proper release files for all countries, since not all sectors in ETIM are implemented in all countries yet. Very specific product classes will only be assigned to a single sector, like EC011805 Life raft for the shipbuilding sector. Very general products will be assigned to all sectors, like EC000158 Screwdriver for slot head screws.
- 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 successor if the products, described by the class, do not exist anymore at all

When considering merging or splitting classes, the decision on which classes to delete or not can be affected by the impact on already classified data, thereby possibly overruling more general guidelines. This to the discretion of the SC. Example: if class X (10.000 actual classified products) and class Y (250 actual classified products) are merged to a more general class, the guidelines dictate a new class Z. Due to the big difference in classified products, merging Y into X might be preferred to creating a new class, in which case all 10.250 products need to be reclassified instead of just the 250 in Y.

7.3.2. Accessory and spare part classes

Accessory and spare part classes can be of use to be able to classify products that can be seen as an accessory to or a spare part for 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 or spare part to a certain make (brand) or model. To make the solution for accessory and spare part classes in ETIM as consistent as possible some general rules for these classes were agreed on:

- We will as much as possible combine accessories and spare parts in one combined class.
- The class name is generally composed as "Accessories/spare parts for...."
- Preferably the name of the accessories/spare parts class refers to the main product class it relates to (if any), e.g. "Accessories/spare parts for ballast" when the name of the main product class is "Ballast". Also, it can refer to a clearly delineated group of related classes, e.g. EC011728 - Accessories/spare parts for central gas heaters.
- To avoid an explosion of classes, preferably consider accessory/spare part classes for groups of products if possible, instead of for each separate product class.
- The first feature always should be EF000215 "Type of accessory/spare part"
- All the values listed in "Type of accessory/spare part" 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.

- Logical features “Spare part” and “Accessory” will be added to each of these combined classes, to enable easy filtering for spare parts and accessories in databases based on ETIM (sometimes products can be spare part AND accessory)
- If the class is more general than just for one main product class, logical features can be used if needed to identify for what products the accessory/spare part is suitable for, like “Suitable for washbasin”.
- The number of further features should be as limited as possible.

7.3.3. Set classes

Often a combination of several single products is sold together as a set with a unique product number and a fixed price. In that case the set needs to be classified as such, the existing classes for the single products in the set cannot be used, since a product can only be assigned to one single class.

A class for a set of products can describe:

- a combination of different products, which as single product would be classified in several different ETIM classes. For example EC011802 - Set sanitary accessories.
- a combination of similar products, which as single product would be classified in the same ETIM class. For example EC002120 - Bit set.

Some general guidelines that must be respected for ‘set classes’:

- The class name includes ‘set’ in the description.
- Usually, logical features are used to identify what products are part of the set, like “With ...”.
- In addition or instead a common solution if more products of the same type are included is to add numeric features (without unit) like “Number of ...”
- The number of further features should be as limited as possible. A detailed technical specification of all the single products in a set class is not admissible!
- As with accessory classes, all the single products in the set should be listed as synonym for optimal findability.

7.3.4. Classes for services

There is an increasing interest for classification of services, like cable installation per meter. The ETIM SC has decided that classification of services is allowed if closely related to core ETIM products. Condition is that they are offered with a unique product number and for a fixed price. Example of an existing class is EC002744 - Calibration measuring instrument. The SC does not by definition reject such requests, but much depends on the actual request, so admissibility will be decided on a case-by-case basis.

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:

- The feature code (like EF000001)
- 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. Where relevant an imperial unit has to be added as well next to the metric unit, see chapter 3 section units for more information.
- 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, arguable exceptions aside. 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.

7.5.2. 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. Feature descriptions

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 feature description should be clear and unambiguous, thus allowing as little chance as possible for different interpretations. Where possible and applicable, features should have a reference to international standards.
- Feature names should be short and to the point. When needed, an explanation to the feature can be added to the remark/definition field.
- 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.
- Features that describe a value according to a defined standard should in ETIM English be described as "... according to ..." like "Efficiency according to EN 779". Also in other languages the preferred solution should be used consistently.

7.5.4. Feature types (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). Whether the data type is Range is not always obvious in the description of the feature. As mentioned before, the ETIM range feature is considered to be a closed range, so an interval which includes all its limit points, mathematically denoted as [a..b].

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

Measuring range

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

Example: <Frequency> »50 - 50« »Hz«

The feature type is chosen when creating a new feature (ID) and can NOT be changed. If the same feature is needed with a different type, then a new feature needs to be created.

7.5.5. Guidelines on specific and generally applied features

The following rules have been established within the ETIM data model:

- Length in classes for 'meter products': For classes like cables or pipes/tubes, the ETIM classification normally should not include a length. You can often buy the same cable per meter, in a box with 100 meters, a reel with 1,000 meters etc. The idea is that you only classify the product once (in its smallest sellable article) and other packing variants are referenced. So (in an ETIM based product database) you search on the product and can find all referenced other delivery/packaging articles.
- Weight in ETIM classes: ETIM describes the technical features of products, important to select the right product quickly and easily and describe its most important technical characteristics. The ETIM classification model does not contain logistical or pricing information, as this information is defined as fields in the data exchange format. The gross weight (with packaging) and net weight of the product are defined in the ETIM BMEcat exchange format. So, repeating this information in the classification is in most cases regarded as redundant and is only admissible if the weight of the product is a selection criterium for the type of products that are classified. The decisive question to determine this is: Would I prefer to buy one product or the other based on its weight? This is relevant for example for hammers or power tools.

7.5.6. Guidelines for local standard features

Local standard features can only be created by the country in question itself. So, if you need a new local feature for another country, you have to contact the local ETIM office. This is important to keep high quality in ETIM because the local ETIM organisations should know best what features are correct and where they are needed.

Finally, each local standard feature should be come with a remark that is built up as following:

- The URL for the organisation (when existing and necessary/helpful), followed by a hyphen
- The meaning of the abbreviation (if any) in local language
- Example see below

EFDE0004: Compliant to TRBS 2121-2

Remark

www.baua.de - Technische Regeln für Betriebssicherheit

7.5.7. Material features

The material a product is made of can be defined by the following two features:

- Material
- Material quality

The feature "Material quality" can optionally be used to specify the material in more detail.

Example: Material = Steel and Material quality = St 37.2 (1.0037)

Users that don't know the detailed specification can just filter on steel and anyone looking for a very specific steel quality can also easily make the right selection.

The value for "Stainless steel" is an unavoidable duplicate in the ETIM English version due to translation issues. Please use EV000166 "Stainless steel" for the material and EV000294 "Stainless steel" for the colour.

If only the 'main' material needs to be specified, then the general features material and material quality are sufficient. If however the product is composed of more materials that need to be specified separately, then the features must be specified like "Housing material" etc.

To specify the material surface, one or both of the following 2 features can be used, where it is important to know the difference:

- Surface protection:
used when a protective layer is added OVER the surface, with values like coated, painted, galvanized, etc.
- Surface treatment:
any treatment that is done TO the surface itself, with values like brushed, sanded, polished, etc.

7.5.8. Colours in ETIM

- Only "basic colours" are allowed in ETIM. Also, wood colours (like "Oak") and material colours (like "Copper") are permitted to be used in ETIM.
- As basic colours are allowed:

Value ID	Group	Value
EV006771	basic colour	Amber
EV000309	basic colour	Anthracite
EV000279	basic colour	Beige
EV000206	basic colour	Black
EV000080	basic colour	Blue
EV000083	basic colour	Brown
EV000235	basic colour	Green
EV000270	basic colour	Grey
EV000236	basic colour	Orange
EV000258	basic colour	Pink
EV003609	basic colour	Purple
EV000233	basic colour	Red
EV001560	basic colour	Turquoise
EV000202	basic colour	White
EV000234	basic colour	Yellow

- As metal basic colours are allowed:



Value ID	Group	Value
EV000072	metal basic colour	Aluminium
EV000149	metal basic colour	Brass
EV000082	metal basic colour	Bronze
EV000291	metal basic colour	Chrome
EV000138	metal basic colour	Copper
EV000119	metal basic colour	Gold
EV003888	metal basic colour	Nickel
EV015322	metal basic colour	Nickel silver
EV000290	metal basic colour	Platinum
EV000205	metal basic colour	Silver
EV000294	metal basic colour	Stainless steel
EV000179	metal basic colour	Steel
EV009526	metal basic colour	Tin
EV000300	metal basic colour	Titanium
EV006723	metal basic colour	Zinc

- As wood colours are allowed:

Value ID	Group	Value
EV021381	wood colour	Alder
EV021382	wood colour	Ash
EV022372	wood colour	Bamboo
EV007160	wood colour	Beech
EV021383	wood colour	Birch
EV021379	wood colour	Cherry
EV021380	wood colour	Mahogany
EV007082	wood colour	Maple
EV007239	wood colour	Oak
EV022374	wood colour	Pear
EV023863	wood colour	Pine
EV021426	wood colour	Sycamore
EV022373	wood colour	Walnut
EV021384	wood colour	Wengé
EV000131	wood colour	Wood

- Finally, the following special values can be relevant for colour features:

Value ID	Group	Value
EV013082	special	Colourless
EV003822	special	Multi-coloured
EV006439	special	Several
EV007710	special	Slate

- As only exception 'light' and 'dark' will be admitted, like in 'light grey' and 'dark grey', but only if this is commonly used in the market to indicate and identify a technical specification.

- RAL number will be added if a more detailed specification of the colour is needed.
- If the colour of the product is the 'natural' colour of the material the product is made of, then the value for colour is equal to the value for material, e.g. material = "Gold", then colour should also be "Gold" (not e.g. "Material own colour").
- A product without a colour will get the value "Colourless" and not "None" or "Clear" (e.g. a drinking glass or a window).
- Transparent is not a colour and should be listed as separate (logical) feature
- If a manufacturer wants to give a more detailed (often commercial) information about a colour he can use the element FVALUE_DETAILS and/or the free text short or long description fields in BMEcat or a similar exchange format.

7.5.9. Solution for 'printed text' on products in local language

In some cases we want to specify in ETIM the exact text that is printed on the product. Solution so far was to give a value list with the text value in capital letters for each language, like "DOWN". But this was not sustainable with so many languages.

As new and better solution we chose to use the following 2 features:

- EF015918: "Meaning of the imprint" (Like "Emergency Stop")
- EF015922: "Language of the imprint" (Like "Danish")

When the imprint is in more than one language, the value 'several' is chosen. The value list for the language feature EF015922 shall consist of all current ETIM languages.

7.6. Guidelines for (alphanumeric) values

7.6.1. General guidelines for values

The value list of a feature can be different in each ETIM class that uses this feature. Please only add values to a value list that are relevant for the actual products in the class. Do NOT add general value lists for features like material etc. You can use them as a basis to select from, but do not add values to the list that do not demonstrably exist for the product.

Value lists should be unambiguous and of the 'same level'. For example, values "Plastic" and "Polyethylene (PE)" should not be in the same value list, since PE is also Plastic.

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“

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).

7.6.2. Guidelines for sort numbers of 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). Language-dependent values will be standard sorted alphabetically on ETIM English.

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.

7.6.3. Guidelines on specific and generally applied values

The following rules have been established within the ETIM data model:

- For values which represent a dimension in inch, in ETIM English the unit should be figured with the word "inch", not with the symbol ". Each country can decide themselves whether to use the word "inch" (translated in the respective version language), or the symbol ", as long as it is used consistently in the language version.
- The use of the value "not applicable" is not allowed in ETIM. For most classes there will be features that will not be applicable for all products in that class. That feature can just as well be numeric, range or logical features, where no value "not applicable" is possible. In the data exchange features that are not relevant for the product should be left blank. Or in the case of exchange via BMEcat, the minus sign "-" must be delivered. Optionally you can then specify in the FVALUE_DETAILS field the code "NA" for 'not applicable'.
- The value "None" should only be used if it serves a clear selection purpose, not as an alternative for "not applicable". So, if users could be looking specifically for a product that does NOT have a certain feature or function, then the use of "None" is allowed.

7.7. Guidelines for units

7.7.1. General 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".
- Units should be used consistently in related classes.
- Unit translations are a local responsibility, but a uniform notation is considered important. Where possible we should refer to (base or derived) SI units, at least for the abbreviations (short descriptions).

7.7.2 Generally applied units

- For features related to hydraulics (water/fluids) 'bar' (EU570056) is the preferred unit.

7.8. Guidelines for reference products

We distinguish between two types of reference products in ETIM CMT.

- Class reference products: To help understand what products should be classified in a certain class.
- RFC reference products: to support requests for change, to provide clear examples and/or more detailed information of products for which the requested features/values are relevant.

Reference products can be pictures, product identification numbers, hyperlinks to information or a combination of these. Each class or RFC can have multiple reference products.

Please notice that RFC reference products are only temporary and will be deleted when the RFC is closed. So, for new classes you need to put the reference products on class level, not (only) on RFC level. Also, if you want reference products for changes to stay visible after RFC approval, you will need to upload them two times, on RFC and on class level.

Some guidelines:



- If only a picture (without supplier id) is used as reference a neutral picture is preferred without visible brand designation.
- For manufacturer related reference products, products of member companies are preferred where possible, but are not to be considered as added value of membership. We cannot allow multiple reference products only to display competitive brands, such at the discretion of the CMT administrators.
- Descriptions to reference products are always in English.
- Links to online technical documentation preferably refer to English information, however this is not always possible.
- Reference products are only for online reference in ETIM CMT and ETIM In Your Pocket and cannot be made available to users for offline use.

8. Glossary

CMT	= Classification Management Tool
RFC	= Request for Change
SC	= Standardization Committee
XML	= eXtensible Markup Language

9. Change log to previous document version

In this chapter a brief summary overview is provided of additions and changes to the previous version of this document.

Changed/Added in version V3-2020:

- Renaming of “Technical Committee” to “Standardization Committee”
- Renaming of “Intermediate release” consistent to “Dynamic release”
- Chapter 2:
 - Chapter 2.1:
 - Added section on membership types
 - Added section on industry sectors
 - Chapter 2.3: Updated section on international working groups
 - Chapter 2.3: Updated section in accordance with SC restructuring
- Chapter 3:
 - Introduced subchapters
 - Added new chapter 3.2.1. on ETIM MC
 - Chapter 3.4.1: added some more details
 - Added new chapter 3.4.2. on local standard features
 -
- Chapter 4:
 - Added new chapter 4.3. on ETIM API
- Chapter 7:
 - Chapter 7.3.1.: Added guidelines on merging or splitting classes
 - Chapter 7.5.3.: Added extra guidelines on description and meaning of features
 - Added new chapter 7.5.6. on guidelines for local standard features
 - Moved guidelines on material features from 7.5.5. to new chapter 7.5.7. and extended the guidelines
 - Chapter 7.5.8.: extended the guidelines with lists of allowed metal-, wood- and special basic colour values
 - Added new chapter 7.5.6., describing the solution for ‘printed text’ on products in a local language
 - Chapter 7.6.1. Added extra guidelines on relevant and unambiguous value lists
 - Chapter 7.6.1. Added that values should standard be sorted according to ETIM English
 - Chapter 7.6.3. Added guidelines on the use of values “Not applicable” and “None”
 - Chapter 7.6.3. Added that units should be used consistently in related classes
- Finally, some smaller corrections and updates that do not need to be mentioned specifically