



D3.2.2: B2B INTEGRATION SHOWCASE

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APPENDIX: TMS ITS 2.0 IMPLEMENTATION

1. EXECUTIVE SUMMARY

The present document describes the B2B Integration Showcase whose objective is to demonstrate the applicability of LT-Web ITS 2.0 metadata in a CMS to TMS localization chain.

The sections 3 to 5 describe how integration works between the two sides and several aspects related with the implementation of ITS 2.0 data categories.

After that, section 6 allows ways to test or demonstrate the adaptation of the CMS side and the TMS solutions respectively, and describe briefly how to use them and how they work.

2. INTRODUCTION

The large volume of information and web content justifies the use of CMS systems for medium to big size companies and organizations. CMS systems provide benefits such as content control, several user profiles, abstraction and workflows.

When we insert the multilingual variable to the CMS picture, a translation workflow is highly recommended. The advantages of using an external localization provider and CAT tools gives added value such as the use of translation memories, glossaries and the experience with translation management.

The showcase will exemplify how ITS 2.0 allows more integration between the two sides and how the localization workflow of the contents benefits from each data category implemented.

3. CMS AND TMS INTEGRATION WITH ITS 2.0

For this showcase, Cocomore and Linguaserve have used a real customer. “VDMA - Verband Deutscher Maschinen- und Anlagenbau - German Engineering Federation”¹, and the following existing technology has been used for the showcase in the CMS side (Cocomore):



- DRUPAL is a free and open-source content management framework (CMF) written in PHP and distributed under the GNU General Public License. Drupal version 7 was used for this implementation.

Drupal

In the TMS side (Linguaserve):



- Global Business Connector Server (GBC Server) is a Globalization Management System that has been on the market since 2003. The interoperability applies Webservices and XML, and it can be connected to any CMS, DMS, or ERP, or proprietary systems. The content and document translation workflow is completely automated. It was developed and is owned by Linguaserve.



- Platform for Localization, Interoperability and Normalization of Translation (PLINT) is a workflow control platform for translation and localization processes. It integrates the pre-production/post-production engine to process formats to and from CAT tools and Machine Translation engines.

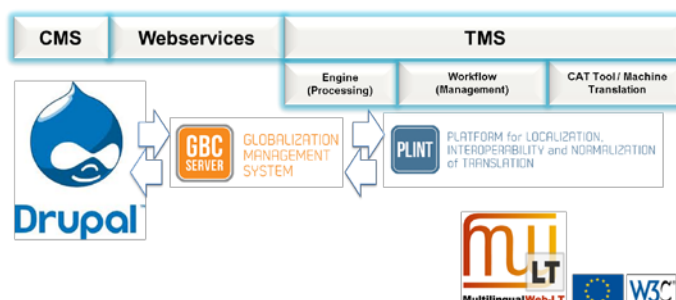


- Computer Assisted Translation tool Transit XV (STAR Group).

Interoperability is achieved by the offline translation system interface between the "Client Application" (Drupal) and Linguaserve's translation server (Global Business Connector Server). GBC Server provides a number of services for the translation and localization of content, as well as for the exchange of other information necessary for the production and monitoring of orders. It provides a service with which the Client Application can check the correct functioning of the connections (Proxy, client's Firewall, etc.) without the CA having to simulate sending files. GBC Server uses Simple Object Access Protocol (SOAP).

The most relevant webservice operations are:

- Send file for translation
- Reception confirmation
- Cancellation
- Check availability of translations
- Download translations
- Download confirmation

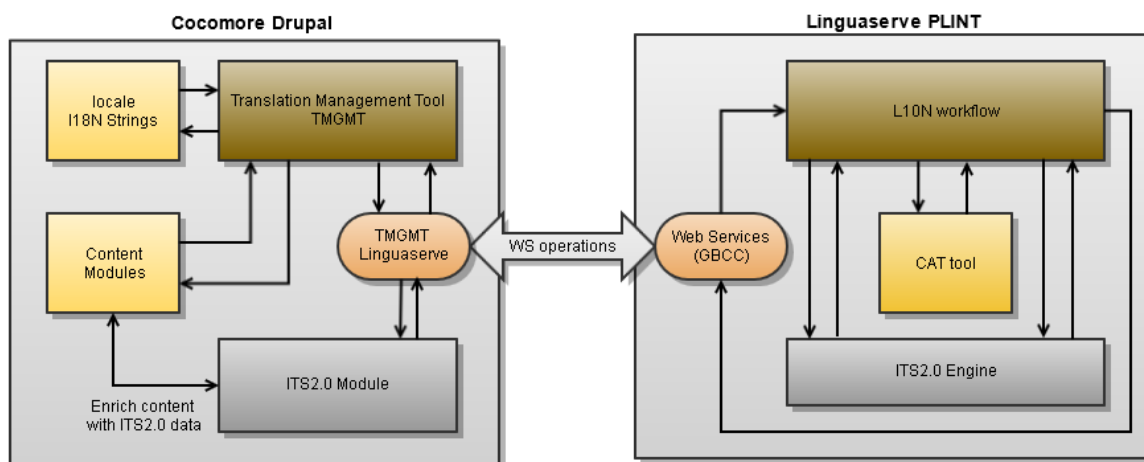


¹ See the VDMA Web site at <http://www.vdma.org/>.

The content originates in a CMS, and gets exposed/serialized as XHTML + ITS 2.0. This is sent to a TMS and processed in a workflow. Upon completion, the TMS exposes/serializes localized/translated XHTML + ITS 2.0 to the CMS. The basic steps of an ITS 2.0-aware content creation and translation- process are as follows:

- VDMA has content produced in the Drupal CMS.
- Before being sent, the content is annotated with ITS 2.0 metadata with means of automatic and manual annotation. This localization workflow is an XML based tool chain; hence, XHTML + ITS 2.0 is used as the interchange format.
- The content is sent to the Linguaserve Global Business Connector Contents (GBCC) translation server, processed in Linguaserve’s internal localization workflow “Platform for Localization, Interoperability and Normalization of Translation” (PLINT).
- The ITS 2.0 metadata is used during the LSP (Linguaserve) internal processing for several localization tasks (providing context to the translators, blocking the non-translatable contents in the CAT tool, selecting terminology and translation memories...) and also updated in some cases as a result of the process (Provenance: the translator and reviser that have carried out the job).
- After, once the annotated content is translated and the metadata is treated, they are downloaded by the client and imported into the CMS.

This integrated approach affects almost all areas of the traditional translation workflow. Accordingly, it requires modifications and extensions throughout the tool chain. The following graphic shows a vision of the architectural entities that are involved in ITS 2.0-aware content and translation handling:



Features of the solution that we created based on this architecture can be assigned to either the content provider’s or the LSP side of the picture. On the content provider’s side the creation of the ITS 2.0 metadata aware workflow involves the following areas:

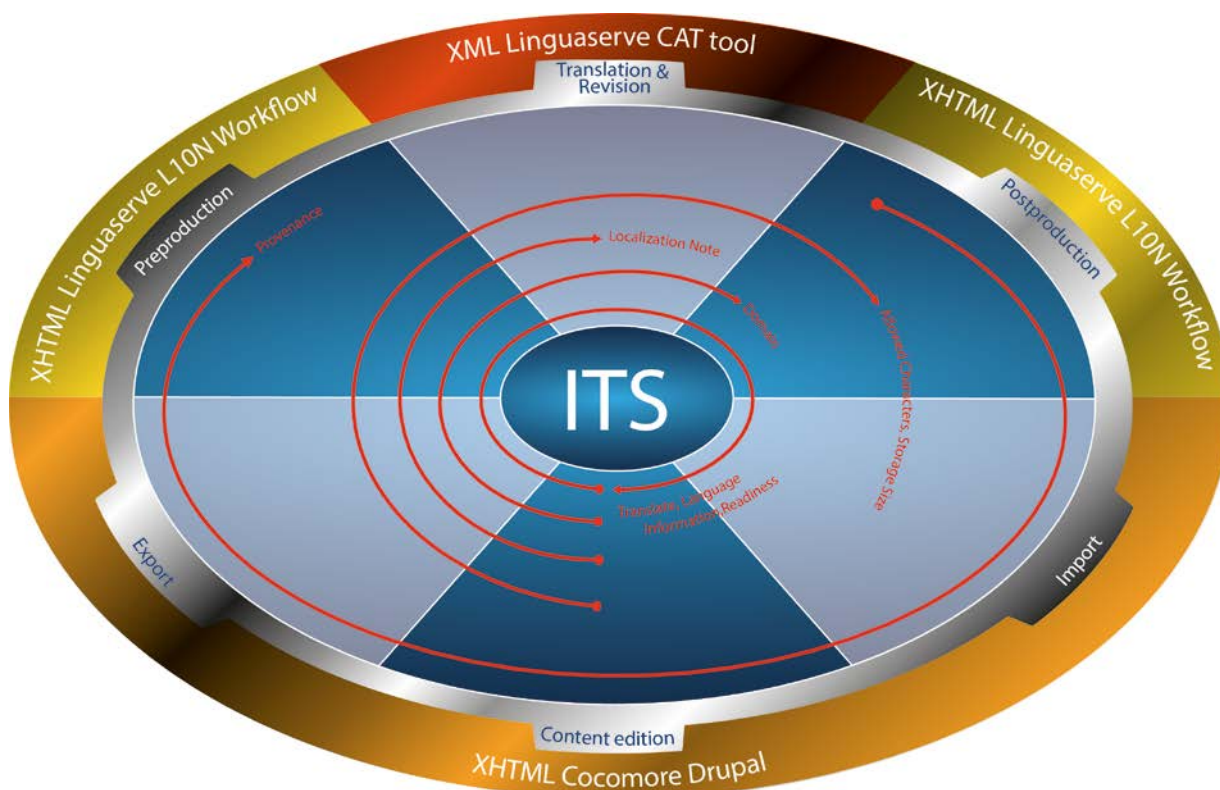
- Annotation of source language content with ITS 2.0 metadata within the Drupal CMS. Structural annotation rules can be specified as global rules on page/content type level, while local metadata is added by hand. In addition, automated annotation tools can be integrated through a standardized interface to support the user in creating such local markup. Manual annotation features are available in all generally expected interaction modes (toolbar buttons, context menu, keyboard shortcuts): Two annotation approaches are supported:

- a) Annotation may be carried out as part of the content creation process, via features that have been added as plugins to the out-of-the-box Drupal WYSIWYG editor.
- b) Annotation may be carried out as a separate step, without the ability to modify the content. This allows workflows that separate content know-how and translation management.
- Transparent data round-tripping: Triggered from within Drupal, this is carried out in the background via export/import of XHTML+ITS 2.0 markup files, to be sent to/received from LSP. The process is based on an extended version of the Drupal Translation Management (TMGMT)-module.
- Translation review: ITS 2.0 markup is retained in this step so that annotated information can be taken into account for QA purposes.

On the LSP side, the creation of the ITS 2.0 metadata aware workflow encompasses three areas:

- Pre-production/post-production engine for processing content files annotated with ITS 2.0.
- LSP internal localization workflow to provide support to project management and production processes.
- Computer Assisted Translation (CAT) tool usage for translation, revision and postediting with ITS 2.0 annotated content.

The following diagram illustrates the life cycle of each data category in the complete roundtrip:



4. ITS 2.0 IMPLEMENTATION IN THE CMS

Cocomore integrated ITS 2.0 into the open-source Content Management System (CMS) Drupal. This required the development and adaptation of several modules:

- Drupal TMGMT-module (extension to allow workflows with ITS 2.0 annotation)
- Drupal WYSIWYG editor: Plugin for ITS 2.0 annotation
- JQuery plugin for ITS 2.0 annotation in a separate step (new implementation)
- Interfacing with Global Business Connector Contents (GBCC) and web services (implementation of data export/import and client implementation)

4.1. ITS 2.0 aware translation workflow in the CMS

This section describes the translation workflow and the ITS 2.0 handling within the open-source CMS Drupal. Drupal can be extended easily by modules, and there are already a couple of modules available to help the user with translation processes.

4.1.1. WORKFLOW MANAGEMENT WITH TMGMT

We used and extended the "Translation Management Tool" (TMGMT). This module provides the basic translation workflow, which comprises the following steps:

1. Create translation job
2. Send job to translation service
3. Reintegrate translated job into Drupal

Furthermore, TMGMT is designed to work with any content and any translation service. It provides interfaces for handling different sources and services. These are complemented by a default implementation of the source interface, which creates TMGMT jobs from content pages (called nodes in Drupal). For strings that are not part of Drupal nodes (such as menu links, error messages, etc.) we created an additional implementation, which generates a TMGMT job for those untranslated strings in the Drupal CMS. To operate with the Linguaserve Web Service we implemented a translation service for TMGMT to send TMGMT jobs to Linguaserve and retrieve these jobs when they are finished. With these modules the general translation workflow is covered. The described functionality is implemented in the module *Drupal TMGMT Workflow* (see 4.1 for details on availability).

The TMGMT Linguaserve module which is a translation service for TMGMT handles all SOAP calls to Linguaserve and creates an XHTML file from a TMGMT job. This XHTML file is used as exchange format between Cocomore and Linguaserve. This file uses script-tags for global data categories and the normal HTML markup as described in the ITS 2.0 and only contains the content and no menu or styling information. In this way it can be interpreted easily by other services. The described functionality is implemented in the module *Drupal TMGMT Translator Linguaserve* (see 4.1 for details on availability).

4.1.2. ITS 2.0 ANNOTATION

This is an example of a Drupal XHTML exported file with ITS 2.0 before translation:

```
<?xml version="1.0" encoding="UTF-8"?>
<html xmlns="http://www.w3.org/1999/xhtml" xmlns:its="http://www.w3.org/2005/11/its"
xmlns:itsx="http://www.w3.org/2008/12/its-extensions" its:version="2.0">
<head>
  <meta name="DC.subject" content="'Angewandte Wissenschaft', 'Unternehmen',
'Maschinenbau', 'Allgemein', 'Anlagenbau', 'Kunststoff- und Gummimaschinen',
'Technologien'"/>
  <script type="application/its+xml">
  <its:rules>
    <its:domainRule selector="/h:html/h:body"
domainPointer="/h:html/h:head/h:meta[@name='DC.subject']/@content"/>
    <its:locNoteRule locNoteType="description" selector="/h:html/h:body">
      <its:locNote translate="no">Pressemitteilung</its:locNote>
    </its:locNoteRule>
    <itsx:readinessRule ready-at="21/01/2013 13:48:56:000 CET" priority="1/3" complete-
by="19/02/2013 16:00:00:000 CET" ready-to-process="hTranslate, reviseQA, hReview,
publish"/>
  </its:rules>
</script>
</head>
<body id="36672" lang="de">
  <div id="36672-node_title" its-allowed-characters="[^<>]" its-storage-size="255">VDMA
verstärkt den Kampf gegen Produktpiraterie</div>
  <div id="36672-body-0-value" its-allowed-characters=".">
    <p>17.05.2010 - Der Kampf gegen Produktpiraterie muss an vielen Fronten gleichzeitig
geführt werden. Eine wichtige Maßnahme imgegen die Verletzung von materiellem und
geistigem Eigentum ist die juristische Unterstützung. Der <span
translate="no">VDMA</span> setzt sich mit aller Vehemenz für den
SchutzMitgliedsunternehmen ein.</p>
    <p>„<span its-loc-note="Bitte korrekte sinngemäße Übersetzung mit Marc Wiesner
absprechen." its-loc-note-type="description">Das Internet macht vieles- beispielsweise
auch die Verletzung von Schutzrechten</span>“, betont <span translate="no">Marc
Wiesner</span>, Experte für Produktpiraterie der Abteilung Recht im
<span translate="no">VDMA</span>. Viel schneller als früher bemerken es die
Unternehmensvertreter heutzutage, wenn Produkte angeboten werden, die den eigenen
täuschend ähnlich sind oderNachahmungen darstellen. Das weltweite Datennetz hilft nicht
nur beim Verkauf illegaler Waren, es bringt ebenso Rechtsverletzungen schnell und
überall zutage.</p>
    <p>Der <span translate="no">VDMA</span> bietet seinen Mitgliedsunternehmen zusätzlich
zu Publikationen und Informationen bei Veranstaltungen rechtliche Beratung speziell zu
Verletzung<span lang="en">Know-how</span> und gewerblichen Schutzrechten an.</p>
  </div>
  <div id="36672-body-0-format" translate="no" its-allowed-characters=".">full_html</div>
</body>
</html>
```

In section 5.3, we will show the post processed file with ITS 2.0 with the same Drupal XHTML example, ready to be sent and imported into the CMS.

4.1.2.1. LOCAL MARKUP VIA WYSIWYG

For the ITS 2.0 integration we had to develop another module. This module provides the integration of ITS data categories into Drupal. It extends the WYSIWYG editor with new buttons to allow the user to add and edit local ITS markup in content pages. The following ITS data categories can be set with the WYSIWYG while creating or editing a content page:

- Translate
- Locale Filter
- Text Analysis
- Localization Note
- Language Information
- Directionality
- Terminology

The described functionality is implemented in the module *Drupal ITS2.0 Integration* (see 4.1 for details on availability).

4.1.2.2. SUPPORT FOR GLOBAL MARKUP

Apart from the possibility of setting these data categories as local markup, there are also a few data categories that can act as global markup. Support for such global markup is managed on a per-content-type basis. Enabling ITS support for a given content type creates a new field set in the edit form for this type of content. The field set can be used to enter global XPath rules. It is possible to set default global rules for each content type or globally for the complete site.

The following data categories are available for global markup:

- Domain
- Translate
- Localization Note
- Revision/Translation Agent (from the Provenance data category)

The described functionality is also implemented in the module *Drupal ITS2.0 Integration*, but has to be enabled manually after installation (see 4.1 for details on availability).

4.1.2.3. ANNOTATION AS A SEPARATE WORKFLOW STEP

4.1.2.3.1. FUNCTIONALITY

As an extension to the normal WYSIWYG editor in the content edit form, we added a new "Language Management" form. The form provides an editor in which it is only possible to work on (add, remove change) the ITS 2.0 markup of a node, while the actual content is all write-protected. This supports a separation of content editing and ITS 2.0 annotation into two distinct workflow steps: A special user role (e.g. a translation manager) can add ITS data very easily after content creation without accidentally changing the content itself. This role will also be able to see and can edit the global markup.

4.1.2.3.2. USER INTERFACE

Local and global markup can be highlighted separately in the content. This is controlled in the UI by means of checkboxes. In this way, the user can choose what he/she wants to see and doesn't get overwhelmed with all

data categories at once. If the user selects content next to the selection, a small window pops up. In this window the user can choose a data category to add to the selected content. There are also keyboard shortcuts available for the data categories to support even faster tagging. For the simple data categories like "Translate" they just add the attribute with the contextually most likely value. For instance, a translate attribute will be set to the negated value of the one valid in the context, thus `translate="no"` within text that is not in the scope of any other translate attribute (because the default `translate="yes"` is assumed for such text). For all other data categories, a new modal window appears where the needed data can be edited, like the note and note type for "Localization Note".

4.1.2.3.3. IMPLEMENTATION

The functionality described above depends highly on JavaScript and is built on top of the *ITS2.0 jQuery plugin* (see 4.1 for details on availability), which was developed by Cocomore as well. This jQuery plugin provides functionality for the selection of text nodes with special data category values, and getting the ITS values of a text node. It is released independently of the Drupal modules, so other frameworks or users can use it in their implementations as well. For example, a programmer can quickly get all non-translatable text nodes from an HTML and XHTML page to add special styles to it. The plugin correctly handles both local and global markup, including global markup in a script tag and external linked global markup. The module performs all the ITS 2.0 tests.

4.1.2.3.4. DATA CATEGORIES WITH AUTOMATICALLY DETERMINED VALUES

There are several data categories that have a special status when integrating ITS 2.0 in a CMS by the fact that they allow for an especially high degree of integration. This may be because the CMS provides specific means for handling out of the box, or because adequate values can be derived automatically from other information that is available from various sources within the CMS and workflow. This special status is also reflected in the Drupal ITS2.0 integration module.

For the *Domain* data category you can select that it shouldn't be a text field where the user can type in the domain, instead you can use the taxonomy system from Drupal. With this you can create your own vocabulary or use an existing one and just select the domains on content editing. The *Provenance* data can't be edited by the user, it just shows and stores this information and will be automatically set by the translation service. In a similar manner, additional data categories are embedded in the translation process. Data categories like *Allowed Characters*, *Storage Size* and *Readiness* from the ITS extension will be added automatically to the content sent to the LSP depending on Drupal's field definitions of a particular field. As an example there is a maximum length of 255 characters for the title field, and in this case the *storage size* category is added to the title field with the respective values set. The user doesn't have to care about this at all. As other examples, the *expected finalization date* and *priority* are added by the translation manager before the translation job is submitted to the LSP.

The described functionality is implemented in the module *Drupal ITS2.0 Integration* (see 4.1 for details on availability).

4.2. Documentation of Components

All the implementations described in 4.1 are released under the GNU General Public License 2 and can be downloaded and modified. They are available at the following URLs

- Drupal TMGMT Workflow - <https://drupal.org/sandbox/kfritsche/1908598>
- Drupal TMGMT Translator Linguaserve - <https://drupal.org/sandbox/kfritsche/1908422>
- Drupal ITS2.0 Integration module - <http://drupal.org/project/its>
- jQuery ITS2.0 Parser Plugin - <http://plugins.jquery.com/its-parser/>

The ITS-Drupal module uses the ITS 2.0 jQuery Plugin, which we published separately for users who do not use Drupal as their CMS, but would like to work with ITS 2.0 in an HTML Context too. This plugin is tested with the W3C ITS2.0 Test-suite and conformant to the standard.

4.2.1. EXTENSIBILITY

Our Drupal implementation is extensible with other modules. Cocomore developed an interface to allow other systems to do work before or after a translation. This can for instance be used to add a QA service after the translation is carried out or to integrate a service for additional automatic annotation of ITS 2.0 metadata. An implementation that integrates the Enrycher service to generate text analysis markup is accessible at the following URL:

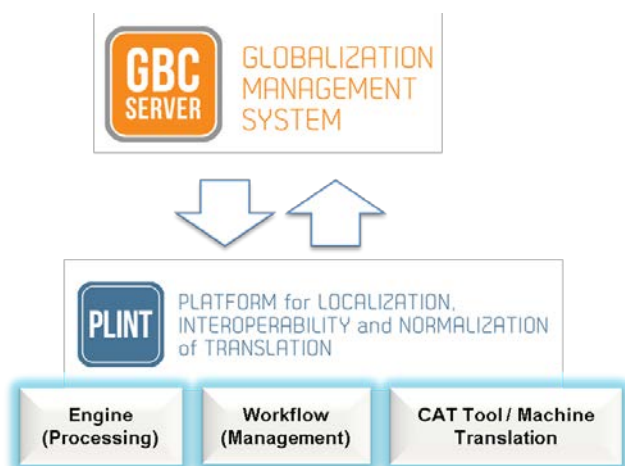
- Drupal Enrycher Integration - <https://drupal.org/sandbox/kfritsche/1966286>

5. ITS 2.0 IMPLEMENTATION IN THE TMS

This section explains which ITS 2.0 data category has been implemented, its usage and its application on the different phases of the localization workflow. There are also explanatory details about the implementation and examples of ITS metadata.

In the LSP side, the creation of the ITS 2.0 metadata aware workflow encompasses three areas:

- Pre-production/post-production engine for processing content files annotated with ITS 2.0.
- LSP internal localization workflow to provide support to project management and production processes.
- Computer Assisted Translation (CAT) tool usage for translation, revision and postediting with ITS 2.0 annotated content.



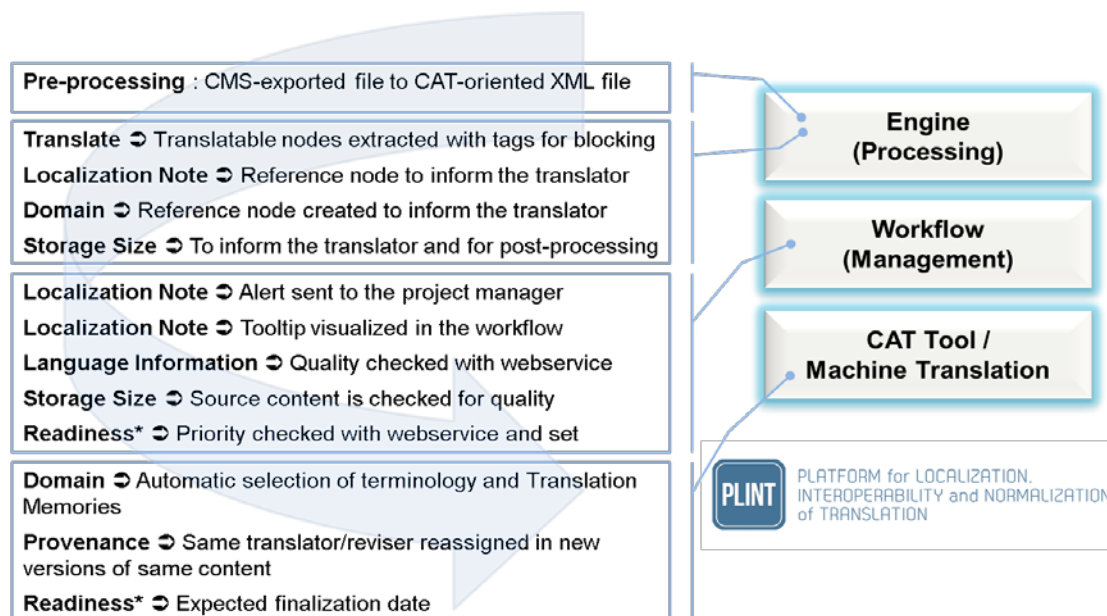
The ITS 2.0 Data categories implemented in the TMS side are:

Translate	Specifies whether the content should be translated or not.
Localization note	Used to communicate notes to localizers about a particular item of the content.
Domain	Used to identify the domain of the content.
Language information	Used to express the language of a given piece of content.
Allowed characters	Used to specify what characters are allowed in a given content.
Storage size	Used to specify the maximum storage size of a given content.
Provenance	Provides information concerning how a text was translated (e.g., MT, human translation) and revised (e.g., human post-editing).
Readiness (*)	Used to indicate the readiness, the relative priority and an expectation of when a specific process should be completed.

(*) "Readiness" is not part of ITS 2.0 since, in the given time frame, the W3C MultilingualWeb-LT Working Group could not find consensus on all aspects of Readiness. The implementation of Readiness as an extension to ITS 2.0 allows to gather experience and to consider this data category for a future version of ITS. This approach already helped after the creation of ITS 1.0 to develop other data categories that are now a stable part of ITS 2.0.

5.1. Pre-production phase

The original file is processed with the ITS 2.0 engine that reads the data categories within and the results are:



ITS 2 localization workflow interaction:

- **Localization Note:** when *alert* type, send a notification to the project manager and add tooltip visualization in the workflow.
- **Language Information:** quality check to ensure the source language content is according to the Webservice parameter.
- **Storage Size:** quality check for the original content.
- **Readiness:** control of processes to be carried out. Date control for availability and delivery is registered. Priority control.

The data category treatment in the internal pre-production phase is:

Pre-production phase			
Data category	L10N workflow	XHTML Global	XHTML Local
Translate		Omit selected not translatable contents.	A particular node could be non-translatable. Mark parts of the content marked as non-translatable for blocking.
Localization Note	When <i>alert</i> type, send a notification to the project manager and add tooltip visualization in the workflow.	Create reference node to inform the translator.	Inform the translator.
Domain	Automatic selection of terminology and translation memories.	Create reference node to inform the translator.	
Language information	Quality check to ensure the source language content is according to the webservice parameter.		Inform the translator.
Allowed Characters			

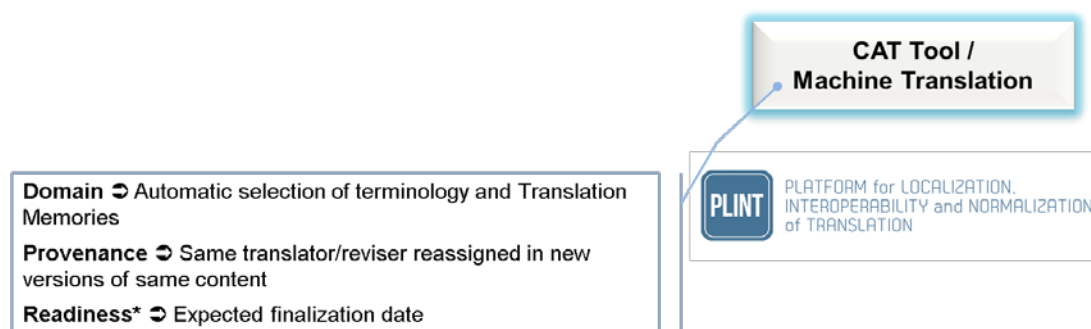
Pre-production phase			
Data category	L10N workflow	XHTML Global	XHTML Local
Storage size	Quality check for the original content.		Inform the translator.
Provenance	Possibility to reassign the same translator/reviewer in new versions of the same content (based on identifiers).		
Readiness (*)	Priority checked with webservice. Set expected finalization date.		

(*) ITS 2.0 extension.

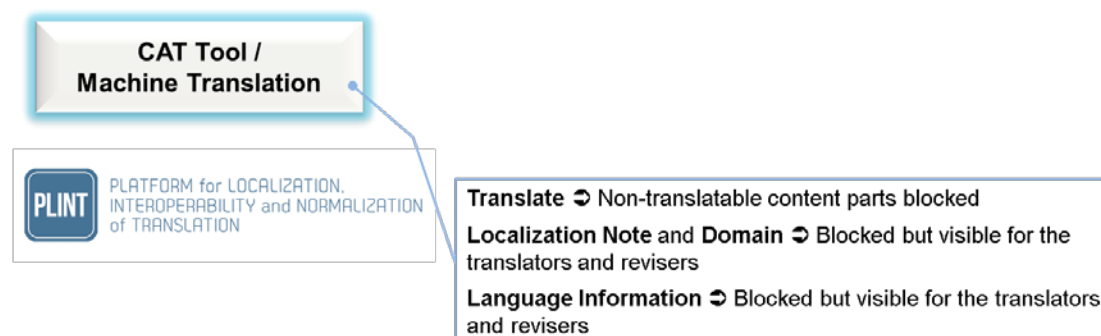
5.2. Translation and revision phase

The CAT tool oriented XML file resulting from the previous step is used here. The ITS 2.0 localization workflow interaction can be described as:

- **Domain:** automatic selection of CAT terminology and dictionaries. Selection of Translation Memories by domains.
- **Provenance:** possibility to reassign the same translator/reviewer in new versions of the same content (based on identifiers). Inform the project manager.



This file will be imported in the CAT tool using a filter created ad hoc, based on an XML file with embedded HTML tags filter and modified to add new special tags. The content inside the xlasRefTrad nodes is reference content for the translators/reviewers. It is visible but blocked in the CAT tool. The content inside the xlasTrad nodes is translatable content. It is editable by the translators/reviewers except the standard HTML tags and the content between the special inline blocking tags (<xlasbloq>).



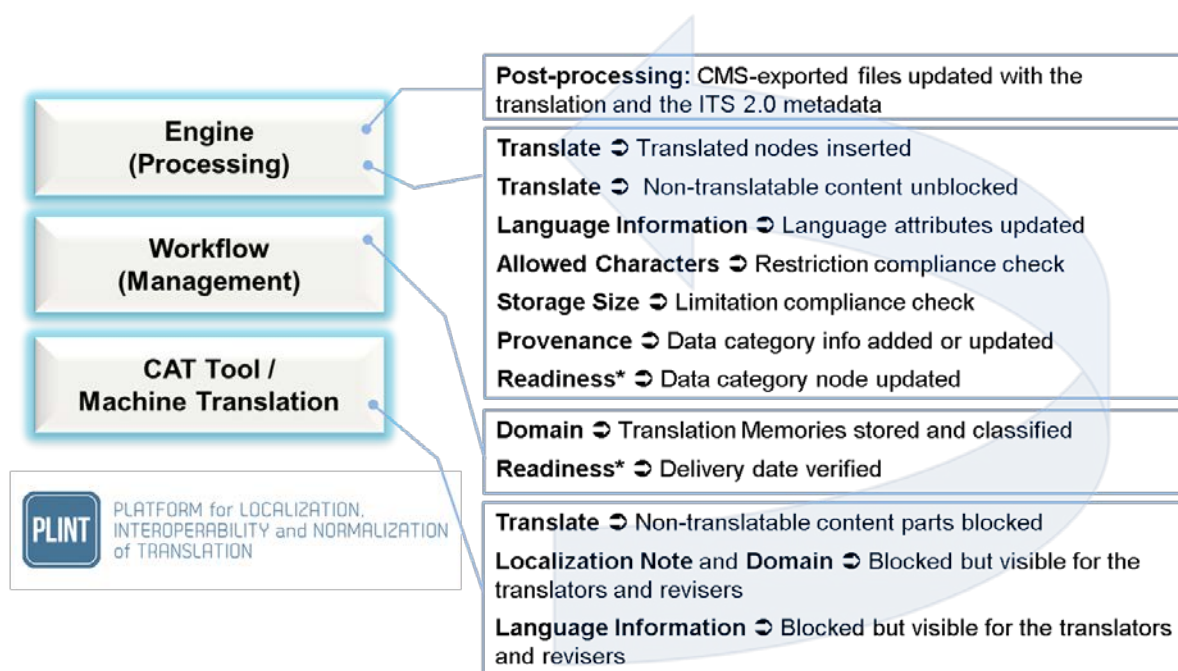
The specific manipulation with each data category is the following:

- **Translate:** The content of the XHTML div nodes with the local attribute translate="no" is not extracted. Additionally, in the translatable div nodes with HTML content the preprocessing step adds the xlasblog tags before and after the pieces of the content that are not translatable.
- **Localization Note:** The content of the localization note (from the <its:locNote> node) is added in an xlasRefTrad node, blocked by the CAT filter but visible for the translators and reviewers, if applicable (selector attribute). Additionally, the contents of the its-loc-note attributes (local usage) are blocked by the CAT tool.
- **Domain:** The content of the domain attribute (as established by the domain pointer "/h:html/h:head/h:meta[@name='DC.subject']/@content") is added in an xlasRefTrad node, blocked by the CAT filter but visible for the translators and reviewers, if applicable (selector attribute).
- **Language Information:** The local lang attributes are visible for the translators and reviewers, but also blocked. Workflow usage: The source language information is obtained from the DB (originally a web service parameter), always available for the LSP-based Translation Process Managers and used to select the translators and reviewers.
- **Storage Size:** The local its-storage-size attribute value is obtained and informed in the xMax attribute of the xlasTrad node when applicable. Also the size of the original content is calculated and informed in the xMaxOrig attribute.
- **Readiness:** Workflow usage: the priority info is obtained from the DB (originally a web service parameter) and always available for the LSP-based Translation Process Managers. The expected finalization date (complete-by parameter) is updated into the system DB in the preprocessing step.

How the translators and proofreaders work in the CAT tool with all this information is described in the section **Translator's Training**.

5.3. Post-production phase

The XML translated file is exported from the CAT tool and advances to the next step in the localization workflow.



ITS 2.0 localization workflow interaction:

- **Domain:** Storage and classification of Translation Memories by domains.
- **Readiness:** control of processes to be carried out. Date control for availability and delivery.

The data category treatment in the internal post-production phase is:

Post-production phase			
Data category	L10N workflow	XHTML Global	XHTML Local
Translate		Undo blocking of parts of the content marked as non-translatable.	Insert translation on the translatable nodes. Undo blocking of parts of the content marked as not translatable.
Localization Note			
Domain	Storage and classification of translation memories by domains.		
Language Information			Update the lang attribute in the translated nodes. Update the language attributes in the translated content.
Allowed Characters			Restriction compliance check.
Storage size			Limitation compliance check.
Provenance			Add or update the data category attributes.
Readiness (*)	Date control for availability and delivery.	Update the data category node.	

(*) ITS 2.0 extension.

This file is exported from the CAT tool and post-processed in the internal localization workflow. The specific manipulation with each data category is the following:

- **Translate:** Insert the translation on the XHTML translatable nodes. Additionally, undo the blocking of parts of the content marked as non-translatable (remove the xlasbloq tags).
- **Language Information:** Update the lang attribute in the body node. Change the code of the source language with the code of the target language. Also update the local language attributes in the translated contents.
- **Allowed Characters:** The post-processing engine checks if the content of the node fulfills the restriction indicated by the its-allowed-characters attribute.
- **Storage Size:** The post-processing engine checks if the content of the node fulfills the restriction indicated in the its-storage-size attribute.
- **Provenance:** The global data category tag is added or updated showing the internal ID of the translator (its-person) and reviewer (its-rev-person) who has carried out the job and with the name of the LSP company (its-org and its-rev-org).
- **Readiness:** The ready-to-process attribute is updated deleting the processing steps already carried out and leaving only the next steps in the localization chain (hReview, publish). These tasks will be executed in the client CMS side: the import and publication of the translated content. Also the ready-at attribute is updated with the time stamp.

At this point the translated file is available to be downloaded from the client's CMS side.

Example of a translated and post-processed Drupal XHTML file:

```
<?xml version="1.0" encoding="UTF-8"?>
<html its:version="2.0" xmlns="http://www.w3.org/1999/xhtml"
xmlns:its="http://www.w3.org/2005/11/its" xmlns:itsx="http://www.w3.org/2008/12/its-
extensions">
<head>
<meta content="Allgemein', 'Angewandte Wissenschaft', 'Unternehmen', 'Maschinenbau',
'Anlagenbau', 'Kunststoff- und Gummimaschinen', 'Technologien' " name="DC.subject"/>
<script type="application/its+xml">
<its:rules>
<its:domainRule domainPointer="/h:html/h:head/h:meta[@name='DC.subject']/@content"
selector="/h:html/h:body"/>
<its:locNoteRule locNoteType="description" selector="/h:html/h:body">
<its:locNote translate="no">Pressemitteilung</its:locNote>
</its:locNoteRule>
<itsx:readinessRule complete-by="19/02/2013 16:00:00:000 CET" priority="1/3" ready-
at="30/01/2013 17:46:27:744 CET" ready-to-process="hReview, publish"/>
</its:rules>
</script>
</head>
<body id="36672" its-org="Linguaserve" its-person="21686" its-rev-org="Linguaserve" its-
rev-person="20697" lang="fr">
<div id="36672-node_title" its-allowed-characters="[<>]" its-storage-size="255">VDMA
renforce la lutte contre le piratage des produits</div>
<div id="36672-body-0-value" its-allowed-characters=".">
<p>17/05/2010 - La lutte contre le piratage des produits doit être menée sur de
nombreux fronts à la fois. L'assistance juridique est une mesure dans la lutte contre la
violation de la propriété matérielle et intellectuelle. <span translate="no">VDMA</span>
milite avec véhémence la protection de ses sociétés membres.</p>
<p><span its-loc-note="Bitte korrekte sinngemäße Übersetzung mit Marc Wiesner
absprechen." its-loc-note-type="description">Internet donne de transparence à beaucoup
de choses, dont notamment à la violation du droit d'auteur</span> », souligne <span
translate="no">Marc Wiesner</span>, spécialiste en piratage des produits au sein du
département juridique de
<span translate="no">VDMA</span>. De nos jours, les représentants des entreprises
remarquent beaucoup plus rapidement qu'autrefois la frappante entre les produits
proposés et les leurs ou les contrefaçons illégales. Même si le réseau mondial de
données aide à la vente de illégales, il met également au grand jour, rapidement et en
tout lieu, des violations du droit.</p>
<p><span translate="no">VDMA</span> propose également à ses sociétés membres un
conseil juridique en matière de publications et 'informations diffusées lors de
manifestations, particulièrement en matière de violation du <span lang="fr">savoir-
faire</span> des droits de propriété industrielle.</p>
</div>
<div id="36672-body-0-format" its-allowed-characters="." translate="no">full_html</div>
</body>
</html>
```

5.4. Format transformations in the l10n workflow

Several approaches were made before the final decision was taken about the interchange format:

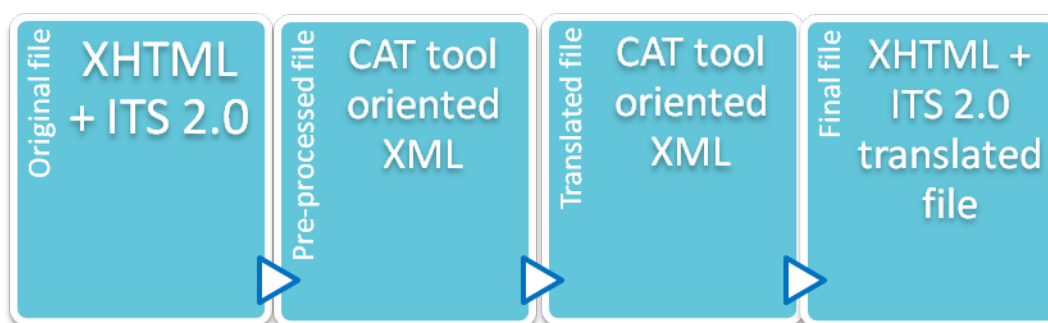
1.- XML with CDATA: The first approach was based on the use of an XML generated from Drupal. The necessity to store HTML content inside and to maintain a direct relation between the content of the nodes and the fields in the CMS side, contributed to the decision of the use of CDATA sections. But that originated a problem with the global rules because the xpaths of the global rules could not be used to select content inside the CDATA sections. Another aspect that was desirable to be avoided was not using an external rules file for the global rules, because that created dependencies between several files, like having to send two files from the CMS side to the LSP side for each content to be translated. For example, in case of communication problems one of them could be lost.

2.- HTML 5: It was briefly considered to use HTML 5 as interchange format, but it was discarded due to the better XHTML capabilities as interchange format.

3.- XHTML with global rules: In a third approach, the change was to use XHTML format. That format provided the advantages that it could be used as an XML for the interchange of contents between the two sides (CMS - LSP), that it allowed the use of global rules inside the file and that it enabled to put the HTML contents inside the file directly as part of the tree of the document without CDATA.

4.- XHTML with extension and script tag: Some changes were made because of the evolution in the ITS 2.0 standard to stabilize the extension mechanism (needed for the Readiness metadata). Also a change was made to follow the best practices related to the use of global rules inside the content (within a script tag). The global rules inside the script tag use the ITS xml syntax and the local rules use the HTML syntax. This decision was taken in order to make fewer transformations, as the final content is outputted from Drupal and into web browsers as HTML 5.

Diagram showing the details of the transformations of the contents inside the l10n workflow:



The following sections describe how each data category is implemented and its interactions.

6. ACCESS AND USER GUIDE

This section shows how to test, use and observe the results of the implementation of ITS 2.0. First, the CMS side in Drupal by Cocomore and, in second place, the TMS side in Linguaserve's environment.

6.1. CMS Side (Cocomore AG)

This section provides access and a guide on how to test, use and observe the results of the implementation of ITS 2.0 in the CMS side in Cocomore's environment.

6.1.1. LINKS TO DEMOS AND INFORMATION

Demo Page: Plastics and Rubber Machinery

- URL: <http://staging-mlwlt.cocomore.com:8080/> (login: test , password: fenMarOf0)
- User: tm
- Password: tr4N5L4T1onm4N4G3r!

Tool: Drupal Module for editing and viewing of ITS 2.0 markup (Cocomore AG)

- Source Code/Documentation: <https://drupal.org/project/its>

Tool: Drupal Module to connect to TMGMT Translator Linguaserve (Cocomore AG)

- Description of the TMS side: [Interchange between Content Management System and Translation Management System](#)
- Source Code/Documentation: <http://drupal.org/sandbox/kfritsche/1908422>

Tool: Drupal Module to interact with TMGMT Workflow (Cocomore AG)

- Details: Adds possibility to have additional steps before/after translation and integrates the Text Analysis results from "Enrycher".
- Source Code/Documentation: <http://drupal.org/sandbox/kfritsche/1908598>

Tool: ITS 2.0 jQuery Plugin (Cocomore AG)

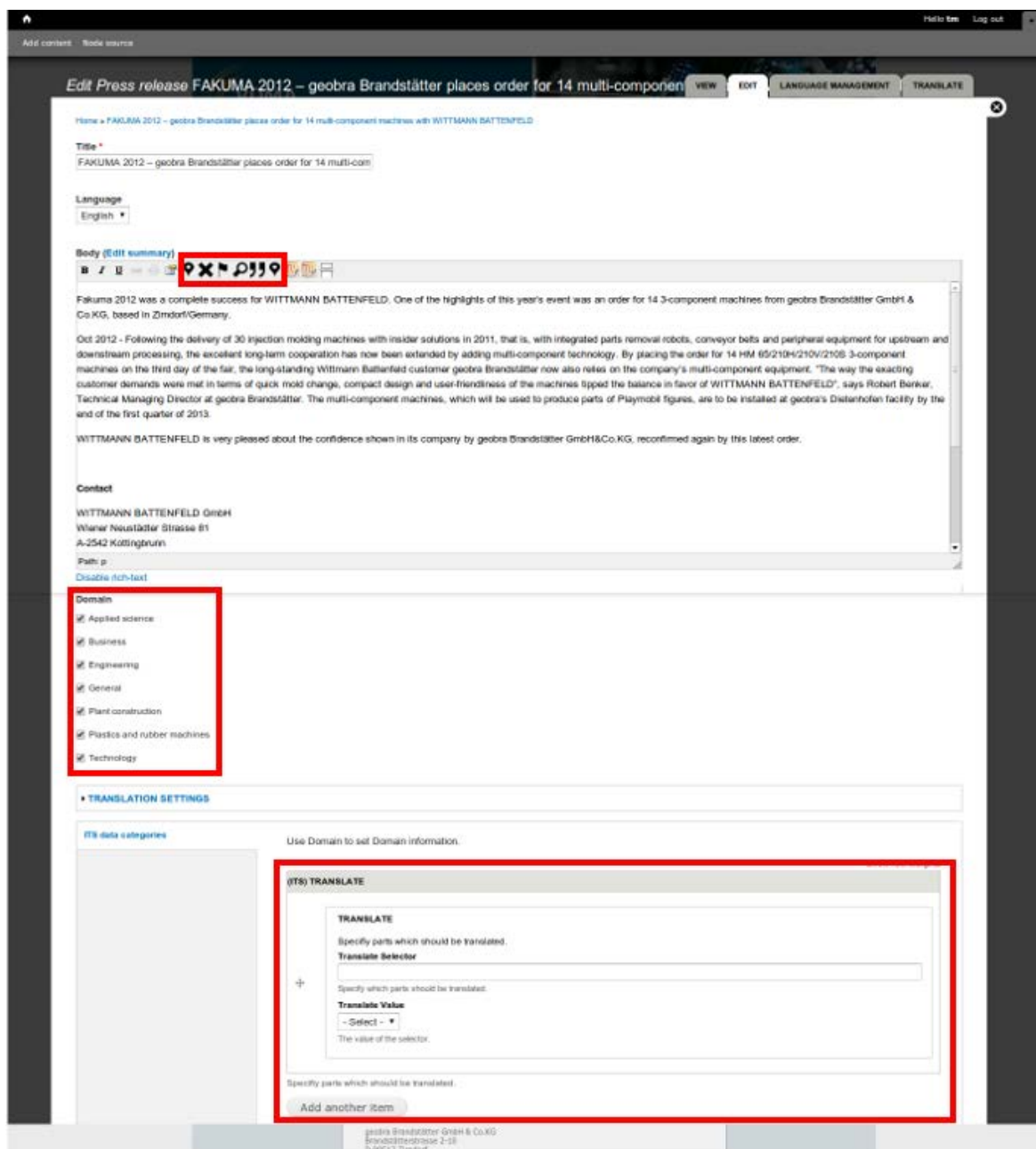
- Details: Selector plugin to read ITS 2.0 data from a node or select nodes by specified ITS markup.
- Running software: <http://plugins.jquery.com/its-parser/>
- Source Code: <https://github.com/attrib/jquery-its2-src>
- Documentation: <https://github.com/attrib/jquery-its2>

6.1.2. GUIDELINES - USAGE

If you are logged in you can see on top of each content page the links to edit the page, to access the Language Management functionality described above, and to display the Translation Overview related to the respective page.



In the *edit* menu you have the possibility to select content and add local ITS markup. At the bottom of the page you can also set the domain and further ITS global data categories.




The screenshot shows the 'Edit' interface for a press release. At the top, there are navigation buttons: 'View', 'Edit', 'Language Management', and 'Translate'. Below these is the title: 'FAKUMA 2012 – geobra Brandstätter places order for 14 multi-component machines with WITTMANN BATTENFELD'. The main content area includes a title field, a language dropdown set to 'English', and a rich text editor with a red box around the toolbar. The text in the editor describes the success of FAKUMA 2012 and the order for 14 3-component machines from geobra Brandstätter GmbH & Co.KG. Below the text is a contact section for WITTMANN BATTENFELD GmbH. At the bottom, there is a 'Domain' selection list with a red box around it, and a 'TRANSLATION SETTINGS' section with a red box around the '(ITS) TRANSLATE' area.


On the *Language Management* page you have the possibility to separately highlight different ITS data categories in the content. If you select content, a menu appears at the selection to add ITS data directly. There are also shortcuts for each data category to add categories fast and easy.

METADATA

Translate
 Locale Filter
 Text Analysis
 Localization Note
 Language
 Directionality
 Terminology
 [Automatically enrich whole content](#)

 * The changes to the content will not be saved until the Save button is clicked.

Body value

Fakuma 2012 was a complete success for  WITTMANN BATTENFELD. One of the highlights of this year's event was an order for 14 3-component machines Co.KG, based in Zimndorf/Germany.

After the content is saved, you can go to the *Translate* page. There is an overview of all languages and the status of translations for each language. At the left it is possible to select languages in which a translation is needed. After the needed translations are selected, you can create a translation job by clicking on "Request translation".

<input type="checkbox"/>	LANGUAGE	TITLE	STATUS	PENDING TRANSLATIONS	OPERATIONS
<input checked="" type="checkbox"/>	English	FAKUMA 2012 – geobra Brandstätter places order for 14 multi-component machines with WITTMANN BATTENFELD	Published	Source	edit
<input checked="" type="checkbox"/>	Chinese, Simplified	FAKUMA 2012 — geobra Brandstätter 向威猛巴顿菲尔公司订购 14 台多组件机器	Published	None	edit
<input checked="" type="checkbox"/>	French	geobra Brandstätter commande plus de 14 machines multi-composants à WITTMANN BATTENFELD	Published	None	edit
<input checked="" type="checkbox"/>	German (source)	geobra Brandstätter erteilt WITTMANN BATTENFELD Auftrag über 14 Mehrkomponentenmaschinen	Published	None	edit

After a translation job is created you get an overview of all pages included in this job, the word count and the current status. Here you can select a translator and set further settings, which the selected translator needs. By clicking on submit the job, it is send to the translator and the translation process begins.

Job Items

LABEL	PLUGIN	STATE	PROGRESS	WORD COUNT	CHANGED	OPERATIONS
Translation for FAKUMA 2012 – geobra Brandstätter places order for 14 multi-component machines with WITTMANN BATTENFELD	Node	In progress	0/0/3	354	07/19/2013 - 16:17	view

LANGUAGES
The source and target language of this translation job.

From: English To:

Translator *

LinguaServe translator (auto created)

The configured translator plugin that will process of the translation.

CHECKOUT SETTINGS

Priority
Normal

Please select the priority.

Complete-By date
Jul 19 2013

(Optional) You can set a date, when this job should be finished.

Messages

There are no messages attached to this translation job.

[Save job](#) [Submit to translator](#) [Delete](#)

A second option is under *Node Source*. There it is possible to see all content pages and an overview of the translation status. From this page you can create translation jobs with multiple pages at once or even select all pages and translate them.

OPERATIONS
[Request translations](#)

<input type="checkbox"/>	TITLE (IN SOURCE LANGUAGE)	TYPE	CHINESE, SIMPLIFIED	ENGLISH	FRENCH	GERMAN	AUTHOR	UPDATED DATE
<input type="checkbox"/>	Produkte & Abnehmerbranchen	Basic page	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	admin	02/18/2013 - 12:45
<input type="checkbox"/>	VDMA verstärkt den Kampf gegen Produktpiraterie	Press release	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	admin	03/08/2013 - 18:33
<input type="checkbox"/>	Neu gegründete AG Protect des VDMA bietet professionelle Hilfe zum Schutz von Produkt und Know-how	Press release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	admin	03/11/2013 - 20:00
<input type="checkbox"/>	Elektronik auf der Basis von Kunststoff	Press release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	admin	03/08/2013 - 18:35
<input type="checkbox"/>	VDMA: Deutsche Kunststoff- und Gummimaschinen weltweit am stärksten gefragt	Press release	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="radio"/>	admin	03/08/2013 - 18:36

On the Job overview page you can see all translation jobs, the current status and the word count of this job. Every ten minutes a cron automatically retrieves the status of all translation jobs from LinguaServe. If a translation is finished, its status switches to "needs review" or "finished", depending on the settings you made for the translator. If it is finished, the translation process is finished.

<input type="checkbox"/>	LABEL	FROM	TO	STATE	TRANSLATOR	PROGRESS	WORD COUNT	CHANGED	OPERATIONS
<input type="checkbox"/>	From English to French	English	French	Unprocessed		0/0/3	354	07/19/2013 - 16:17	submit
<input type="checkbox"/>	From English to French	English	French	Finished	LinguaServe translator (auto created)	13/0/0	1351	06/18/2013 - 11:12	manage
<input type="checkbox"/>	From English to French	English	French	Finished	LinguaServe translator (auto created)	13/0/0	1351	06/12/2013 - 11:13	manage

If you want to review it, you can set in the translator settings that every job needs reviewing and should not be automatically published. To do this, just select the review button at the job overview and you'll see the screen



like is shown below. You see the original content and the translated content side-by-side. Changes can be carried out in the received translation. When the revision is made, click on the tick symbol for each item and click on accept at the bottom. This creates the translated content page and sets the translation job on finished status.

Startseite » Verwaltung » Konfiguration » Lokalisierung und Sprache » Übersetzungs-Management » Übersetzung für VDMA verstärkt den Kampf gegen Produktpiraterie » Übersetzungs-Management » From German to French

Übersetzung für VDMA verstärkt den Kampf gegen Produktpiraterie



BODY

DELTA #0



Quelle	Übersetzung
<div style="border: 1px solid #ccc; padding: 2px;">  <p><p>17.05.2010 - Der Kampf gegen Produktpiraterie muss an vielen Fronten gleichzeitig geführt werden. Eine wichtige Maßnahme im Kampf gegen die Verletzung von materiellem und geistigem Eigentum ist die juristische Unterstützung. Der&nbsp;span translate="no">VDMA setzt sich mit aller</p> </div>	<div style="border: 1px solid #ccc; padding: 2px;">  <p><p>17/05/2010 - La lutte contre le piratage des produits doit être menée sur de nombreux fronts à la fois. L'assistance juridique est une mesure essentielle dans la lutte contre la violation de la propriété matérielle et intellectuelle. VDMA milite avec véhémence pour la protection de ses sociétés membres.</p><p><span</p> </div>

TEASER TEXT

DELTA #0

Quelle	Übersetzung
<div style="border: 1px solid #ccc; padding: 2px;">  <p><p>17.05.2010 - Der Kampf gegen Produktpiraterie muss an vielen Fronten gleichzeitig geführt werden. Eine wichtige Maßnahme im Kampf gegen die Verletzung von materiellem und geistigem Eigentum ist die juristische Unterstützung. Der&nbsp;span translate="no">VDMA setzt sich mit aller</p> </div>	<div style="border: 1px solid #ccc; padding: 2px;">  <p><p>17/05/2010 - La lutte contre le piratage des produits doit être menée sur de nombreux fronts à la fois. L'assistance juridique est une mesure essentielle dans la lutte contre la violation de la propriété matérielle et intellectuelle. VDMA milite avec véhémence pour la protection de ses sociétés membres.</p></p> </div>

TITLE

Quelle	Übersetzung
<div style="border: 1px solid #ccc; padding: 2px;">  <p>VDMA verstärkt den Kampf gegen Produktpiraterie</p> </div>	<div style="border: 1px solid #ccc; padding: 2px;">  <p>VDMA renforce la lutte contre le piratage des produits</p> </div>

6.2. TMS side (Linguaserve)

This section provides access and a guide about how to test, use and observe the results of the implementation of ITS 2.0 in the TMS side in Linguaserve's environment.

6.2.1. LINKS TO DEMOS AND INFORMATION

The system modules affected by the ITS 2.0 implementation are:

- Interchange of contents using the Global Business Connector Contents (GBCC) and webservice.
- Integration of Linguaserve's internal localization workflow (PLINT).
- Development of a pre-production/post-production engine for Drupal XHTML files with ITS 2.0.
- CAT tool filter for CAT oriented XML files.

More detailed description about the process is available here: <http://tinyurl.com/8woabl>

Videos of the different processing steps are available here:

1) L10n workflow interaction for the pre-production phase:

http://www.w3.org/International/multilingualweb/lt/wiki/images/6/67/Linguaserve_Preproduction_step_de_mo.zip

2) CAT tool usage with ITS 2.0:

http://www.w3.org/International/multilingualweb/lt/wiki/images/c/ca/Linguaserve_ITS_CAT_Tool_usage_de_mo.zip

3) L10n workflow interaction for the post-production phase:

http://www.w3.org/International/multilingualweb/lt/wiki/images/a/aa/Linguaserve_Postproduction_step_de_mo.zip

Also a demonstration of how the pre-production/post-production engine for Drupal XHTML files with ITS 2.0 is available in: https://www.linguaserve.net/las_demos/control/MLWLTWP3DemoEngine

user: demos // password: demosLingu@serve

6.2.2. GUIDELINES - USAGE

Simple use guide:

a) To test the pre-production step: Input files needed: Drupal XHTML files with ITS 2.0 (`_orig.xml` suffix).

Output files: CAT tool oriented XML file (`_proc.xml` suffix) and meta file (`_meta.xml`).

b) To test the post-production step: Input files needed: CAT tool oriented XML file (`_proc.xml` suffix). Output files: translated (*) Drupal XHTML files with ITS 2.0 (`_trans.xml` suffix).

(*) Translation simulation marks can be added to the content, which appear in the target language code between asterisks.

The files highlighted in green and tagged as 'Example' are always available to try the demo. `193_demo_orig.xml` is an original file in German (Drupal XHTML with ITS 2.0) and `193_demo_proc.xml` is the corresponding CAT tool oriented XML file translated in French. Feel free to download them and use them as input for the demo.

The checkboxes with the ITS 2.0 data category names (Domain, Language Information...) are used to select the information of the application of ITS desired to be displayed in the log area when processing files in the pre-production step.

The log area shows the messages, warnings and errors, and the XPath of the nodes of the processed file.

7. GLOSSARY OF TERMS AND ACRONYMS

Term/Acronym	Definition
B2B	Business-to-business: electronic communications between businesses or enterprises.
CAT Tool	Computer Aided Translation tool.
CMS	Content Management System.
Drupal	An open-source Content Management System (CMS).
GBCC	Global Business Connector Contents (Linguaserve's software)
ITS	The Internationalization Tag Set (ITS) is a set of attributes and elements designed to provide internationalization and localization support in HTML5 and XML documents.
JQuery	A multi-browser JavaScript library designed to simplify the client-side scripting of HTML.
HTML	HyperText Markup Language.
L10N	Localization
LSP	Language Service Provider
PLINT	Platform for Localization, Interoperability and Normalization of Translation (Linguaserve's software)
TMS	Translation Management System.
VDMA	Verband Deutscher Maschinen- und Anlagenbau (German Engineering Federation)
WYSIWYG	What You See Is What You Get
XHTML	eXtensible HyperText Markup Language.
XML	eXtensible Markup Language
XPath	XPath is a language for addressing parts of an XML document, designed to be used by both XSLT and XPointer.

8. REFERENCES

ITS 2.0 Requirements:

<http://www.w3.org/TR/its2req/>

ITS 2.0 Tag Set:

<http://www.w3.org/TR/its20/>

MultilingualWeb-LT EC Working Group Project Wiki:

http://www.w3.org/International/multilingualweb/lt/wiki/Main_Page

ITS Interest Group Project Wiki:

http://www.w3.org/International/its/wiki/Main_Page

MultilingualWeb-LT official web:

<http://www.multilingualweb.eu/>

W3C XHTML 1.0 recommendation:

<http://www.w3.org/TR/xhtml1/>

W3C XML 1.0 recommendation

<http://www.w3.org/TR/xml/>

W3C XPath 1.0 recommendation

<http://www.w3.org/TR/xpath/>

Apache OFBiz:

<http://ofbiz.apache.org/>

STAR Transit:

<http://www.star-group.net/ENU/group-transit-nxt/transit.html>

SOAP specifications:

<http://www.w3.org/TR/soap/>

Drupal Official Web:

<http://drupal.org/>

VDMA

www.vdma.org

VDMA Machines for Plastics:

<http://www.machines-for-plastics.com/kug/>

Cocomore

www.cocomore.com

Linguaserve

www.linguaserve.com

APPENDIX: TMS ITS 2.0

IMPLEMENTATION

TRANSLATE

TRANSLATE IN THE PRE-PRODUCTION PHASE

A method obtains the ITS global rules (`Its2Implementation.getItsGlobalRulesElement()`). Another method obtains the global translatable rules from the ITS global rules (`Its2Implementation.getGlobalTranslateRules()`). After that, the global translate rules (`translate="yes"`) and the global non-translate rules (`translate="no"`) are stored in two different objects.

The document nodes are traversed. For each node:

If a global translate rule applies to the node (xpath), then the current translate status is updated for direct application and inheritance (method `Its2Implementation.getGlobalTranslate()`). The local translate rules, the current translate status and the defaults are checked to know the treatment of the node (`Its2Implementation.isTranslatableElement()`). Also the current status is updated accordingly for inheritance.

If the node is not translatable, jump to the next node.

If the node is translatable, mark the node as translatable. Extract the content.

Traverse the HTML content, if any, for local rules application. Add tags for blocking content with `translate="no"` in the CAT tool (`Its2Implementation.applyTranslateContentRules()`). Put the content in the CAT tool oriented XML in a translate node (`xlasTrad`).

Example:

```
Der translate="no">VDMA</span> setzt sich mit aller Vehemenz für den  
SchutzMitgliedsunternehmen ein.
```

TRANSLATE IN THE POST-PRODUCTION PHASE

Traverse the nodes of the document. If the node was marked as translatable, recover the translation from the translated CAT tool oriented XML (`xlasTrad` node).

If there is HTML mark-up in the content, remove the marks for blocking non-translatable parts (`Its2Implementation.undoTranslateContentRules()`), insert it the translation in the document.

Example:

```
translate="no">VDMA</span> milite avec véhémence la protection de ses sociétés  
membres.
```

LOCALIZATION NOTE

LOCALIZATION NOTE IN THE PRE-PRODUCTION PHASE

A method obtains the ITS global rules (Its2Implementation.getItsGlobalRulesElement()).

Another method obtains the global localization note rules from the ITS global rules (Its2Implementation.getGlobalLocNoteRules ()).

A third method obtains all the *alert* type localization notes (Its2Implementation.getGlobalLocNoteValues()).

If there is at least one localization note of type = *alert*, an e-mail is sent to the project managers and the comments of the file are updated in the DB of the system for tooltip visualization in the localization workflow (method Its2Implementation.applyWfLocNotesIntegration()).

The document nodes are traversed. For each node:

If a global localization note rule applies to the node (method Its2Implementation.getAppliedLocNoteValue()) then a reference node (xlasRefTrad) is created in the CAT tool oriented XML for the translators/proof-readers.

Examples (global and local usage):

```
<its:locNoteRule locNoteType="description" selector="/h:html/h:body">
  <its:locNote translate="no">Pressemitteilung</its:locNote>
</its:locNoteRule>
```

```
<span its-loc-note="Bitte korrekte sinngemäÙe Übersetzung mit Marc Wiesner absprechen."
its-loc-note-type="description">Internet donne de transparence à beaucoup de choses,
dont notamment à la violation du droit d'auteur</span>
```

DOMAIN

DOMAIN IN THE PRE-PRODUCTION PHASE

A method obtains the ITS global rules (Its2Implementation.getItsGlobalRulesElement()). Another method obtains the global domain rules from the ITS global rules (Its2Implementation.getGlobalDomainRules()). A third one stores in the BD of the system the domains associated with the file (Its2Implementation.applyWfPreDomainIntegration()).

The document nodes are traversed. For each node:

If a global domain rule applies to the node (method Its2Implementation.getAppliedDomainValue()) then a reference node (xlasRefTrad) is created in the CAT tool oriented XML for the translators/proof-readers.

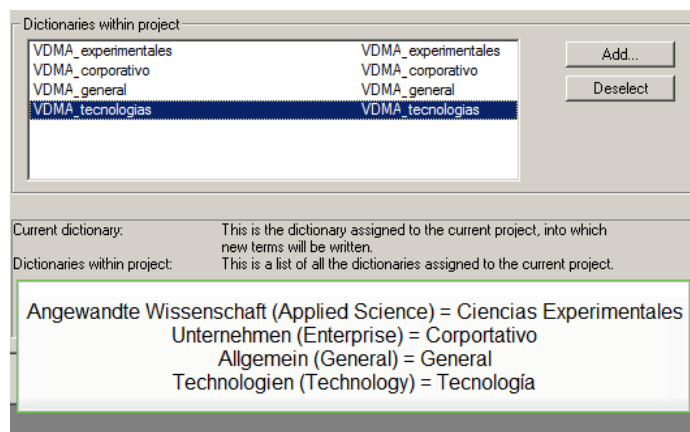
Example:

```
<meta name="DC.subject" content="'Angewandte Wissenschaft', 'Unternehmen',
'Maschinenbau', 'Allgemein', 'Anlagenbau', 'Kunststoff- und Gummimaschinen',
'Technologien' "/>
[...]
<its:rules>
  <its:domainRule domainPointer="/h:html/h:head/h:meta[@name='DC.subject']/@content"
selector="/h:html/h:body"/>
</its:rules>
```

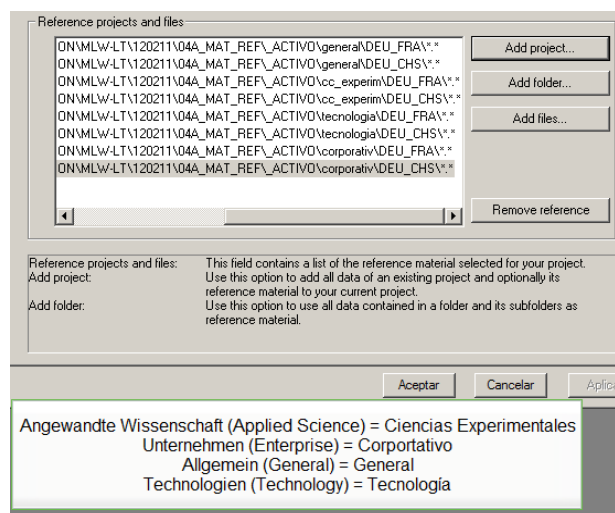
DOMAIN IN THE CAT TOOL PROJECT CREATION STEP

The domains associated with each selected file are retrieved and stored into a list. The dictionaries corresponding with each domain are obtained and associated to the CAT tool project. The paths of the translation memories corresponding with each domain are obtained and associated to the CAT tool project.

Screen of the CAT tool showing the dictionaries selected based on the domain values:



Screen of the CAT tool showing the translation memories based on the domain values:



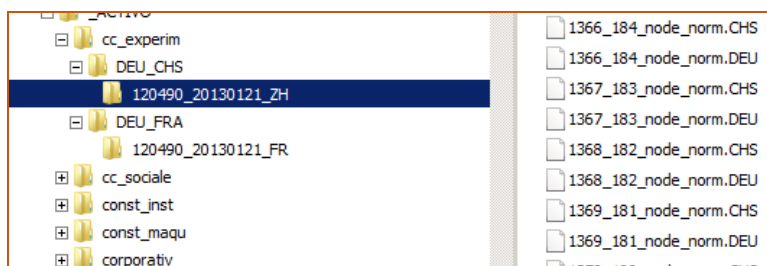
DOMAIN IN THE CAT TOOL PROJECT EXPORT STEP

When the translation and proof-reading tasks have ended in the CAT tool, the files are exported.

In this step, when the CAT tool project is closed the memory files are stored in the paths corresponding with each domain.

The translated files advance in the L10N workflow to the post-production phase.

File system showing the translation memories classified by domains:



LANGUAGE INFORMATION

LANGUAGE INFORMATION IN THE PRE-PRODUCTION PHASE

The document nodes are traversed. For each node:

If there is language information, it is checked if it is the same than the source language information declared in the system (`Its2Implementation.checkWfLangInfo()`).

If not, a warning for the project manager is shown in the workflow.

Example:

```
<body id="36672" lang="de">
```

LANGUAGE INFORMATION IN THE POST-PRODUCTION PHASE

The document nodes are traversed. For each node:

If the node has language information, update the value of the original language code with the target language code (`Its2Implementation.updateLocalLangInfo()`).

The same process is carried out in the contents with HTML, but only within the parts that have been translated (`Its2Implementation.updateContentLangInfo()`).

Example:

```
<body id="36672" lang="fr">
```

ALLOWED CHARACTERS

ALLOWED CHARACTERS IN THE POST-PRODUCTION PHASE

The document nodes are traversed. For each node:

If the allowed characters restriction is declared, it is checked with the regular expression (`Its2Implementation.checkLocalHtmlAllowedCharacters()`).

If the restrictions are not fulfilled, an exception is raised, the process is aborted and the user is informed about the reason.

Example:

```
<div id="36672-node_title" its-allowed-characters="[^<>]">VDMA renforce la lutte contre le piratage des produits</div>
```

STORAGE SIZE

STORAGE SIZE IN THE PRE-PRODUCTION PHASE

The document nodes are traversed. For each node:

If the node is a translatable one and has declared storage size limitation, the maximum size is informed in the attribute `xMax` of the translatable nodes (`xlasTrad`) of the CAT tool oriented xml. The size of the original content is also stated (in the attribute `xMaxOrig`). This information will be available for the translators/proof-readers in the CAT tool. The size is calculated with the encoding. (`Its2Implementation.applyLocalStorageSizeRulesHtml()`).

It is also checked if the original content fulfils the restriction. If not, a warning is shown to the project manager.

Example:

```
<div id="36672-node_title" its-storage-size="255">VDMA verstärkt den Kampf gegen Produktpiraterie</div>
```

STORAGE SIZE IN THE POST-PRODUCTION PHASE

The document nodes are traversed. For each node:

If the node is a translatable one and has storage size limitation declared, a method checks the maximum storage limitation compliance (`Its2Implementation.checkLocalHtmlStorageSize()`). It takes into account the encoding declared for the content.

Example:

```
<div id="36672-node_title" its-storage-size="255">VDMA renforce la lutte contre le piratage des produits</div>
```

PROVENANCE

PROVENANCE IN THE PRE-PRODUCTION PHASE

The document nodes are traversed. For each node:

If there is provenance information available of a previous translation, the DB is updated to register the translator and the language pair (`Its2Implementation.applyWfProvenanceIntegration`).

If there is provenance information available from a previous revision, the DB is updated to register the reviser/proof-reader and the language pair (`Its2Implementation.applyWfProvenanceIntegration`).

Example:

```
<body id="36814" its-org="Linguaserve" its-person="21686" its-rev-org="Linguaserve" its-rev-person="20697">
```

PROVENANCE IN THE TRANSLATION CAT TOOL PHASE

The system suggests to the project manager the last translator who carried out the same task for the same language pair. Page of CAT workflow - Translation:

Traductor

French translator 21686 ▼

PROVENANCE IN THE REVISION CAT TOOL PHASE

The system suggests to the project manager the last reviser/proof-reader who carried out the same task for the same language pair. Page of CAT workflow - Revision:

Revisor

French reviewer 20697 ▼

PROVENANCE IN THE POST-PRODUCTION PHASE

The attributes related with the provenance information are updated (Its2Implementation.updateLocalProvenance()). The translator (its-person), the reviser or proof-reader (its-rev-person) and the organization (its-org and its-rev-org) that have carried out the job.

Example:

```

<body id="36672" its-org="Linguaserve" its-person="21686" its-rev-org="Linguaserve" its-rev-person="20697">
```

READINESS (ITS 2.0 EXTENSION)

READINESS IN THE PRE-PRODUCTION PHASE

A method obtains the ITS global rules (Its2Implementation.getItsGlobalRulesElement()).

Another method obtains the global readiness rules from the ITS global rules (Its2Implementation.getGlobalReadinessRules()).

The expected delivery date is updated in the system, having into account the time zone, and the priority of the translation is checked with the information available in the system (Its2Implementation.applyWfReadinessIntegration()).

If there is no concordance, a warning for the technical department is shown in the workflow.

Example:

```

<itsx:readinessRule ready-at="21/01/2013 13:48:56:000 CET" priority="1/3" complete-by="19/02/2013 16:00:00:000 CET" ready-to-process="hTranslate, reviseQA, hReview, publish"/>
```

READINESS IN THE POST-PRODUCTION PHASE

The date of availability for the next step in the chain is updated (attribute ready-at) having into account the time zone. Method Its2Implementation.updateGlobalReadiness().

The attribute with the processes to be carried out is updated (attribute ready-to-process), removing completed tasks (human translation and revision for quality assurance). Method `Its2Implementation.updateGlobalReadiness()`.

If the file is processed after the expected delivery date, a warning for the project manager is shown in the workflow.

Example:

```
<itsx:readinessRule complete-by="19/02/2013 16:00:00:000 CET" priority="1/3" ready-at="30/01/2013 17:46:27:744 CET" ready-to-process="hReview, publish"/>
```