

SmartUBL

Scope document



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1. SmartUBL – a distinctive step towards digitalization

SmartUBL as a service enables customers to completely digitalize their document flow and helps to convert all paper based documents into Universal Business Language (UBL) formats. This service ensures that document flow is organized efficiently and can be processed faster. An end-to-end solution that ensures more market sustainability and relevance for the client organization.

The service is easy to test, implement and scalable. Invoices can be extracted in a brief format on VAT line levels only or if preferred with the full article lines. This makes the service suitable for the different sectors and requirements.

The service covers already many languages, countries and country specific VAT codes but can easily expanded to new ones if needed. For compliance rules it can be required to auto-apply corrections and enrichments. The services covers these requirements. On top of this there are many checks, validations inbuilt resulting in auto-generated error and warnings what makes the service robust and easily to implement in the different environments.

On one hand the service is setup as a SaaS where clients can take the service on a need basis. New developments, enhancements and innovations can be implemented easily and centrally for the benefit for each. At the other hand the service can be setup and customised as per one's own requirements and preferences.

2. Process flow

2.1 Registration and setup

Registration of customers can be done via a designated portal or through Application Programming Interfaces (APIs).

Portal registration involves setting up user information, email, organization and other relevant details in a specially designed SmartUBL portal, the details of which can be shared on request. Here, clients can also choose to setup the email address where they would wish to receive the processed UBLs. Clients can immediately start submitting the documents once registration is complete and successful.

Registration via APIs is also possible for which a complete user manual for connection can be provided on request. Once the steps in that document are followed and completed, registration process is successful and clients can start using the API service on the go.

2.2 Document submission

Documents can be submitted via the portal, API or even through email. However, please ensure that a single PDF file contains only one invoice.

Using the Portal

- Select button UBL Compact if VAT line processing is desired
- Select button Extensive if article line processing is desired

Using the API

- Refer latest API documentation and follow the steps to start sending documents.

Send via email

- First setup the specific email addresses where VAT line documents and article-line documents would be sent. Use <your_emailid>**@smartubl.com** for VAT line and <your_emailid>**@smarterubl.com** for article-line processing.
- Start emailing your documents to the desired email address.

Send via SFTP

- First need to set up the SFTP account. Refer the latest “Submitting Files through SFTP” document and followed the steps to start sending documents.

2.3 Receiving processed UBLs

Documents once submitted get converted into a completely digital format for client use. There are various means by which the digitized version or UBL can be received at client end.

Using the Portal

- Processed UBLs can be viewed and downloaded from the SmartUBL portal.

Using the API

- UBLs will be delivered via the API.

- Use the exposed APIs to download the processed UBL to the client computer system.

Receive via email

- Set the email address where it is desired to receive the processed UBL along with the invoice PDF.

Receive via SFTP

- UBLs will be delivered via the SFTP

Choose original invoice PDF returning method

- Invoice PDF in binary code within the UBL
- Invoice PDF as separate attachment
- Only UBL and no invoice PDF

3. Client options

Per connection the following default settings must be provided. The centrally provided services can easily be provided based on one's requirement.

Client preferences

| # | Description | Smart-UBL default suggestion | Client's comment |
|---|--|------------------------------|------------------|
| 1 | Which output format of digital invoice you would like to have? (UBL 2.1 / BIS) | | |
| 2 | Country of the invoices with expected volume of each country? (Supplier country of an invoice with its expected volume per month/ year) | | |
| 3 | Languages of invoices (In which language an invoice is printed? Ex- English, Dutch, Swedish etc. The current scope and approach is limited to Latin scripts. For non-Latin scripts we will need prior discussions.) | | |
| 4 | Smart-UBL should enrich missing fields, when mandatory data is missing on PDF? Please refer section 7.3 for default values (Missing data from mandatory field is essential as per Peppol guideline /documentation for UBL 2.1 & BIS format, so Smart-UBL fills it to avoid the validation errors) | | |
| 4 | When there is IBAN and local bank then what is your preference? (Most of the time both IBAN/Bank number are printed on the invoice, so client may choose which one is to extract) | IBAN | |

| | | | |
|----|---|----------------|--|
| 5 | <p>For BIS: What is the default Payment Means? For more information, see section 7.3</p> <p>(There is pre-define value under this field, which Smart-UBL filled in, mostly it is country specific)</p> | | |
| 6 | <p>Do you need output as VAT line (VL) or article line (IL)?</p> <p>This setting can be changed on document level.</p> <p>(Article line- All articles along with its amount /description/VAT/price/Quantity be extracted. VAT line – No article will be extracted but all VATS and its amounts will be extracted from invoice)</p> | | |
| 7 | <p>For article line invoices: Smart-UBL should enrich line VAT when missing? (Upto 20 lines)</p> | Yes | |
| 8 | <p>For article line invoices: As Line Level Discount causes validation problems. Smart-UBL can correct this in most of the cases, do you want this to be applied?</p> <p>(This setting will improve on validations to avoid the errors in peppol)</p> | Yes | |
| 9 | <p>Adjustment of difference amount of an invoice</p> <ul style="list-style-type: none"> a. Round Off Adjustment (Small difference from invoices to be adjusted under rounding {Default – Up to 1Euro and 1% of invoice total}) (Default) b. Create new item line with Difference. <p>(This setting will improve on validations to avoid the errors in peppol)</p> | Yes (option a) | |
| 10 | <p>In case you select receiving processed UBL via SFTP, then you need to</p> | Yes (option a) | |

| | | | |
|----|--|--|--|
| | <p>choose the original invoice PDF returning method from below option-</p> <ul style="list-style-type: none"> a. Invoice PDF in binary code within the UBL (Default) b. Invoice PDF as separate attachment and also a binary code within UBL c. Only UBL and no invoice PDF d. Only UBL with separate invoice pdf | | |
| 11 | <p>How would you want to receive Smart-UBL's warning/error validation alerts (Only for E-mail and SFTP output method)?</p> <ul style="list-style-type: none"> a. Within the UBL (Default) b. Outside the UBL in separate file c. Don't want to receive. <p>Note – For API output method – No warning will be added within UBL, but in API message, see API documentation.</p> | Within the UBL | |
| 12 | <p>Do you want to process UBL with VAT transfer setting?</p> <ul style="list-style-type: none"> a. Yes (Need keywords of VAT transfer from invoice) b. No <p>(With VAT transfer setting you can get accurate VAT for Vat transfer invoice.)</p> | No | |
| 13 | <p>Choose the preference - Order reference /Buyer reference.</p> <ul style="list-style-type: none"> a. Only Order reference to be extracted (if Both are present) b. Only Buyer reference to be extracted (If both are present) c. Both can be extracted. <p>*Please note - Buyer reference is an optional field (not in standard field)</p> | As Buyer reference is an optional field, only order reference to be extracted. | |
| 14 | <p>In case of mandatory fields are missed on the invoice, SMU generate the warning message inside the UBL and on Portal. Below are the fields -</p> <p>Supplier name Supplier Address Customer name & address Supplier KVK/VAT number Total amount</p> | Default no warning will be populated in case any data is missing | |

| | | | |
|----|---|--|--|
| | <p>Invoice Date Invoice number</p> | | |
| 15 | <p>SmartUBL automatically detect an invoice if it is submitted more than once.</p> <p>Duplicate detection is based on the following criteria:</p> <ol style="list-style-type: none"> a. Supplier Name b. Invoice Number <p>Options Available in Case of Duplicate Invoice</p> <p>When a duplicate invoice is detected, you will have two options:</p> <ol style="list-style-type: none"> 1. Reject the invoice <ul style="list-style-type: none"> ○ The invoice will be rejected, and you will receive a notification E-mail with processed UBL + warning on portal. 2. Process the invoice with a warning <ul style="list-style-type: none"> ○ The invoice will still be processed, but a warning message will be included inside the UBL and displayed on the Portal. | | |
| 16 | <p>You can create a customer profile and pre-define default values for the following customer fields:</p> <p>Mandatory / Primary Fields</p> <ol style="list-style-type: none"> 1. Client Name (Customer Name) 2. Country 3. Party Identification Scheme ID <p>Conditionally Required (Based on Selection)</p> <ol style="list-style-type: none"> 4. KVK Number 5. VAT Number <p>Optional Fields (Can be added if needed)</p> | | |

| | | | |
|--|--|--|--|
| | 6. Street Name 7. Additional Street Name 8. Building Number 9. City 10. ZIP Code 11. Email ID 12. Contact Number | | |
|--|--|--|--|

Choose your XML format

Currently, the service supports the below XML formats and rulesets.

- UBL Invoice 2.1
- BIS 3.0.5

Choose your Country

Based on this option the system auto extracts the correct Payment Reference.

Choose the local bank account over IBAN?

Certain systems prefer the local bank account information over the IBAN.

Automated invoice enrichment

There are certain auto generated invoice enrichments which can be activated or not.

- For line values where VAT codes are missing on line levels: Calculate and add VAT values and VAT codes for invoices upto 20 lines. Sometimes invoices don't have VAT values and codes on line level but the systems require these. In that case SmartUBL system can derive this. The logic works upto 20 lines. In case of more than 20 lines there are too many permutations, combinations.
- One can provide default values for missing information. This happens for example in case the invoices are printed on non-letterhead and letterhead info is missing. The system can handle such scenarios.

4. Field Extraction

This section describes the fields which get extracted for the SmartUBL service.

4.1 Default data SmartUBL extracts

4.1.1 Data extracted from Invoice Header

- Invoice number
- Invoice date
- Supplier name
- Supplier address (House number /building number, Street name, City name, zip code, country)
- Supplier COC / organization number
- Supplier VAT number
- Supplier IBAN + BIC
- Supplier E-mail
- Customer name
- Customer address (House number /building number, Street name, City name, zip code, country)
- Customer COC / organization number
- Customer VAT number
- Customer E-mail
- Document type (debit/ credit)
- Due date (mandatory for BIS version 3.0.5)
- Order reference (UBL 2.1 & BIS version 3.0.5)
- Payment terms (mandatory for BIS version 3.0.5)
- Payment Reference. The below countries are supported for their local flavour:
 - Belgium: OGM
 - Norway: KID
 - Denmark: FIK

4.1.2 Data extracted from Invoice Footer (line level + VAT rule)

- Excluding VAT amount (with respective VAT percentage)
- VAT amount (with respective VAT percentage)
- Total invoice amount

4.1.3 In case of article lines extraction

- Article description
- Article number/ code
- Discount
- VAT code/ percentage
- Packaging
- Price (per unit)
- Quantity
- Unit code
- Line amount (excluding/ including VAT amount)

Please note that article lines can be read only if these lines are presented in a structured way in a table with columns. Only in that case the OCR software can detect the article lines and the fields. In case the article lines are not suitable for extraction the invoice will be extracted on VAT level.

5. Countries supported

Currently documents from the following countries are fully extracted.

New countries get added ongoing. If you miss a country here which you need kindly let us know.

Upcoming planned country onboarding is also listed.

- Belgium
- Netherlands
- Denmark
- Germany
- France
- Finland
- Austria
- Poland
- Portugal
- Iceland
- Norway
- Spain
- Sweden
- Australia

6. Processing time and new countries

Documents of existing customers normally get processed within 6 hours on an average with a maximum of 24 hours. Through technical innovation this processing time gets further reduced in time.

The SLA and costing can get affected by scan type, scan quality and/or invoice layout. If required the processing time can be reduced for a higher document fee.

On-boarding and setup of automatic processing for a new country takes as of now few days. The current scope and approach is limited to Latin scripts. For non-Latin scripts we will need prior discussions.

7. Overview of current validations and custom defaults

7.1 Warnings overview

Below provides a list of warnings which are sent as a response on the API as well as displayed on the portal against each document as applicable based on the scenarios.

| Field | Warning Code | Message | Warnings supported in UBL 2.1 | Warnings supported in BIS |
|----------------------|--------------|---|-------------------------------|---------------------------|
| Tax code | WARN001 | Unrecognized Tax codes | Yes | Yes |
| Article line | WARN002 | Article Line(s) are not captured | Yes | Yes |
| Invoice number | WARN003 | Invoice Number is trimmed to last {0} characters | Yes | Yes |
| Supplier name | WARN004 | Vendor Name is trimmed to first {0} characters | Yes | Yes |
| Currency | WARN006 | Non-Euro currency! It must be present in your accounting system to import this UBL | Yes | Yes |
| Invoice total | WARN007 | Sub Total Amount + Tax Amount do not match with the Invoice Total Amount (Difference of {0}) | Yes | Yes |
| Line total | WARN008 | Sum of Article Line(s) Amount do not match with Sub Total Amount (Difference of {0}) | Yes | Yes |
| Quantity | WARN009 | Quantity not present for {0} Article Line(s) | Yes | Yes |
| Unit Price | WARN010 | Unit Price not present for {0} Article Line(s) | Yes | Yes |
| Quantity, Unit Price | WARN011 | Unit Price and Quantity not present for {0} Article Line(s) | Yes | Yes |
| Line total | WARN012 | Unit Price and Quantity do not match with Article Line(s) Amount for {0} Article Line(s) | Yes | Yes |
| 6% VAT amount | WARN013 | 6% Tax Amount do not match with 6% Calculated Tax of Article Line(s) Amount (Difference of {0}) <i>* Similar error message for other applicable VAT percentages.</i> | Yes | Yes |
| Total VAT amount | WARN016 | Total Tax Amount do not match with Sum of Tax Bifurcation(s) (Difference of {0}) | Yes | Yes |

| | | | | |
|----------------------------|---------|---|-----|-----|
| 6% VAT exclusive amount | WARN017 | 6% Sub Total Amount do not match with Sum of 6% Article Line(s) Amount (Difference of {0}) <i>* Similar error message for other applicable VAT percentages.</i> | Yes | Yes |
| Total VAT exclusive amount | WARN020 | Total Sub Total Amount do not match with Sum of Sub Total Bifurcation(s) (Difference of {0}) | Yes | Yes |
| 6% Sub Total Amount | WARN021 | 6% Sub Total Amount do not match with 6% Tax Amount (Difference of {0}) <i>* Similar error message for other applicable VAT percentages.</i> | Yes | Yes |
| No VAT Line | WARN024 | No VAT Line(s) present | Yes | Yes |
| Amount adjustment | WARN025 | [AMOUNT ADJUSTMENT] Extra line(s) with description \"{0}\" has been added to nullify the amount difference on the document. | Yes | No |
| Missing fields | WARN026 | {0} Value is as per standard assumption. Actual value might be missing on the document <i>* Please refer to section 7.2 providing a list of default values which are populated for some of the fields in the event the value is found to be missing.</i> | Yes | Yes |
| Customer country | WARN042 | Customer country mentioned on invoice is not available. | No | Yes |
| Customer country | WARN043 | Customer country is missing on invoice. | No | Yes |
| Supplier country | WARN044 | Supplier country mentioned on invoice is not available. | No | Yes |
| Supplier country | WARN045 | Supplier country is missing on invoice. | No | Yes |
| Single VAT | WARN046 | Single VAT applied on all article line description(s) | No | Yes |
| Supplier end point | WARN053 | Supplier End point (electronic address scheme) is missing. | No | Yes |
| Customer end point | WARN054 | Customer End point (electronic address scheme) is missing. | No | Yes |
| Processed on VAT line | WARN055 | VAT not mentioned on line level and multiple VAT on invoice level hence system processed UBL on VAT lines (VAT coding) | No | Yes |

| | | | | |
|-----------------|---------|-----------------------------------|----|-----|
| Customer Name | WARN056 | Customer name is missing | No | Yes |
| Order reference | WARN057 | Order reference number is missing | No | Yes |
| Payment term | WARN060 | Payment term/ due date is missing | No | Yes |
| Supplier name | WARN061 | Supplier name is missing | No | Yes |

7.2 Errors and rejections

Documents may not be processed if they are found to be a bad scan, incomplete, corrupt, etc. In such exceptional scenarios, these documents are marked as rejected and an appropriate error message is sent in the API response.

Reason for rejection is also shown as a column entry in the portal against the corresponding document which got rejected. The different error messages are listed below.

| Error message | Warnings supported in UBL 2.1 | Warnings supported in BIS |
|---|-------------------------------|---------------------------|
| Unsupported file format | Yes | Yes |
| Virus affected file | Yes | Yes |
| Corrupt file | Yes | Yes |
| Password protected file | Yes | Yes |
| Bad scan | Yes | Yes |
| Incomplete scan | Yes | Yes |
| Handwritten comments | Yes | Yes |
| Non invoice | Yes | Yes |
| Supplier country is not supported for BIS format. | No | Yes |
| VAT is missing on header as well as line level of invoice | No | Yes |

Handwritten documents or bad scan documents will never be processed as article Lines but on VAT lines only.

7.3 Custom default values

For some of the fields, default values are populated in the event that the actual values are not available in the documents. Below provides a list of the fields for which default values are populated based on the specific UBL format being supported.

| Invoice value/field | Related TAG in UBL 2.1 | Related TAG in BIS 3.0 | Standard values added by SmartUBL | Client suggested values, if any |
|---|---|---|---|---------------------------------|
| Invoice date | <cbc:ID></cbc:ID> | | Month start date | |
| Invoice number | <cbc:IssueDate></cbc:IssueDate> | <cbc:IssueDate></cbc:IssueDate> | Invoice date | |
| Currency | <cbc:Document CurrencyCode> EUR</cbc:Document CurrencyCode> | <cbc:Document Currency Code> </cbc:Document CurrencyCode> | EUR | |
| Invoice total | <cbc:PayableAmount currencyID="NOK"> 6720.00</cbc:Payable Amount> | <cbc:PayableAmount currency ID="NOK">6720.00</cbc: PayableAmount> | Computed invoice total amount | |
| Unit Code | | <cbc:InvoicedQuantity unitCode="EA"> </cbc:InvoicedQuantity> | EA (BIS Format) | |
| Order Reference | | -<cac:OrderReference> | Not Available | |
| Payment means | | <cbc:PaymentMeansCode>1 </cbc:PaymentMeansCode> | Nederland Country - 30 – Credit Transfer For rest all country - 1 | |
| Supplier Organization number / Chamber of commerce number | | <cbc:EndpointID schemeID="9955"> SE000000000000</cbc:EndpointID> | Depend upon Supplier Country (Denmark - DK00000000 Sweden - SE000000000000 Spain - ES0000000000 Norway – 123456785) | |
| Customer Organization number / | | <cbc:EndpointID schemeID="9955"> SE000000000000</cbc:EndpointID> | Depend upon Customer Country | |

| | | | | |
|----------------------------|--|---|--|--|
| Chamber of commerce number | | | (Denmark - DK000000000 Sweden - SE000000000000 Spain - ES0000000000 Norway – 123456785) | |
| Supplier Vat Number | | <cbc:CompanyID schemeID="0007">SE556950411001</cbc:CompanyID> | Depend upon Supplier VAT (Denmark - DK000000000 Sweden - SE000000000000 Spain - ES0000000000 Norway - NO123456785MVA Nederland – NL0000000000B01) | |
| Article Description | | <cbc:Description> Faktureringsavgift</cbc:Description > | Article description not available | |

The option Payment Means does vary per country. For the Netherlands for example the options are:

- 30 - Credit transfer Payment by credit movement of funds from one account to another.
- 48 - Bank card Payment by means of a card issued by a bank or other financial institution.
- 49 - Direct debit The amount is to be/ has been directly debited to the customer's bank account.
- 57 - Standing agreement The payment means have been previously agreed between seller and buyer and thus are not stated again.
- 58 - SEPA credit transfer Credit transfer inside the Single Euro Payment Area (SEPA) system.
- 59 - SEPA direct debit Direct debit inside the Single Euro Payment Area (SEPA) system.

8. Enrichments

In an effort to cater to evergrowing customer and market demands, we are focused to provide the below enrichments as part of a standard product offering or even as an optional a-la-carte add-on. Most of these are in development and are expected to be available very soon.

| Enrichments | Product offering | Availability |
|--|------------------|--|
| Facility to auto-split multiple documents inside a scanned file | Standard | Available |
| Facility to upload .ZIP files | Standard | Upcoming |
| Ability to download files from external URL | Optional | Upcoming |
| Auto-calculate and apply different VAT% and amounts on line level if they are missing. This would be provided for 20 lines as a standard offering. | Standard | Available |
| Auto calculate and re-apply quantity if line extension amount does not match with quantity and unit price | Optional | Upcoming |
| Ability to process discount percentages at line level | Standard | Available |
| Ability to apply correct VAT% by reading just the available VAT codes | Standard | Upcoming |
| Facility to process PDF documents in bulk mode | Standard | Available |
| Process different amount discrepancies such as extra charges or extra deductions as separate individual fields | Standard | Available |
| Populate custom defaults for various fields | Optional | Available (please refer section7.3 to see fields currently supported) |