



Beschaffungsamt
des BMI

Using the SDK to fill in eForms notices - an eSender case study

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General Situation of Public Procurement in Germany

Technical View

Above the EU thresholds	Below the EU thresholds
De-centralised creation of notices on procurement platforms	
Legally regulated central publication of notices in the Publication Service	Voluntary publication of notices in the central Publication Service

Some numbers for Germany

~ 140.000

Notices delivered to TED
in 2025 YTD

~ 100

Procurement platforms
handling notices above
threshold

1

eSender to TED

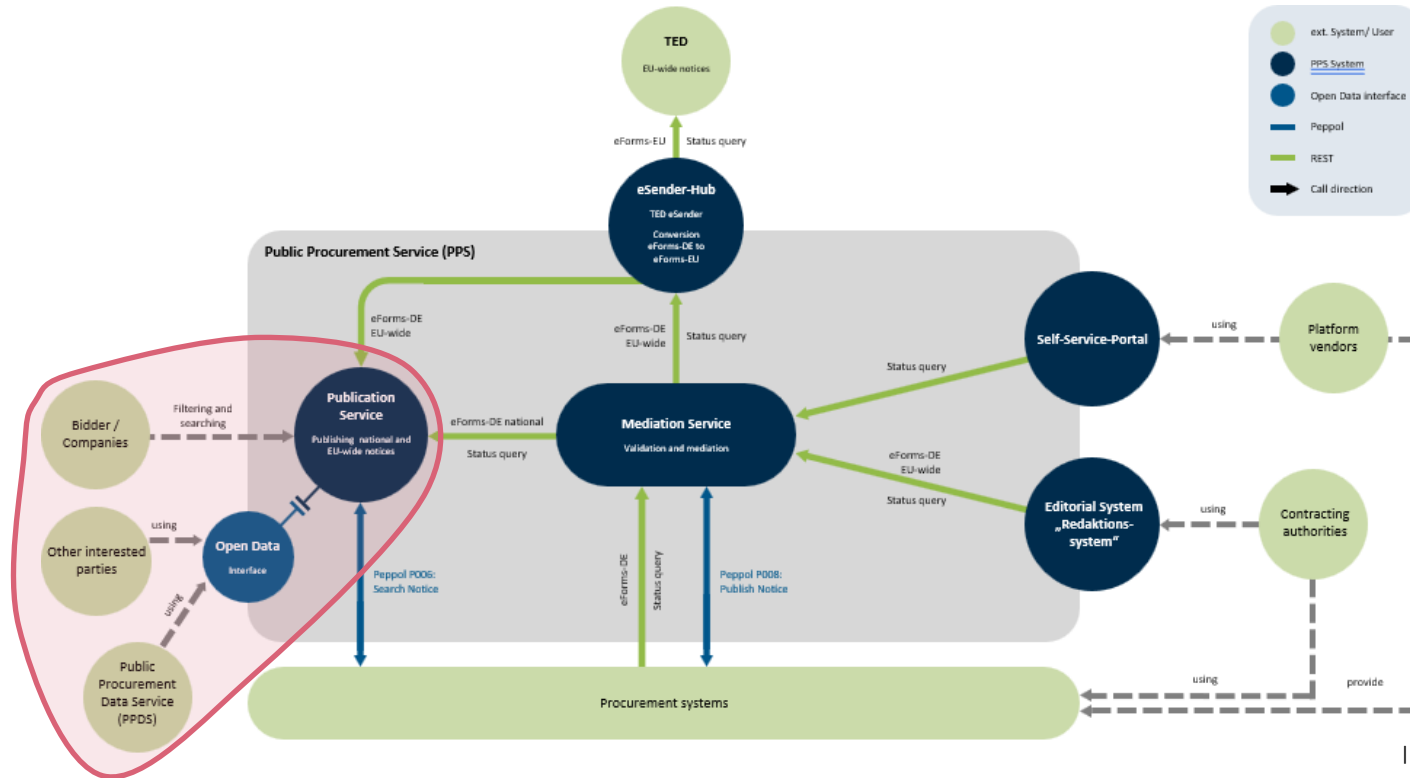
< 0,2 %

Declined notices

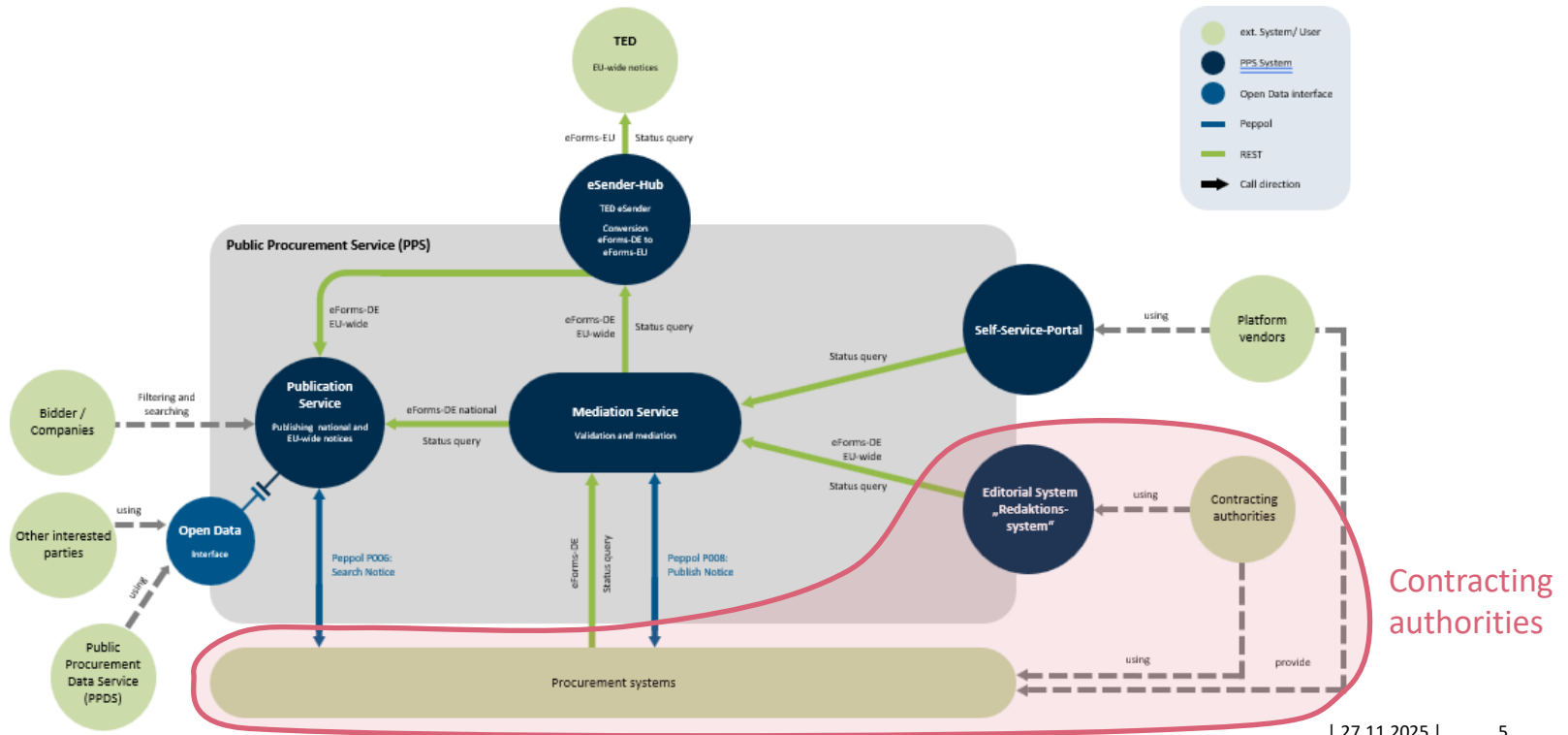


System environment of Public Procurement in Germany - eForms-Notices

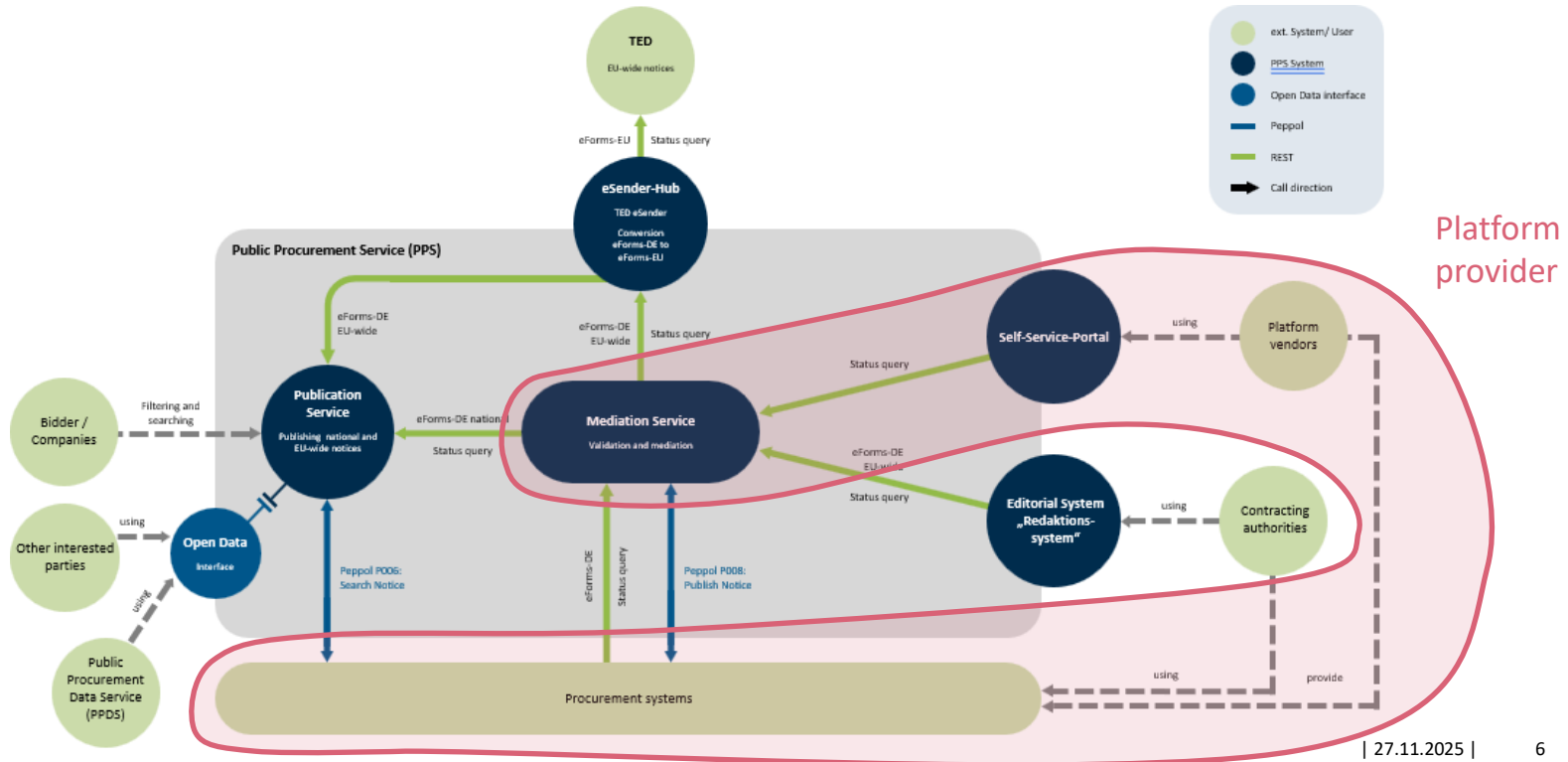
Tenderer
Civil society



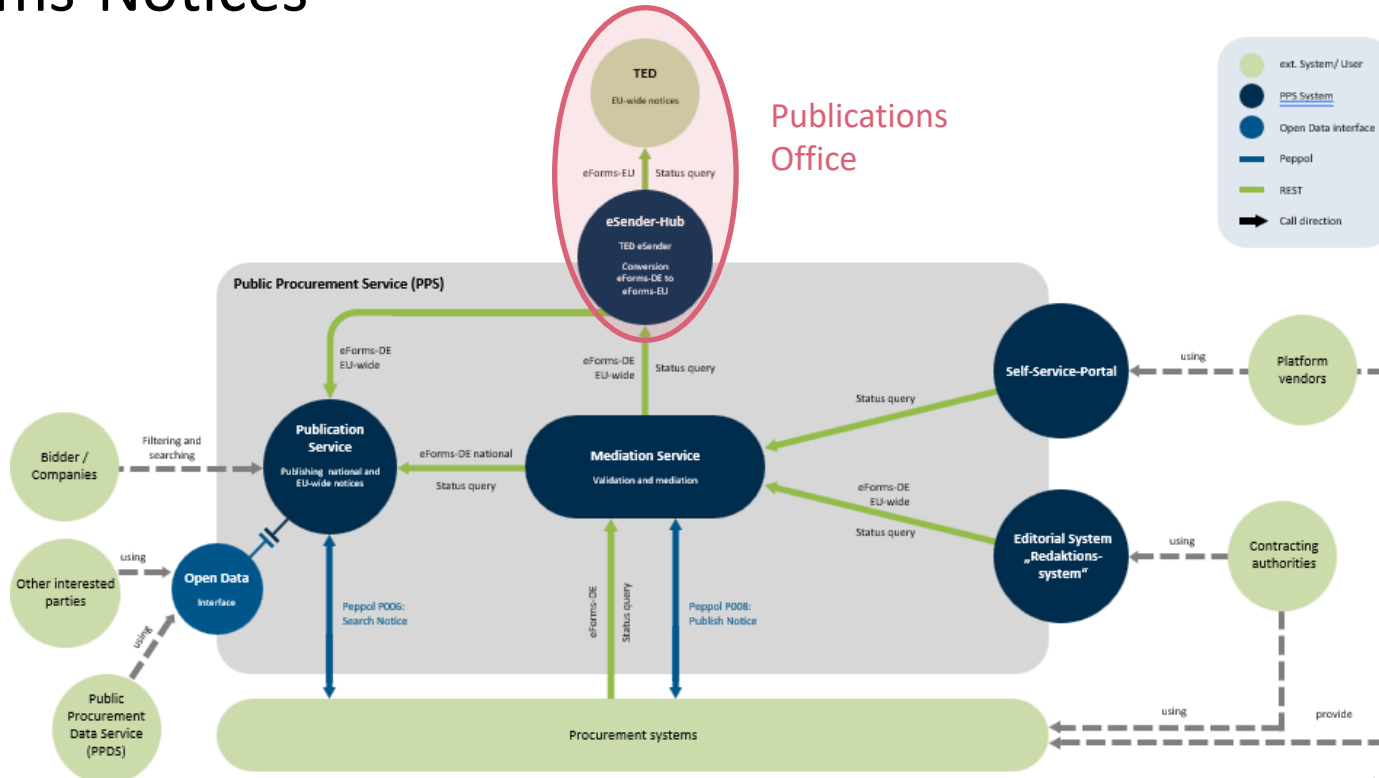
System environment of Public Procurement in Germany - eForms-Notices



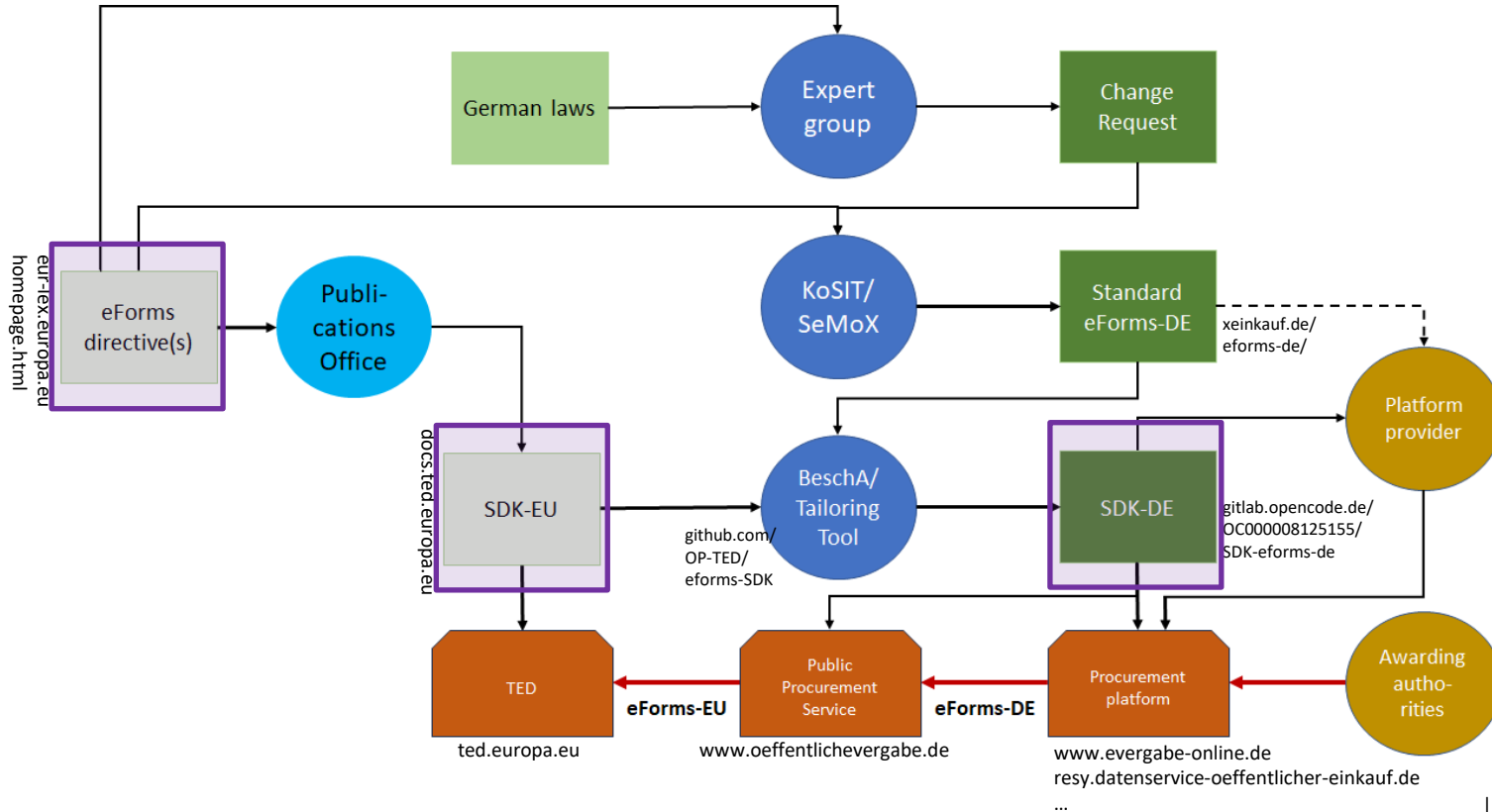
System environment of Public Procurement in Germany - eForms-Notices



System environment of Public Procurement in Germany - eForms-Notices

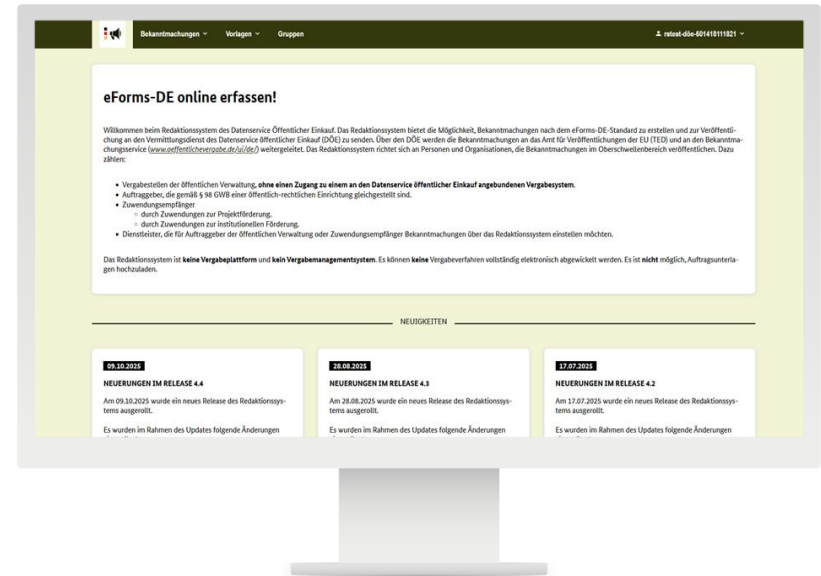


Process for Tailoring of SDK in Germany



ReSy*: A web application for creating, editing and sending eForms notices for publication on TED and others

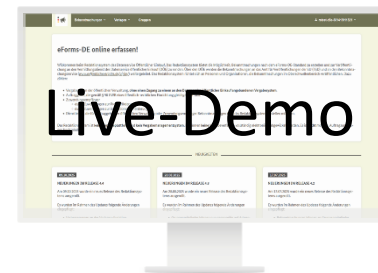
- Uses metadata-driven approach
 - Based on SDK
 - Tailoring according to German public procurement law (SDK-DE)
 - Minimal effort for maintenance
- 2nd Use Case:
ReSy as Testtool for SDK and SDK-DE



<https://resy.datenservice-oeffentlicher-einkauf.de/home>

*RedaktionsSystem

ReSy: Selection of eForms-Subtypes



- ReSy uses notice-types.json to generate the subtype selection

Filter Forms

Form type Legal basis

Notice type

Notice Subtype ↑	Notice type	Form type	Legal basis
4 - Prior information notice used only for information – general directive	Prior information notice or a periodic indicative notice used only for information	Planning	VgV – §38
5 – Periodic indicative notice used only for information – sectoral directive	Prior information notice or a periodic indicative notice used only for information	Planning	SEKTVO – §36
6 – Prior information notice used only for information – directive defence	Prior information notice or a periodic indicative notice used only for information	Planning	VSVgV – §17
7 – Prior information notice used to shorten time limits for receipt of tenders – general directive	Prior information notice or a periodic indicative notice used to shorten time limits for tender receipts	Planning	VgV – §38

ReSy: Generation of eForms-Subtypes



- ReSy uses notice-type-definitions and fields.json to generate the forms

Contract notice

General Policy - VgV

Organizations

Contracting Party and Service Providers

Procedure

Purpose

Conditions for submitting an offer

Details of the method type

Lot distribution

Technical lot

Award procedures

Conditions for submitting an offer

Information on submission

Review

+ Add lot

Full text search... Settings

Reference to the previous announcement GR-Previous-Notice-0 (+) v

Legal basis GR-Procedure-MainLegalBase v

Other legal basis with identification GR-Procedure-LocalLegalBaseWithID-0 (+) v

Description GR-Procedure-Description ^

Internal identifier BT-22-Procedure
The internal identifier is used for files related to the award procedure or lot before a procedural identifier is awarded (e.g. B. Files from the procurer's document management or award planning system).

Here you can enter a separate name of the procedure, e.g. a business mark or the measure number, e.g. 4711/2022.

Title * BT-21-Procedure
The name of the award procedure or lot.

DE

Description * BT-24-Procedure
The description of the category and quantity of procurement or requirements to be fulfilled in the context of this procedure or lot. In the event of a notice of amendment, the description of the procurement before and after the amendment.

DE

0 Errors 0 Warnings

ReSy: Validation of eForms



Frontend-Validation via EFX

Email *

The e-mail address to contact the organization. In order to avoid unnecessary processing of pe of a natural person is only permitted if this is necessary (within the meaning of Regulation (EU)



The entry is not a valid e-mail address (example: summer@s. example.de).

Backend-Validation via Schematron

Unexpected validation error



An unexpected error occurred during the validation of the notice. Please contact the support using the contact form.

Error details

Type: SCHEMATRON_VALIDATION

Date: Fri Nov 07 2025 23:07:08 GMT+0100 (Central European normal time)

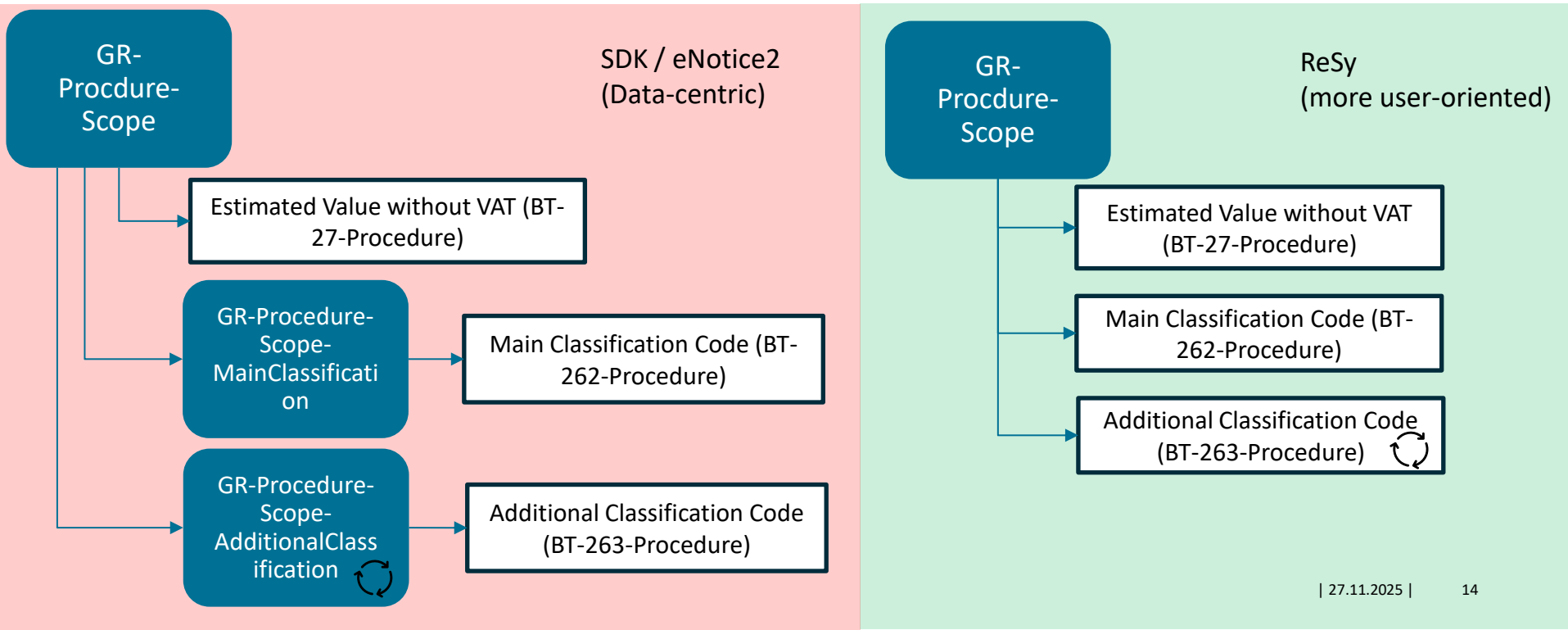
Description: 'E-Mail' (BT-506-Organization-Company) must comply with the following pattern: Email (rule|text|BR-BT-00506-0052)

Path: /
Q{urn:oasis:names:specification:sublocation:exttext:specification:textual:currents:ContractNotice}/
Q{urn:oasis:specification:specification:evaluation:ex:elementation:Commonponents:components2}components-2

Rule ID: BR-BT-00506-0052

Adjustments to the SDK to improve the user experience: Dissolving unnecessary groups (by ReSy)

Example 1 (Schematic): Estimated value for contracted services



Example 2 (Application): Energy Efficiency Directive (EED)

Information about the assets procured under EED (GR-LotResult-EED)

SDK / eNotice2
(Data-centric)

▼ EED information for the lot (GR-LotResult-EED-Information)

▼ Detailed information about the asset (GR-LotResult-EED-AssetDetails)

EED list (BT-811(a)-LotResult)* ⓘ
Energy label

EED list (BT-811(b)-LotResult)* ⓘ
Select...

▼ Energy efficiency label of the asset (GR-LotResult-EED-AssetLabel)

Energy efficiency label (BT-812-LotResult)* ⓘ
Select...

▼ Quantity of procured assets (GR-LotResult-EED-AssetQuantity)

Energy efficiency quantity (BT-815-LotResult) ⓘ

▼ Yearly energy consumption for the asset (GR-LotResult-EED-Consumption)

EED consumption metric (OPT-080-LotResult) ⓘ ⓘ
Energy Consumption in kWh/year

▼ Yearly energy savings for the asset (GR-LotResult-EED-EnergySavings)

Energy savings in kWh/year (BT-814-LotResult) ⓘ

EED savings metric (OPT-081-LotResult) ⓘ ⓘ
Energy Savings in kWh/year

Information on assets acquired pursuant to EED ReSy
(more user-oriented)

Detailed information on the assets

EED List

EED List

Energy efficiency label

Energy efficiency quantity

Energy consumption in kWh/year

Energy savings in kWh/year

Adjustments to the SDK to improve the user experience: Input matrix instead of unguided step-by-step input (by ReSy)

Example: Number of received submissions per type

- User must add a group,
- then chose a code,
- then input a value for chosen codes,
- repeat for every type of submissions (in this case up to 12 times).

The screenshot shows a form titled 'Received submissions statistics (GR-LotResult-ReceivedSubmissions)'. It contains three distinct sections, each with a 'Remove' button. Each section includes a dropdown menu for 'Type of received submissions (BT-760-LotResult)*' and a text input field for 'Number of tenders or requests to participate received (BT-759-LotResult)*'. The first section has 'Tenders' selected and the value '5'. The second section has 'Tenders from medium tenderers' selected and the value '2'. The third section has 'Tenders from micro tenderers' selected and the value '2'. There are also '+ Add new' and 'Remove' buttons at the bottom of the form.

- User may input values in fields displayed.

The screenshot shows a form titled 'Submissions received - Statistics' with a breadcrumb 'GR-LotResult-ReceivedSubmissions ^'. It lists five statistics, each with a corresponding input field and a label 'BT-759-LotResult':

- Number of tenders
- Number of tenders audited and dismissed as inadmissible due to an unusually low price or due to unusually low costs
- Number of tenders checked and rejected as inadmissible
- Number of tenders of micro, small or medium-sized enterprises
- Number of tenders from small businesses

Area for Improvement: Currently no appropriate input order

- The notice type definitions in SDK provide a highly technical view of the forms and ensure correct XML generation.
 - This leads to significant fragmentation of the content.
 - The order of the fields ignores business practices
 - When entering data a lot of reference must be made to other sections of the notice.
 - Users have to jump back and forth because fields are dependent on entries in other sections.
 - Handling of technical references is user unfriendly. They should be hidden in the user interface or used less.

Area for Improvement: Currently no appropriate input order



Example 1: Filling in „Information related exclusively to the buyer“ needs to many actions by user

1. Add an Organization (*Section Organization*)
2. Reference Organization in OPT-300-Procedure-Buyer (*Section ContractingAuthority*)
3. Fill in OPP-050-Organization, OPP-051-Organization and OPP-052-Organization (*Section Organization*)

Example 2: Filling in „Results“ in Contract Award Notices needs to many actions by user

1. Set BT-142-LotResult (winner-selection-status) to „selec-w“ in LotResult (*GR-LotResult*)
2. Add Tender (*GR-LotTender*)
3. Add Tenderer (*GR-TenderingParty*)
4. Reference Tenderer (*GR-TenderingParty*) in Tender (*GR-LotTender*)
5. Reference Tender (*GR-LotTender*) and Tenderer (*GR-TenderingParty*) in section LotResult (*GR-LotResult*)

Solution: Rule based Intelligent Notice creation – REIN

Recommendation for a SDK extension

- Extend Notice type definitions by a ‘wizard’ section.
- ‘Wizard’ sections define steps for user friendly entry of fields or groups.

Example Code

```
type Wizard = {
  steps: Step[];
}

type Step = {
  id: string, // Internal step ID - should be unique, used for navigation in drafts
  title?: string, // Title of the step to be displayed in the input screen
  repeatable?: boolean, // Overwrites the repeatable field of the context group.
  condition?: EFX string, // If false, then the step is not executed.
  ?? optional?: boolean, // If repeatable: If optional, then no initial element. If not optional, initial element.
  context?: string, // Context Node to which the step is attached in the data model.
  content?: Content[], // For the content of the step, see Content.
  steps?: Step[] // Sub-steps. Creates sub-breadcrumbs under, for example, the current lot.
}

type Content = {
  id: string, // ID of the group OR field to be displayed
  embed?: 'new' | 'select', // Only for reference fields (select existing entities).
  // 'Embed' embeds the entire group of the target element at the current location and fills the ID of the created element into the current ref-id element.
  // If 'select': Users can choose between selecting an existing element and embedding the element at the current location.
  exclude?: string[], // Removes the specified fields or groups from the group imported via the id.
  repeatsWith?: string, // Creates the current element for all instances of the field with the specified ID that occur in the data model.
  withRepeatedValue?: string // Fills the field with the value of the field referenced by repeatsWith.
  fromStep?: string, // Field ID of a neighbouring field in the current step, copies the value of this field into the field defined here
  readonly?: boolean // Adds the field as readOnly
  content?: Content // If ID is a group, the children can be overwritten here.
}
```

Solution: Rule based Intelligent Notice creation - REIN

The screenshot shows the REIN application interface. At the top, there is a navigation bar with 'Notices', 'Templates', and 'Groups' menus, and a user profile 'rs-doe-601418111821'. Below this is a search bar and a 'Settings' icon. A large navigation bar below the search bar contains four main steps: 'Buyer', 'Procedure', 'Lot', and 'Result', each in a chevron-shaped box. Underneath 'Lot', there are three substeps: 'Substep 1', 'Substep 2', and 'Substep 3'. The main content area is titled 'Organizations mentioned in the notice' and contains a form with the following fields:

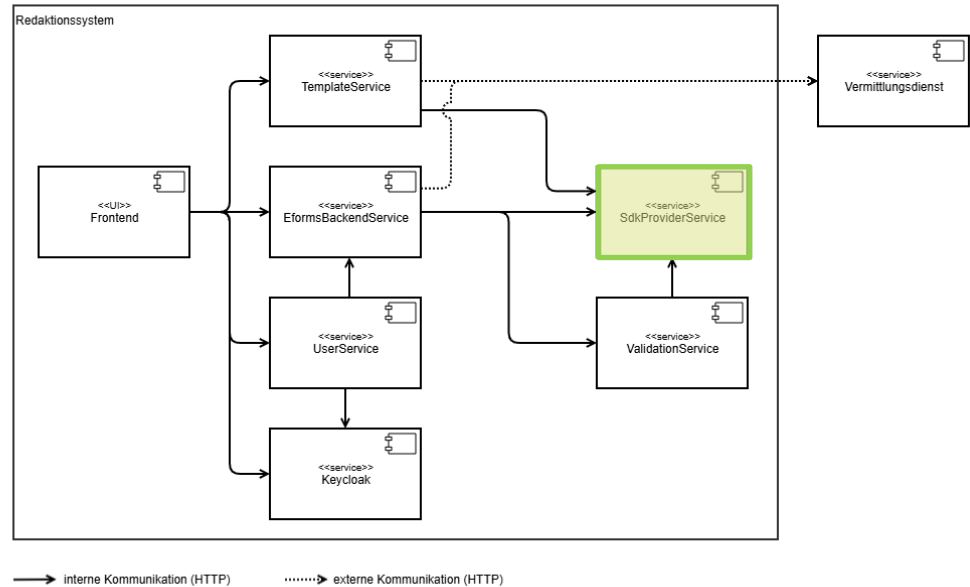
- Reference ID organization ***: Technical identifier of the organization. Value: ORG-0000.
- Type of contracting authority ***: Legal nature of the procurer in accordance with the public procurement rules (e.g. central government agency, public law establishment, public enterprise). Value: BT-11-Procedure-Buyer (buyer-legal-type).
- Main activities of the contracting authority ***: The main activity of the contracting authority. Value: BT-10-Procedure-Buyer (authority-activity).
- Official name ***: The official name of the organization. Value: DE [redacted].
- Company legal identification number**: Value: GR Organization Identifier-0.
- Department**: The name of the part of an organization (e.g. B. the competent department of a large procurer). Value: BT-16 Organization Company.
- Internet address**: The website of the organization. Value: https://www.beispiel.de.
- Address**: Value: GR-Company-Address.
- Contact point**: Value: GR-Company-Contact.

Steps from wizard-section as tabs

Example:
Step „Buyer“ with fields from groups „Organization“ and „Contracting Authority“ as defined in ‘wizard’ section

ReSy*: Maintenance with little effort

- SDK-Updates: Load new SDK Version in *SDKProviderService*
- Due to metadata driven approach little effort for maintenance



Could the proposed extension be a change for a future SDK?

Otherwise the user navigation has to be adjusted with each Update by every user of the SDK.

**Good software, clear and kind in every part,
inspires users
to give high-quality data from the start.**

Contact

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