

VOTING Stimmregister

Person Import

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1. Domain of Influence (DOI)

The import is split in two different types of data collections, each with its individual business case. It consists of the Person and Domain of Influences (DOI) data. The VOTING Stimmregister (VOSR) requires information about the relation between a person and the associated DOIs in order to apply advanced filtering at the DOI level. This chapter describes how the relationship can be evaluated.

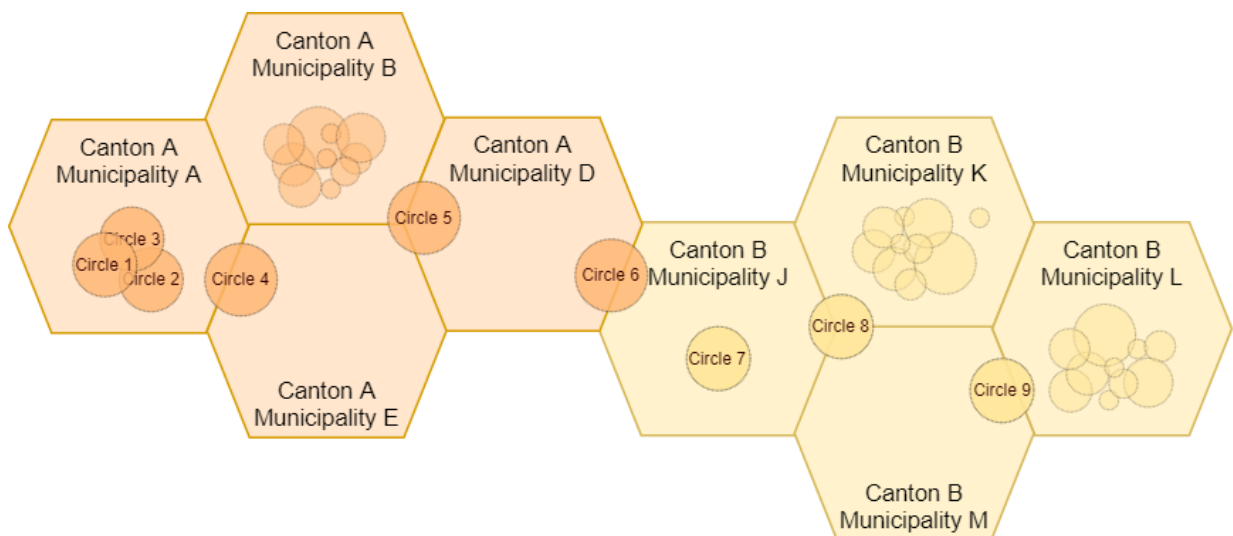
A DOI is defined by a specific geologic area. Swiss cantons (level 1) and municipalities (level 2) are kind of a DOI. Both areas are contiguous meaning their borders do not overlap each other. The circles (level 3) are part of political, church or school areas. The circles can overlap each other, even across cantons or municipalities.

1.1 Levels

DOIs are defined by three levels:

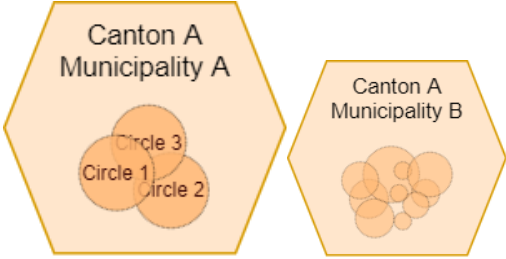
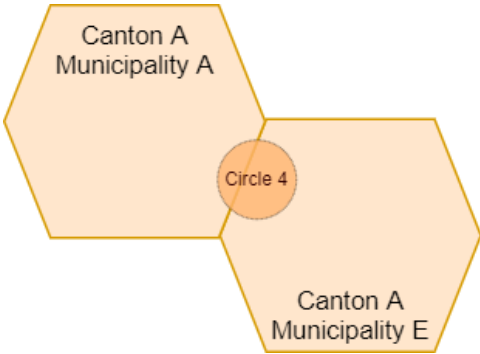
- **Level 1** as the highest level is defined by the Swiss cantons.
- **Level 2** is defined by a municipality belonging to a particular Swiss canton.
- **Level 3** is defined by a circle belonging to one or more municipalities.

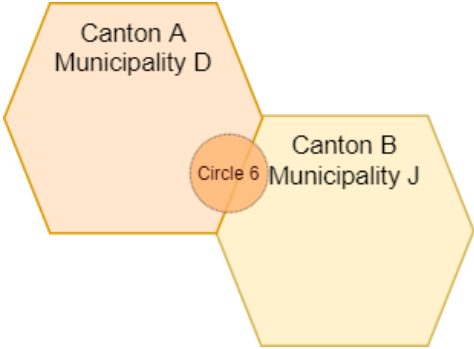
The following graphic illustrates all three levels and their relations:



1.2 Special Cases

While cantons and municipalities are contiguous, there are special cases for circles which may be overlapping by themselves or across borders of adjacent areas.

Case	Identification	Description
Over-lapping	 <p>MUNICIPALITY ID (A>A) & CIRCLE ID (1 2 3)</p> <p>At the municipality level, each circle has a unique circle id and name.</p> <p>On cantonal level a circle is uniquely identified by the municipality BFS number and circle id.</p>	<p>Overlapping circles within the same DOI can be handled individually since each circle has its own scope. For example, a school circle has nothing to do with a traffic circle and can be selected individually for the desired use case. Overlapping circles can be equated with those without overlap.</p>
Cross-border Municipality	<p>MUNICIPALITY ID (A>A) & CIRCLE ID (4) MUNICIPALITY ID (A>E) & CIRCLE ID (4)</p>  <p>The area for a cross-border circle must be evaluated on a municipality level and is formed from multiple subsets.</p> <p>Municipalities may use different ids for the same cross-border circle.</p>	<p>Cross-border circles of municipalities cannot be identified with a single filter because each municipality manages its own circle identifiers, even for the same cross-border circles.</p> <p>Circle 4 from the visualization is defined by the sum of the two subsets from municipality A and E.</p>

Case	Identification	Description
Cross-border Canton	 <p> MUNICIPALITY ID (A>D) & CIRCLE ID (6) MUNICIPALITY ID (B>J) & CIRCLE ID (6) </p> <p>The area for a cross-border circle must be evaluated on a municipality an cantonal level and is formed from multiple subsets.</p>	<p>Cross-border circles of cantons cannot be identified with a single filter because each municipality manages its own circle identifiers, even for the same cross-border circles.</p> <p>Circle 6 from the visualization is defined by the sum of the two subsets from municipality A and E. Because both subsets are part of different cantons, the responsible person must have access to multiple political DOIs.</p>

1.2.1 Cross-border Restrictions

- A cross-border circle must be built based on a subset of results.
- A cross-border circle can only be built if the user has access to both targeting DOIs.

1.2.2 Circle Selection

- Different types of circles can be selected based on their type, id or other properties which must be clearly defined by the filter concept.
- A circle can be selected by the id or name and must be combined with the BFS number for unique identification.
- Grouped filtering or combined circle id + BFS filters must be used to fulfil cross-border requirements.

1.3 Data Fields

1.3.1 Identification

A DOI for a specific address is uniquely identified by the following information:

- MunicipalityId
- Street Name
- Street Number and Addition
- Postal Code

The same address information is contained on the person and forms a unique link to the DOI. For improved performance during linking process, a unique hash value must be generated on both sides as followed:

Algorithm: SHA512

```
string identfier = ToBase64(SHA512(Concat(MunicipalityId, Street Name, Street
Number, Street Number Addition, Postal Code)))
```

1.3.2 Fields

Field	Field (VOSR)	Type	Demand	Value (undef.)	Remarks	Samples
IDENTIFICATION						
n/a	Id <div>PRIMARY KEY</div>	Guid	required		Unique identifier for a DOI entry	0541995c-f7dd-4dd4-a1d5-23b60061f38d
ADABAS_ISN	DomainOfInfluenceId	String	required		This field is used to uniquely identity the data entry for a particular street and its associated circles. The identification is based on the subsystem's primary key. It is primarily used to find the associated circles for one or more persons and vice versa.	906
GEOLOCATION						
KUNDENNUMMER	MunicipalityId	Numeric	required		The municipality id (BFS) is used during the import to differentiate individual DOI imports on a municipality base. Further, it is required for filtering and identification	3203

Field	Field (VOSR)	Type	Demand	Value (undef.)	Remarks	Samples
					to improve the query performance.	
STRASSEN BEZEICHNUNG	Street	String	required		Can be used for DOI identification purposes (see chapter: identification) . Currently not used because ADABAS_ISN import field already defines a unique reference.	Bahnhofstr.
HAUSNUMMER	HouseNumber	String	required		Can be used for DOI identification purposes (see chapter: identification) . Currently not used because ADABAS_ISN import field already defines a unique reference.	4
HAUSNUMMER _ZUSATZ	HouseNumberAddition	String	optional	""	Can be used for DOI identification purposes (see chapter: identification) . Currently not used because ADABAS_ISN import field already defines a unique reference.	b
O-PLZ	SwissZipCode	Numeric	required		Can be used for DOI identification purposes (see chapter: identification) . Currently not used because ADABAS_ISN	9402

Field	Field (VOSR)	Type	Demand	Value (undef.)	Remarks	Samples
					import field already defines a unique reference.	
O-ORT	Town	String	optional		Not currently used but kept for geolocation completion.	Mörschwil
CIRCLE INFO						
IN_POLITISCHER_GEMEINDE	IsPartOfPoliticalMunicipality	Bool	optional		This indicator is not currently used but kept for circle information completion.	1 0
POLITISCHER_KREIS	PoliticalCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	C
POLITISCHER_KREIS_TXT	PoliticalCircleName	String	optional	"kein"		Centrum
KATHOLISCHER_KIRCHKREIS	CatholicChurchCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	200
KATHOLISCHER_KIRCHKREIS_TXT	CatholicChurchCircleName	String	optional	"kein"		Mörschwil
EVANGELISCHER_KIRCHKREIS	EvangelicChurchCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	100
EVANGELISCHER_KIRCHKREIS_TXT	EvangelicChurchCircleName	String	optional	"kein"		Goldach
SCHULKREIS	SchoolCircleId	String	optional	"0"	Unique identifier at the municipality level and	100

Field	Field (VOSR)	Type	Demand	Value (undef.)	Remarks	Samples
					primarily used for filtering.	
SCHULKREIS_TXT	SchoolCircleName	String	optional	"kein"		Mörschwil
VERKEHRSKREIS	TrafficCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	0
VERKEHRSKREIS_TXT	TrafficCircleName	String	optional	"kein"		kein
WOHNVIERTEL	ResidentialDistrictCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	0
WOHNVIERTEL_TXT	ResidentialDistrictCircleName	String	optional	"kein"		kein
VOLKSZAEHLKREIS	PeopleCouncilCircleId	String	optional	"0"	Unique identifier at the municipality level and primarily used for filtering.	5
VOLKSZAEHLKREIS_TXT	PeopleCouncilCircleName	String	optional	"Kreis unbekannt, noch offen"		Kreis 5

2. Person

The import is split into two different types of data collections, each with its individual business case. It consists of the Person and Domain of Influences (DOI) data. The VOTING Stimmregister requires information about the relation between a person and the associated DOIs in order to apply advanced filtering at the DOI level. This chapter describes how the relationship can be evaluated and defines how to manage person data from EK and COBRA.

A person is uniquely identified by an internal GUID as the owning AHV number (AHVN) is not a mandatory field. In comparison to DOIs, the persons are organized in a flat hierarchy. The link to associated DOIs is defined by the main residential living address or the associated circle information indicating voting authorization. Imports are differentiated between the following types:

1. Loganto Import (*Swiss and non-Swiss Citizens*)
2. Innosolv Import (*Swiss and non-Swiss Citizens*)
3. COBRA Import (*Auslandschweizer*)

2.1 Special Cases

For individuals eligible to vote in a particular DOI, there are two types:

- **Main Residential inside DOI (HW - Hauptwohnsitz)**
 - A person whose main residential is inside the target DOI is eligible to vote (if voting preconditions are met)
 - A unique identifier to the associated DOI is part of the person's data
- **Main Residential outside DOI (NW - Nebenwohnsitz)**
 - A person whose main residential is outside the target DOI is only eligible to vote if the BFS number matches the target DOI or any circle information.
 - This type of person has no unique identifier to the associated DOI and only consists of the circle DOI information directly assigned to the person.

BFS Number

A person's BFS number always represents the DOI in which that person is eligible to vote. In the case of a person with a main residential address in another DOI, the BFS number refers to the DOI where the person is eligible to vote.


Sample: A person lives in a retirement home in municipality X and remains eligible to vote in municipality Y.

2.2 Data Fields

The following table combines both, the COBRA and Loganto person import data. Technically both types are treated as persons and filtered from one single data pool. Combining both imports is required to normalize data from subsystem, also with regard to the connection of future proprietary systems.

Source System Key	Field VOSR	eCH Format	Type VOSR	Additional Information	Sample
IDENTIFICATION					
n/a	Id REQUIRED PRIMARY KEY ECH-0045	n/a	Guid	Unique identifier for a person entry version. The id is auto-generated during import.	b2434d4d-240d-4eb7-8a59-8668d23d1cdf
n/a	RegisterId REQUIRED ECH-0045	n/a	Guid	The person's unique identifier within the VOTING Stimmregister register. Note: A person can have multiple versions (revisions) and therefore multiple entities with unique identifiers id's, but just one unique RegisterId for the same person. The id is auto-generated during import.	aef70e70-7386-4f34-a7f1-a2d3094a9a31
LOGANTO VN COBRA AHVN13 INNOSOLV eCH-0044:vn	Vn OPTIONAL ECH-0045	eCH-0044:vnType	Numeric	A person is uniquely identified by the AHV number (AHVN). The AHVN can exist several times for the same person if many residential status exist (HWS, NWS). The same AHVN may only exist once per municipality but twice across borders. Business Rules COBRA The AHVN is not set for Swiss abroad and can be left blank. <i>DE: Versichertennummer (13 digit / neu)</i>	7561234567897
LOGANTO WOA_ADDRES_ID	DomainOfInfluenceId DOI FOREIGN KEY OPTIONAL	n/a (Integer greater than zero)	Numeric	Business Rules LOGANTO This field is used to uniquely identity the data entry for a particular street and its associated circles. The identification is built by the street name, street number, street addition and postal code. It is primarily used to find the associated circles for one or more persons and vice versa.	906
LOGANTO SCHLUESSEL COBRA eVotingID	SourceSystemId REQUIRED ECH-0045	eCh-0044:localPersonId.personId	String	Identifier of the person entry as provided by the source system.	6938242

INNOSOLV eCH-0044:personId					
PERSON					
LOGANTO OFFICIALNAME COBRA Nachname INNOSOLV eCH-0044:officialName	OfficialName REQUIRED ECH-0045	eCH-0044:officialName	String	DE: Amtlicher Name	Fisher
LOGANTO FIRSTNAME COBRA Vorname INNOSOLV eCH-0044:firstName	FirstName REQUIRED ECH-0045	eCH-0044:firstName	String	DE: Vorname	Jade Jamila
LOGANTO SEX COBRA Geschlecht INNOSOLV eCH-0044:sex	Sex REQUIRED ECH-0045	eCH-0044:sexType	SexType	Data Mapping LOGANTO <ul style="list-style-type: none"> Input 'M' → 1 (male) Input 'W' → 2 (female) Input all others → 3 (undefined) Data Mapping COBRA <ul style="list-style-type: none"> Input 'Männlich' → 1 (male) Input 'Weiblich' → 2 (female) Input all others → 3 (undefined) DE: Geschlecht	W
LOGANTO DATEOFBIRTH COBRA Geburtsdatum INNOSOLV eCH-0044:dateOfBirth	DateOfBirth REQUIRED ECH-0045	eCH-0011:birthDataType	Date	Data Conversion LOGANTO The input data must be converted as followed in order to be used for later queries to evaluate the person's voting right based on its age: <ul style="list-style-type: none"> **.***.yyyy → 01.01.yyyy / **.**.2007 → 01.01.2007 **..mm.yyyy → 01.mm.yyyy / **..11.2006 → 01.11.2006 	LOGANTO 22.02.1979 **..05.2000 **..**..1986 DME

				Data Conversion DME The eCH-0044 defines 3 different formats as datePartiallyKnownType. The same conversion is applied for undefined date parts as defined for loganto. Data Conversion COBRA The input data can be parsed with format: dd.MM.YYYY DE: Geburtsdatum	1979-02-22 1979-02-1979 COBRA 22.02.1979
-	DateOfBirthAdjusted OPTIONAL	n/a	Boolean	Indicates, whether or not the date of birth is an adjusted value due existence of unknown day or month details. Data Mapping <ul style="list-style-type: none"> false: DateOfBirth is provided as an exact date. true: DateOfBirth contains unknown day/month details.  Calculated date of birth are highlighted in the UI.	true
LOGANTO ORIGINALNAME INNOSOLV eCH-0044:originalName	OriginalName OPTIONAL ECH-0045	eCH-0011:originalName	String	DE: Lediger Name	Tinner
LOGANTO ALLIANCENAME INNOSOLV eCH-0011:allianceName	AllianceName OPTIONAL	eCH-0011:allianceName	String	DE: Allianz-Name / Partnerschaftsname	Tinner
LOGANTO ALIASNAME INNOSOLV eCH-0011:aliasName	AliasName OPTIONAL	eCH-0011:aliasName	String	DE: Aliasname	Fisher
LOGANTO OTHERNAME INNOSOLV eCH-0011:otherName	OtherName OPTIONAL	eCH-0011:otherName	String	DE: Anderer Name	Tinner

LOGANTO CALLNAME INNOSOLV eCH-0011:callName	CallName OPTIONAL ECH-0045	eCH-0011:callName	String	DE: Rufname	Jade
LOGANTO LanguageOfCorrespondence COBRA Code der Kommunikationssprache INNOSOLV eCH-0021:languageOfCorrespondence	LanguageOfCorrespondence OPTIONAL ECH-0045	eCH-0021:languageOfCorrespondence	String	Data Mapping LOGANTO Refer to chapter Mapping for detailed information. DE: Korrespondenzsprache ISO 639-1	de fr it en rm
LOGANTO RELIGION INNOSOLV eCH-0011:religion	Religion OPTIONAL	eCH-0011:religionType	Religion Type	Business Rules Only a subset of available religions are mapped for privacy reasons. Allowed religions are evangelical and catholic Data Mapping LOGANTO Refer to chapter Filter Criteria in Religion filter (position 9). DE: Religion bzw. Konfession	111
-	IsSwissAbroad REQUIRED ECH-0045	n/a	Boolean	Indicates, whether or not the person is Swiss abroad or Swiss domestic. DE: Ist Auslandschweizer	true
LOGANTO VOTINGRIGHT_ADDITION INNOSOLV ABX-Voting:dispatchLockVotingCard	SendVotingCardsToDomainOfInfluenceReturnAddress OPTIONAL ECH-0045	n/a	Boolean	Indicates, whether or not voting cards are sent to the person or the domain of influence return address. Data Mapping LOGANTO Code 'P' Code 'C' Adresse unbekannt Auswärts: true Other values: false Data Mapping DME The value is precalculated and delivered as a 1:1 mapping. DE: Nicht zustellen	true
VOTING (Abstimmung)					


<div>LOGANTO</div> VOTINGRIGHT	RestrictedVotingAndElectionRightFederation	xs:boolean (eCH unknown)	Boolean	<div><div><div><div><div><div></div><div>Business Rules / Conversion</div><div>LOGANTO</div></div></div><div><div>1.</div><div>When set to 'false' and person is HWS → Eligible to vote on HWS</div></div><div><div>2.</div><div>When set to 'true' and person is HWS → Restricted to vote</div></div><div><div>3.</div><div>When set to 'true' and person is NWS → .Restricted to vote</div></div><div><div>4.</div><div>When set to 'false' and person is NWS → Eligible to vote for referenced DomainOfInfluenceId</div></div></div></div><table><tr><th>TypeOfResidence</th><th colspan="2">RestrictedVotingAndElectionRightFederation</th></tr><tr><th></th><th>Input</th><th>Output</th></tr><tr><td>HWS</td><td>false</td><td>false</td></tr><tr><td>HWS</td><td>true</td><td>true</td></tr><tr><td>NWS</td><td>true</td><td>true</td></tr><tr><td>NWS</td><td>false</td><td>false</td></tr></table><div><div><div><div></div><div>Business Rules</div><div>COBRA</div></div><div>COBRA only delivers persons who are eligible to vote. Value can be set to 'false' by default.</div></div><div><div>Data Mapping</div><div>DME</div></div><div>The value is precalculated and delivered as a 1:1 mapping.</div><div>DE: Stimmverzicht</div></div></div>	TypeOfResidence	RestrictedVotingAndElectionRightFederation			Input	Output	HWS	false	false	HWS	true	true	NWS	true	true	NWS	false	false	false
TypeOfResidence	RestrictedVotingAndElectionRightFederation																						
	Input	Output																					
HWS	false	false																					
HWS	true	true																					
NWS	true	true																					
NWS	false	false																					
<div>LOGANTO</div> COUNTRY	Country	eCH-0008:countryIdISO2	String	<div><div><div><div><div></div><div>Data Mapping</div><div>LOGANTO</div></div></div><div><div>Country must be mapped from a proprietary EK naming onto the standardized ISO 3166-1 alpha 2. Proprietary values not supported by ISO must be adopted unchanged. The mapping definition is documented under:</div><div><div><div>•</div><div>Input 'XXX' → 'XX' (Staat unbekannt)</div></div><div><div>•</div><div>Input 'YYY' → 'YY' (Staatenlos)</div></div></div></div></div></div>	CH D XXX YYY WAN T																		

				<ul style="list-style-type: none"> Input 'CH' → 'CH' (Schweiz) Input 'MEX' → 'MX' (Mexiko) Input 'I' → 'IT' (Italien) etc. <p>i Business Rules LOGANTO</p> <ul style="list-style-type: none"> There are municipalities with voting rights for foreigners or church districts that give voting rights to foreigners. As a result VOTING Stimmregister does not restrict to CH but offers the user to customize selected countries. EK delivers proprietary short names for countries which must be mapped onto their corresponding ISO 3166-1 (alpha-2): codes. Special mappings: XXX (XX) = Staat unbekannt / YYY (YY) = Staatenlos <p>i Business Rules DME</p> <ul style="list-style-type: none"> Country ISO 3166-1 alpha 2 must be evaluated based on the latest valid eCH-0011:countryInfo data entry. <p>DE: Nationalität (ISO)</p>	
INNOSOLV eCH-0008:countryNameShort	CountryNameShort REQUIRED ECH-0045	eCH-0008:countryNameShort	String	DE: Nationalität	Switzerland
COBRA E-Voting	EVoting REQUIRED ECH-0045		Boolean	Business Case E-Voting flag for Swiss domestic and Swiss abroad.	TRUE FALSE
RESIDENCE (Wohnort) - Fallback if contact address is not defined for voting card delivery					
LOGANTO MUNICIPALITYNAME	MunicipalityName REQUIRED ECH-0045	eCH-0007:swissMunicipalityType	String	DE: Amtlicher Gemeindename	St. Gallen

INNOSOLV DOI Municipality Name (VOTING Basis)					
LOGANTO MUNICIPALITYID COBRA Nr der politischen Gemeinde INNOSOLV eCH-0007:reportingMunicipality:MunicipalityId	MunicipalityId REQUIRED ECH-0045	eCH-0007:swissMunicipalityType	Numeric	The municipality id (BFS) is used during the import to differentiate individual DOI imports on a municipality base. Further, it is required for query and security filtering. <i>i Business Rules INNOSOLV</i> The municipality id is read from the reporting municipality by either the NWS or HWS entry. DE: BFS-Gemeindenummer	3203 9170 (Swiss abroad)
LOGANTO HWS INNOSOLV ABX-Voting:hasMainResidence	TypeOfResidence REQUIRED <i>i</i> 'HWS' and 'NWS' are delivered as a string and must be merged into a single field of an enum type (eCH-0011): <ul style="list-style-type: none"> 1: HWS 2: NWS 3: Undefined 	eCH-0011:typeOfResidenceType[1]	ResidenceType	Indicates whether the given address of residence is the persons main residence. Internally HWS and NWS must be persisted as types (enum) as a single field and not only a boolean value. <i>i Business Case LOGANTO</i> If a person with HWS has transferred the voting right over to the NWS, the field RestrictedVotingAndElectionRightFederation is set to true. The person has no voting right at the HWS anymore. A person can exist twice with the same AVHN if both, HWS and NWS is used. <i>i Business Rules COBRA</i> <ul style="list-style-type: none"> Type of residence is always set to 'HWS' for Swiss abroad DE: Hauptwohnsitz (Meldeverhältnis)	true
LOGANTO NWS INNOSOLV ABX-Voting:hasMainResidence		eCH-0011:typeOfResidenceType[2]	ResidenceType	Indicates whether the given address of residence is the persons secondary residence. <i>i Business Case LOGANTO</i> Persons with a secondary residence and no assigned circle information are not permitted to vote. Otherwise, if a person has transferred its voting right from HWS to	false

				<p>the NWS, the voting right is given and circle information is set.</p> <p>DE: Nebenwohnsitz (Meldeverhältnis)</p>	
<p>LOGANTO ORIGINNAME _1 (1-7)</p> <p>COBRA Heimatort 1</p> <p>INNOSOLV eCH-0011:originName</p>	<p>OriginName[1-7] (normalized, not part of person)</p> <p>ECH-0045</p>	eCH-0011:originName	String	<p>i General Information</p> <ul style="list-style-type: none"> The origin name is normalized as part of the PersonDoi table as described in Person DOI and not persisted on the person itself. <p>! General eCH-0045 Validation Rule</p> <ul style="list-style-type: none"> At least one origin name MUST be set for Swiss citizen and Swiss abroad while it is not required for abroad. <p>i Business Case LOGANTO</p> <ul style="list-style-type: none"> Origin name can be used for "Ortsbürger" votes. Statement from Loganto: "<i>It may be that the origin names do not correspond to the official ones. Loganto does not automatically mutate the origin names when a change takes place.</i>" Refer to: https://www.e-service.admin.ch/competency-app/wicket/bookmarkable/ch.glue.suis.com.petency.app.pages.CivilRegistryLinks <p>i Mapping Rule COBRA For Swiss abroad only one origin name is provided that must be mapped onto OriginName1</p> <p>DE: Heimatort</p>	
<p>LOGANTO ON_CANTON _1 (1-7)</p> <p>COBRA Heimatkanton 1</p> <p>INNOSOLV eCH-0011:cantonAbbreviation</p>	<p>OriginOnCanton[1-7] (normalized, not part of person)</p> <p>ECH-0045</p>	eCH-0011:canton	String	<p>i General Information</p> <ul style="list-style-type: none"> The origin on canton is normalized as part of the PersonDoi table as described in Person DOI and not persisted on the person itself. <p>! General eCH-0045 Validation Rule</p>	

				<ul style="list-style-type: none"> At least one origin name MUST be set for Swiss citizen and Swiss abroad while it is not required for abroad. <p>i Business Case LOGANTO</p> <ul style="list-style-type: none"> Origin canton can be used for "Ortsbürger" votes and each entry belongs to one of origin name (index 1-7). <p>i Mapping Rule COBRA For Swiss abroad only one origin canton is provided that must be mapped onto OriginOnCanton1</p> <p>DE: Heimatort Kanton</p>	
INNOSOLV eCH-0011:placeOfOriginId	Identifier ECH-0045	eCH-0011:placeOfOriginId	String	DE: Schlüssel des Heimatorts	140
LOGANTO RESIDENCEP ERMIT INNOSOLV eCH-0011:residencePermit	ResidencePermit OPTIONAL	eCH-0011:residencePermit	String	<p>i Business Case</p> <ul style="list-style-type: none"> Foreigners with the appropriate permission state are also eligible to vote if the vote is intended for it. The user must be able to individually select different base levels (only leading 2 digits) of residence permission that may be included in a vote. The number "13xx" must not be included because it represents a non-foreigner. A residence permit code always consists of at least 2 digits (including leading zero). <p>i Mapping Rule LOGANTO</p> <p>See chapter: Mapping</p> <p>DE: Ausländerkategorie</p>	
LOGANTO RESIDENCEP ERMITVALIDFROM INNOSOLV eCH-0011:residencePermitValidFrom	ResidencePermitValidFrom OPTIONAL	eCH-0011:residencePermitValidFrom	Date <nullable>	<p>i Business Case</p> <ul style="list-style-type: none"> Only relevant for foreigners, ignored for Swiss citizens <p>DE: Ausländerkategorie gültig ab</p>	

LOGANTO RESIDENCEPERMITVALIDTILL INNOSOLV eCH-0011:residencePermitValidTill	ResidencePermitValidTill OPTIONAL	eCH-0011:residencePermitValidTill	Date <nullable>	 Business Case <ul style="list-style-type: none"> Only relevant for foreigners, ignore for Swiss citizens Data Conversion LOGANTO If day or month is undefined, the latest possible date is chosen: <ul style="list-style-type: none"> **.***.yyyy → 31.12.yyyy / **.**.2022 → 31.12.2022 **..mm.yyyy → 31.mm.yyyy / **.**.04.2023 → 31.04.2023 Sidenote Loganto uses an automated data import from Zemiss with valid till dates that are max. 3 months in future for approval process. DE: Ausländerkategorie gültig bis	
LOGANTO ENTRYDATE INNOSOLV eCH-0011:EntryDate	ResidenceEntryDate OPTIONAL	eCH-0011:entryDate	Date <nullable>	DE: Einreisedatum	
CONTACT ADDRESS (Zustelladresse)					
LOGANTO ZUA_ADDRESSELINE1 INNOSOLV eCH-0010:addressLine1	ContactAddressExtensionLine1 OPTIONAL ECH-0045	eCH-0010:addressLine	String	DE: Adresszusatzzeile 1 (Zustelladresse)	
LOGANTO ZUA_ADDRESSELINE2 INNOSOLV eCH-0010:addressLine2	ContactAddressExtensionLine2 OPTIONAL ECH-0045	eCH-0010:addressLine	String	DE: Adresszusatzzeile 2 (Zustelladresse)	
LOGANTO ZUA_STREET COBRA Strasse INNOSOLV eCH-0010:street	ContactAddressStreet OPTIONAL ECH-0045	eCH-0010:street	String	DE: Strassenbezeichnung (Zustelladresse)	

LOGANTO ZUA_HOUSE NUMBER COBRA Hausnummer INNOSOLV eCH- 0010:houseNumber	ContactAddressHouseNumber OPTIONAL ECH-0045	eCH-0010:houseNumber	String	Contains the house number and addition. DE: Hausnummer (Zustelladresse)	4a
LOGANTO ZUA_DWELLI NGNUMBER INNOSOLV eCH- 0010:dwellingNumber	ContactAddressDwellingNumber OPTIONAL	eCH-0010:dwellingNumber	String	DE: Wohnungsnummer	
COBRA Hausnummer Zusatz	ContactAddressHouseNumberA ddition OPTIONAL		String	DE: Hausnummer Zusatz (Zustelladresse)	A
LOGANTO ZUA_POSTOFFICEBOXN UMBER COBRA Postfachnr INNOSOLV eCH- 0010:postOfficeBoxText	ContactAddressPostOfficeBoxT ext OPTIONAL ECH-0045	eCH0010:postOfficeBoxT ext (max. length 15)	String	DE: Postfachtext (Zustelladresse)	Postfach 2023
COBRA Adresszeile 1	ContactAddressLine1 OPTIONAL ECH-0045	eCH0045:person (Extension)	String	Business Rules <ul style="list-style-type: none"> Part of the addresses for Swiss abroad do not use the common street fields, instead address line 1-7 are filled. For eCH-0045 refer to VotingPlaceHelper.GetExstensionAddress implementaion. DE: Adresszeile 1	Apartme nt 86
COBRA Adresszeile 2	ContactAddressLine2 OPTIONAL ECH-0045	eCH0045:person (Extension)	String	refer to: ContactAddressLine1 DE: Adresszeile 2	Molinacci o
COBRA Adresszeile 3	ContactAddressLine3	eCH0045:person (Extension)	String	refer to: ContactAddressLine1 DE: Adresszeile 3	Playa

		<div>OPTIONAL</div> <div>ECH-0045</div>				
<div>COBRA</div> Adresszeile 4	ContactAddressLine4	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH0045:person (Extension)	String	<i>refer to: ContactAddressLine1</i> DE: Adresszeile 4	P.O. Box 43
<div>COBRA</div> Adresszeile 5	ContactAddressLine5	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH0045:person (Extension)	String	<i>refer to: ContactAddressLine1</i> DE: Adresszeile 5	74160 Beaumont
<div>COBRA</div> Adresszeile 6	ContactAddressLine6	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH0045:person (Extension)	String	<i>refer to: ContactAddressLine1</i> DE: Adresszeile 6	Dorking
<div>COBRA</div> Adresszeile 7	ContactAddressLine7	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH0045:person (Extension)	String	<i>refer to: ContactAddressLine1</i> DE: Adresszeile 7	AL1 3GW
<div>LOGANTO</div> ZUA_TOWN	ContactAddressTown	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH-0010:town	String	DE: Ort (<i>Zustelladresse</i>)	Hermanns
<div>COBRA</div> Ort						
<div>INNOSOLV</div> eCH-0010:town						
<div>COBRA</div> Ortsbereich	ContactAddressLocality	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH-0010:locality	String	Business Case Some foreign addresses may contain additional geographical indication in addition to the city and country. The locality feature is provided for such cases. DE: Gebiet (<i>Zustelladresse</i>)	Western Cape
<div>INNOSOLV</div> eCH-0010:locality						
<div>LOGANTO</div> ZUA_SWISSZ IPCODE	ContactAddressZipCode	<div>OPTIONAL</div> <div>ECH-0045</div>	eCH-0010:swissZipCode	String	DE: Postleitzahl (<i>Zustelladresse</i>)	Swiss: 9000
<div>COBRA</div> ZUA_ZIPCODE			eCH-0010:foreignZipCode			Foreign: EH3 9QN
<div>INNOSOLV</div> eCH-0010:swissZipCode eCH-0010:foreignZipCode						

LOGANTO N	ZUA_KANTO	ContactCantonAbbreviation OPTIONAL	eCH-0007:cantonAbbreviation	String	DE: Kantonskürzel	SG
DWELLING ADDRESS (Wohnadresse)						
LOGANTO SSLINE1	WOA_ADDRE	ResidenceAddressExtensionLine1 ECH-0045	eCH-0010:addressLineType	String	DE: Adresszusatzzeile 1 (Wohnadresse)	Missionshaus Untere Waid
INNOSOLV	eCH-0010:addressLine1					
LOGANTO SSLINE2	WOA_ADDRE	ResidenceAddressExtensionLine2 ECH-0045	eCH-0010:addressLineType	String	DE: Adresszusatzzeile 2 (Wohnadresse)	
INNOSOLV	eCH-0010:addressLine2					
LOGANTO T	WOA_STREET	ResidenceAddressStreet ECH-0045	eCH-0010:streetType	String	DE: Strassenbezeichnung (Wohnadresse)	Bahnhofstr.
INNOSOLV	eCH-0010:street					
LOGANTO NUMBER	WOA_HOUSE	ResidenceAddressHouseNumber ECH-0045	eCH-0010:houseNumberType	String	Contains the house number and addition. DE: Hausnummer (Wohnadresse)	1A
INNOSOLV	eCH-0010:houseNumber					
LOGANTO INGNUMBER	WOA_DWELL	ResidenceAddressDwellingNumber		String	DE: Wohnungsnummer (Wohnadresse)	
INNOSOLV	eCH-0010:dwellingNumber					
LOGANTO WOA_POSTOFFICEBOXNUMBER		ResidenceAddressPostOfficeBoxText ECH-0045	eCH0010:postOfficeBoxTextType (max. length 15)	String	DE: Postfachtext (Wohnadresse)	Postfach 2023
LOGANTO WOA_TOWN		ResidenceAddressTown REQUIRED ECH-0045	eCH-0010:townType	String	DE: Ort (Wohnadresse)	Mörschwil
INNOSOLV	eCH-0010:town					

COBRA Land INNOSOLV eCH-0010:country	ResidenceCountry REQUIRED ECH-0045	eCH-0045:residenceCountry	String	Data Conversion Convert from long name to standardized ISO 3166-1 (alpha-2) code. Refer to existing implementation CountryHelper.cs in project Eai.Business.Charon.eCH-0045.Transformer. The COBRA field 'Bfs-Ländernummer' can be used to get a better result in the data conversion. DE: Aufenthaltsland (Wohnadresse)	UNITED KINGDOM
LOGANTO WOA_SWISS ZIPCODE INNOSOLV eCH-0010:swissZipCode	ResidenceAddressZipCode ECH-0045		String	DE: Postleitzahl (Wohnadresse)	9402
LOGANTO WOA_KANTON INNOSOLV eCH-0007:cantonAbbreviation	ResidenceCantonAbbreviation	eCH-0007:cantonAbbreviation	String	DE: Kantonskürzel	SG
MOVE IN ADDRESS (Zuzugsadresse)					
LOGANTO ARRIVALDATE INNOSOLV abx-voting:arrivalDate	MoveInArrivalDate OPTIONAL	eCH-0020:arrivalDate	Date <nullable>	Business Case In Loganto, no persons are entered into the future. DE: Zuzugsdatum (Zuzugsort)	01.04.2009
LOGANTO ZU_MUNICIPALITYNAME INNOSOLV eCH-0007:municipalityName	MoveInMunicipalityName OPTIONAL	eCH-0007:swissMunicipalityType	String	DE: Amtlicher Gemeindename	
LOGANTO ZU-CANTONABBREVIATION INNOSOLV eCH-0007:cantonAbbreviation	MoveInCantonAbbreviation OPTIONAL	eCH-0007:cantonAbbreviation	String	DE: Kantonskürzel (Zuzugsort)	
LOGANTO ZU_TOWN COBRA Letzte Wohnsitzgemeinde	MoveInComesFrom OPTIONAL	eCH-0020:comesFrom	String	DE: Herkunftsort (Zuzugsort)	

INNOSOLV eCH-0011:town					
LOGANTO ZU_COUNTRYNAMESHORT INNOSOLV eCH-008:countryNameShort	MoveInCountryNameShort OPTIONAL	eCH-0008	String	DE: Ländername Kurzform (Zuzugsort)	
LOGANTO ZU_UNKNOWN INNOSOLV eCH-008:unknownSpecified	MoveInUnknown OPTIONAL	eCH-0011	Boolean	DE: Unbekannt (Zuzugsort)	
CIRCLE (Kreisinformationen) ⚠ Circles are normalized and mapped onto the PersonDoi table as described in chapter Person DOI					
INNOSOLV ABX-Voting:districtCategory	ECH-0045	n/a	String		
INNOSOLV ABX-Voting:localDistrictId	ECH-0045	n/a	String		
INNOSOLV ABX-Voting:otherDistrictId		n/a	String		
INNOSOLV ABX-Voting:districtName	ECH-0045	n/a	String		
LOGANTO POLKREIS	PoliticalCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Politischer Kreis Identifikator Normalization Refer to Person DOI	W
LOGANTO POLKREIS_TXT	PoliticalCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Politischer Kreis Name Normalization Refer to Person DOI	Osten

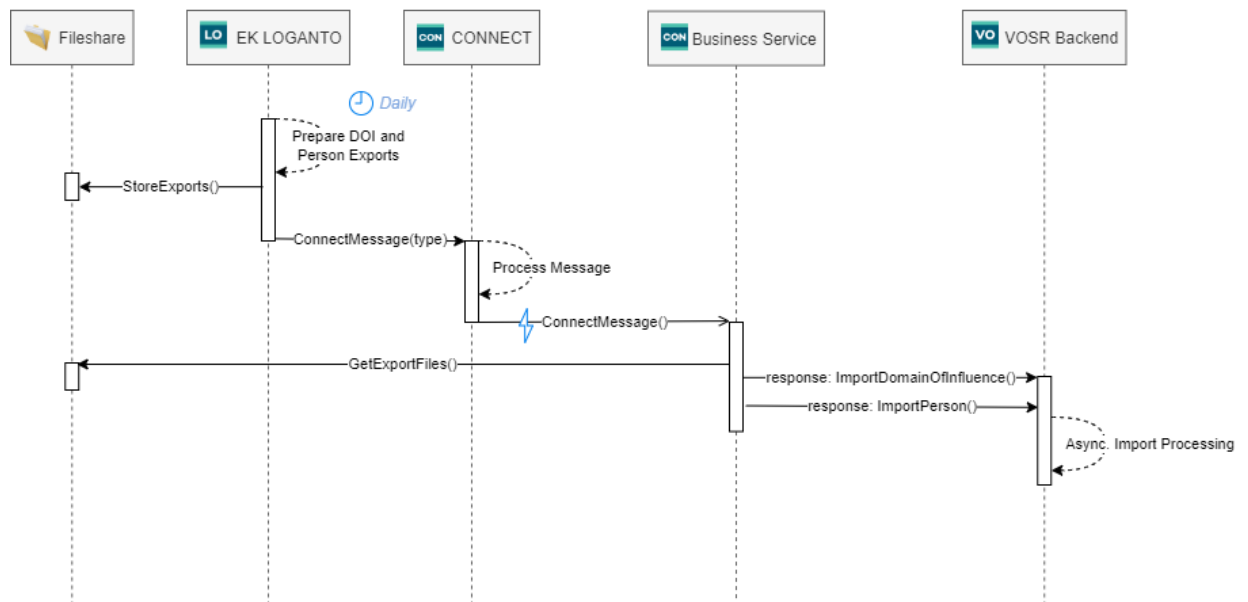
LOGANTO	KATHKREIS	CatholicCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Katholischer Kirchkreis Identifikator Normalization Refer to Person DOI	224
LOGANTO	KATHKREIS_TXT	CatholicCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Katholischer Kirchkreis Name Normalization Refer to Person DOI	Katholischer Kirchkreis Heiligkreuz
LOGANTO	EVANGKREIS	EvangelicCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Evangelischer Kirchkreis Identifikator Normalization Refer to Person DOI	110
LOGANTO	EVANGKREIS_TXT	EvangelicCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Evangelischer Kirchkreis Name Normalization Refer to Person DOI	Evangelischer Kirchkreis Rotmonten
LOGANTO	SCHULKREIS	SchoolCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Schulkreis Identifikator Normalization Refer to Person DOI	511
LOGANTO	SCHULKREIS_TXT	SchoolCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Schulkreis Name Normalization Refer to Person DOI	Schulzählkreis Rotmonten-Gerhalde

LOGANTO EIS	VERKEHRSKR	TrafficCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Verkehrskreis Identifikator Normalization Refer to Person DOI	101
LOGANTO EIS_TXT	VERKEHRSKR	TrafficCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Verkehrskreis Name Normalization Refer to Person DOI	101
LOGANTO EL	WOHNVIERT	ResidentialDistrictCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Wohnviertel Identifikator Normalization Refer to Person DOI	10
LOGANTO EL_TXT	WOHNVIERT	ResidentialDistrictCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Wohnviertel Name Normalization Refer to Person DOI	Rotmont en (Rotmont en) Osten
LOGANTO S	VOLKSZKREI	PeopleCircleId (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:localDomainOfInfluenceIdentification	String	DE: Volkszählkreis Identifikator Normalization Refer to Person DOI	103
LOGANTO S_TXT	VOLKSZKREI	PeopleCircleName (normalized, not part of person) OPTIONAL ECH-0045	eCH-0155:domainOfInfluenceType	String	DE: Volkszählkreis Name Normalization Refer to Person DOI	Quartier verein Rotmont en

3. Interfaces

The CONNECT is a standardized and secure Enterprise Application Integration (EAI platform) for exchanging and provisioning data. The backend service of VOTING Stimmregister uses the asynchronous data transfer through a CONNECT business service. VOSR import data is sent from the delivery system through CONNECT and forwarded by the business service to the VOSR interface.

4. Data Delivery



4.1 Procedure

- A daily batch load of person and domain of influence (DOI) data is performed by Loganto.
- The export takes place at night at about 2-3 o'clock.
- Export data is delivered per municipality and DOI.
 - Assuming a canton with 20 municipalities → Total 20 person and 20 DOI import files
- Files are transmitted via the CONNECT system.

Files are received by a business service connector and delivered to a predefined interface on the VOTING Stimmregister backend system.

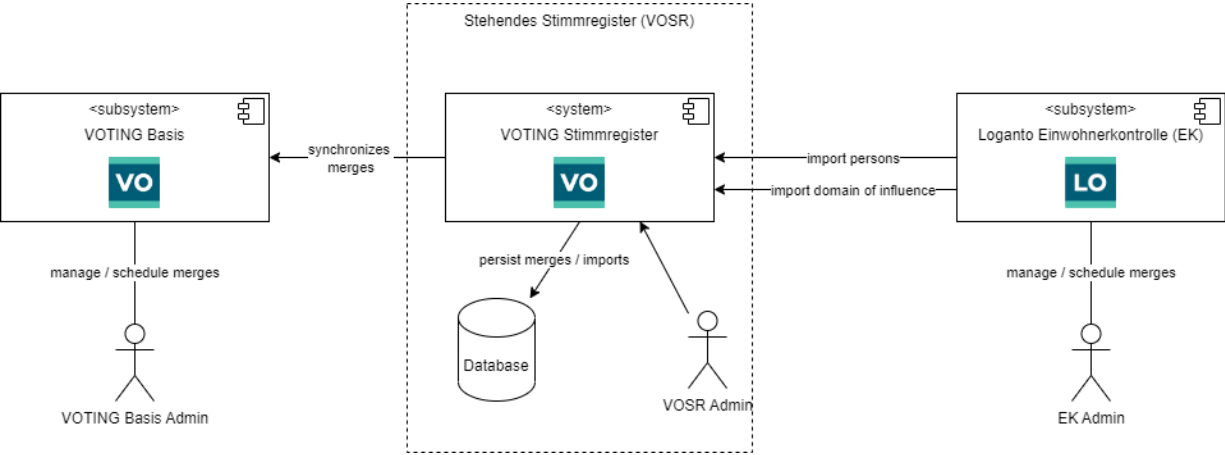
5. Merge (Fusionen)

5.1 Introduction

The process of combining many municipalities into a new municipality is called a merge (DE: Fusion). A merge takes place on a specific date, usually at the beginning of the year on January 1.

5.2 Building Block View

The following level 1 building block view represents the system dependencies and communication flow for a merge.



5.2.1 Systems

(Sub)-System	Responsibility
VOTING Stimmregister	The backend service is responsible to coordinate synchronization with subsystems and to perform necessary steps by the deadline of one or more merges. Incoming person or domain of influence (DOI) data from subsystem after a merge has been performed must be proactively rejected.
Database	Information about upcoming and past merges is persisted in the database. At the time of the deadline for one or more merges, all necessary data required to for cleanup and BFS blacklisting is read from the database.
EK Loganto Einwohnerkontrolle (EK)	EK Loganto is the delivery system for person and DOI data. It is not the responsibility of VOTING Stimmregister to coordinate merges on EK Loganto. This is part of a separate process as shown in the process flow.

(Sub)-System	Responsibility
VOTING Basis	All pending merges are managed in VOTING Basis. As the leading system for VOTING master data, the VOTING Stimmregister synchronizes all merge information directly from this subsystem.



5.3 Process Flow

5.3.1 Initiator

All merges are managed and coordinated by the leading subsystem VOTING Basis which describes all necessary conditions when and how a merge takes place. Based on this information, the VOTING Stimmregister applies the merge on its DOI and person data sets. The VOTING Stimmregister synchronizes all required merge information from the leading system on a daily base.

5.3.2 Importer

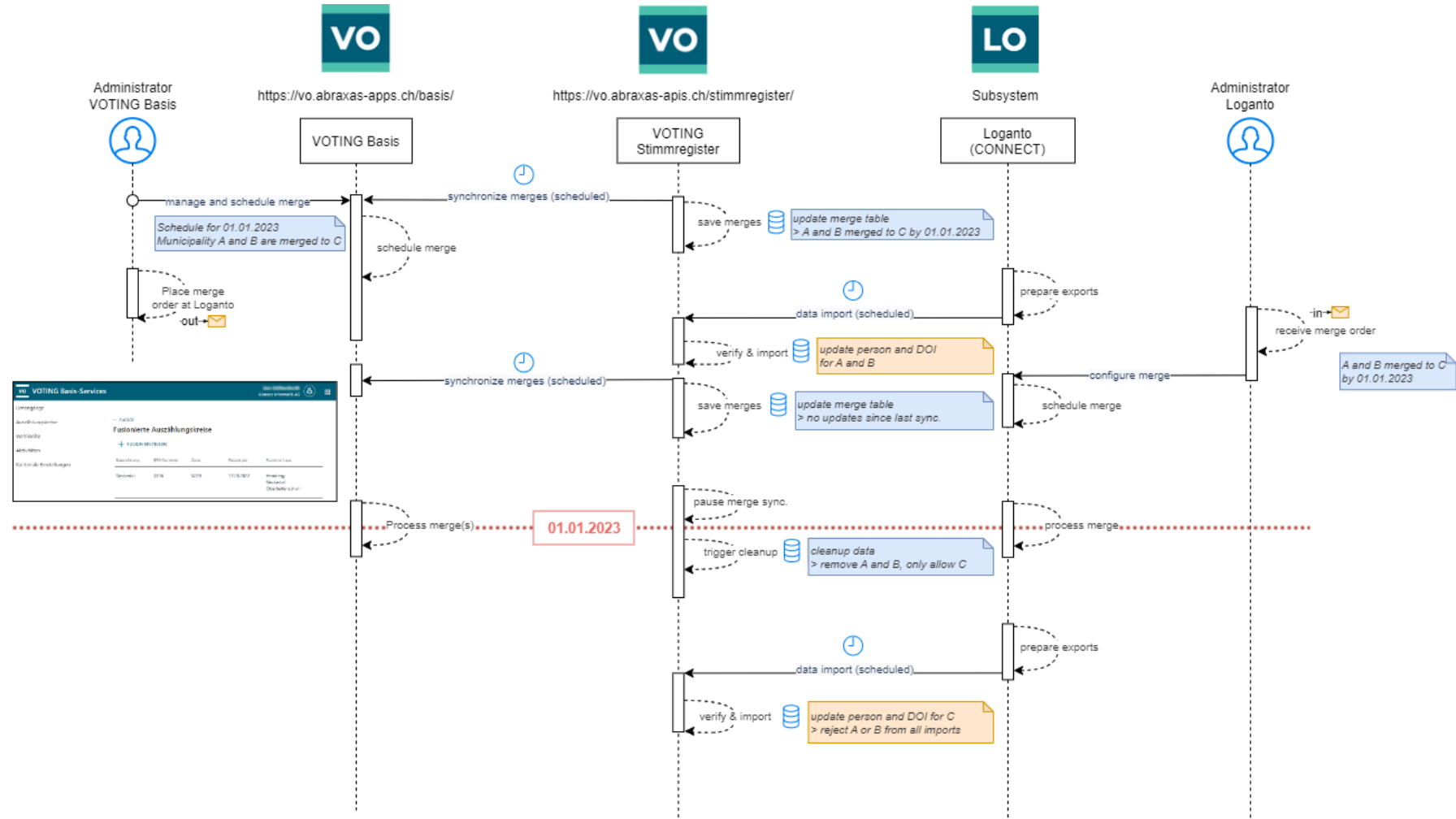
The estimated time for a merge to take place must be synchronized with the source system where DOI and person data is imported from.

- After a successful merge, no data from merged municipalities may be accepted anymore from the import subsystem.
 -  All already merged municipalities (BFS numbers) must be rejected via a blacklist and reported as a failed import.
- After a successful merge, only data for the newly merged municipality may be accepted from import source systems.
 - a.  After a successful merge, VOTING Basis updates the hierarchical structure for Domain Of Influences (remove merged, add new). Once VOTING Stimmregister has re-synced all DOI information, new BFS numbers will be accepted from import subsystems.
- The import source system must be synchronized with the leading system VOTING Basis.

5.3.3 Loganto

The time when a merge is carried out must be commissioned proactively at Loganto by the VOTING Stimmregister. If no order is placed, the Loganto source system continues to send person and DOI from non-merged municipalities. In that case, VOTING Stimmregister will reject these specific imports for security reasons, because the merged BFS numbers are not known anymore by the leading system.

5.3.4 System Sequence



5.4 Conceptual Levels

The concept for managing merge processes is divided into two milestones.

Milestone 1

- There is no direct connection to VOTING Basis for synchronization of merge data.
- Merge data is manually entered in VOTING Stimmregister.

Milestone 2

- VOTING Stimmregister is connected with VOTING Basis to be able to exchange merge data.
- Merge data is automatically synchronized with VOTING Stimmregister

5.5 Data Model - Merge

The following data is required for VOTING Stimmregister to be able to manage and process merges:

Attribute Name	Data Type	Description	Sample Data
New Counting Circle Name	String	New name for merged counting circle	Neckertal
New Counting Circle BFS Number	Number	New BFS number for merged counting circle	3396
Merge per Date	Date	Indicating when a merge is processed	01.01.2023
Merge from Counting Circle Name	String (List)	One to many counting circle names to be merged	Hemberg Neckertal Oberhelfenschwil
Merge from Counting Circles BFS Number	Number (List)	One to many BFS numbers to be merged	3372 3378 3375