

PRODUCT DESCRIPTION

Right Download, vector

DOCUMENT VERSION: 1.8

Figure 1 Excerpt from Right Download, vector



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I General Description

In the general section of the Property Register, rights and joint facilities are documented. The general section includes a text part and a map part, the Cadastral Index Map. The Cadastral Index Map displays a selection of the information found in the general section of the Property Register, the text part. Learn more about the Property Register and the Cadastral Index Map at [Lantmäteriet's website](#).

I.1 Contents

The product includes rights and joint facilities from the Cadastral Index Map and serves as a complement to Cadastral Parcels Download, vector which contains property boundaries from the Cadastral Index Map. Please note that boundaries shown in the Cadastral Index Map do not have any legal effect.

For a more detailed description of how information is managed in the Cadastral Index Map, please refer to the Swedish handbook for the Cadastral Index Map: Handbok Registerkarta, LMV Rapport 2004:6, ISSN 0280-5731. The manual is available for download in Swedish at www.lantmateriet.se.

I.2 Geographic Coverage

Nationwide.

I.3 Geographic Excerpt

The product can be delivered by county, municipality or for a self-selected area.

I.4 Coordinate System

Plan: SWEREF 99 TM

For information on what other coordinate systems in which the product can be delivered, please refer to the Swedish document on fees and delivery information [Avgifter och leveransinformation för Lantmäteriets geodata \(pdf\)](#) on the Lantmäteriet website.

I.5 Miscellaneous

Fishing has been moved to Cadastral Parcels Download, vector.

2 Quality Description

The quality labelling aims to provide information about quality of stored objects. Based on the measurement method, an expected positional accuracy has been established for the individual detail types included in the Cadastral Parcels Download, vector product.

The objects in the database are stored with information, including history and positional accuracy.

For more information about the various quality parameters used in the product description, please refer to [HMK Ordlista \(pdf\)](#) and [HMK Geodatakvalitet \(pdf\)](#). For terms and definitions, you can also consult [termdatabasen Ekvator](#).

2.1 Purpose and Usability

Right Download, vector can be used as a complement to the Cadastral Parcels Download, vector and Topography 10 Download, vector products. This product provides information about the rights and joint facilities that apply to a specific area or are associated with a particular property, such as easement and right of way. The product also includes joint facilities.

The vector format allows you to customize the map according to your own business needs.

You can:

- Add and link your own information to objects on the map.
- Integrate map information into your own system.
- Show or hide information as needed using layer segmentation.

2.2 Data Capture

2.2.1 LINEAGE

Rights and joint facilities have been sourced from a variety of different original materials. For example, they can be digitized from old maps or surveyed with high accuracy, hence the content varies in quality. Today, the GPS measurement method is used, which results in high quality data.

2.3 Maintenance

2.3.1 MAINTENANCE FREQUENCY

The information is continuously updated by the national cadastral authority and municipal cadastral authorities (KLM). Information that should be reported both in the Cadastral Index Map and the Real Property Register's text part, should be added to the Cadastral Index Map within two working days after being added into the text part. However, delays may occur. There is also ongoing work to supplement the Cadastral Index Map with official rights that were not included before 1972.

The rights database is updated every night. Rights that are ordered via Lantmäteriet are fetched either from pre-produced data or directly from the database. Pre-produced data is updated on a weekly basis.

For pre-produced data, delivery is available at the county or national level in SWEREF99 TM or at the municipal level in the local SWEREF zone. Other deliveries are made directly from the database.

For each object in the delivery, the date when it was stored or modified in the database is provided.

2.4 Data Quality

2.4.1 COMPLETENESS

Completeness is related to the selection for each detail type. To learn more about the selection for each object type, refer to the sections that describe the layers included in the product description. here are also some generalization rules for the information in Right Download, vector which means that not all objects are represented in the map.

According to the standard, the quality parameters for the quality theme of completeness are "commission" and "omission." Since there are few measurements of completeness for the individual objects conducted by Lantmäteriet, completeness in the product description is usually described as very high, high, or low.

The classification of completeness for different object types has been assessed by those who work with data collection and object updates.

Some older rights are missing from the Real Property Register because there was no requirement to report them before 1972. An existing right in the text part may be missing or incompletely represented in the Cadastral Index Map.

Areas for easement agreements are not presented in the Cadastral Index Map since it is an agreement between persons and not between properties.

Joint facilities established before the Joint Facilities Act, which came into effect in 1974, may be missing from the register.

A few municipal cadastral authorities provide their rights with a one-month delay. Therefore, the information may temporarily differ between the map and the register.

2.4.2 LOGICAL CONSISTENCY

The structure of point objects, line objects, and polygons is designed with requirements for geometric positions that allow for easy topology creation.

When storing objects in the Lantmäteriet database, there are checks to ensure that the objects adhere to the prescribed geometric and topological rules. It is also verified that the information complies with the Open Geospatial Consortium (OGC) requirements for geometries. Additionally, there are checks in place to ensure that only valid value ranges and detail types are entered into the database.

For polygon objects, the identity point is the carrier of identity. For point or line objects, the identity is stored directly on the object.

Each right and joint facility is treated as individual objects in the form of polygons, lines, or points. They can be overlapped by other rights and joint

facilities. Utility easements can for example cross other easements and rights.

However, there is one important exception. Two or more sub-geometries belonging to the same right of way must not overlap with each other.

For joint facilities, there are certain exceptions. They may have a line or point represented on a polygon, even though the polygon shares the same designation as the other point or line. However, two joint facility polygons with the same designation cannot overlap each other. Other than that, the rules above apply.

Rights and joint facilities' identity consist of a designation or dossier designation that can also be found in the text part in the Real Property Register's general section.

Example of identities for rights:

2187-90/102.2

20-GAG-934.1

2181K-66.1

2180-98/65.3

A dossier where the right is formed, followed by a serial number after the dot.

Right boundary points are stored with an external ID, and this external ID is unique at the national level. It is structured as follows:

1730EDAS*RGRÄ*1348

Municipality code + area * type * serial number

In general, rights are presented in their entire extent. In other cases, they are presented as a line or a point. The designation is enclosed in brackets if the position of an easement is approximately known (uncertain location).

Example of identities for joint facility:

Gävle Brottbys ga:4

1080>TORSTÄVA>GA:1

Municipality, district, registration number

The main rule is that all rights and joint facilities should be presented as a polygon if possible. Depending on the accuracy of the data, rights and joint facilities may be presented as a polygon, line, or point. However, a joint facility can never have an uncertain location. Rights or joint facilities are presented as a point or line only if their extent is not known. For a right of way (public road), with an uncertain extent, only a line is used.

2.4.3 THEMATIC ACCURACY

In general, the thematic accuracy is high for rights and joint facilities.

2.4.4 POSITIONAL UNCERTAINTY

Information on positional uncertainty depends on the measurement method, generalisation, and the distinctness of the object.

Positional uncertainty describes how well a given position corresponds to the actual position in the terrain for the object that has been positioned in relation to the principal coordinate system.

Geometrical requirements for positional uncertainty depend on the objects' distinctness within a geographically limited area.

All boundary lines and boundary points for rights are specified with a value for positional uncertainty, stored as a mean square error. The mean square error is provided with millimetre precision and pertains to the positional uncertainty of the presented object in relation to the principal coordinate system, e.g., SWEREF 99 TM. The mean square error is almost always calculated or estimated based on the measurement methods used during data capture (**metodplan**). The value can be considered as an assumed value for the measurement method used.

Rights are surveyed in connection with cadastral proceedings and thus have the same positional uncertainty as the real property division.

Table 1 Value Quantity for the Attribute metodplan

Code	Type of method	Technique	Type of basic data for digitization
000	Unspecified	Unspecified	
100	Geodetic	Unspecified	
101	Geodetic	Total station	
102	Geodetic	GPS	
103	Geodetic	DGNSS	
104	Geodetic	Absolute GNSS	
107	Geodetic	Inertial technology	
108	Geodetic	Adjusted	
109	Geodetic	Network RTK	
110	Geodetic	Network DGNSS	
111	Geodetic	Static GNSS	
201	Photogrammetric	Analogue photogrammetry	

Code	Type of method	Technique	Type of basic data for digitization
202	Photogrammetric	Analytical photogrammetry	
203	Photogrammetric	Digital photogrammetry – analogue camera	
204	Photogrammetric	Unspecified technology	
205	Photogrammetric	Digital photogrammetry – digital camera	
300	Digitization	Unspecified	Unspecified
310	Digitization	Table digitization	Unspecified
314	Digitization	Table digitization	Orthophotography
320	Digitization	Screen digitization	Unspecified
324	Digitization	Screen digitization	Orthophotography
330	Digitization	Scanning	Unspecified
500	Cartographic position	Unspecified	
600	Interpreted through JB 1:5		

3 Content on Delivery

3.1 Folder Structure in Delivery

The files included in the delivery consist of a Geopackage containing data and a JSON-file describing the content.

The Geopackage files can be ordered from Geotorget.

Additional files for styles and symbols are available for download on the [product page](#).

3.2 Delivery Format

The product is delivered in the [Geopackage](#) format.

3.3 File Sets

The information is delivered in a .gpkg file, and a description of the data content is delivered in a json file.

3.4 Layering

The information is divided into different layers, and the names of these layers are based on the thematic belonging and geometry type.

Layer names begin with the product affiliation and an extent before the layer name when loaded into software.

For example: **rattighet_xxxx rattighet_ga_yta**, where “xxxx” can be coordinates, municipality code, or county code.

The attributes set varies among the different layers.

4 Layout and Plotting of Data

4.1 On-screen Presentation

Styling of the product is adapted to scales between 1: 5,000 - 1: 50,000.

For style management, a .lyr file is provided for ArcGIS/ArcMap and a .lyrx file for ArcGIS Pro. In ArcMAP/ArcGIS, data should be saved in a geodatabase to ensure full functionality.

For QGIS, a .qlr file is available for style management.

The style file contains a proposed drawing order for the layers.

Style files can be downloaded from the product site.

4.2 Installation of Fonts

The text in the style file uses the Windows standard font, *Arial*.

5 Layer Description and Code List

In the following sections, each layer is described in detail, listing the objects included and the attributes used to describe them.

5.1 Rights and Joint Facilities

Regarding rights, only official rights are presented, meaning rights that have been established through a government decision or a court ruling. Rights established through agreements, such as easements by agreement and contractual usage rights, are not presented.

Official rights are not fully documented. Official rights established before 1972 were not registered at all in the general section of the Real Property Register. Starting in 1972, new rights were registered only in the text part, and it wasn't until the 1990s, when digital map management became prevalent, that new rights began to be entered into the Cadastral Index Map. It is important to note that the content in the Cadastral Index Map does not have legal effect.

Table 2 Official Rights Presented Linked to Legal Framework

Official rights	Legal Framework
Official Easement	<ul style="list-style-type: none"> • The Official Easement Act (1902:71 s. 1), contains specific regulations on electrical installations. • , The Act concerning Trespass Prevention (1933:269). • , The Private Roads Act (1939:608) • , The Real Property Formation Act (1970:988) • , The Expropriation Act (1972:719)
Official Usufruct	<ul style="list-style-type: none"> • Specific regulations on electrical installations • , The Planning and Building Act • , The Expropriation Act • , The Railway Building Act (1995:1649) • or corresponding previous regulation
Utility Easement	<ul style="list-style-type: none"> • The Utility Easements Act (1973:1144)
e.g., boundary for crown land, i.e., reindeer husbandry rights on land that previously belonged to the state	<ul style="list-style-type: none"> • The Real Property Register Ordinance, Section 23 • Lantmäteriet's Statutes 2004:1 Sections 1-37

A right can have boundary points, i.e., the detail type RGRÄ. Boundary points also have an attribute, **mtyp** (marking type), which indicates the type of marking on the ground in cases where boundary points are marked.

Areas with permanent units for joint facilities are also presented.

Table 3 Joint Facilities Presented Linked to Legal Framework

Joint facility	Legal Framework
Joint facilities	<ul style="list-style-type: none"> • Joint Facilities Act (1973:1149) • Act on certain Joint facilities (1966:700)
Road maintenance association	<ul style="list-style-type: none"> • Private Roads Act (1939:608), Chapter 3.
Jointly owned road system	<ul style="list-style-type: none"> • Private Roads Act (1939:608), Chapters 2 or 4.

	<ul style="list-style-type: none"> • Or corresponding previous regulation
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A joint facility (abbreviated to *ga* in Swedish) is a facility that serves multiple properties and is created in accordance with the Facilities Act. A joint facility is managed either by a joint property association or through partial owner administration. Examples of joint facilities include roads, water and sewage systems, green areas, playgrounds, garages or parking spaces, energy facilities, shared harbours, swimming areas, stairways, and elevators.

Table 4 Layers Included for Rights

Rights and joint facilities	Layer name
Rights and joint facilities (polygons)	rattighet_ga_yta
Boundary lines for rights and joint facilities (lines)	rattighet_ga_begransningslinje
ID points for polygons (point)	rattighet_ga_idpunkt
Line displays of rights and joint facilities (lines)	rattighet_ga_linje
Point displays of rights and joint facilities (point)	rattighet_ga_punkt
Boundary points for rights and joint facilities (point)	rattighet_ga_granspunkt

5.1.1 POLYGONS FOR RIGHTS AND JOINT FACILITIES

The layer contains the polygons of rights and joint facilities. There is information in the details about the geometric quality of the right or joint facility, as well as its designation and the real property on which it is located.

Table 5 Layer Description for Rights Polygons and Joint Facilities Polygons (Layer name: rattighet_ga_yta)

Detail type	Name
GAANLÄGGN	Joint facility
LEDNRÄTT	Utility easement
NYTTRÄTT	Usufruct
SERVITUT	Easement

Table 6 Attributes for Rights and Joint Facilities

Attribute	Type	Length	Description
objekt_id	Text	36	Globally unique identity (UUID) for every right.
externid	Text	64	External ID from Lantmäteriet's basic database: e.g. '05-HÅL-1343.4'
detaljtyp	Text	10	Code for detail type
ytkval	Integer	2	Geometric polygon quality. 0 treated as a null value. See detailed description in table 7.
adat	DateTime	23	Date/time of the most recent change. Provided in the format: 2019-04-26T11:28:03.000
ratbet	Text	23	Designation of right, e.g., '05-HÅL-1343.4'
rattyp	Integer	1	Type of right. Refer to detailed description in table 8.
kommunkod	Text	4	County and municipal code, e.g., '2180'.
trakt	Text	40	District name
blockenhet	Text	9	Block and unit, e.g., '1:3'.
regtyp	Text	2	Type of register unit. Refer to detailed description in table 9.

Table 7 Value Quantity for the Attribute ytkval

Code	Description	Comment/sketch
1	The polygon is geometrically correct	
2	The polygon has geometric duplicates.	There are multiple polygons with identical geometries, one for each point in the AI layer, and each polygon corresponds to the identity of its respective point.
6	The polygon is not geometrically correct	Polygons that contain structural errors, such as gaps, overhangs, lack ID points, or are otherwise

Code	Description	Comment/sketch
		incorrect. These polygons may also have multiple ID points or lack identity.

Table 8 Value quantity for the attribute rattyp

Code	Description
1	Official easement
3	Official usufruct
4	Utility easement

Table 9 Value quantity for the attribute regtyp

Code	Description
F	Real property
GA	Joint facility
S	Joint property

5.1.2 BOUNDARY LINES FOR THE POLYGONES OF RIGHTS AND JOINT FACILITIES

Contains the boundary lines for areas of rights and joint facilities that are presented as polygons in the Rights and Joint Facilities polygon layer. Detailed information about quality, in terms of planar mean square error, is provided for these boundaries.

The enclosing boundary is only used to create a closed shape when the Right or Joint Facility is not fully represented.

Table 10 Layer description for boundary lines (Layer name: rattighet_ga_begransningslinje)

Detail type	Name
FDSTATGR	Boundary of previously state-owned land
GAGR	Joint facility boundary
LEDNRÄTGR	Utility easement boundary
NYTTRÄTGR	Usufruct boundary
RÄTTÄTGR	Enclosing boundary for rights

Detail type	Name
SERVGR	Easement boundary

Table 11 Set of attributes for boundary lines

Attribute	Type	Length	Description
internid	Integer	9	Internal identity in Lantmäteriet's basic data storage
detaljtyp	Text	10	Code for detail type
gdat	DateTime	23	Date/time when detail was created. Provided in the format: 2019-04-26T11:28:03.000
adat	DateTime	23	Date/time of the most recent change. Provided in the format: 2019-04-26T11:28:03.000
xyfel	Floating point	6,3	Mean square error. Stated in meters. The value ranges from 0.025 – 999,999 m. 0 is treated as a null value.
metodplan	Integer	5	Measuring method for position indication in plan; refer to table 1 in Chapter 2.44
flyghojd	Integer	7	Flight altitude during photogrammetry
undskala	Integer	7	Document scale factor when digitizing

5.1.3 ID POINTS FOR RIGHTS AND JOINT FACILITIES' POLYGONS

Contains identity points for rights and joint facilities, presented as polygons in the rights and joint facilities Polygons layer. The details include information about the designation of the rights or joint facilities and the real property where they are located.

Table 12 Layer description for ID points for rights and joint facilities (Layer name: rattighet_ga_id-punkt)

Detail type	Name
RÄTTIGID	Right or joint facility, ID point

Table 13 Set of attributes for ID points to rights and joint facilities polygons

Attribute	Type	Length	Description
objekt_id	Text	36	Globally unique identity (UUID) for each right.

Attribute	Type	Length	Description
externid	Text	64	External ID from Lantmäteriet's basic database: e.g., '05-HÅL-1343.4'
detaljtyp	Text	10	Code for detail type
adat	DateTime	23	Date/time of the most recent modification. Provided in the format: 2019-04-26T11:28:03.000
ratbet	Text	23	Designation of right, e.g., '05-HÅL-1343.4'
rattyp	Integer	1	Type of right. For detailed description refer to table 8.
kommunkod	Text	4	County and municipal code, e.g., '2180'.
trakt	Text	40	District name
blockenhet	Text	9	Block and unit, e.g., '1:3'.
regtyp	Text	2	Type of register unit. Refer to detailed description in table 9.

5.1.4 LINES FOR RIGHTS AND JOINT FACILITIES

Contains linear rights and joint facilities where the extent is unknown. The details provide information about the quality of the rights or joint facilities in terms of mean square horizontal error, designation, and the real property it is associated with.

Table 14 Layer description for linear representation of rights and joint facilities (Layer name: rattighet_ga_linje)

Detail type	Name
GAANLÄGGN	Joint facility
LEDNRÄTT	Utility Easement
NYTTRÄTT	Usufruct
SERVITUT	Easement

Table 15 Set of attributes for linear representation of rights and joint facilities

Attribute	Type	Length	Description
objekt_id	Text	36	Globally unique identity (UUID) for every right.

Attribute	Type	Length	Description
internid	Integer	9	Internal identity in Lantmäteriet's basic data storage
externid	Text	64	External ID from Lantmäteriet's basic data storage, e.g., '05-HÅL-1343.4'
detaljtyp	Text	10	Code for detail type
gdat	DateTime	23	Date/time when the detail was created. Provided in the format: 2019-04-26T11:28:03.000
adat	DateTime	23	Date/time of the latest modification. Provided in the format: 2019-04-26T11:28:03.000
xyfel	Floating point	6,3	Mean square error. Provided in the unit meter. The value varies between 0,025 - 999,999 m. 0 is treated as a null value
ratbet	Text	23	Designation of right, e.g., '05-HÅL-1343.4'
rattyp	Integer	1	Type of right. For detailed description refer to table 8.
kommunkod	Text	4	County and municipal code, e.g., '2180'.
trakt	Text	40	District name
blockenhet	Text	9	Block and unit, e.g., '1:3'.
regtyp	Text	2	Type of register unit. Refer to detailed description in table 9.
metodplan	Integer	5	Measurement method in plane, refer to table 1
flyghojd	Integer	7	Flight altitude during photogrammetric data collection
undskala	Integer	7	Document scale factor when digitizing

5.1.5 POINTS FOR RIGHTS AND JOINT FACILITIES

Contains rights and joint facilities with limited or unknown extent. The layer also includes endpoints for linear rights. The details provide information about the quality of the rights or joint facilities in terms of mean square horizontal error, designation, and the real property it is associated with.

Table 16 Layer description for point-represented rights and joint facilities (Layer name: rat-tighet_ga_punkt)

Detail type	Name
GAANLÄGGN	Joint facility
LEDNRÄTT	Utility easement
NYTTRÄTT	Usufruct
SERVITUT	Easement
RSTOPP.S	Endpoint of linear right

Table 17 Set of attributes for point-represented rights and joint facilities.

Attribute	Type	Length	Description
objekt_id	Text	36	Globally unique identity (UUID) for every right.
internid	Integer	9	Internal identity in Lantmäteriet's basic data storage
externid	Text	64	External ID from Lantmäteriet's basic data storage, e.g., '05-HÅL-1343.4'
detaljtyp	Text	10	Code for detail type
gdat	DateTime	23	Date/time when the detail was created. Provided in the format: 2019-04-26T11:28:03.000
adat	DateTime	23	Date/time of the latest modification. Provided in the format: 2019-04-26T11:28:03.000
xyfel	Floating point	6,3	Mean square error. Provided in the unit meter. The value varies between 0,025 - 999,999 m. 0 is treated as a null value
ratbet	Text	23	Designation of right, e.g., '05-HÅL-1343.4'
rattyp	Integer	1	Type of right. For detailed description refer to table 8.

Attribute	Type	Length	Description
kommunkod	Text	4	County and municipal code, e.g., '2180'.
trakt	Text	40	District name
blockenhet	Text	9	Block and unit, e.g., '1:3'.
regtyp	Text	2	Type of register unit. For detailed description refer to table 9.
metodplan	Integer	5	Method of measurement in plane; refer to table 1
flyghöjd	Integer	7	Flight altitude during photogrammetric data collection
undskala	Integer	7	Document scale factor when digitizing

5.1.6 BOUNDARY POINTS FOR RIGHTS AND JOINT FACILITIES

The layer contains boundary points for rights and joint facilities.

Table 18 Layer description for boundary points (Layer name: rattighet_ga_granspunkt)

Detail type	Name
RGRÄ	Rights boundary point

Table 19 Set of attributes for boundary points.

Attribute	Type	Length	Description
internid	Integer	9	Internal identity in Lantmäteriet's basic data storage
externid	Text	64	Designation of boundary points; consists of area*type*serial number
detaljtyp	Text	10	Code for detail type
mty	Text	4	Type of marker see table 21
mlage	Integer	6	Position of marking 0 = No information 1 = On breakpoint 2 = On polygon 3 = Detached
gdat	DateTime	23	Date and time when the detail was created. Provided in the format: 2019-04-26T11:28:03.000.

Attribute	Type	Length	Description
adat	DateTime	23	Date/time of the most recent modification. Provided in the format: 2019-04-26T11:28:03.000.
xyfel	Floating point	6,3	Mean square error. Stated in unit mm. The value varies between 25 - 999,999 mm. 0 treated as null value.
metodplan	Integer	5	Method of measuring position specification in plane; refer to detailed description in table 1.
kvalforb	Integer	2	Quality improvement measure: refer to detailed description in table 20.
flyghojd	Integer	7	Flight altitude during photogrammetric data collection
undskala	Integer	7	Document scale factor when digitizing

Table 20 Value quantity of the attribute kvalforb.

Code	Description	Comment
0	No information	
1	New measurement	The position specification of the point has been improved by new measurement
2	Transformation/Alignment	The position specification of the point has been improved by transformation or alignment with points of higher positional accuracy.

Table 21 Value quantity for the attribute mtyp.

Code	Description
	No information
db	Peg in rock
dg	Peg in concrete casting
dh	Peg in building

Code	Description
dm	Peg in wall
ds	Peg in earthbound stone
fr	Boundary mark (Five stone cairn)
fs	Fixed signal (photogrammetry)
gr	Glazed pipe
graf	Graphic point
hb	Drill hole in rock
hg	Drill hole in concrete casting
hs	Drill hole in earthbound stone
jk	Iron bracket
js	Iron bar
Bracket for wall marker	
mp	Target point (spire etc.)
ms	Brass screw
om	Unmarked boundary point
rb	Pipe in rock
rg	Pipe in concrete casting
rgd	Pipe in casting with cover
rm	Pipe in ground
rmd	Pipe in ground with cover
rn	Hoar stone (boundary stone)
rs	Pipe in earthbound stone

Code	Description
sa	Spike in asphalt
sb	Spike in rock
sg	Spike in concrete casting
ss	Spike in earthbound stone
st	Fencepost
tp	Pole of wood

6 List of changes

Table 22 List of changes

Version	Date	Reason and change from previous version
1.8	2024-01-10	In chapter 5.1.1 – 5.1.6 has the description for the attribute adat been updated.
1.7	2023-12-01	First established version in English.