



Mobility Data Marketplace

User Manual

Version 3.0.0 – 02.09.2021

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1 About This Manual

This manual describes the user features of the MDM platform as of version 2.9.0.0.

1.1 Target Group

This manual is aimed at organisations willing to use the web interface of the MDM system for the publication of traffic data or the use of such publications. Basic knowledge of traffic data collection, traffic data delivery and traffic data usage are therefore provided.

Typical applications of the web interface from the perspective of data suppliers and data clients are described.

1.2 Contact Information

Company	Contact data
Organising team of MDM	Email: orga@mdm-portal.de

1.3 System Requirements

To use the full functionality of the web interface of the MDM system, please install JavaScript and enable it in your web browser. This requirement is checked each time you access the portal. If it is not met, a corresponding notification is shown.

The web pages are available in German and English. The language can be changed in the top right-hand window corner via the language codes **DE** for German and **EN** for English. If you accept session cookies permanently, the settings are saved for the next session. If you have configured German as the first language in your browser, German is the preselected default language. Otherwise, the English version will be displayed.

1.4 Terms and Concepts Used

This chapter provides an explanation of the terms and the underlying concepts used in this manual and the web interface.

To be able to use the Web interface, you must first create a **user account**. This includes a registration process during which you will receive a certificate, which must be installed in your web browser.

By registering, you create a profile for your **organisation**. Your user accounts and all other accounts and contact persons/contacts are managed via your organisation. Your organisation receives an **ID** that you use for further management of the related traffic data offer set.

If you or your organisation act as a data supplier and would like to make your traffic data available on the MDM platform, you will first need to create a **publication**. A publication is the news channel over which the data packets are distributed with your traffic data to the data client. You can create several independent publications over which you can provide different types of traffic data (e.g., from different geographical coverage areas).

In each publication, various data clients may apply for subscriptions. Once a subscription is active, the available data flow will be delivered to the respective data client.

The MDM component, with which all data of the organisations are managed with their publications and subscriptions, is designated as **metadata directory**.

Machine certificates are required to authenticate the machines involved in the M2M communication. They can be requested via the web interface.

So that interested users can become data clients, the MDM platform provides a **search** functionality that is used to establish contact with the data supplier.

The necessary negotiations (e.g., conclusion of a contract) are bilaterally conducted between the data supplier and the data client, independent of the platform. If both parties agree, the subscription can be set by the data supplier.

The management of subscriptions and publications is always accessible for the data supplier and the data client. Changes to these instances and terminations must be approved by both parties. In addition, the administrator can intervene to perform essential tasks for or in place of one of the parties, if necessary.

1.5 Functionalities of the MDM Platform

The MDM platform provides the following functionalities:

- Management of organisations and their actors who use the platform to exchange data, or learn about the range of data products
- Administration of publications
- Administration of subscriptions
- Public presentation of data offered on the Internet
- Accepting or retrieving data packets from the data suppliers via the Internet
- Delivery or handover of data packets to the data clients via the Internet

Actors of the platform are persons and machines sending data to or receiving it from the platform. Persons act via the web portal with the platform and thereby play an explicit role. The following roles are defined:

- (Registered) user
- Operator
- Administrator

They must be differentiated from the implicit roles that arise from the membership of an organisation and its activities:

- Data supplier
- Data client

For each of these roles, fixed rules apply. They specify which functionalities of the web portal may be used by a person. The visibility of contents of the metadata directory depends on the explicit and implicit roles and may be limited in part by the data supplier himself.

In addition to these roles, a person can take the role of an "anonymous user". An anonymous user can only use functions that are explicitly available to all users, i.e., functions that require no registration. He will be shown only a subset of the information handled.

Note: The functionalities for actors of the roles Administrator or Operator are described in the Administrator's Guide and are not the subject of this user manual.

1.6 Document References

[Source]	Publisher
[TSSB]	MDM - Technical Interface Description V3.0.1 See: https://www.mdm-portal.de/downloads/?lang=en

Table 1: Document references

1.7 List of Abbreviations

Abbreviation	Explanation
BAST	Bundesanstalt für Straßenwesen (Federal Highway Research Institute)
BCC	Blind (Carbon) Copy (e-mail)
CSV	Comma Separated Values
HTTPS	Hypertext Transfer Protocol Secure
ID	Identifier
JSON	JavaScript Object Notation
MDM	Mobility Data Marketplace
M2M	Machine-to-Machine
MDV	Metadatenverzeichnis (metadata directory)
PC	Personal Computer
PDF	Portable Document Format
QM	Quality Management
SOAP	Simple Object Access Protocol
TSSB	Technische Schnittstellenbeschreibung (Technical Interface Description)
URL	Uniform Resource Locator
V	Version
XML	Extensible Markup Language
XSD	XML Schema Definition

Table 2: List of abbreviations

2 MDM Platform Use Cases

This chapter provides the description of basic processes at work with the MDM system. This includes the following areas:

- Registration - the registration of your organisation in the MDM system, see 2.1
- Search - Search for publications of interest to you, see 2.2
- Change user settings, see 2.3
- Data supplier activities, see 2.4
- Data client activities, see 2.5

2.1 Register Organisation

In order to use the MDM system on behalf of your organisation, you must register the organisation first. This involves two main steps:

- The process of entering your organisation's data with subsequent authentication of your email address.
- The installation of a browser certificate for your future login to the MDM GUI.

2.1.1 Registration

1. Call up the MDM start page:

<http://service.mdm-portal.de>

2. Click **Register**.

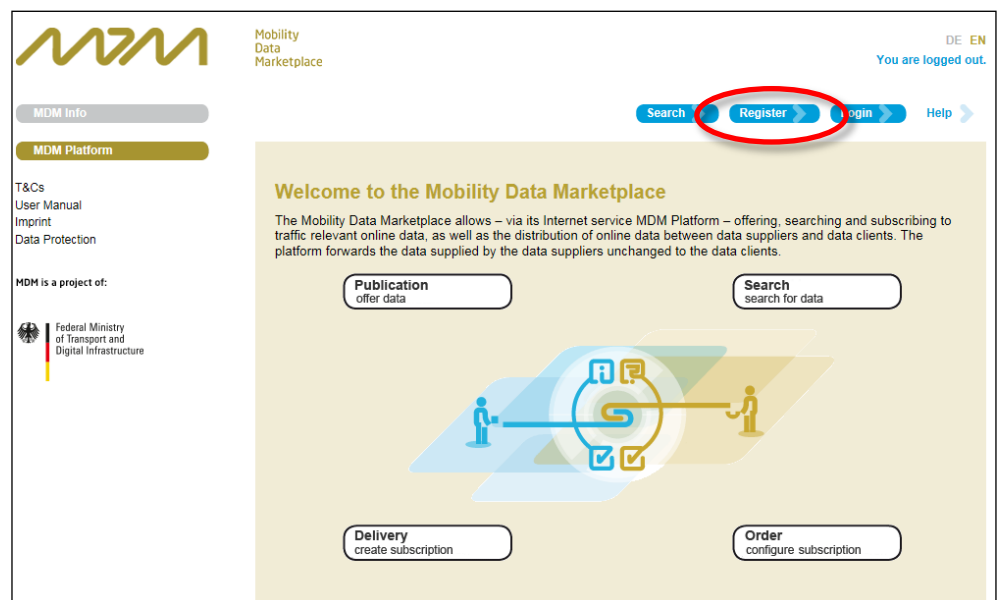
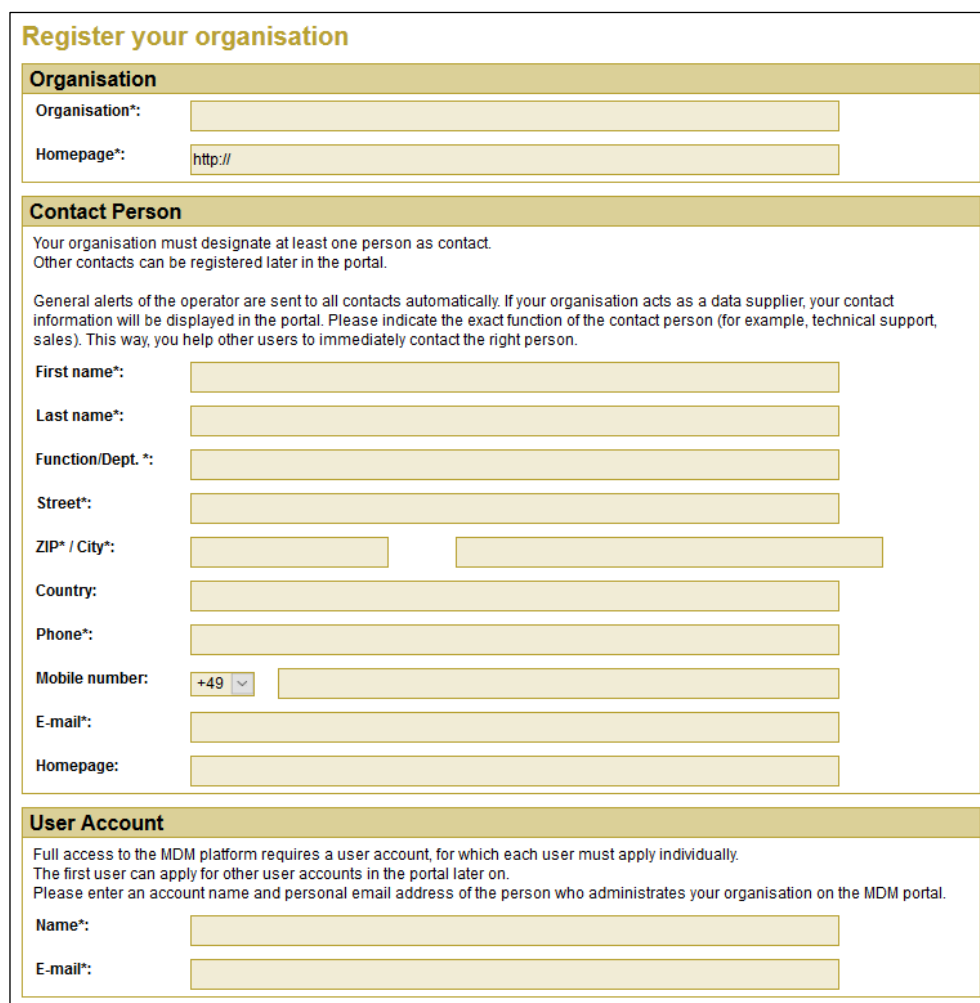


Figure 1: Register

The page **Register your organisation** opens:



The registration form is titled "Register your organisation" and is divided into three main sections: Organisation, Contact Person, and User Account.

Organisation

Organisation*:

Homepage*:

Contact Person

Your organisation must designate at least one person as contact. Other contacts can be registered later in the portal.

General alerts of the operator are sent to all contacts automatically. If your organisation acts as a data supplier, your contact information will be displayed in the portal. Please indicate the exact function of the contact person (for example, technical support, sales). This way, you help other users to immediately contact the right person.

First name*:

Last name*:

Function/Dept. *:

Street*:

ZIP* / City*:

Country:

Phone*:

Mobile number:

E-mail*:

Homepage:

User Account

Full access to the MDM platform requires a user account, for which each user must apply individually. The first user can apply for other user accounts in the portal later on. Please enter an account name and personal email address of the person who administrates your organisation on the MDM portal.

Name*:

E-mail*:

Figure 2: Registration form

Note: Fields marked with an asterisk must be filled in by you.

3. Enter the name of your organisation under **Organisation**.
4. To register an organisation, it is necessary that this organisation has an Internet presence. Enter the URL of your organisation under **Homepage**. The URL must begin with *http://*
5. *At least* one contact person must be assigned to your organisation. Enter his details under **Contact**. This person is the main contact. After the registration, more persons can be added as contact, and the marking as "Main contact" can also be changed later.
6. With the registration, a user account is created. Specify the account name and enter a valid, personal e-mail address you have access to. The certificate for login at the MDM portal is sent to this e-mail address. Enter the data under **User account**. Contacts and users may be different people.

Note: Each organisation can be registered only once in the MDM portal. To register additional users of an organisation, apply for a new user account respectively (see 2.3).

Advice For Registration

Within the registration process, your organisation will be uniquely recorded at the MDM. As an employee of a registered organisation, please ask a responsible colleague to create a user account.

During the registration process, please enter the requested information related to your organisation, a contact person and login (user account). Fields marked with an asterisk (*) are mandatory. Please confirm your input by clicking "Save". An ID will be assigned to your organisation and provided immediately on the next page.

An e-mail will be sent to the address given for the user account including a confirmation link. After confirming this account by clicking the link, a user certificate will be issued. This certificate will identify his owner as an authorized MDM user and will enable him to log in. **The certificate must be imported into the user's web browser.** You will receive this certificate by e-mail in a timely manner. For security reasons, the associated password will be sent by text message separately.

Mobile number for receiving the password text message*:

+49

☐ I have read and agree to the [Terms & Conditions](#).

☐ In particular I consent to the storage of organisational and personal data for the MDM platform's operational purposes (T&C § 3 (7)).

Save

Cancel

Figure 3: Complete registration

- Under **Mobile number for sending the password**, enter a valid mobile number where you can be reached. By using this separate communications path, you obtain the password that is required to install the certificate in your browser.
- Read the **Terms and Conditions** that you can download as PDF file via the link above and confirm this selection by marking the checkbox.
- In particular, consent to the storage of organisational and personal data for the MDM platform's operational purposes by marking the respective checkbox.
- You can only finish the registration if you agree to the terms in steps 8. and 9. Then, click **Save**. The registration confirmation page opens:

Registration - Confirmation Page

Your organisation's data has been saved successfully.

An e-mail with an activation link has been sent to the user account e-mail address. Please confirm the authenticity of the e-mail address by clicking this link.

Organisational ID: 9ac2a0821363

Help >

Figure 4: Registration confirmation page

The organisation ID is the key allowing in future the identification of your organisation.

You will receive an e-mail with a confirmation link:

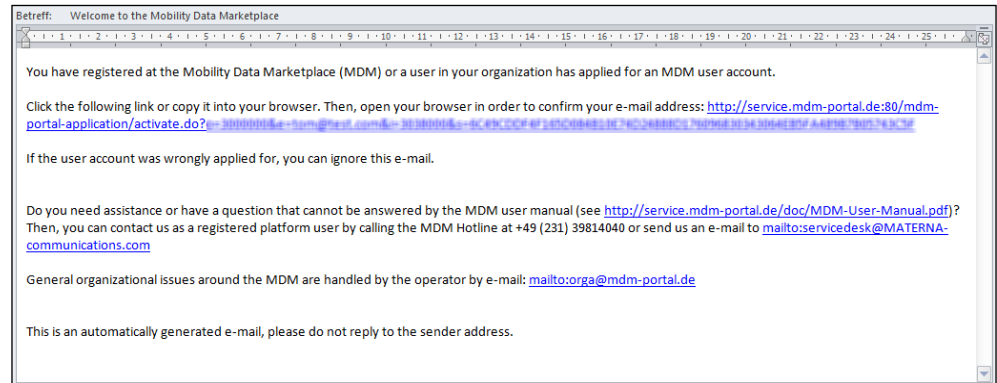


Figure 5: Registration e-mail

11. Click this link. In the browser, a new tab opens:

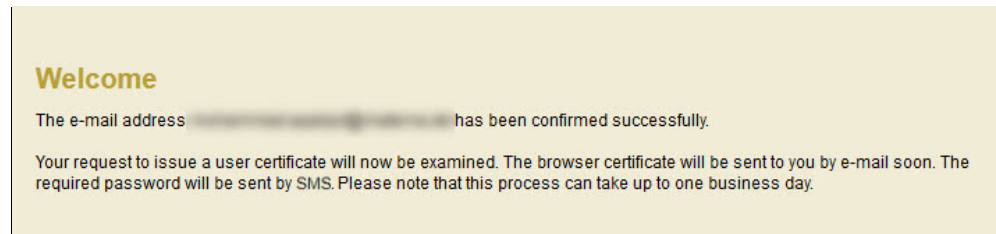


Figure 6: Welcome page

- The browser certificate will be sent by e-mail as a file. The certificate file has the extension .p12.
- The certificate is encrypted with a password. This password will be sent separately by SMS.

2.1.2 Certificate Import

To be able to log into the secure area of the MDM portal, you must import the certificate issued to you personally into Microsoft Internet Explorer as follows:

1. Save the certificate file from the e-mail on your PC.
2. Double-click the .p12 file. The **Certificate Import Wizard** opens:

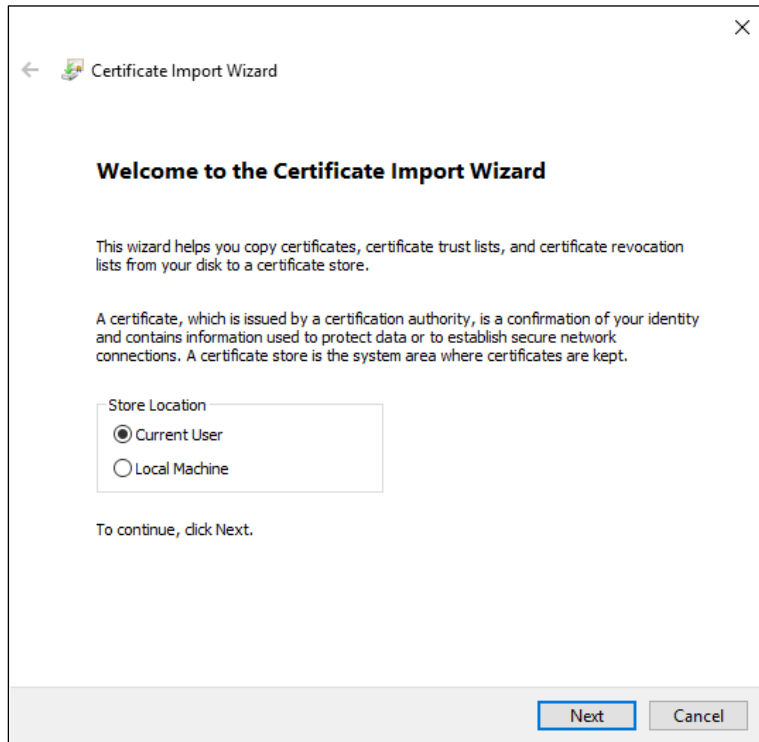
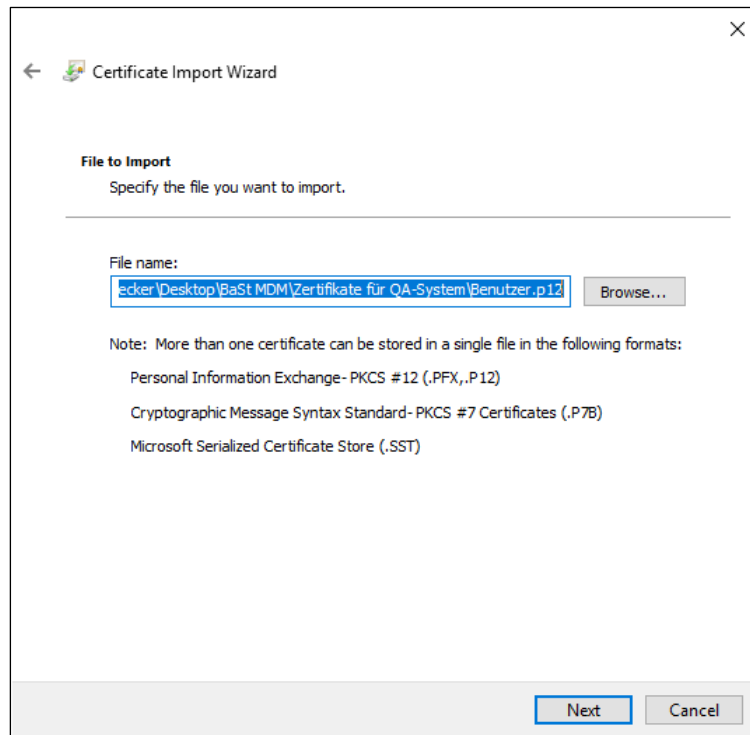


Figure 7: Certificate Import Wizard

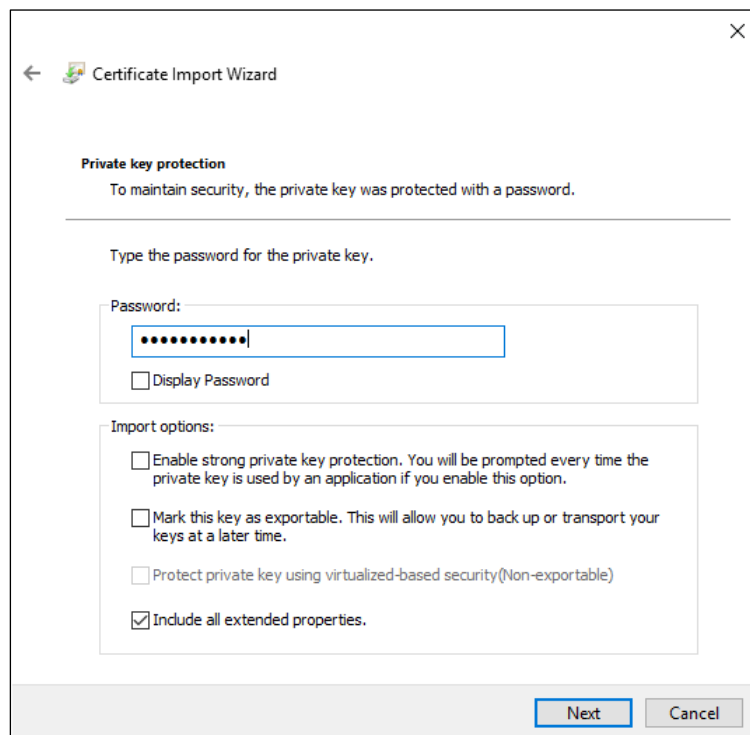
3. Click **Next**. The import file name is displayed:



The screenshot shows the 'Certificate Import Wizard' window. The title bar includes a back arrow, a folder icon, and the text 'Certificate Import Wizard'. The main heading is 'File to Import' with the instruction 'Specify the file you want to import.' Below this is a 'File name:' label and a text box containing the path 'e:\Desktop\BaSt MDM\Zertifikate für QA-System\Benutzer.p12'. To the right of the text box is a 'Browse...' button. A note states: 'Note: More than one certificate can be stored in a single file in the following formats:'. Below the note are three bullet points: 'Personal Information Exchange- PKCS #12 (.PFX,.P12)', 'Cryptographic Message Syntax Standard- PKCS #7 Certificates (.P7B)', and 'Microsoft Serialized Certificate Store (.SST)'. At the bottom right are 'Next' and 'Cancel' buttons.

Figure 8: Import file name

4. Click **Next**.



The screenshot shows the 'Certificate Import Wizard' window at the 'Private key protection' step. The title bar is the same as in Figure 8. The heading is 'Private key protection' with the instruction 'To maintain security, the private key was protected with a password.' Below this is the instruction 'Type the password for the private key.' followed by a 'Password:' label and a password input field containing ten dots. A 'Display Password' checkbox is below the input field. The 'Import options:' section contains four checkboxes: 'Enable strong private key protection. You will be prompted every time the private key is used by an application if you enable this option.' (unchecked), 'Mark this key as exportable. This will allow you to back up or transport your keys at a later time.' (unchecked), 'Protect private key using virtualized-based security(Non-exportable)' (unchecked), and 'Include all extended properties.' (checked). At the bottom right are 'Next' and 'Cancel' buttons.

Figure 9: Password

5. Enter the password that was sent to you via SMS, and then click **Next**.

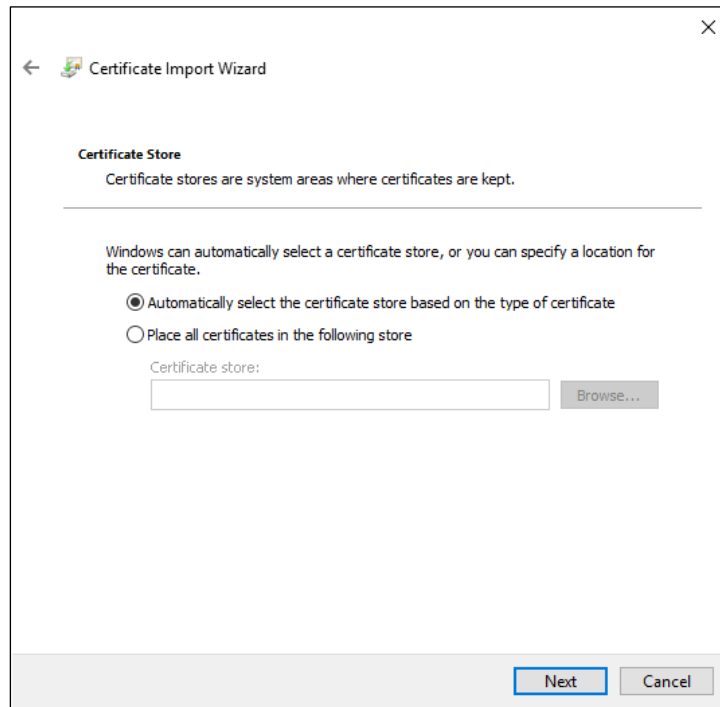


Figure 10: Certificate store

6. Select the option **Automatically select the certificate store** and click **Next**.

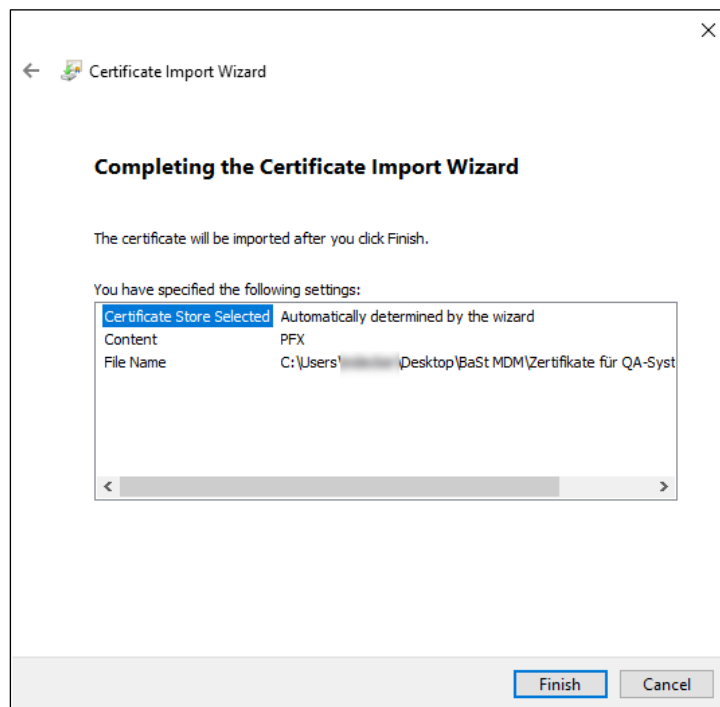


Figure 11: Completing the import wizard

7. Click **Finish**. A message is displayed that the certificate has been successfully imported:

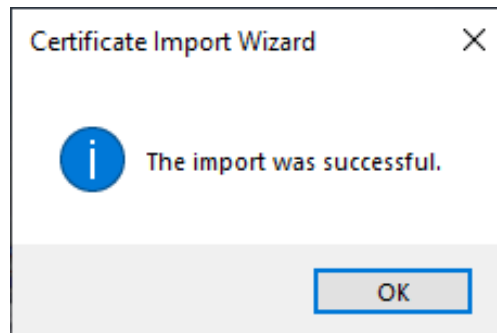


Figure 12: Import procedure successfully completed

8. Close the **Certificate Import Wizard** by clicking **OK**. The certificate is successfully installed in the browser.
9. Call the MDM start page:
<http://service.mdm-portal.de>
10. Click **Login**.
11. Select the installed certificate. The following figure shows the respective dialog for the *Microsoft Edge* web browser.

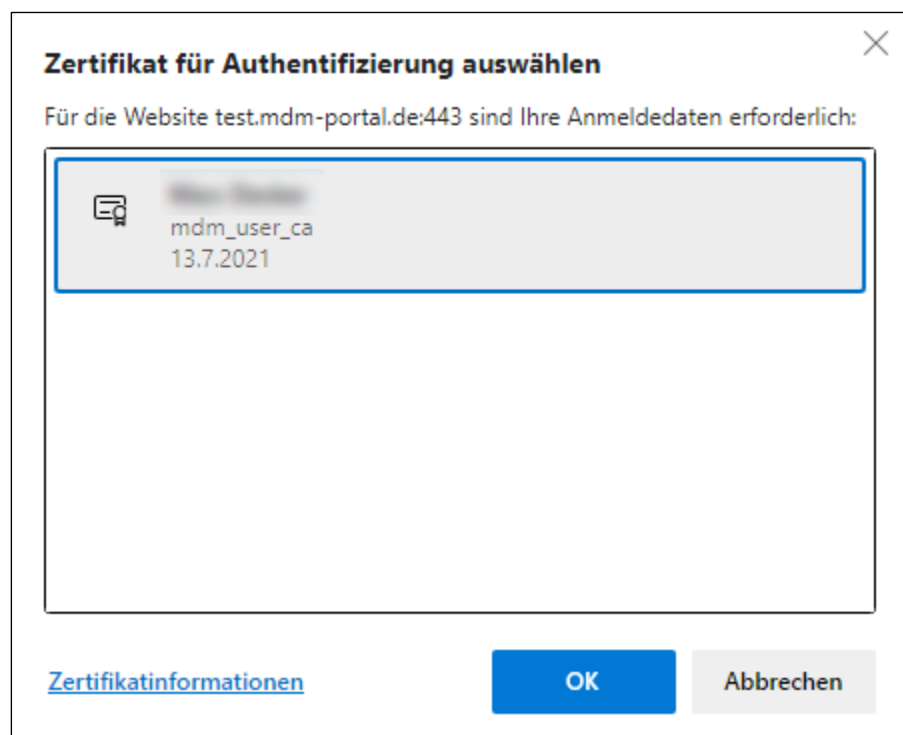


Figure 13: Select user certificate

The browser establishes a secure and authenticated connection. You are logged in the protected area.

2.2 Search

The search functions of the MDM platform allow the interested parties and already registered users to research the information that is supplied in the MDM system and released for publication. The following example illustrates the use case: a prospective customer wants to know what data suppliers provide the data type "Traffic situation" in a particular region. For this purpose, he wishes to obtain information for a specific publication concerning the frequency of delivery, the delivered data format and interfaces that are accessible for data collection and obtain information on the commercial terms of the information offered.

The largest part of the information on publications is available for anonymous searching purposes, i.e., without logging into the system. The data supplier determines which attributes will be visible to various user groups. Subscribers to a publication can always view all attributes of a publication.

1. Click **Search** on the MDM start page:

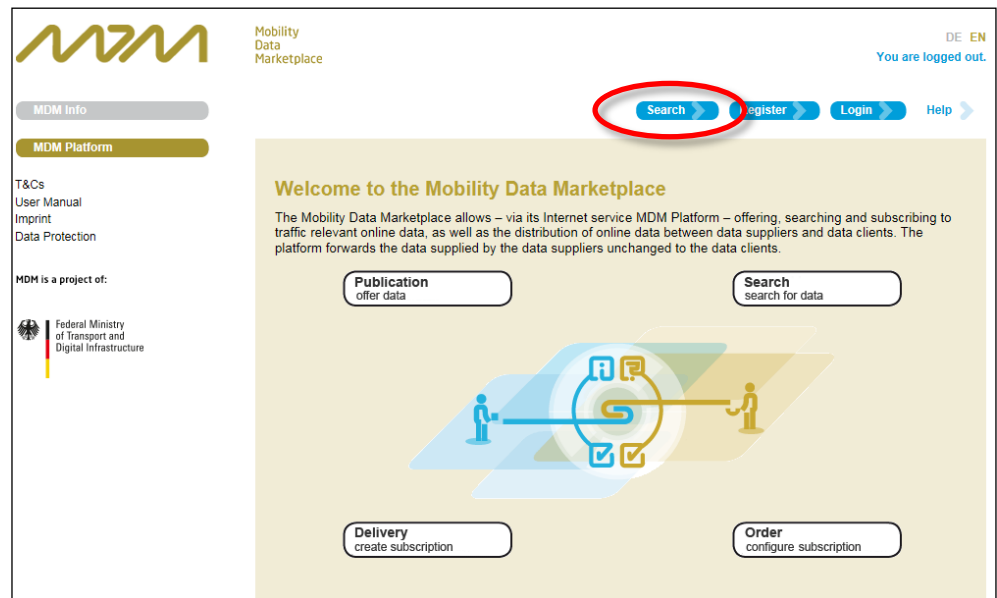


Figure 14: Search

The search mask is displayed:

The screenshot displays a web interface titled "Search". Under the "Filter" section, there is a "Search:" text input field. Below this, several sections are listed with their respective filter options, all currently set to "No preference":

- General Information**
 - Data category: dropdown menu
 - Data category detail: text input field
 - Transport modes: dropdown menu
 - Update interval: dropdown menu
 - MDM Brokering: dropdown menu
- Terms**
 - Conditions of use: dropdown menu
- Geographical Area**
 - NUTS 0: text input field
 - NUTS 1: text input field
 - NUTS 3: text input field
- Road network coverage**
 - Network: dropdown menu
- Access Information**
 - Modell: dropdown menu

At the bottom of the filter section is a button labeled "Show result list".

Figure 15: Search mask

2. In the area **Filter** in the search mask, you can set the following filter criteria for targeted searching for publications:
 - **Search** – With the entered keyword, you search for hits in the organisation name and the attributes name, description and designation of the geographical area of publications.
 - **Data category** – Select the category of data you are looking for publications in, such as *Real-time traffic data* or *Parking and rest area information*.
 - **Data category detail** – Depending on the selected data category you can select a subcategory here to narrow down the search.
 - **Update interval** – Use this to search for publications that meet a certain interval for data update. Different intervals can be selected, but also the setting *event-based* for data that is not published at regular intervals.
 - **MDM Brokering** – Here you can select if you want to search for services that use data brokering or not.

- **Conditions of use** – Filter herewith by publications that require the conclusion of a contract with the relevant data supplier, or by publications that you can obtain contract-free.
 - **Geographical area** – Select up to three **NUTS** codes to specify the geographical area to search in.
 - **Network** – Here you can select the road network type(s) to be covered, e.g., *Motorways* or *Federal and state roads*.
 - **Model** – Filter for a certain data model used by publications.
3. Click **Show result list**. The publications meeting the filter criteria will be highlighted in the list of hits:

Search – List of Hits

Results 1-10 to 248 are being displayed. Lines per page: ☒ 10 ☐ 100 ☐ 200 ☐ 500

Arbeitsstellen längerer Dauer auf BAB in Baden-Württemberg

Die Daten umfassen Informationen über geplante und aktuelle Arbeitsstellen längerer Dauer ("Dauerbaustellen") auf Bundesautobahnen in Baden-Württemberg mit Angaben bzgl.

- Zeitraum der Baumaßnahme
- Art der Baumaßnahme
- betroffene Abschnitte
- Verkehrsführung

Die Daten werden mindestens ein...

Organisation: [Baustelleninformationssystem des Bundes und der Länder](#)

Geographical Area: Baden-Württemberg (DE1)

Conditions of use: No conditions

[More](#)

[Details](#)

Arbeitsstellen längerer Dauer auf BAB in Bayern

Die Daten umfassen Informationen über geplante und aktuelle Arbeitsstellen längerer Dauer ("Dauerbaustellen") auf Bundesautobahnen in Bayern mit Angaben bzgl.

- Zeitraum der Baumaßnahme
- Art der Baumaßnahme
- betroffene Abschnitte
- Verkehrsführung

Die Daten werden mindestens einmal täglich...

Organisation: [Baustelleninformationssystem des Bundes und der Länder](#)

Geographical Area: Bayern (DE2)

Conditions of use: No conditions

[More](#)

[Details](#)

Arbeitsstellen längerer Dauer auf BAB in Hamburg

Die Daten umfassen Informationen über geplante und aktuelle Arbeitsstellen längerer Dauer ("Dauerbaustellen") auf Bundesautobahnen in Hamburg mit Angaben bzgl.

- Zeitraum der Baumaßnahme
- Art der Baumaßnahme
- betroffene Abschnitte
- Verkehrsführung

Die Daten werden mindestens einmal täglich...

[More](#)

Figure 16: Search - Result list

4. In the **List of Hits**, you can choose how many **Lines per page** are shown.
5. By clicking **Details** you get access to the page **Publication Details**, where you can get all information about the publication and the offering data supplier.

Publication Details

General Information

[Arbeitsstellen längerer Dauer auf BAB in Baden-Württemberg](#)

Die Daten umfassen Informationen über geplante und aktuelle Arbeitsstellen längerer Dauer ("Dauerbaustellen") auf Bundesautobahnen in Baden-Württemberg mit Angaben bzgl.

- Zeitraum der Baumaßnahme
- Art der Baumaßnahme
- betroffene Abschnitte
- Verkehrsführung

Die Daten werden mindestens einmal täglich aktualisiert.

Supplier: [Baustelleninformationssystem des Bundes und der Länder](#)

Owner:

Valid from: Visible only for logged-in users

Valid until: Visible only for logged-in users

Validity data packet (min.): Visible only for clients

Data category: Road work information

Data category detail: Long-term road works

Transport modes: Truck, Car

Update interval: On occurrence

MDM Brokering: Yes

Terms

Conditions of use: No conditions

Model Contract: Model contract: Visible only for logged-in users

Geographical Coverage

Baden-Württemberg (DE1)

Road network coverage

Network: Motorways

Additional description:

Geo reference

Geo reference method: sonstige

Specifications of Quality Assurance

Text: Visible only for logged-in users

Reference Files

Visible only for logged-in users

Access Information

[Data format](#)

Syntax: XML

Model: DATEX II Version 2.x

Additional description:

[Schema Definition File](#)

Visible only for logged-in users

E-mail to supplier

Contact: [Send e-mail](#)

Function/Dept.: Bundesanstalt für Straßenwesen **Phone:** 02204 43 5500

Address: Brüderstraße 53 **Fax:**

51427 Bergisch Gladbach

E-mail: mdm@bast.de

Homepage:

[Back to search results](#)
[Download as JSON file](#)

Figure 17: Publication - Details

In the Details, you find information that helps you to choose an appropriate publication.

If the publication meets your interest, you can contact the data supplier, e.g., for additional information, initiation of contract negotiations or request for data provision.

6. To do this, select a contact person from the drop-down list under **E-mail to supplier**, and then click **Send e-mail**. The default e-mail client on your PC opens and creates a new e-mail in which the recipient address, the subject and basic information to the request is filled in. If you are logged in and would like to apply for a subscription, then click the button **Apply for subscription**. Here, an email will be similarly prepared, and the message will be provided with the required information.
7. In the area **Specifications of Quality Assurance**, you can check QM measures applied by the data supplier and convince yourself of the quality of the offered data.
8. In case a publication requires a contract to get a subscription to it, you can download a standard contract as a PDF file under **Model Contract**, if available.
9. Under **Reference Files** a data supplier can provide additional information about the publication that you need e.g., to interpret the data provision correctly.
10. By clicking **Back to search results**, you leave the Details page and view further results of the research. The selected filter criteria remain unchanged.
11. Use the **Download as JSON file** button to download the data in JSON format.

2.3 Manage My Organisation

To manage the settings of your organisation or to access your billing information, click the menu item **My Organisation** below the **MDM Platform**. In the first section, the stored organisation name, the "National Identifier", the organisation ID and the associated website are displayed.

For the national unique identifier of a DATEX II data supplier it was agreed that the so-called *DATEX II-National Identifier* is built from the organisation name by prepending the prefix **DE-MDM**. This is emphatically not a so-called URI, as spaces, for instance, may also be included.

The reason for inserting the term "MDM" is the uniqueness that can be broken down to a manageable level only by inserting this additional namespace.

However, the term "MDM" does not restrict the data supplier and does not describe the message or its content - it is perfectly permitted to use this national identifier outside the MDM.

If you publish your own DATEX II publications as a data supplier organisation, please use the value that is displayed on this page.

If you want to subscribe to publications, you will need to communicate the displayed organisation ID to the supplying organisation (cf. Chap. 2.4.2.1).

The following functions are available:

My Organisation

Organisation:	MATERNA				
National Identifier:	DE-MDM-MATERNA				
Organisational ID:	a97792d8da83				
Homepage:	<input type="text" value="http://www.materna1234.de"/>				Save

Contact	Function/ Dept.	Address	E-mail	Phone Mobile	Main Contact	
John Doe	IT	Materna 1234	john.doe@materna.de	+49 1234 56789		Edit
John Doe	IT	Materna 1234	john.doe@materna.de	+49 1234 56789	<input checked="" type="checkbox"/>	Edit
John Doe	IT	Materna 1234	john.doe@materna.de	+49 1234 56789		Edit
John Doe	IT	Materna 1234	john.doe@materna.de	+49 1234 56789		Edit
John Doe	IT	Materna 1234	john.doe@materna.de	+49 1234 56789		Edit

[Add new contact >](#)

Name	E-mail	Certificate	Disable	Delete
John Doe	john.doe@materna.de	Active	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Active	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Requested	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Active	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Active	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Requested	<input type="checkbox"/>	X
John Doe	john.doe@materna.de	Active	<input type="checkbox"/>	X

[Save](#) [Request new user account >](#)

Designation	Certificate	Disable	Delete
abc.materna.de	Expired	<input type="checkbox"/>	X
marc.materna.de	Requested	<input type="checkbox"/>	X
qa-bast-2.materna.de	Active	<input type="checkbox"/>	X
qa-bast-cluster.materna.de	Active	<input type="checkbox"/>	X

[Save](#) [Request new machine account >](#)

Download Billing Data			
Period from:	<input type="text" value="09.12.2016"/>	Until:	<input type="text" value="09.12.2016"/>
			Download

Figure 18: My Organisation

1. In the first section, you can change the homepage of your organisation. To do this, enter the new URL and click **Save**. You cannot change yourself the name of your organisation. If this should be necessary, then contact the operator of the MDM platform. The contact details are provided in chapter 1.2.
2. In the **Contacts** section, you can edit or delete existing contacts by using the function **Change**. You can create new contacts by using **Add new contact**.

Edit contact

First name*:	John		
Last name*:	Smith	Function/Dept. *:	Project Manager
Street*:	Ship St		Phone*:
			+44987654321
ZIP* / City*:	BN1 1AB	Brighton	Mobile number:
			+44 123456789
Country:	United Kingdom		E-mail*:
			j.smith@trafficbrokers-uk.com
Homepage:	https://www.trafficbrokers-uk.com/		
Valid from:	01.11.2018	Valid until:	31.10.2020
<input type="checkbox"/> Use as main contact <input checked="" type="checkbox"/> Contact gets system notifications			

Note

You can edit the contact details of the contact person in your organisation by using this form.

General notifications of the operator are automatically sent to all contact persons who have agreed to the delivery by marking the checkbox above.

If your organisation acts as a data supplier, your contact information will be displayed in the portal. Please indicate the exact function of the contact person (for example, technical support, sales). This way, you help other users to immediately contact the right person. The main contact is preset by default as contact.

Figure 19: Edit contact

- A contact can be deleted via the **Edit contact** dialog only if it does not constitute the main contact.
- You can replace an existing main contact with the currently edited contact by selecting **Use as main contact**. In this case, the validity of the contact is automatically unlimited.
- By default, the checkbox **Contact gets system notifications** is marked and the contact receives information about maintenance measures, fault reports, etc. By unmarking the checkbox, you can deactivate this subscription.
- In the section **User Accounts**, you can also apply for further accounts for other users within your organisation in addition to your user account created during the registration. Existing accounts can be enabled, disabled or deleted. Each user must have a personal account. Note that at least one user account for your organisation must exist and that the user account of your current session on the MDM system must remain active. For this reason, you cannot delete or disable your personal account, respectively, the only existing account of your organisation. If an account is deleted, it cannot be recovered anymore.

Note: Additional user accounts can be applied for solely in the section "User Accounts" under "My Organisation". The function **Register** is appropriate only for the initial registration of an organisation.

7. Data communication between the MDM system and the systems of data suppliers and/or data clients is secured by certificates, which must be installed on the machines. In the Section **Machine accounts** you can apply for such a machine certificate at a certificate authority, see 2.3.1.
8. In the section **Download Billing Data**, information about data supplied to and from the MDM platform can be downloaded for your organisation. Enter the desired period, and then click **Download**. The format of the billing data is described in the Annex under chapter 3.2.

Note: The number of records retrievable from the billing data is limited. If the permitted number is exceeded, you will therefore be requested to limit the relevant time range.

2.3.1 Apply for machine account

To request a certificate for M2M communication, please perform the following steps:

1. Click **Request another machine account**. The dialog of the same name opens:

Request another machine account

Machine name*:

Usage of a machine account and next steps

Machine certificates enable authentication of your systems, which provide MDM with data or retrieve it from MDM. When applying for a machine account, please specify the machine name as a key element and a mobile phone number to which the password will be sent for the certificate.

The machine certificate is sent in a timely manner to the e-mail address of the requesting user. For safety reasons, the relevant password is communicated by text message separately.

Mobile number for receiving the password text message*:

Save **Cancel**

Figure 20: Request machine account

2. Then, under **Machine name**, enter a name for the machine on which you subsequently want to install the certificate. The extension *.<Domäne>* is specified by the domain name of the main contact of your organisation.

Note: The specified machine name is used to uniquely identify your machine within the MDM platform; the actual designation and hierarchical settlement in your organisation's internal network is irrelevant.

3. Under **Mobile number for password sending**, enter a valid mobile number of your organisation. Following the generation of the certificate, this mobile number is used for sending the password, which is needed for certificate activation.
4. Click **Save**.

After a certain processing time, the certificate issuing organisation sends the machine certificate you requested via e-mail. The certificate is sent

to the email address of the user account with which the certificate has been submitted.

How to install the machine certificate is described in [TSSB].

2.4 Data Supplier Activities

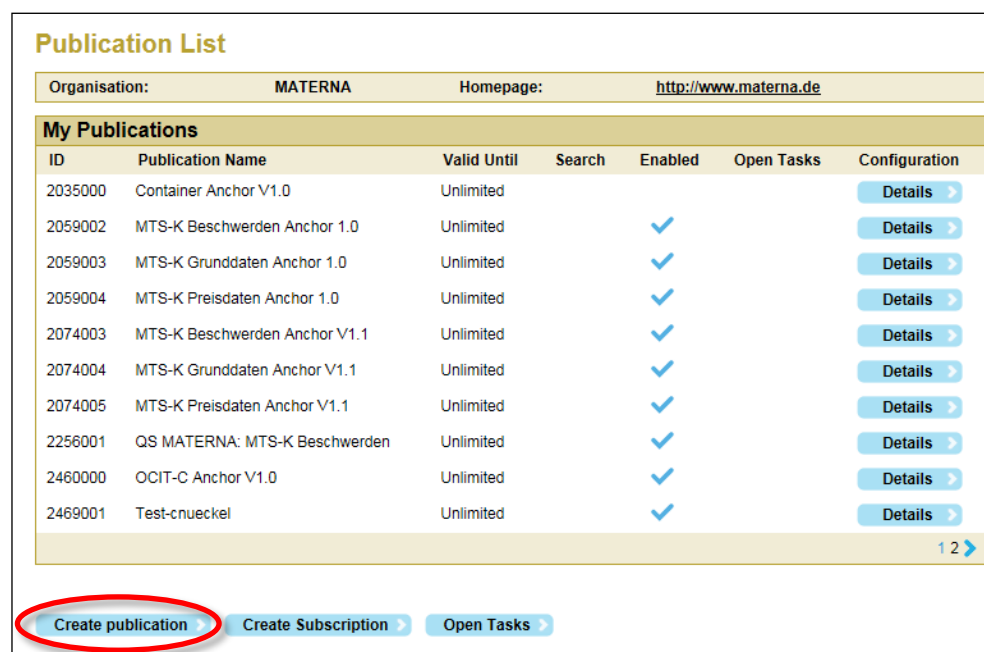
This chapter describes the tasks that are typically performed by a data supplier

- *Create Publication*, see 2.4.1 – Describe your data offering using the provided input mask.
- *Manage Publication*, see 2.4.2 – Here, you get an overview of the status of your publications. You can modify the entries.
- *Create Subscription*, see 2.4.3 – In order to enable a data client in obtaining traffic information from you, you have to create a subscription for him.
- *Manage Subscription (My deliveries)*, see 2.4.4 – Carry out all subscription-related tasks.
- *Tasks*, see 2.4.5 – You can perform all tasks that are still open to you as a data supplier by using this overview.

2.4.1 Create Publication

To create a publication, please perform the following steps:

1. Under **MDM Platform**, click the menu item **Publications**. The **Publication List** opens:



Publication List						
Organisation:	MATERNA	Homepage:	http://www.materna.de			
My Publications						
ID	Publication Name	Valid Until	Search	Enabled	Open Tasks	Configuration
2035000	Container Anchor V1.0	Unlimited				Details >
2059002	MTS-K Beschwerden Anchor 1.0	Unlimited		✓		Details >
2059003	MTS-K Grunddaten Anchor 1.0	Unlimited		✓		Details >
2059004	MTS-K Preisdaten Anchor 1.0	Unlimited		✓		Details >
2074003	MTS-K Beschwerden Anchor V1.1	Unlimited		✓		Details >
2074004	MTS-K Grunddaten Anchor V1.1	Unlimited		✓		Details >
2074005	MTS-K Preisdaten Anchor V1.1	Unlimited		✓		Details >
2256001	QS MATERNA: MTS-K Beschwerden	Unlimited		✓		Details >
2460000	OCIT-C Anchor V1.0	Unlimited		✓		Details >
2469001	Test-cnueckel	Unlimited		✓		Details >

1 2 >

[Create publication >](#) [Create Subscription >](#) [Open Tasks >](#)

Figure 21: Publication List

2. Click **Create Publication**. The dialog **Create Publication – Step 1** opens:

Create Publication - Step 1

Brokering functionality of the MDM

The MDM offers an optional brokering functionality. Please indicate now if you would like to use this brokering functionality for your publication:

☒ Yes, the Brokering functionality of the MDM should be used.

☐ No, the publication contains a reference to an external data source.

What is Brokering?
The content data of your publication is exchanged via defined data formats and interfaces in the MDM system. You can control such data exchange by creating subscriptions for individual data users.

What does it mean for me as a data provider if I decide in favour of brokering?
In this case, you must specify data formats and interfaces when creating the publication and set them up in your data provider system. Only supported formats are possible. Later you can manage the subscriptions for the data users, e.g. decide who may use your data publication.

What does it mean for me as a data provider if I decide against brokering?
In this case, the MDM only ensures the visibility of your data offer. You must ensure data exchange via other channels, e.g. your own data portal or interface. In the MDM publication, you only specify the access to this data portal or the interface to the data. In this case, you cannot use the MDM to manage subscriptions.

Once the publication has been created, can I still decide otherwise?
If you want to change your mind about using the Brokering functionality, you will have to create a new data publication with the correspondingly different preselection.

Where can I find further information?
See the Technical Interface Description and the User Manual.

Cancel Continue

Figure 22: Create Publication - Step 1

3. Decide whether you want to use the publication with or without brokering functionality. This setting cannot be changed for this publication at a later stage. Please take notice of the according description in the dialog. The following steps differ slightly, depending on the decision made here.
4. Click **Continue**. The dialog **Create Publication – Step 2** opens:

Create Publication - Step 2

General Information

Name*:

Description*:

Contact:

Owner:

Valid from:

Valid until:

Data category*:

Data category detail:

Transport modes*:

Update interval*:

Searchable: ☒

Validity data packet (min.):

Terms

Conditions of use*:

Contract or license upload:

The draft contract must be in PDF format.

Figure 23: Create Publication - Step 2

5. Enter a **Name** for your publication.
6. Enter a meaningful and short **Description**. Note that the name and the description will later be visible to potentially interested parties in the search results.
7. Select a **Contact** from the available contacts of the organisation. If you do not select a dedicated person, the current **Main contact** is selected by default.
8. In the free text field **Owner** you may add information about the data owner.
9. Via **Valid From/Valid Until** you can limit the validity of the publication.
10. The checkbox **Searchable** allows you to determine whether you want to make your offer accessible to the public by using the search function or whether you want to use the MDM system as a mere technical platform without any "advertising function".
11. Affects publications with MDM-brokering, only: Via **Validity data packet (min.)** you can limit the retention time of a message. This will determine how long the information will remain valid after its delivery to the system and its retrieval by data clients. If you do not

set this value (in minutes), a data packet will remain valid until the arrival of a new packet.

12. From the list **Data category**, select one or several categories under which the data collected from you is classified, e.g. Real-time traffic data.
13. Depending on your data category selection, specify one or several subcategories under **Data category detail**. To remove a subcategory, click **x** to the right side of the entry.
14. Select one or several **Transport modes** the publication data refers to. With selection of **Car** or **Truck** the additional section **Road network coverage** appears in Step 3.
15. Select an **Update interval**. Together with the setting of the **Delivery mode** (see Step 4), this interval has the following effects:
 - In the case of **PULL**, the data is retrieved from your data-generating system by the platform in the configured update interval.
 - With **PUSH_PERIODIC** the update interval only serves information purposes of the data clients. Your data-supplying system initiates the data delivery to the platform. A verification of the interval does not take place.
 - Selecting **On occurrence** results in the only possible delivery mode **PUSH_ON_OCCURENCE**.
16. Select the **Conditions of use**.
17. Under **Contract or license upload** you can upload any document in PDF format necessary for the selected conditions of use.
18. Click **Continue**. The dialog **Create Publication – Step 3** opens:

Create Publication - Step 3

Geographical Coverage

Geographical Area*:

NUTS 0

NUTS 1

NUTS 3

Selected NUTS codes: UK11

Geo reference

Geo reference method*:

Road network coverage

Network*:

Additional description:

Quality description

Text:

Upload Reference Files

Upload:

ID	Name	Version	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Save"/>

Already added reference files:

No reference file available.

Figure 24: Create Publication - Step 3

19. Under **Geographical Coverage**, specify which geographical area is covered by your publication. The fields **NUTS 0**, **NUTS 1** and **NUTS 2** allow multiple selection. You can search for items by entering their initials. Only the most detailed information applies, e. g. when specifying the area on NUTS 3 level. The resulting **NUTS Codes**¹ are immediately shown.
20. Select the applied **Geo reference method**.
21. Affects transport modes Car or Truck, only: Under **Network** select which road network types are covered by the publication. You may add an **Additional description** as free text.
22. Under **Quality description** you may enter free text which refers to your corporate quality management.

¹ Geocode standard for referencing the subdivisions of countries for statistical purposes (French: „**Nomenclature des Unités Territoriales Statistiques**")

23. Under **Upload Reference Files**, you can provide additional information about your data offering (e.g., characterisation of detection data as measurement site table or sample deliveries in the form of sample data packets). Upload these files by known means to the system.

24. Click **Continue**. The dialog **Create Publication – Step 4** opens:

Create Publication - Step 4

Access Information

Data format

Syntax*: XML

Modell*: DATEX II Light

Additional description:

Data transfer

Protocol*: MDM-Container over SOAP

Delivery mode*: PULL

URL*: https://citytrafficlondon.com/

Additional description:

Schema Definition File*

☒ URL: http://bast.s3.amazonaws.com/schema/135271577869... **Propose Schema**

☐ Upload: **Add File**

Back **Continue** **Configure visibility**

Figure 25: Create Publication - Step 4

25. The MDM system supports delivery and distribution of traffic data in several formats. Select the **Syntax** of your publication accordingly. For publications with MDM brokering, only *XML* syntax is available which is preselected and cannot be changed. For publications without MDM brokering, you have several syntax options.

26. Select the **Model** of your publication. For publications with MDM brokering the selection of the model affects the field **Protocol** and in case of DATEX II Version 3 it affects **Schema Definition File**

27. Select the **Protocol** used by your system for the transmission of the traffic data. For publications with MDM brokering, the items available for selection depend on the selected **Model**. If any model other than *DATEX II* is selected, only the protocols *MDM-Container over SOAP* and *MDM-Container over HTTP* are available. If necessary, add an **Additional description**.

28. Affects publications with MDM brokering, only: Select the **Delivery mode** for your data. The available delivery modes depend on the **Update interval** selected in Step 2.

- **PULL:** The MDM platform collects the data from your system.
 - **PUSH_PERIODIC:** You regularly provide the data to the MDM Platform.
 - **PUSH_ON_OCCURENCE:** You provide the data to the MDM platform immediately after it has been collected or modified.
29. For publications without MDM brokering, always specify a URL. For publications with MDM brokering, a URL has to be specified only for the delivery mode *PULL*. This is the URL where the MDM system can retrieve the data from.

Note: For push delivery modes, the URL field is used as a display field to show the URL of the appropriate HTTPS server or service endpoint of the MDM, under which the data supplier's Web client must pass the data to the MDM. The complete URL that is specific to the publication is shown here. Additional information on data formats and delivery options can be found in [TSSB].

30. For publications without MDM brokering, **Schema Definition File** is an optional free text field. For publications with MDM brokering, select an XSD schema for the description and validation of a publication in DATEX II format. This can be done by selecting a provided **URL** from which the MDM system retrieves the XSD schema when the publication is validated or by **Upload** of a relevant file. In case of updating the XSD file you have to suspend the publication to ensure that it will be taken over by the system (see also 2.4.2.5). This is to prevent that the scheme can be modified without the consent of the subscribers. For publications in the container format, this specification is omitted, because the default schema is already available under a universal URL. In case the **URL** list shows the entry *No default schema URL available*, or if you need another schema, click **Propose Schema**. An email template addressed towards the MDM support opens where you can enter your proposal.

Note: In case you upload the schema file to the MDM, the scheme will be made available to the public under a dynamically generated URL. This URL can be viewed under "Publications → Details" when the publication has been successfully setup. For publications in the container format, you can read the URL of the default scheme file at the same place. Please, reference this URL in both cases in the "schemaLocation" attribute of your XML data packets to enable an validation of the packets for data clients.

DATEX II Version 3.x

Note: It is assumed that you are acquainted with the *DATEX II Version 3.x* standard. For additional information, see:

<https://docs.datex2.eu/downloads/modelv30.html>

and the Technical Interface Description [TSSB], chapters 6 and 6.1.

If you have selected *DATEX II Version 3.x* under **Model**, upload the *main schema* first. Use this schema to reference between one and 20 *schema files*. Upload these one after another in section **Included schema files**.

Schema Definition File*

Please choose a standard schema from the list or upload your own schema file.
You may also propose a new schema for inclusion into the standard list. In this case please contact MDM-Support.

☐ URL:

☒ Upload:

DATEXII_3_MessageContainer.xsd (1.71KB)

Included schema files

Upload:

DATEXII_3_ExchangeInformation.xsd (4.62KB)	<input type="button" value="X"/>
DATEXII_3_Common.xsd (35.91KB)	<input type="button" value="X"/>
DATEXII_3_D2Payload.xsd (1.16KB)	<input type="button" value="X"/>
DATEXII_3_FacilityRelated.xsd (5.04KB)	<input type="button" value="X"/>
DATEXII_3_LocationReferencing.xsd (7.61KB)	<input type="button" value="X"/>
DATEXII_3_Parking.xsd (24.19KB)	<input type="button" value="X"/>
DATEXII_3_RoadTrafficData.xsd (5.07KB)	<input type="button" value="X"/>

Figure 26: Main schema and included schema files

The main schema must at least include the following three schema files (examples given for Level A/B and Level C publications):

Level A or Level B Publications

```
<xs:import namespace="http://datex2.eu/schema/3/d2Payload"
  schemaLocation="DATEXII_3_D2Payload.xsd"/>
<xs:import namespace="http://datex2.eu/schema/3/common"
  schemaLocation="DATEXII_3_Common.xsd"/>
<xs:import namespace="http://datex2.eu/schema/3/exchangeInformation"
  schemaLocation="DATEXII_3_ExchangeInformation.xsd"/>
```

Level C Publications

```
<xs:import namespace="http://levelC/schema/3/d2Payload"
  schemaLocation="LevelC_3_D2Payload.xsd"/>
<xs:import namespace="http://levelC/schema/3/common"
  schemaLocation="LevelC_3_Common.xsd"/>
<xs:import namespace="http://datex2.eu/schema/3/exchangeInformation"
  schemaLocation="DATEXII_3_ExchangeInformation.xsd"/>
```

Templates for the main schema DATEXII_3_MessageContainer.xsd and DATEXII_3_ExchangeInformation.xsd are available for Level A and Level B publications under

<https://www.mdm-portal.de/files/Exchange2020LevelAB.zip>

and for Level C publications under

<https://www.mdm-portal.de/files/Exchange2020LevelC.zip>

Schemas for the actual content data (..._D2Payload.xsd, ..._Common.xsd etc., according to the data profile) must be created via DATEX II v3 Schema Generation Tool as part of a data profile. Schemas for predefined data profile are available on the MDM portal under [Downloads](#).

Note: There is no automatic validation concerning the schema structure, i.e., the MDM does not check whether all referenced files have been uploaded or if the naming/references are correct. Therefore, carry out a validation yourself employing a test data set!

31. Affects publications without MDM brokering, only: Via the button **+ add more** you can add a new information set for data access, e.g., with another data model, protocol, etc. After the setup of an additional data access the section **Already added Access Information** appears. There, you can remove a data access via the **remove** button.

32. Click **Continue**. The dialog **Create Publication – Confirmation** opens:

Create Publication - Confirmation

Submission of the self-declaration to the national body for Traffic and Mobility Data.

Some traffic and mobility datasets are subject to legal obligations in regards their provisioning. In those cases, a self-declaration needs to be submitted to the National Body for Traffic and Mobility Data. Please state here, if you intend to submit a self-declaration to the National Body for Traffic and Mobility Data alongside the creation of the data publication:

☒ Yes, I confirm that

- the data publication contains data that is subject to one of the EU Delegated Regulations listed below,
- the details provided for this data publication are part of my self-declaration in accordance with the EU Delegated Regulations,
- the details provided for this data publication can be forwarded to the National Body for Traffic and Mobility Data,
- all requirements and obligations to data providers set up by the Delegated Regulations are fulfilled.

☐ No, this is not a self-declaration to the National Body for Traffic and Mobility Data

What is the National Body for Traffic and Mobility Data?
 The German National Body for Traffic and Mobility Data was established with the Intelligente Verkehrssysteme Gesetz (IVSG) in accordance with the requirements stated in the Delegated Regulations of the EU listed below.

What is the legal framework?
 Next to the Intelligente Verkehrssysteme Gesetz (IVSG) there are the following Delegated Regulations of the EU in this context that are legally binding:

- [2017/1926 \(A\)](#) (multimodal travel information services)
- [2015/962 \(B\)](#) (real time traffic information services)
- [886/2013 \(C\)](#) (safety related traffic information)
- [885/2013 \(E\)](#) (information services for safe truck parking)

What data types are subject to data provisioning regulations?
 The data types that need to be provided to the National Access Point are listed in the Delegated Regulations listed above. A full list of all data types is published (in German) on the website of the German [National Body for Traffic and Mobility Data](#).

Is it possible to submit the self-declaration at a later stage?
 Yes, the self-declaration can be submitted at a later stage when managing your data publication details.

Is there another way to submit a self-declaration?
 For some data types you are able to use a paper form template, which you can fill out, print, sign and send to the German National Body. The form templates can be found on the website of the [National Body for Traffic and Mobility Data](#).

Where can I find more information?
 More information can be found on the website of the [National Body for Traffic and Mobility Data](#)

General Information

Name:	Traffic Data London
Description:	Traffic Data for Inner London
Contact:	Main contact
Owner:	
Valid from:	01.12.2019

Figure 27: Create Publication - Confirmation

33. Decide whether you intend to submit a self-declaration to the *National Body for Traffic and Mobility Data*. Please take notice of the according description in the dialog.
34. Further down in the dialog you find a summary of the publication settings. Check these settings; if you want to make any changes, use the **Back** button to access the input masks. Finally, confirm by clicking **Save**.
35. Use the **Verify visibility** button to access the **Configure visibility** dialog (read-only), see 2.4.2.4.

2.4.2 Manage Publication

To view and manage your publications configured in MDM, please perform the following steps:

1. Under **MDM Platform**, click the menu item **Publications**. The **Publication List** opens:


Publication List

Organisation:	MATERNA	Homepage:	http://www.materna.de			
My Publications						
ID	Publication Name	Valid Until	Search	Enabled	Open Tasks	Configuration
2035000	Container Anchor V1.0	Unlimited				Details >
2059002	MTS-K Beschwerden Anchor 1.0	Unlimited		✓		Details >
2059003	MTS-K Grunddaten Anchor 1.0	Unlimited		✓		Details >
2059004	MTS-K Preisdaten Anchor 1.0	Unlimited		✓		Details >
2074003	MTS-K Beschwerden Anchor V1.1	Unlimited		✓		Details >
2074004	MTS-K Grunddaten Anchor V1.1	Unlimited		✓		Details >
2074005	MTS-K Preisdaten Anchor V1.1	Unlimited		✓		Details >
2256001	QS MATERNA: MTS-K Beschwerden	Unlimited		✓		Details >
2460000	OCIT-C Anchor V1.0	Unlimited		✓		Details >
2469001	Test-cnueckel	Unlimited		✓		Details >
						1 2 >
Create publication > Create Subscription > Open Tasks >						

Figure 28: Publication List

A list of the currently configured publications of your organisation is provided with the essential data:

- **ID**
- **Publication Name**
- **Valid Until**
- **Search** – Can the publication be found using the search or not?
- **Enabled** – Is the publication activated, i.e., can the data be distributed via the MDM system or not?
- **Open Tasks** - If a processing step is still pending for the publication or an associated subscription, this will be indicated by

the icon . Navigate in the menu to **Open Tasks** (see 2.4.5) to perform this processing step.

Note: The status *Enabled* is automatically set during a publication creation. This may however be changed by the administrator subsequently.

- By clicking the **Details** button, the view **Manage Publication** is displayed. Here, you can view and edit the individual publication. A description of each field can be found under chapter 2.4.1.

Manage Publication

Create Subscription
Related subscriptions
E-mail to clients
Configure visibility

General Information

Name*:	Traffic Data London	ID:	2099000
Description*:	Traffic Data for Inner London		
Contact:	Main contact		
Owner:			
Valid from:	01.12.2019	Valid until:	30.11.2020
Validity data packet (min.):		Searchable:	<input checked="" type="checkbox"/>
MDM Brokering:	Yes	Enabled:	<input checked="" type="checkbox"/>
Data category*:	Real-time traffic data		
Data category detail:	Speed Location and length of queues Current travel times		
Transport modes*:	Motorcycle Car Truck Long-distance coach		
Update interval*:	1 min		

Terms

Conditions of use*:	No conditions
Contract or license upload:	<a>Add File No model contract available. <small>The draft contract must be in PDF format.</small>

Geographical Coverage

Geographical Area*:	
NUTS 0	Please select...
NUTS 1	Bremen
NUTS 3	Please select...

Figure 29: Manage Publication (1)

Note: If subscriptions to a publication already exist, you can then no longer edit any fields. This prevents a change of essential parameters of a publication without the consent of the subscribers. The following settings are not affected and can therefore be modified at any time:

- o **Name**
- o **Description**
- o **Contact**
- o the **Searchable** setting
- o add reference file
- o replace model contract
- o replace geo-referencing
- o the attributes **Protocol** and **URL** of the interface configuration (setting the URL is only relevant in case of PULL mode)
- o text and URL under **Quality Assurance**
- o Affects publications without MDM-brokering, only: add more, remove or edit Access Information.

To be able to change all settings of your publication, the existing subscriptions to this publication must be *suspended*. As a publisher of the publication, you must apply for this suspension and all subscribers to this publication must agree, see also 2.4.2.5

You can change at any time and without suspension the attributes **Protocol** and **URL** of the interface configuration. The MDM platform directly uses the changed interface as soon as the modified data are stored. It is your responsibility as a data supplier to ensure a trouble-free operation via the new interface in case of data change.

If you want to upload a new *DATEX II Version 3.x* schema under **Schema Definition File**, first upload the main schema file, then upload all included schema files. You cannot replace individual schema files.

For information concerning the section **Current data packet** see 2.6.1.

Use the **Download as JSON file** button to download the data in JSON format.

2.4.2.1 Create Subscription for Publication

In the view **Manage Publication**, you as data supplier can create a subscription for a data client. The data client must communicate his organisation ID to you in order to create the subscription. The data client can view this ID under **My Organisation**.

1. Click **Create Subscription**.
2. In the following dialog, enter the organisation ID of the data client.

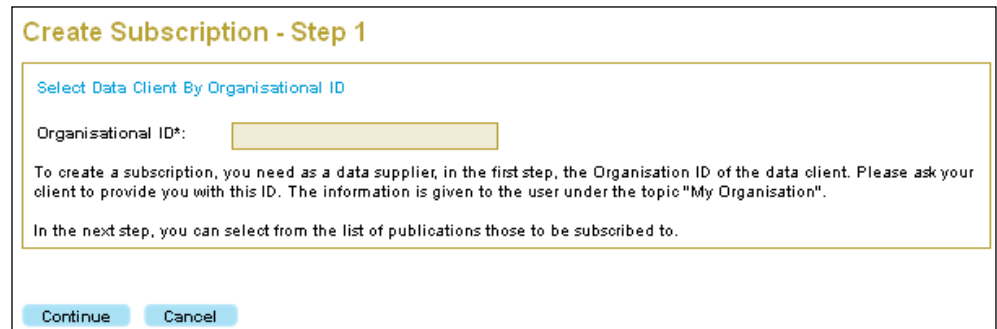


Figure 30: Create Subscription
- Step 1

The next steps are described in chapter 2.4.3.

2.4.2.2 Managing Subscriptions associated with the Publication

In the view **Manage Publication**, you as data supplier can manage all subscriptions belonging to the accessed publication.

1. Click **Related subscriptions**.
2. In the opening dialog, you can edit the subscriptions to this publication, see 2.4.4

2.4.2.3 Sending E-mail to Subscribers of the Publication

In order to contact the subscribers of a publication (e.g., for reporting failures regarding this publication), click **E-mail to clients** in the view **Manage Publication**.

The default e-mail client on your PC opens. A new e-mail is created and can be sent to the main contacts of all organisations that are subscribers of this publication. The subscribers are listed as BCC recipients.

2.4.2.4 Configuring the Publication Visibility

Use this button to open a dialog where you can specify which attributes of your publication are visible to users. You can set this visibility for anonymous and registered users separately.

Configure Visibility

Name:

20171 Protokollkonvertierung - Datex-2 / DG: OTS2 - DN Pull: SOAP

ID:

2031002

Set default settings

Please determine which detailed information related to your publication shall be visible to the users. You make your selection for unregistered (anonymous) and registered users separately. The details about data type, format, update interval and contractual freedom cannot be hidden for registered users.

Attribute	Visible for anonymous users	Visible for registered users
Data type	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Format	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Update interval	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Valid from	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Valid until	<input type="checkbox"/>	<input checked="" type="checkbox"/>
No contract required	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Reference Files	<input type="checkbox"/>	<input type="checkbox"/>
Model contract	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schema Definition File	<input type="checkbox"/>	<input type="checkbox"/>
Validity data package (min.)	<input type="checkbox"/>	<input type="checkbox"/>
QA Text	<input type="checkbox"/>	<input checked="" type="checkbox"/>
QA URL	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Save

Cancel

Figure 31: Configure visibility

2.4.2.5 Suspend Publication

In case of failures or formal changes to the document, for instance, you can use this button (located at the bottom of the dialog **Manage Publication**) to request that the publication is disabled temporarily or permanently.

Note: Publications without belonging subscriptions cannot be suspended.

Suspend Publication

Explanatory statement:

There were errors detected during the data collection.

Suspend from:

17.12.2014 10:30

Suspend until:

18.12.2014 05:00

Request for suspension

Cancel

Figure 32: Suspend publication

In a second step, all subscribers have to agree to the suspension of the publication. The attention of the affected data clients is drawn to this necessity via their task list (see 2.4.5). Inform the data clients by email about your request for suspension. For this purpose, use the function **E-mail to clients** (see 2.4.2.3).

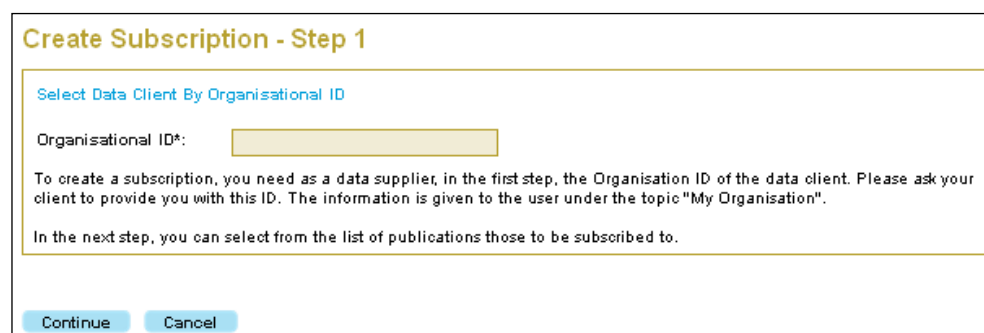
As soon as all subscribers have agreed to this suspension, no more data packets regarding this publication will be sent. This applies either only to the selected period or, in the absence of temporal limitations, open-ended and immediately after the final consent has been issued.

Suspended publications and publications for which a suspension is applied for are grayed out in the **Publication List**. The suspension can be canceled in the dialog box **Manage Publication**. If the publication has been suspended open-ended, the data clients of your subscription must then issue the release again, so that the data delivery can be resumed, see 2.4.5. The data clients will then have the opportunity to first check the changes to the publication.

2.4.3 Create Subscription

The data client must communicate his organisation ID to you in order to create the subscription. This ID can be viewed by the data client under **My Organisation** (see 2.3).

1. Under **MDM Platform**, click the menu item **Create Subscription**. The dialog box **Create Subscription - Step 1** opens:



Create Subscription - Step 1

Select Data Client By Organisational ID

Organisational ID*:

To create a subscription, you need as a data supplier, in the first step, the Organisation ID of the data client. Please ask your client to provide you with this ID. The information is given to the user under the topic "My Organisation".

In the next step, you can select from the list of publications those to be subscribed to.

Figure 33: Create Subscription - Step 1

2. Enter the **Organisation ID**.
3. Click **Continue**. The dialog box **Create Subscription - Step 2** opens:

Create Subscription - Step 2



Supplier': MATERNA
Client': MATERNA
Publications': Available

20738 Protokollkonvertierung - Datex-2 / DG: OTS2 - DN: OTS2
20173 Protokollkonvertierung - Datex-2 / DG: OTS2 - DN PUSH: SOAP
20171 Protokollkonvertierung - Datex-2 / DG: OTS2 - DN Pull: SOAP
20731 Protokollkonvertierung - Container / DG PUSH: SOAP - DN Pull: SOAP
20174 Protokollkonvertierung - Container / DG PUSH: SOAP - DN Pull: HTTP
20177 Protokollkonvertierung - Container / DG PUSH: HTTP - DN PUSH: SOAP
20732 Protokollkonvertierung - Container / DG PUSH: HTTP - DN PUSH: HTTP

↕ ↕

Ordered

--

Valid from':  **Valid until:** 


Comment:

Release Subscription: ☐

Save **Cancel**

Figure 34: Create Subscription - Step 2

Under **Available Publications**, only those publications, which the data client has not yet subscribed to, will be displayed. This prevents that multiple subscriptions of a data client are done for the same publication.

4. Select one or more of your publications from the list **Available** by clicking on it. By clicking  you transfer all publications to the list **Ordered**. This allows to simultaneously prepare multiple subscriptions for a data client.
5. In **Valid From**, enter a start date of the subscription validity. **Valid Until** is not a mandatory field, i.e., the validity of subscriptions may be indefinite. Once the expiration date is reached and after an additional waiting period, temporary subscriptions are deleted automatically. Currently, the waiting period is 90 days. Within the waiting period, the subscription can be reactivated.
6. You can add a **Comment**.

Note: The validity dates and the comment will be committed to each subscription, i.e., if multiple selections are made, these values will apply to all subscriptions.

7. You can directly release the subscription(s) on this page. Alternatively, you can also do this on the page **Open Tasks**, see 2.4.5.

8. Click **Save**. The page **My Supplies** opens, see 2.4.4.

To ensure that the subscription is enabled, the data client and the administrator must release it on the page **Tasks**, see 2.4.5.

2.4.4 My Supplies

Under **My Supplies**, you can view and manage the newly prepared subscriptions that you have already created.

The screenshot shows the 'My Supplies' interface. At the top, there is a header 'My Supplies'. Below it, a filter section contains two dropdown menus: 'Filter: Publications' (set to 'MTS-K Beschwerden') and 'Clients' (set to 'All'). An 'Apply filter' button is to the right. Below the filter section is a table titled 'Subscriptions'. The table has columns: ID, Publication, Client, Valid From, Valid Until, Comment, Status, Cancel For, and Released. There is one row with ID '2133000', Publication 'MTS-K Beschwerden', Client 'MATERNA', Valid From '01.04.2014', Valid Until (empty), Comment (empty), Status 'Enabled' (green checkmark), Cancel For (empty input field), and Released 'Released' (blue checkmark). A 'Save' button is at the bottom left. A small '1' is in the bottom right corner of the table area.

ID	Publication	Client	Valid From	Valid Until	Comment	Status	Cancel For	Released
2133000	MTS-K Beschwerden	MATERNA	01.04.2014			Enabled		Released

Figure 35: My Supplies

1. In the section **Filter**, you can filter by your individual publications as well as by the individual data clients who are the subscribers of your publications. Select the desired entry from the corresponding drop-down list and click **Apply filter**.
2. Under **Subscriptions**, you can see the data of the subscriptions to your publications. As **Status**, the following conditions may occur:

❌ **Disabled**, if the subscription is not yet released by all parties, or has not yet reached or exceeded its validity period.

✅ **Enabled**, if the subscription has been approved by all parties and it is within its validity period; a suspension can be applied for only in respect of publications with active subscriptions.

⏸ **Cancelled**, as soon as the subscription for a cancellation request has been pronounced, and this request has yet to be confirmed by the partner of the subscription relationship (data client or data supplier); after having received the approval, the attribute **Valid Until** of the subscription will be set to the requested termination date; the subscription will then be available as an active subscription.

⏹ **Suspended**, if the associated publication is suspended. In this case, the data exchange will be interrupted (see 2.4.2.5).

Note: To define a subscription as active, the following criteria must be met: 1.) the associated publication must be active and valid, 2.) the subscription must be valid and 3.) the subscription must be approved by the data supplier, the data client and the administrator.

3. To cancel a subscription, click the input field under **Cancel For**. This will open a calendar. Here, you select a date. The cancellation becomes effective, when the data client agrees to it until this date in the section **Tasks**. Otherwise, the cancellation will lapse.

Note: You can access the field **Cancel For**, only if the subscription has the status *Enabled*.

- The release of a subscription may be withdrawn by unmarking the checkbox **Released**.

In order to extend or renew a subscription when it expires, click the date in the column **Valid Until**. Then, you will see a pop-up window, in which you specify the new expiration date, or may revoke the time limit altogether. To accept the new validity, click **Save**. The data client will be informed of this change by e-mail automatically.

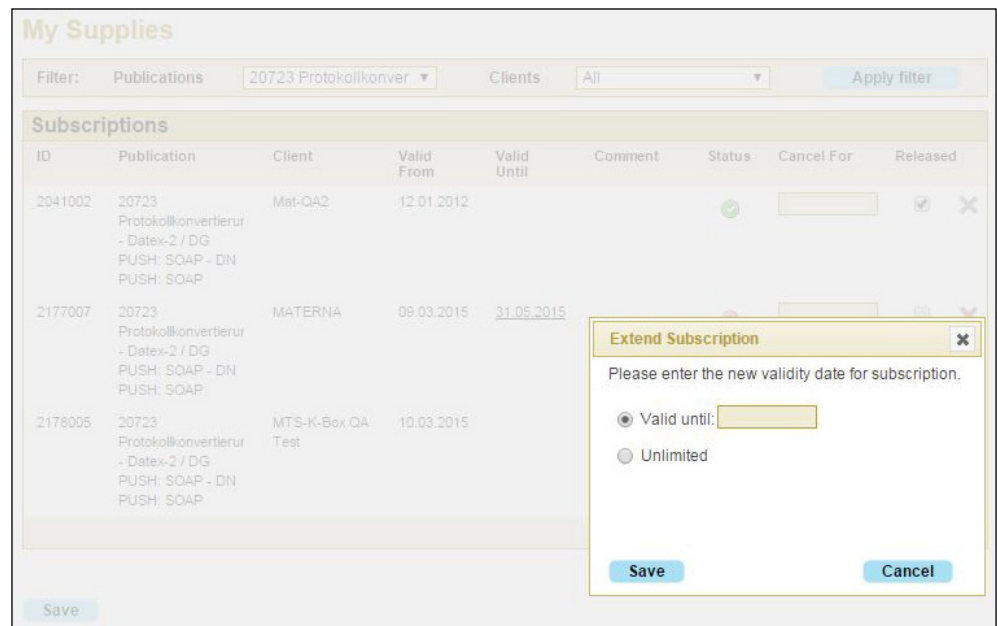


Figure 36: Extending subscription

- To delete a subscription, the latter must be in the state *Disabled*. To delete, click **X** and confirm the subsequent confirmation prompt.

Note: Deactivated subscriptions are automatically deleted 90 days after the expiration of their validity period.

2.4.5 Open Tasks

In the section **Open Tasks**, the activities to be carried out by your organisation are presented in a combined view. Since each data client may be a data supplier at the same time, this section is identical for both, data clients and data suppliers. Only the necessary tasks and the input area differ.

Open Tasks

Release Subscription

Publication (Subscription ID)	Contact Organisation	Subscription's Comment	Confirmation Supplier	Confirmation Client	Confirmation Admin
20723 Protokollkonvertierung - Datex2 / D6 PUSH: SOAP - DN PUSH: SOAP (2189002)	Weiss / MTS-K-Box QA Test		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
20175 Protokollkonvertierung - Container / D6 PUSH: SOAP - DN PUSH: HTTP (2182000)	Weiss / MTS-K-Box QA Test		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
pub zeitbegrenzte aussetzung (2101000)	ansprechpartner / SecOrganisation		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Confirm suspension of a publication

Publication (ID)	Contact Organisation	Explanatory Statement	Suspend From	Suspend Until	Confirmation Client
begrenzte Aussetzung bis 10.10 (2060000)	Datennehmer / Datennehmer	darum	-	-	<input checked="" type="checkbox"/>
tmp (2056000)	Eugen Weiss / MATERNA	darum	-	-	<input type="checkbox"/>
tmp (2056000)	Datennehmer / Datennehmer	darum	-	-	<input checked="" type="checkbox"/>
begrenzte aussetzung ab 07.10.2012 (2058001)	Datennehmer / Datennehmer	ab 7.10	07.10.2012 00:00	-	<input checked="" type="checkbox"/>

Confirm cancellation of a subscription

Publication (ID)	Contact Organisation	Requested End Date	Confirmation Supplier	Confirmation Client
20174 Protokollkonvertierung - Container / D6 PUSH: SOAP - DN Pull: HTTP (2033005)	ansprechpartner / SecOrganisation	07.05.2014	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Save

Figure 37: Data Supplier Tasks

Note: To facilitate contacts, please click in each section on the link under **Contact Organisation**, and as a result, your default e-mail client will be called up and a message to the organisation concerned will be prepared.

- If you have created subscriptions, you can see under **Release Subscription** which actor has yet to confirm. You can also authorise your own releases there. Per subscription, you can see the status of the confirmation in the section of data supplier, data client

and administrator. As long as the subscription is not confirmed by all three parties, it will be visible at this place and you can grant or withdraw your approval.

2. Under **Confirm suspension of a publication**, you will see the publications you want to suspend. You see in the column **Confirmation Client**, whether a data client, i.e., a subscriber to the publication, has approved the suspension. If multiple data clients have subscribed to the same publication, one entry per data client will be displayed here. Only when all data clients have agreed to the suspension, and (optionally) the validity period of suspension has been reached, the publication will be suspended and the entries in this table will be removed.
3. The cancellation of a subscription may be initiated by both the data supplier (under **My Supplies**, see 2.4.4) and the data client (in his section **My Orders**, see 2.5.1). The other party must agree to this cancellation by validation under **Confirm cancellation of a subscription**. The desired termination date will be indicated. If any party has not agreed to the termination by this date, the cancellation request will lapse.

2.5 Data Client Activities

If you have found an interesting data offering by using the function **Search** and agree with the data supplier, the latter will provide you with a subscription to the data channel, i.e., the publication.

The use cases for data clients are based on the premise that at least one subscription has already been created for you.

2.5.1 My Orders

In the next step, you must configure the subscription according to the requirements of your data client system.

1. Under **MDM Platform**, click the menu item **My Orders**. The **Subscriptions** list opens:

My Orders

Filter:

Supplier

MATERNA

▼

Apply filter

Subscriptions

ID	Publication Name	Supplier	Valid From	Valid Until	Comment	Status	Configuration
2073000	tmp	MATERNA	25.09.2012	-			Details
2133000	MTS-K Beschwerden	MATERNA	01.04.2014	-			Details
2137001	IES test	MATERNA	04.06.2014	-			Details
2141001	Test321	MATERNA	25.06.2014	25.07.2014			Details
2152003	20166 Protokollkonvertierung - Datex-2 / D-G PUSH: SOAP - DN Pull: HTTP	MATERNA	02.10.2014	31.10.2014			Details

1

Figure 38: My Orders

2. Under **Subscriptions**, you can see the data of the subscriptions. As **Status**, the following conditions may occur:

➖ **Disabled** if the subscription is not yet released by all parties, or has not yet reached or exceeded its validity period.

✔ **Enabled**, if the subscription has been approved by all parties and it is within its validity period.

⚠ **Cancelled**, as soon as the subscription for a cancellation request has been pronounced, and this request has yet to be confirmed by the partner of the subscription relationship (data client or data supplier); after having received the approval, the attribute **Valid Until** of the subscription will be set to the requested termination date; the subscription will then be available as an active subscription.

⏸ **Suspended**, if the associated publication is suspended. In this case, the data exchange will be interrupted (see 2.4.2.5).

Note: To define a subscription as active, the following criteria must be met: 1.) the associated publication must be active and valid, 2.) the subscription must be valid and 3.) the subscription must be approved by the data supplier, the data client and the administrator.

3. Click **Details** under **Configuration**. The section **Configure my orders** opens:

Configure my orders

Bochum Details >

Die kreisfreie Stadt im Regierungsbezirk Arnsberg ist eines der fünf Oberzentren des Ruhrgebiets und ist mit knapp 380.000 Einwohnern die sechstgrößte Stadt des Landes, die zweitgrößte Westfalens und unter den 20 größten Städten Deutschlands. Bochum ist Mitglied im Landschaftsverband Westfalen-Lippe und im Regionalverband Ruhr. Die Einwohnerzahl der Stadt überschritt 1905 die 100.000-Grenze und machte Bochum zur Großstadt.

Supplier: Materna GmbH23

Provider-Contact: [blurred]

Data type: Umfelddaten

Format: DATEXII

Delivery interval: 1 min

Protocol*: SOAP

Delivery mode*: Pull

URL*: https://bast-dev-materna.de:8080/BAST-MDM-Interface/srv/2039000/clientPullService

Release Subscription: ☒

Cancel: ☐ Requested end date: [empty]

Client-Contact: Benjamin Haimerl (jhjhbv, ben)

Valid from*: 12.06.2012 Valid until: Unlimited

Current data packet: No current data packet available

Save Cancel

Figure 39: Configure my orders

Note: For detailed information on the following points, please see the documentation [TSSB].

4. Under **Protocol**, select the data transfer protocol your data client system uses. Basically, you can use the protocols **HTTPS**, **SOAP**, **OTS 2** or **OCIT-C**. Depending on the format, only some of the protocols might be available.
5. Under Delivery mode, choose whether your data client system actively retrieves the data from the MDM system (**Pull**) or whether the MDM system sends this data to your data client system (**Push**) as soon as a new data packet of the subscribed publication is available. This option is not applicable when using the OTS 2 or OCIT-C protocol.
6. For the delivery mode *Push*, enter, below **Target Server**, the URL where your data client system can receive the data from the MDM system. In this process, you need to enter at least one default URL. Optionally, two more target servers can be entered. This allows, for example, a separate supply of a system for productive data processing and an additional test system. However, the function of the delivery monitoring (see. 2.7.1) is supported only for the first connection. You can freely choose the designation or the name of the target server.

For the delivery mode *Pull*, the URL field is used as a display field to show the URL of the appropriate HTTPS server or service endpoint of the MDM, under which the data client Web client can retrieve the data from the MDM. The complete URL that is specific to the publication is shown here. Additional information on data formats and delivery options can be found in [TSSB].

7. You can release the subscription directly or do it later under **Open Tasks**.
8. If you want to cancel a subscription, mark the checkbox **Cancel** and enter the desired end date of your subscription. The cancellation announcement must be confirmed by the data supplier by that date. Otherwise, your subscription will continue to exist.
9. Select a **Contact** from the available contacts of the organisation. If you do not select a dedicated person, the current **Main contact** is selected by default.
10. If a data packet is available, you can use **Download current data packet** (see 2.6.1).

Note: You can change the interface configuration during an ongoing subscription. The MDM platform directly uses the changed interface as soon as the modified data is stored. It is your responsibility to ensure a trouble-free operation via the new interface in case of data change.

11. For selected data types, you can enable a notification for failed push deliveries. If necessary, read further explanations in chapter 2.7.1.
12. Click **Save**. A dialog box is displayed. Click **Yes** to activate the configuration of your order.

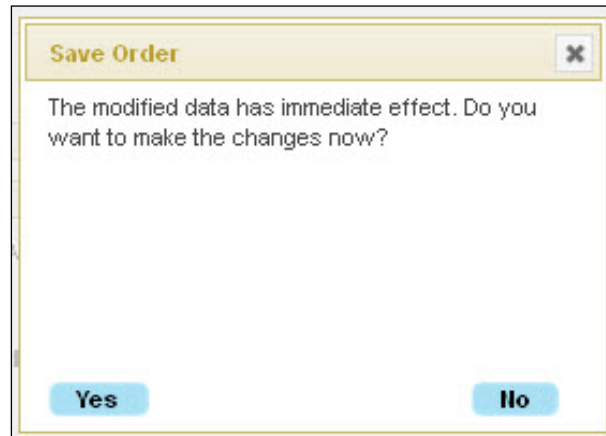


Figure 40: Save Order

Note: Click **Details** at the end of the line with the publication name to open the section showing all the details of the publication.

2.5.2 Open Tasks

In the section **Open Tasks**, the activities to be carried out by your organisation are presented in a combined view. Since each data client may be a data supplier at the same time, this section is identical for both, data clients and data suppliers. Only the the necessary tasks and the input area differ.

Open Tasks

Release Subscription

Publication (Subscription ID)	Contact Organisation	Subscription's Comment	Confirmation Supplier	Confirmation Client	Confirmation Admin
Test Publikation generated 4 (2367005)	Benjamin Haimerl / Materna GmbH23		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Testpublikation uli neu (2367001)	Benjamin Haimerl / Materna GmbH23		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Test Publikation generated 2 (2366001)	Max Mustermann / DG-Lasttest-116001-19		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22361503055850212 (2177643)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22351503055843798 (2177642)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22341503055841963 (2177641)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22331503055840162 (2177640)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22321503055838642 (2177639)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22311503055837722 (2177638)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Publikation-22301503055836325 (2177637)	Max Mustermann / DN-Lasttest-1600-24		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Confirm suspension of a publication

Publication (ID)	Contact Organisation	Explanatory Statement	Suspend From	Suspend Until	Confirmation Client
Publikation Kamen (2024003)	Stefan Straßenmeister / Straßen Dortmund e.V.	Gültigkeitsdauer einschränken	-	-	<input checked="" type="checkbox"/>
Publikation Kamen (2024003)	Uli Quill / Test Holland 01	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Uli Quill / Test Holland 02	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Benjamin Haimerl / Materna GmbH23	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Fritz Routing / Best Navigation Test	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Stefanie Südburg / Autobahn Süd eV	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Wilhelmine Westerland / Autobahn West eV	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Otto Osterhase / Autobahn Ost eV	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Doris Dorsfeld / Stadt Dortmund	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>
Publikation Kamen (2024003)	Bernd Navarra / Best Navigation	Gültigkeitsdauer einschränken	-	-	<input type="checkbox"/>

Confirm cancellation of a subscription

Publication (ID)	Contact Organisation	Requested End Date	Confirmation Supplier	Confirmation Client
No confirmation for cancellation pending.				

1 2 3 4 >>>

1 2 3 4 >>>

1

Save

Figure 41: Open Tasks

Note: To facilitate contacts, please click in each section on the link under **Contact Organisation**, and as a result, your default e-mail client will be called up and a message to the organisation concerned will be prepared.

1. If you have subscriptions to publications, you can see under **Release Subscription** which actor has yet to confirm. Per subscription, you can see the status of the confirmation in the section of data supplier, data client and administrator. As long as the subscription is not confirmed by all three parties, it will be visible at this place and you can grant or withdraw your approval.
2. Under **Confirm suspension of a publication**, you will see the publications you want to suspend. In the column **Confirmation Client**, you can approve the suspension. Several data clients may have subscribed to the same publication. Only when all data clients have agreed to the suspension, and (optionally) the validity period of suspension has been reached, the publication will be suspended and the entries in this table will be removed.
3. The cancellation of a subscription may be initiated by both the data supplier (under **My Supplies**, see 2.4.4) and the data client (in his section **My Orders**, see 2.5.1). The other party must agree to this cancellation by validation under **Confirm cancellation of a subscription**. The desired termination date will be indicated. If any party has not agreed to the termination by this date, the cancellation request will lapse.

2.6 Diagnosis Functions

Should you face problems while using the platform, the MDM portal will provide further diagnostic options. Thus, the data suppliers and the authorised data clients have the possibility to download the most current data packet.

The MDM also logs all events in a log database. Registered users can view the log data with respect to the events of their own organisation.

2.6.1 Current Data Packet

This section on the **Manage Publication** page allows validating and downloading a current data packet on your desktop machine.

If the publication includes a data packet you can validate it against the schema definition using the button **Validate current data packet**. A popup dialog shows whether the validation was successful. In the error case an automatically created diagnosis is displayed, see Figure 43.

As *data supplier* use the link **Download current data packet** to download the packages for all your publications, e.g., for checking the data delivery.

As *data client* you find the corresponding link on the page **Configure my orders** where you can access data packets, provided you have a validated subscription to the publication. Thus, you can obtain and analyse data packets before putting your systems into operation.

Current data packet	
Validate current data packet	Download current data packet

Figure 42: Current data packet

Result of current data packet validation	
Validation result:	Validation failed
Data used for validation	
Current data packet:	Download current data packet
Schema Definition File:	http://bast.s3.amazonaws.com/schema/1326448819376/DATEXIIISchema_2_2_0.xsd
Technical information	
Exception:	org.xml.sax.SAXParseException
Message:	cvc-complex-type.2.4.b: The content of element 'headerInformation' is not complete. One of '{("http://datex2.eu/schema/2/2_0":confidentiality)" is expected.
Close	

Figure 43: Validation failed

Please note that the data packet in the packet buffer of the MDM also contains a SOAP envelope, if the SOAP protocol was used to pass the data packet onto the MDM. With manual download, the data packet is also provided for this case, including the original SOAP envelope. If the data client system also obtains the packages using the SOAP protocol, the data packet will then be transmitted with this exact original SOAP envelope. For a data transfer SOAP to SOAP, the MDM interposition for the involved systems is quasi transparent. This principle is also referred to as the promise of immutability of the MDM.

2.6.2 Insight into the Log Data

Registered users have access to the logged events regarding their organisation by using the menu item **Log Data**. Events are any changes to the so-called metadata of the MDM (data of the organisation and its downstream records, definitions of publications and subscriptions). Furthermore, the data exchange with the platform is logged and the validation results of the submitted data packets are documented.

Log data									
From: 01.04.2015 16:32		Until: 03.04.2015 00:00							
Filter:									
Event		<input checked="" type="radio"/> Events of my organisation <input type="radio"/> Events to exactly one of my publications <input type="radio"/> Events to exactly one of my subscriptions		Publication ID: <input type="text"/>		Subscription ID: <input type="text"/>			
Log event type:		No preference							
Subject:		<input type="text"/>							
Apply filter									
Log entries									
Date	Organisation	User	Publication	Subscription ID	Log Event Type	Object Type	Subject	Lines per page: <input checked="" type="radio"/> 10 <input type="radio"/> 100 <input type="radio"/> 200 <input type="radio"/> 500	
Export CSV file									

Figure 44: Log Data

When accessing the event log, a small time window should be selected, if possible. Otherwise, the number of hits will be too big and the request cannot be answered.

Select one of the 3 options for data filtering:

1. Events of my organisation: All events that have been caused by users or machines of your own organisation will be displayed.
2. Events to exactly one of my publications: As a data supplier, you can check all events associated with this publication by specifying one of your publication IDs. This includes the delivery to corresponding the valid subscriptions.
3. Events to exactly one of my subscriptions: As a data client, you can check all events associated with this subscription by specifying one of your subscription IDs. This also includes the delivery of the corresponding data packets by the data supplier and the validation result for the provided data packets.

Each log record consists of a series of attributes that do not need to exist for each event. These are as follows:

- Time of Event
- Organisation (actor)
- User (if the actor is a person)
- Publication ID
- Subscription ID
- Log Event Type (see the following table)
- Object Type (if Event Type is an MDV Event)
- Subject (supplementary information on event)

The following table describes each log event type.

Log Event Type	Description
AgbAkzeptiert	The terms have been accepted in the course of registration.
Register	An organisation has been registered.
Login	A user has logged on or off. The subject defines the variant.
AuthentifizierungClient	A partner machine has been authenticated successfully.
PublikationEinstellen	<p>In MDM, a new publication has been created.</p> <p>Note: The event will be replaced by the event MDVCreate as of Release 1.7; previous log entries remain</p>

Log Event Type	Description
	unchanged.
SubskriptionEinstellen	<p>In MDM, a new subscription has been created.</p> <p>Note: The event will be replaced by the event MDVCreate as of Release 1.7; previous log entries remain unchanged.</p>
PublikationBeenden	<p>A publication has been terminated.</p> <p>Note: The event will be replaced by the event MDVDelete as of Release 1.7; previous log entries remain unchanged.</p>
SubskriptionBeenden	<p>A subscription has been terminated.</p> <p>Note: The event will be replaced by the event MDVDelete as of Release 1.7; previous log entries remain unchanged.</p>
PublikationAendern	<p>The data of a publication has been changed.</p> <p>Note: The event will be replaced by the event MDVUpdate as of Release 1.7; previous log entries remain unchanged.</p>
SubskriptionAendern	<p>The data of a subscription has been changed.</p> <p>Note: The event will be replaced by the event MDVUpdate as of Release 1.7; previous log entries remain unchanged.</p>
StartEmpfangeDatenpaket	The data receiving from a data supplier machine has been initiated.
StartVersendeDatenpaket	The data sending to a data client machine has been initiated.
EingangDatenpaket	A data packet for a publication has been received.
AblieferungDatenpaket	A data packet for a subscription has been delivered.
DatenpaketInPufferSchreiben	The data packet has been written in the empty packet buffer.

Log Event Type	Description
DatenpaketImPufferUeberschreiben	The data packet has replaced a packet in the packet buffer.
DatenpaketGueltig	The delivered data packet has passed validation ² against the stored pattern.
DatenpaketUngueltig	The delivered data packet has failed validation against the stored data schema.
DatenpaketVerworfen	The delivered data packet has been discarded due to missing subscriptions.
VorgangEnde	A data reception or data delivery has been completed successfully.
MDVCreate	A new object has been created in the metadata directory.
MDVUpdate	An object has been modified in the metadata directory.
MDVDelete	An object has been removed from the metadata directory.
MDVError	A metadata directory access has been terminated with an error.
StartSitzungAufbauen	OTS2-specific protocol element
StartSitzungAufgebaut	OTS2-specific protocol element
StartSitzungAbbauen	OTS2-specific protocol element
StartSitzungAbgebaut	OTS2-specific protocol element
DatenBestellt	OTS2-specific protocol element
DatenStomiert	OTS2-specific protocol element
Error	An error has occurred while communicating with a partner machine. Further information is listed in the subject field.

Table 3: Log event types

² Only relevant for the time before introduction of *DATEX II Version 3.x*. Since then, validation events have no longer been logged.

The events related to the metadata directory designate the object type to which the event applies. These are as follows:

- User
- Contact
- Machine
- Organisation
- Publication
- Subscription

The list of results may be narrowed by searching for specific content in the subject. In this process, the asterisk (*) is to be used as a wildcard. This is useful when searching for specific errors (Event Type = Error).

Click **Apply filter** to initiate the search for log events. By clicking the appropriate radio button, please choose the desired number of log entries per screen page.

2.7 Special Features

2.7.1 Monitoring the delivery of data packets to data client systems

Data supplier systems cannot determine whether the data packet has successfully been transmitted to the configured data client systems using the MDM response. Only the successful delivery at MDM is communicated with the response of the MDM. In selected application scenarios, however, there is a need to monitor the successful immediate transmission to the configured data client systems.

For particular data types, the MDM takes this requirement into account by providing a feature that allows monitoring the successful delivery to the data supplier system, if both data supplier and data client systems are using the push method. The delivery will always be regarded as successful, if the data client system confirms the MDM push request in a given time with an OK response status. If the response is not received on time, the data client system will respond with an error status or an internal error will occur during the delivery. Thus, both data suppliers and data clients can be notified of the failed delivery by email.

The sections related to publication management provide the data supplier with a block where the delivery of alerts can be activated for failed push deliveries. The block will be absent if the feature is not activated for the data type of the respective publication.



Enable alert for failed push deliveries	
<input checked="" type="checkbox"/>	Send alert by email to: <input type="text" value="mdm-alert@smith.de"/>

Figure 45: Monitoring the push delivery - Data supplier

The same feature in the section **Configure my orders** is available to the data clients. The block will be absent if the function is not activated for the data type of the respective publication.

The image shows a configuration interface with a yellow header bar containing the text "Enable alert for failed push deliveries". Below the header, there is a checkbox on the left and the text "Send alert by email to:" followed by a text input field on the right. The entire configuration block is enclosed in a thin black border.

Figure 46: Monitoring the push delivery - Data clients

Note: The functionality is not provided for all data types. It is primarily provided for safety-related information, such as notifications of the traffic information service. Therefore, the functionality is currently available only for the data type "traffic information".

Note: If the data client uses the function to send data to multiple server systems, then only the **first** connection will be monitored.

Note: As long as the error remains, the notification will be provided for each failed delivery with a separate email. For this purpose, it is therefore advisable to use dedicated email addresses, since the number of incoming emails can be quite significant.

3 Annexes

3.1 Annex A: XSD of Geo-referencing

The geographical area of a publication must be described by an XML file whose format is defined by the following XSD.

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://www.example.org/MDM-Georef"
elementFormDefault="qualified"
xmlns:mdm="http://www.example.org/MDM-Georef"><xsd:annotation>
<xsd:documentation>This schema defines the XML structure used for
specifying the geographic reference of any
publication.</xsd:documentation>
</xsd:annotation><xsd:element name="georef">
<xsd:annotation>
<xsd:documentation>This is the document's root element. It must
contain exactly one anchor point and one geometric
form.</xsd:documentation>
</xsd:annotation>
<xsd:complexType>
<xsd:sequence>
<xsd:element name="anchor" type="mdm:PointType" minOccurs="1"
maxOccurs="1">
<xsd:annotation>
<xsd:documentation>The anchor point of this geographic reference,
which can be used to pin-point the publication on a
map.</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:choice maxOccurs="1" minOccurs="1">
<xsd:element name="circle" type="mdm:CircleType">
<xsd:annotation>
<xsd:documentation>Use this if the publication's geographic
reference can be described by a circle.</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="polygon" type="mdm:PolygonType">
<xsd:annotation>
<xsd:documentation>Use this if the publication's geographic
reference can be described by a polygon.</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="pointCloud" type="mdm:PointCloudType">
<xsd:annotation>
<xsd:documentation>Use this if the publication's geographic
reference can be described by a set of
points.</xsd:documentation>
</xsd:annotation>
</xsd:element>
</xsd:choice>
</xsd:sequence>
</xsd:complexType>
```

```

</xsd:element><xsd:simpleType name="LatType">
<xsd:annotation>
<xsd:documentation>The latitude, a value between -90 and +90
degrees.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:double">
<xsd:minInclusive value="-90"></xsd:minInclusive>
<xsd:maxInclusive value="90"></xsd:maxInclusive>
<xsd:whiteSpace value="collapse"></xsd:whiteSpace>
</xsd:restriction>
</xsd:simpleType><xsd:simpleType name="LongType">
<xsd:annotation>
<xsd:documentation>The longitude, a value between -180 and +180
degrees.</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:double">
<xsd:minInclusive value="-180"></xsd:minInclusive>
<xsd:maxInclusive value="180"></xsd:maxInclusive>
<xsd:whiteSpace value="collapse"></xsd:whiteSpace>
</xsd:restriction>
</xsd:simpleType><xsd:complexType name="PointType">
<xsd:annotation>
<xsd:documentation>
The basic type defining a point on a map by its coordinate
pair as WGS84 latitude, longitude values.
</xsd:documentation>
</xsd:annotation>
<xsd:attribute name="lat" type="mdm:LatType"
use="required"></xsd:attribute>
<xsd:attribute name="long" type="mdm:LongType"
use="required"></xsd:attribute>
</xsd:complexType><xsd:complexType name="CircleType">
<xsd:annotation>
<xsd:documentation>Defines a circle by its center coordinates and
a radius. The radius is supposed to be specified in
meters.</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="center" type="mdm:PointType" minOccurs="1"
maxOccurs="1">
<xsd:annotation>
<xsd:documentation>Center coordinates.</xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="radius" minOccurs="1" maxOccurs="1">
<xsd:annotation>
<xsd:documentation>Radius in meters.</xsd:documentation>
</xsd:annotation>
<xsd:simpleType>
<xsd:restriction base="xsd:double">
<xsd:whiteSpace value="collapse"></xsd:whiteSpace>
</xsd:restriction>
</xsd:simpleType>
</xsd:element>
</xsd:sequence>

```

```

</xsd:complexType>
<xsd:complexType name="PolygonType">
  <xsd:annotation>
    <xsd:documentation>
      Defines a polygon by a list of its vertices. The list must be
      ordered, i.e., two neighboring list
      entries will be interpreted as two adjacent vertices of an edge.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="point" type="mdm:PointType" minOccurs="3"
      maxOccurs="unbounded"></xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="PointCloudType">
  <xsd:annotation>
    <xsd:documentation>Defines a cloud or set of points. The points
    do not need to be in any specific order.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="point" type="mdm:PointType" minOccurs="1"
      maxOccurs="unbounded"></xsd:element>
  </xsd:sequence>
</xsd:complexType>
</xsd:schema>

```

3.2 Annex B: Format of Billing Data

The file with the accounting data is generated as a CSV file with one record per line and a semicolon as separator for each attribute and a line feed character as end of record. The attributes of a record are described in Table 4.

Designation	Type	Format	Example
Date and time	String	yyyy-mm-dd hh:mm:ss,SSS	2010-10-08 00:26:22,000 ³
Billing information	String		DatenAusgeliefert
Organisation name Data supplier	String		Model-DG-1
Publication ID	Long		2005001
Publication name	String		Traffic situation Rheinland
Organisation name Data client	String		Model-DN-4
Subscription ID	Long		2007003

Table 4: Format of the billing data

The billing information attribute can have the following values:

- **PublikationEingesetzt** (*Publication started*) – The data supplier system begins with the delivery of data packets to the MDM
- **PublikationAusgesetzt** (*Publication suspended*) – The data supplier system discontinues the delivery of data packets to the MDM
- **SubskriptionAktiviert** (*Subscription enabled*) – MDM begins with the delivery to the data client system
- **SubskriptionDeaktiviert** (*Subscription disabled*) – MDM discontinues the delivery to the data client system
- **DatenEingeliefert** (*Data received*) – The data supplier system has delivered a data packet to the MDM
- **DatenAusgeliefert** (*Data delivered*) – MDM has delivered a data packet to the data client system
- **DatenUnveraendertAusgeliefert** (*Data unmodified delivered*) – MDM has answered a pull request of the data client system with a Not Modified response (see [TSSB])

³For billing information, the time is measured with an accuracy of seconds. The displayed milliseconds can be ignored.