

Factsheet für VOI (ID : 35)

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Geoserver

Für den Datenlieferanten VOI können über die folgenden Geoserver Layer Daten abgefragt werden:

- Standorte Scooter (35)
- Fahrzeuge Scooter (35)
- Scooter-Stationen
- Scooter-Fahrzeuge
- Gebündelte E-Scooterdaten

GBFS

Für den Datenlieferanten VOI können über die folgenden GBFS-Endpunkte Daten abgefragt werden:

- <https://mdd.gorheinland.com/gbfs-output/{Datenlieferanten ID}/{GBFS Version}/{Gbfs Endpunkt}.json>

GBFS Endpunkt	GBFS Version
GBFS	2.3, 3.0
SYSTEM_INFORMATION	2.3, 3.0
VEHICLE_TYPES	2.3, 3.0
STATION_INFORMATION	2.3, 3.0
STATION_STATUS	2.3, 3.0
FREE_BIKE_STATUS	2.3
SYSTEM_REGIONS	2.3, 3.0
SYSTEM_PRICING_PLANS	2.3, 3.0
GEOFENCING_ZONES	2.3, 3.0
MANIFEST	3.0
VEHICLE_STATUS	3.0

GraphQL

GraphQL-Queries erlauben das Abfragen gebündelter Feeds mehrerer Provider. Welche Feeds gebündelt werden kann über den Provider Filter gesteuert werden. Mehr Informationen zu gebündelten Feeds und Filtern können Sie der MDD NRW Schnittstellenbeschreibung entnehmen.

Legende

- *Kursiver Datentyp*: Aufzählung. Im GraphQL Schema sind alle möglichen Werte aufgelistet.
- **Fetter Datentyp**: Komplexer Datentyp, genaue Definition findet sich im Factsheet und im GraphQL Schema
- [Datentyp] mit eckigen Klammern: Liste mit Einträgen des jeweiligen Datentyps.
- Map(Datentyp1, Datentyp2): Eine Zuordnungstabelle für assoziative Daten.

Provider

Endpunkte: *listProviders*, *providerById*

Beschreibung: Complex datatype for information about providers. A provider is a source of data from which the MDD NRW receives information.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
name	String	Name of this provider	VRS
active	boolean	If a provider is active, the data for this provider is updated regularly. A value of "true" equals the state active.	
geofencingZones	[GeofencingZone]	Geofencing zones of this provider	
vehicles	[Vehicle]	Vehicles of this provider	
vehicleTypes	[VehicleType]	Vehicle types of this provider	
sharingStations	[SharingStation]	Sharing stations of this provider	
regions	[Region]	Regions of this provider	
pricingPlans	[PricingPlan]	Pricing plans of this provider	
systemInformations	[SystemInformation]	System information of this provider	

GeofencingZone

Endpunkte: *listGeofencingZones*, *geofencingZoneById*

Beschreibung: Complex datatype for information about geofencing zones. Geofencing zones contain information about, for example, No-parking-Areas for vehicles of the corresponding provider.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
name	String	Name of this geofencing zone	
geometry	Multipolygon	Geometry information for a geofencing zone	
rules	[GeofencingZoneRule]	List of rules that apply to this geofencing zone.	

Multipolygon

Beschreibung: Complex class representing a MultiPolygon

Attribut	Datentyp	Beschreibung	Beispiel
type	<i>GeoJsonType</i>	Type	MULTI_POLYGON
coordinates	[[[[Double]]]]	Multi-dimensional list of coordinates	[[[[6,50], ...]]]]

Vehicle

Endpunkte: *listVehicles*, *vehicleById*

Beschreibung: Complex datatype for information about vehicles, for example scooters, bikes and cars.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
externalId	String	Id given by provider	
lat	Double	Current WGS84 latitude of the vehicle in decimal degrees	51.890169
lon	Double	Current WGS84 longitude of the vehicle in decimal degrees	6.100169
station	SharingStation	The station in which the vehicle is currently located	
vehicleType	VehicleType	Vehicle type of the vehicle	
status	<i>Status</i>	Current status of the vehicle	AVAILABLE
remainingRangeInM	Integer	Remaining range of vehicle in meters with current charge	
pricingPlan	PricingPlan	Pricing information for the corresponding vehicle	
isReserved	Boolean	"true" if the vehicle is currently reserved	
isDisabled	Boolean	"true" if the vehicle is currently disabled	
rentalUris	RentalUris	Rental URIs for Android, iOS and Web	
lastReported	Date	The last time this station reported its status to the operator's backend.	2024-07-30T09:30:00Z

VehicleTypesAvailability

Beschreibung: Complex datatype for the count of vehicles of a given type.

Attribut	Datentyp	Beschreibung	Beispiel
sharingStation	SharingStation	VehicleTypesAvailability applies for this sharing station.	
vehicleType	VehicleType	VehicleTypesAvailability applies for this sharing station.	
count	Integer	Number of vehicles of vehicleType available at sharing station	

RentalUris

Beschreibung: Complex datatype for information about rental URIs for Android, iOS and Web

Attribut	Datentyp	Beschreibung	Beispiel
android	String	Rental URI for Android	
ios	String	Rental URI for iOS	
web	String	Rental URI for Web	

VehicleType

Endpunkte: *listVehicleTypes*, *vehicleTypeById*

Beschreibung: Complex datatype for information about vehicle types. Vehicles of the same type share the available attributes.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
type	String	External id given by provider	
formFactor	<i>VehicleFormFactor</i>	The vehicle's general form factor	SCOOTER
propulsionType	<i>VehiclePropulsionType</i>	The primary propulsion type of the vehicle	ELECTRIC
riderCapacity	Integer	The number of riders (driver included) the vehicle can legally accommodate.	
maxRangeMeters	Integer	Maximum range in meters this vehicle can travel when fully charged without refueling	4000
publicName	String	Public name of this vehicle type	
vehicleTypesAvailable	[VehicleTypesAvailability]	Number of available vehicles of a vehicleType at a sharingStation	
geofencingZoneRules	[GeofencingZoneRule]	Zone rules that apply to this vehicle type	

SharingStation

Endpunkte: *listSharingStations*, *sharingStationById*

Beschreibung: Complex datatype for information about sharing stations.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	

lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
externalId	String	Id given by the provider	
name	String	Name of the sharing station	
lat	Double	WGS84 latitude of the sharing station in decimal degrees	51.890169
lon	Double	WGS84 longitude of the sharing station in decimal degrees	6.100169
isVirtualStation	Boolean	Is this station a location with smart dock technology?	
capacity	Integer	Maximum capacity of the station	
numBikesAvailable	Integer	Number of available vehicles of any type at the station	
isInstalled	Boolean	"true" if the station is currently on the street	
isRenting	Boolean	"true" if the station is currently renting vehicles	
isReturning	Boolean	"true" if the station is currently accepting vehicle returns	
lastReported	Date	The last time this station reported its status to the operator's backend	2024-07-30T09:30:00Z
vehicleTypesAvailable	Map(VehicleType, VehicleTypesAvailability)	Number of available vehicles of a vehicleType at a sharingStation	
currentlyStationedVehicles	[Vehicle]	List of vehicles currently parked at this station	

Region

Endpunkte: *listRegions*, *regionById*

Beschreibung: Complex datatype for information about the operating regions of a provider. Contains the name and external id of a region given by the provider.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
externalId	String	Id given by provider	
name	String	Name of region	

PricingPlan

Endpunkte: *listPricingPlan*, *pricingPlanById*

Beschreibung: Complex datatype for information about pricing plans.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
externalId	String	External id given by provider	
name	String	Name of the pricing plan	
currency	<i>PriceCurrency</i>	Currency used to pay the price	EUR
price	Double	Price in unit specified by currency	1.29
isTaxable	Boolean	Indicates whether additional tax will be added to the price	
description	String	Description	
perMinPricing	[PricingModel]	Additional price per time interval. The time interval length and the price per interval differ depending on the ride length.	

PricingModel

Beschreibung: Complex datatype for information about the pricing model for a ride. Pricing Models are either based on duration or distance.

Attribut	Datentyp	Beschreibung	Beispiel
start	Integer	The pricing model applies when start is reached.	0
rate	Double	Price per interval	0.22
interval	Integer	Interval length	1
end	Integer	The pricing model applies until end is reached. If no end is given the pricing model is applies indefinitely.	

SystemInformation

Endpunkte: *listSystemInformation*, *systemInformationById*

Beschreibung: Complex datatype for information about the system of a provider. A provider can have multiple systems with differing information. Contains for example contact details and language information.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
provider	Provider	The provider this entity belongs to	
lastUpdated	Date	This entity was last loaded into the MDD NRW at this point. The date is given in UTC.	2024-07-30T09:30:00Z
systemId	String	External id given by provider	
language	String	Language of information by this provider	
name	String	Name of the system	
shortName	String	Short name of the system	
url	String	Url of the system	
email	String	Email address of this system's customer service department	
feedContactEmail	String	Contact email to report technical issues with feeds	
timezone	String	The timezone where the system is located	
rentalApps	RentalApps	Rental app information	

RentalApps

Beschreibung: Complex datatype for rental app information.

Attribut	Datentyp	Beschreibung	Beispiel
android	AppUri	Rental app information for android	
ios	AppUri	Rental app information for ios	

AppUri

Beschreibung: Complex datatype for app URI information.

Attribut	Datentyp	Beschreibung	Beispiel
discoveryUri	String	URI that can be used to discover if the rental app is installed on the device.	
storeUri	String	URI where the rental app can be downloaded from.	

GeofencingZoneRule

Beschreibung: Complex datatype for information about rules in geofencing zones.

Attribut	Datentyp	Beschreibung	Beispiel
id	Long	The id is a unique identifier within the same class.	5179
geofencingZone	GeofencingZone	The rules hold for this geofencing zone.	
rideAllowed	Boolean	“true” if a ride can start and stop in this zone.	
rideThroughAllowed	Boolean	“true” if a vehicle is allowed to pass the zone but cannot end the ride here.	
maximumSpeedKph	Integer	Maximum Speed in km per hour	20
vehicleTypes	[VehicleType]	The geofencing zone is relevant for vehicles of these vehicle types. If no vehicle types are given the restrictions are relevant for all vehicle types of this provider.	