User-friendly Information

Tool on Urban and Regional Access Regulations Schemes

Contract: MOVE/B4/SER/2019-498/SI2.832125

Deliverable 2.4 - Specification of UVAR related data-flows for data generation, collection and data maintenance

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Administrative section

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Document file name	Work package	Tasks
UVARBox_WP2_Deliverable2.4_09-2022_1.0	WP2	2.4

Version history

Version	Date	Description of changes	Author	Partner
0.1	15-06-2021	First draft	Sónia Soares	ARMIS
0.2	03-08-2022	Content revision	Lucy Sadler	Sadler
0.3	22-08-2022	Revision + contributions	Sónia Soares	ARMIS
1.0	31-08-2022	Revision + contributions	All	All

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1   Introduction

The present deliverable is integrated into the outcomes of work package 2. Given the results of D2.1 - *Overview report on legal processes for UVAR definition*, D2.2 - *Functional specification of UVAR tool*, D2.3 - *UVAR tool package + development report*, and D2.5 - *Technical documentation and user documentation of UVAR tool*, D2.4 aims at complementing the tool-related documentation, presenting an overview of the data-flows that emerged during the WP2 activities and crossed all work packages and partners.

The key aspect of WP2 is to pilot the data collection from cities with the support of the Country Coaches and by making use of the UVAR Box Tool and/or the DATEX II UVAR data model. The software was designed to enable both digital inputs (with the appropriate conversions), and manual information input, where digital versions do not exist or are inappropriate. The input methods were structured to be user-friendly and expose the required information in terms of the ways UVARs are regulated and data held. With the UVAR Box Tool, users will be able to produce standardised data that will feed relevant publishing places. On one hand, the tool exports DATEX II machine-to-machine data, which can be further published on the NAPs. On the other hand, and according to defined guidelines, the exported data will allow the creation of SDG web-based data that can be further published on Your Europe[1].

The data UVAR data value chain model is broad and covers not only data collection but also the entire process until the data gets through their final users, which are the drivers/road users. To illustrate the approach, Figure 1 exposes the process that starts with the source of the information, which, in most cases, are city authorities.
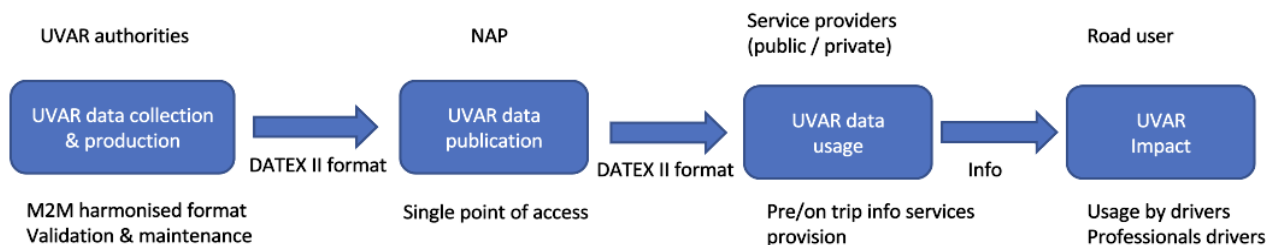
Figure 1 - UVAR data value chain model.

At this stage, the UVAR data is collected and must fulfill several requirements to ensure data quality. In that framework, information should be digitised and translated to machine-to-machine (in the case of UVAR Box DATEX II standard) harmonised format to feed the NAP and other relevant publishing places. The responsible transport authority, operator, infrastructure manager, or transport on demand service provider must ensure the validation and maintenance of the information provided.

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1 https://europa.eu/youreurope/index_en.htm

The goal of the UVAR value chain above is to provide accurate and actual UVAR information to users in order to increase the awareness of and compliance with the UVAR.

Besides its accessibility also the quality of the data and its management, is of extreme importance for its value and credibility for usage and acceptance both by the service providers translating into information and ultimately the (road) users. UVAR data quality management can then be defined as a continuous process on the monitoring and update of UVAR data characteristics based on an agreed evaluation criteria to be applied for validation and classification. This process needs to be defined and implemented in coordination with local or national quality frameworks, as well as organizational, functional and technical architectures.

In the recent EU EIP initiative[2], a set of practical guidelines have been developed and proposed for quality management of RTTI data provisioning. This concept is documented in "EU EIP Quality of RTTI – Practical Guidelines". The guidelines propose the following main topics to be covered by the quality criteria: "Time" and "Right information".

For Time, two quality criteria have been identified and defined:

- Timeliness: refereeing to the time between the start of a UVAR condition (or its update) and the production (or change) in the corresponding UVAR DATEX II data file.
- Latency: as the time between the production (or update) of the UVAR DATEX II data file and the moment the information is made available for use by the (national) access point.

For Right information, three quality criteria have been identified and defined:

- Location accuracy: tells how correct the UVAR reported location (geographic boundaries).

- Classification correctness: tells if the UVAR classification is correct.

- Event coverage: describes the percentage of the occurred UVAR locations and conditions that have been collected and digitised.

For each of these quality criteria a set of related quality levels can be further established by local or national authorities. A validation process can measure how a UVAR data set scores against the quality levels. The result of the validation provides a qualification of the data set that can be added (for example as metadata) as information to service providers and users in the value chain model.

By having harmonised information published, and ensuring the adequate data quality management, service providers (public or private) can make use of the data and integrate it into their services which will create a direct impact on final users.

The UVAR Box project, namely the UVAR Box Tool and the CCs' assistance, aims at facilitating the transition from the first to the second stage of this chain, allowing an easy and correct harmonisation of

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2 https://www.its-platform.eu/achievement/quality-of-european-its-services-and-their-data/

the information that will feed the following stages of the process. Other parts of the UVAR Box project link out to the service providers in later stages of the chain.

In summary this document describes the data collection and data management in detail, making sure that developers can add functionality and commercial navigation tools are able to integrate the outputs of the UVAR Box Tool. The document starts with an overview of the UVAR Box Tool and how it can bring added value to cities. Then it provides the possible scenarios that different types of cities could adopt, and an overview of the data chain models per pilot country. The input methods/use cases and data outputs are also explained. Going into the data generated within the UVAR Box, section 3 describes CCs' experience and strategy adopted for data collection and their perception of the use of the UVAR Box Tool. Finally, conclusions and suggestions for the next steps are provided.

2   The UVAR Box Tool

The UVAR Box tool is being developed as open-source software, licensed with a FOSS (free and open-source software) license – for instance the European Union Public Licence, EUPL. The underlying DATEX II data model is described in deliverables D1.2 and D1.3. D2.2 and covers the functional specification of the UVAR Box Tool. For finding the UVAR Box Tool sources, *D2.3 UVAR tool package + development report* should be consulted. For technical specifications, the recommended documentation is *D2.5 Technical documentation and user documentation of UVAR Box Tool.*

Cities are expected to make use of the tools created to generate UVAR machine-readable data. Once created, these digital artefacts may be stored by the cities themselves, and made available for re-use, via the National Access Points (NAPs) or Single Digital Gateway (SDG), where possible. The following data flow (Figure 2) was initially defined as necessary and will further be dealt with in the subsequent chapters:
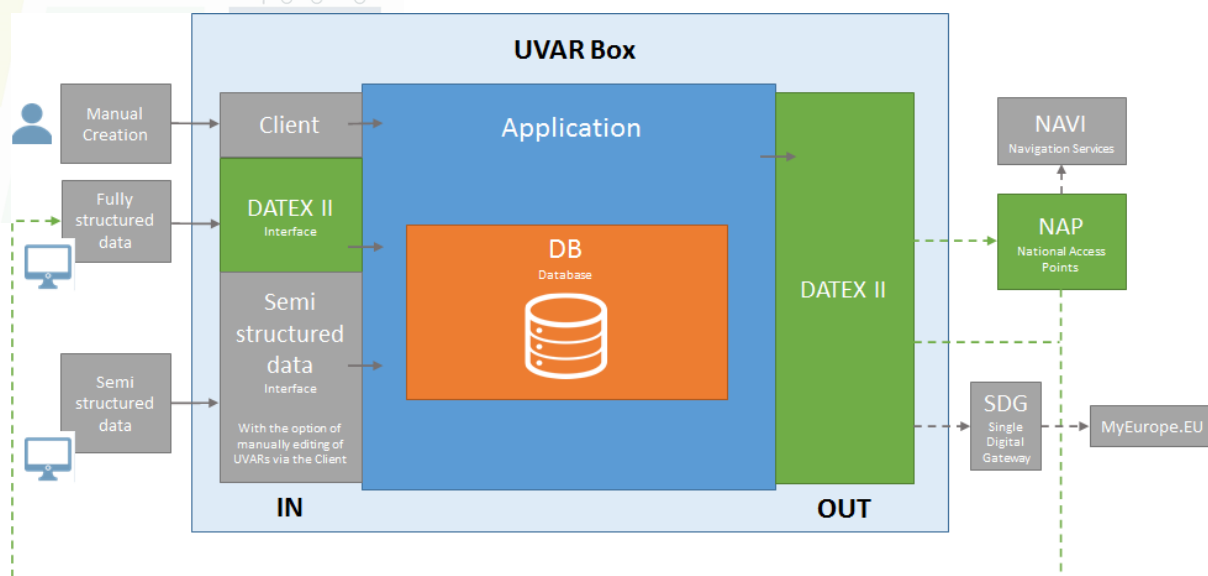
Figure 2 – UVAR Box Tool data-flow.

2.1 Possible implementation scenarios per (city) user type

Since cities have different technological maturity levels, the UVAR Box Tool is available for on premises installation (Figure 3) or accessed remotely through a web browser (Figure 4). For the latter, the tools are hosted in an online secure server, supported by the Consortium during the project duration.

Additionally, the UVAR Box Tool can be integrated into third party web applications, as IFrame application or individual services can be called and integrated per Application Programming Interface (API).

Options for the sustainability of the UVAR Box Tool are provided in WP4 deliverables.
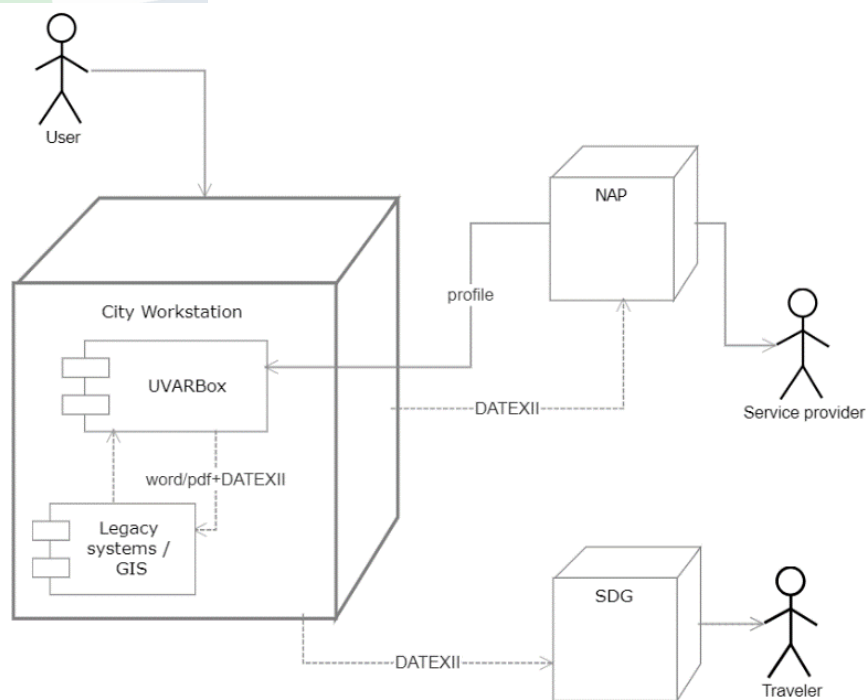
Figure 3 - UVAR Box Tools available on the premises (scenario a).
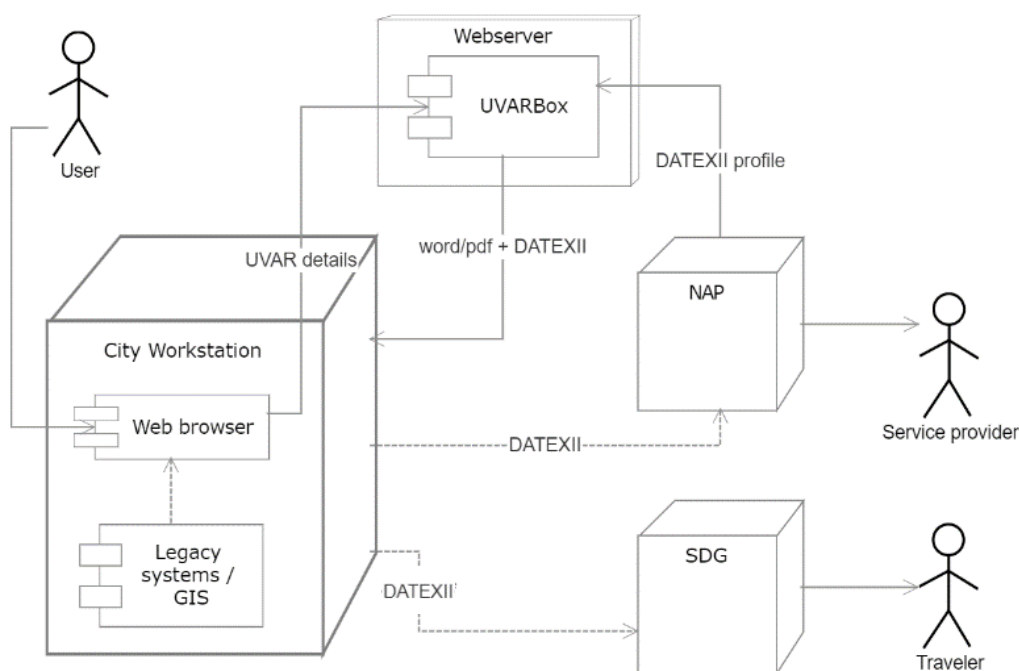
Figure 4 - UVAR Box Tools hosted in an online secure server (scenario b).

In order to be prepared for the different circumstances identified in the various countries, different deployment scenarios are being worked on to determine how the UVAR Box Tool can be implemented and used in the best possible and sustainable way, integrated either with existing systems, services or processes and taking into account user requirements and resources.

Based on these deployment scenarios, together with the *UVAR state of the art* (D1.1), Country Coaches started defining UVAR data collection strategies to be implemented (Task 2.4) aiming at creation of the sustainable process for UVAR data collection and digitalisation (WP4) and the commitment from as many UVAR authorities as possible to enable the largest possible number of UVARs digitised by the UVAR authorities per country.

2.2 Inputs methods/use cases

UVAR data can be imported, managed and exported in the UVAR Box Tool, which relies on a standardised data format – DATEX II.

The following input methods/use cases are available:

1) Import of a fully digitised UVAR (DATEX II standard)
2) Manual creation of UVAR
3) Import of semi-structured data

A small description of each method is provided below. More content can be found on D3.2 – *Report on evaluation of end-user information services*.

2.2.1   Import of a fully digitised UVAR (DATEX II)

A prerequisite for this use case is a fully digitised UVAR in the correct data structure according to the "DATEX II model for UVAR" schema, stored as an XML-file. The UVAR is being validated on import and rejected if validation fails. The import functionality can also be called directly using the import service call as described in the API-documentation. The advantage of this import is that it allows for the easy update and maintenance of the UVAR in DATEX II standard over time and can be used for UVAR data, initially created outside of the UVAR Box Tool.

2.2.2   Manual creation of UVAR

In addition to importing an already existing UVAR DATEX II dataset, it is possible to create a new UVAR on the tool. For this purpose, templates are used to make it easier for those entering the data. A template refers to a specific UVAR type with conditions, attributes and values prefilled, and the variables limited to those that would be found in that UVAR type. It is used to simplify the process of defining a UVAR because only the city or regional specific characteristics have to be filled in (e.g. issuing authority, geometry). Hence having well defined templates as a basis eases the process of creating an UVAR.

Templates are available for the main types of UVAR Low Emission Zone (LEZ), Limited Traffic Zone (LTZ), Pedestrian zone (PED), and Parking zone (PARK). Different templates are also available where relevant for each of the five project focus countries, and in some cases also regions (e.g., Italy), where there is an UVAR framework that pre-specifies certain aspects of the scheme.

On manual creation of a UVAR, the use case "add existing geometry from Shapefile" can facilitate defining the location by using geometries already stored in a Shapefile.

2.2.3   Import of semi-structured data

A prerequisite for this use case is data in a predefined structure and format. Hence, UVAR data containing geometry and attributes (stored in a Shapefile) and an import template (stored as XML) are needed. The import template defines the mapping of the attributes of the Shapefile to the DATEX II UVAR structure. This import template is basically an UVAR template (DATEX II) but contains placeholders to fill in the attributes of the Shapefile. The import can be triggered via the UVAR Box tool or by calling the respective import service call.

After importing, the UVAR can be edited in the UVAR Box tool and attributes can be edited as needed.

This use case follows a generic approach which allows to import different data sources, as long as they are pre-processed to the specified input format, and to define the import template (i.e., mapping to DATEX II) based on the structure and availability of existing data.

2.3 Data output

UVAR data stored in the UVAR Box Tool can be exported in a standardised data format – DATEX II. The export can be triggered via the UVAR Box Tool or by calling the respective export service call as described in the API-documentation. Once exported, UVAR data can be made available/published e.g., via the NAPs, to be used or integrated by service providers or other systems. Furthermore, the exported data allows the creation of SDG web-based data that can be further published.

2.4 Validation and updates

Three types of validation were defined for improving the quality of the data provided: against the model, by cities, and against the CLARS database. For the project lifetime, it will not be feasible to validate all UVARs by the three possible ways, especially the validation by cities which would require interactions and response by hundreds of city authorities.

For the future, ideally, a procedure should be defined to ensure data quality, integrity, and timeliness.

Concerning data updates, the Commission Delegated Regulations on Real-time Traffic Information (RTTI) and Multi-modal Travel Information Services (MMTIS) assign responsibility to the transport/road authorities, transport operators, infrastructure managers or transport on demand service providers. The recommendation is that the information should be updated through the NAP, however, the deadline for this to occur is not well-defined being terms as "timely manner", "as soon as possible", or "without delay" used.

2.4.1 Automatic validation within the UVAR Box tool

In deliverable 3.2 the Consortium tests the different input methods for the UVAR Box Tool. Moreover, the functionality and usability is also tested, and some recommendations given at the end.

The first step is to validate the machine-to-machine (M2M) data gathered by the CCs by uploading the whole file to the UVAR Box Tool at the ARMIS Webserver. The M2M should be recognised by the software and display the correct UVAR via the import function.

The next step is to validate semi-structured data within the UVAR Box Tool. One of these semi-structured data is data in earlier DATEX II versions, which can be converted into DATEX II version 3.3. This can be done from the DATEX II homepage[3] and the UVAR Box Tool should be able to import and then validate the file. The tested data samples are from Austria (a pedestrian zone from Vienna and a parking schema for the area of Carinthia).

The last step is testing the manual data input inside the UVAR Box Tool test server provided by PRISMA Solutions. Therefore, the Consortium added a Low Emission Zone (LEZ) from Italy and a Limited Traffic

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3 https://webtool.datex2.eu/

Zone (LTZ) from Amsterdam in WP1. For this test, the Consortium fostered the different input methods, including uploading existing shape files.

2.4.2   Validation by cities

When it comes to data collection, in most of the cases, this task was performed by the CCs, which means that cities were not directly involved. As it will be described in Section 3, data sources varied from city authorities, traffic regulation orders, city websites, CLARS database, NAPs, or other websites such as UBA[4] or third-party data collators. In that framework, content validation by the city who has the UVAR in place would be ideal.

For this to happen, the information could be assessed directly on the tool (in a "read-only" mode) or by examining the exported XML DATEX II file.

Some cities were contacted and some UVARs could be validated by cities, such as the case of Lisbon LEZs. Italian CCs also contacted again the cities for which the UVARs have been already digitsed, asking them their availability to start with CCs support the validation activities of UVAR data. For each city a dedicated account was created and made available also for next data maintenance to be carried out in the future. As above mentioned, the Italian CCs have indicated their availability to the cities responsible to support them during the different phases above mentioned. In any case, the validation activity could not be complete until the end of the project.

In Belgium the Country Coaches did receive feedback from 2 cities on 2 different UVARs that were digitised, one LTZ in the city of Ghent and one LEZ in the city of Antwerp. The feedback that was provided was incorporated into the tool by the Belgian CC's. In addition, the city of Brussels noted that the polygon for the LEZ had been updated since it was digitised with the tool. The polygon was updated accordingly by the CC's.

2.4.3   Validation against the CLARS database

The CLARS[5] data was used as the outset list of cities to be included in the digitisation, with the city lists exported and checked in terms of which cities to be approached.

The cities with data in the UVAR Box Tool have been checked against the cities listed in the CLARS database. Where there were cities in the UVAR Box Tool that were not in the CLARS database, a further web search was undertaken to identify whether information was available. Where there was no information found on official websites, the data was put into draft. This was the case in three Italian cities, where the "Po Basin Agreement" or regional air quality plan would determine that these cities should have a LEZ, but there was no confirmation on the city's website. The data for these cities was therefore put into draft (i.e., not final data to be used). As the data entered was based on information from the city's websites, the content of the data was not used to validate the data in the UVAR Box Tool.

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4 https://gis.uba.de/website/umweltzonen/index.php
5 https://urbanaccessregulations.eu/

3 UVAR DATEX II data generated (produced) within the UVAR Box project

3.1 Data digitsation experience in the 5 Pilot MS

When it comes to UVARs digitsation, the geographical scope of the project includes the relevant UVARs in Austria, Belgium, Germany, Italy, and the Netherlands. CLARS database was considered the baseline for providing evidence of the existing UVARs at the time of the project start. The Country coaches have worked together with cities in order to achieve the goal of covering at least the 242 LEZ/diesel bans mentioned in CLARS within the 5 focus MS. For other UVAR types and other countries, a "best-effort" approach was followed. The next sections provide detailed information on the strategies adopted in each of the 5 focus MS, and also for other countries.

3.1.1 Austria

The Austrian Country Coach had established the contact to the Austrian Association of Cities and Towns, which is the municipal interest group of a total of 259 cities and larger municipalities. The cities provide voluntarily data via https://www.data.gv.at/ and are required to place data on the Graph Integration Platform (GIP)[6]. The association has virtually all municipalities with over 10,000 inhabitants as members. The smallest member municipality has just under 1,000 inhabitants. The two organisations are the major stakeholders in Austria, which together includes nearly every city in Austria which grants a major advantage when it comes to harmonisation process about UVARs. The association helped disseminate information on UVAR Box to its members and supports the digitalisation process of the UVAR Box, by sharing their data with the Consortium. In return, the Cities will get the converted UVAR Data in DATEX II V.3.3 format for their data share point.

Moreover, the Austrian Country Coach established contact with the Austrian Association of Municipalities, which represents the interests of 2,082 of the total 2,093 of Austrian municipalities and cities at the federal level, thus representing a total of around 70 percent of the Austrian population.

Some of those municipalities like Mödling in Lower Austria are eager to convert their data sets via the UVAR Box Tool themself. Other municipalities prefer the approach of providing their UVAR data to the Country Coach instead. Important note is, that the data which has been provided where converted via the DATEX II Wizard v3.37 from the existing formats, either from www.data.gv.at or via the GIP.

The Austrian CCs managed to digitise all the Austrian LEZs (7 LEZs + 6 EMERG), PARK (260) and PED (1) UVAR scheme containing 260 streets). The 274 UVARs were digitised by the CCs and PARK (6) were subsequently validated by the city authorities. The authorities were contacted by the CCs with a request to validate the data. The validation of the data will be done successively and most of the data should be validated in the future.

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6 https://www.gip.gv.at/en/index.html
7 https://webtool.datex2.eu/wizard/

3.1.2 Belgium

The Belgian digitisation strategy entailed the identification of Belgian city front runners in UVAR digitisation and jointly identify the most suitable UVAR digitisation method according to their current practices and the available UVAR Box tooling. The resulting methods and best practices would serve as examples to showcase to follow up cities through UVAR Box workshops, training material and with the constant support of the country coach, who scheduled several bilateral meetings with city officials across Belgium.

In order to assure a sustainable digitisation of the UVARs, the preferred method was Belgian cities to digitse UVARs either using the UVAR Box Tool or their own existing tools. When this would not be possible by lack of resources then the digitisation activities would be performed by the Consortium (mainly Belgian Country Coaches) and where possible validated by the city authorities.

The digitisation activities initially focused on the Low Emission Zones (LEZs) of the three so-called "frontrunner" cities, as earlier identified within the UVAR Box project. These cities were Antwerp, Brussels, and Gent (combined they have 100% of the LEZs located in Belgium). These cities were provided with the UVAR Box developed DATEX II model and/or access to the UVAR Box Tool. Having the data digitised using the data model and/or the UVAR Box Tool, these cities can publish the UVAR data at their open data portals. At the same time the UVAR data can then be registered and accessed via the Belgian NAP. This will serve as the "Proof of Concept" for the Belgian infrastructure for providing accurate UVAR data at the NAP available for information and service providers.

The experiences/learnings from the activities in collaboration with the frontrunner cities could be used to apply to the other UVAR types and showcase to other cities. In the future, the other types of UVARs can then be digitised in collaboration with the cities.

The LEZ's have been digitised by the Consortium using the UVAR Box Tool and afterwards presented to the responsible authorities for feedback and validation. This feedback was in turn incorporated into the digitised UVAR. The validation of the DATEX II output has turned out to be difficult, due to the lack of DATEX II knowledge at different cities.

Where possible, the cities open data portals were used to retrieve shapefiles of the UVARs. Where these were not available the contacts with the cities were able to provide them. The Belgian CCs managed to digitise all the three Belgian LEZs, and two LTZs using the UVAR Box Tool.

As soon as the tool became available, user credentials were created for the front runner cities, for them to use the tool themselves. This was accompanied by an invitation to extra meetings to introduce/explain the tool in more detail, discuss options for validation and publication of the UVAR data at the NAP and discuss viable options for further UVAR digitsation. In addition, other cities in Belgium have been reached out to present the UVAR project objectives, introduce and promote the UVAR Box Tool.

The current Belgium RTTI NAP is of a "Registry" type with only a search and (web) addresses of the data location. In this context each city is responsible to produce, host and maintain the UVAR data. After being

made available at own city digital infrastructure each city will need to register the UVAR data at the NAP via the available template and including a metadata description supporting the searchability feature.

Based on the above process the maintenance of the UVAR data is sole responsibility of city and triggered by updates of the regulations.

3.1.3   Germany

The German LEZs were digitised based on the official data, available from and published by the German Umweltbundesamt (UBA)[8] and the digitisation of the LEZs in Germany could be completed. Thus, the project goal of the collection of 100% of the LEZ data in Germany was achieved.

The UVAR Box database now consists of 66 LEZs. The Stuttgart LEZ now also includes the LEZs of the cities in the Stuttgart region. These are Asperg, Bietigheim-Bissingen, Freiberg am Neckar, Hemmingen, Ingersheim, Kornwestheim, Leonberg, Ludwigsburg, Markgroeningen, Moeglingen, Pleidelsheim, Remseck, Tamm.

The initial plan was to get the data directly from the cities via the UVAR Box Tool. Mainly due to a lack of availability of resources within German cities and a slight delay in the provision of the UVAR Box Tool, caused by additional requirements, this task could not be completed as planned.

Nevertheless, the project goal of providing the UVAR Box Tool to as many cities as possible in order to establish a sustainable, long-term process, is seen as crucial by the German CC. Therefore, an additional roll-out strategy has been established.

The other plan was to take all the data from the German Environment Agency (Umweltbundesamt, UBA), which is already required to collate the German LEZs, including the digital maps, taking data from the german regions (Länder), which in turn collated data from the cities. However, in reality neither approach was followed. The shape files and some data were taken from the UBA data in cooperation with UBA, and the other data was completed by the country coaches.

The plan for the roll-out in Germany was to contact all cities with LEZs, which are at the same time the biggest and most important cities, personally via phone call and e-mail to explain the UVAR Box project purpose and the advantages of using the UVAR Box Tool (e.g., zero cost digitisation and publication of their UVARs, direct information of locals as well as guests via information services, navigation systems, avoiding having to provide the data multiple times to different service providers in different formats etc.). This strategy was adopted to improve the acceptance of the UVAR Box idea. Finally, the most important step in this strategy was to identify a personal contact in order to provide her/him access to the UVAR Box Tool.

Most of the cities have been contacted and informed. All of them have an own user in the UVAR Box database and have been informed of their user credentials. Currently, it looks likely that the majority of them will have access to the UVAR Box Tool by the end of the project. Nonetheless, some of them already

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8 https://gis.uba.de/website/umweltzonen/index.php

informed the CC that they have to postpone the task of digitising further UVARs due to a lack of resources, often they were able to give us a specific date when they will start the task or when a new employee in charge of the topic will be available.

As a conclusion, it can be said that German cities were not exactly waiting for an additional tool to be included in their process and system landscape, but most of them recognise the huge advantages they can gain out of this project and are willing to further participate in the process. Finally, it is worth mentioning that it would not only be reasonable but also necessary to further accompany German cities on their way to long-term maintenance of UVAR data, as well as completing the dataset with other types of UVAR.

3.1.4 Italy

The number of Italian UVARs to be digitised was very high. One of the main objectives of the project was to complete the digitsation process related to the "Low Emission Zone – LEZ" already implemented in each one of the 5 pilot Member State. Concerning Italy, the LEZ are mainly located in the North Italy Regions which agreed to the plan called (extended name) "*Nuovo accordo di programma per l'adozione coordinata e congiunta di misure per il miglioramento della qualità dell'aria nel Bacino Padano*" (hereinafter "*Po Basin agreement*" in English*)* where the regulation for banning the entry to certain polluting vehicles have been defined. Several kinds of scheme have been included into the "Po Basin agreement": the main ones are the regulation preventing access to classes Euro 0, 1 and 2 in the city centre (valid 24/7) and the regulation preventing access to greater classes Euro (depending on the class of vehicle) in the city centre in a specific period of the year (from 1st October to 31st March). Each one of these regions that signed the agreement, or in turn cities can modify the regulation adding stricter rules to the ones included in the "Po Basin Plan".

Based on the above-mentioned aspects, and the fact that the regions often have a coordinating role for LEZs, the first defined strategy by Italian CCs envisaged the possibility to engage the regional authorities in order to:

- The hope to get the LEZ data directly from the regional authorities, that may already collate the information (the maps and other information is already on a number of the regional webpages);
- Establish indirect contact through regional authorities with the municipalities which are the actual responsible of UVAR definition process;
- Organize regional events in order to share the UVAR Box project objectives and outcomes to the local authorities engaged/interested;
- Collect data concerning the UVARs already implemented and, if any, the related digitised data to be standardised in DATEX II model or imported into the UVAR Box Tool.

Beyond this, in parallel to the regional level, a direct contact with the Italian Ministry of Infrastructures and Sustainable Mobility (MIMS) was established.

Unfortunately, the defined strategy has not been applied totally, because the regional authorities did not provide the expected support. Given this failure of participation at the regional level, this would have entailed the need to have a direct contact with and support of the many local authorities which was not a feasible approach due to the lack of time and resources.

Due to that, and that the Italian LEZs are based on the municipal boundaries, the Italian CCs applied a different strategy:

- Elaborated the .xml scheme (based on DATEX II protocols) relating each one of the interested municipalities on the base of the Regional or Local plan/regulation for the improvement of air quality;
- Imported the .xml file in the UVAR Box tool in order to make possible their management/editing;
- Downloaded and imported the shapefiles related to boundaries of each one of the interested municipalities. These shapefiles have been downloaded by the "*ISTAT – Istituto Nazionale di Statistica*[9]", a national public research institute

Information on the emissions standards and other aspects of the LEZs were added to the templates, and then to the city's entries in the UVAR Box Tool.

At the end of the UVARs definition activities, the initial target (defined internally to the UVAR Box consortium) of 166 Italian LEZs to be digitised has been largely achieved. In fact, 195 LEZs – so 29 more LEZs than promised (number of LEZs in place or planned Italy in 2020) – as well as one congestion charge, 4 Emergency Scheme and 2 LTZs have been digitised. Unfortunately, as the number of LEZs in Italy has increased further than this during the duration of the project, this does not represent the current total number of LEZs in Italy. This highlights the fact that the situation with respect of UVARs is constantly changing, and the importance of maintenance and update of the digitised data. According to work done by Clean Cities Campaign[10], based on CLARS work, the number of LEZs has increased 42% since 2019 – not including those that have been tightened or altered.

Below, the list of the Italian UVARs defined with the use of the UVAR Box Tool grouped by regions is presented:

Table 1 - Number of digitised UVARs per Italian Region.

Regions	Number of digitised UVARs
Abruzzo	1
Emilia-Romagna	31
Lombardia	44
Piemonte	81
Toscana	17

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9 Web site: https://www.istat.it/storage/cartografia/confini_amministrativi/generalizzati/Limiti01012022_g.zip
10 https://cleancitiescampaign.org/wp-content/uploads/2022/07/The-development-trends-of-low-emission-and-zero-emission-zones-in-Europe-1.pdf

Veneto	32
Total	206

The table above lists the LEZs defined in the cities included in regions agreed the "Po Basin agreement" and others Italian regions that have been digitised by the Italian CCs of the UVAR Box project. In fact, for example the Tuscany region is not party to the "Po Basin agreement", but a regional plan, the "*PRQA - Piano regionale per la qualità dell'aria ambiente (Regional Plan for Air Quality)*", provides the regulation for preventing accesses by polluting vehicles in the city centre of the main Tuscany towns and in zones of the region where a high pollution concentration has been measured. The picture below (Figure 5) shows the dashboard implemented and used by the Italian CCs for monitoring the trend of UVAR definition activities during the entire process.
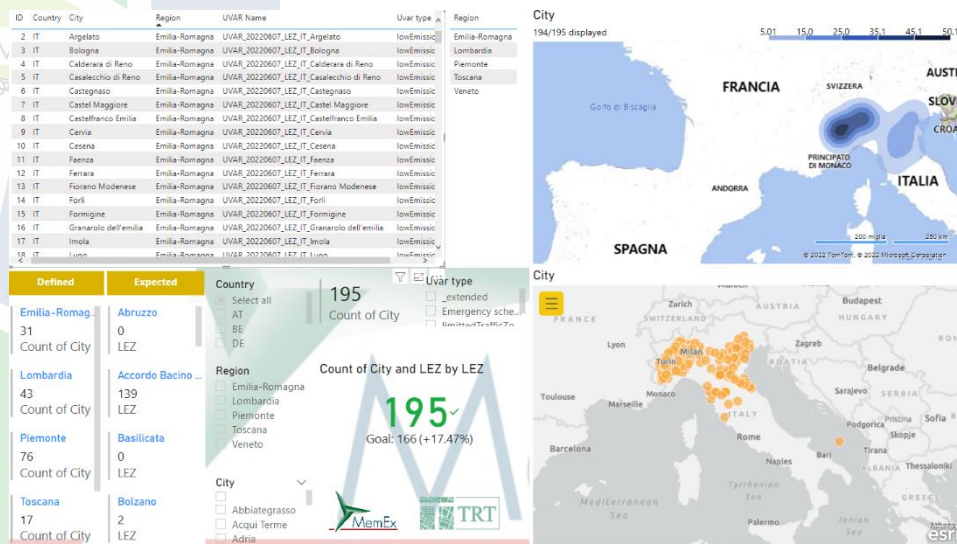
Figure 5 - Dashboard for UVAR definition activity monitoring

3.1.5   The Netherlands

The Dutch national and local authorities are working on the UVAR digitisation since several programmes were introduced in 2018 by the Ministry of Infrastructure and Water Management in the framework of a Smart Mobility policy plan with the aim to scale up nationally the digitalisation of mobility. The UVAR Box use cases are spread throughout different existing digitisation initiatives, which require the identification of the most appropriate stakeholder to approach. The proposed digitisation plan for the Netherlands was to identify and collaborate with these Dutch national initiatives, presenting and taking in mind the UVAR Box project principles: harmonised machine-readable data (UVAR Box DATEX II model) and access of UVAR data via NAP. In this context the main actions were identified:

1. Provide the UVAR Box DATEX II model to the ministry to be used by the current contractor responsible for digitising LEZs, and partially LTZs as well.
2. Provide the UVAR Box Tool to the ministry to be used by either the contractor or the cities for Pedestrian Zones, and LTZs.
3. Provide the UVAR Box DATEX II model for parking regulations to the national data access point for parking data (NPR).

If necessary, in order to achieve the digitisation of LEZ UVAR, the country coaches would collect and validate LEZ UVAR information using the CLARS database as well as from other desk research and questionnaire results. This information would then be digitised using the UVAR Box Tool by the consortium.

During the project period the collection and production of the LEZ data has already been performed by the private contractor, with help of the ministry by providing incentive to the cities/regions to provide this data. This has been done in collaboration with the Rijkswaterstaat VM-IVRA project in the Netherlands, which is part of the "Digitise Government" initiative. Therefore, there was little desire on the part of cities to 'do the same job again'.

As part of the "Digitise Government" initiative, there is not yet an automated and continuous process in place for the validation of the digitised data, therefore a manual validation process was followed with the cities. The cities were asked to check the following quality criteria of the data.

- The location accuracy of the designated area. The boundaries of the LEZ had to be checked, and in particular if the street segments are correctly covered.
- Cities were asked to provide information on the reference geographical map that was being used. This was necessary for service providers to be able to use it as a reference classification for correctness.
- The cities were provided with access to the web platform from the private contractor in order to be able to correct information where necessary directly on the data platform.

The Dutch CCs worked with the "Digitise Government" contractors and the ministry to ensure that the data that was created was conform the UVAR Box project's DATEX II standard. After the data was validated, the digitised LEZs were published to the NDW open data portal, where service providers can access the data.

Therefore, all of the 15 Dutch LEZs have been digitised by the Rijkswaterstaat VM-IVRA project using the project's DATEX II UVAR data model into the DATEX II format during this project. Moreover, the Amsterdam LTZ was digitised in the UVAR Box Tool.

3.1.6   Other Countries

For other countries, the digitisation process was made on a "best-effort" basis. ARMIS, POLIS, and Sadler Consultants were responsible for trying to reach other cities/regions besides the ones already comprised within our 5 focus Member States. Nevertheless, the entire Consortium was free to make other contacts and delegate further country-coach related activities to the above-mentioned partners.

The strategy adopted relied on disseminating the project and the tool and offer support. This was undertaken via e-mail, CLARS newsletters, through other disseminators including Eltis and CLOSER (Swedish geofencing project), through the UVAR Box online events/workshops, and also on physical events such as the EU ITS Congress in Toulouse. Contacts already familiar with the partners were directly reached and made aware about the UVAR Box Tool. Dissemination was also undertaken via https://uvarbox.eu/uvarbox-tool/ where every person could ask for credentials and get support.

This process resulted in a bilateral meeting with the municipality of Lisbon where the two LEZ implemented on the city were digitised in our tool and validated. Information was also provided for the introduction of the LTZs in the city. Discussions were also running with the city of Barcelona. Credentials were created for the Spanish city, and they were trying to digitise their LEZ by using our tool. The Consortium offered support on this task, but it was not possible to finish it by the end of the project. Furthermore, credentials were created for the city of Riga which was interested in the UVAR Box project and the UVAR Box Tool. While other cities came to the workshops, no other cities from other MS came forward to digitise their data.

3.2   Feedback on usability of the Tool

The development of the UVAR Box Tool followed an iterative process. The main concern was to have a functional tool working for the correct digitisation of UVARs as soon as possible. Nevertheless, after releasing a first version in February 2022, several other versions were developed not only to include new use cases but also to improve the quality of the software. When releasing a new version, black box and operational acceptance testing was performed by ARMIS. Within the same lines, the actual users of the tool, which were, at the time, the country coaches, were asked to provide feedback concerning their user experience. To help organising the content and harmonise the feedback given, under T2.3 - UVAR tool acceptance, led by ARMIS, a table was created listing all the use cases and asking for its validity. Also, a space was open for comments concerning each function. Based on the feedback provided on these tables, and discussions during the meetings, several alterations were made in order to have a software as complete and user friendly as possible. Unfortunately, due to the lack of time and resources, not all suggestions could be addressed and were kept as future improvements that could be taken into consideration in future UVAR-related activities. The tables with CCs evaluation can be consulted in the annex.

Furthermore, in order to try to access to what extent the UVAR Box Tool, associated documentation, and support given meet the requirements and expectations, a questionnaire was created for final users outside the UVAR Box Consortium. The questionnaire was sent to any user that wanted to use our tool,

regardless of its purpose. The questionnaire can also be found in the annex. Unfortunately, due to the delay of the overall activities, this only reached the users in August, and we could not receive any feedback before the official close of the project.

3.2.1   Country Coach feedback

In general, considering the skills level of the civil servants (of the Municipalities), that represent the end users, ideally, the UVAR Box Tool should be more user friendly.

In some cases, for the Municipalities operators, could be better to manage directly the UVAR DATEX II XML file and import it again after the changes applied. In order to make easier and to support the operators during the UVAR Box Tool use, additional information could be made available to the operators. For example: in UVARs list, the information related to the validity period of specific UVAR should be showed. Furthermore, the operator could be able to modify that validity period in a fast way directly in this view: this could be an important function to made available in case of annual UVARs (as LEZ in north Italy) to be renewed. This option was explored by PRISMA and ARMIS, and it was concluded that it would be a use case of extreme difficulty and it wouldn't be feasible to do it considering the project timelines and resources.

Another specific issue faced during the UVARs digitisation activities was related to the shapefile importing function in the case that it includes an "enclave-polygon". The specific case has been by-passed elaborating the shapefile with an external tool dividing the different polygons each one in a specific shapefile. In any case the shapefile affected by the issue above mentioned could be modified by user drawing manually the boundaries of the UVAR that is being defining or edit the available one through the UVAR Box functions.

In a future release, more guidance while entering data into the tool could be provided. For example, when uploading shapefiles, or manually drawing geometry, requirements can be provided that should be checked regarding the quality of the polygons. For example: if a polygon crosses one road, it should be clear that that is the exact starting point of the zone, and not somewhere further down that same road. Or alternatively, if a polygon is drawn only to the centre of a ring road, it leaves it open to interpretation of service providers if that road is actually part of the intended zone.

In sum, the UVAR Box Tool value is recognised, and efforts were made in order to make it as complete and user-friendly as possible. Furthermore, the software reaches its final goal which is to allow the digitisation of harmonised UVAR DATEX II data, and especially for people who are not specialised in DATEX II. Nevertheless, there is still space for improvements, especially considering the possibility of final users lacking non-DATEX II technical skills, such as the case of managing boundaries in shapefiles. In that framework, CCs have evaluated and provided comments on each of the functions of the tool until its final version that was only achieved in August, near the end of the project. Upgrades were made based on this constant feedback but, indeed, more time and resources would allow the production of a software more tailored to end-users, and the continuation of this iterative process, including a wider feedback-source.

4   Conclusion

The work package 2 - UVAR data generation, collection, and maintenance – is responsible not only for the development of a user-friendly software tool for UVARs digitalisation, but also for the entire associated documentation, required background information and explanation, and to setup the environment for efficiently collect, generate, and maintain the UVAR data from our 5 focus Member States.

This deliverable describes the framework of the UVAR Box Tool, the data-flows from the moment of its collection until it gets to their final users. As open-source software, the UVAR Box Tool will be made available on open-source repositories and could be hosted by anyone who might want to use it or combine it into their own data or digitisation support software under the defined terms and conditions. This approach can follow different the scenarios that are exposed in Section 2. Moreover, this section exposes the possible ways for generating UVAR data within the tool, and what can happen to the respective outputs. Three types of data validation are also exposed.

The strategy for data collection is detailed in Section 3 by each of the pilot countries (to achieve the contractual goal of digitising 100% LEZs from the CLARS dataset at the outset of the project), and also for other countries (following a "best-effort" practice). It was verified that different countries adopted different procedures when it comes to data collection and maintenance. Moreover, the successful collection strategies did not always follow the Country Coaches "Plan A"; due to the developments of the project, activities going on in each country, or lack of responsiveness of the cities it was sometimes necessary to re-evaluate the approach and adopt a "Plan B". This was the case, for instance, of Germany, which was planning to give the tool for cities to use in Spring 2022, and due to the delays on the activities related to the releasing of a viable tool version for outside of the Consortium, the German CC had to start collecting the information and initiate the digitisation without cities' involvement, using UBA to get the information.

Furthermore, this report also comprises outputs of Task 2.3 - UVAR tool acceptance (led by ARMIS). Aligned with the start of the digitisation process, CCs have tested the tool, use case by use case, and filled in a tool evaluation sheet were issues and suggestions for future improvements are reported. This evaluation was made in several steps, considering different versions of the tool. Also, a questionnaire for final users (e.g., cities) was created to collect feedback on the tool, their associated documentation, and the support given by the UVAR Box project.

5   Final remarks and next steps

Overall, it could be concluded that it is hard to get cities or regions to be involved with digitising UVAR data. While some do see the need to do so, they often lack the resources, or are unable to prioritise this against their many other tasks. Motivation could increase if digitisation is supported by national authorities, for example in national UVAR guidance, procedures or frameworks. Most cities do, however, have information on their website, but not in machine-to-machine format.

There are national processes towards digitisation being undertaken in some MS – namely the Netherlands fully digitising and Germany digitising the maps – which have significantly helped the digitisation process undertaken by the UVAR Box CCs.

Moreover, making a software user-friendly for city authorities is a challenge. Partially due to earlier project timescales, but also from the nature of the DATEX II standard, which the software needed to follow in an agile way, to be able to cope with new versions of the UVAR DATEX II structure. It is expected that future work on UVAR Box can work on this further.

The CCs have digitised most UVARs based on information published by the authorities, and they were not always been validated by the cities, which incurs the risk that the information is not 100% accurate. All efforts have however, been taken to ensure that the data is as accurate and up to date as possible.

The data digitised was as accurate as possible based on the current and known future situation. However, schemes change and are added – as is seen in the research by the Clean Cities Campaign[11] based on the CLARS data indicating that the number of LEZs has increased by 42% since 2019. The sustainability work will look at ways of tackling this issue, but it is at the end of the day reliant on cities involvement.

Encouraging cities and municipalities to digitise UVAR data may be beneficial. This could be done for example through raising awareness of the benefits of publishing UVAR data digitally and in harmonised formats. Service providers using the converted data may also be a factor motivating cities to digitise UVAR data.

The experiences of the Member States participating in the pilot project indicate that the UVAR Box Tool should be further developed to ensure effective use of the tool by UVAR data creators. Additionally, continuous maintenance of the tool is necessary in the short- and long-term future. Maintenance aspects, as well as a sustainable strategy for making the tool available in the long-term, are elaborated on in D4.

As the UVAR Box project comes to an end, the link to the NAPCORE initiative is crucial. The NAPCORE initiative will take over the established UVAR DATEX II model, including ownership and further development of it. Working group 4.4 of the initiative is working on establishing a harmonised metadata catalogue and working group 5 is working on a European wide harmonised approach for compliance assessments. This work taken on as part of NAPCORE is highly relevant for sustainable digital UVAR data provision, as in the future, when these metadata descriptions are based on DCAT-AP, this will ensure even machine-to-machine access to UVAR data across different NAPs.

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11 https://cleancitiescampaign.org/wp-content/uploads/2022/07/The-development-trends-of-low-emission-and-zero-emission-zones-in-Europe-1.pdf

Glossary

Term	Definition
API	Application Programming Interface
CCB/CCs	Country Coaches Board/Country Coaches
CLARS	Charging, Low emission zones, Access Regulation Schemes – most complete platform currently identifying UVARs in Europe
CS	Congestion charging Scheme
CZ	Controlled Zones
DATEX II	Electronic language used in Europe for the exchange of traffic information and traffic data
DCAT-AP	DCAT Application Profile for data portals in Europe is a specification based on W3C's Data Catalogue vocabulary (DCAT) for describing public sector datasets in Europe
EMERG	Emergency scheme
EU EIP	European ITS Platform
FOSS	Free and open-source software
GitHub	Is a web-based Git or version control repository and internet hosting service which is mostly used for code
GIP	Graph Integration Platform
ITS	Intelligent Transport Systems
ITS Directive	Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport
LEZ	Low Emission Zone
LTZ	Limited Traffic Zone (ZTLA in Italy)
M2M	Machine-to-machine
MIMS	MIMS Ministero delle Infrastrutture e della Mobilità Sostenibili – Italian Ministry of infrastructure and sustainable mobility
MMTIS	Multi-modal Travel Information Services
MS	Member States
NAP	National Access Point
NAPCORE	National Access Point Coordination Organisation for Europe – project reference MOVE/B4-2020-123
NDW	National Road Data Portal
PARK	Parking Regulation

PED	Pedestrian Zone	
PSA	Programme Support Action	
RTTI	Real time traffic information	
SDG	Single Digital Gateway - European Unique portal to access information, procedures and assistance on EU and national rules and rights related the Single Market	
SHP	Shapefile format – is a popular geospatial vector data format for geographic information system (GIS) software. Esri shapefile is a zip archive that contains at least the shp, shx and dbf files	
SUMP	Sustainable Urban Mobility Plan	
TISPs	Traveller information service providers	
TN-ITS	Transport Network – Intelligent Transport Systems	
TRO	Traffic Regulation Order	
UBA	Umweltbundesamt - Germany's central environmental authority	
UVAR	Urban Vehicle Access Regulation	
XML	Extensible Markup Language – is a markup language that defines a set of rules for encoding documents in a format that is both human-readable and machine-readable. The design goals of XML emphasize simplicity, generality and usability across the Internet	
ZEZ	Zero Emission Zone	

Annexes

List of digitised UVAR DATEX II data

UVAR scheme name (UVAR_yyyymmdd_UVARtype_countrycode_city)	UVAR typology	Country
UVAR_20220504_LEZ_AT_Tirol_A12	LEZ	Austria
UVAR_20220629_LEZ_AT_Burgenland	LEZ	Austria
UVAR_20220629_LEZ_AT_Graz	LEZ	Austria
UVAR_20220629_LEZ_AT_NiederÖsterreich	LEZ	Austria
UVAR_20220629_LEZ_AT_OberÖsterreich	LEZ	Austria
UVAR_20220629_LEZ_AT_Steiermark	LEZ	Austria
UVAR_20220629_LEZ_AT_Wien	LEZ	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Kärnten	EMERG	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Oberösterreich	EMERG	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Salzburg_A1	EMERG	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Salzburg_A10	EMERG	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Steiermark	EMERG	Austria
UVAR_20220811_LEZ_AT_Emergency_Scheme_Wien	EMERG	Austria
UVAR_20220504_PED_AT_Vienna	PED	Austria
UVAR_20220711_PAR_AT_Dornbirn	PARK	Austria
UVAR_20220711_PAR_AT_Dornbirn_ Johann-Georg-Ulmer-Straße	PARK	Austria
UVAR_20220711_PAR_AT_Dornbirn_Hermann-Gmeiner-Park	PARK	Austria
UVAR_20220711_PAR_AT_Dornbirn_Nachbaurstraße	PARK	Austria
UVAR_20220711_PAR_AT_Graz_Europaplatz	PARK	Austria
UVAR_20220712_PAR_AT_Linz_Bahnhof	PARK	Austria
UVAR_20220712_PAR_AT_Linz_Landstraße	PARK	Austria
UVAR_20220712_PAR_AT_Linz_Reischkstraße	PARK	Austria
UVAR_20220713_PAR_AT_Amstetten	PARK	Austria
UVAR_20220713_PAR_AT_Baden_Bezirkshauptmannschaft	PARK	Austria
UVAR_20220713_PAR_AT_Baden_Blaue_Zone	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau_Am_Hundssteig	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau_Lederergasse	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau_Rathausplatz	PARK	Austria
UVAR_20220713_PAR_AT_St_Pölten_Georgestraße	PARK	Austria
UVAR_20220714_PAR_AT_Bisamberg	PARK	Austria
UVAR_20220714_PAR_AT_Blindenmarkt	PARK	Austria
UVAR_20220714_PAR_AT_Kilb	PARK	Austria
UVAR_20220714_PAR_AT_Klosterneuburg	PARK	Austria
UVAR_20220714_PAR_AT_Pernitz	PARK	Austria
UVAR_20220714_PAR_AT_Purgstall_an_der_Erlauf	PARK	Austria
UVAR_20220714_PAR_AT_Pyhra	PARK	Austria
UVAR_20220718_PAR_AT_Eisenstadt	PARK	Austria

UVAR_20220718_PAR_AT_Eisenstadt_Bad_Kissingen-Platz	PARK	Austria
UVAR_20220720_PAR_AT_Innsbruck_Alpenzoo	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Langenloiser_Straße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Langenloiser_Straße_2	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Steiner_Landstraße	PARK	Austria
UVAR_20220504_PAR_AT_Salzburg	PARK	Austria
UVAR_20220504_PAR_AT_Wien	PARK	Austria
UVAR_20220705_PAR_AT_Ferlach	PARK	Austria
UVAR_20220705_PAR_AT_Hall	PARK	Austria
UVAR_20220705_PAR_AT_Klagenfurt	PARK	Austria
UVAR_20220705_PAR_AT_Klagenfurt_Friedhof_Annabichl	PARK	Austria
UVAR_20220705_PAR_AT_Klagenfurt_Friedhof_Ruprecht	PARK	Austria
UVAR_20220705_PAR_AT_Linz	PARK	Austria
UVAR_20220705_PAR_AT_Wolfsberg	PARK	Austria
UVAR_20220705_PAR_AT_Wolfsberg_HoherPlatz	PARK	Austria
UVAR_20220705_PAR_AT_Zell_am_See	PARK	Austria
UVAR_20220711_PAR_AT_Dornbirn_Schillerstraße_Messerschmiede	PARK	Austria
UVAR_20220711_PAR_AT_Graz_Blaue_Zone	PARK	Austria
UVAR_20220711_PAR_AT_Graz_Lendplatz	PARK	Austria
UVAR_20220712_PAR_AT_Hohenems	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau_Dominikanerplatz	PARK	Austria
UVAR_20220713_PAR_AT_Krems_an_der_Donau_Sankt-Paul-Gasse	PARK	Austria
UVAR_20220713_PAR_AT_Mödling	PARK	Austria
UVAR_20220714_PAR_AT_Aschbach-Markt	PARK	Austria
UVAR_20220714_PAR_AT_Baden_Grüner_Zone	PARK	Austria
UVAR_20220714_PAR_AT_Gänserndorf	PARK	Austria
UVAR_20220714_PAR_AT_Gmünd	PARK	Austria
UVAR_20220714_PAR_AT_Innsbruck	PARK	Austria
UVAR_20220714_PAR_AT_Innsbruck_Innenstadt	PARK	Austria
UVAR_20220714_PAR_AT_Innsbruck_Olympiastraße	PARK	Austria
UVAR_20220714_PAR_AT_Mank	PARK	Austria
UVAR_20220714_PAR_AT_Mödling_Freiheitsplatz	PARK	Austria
UVAR_20220714_PAR_AT_Neunkirchen	PARK	Austria
UVAR_20220714_PAR_AT_Ottenschlag	PARK	Austria
UVAR_20220714_PAR_AT_Perchtoldsdorf	PARK	Austria
UVAR_20220714_PAR_AT_Purkersdorf	PARK	Austria
UVAR_20220714_PAR_AT_Purkersdorf_Hauptplatz	PARK	Austria
UVAR_20220718_PAR_AT_Eisenstadt_Grün	PARK	Austria
UVAR_20220718_PAR_AT_Innsbruck_Höttinger_Au	PARK	Austria
UVAR_20220718_PAR_AT_Innsbruck_Hungerburg	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Brandströmstraße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Bründlgraben	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Dr-Gschmeidler-Straße	PARK	Austria

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UVAR_20220720_PAR_AT_Krems_an_der_Donau_Förthofstraße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Göglstraße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Koloman-Wallisch-Straße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Mühlhofstraße	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Piaristengasse	PARK	Austria
UVAR_20220720_PAR_AT_Krems_an_der_Donau_Ringstraße	PARK	Austria
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UVAR_20220721_PAR_AT_Krems_an_der_Donau_Bertschingerstraße	PARK	Austria
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UVAR_20220721_PAR_AT_Krems_an_der_Donau_Göttweigergasse	PARK	Austria
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UVAR_20220721_PAR_AT_St_Pölten_Josefstraße	PARK	Austria
UVAR_20220721_PAR_AT_St_Pölten_Julius_Raab-Promenade	PARK	Austria
UVAR_20220721_PAR_AT_St_Pölten_Julius_Raab-Promenade_2	PARK	Austria
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UVAR_20220721_PAR_AT_St_Pölten_Klostergasse_3	PARK	Austria
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UVAR_20220721_PAR_AT_Wiener_Neustadt_Pottendorfer_Straße	PARK	Austria
UVAR_20220721_PAR_AT_Wiener_Neustadt_Rudolf_Kumbein-Gasse	PARK	Austria
UVAR_20220725_PAR_AT_Alland	PARK	Austria
UVAR_20220725_PAR_AT_Alland_Hauptstraße	PARK	Austria
UVAR_20220725_PAR_AT_Alland_Hauptstraße_2	PARK	Austria
UVAR_20220725_PAR_AT_Alland_Hauptstraße_3	PARK	Austria
UVAR_20220725_PAR_AT_Altenmarkt_an_der_Triesting_Hainfelder_Straße	PARK	Austria

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UVAR_20220725_PAR_AT_Amstetten_Ardaggerstraße_2	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Ardaggerstraße_3	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Bahnhofstraße	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Euratsfelder_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Fabrikstraße	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Hauptstraße	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Waidhofner_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Amstetten_Waidhofner_Straße_2	PARK	Austria
UVAR_20220725_PAR_AT_Bad_Vöslau_Hauptstraße	PARK	Austria
UVAR_20220725_PAR_AT_Bad_Vöslau_Hochstraße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Dammgasse	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Dr_Julius_Hahn-Straße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Leesdorfer_Hauptstraße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Thermenklinikum_Baden	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Waltersdorfer_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Weilburgstraße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Wiener_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Baden_Wimmergasse	PARK	Austria
UVAR_20220725_PAR_AT_Berndorf_Kislingerplatz	PARK	Austria
UVAR_20220725_PAR_AT_Berndorf_Leobersdorfer_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Berndorf_Leobersdorfer_Straße_2	PARK	Austria
UVAR_20220725_PAR_AT_Berndorf_Leobersdorfer_Straße_3	PARK	Austria
UVAR_20220725_PAR_AT_Euratsfeld	PARK	Austria
UVAR_20220725_PAR_AT_Haag	PARK	Austria
UVAR_20220725_PAR_AT_Haag_Bahnhofstraße	PARK	Austria
UVAR_20220725_PAR_AT_Haag_Linzer_Straße	PARK	Austria
UVAR_20220725_PAR_AT_Haag_Linzer_Straße_2	PARK	Austria
UVAR_20220725_PAR_AT_Hollenstein_an_der_Ybbs	PARK	Austria
UVAR_20220725_PAR_AT_Krems_an_der_Donau_Langenloiser_Straße_3	PARK	Austria
UVAR_20220725_PAR_AT_Neustadtl_an_der_Donau	PARK	Austria
UVAR_20220725_PAR_AT_Sankt_Valentin_Hauptstraße	PARK	Austria
UVAR_20220725_PAR_AT_Sankt_Valentin_Langenharterstraße	PARK	Austria
UVAR_20220725_PAR_AT_Sankt_Valentin_Raiffeisenstraße	PARK	Austria
UVAR_20220725_PAR_AT_Sankt_Valentin_Westbahnstraße	PARK	Austria
UVAR_20220725_PAR_AT_Sankt_Valentin_Westbahnstraße_2	PARK	Austria
UVAR_20220725_PAR_AT_Sonntagberg	PARK	Austria
UVAR_20220725_PAR_AT_Wolfsbach	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Bertholdgasse	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Hauptstraße	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Hauptstraße_2	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Hauptstraße_3	PARK	Austria

UVAR_20220726_PAR_AT_Klosterneuburg_Hauptstraße_4	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Hauptstraße_5	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Hermannstraße	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Kollersteig	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Leopoldstraße	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Maitisgasse	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Ortnergasse	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Rathausplatz	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Roman_Himmelbauerplatz	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Tauchnergasse	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Weidlinger_Straße	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Weidlinger_Straße_2	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Weidlinger_Straße_3	PARK	Austria
UVAR_20220726_PAR_AT_Klosterneuburg_Wiener_Straße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Aquädukt	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Babenbergergasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Bachgasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Badstraße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Bahnhofplatz	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Bahnstraße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Duursmangasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Friedhof	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Friedrich_Schiller-Straße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Friedrich_Schiller-Straße_2	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Friedrich_Schiller-Straße_3	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Friedrich_Schiller-Straße_4	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Grutschgasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Klostergasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Lerchengasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Neudorfer_Straße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Norbert_Spongl-Gasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Parkstraße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Spechtgasse	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Wiener_Straße	PARK	Austria
UVAR_20220726_PAR_AT_Mödling_Wiener_Straße_2	PARK	Austria
UVAR_20220728_PAR_AT_Leoben_Blaue_Zone	PARK	Austria
UVAR_20220728_PAR_AT_Leoben_Grüne_Zone	PARK	Austria
UVAR_20220728_PAR_AT_Waidhofen_an_der_Ybbs	PARK	Austria
UVAR_20220728_PAR_AT_Waidhofen_an_der_Ybbs_Innenstadt	PARK	Austria
UVAR_20220728_PAR_AT_Waidhofen_an_der_Ybbs_Kinoparkplatz	PARK	Austria
UVAR_20220728_PAR_AT_Waidhofen_an_der_Ybbs_Viadukt	PARK	Austria
UVAR_20220728_PAR_AT_Waidhofen_an_der_Ybbs_Ybbsitzerstraße	PARK	Austria
UVAR_20220729_PAR_AT_Waidhofen_an_der_Ybbs_Pfarrgarten	PARK	Austria

UVAR_20220729_PAR_AT_Waidhofen_an_der_Ybbs_Plenkerstraße	PARK	Austria
UVAR_20220801_PAR_AT_Ebreichsdorf_Wiener_Straße	PARK	Austria
UVAR_20220801_PAR_AT_Ebreichsdorf_Wiener_Straße_2	PARK	Austria
UVAR_20220801_PAR_AT_Ebreichsdorf_Wiener_Straße_3	PARK	Austria
UVAR_20220801_PAR_AT_Ebreichsdorf_Wiener_Straße_4	PARK	Austria
UVAR_20220801_PAR_AT_Enzesfeld-Lindabrunn	PARK	Austria
UVAR_20220801_PAR_AT_Waidhofen_an_der_Ybbs	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Bahngasse	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Bahngasse_2	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Leobersdorfer_Straße	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Leobersdorfer_Straße_2	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Leobersdorfer_Straße_3	PARK	Austria
UVAR_20220802_PAR_AT_Hirtenberg_Leobersdorfer_Straße_4	PARK	Austria
UVAR_20220802_PAR_AT_Leobersdorf	PARK	Austria
UVAR_20220802_PAR_AT_Oberwaltersdorf	PARK	Austria
UVAR_20220802_PAR_AT_Pfaffstätten	PARK	Austria
UVAR_20220802_PAR_AT_Pottenstein_Hauptplatz	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Hauptplatz	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Kirchenplatz	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Kirchenplatz_2	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Triester_Straße	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Wiener_Neustädter_Straße	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Wiener_Neustädter_Straße_2	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Wiener_Straße	PARK	Austria
UVAR_20220802_PAR_AT_Traiskirchen_Wiener_Straße_2	PARK	Austria
UVAR_20220803_PAR_AT_Bad_Deutsch-Altenburg	PARK	Austria
UVAR_20220803_PAR_AT_Bruck_an_der_Leitha	PARK	Austria
UVAR_20220803_PAR_AT_Ebergassing_Schwadorfer_Straße	PARK	Austria
UVAR_20220803_PAR_AT_Ebergassing_Schwadorfer_Straße_2	PARK	Austria
UVAR_20220803_PAR_AT_Ebergassing_Schwadorfer_Straße_3	PARK	Austria
UVAR_20220803_PAR_AT_Ebergassing_Wienerherberger_Straße	PARK	Austria
UVAR_20220803_PAR_AT_Fischamend_Enzersdorfer_Straße	PARK	Austria
UVAR_20220803_PAR_AT_Fischamend_Hainburger_Straße	PARK	Austria
UVAR_20220803_PAR_AT_Fischamend_Wiener_Straße	PARK	Austria
UVAR_20220803_PAR_AT_Gramatneusiedl	PARK	Austria
UVAR_20220803_PAR_AT_Gramatneusiedl_Hauptplatz	PARK	Austria
UVAR_20220803_PAR_AT_Gramatneusiedl_Hauptstraße	PARK	Austria
UVAR_20220803_PAR_AT_Gramatneusiedl_Hauptstraße_2	PARK	Austria
UVAR_20220803_PAR_AT_Hainburg_an_der_Donau	PARK	Austria
UVAR_20220803_PAR_AT_Himberg_Hauptstraße	PARK	Austria
UVAR_20220803_PAR_AT_Himberg_Wienerstraße	PARK	Austria
UVAR_20220803_PAR_AT_Mannersdorf_am_Leithagebirge	PARK	Austria
UVAR_20220803_PAR_AT_Mannersdorf_am_Leithagebirge_Hauptstraße	PARK	Austria

UVAR_20220803_PAR_AT_Petronell-Carnuntum	PARK	Austria
UVAR_20220803_PAR_AT_Trumau	PARK	Austria
UVAR_20220803_PAR_AT_Weissenbach_an_der_Triesting	PARK	Austria
UVAR_20220803_PAR_AT_Wolfsthal	PARK	Austria
UVAR_20220808_PAR_AT_Himberg	PARK	Austria
UVAR_20220808_PAR_AT_Lanzendorf	PARK	Austria
UVAR_20220808_PAR_AT_Maria-Lanzendorf	PARK	Austria
UVAR_20220808_PAR_AT_Maria-Lanzendorf_Hauptstraße	PARK	Austria
UVAR_20220808_PAR_AT_Schwadorf_Ebergassinger_Straße	PARK	Austria
UVAR_20220808_PAR_AT_Schwadorf_Fischamender_Straße	PARK	Austria
UVAR_20220808_PAR_AT_Schwechat_Hauptplatz	PARK	Austria
UVAR_20220808_PAR_AT_Schwechat_Wiener_Straße	PARK	Austria
UVAR_20220816_PAR_AT_Auersthal	PARK	Austria
UVAR_20220816_PAR_AT_Auersthal_Hauptstraße	PARK	Austria
UVAR_20220816_PAR_AT_Auersthal_Hauptstraße_2	PARK	Austria
UVAR_20220816_PAR_AT_Deutsch-Wagram	PARK	Austria
UVAR_20220816_PAR_AT_Deutsch-Wagram_Gänserndorferstraße	PARK	Austria
UVAR_20220816_PAR_AT_Schwechat	PARK	Austria
UVAR_20220816_PAR_AT_Schwechat_Brauhausstraße	PARK	Austria
UVAR_20220816_PAR_AT_Schwechat_Mannswörther_Straße	PARK	Austria
UVAR_20220816_PAR_AT_Schwechat_Mannswörther_Straße_2	PARK	Austria
UVAR_220504_LEZ_BE_Antwerp	LEZ	Belgium
UVAR_220504_LEZ_BE_Gent	LEZ	Belgium
UVAR_220608_LEZ_BE_Brussels	LEZ	Belgium
UVAR_220504_LTZ_zone_A_BE_Brussels	LTZ	Belgium
UVAR_220504_LTZ_BE_Gent	LTZ	Belgium
UVAR_20220714_LEZ_DE_Aachen	LEZ	Germany
UVAR_20220714_LEZ_DE_Augsburg	LEZ	Germany
UVAR_20220714_LEZ_DE_Berlin	LEZ	Germany
UVAR_20220714_LEZ_DE_Bochum	LEZ	Germany
UVAR_20220714_LEZ_DE_Bonn	LEZ	Germany
UVAR_20220714_LEZ_DE_Bottrop	LEZ	Germany
UVAR_20220714_LEZ_DE_Bremen	LEZ	Germany
UVAR_20220714_LEZ_DE_Castrop-Rauxel	LEZ	Germany
UVAR_20220714_LEZ_DE_Darmstadt	LEZ	Germany
UVAR_20220714_LEZ_DE_Dinslaken	LEZ	Germany
UVAR_20220714_LEZ_DE_Dortmund	LEZ	Germany
UVAR_20220714_LEZ_DE_Duesseldorf	LEZ	Germany
UVAR_20220714_LEZ_DE_Duisburg	LEZ	Germany
UVAR_20220714_LEZ_DE_Eschweiler	LEZ	Germany
UVAR_20220714_LEZ_DE_Essen	LEZ	Germany
UVAR_20220714_LEZ_DE_Frankfurt_am_Main	LEZ	Germany
UVAR_20220714_LEZ_DE_Freiburg	LEZ	Germany

UVAR_20220714_LEZ_DE_Gelsenkirchen	LEZ	Germany
UVAR_20220714_LEZ_DE_Gladbeck	LEZ	Germany
UVAR_20220714_LEZ_DE_Hagen	LEZ	Germany
UVAR_20220714_LEZ_DE_Halle_an_der_Saale	LEZ	Germany
UVAR_20220714_LEZ_DE_Hannover	LEZ	Germany
UVAR_20220714_LEZ_DE_Heidelberg	LEZ	Germany
UVAR_20220714_LEZ_DE_Heidenheim	LEZ	Germany
UVAR_20220714_LEZ_DE_Heilbronn	LEZ	Germany
UVAR_20220714_LEZ_DE_Herne	LEZ	Germany
UVAR_20220714_LEZ_DE_Herrenberg	LEZ	Germany
UVAR_20220714_LEZ_DE_Herten	LEZ	Germany
UVAR_20220714_LEZ_DE_Ilsfeld	LEZ	Germany
UVAR_20220714_LEZ_DE_Karlsruhe	LEZ	Germany
UVAR_20220714_LEZ_DE_Koeln	LEZ	Germany
UVAR_20220714_LEZ_DE_Krefeld	LEZ	Germany
UVAR_20220714_LEZ_DE_Langenfeld	LEZ	Germany
UVAR_20220714_LEZ_DE_Leipzig	LEZ	Germany
UVAR_20220714_LEZ_DE_Limburg_an_der_Lahn	LEZ	Germany
UVAR_20220714_LEZ_DE_Magdeburg	LEZ	Germany
UVAR_20220714_LEZ_DE_Mainz	LEZ	Germany
UVAR_20220714_LEZ_DE_Mannheim	LEZ	Germany
UVAR_20220714_LEZ_DE_Marburg	LEZ	Germany
UVAR_20220714_LEZ_DE_Moenchengladbach	LEZ	Germany
UVAR_20220714_LEZ_DE_Muehlacker	LEZ	Germany
UVAR_20220714_LEZ_DE_Muelheim	LEZ	Germany
UVAR_20220714_LEZ_DE_Muenchen	LEZ	Germany
UVAR_20220714_LEZ_DE_Muenster	LEZ	Germany
UVAR_20220714_LEZ_DE_Neuss	LEZ	Germany
UVAR_20220714_LEZ_DE_ Neu-Ulm	LEZ	Germany
UVAR_20220714_LEZ_DE_Oberhausen	LEZ	Germany
UVAR_20220714_LEZ_DE_Offenbach	LEZ	Germany
UVAR_20220714_LEZ_DE_Osnabrueck	LEZ	Germany
UVAR_20220714_LEZ_DE_Overath	LEZ	Germany
UVAR_20220714_LEZ_DE_Pfinztal	LEZ	Germany
UVAR_20220714_LEZ_DE_Pforzheim	LEZ	Germany
UVAR_20220714_LEZ_DE_Recklinghausen	LEZ	Germany
UVAR_20220714_LEZ_DE_Regensburg	LEZ	Germany
UVAR_20220714_LEZ_DE_Remscheid	LEZ	Germany
UVAR_20220714_LEZ_DE_Reutlingen	LEZ	Germany
UVAR_20220714_LEZ_DE_Schramberg	LEZ	Germany
UVAR_20220714_LEZ_DE_Schwaebisch_Gmuend	LEZ	Germany
UVAR_20220714_LEZ_DE_Siegen	LEZ	Germany
UVAR_20220714_LEZ_DE_Stuttgart	LEZ	Germany

UVAR_20220714_LEZ_DE_Tuebingen	LEZ	Germany
UVAR_20220714_LEZ_DE_Ulm	LEZ	Germany
UVAR_20220714_LEZ_DE_Urbach	LEZ	Germany
UVAR_20220714_LEZ_DE_Wendlingen	LEZ	Germany
UVAR_20220714_LEZ_DE_Wiesbaden	LEZ	Germany
UVAR_20220714_LEZ_DE_Wuppertal	LEZ	Germany
UVAR_20220607_LEZ_IT_Abbiategrasso	LEZ	Italy
UVAR_20220621_LEZ_IT_Acqui Terme	LEZ	Italy
UVAR_20220629_LEZ_IT_Adria	LEZ	Italy
UVAR_20220428_LEZ_IT_Alba	LEZ	Italy
UVAR_20220428_LEZ_IT_Alessandria	LEZ	Italy
UVAR_20220621_LEZ_IT_Alpignano	LEZ	Italy
UVAR_20220428_LEZ_IT_Altopascio	LEZ	Italy
UVAR_20220428_LEZ_IT_Arezzo	LEZ	Italy
UVAR_20220607_LEZ_IT_Argelato	LEZ	Italy
UVAR_20220621_LEZ_IT_Arona	LEZ	Italy
UVAR_20220428_LEZ_IT_Asti	LEZ	Italy
UVAR_20220621_LEZ_IT_Avigliana	LEZ	Italy
UVAR_20220629_LEZ_IT_Badia Polesine	LEZ	Italy
UVAR_20220621_LEZ_IT_Baldissero Torinese	LEZ	Italy
UVAR_20220512_LEZ_IT_Bassano del Grappa	LEZ	Italy
UVAR_20220621_LEZ_IT_Beinasco	LEZ	Italy
UVAR_20220512_LEZ_IT_Belluno	LEZ	Italy
UVAR_20220607_LEZ_IT_Bergamo	LEZ	Italy
UVAR_20220428_LEZ_IT_Biella	LEZ	Italy
UVAR_20220607_LEZ_IT_Bollate	LEZ	Italy
UVAR_20220607_LEZ_IT_Bologna	LEZ	Italy
UVAR_20220621_LEZ_IT_Borgaro Torinese	LEZ	Italy
UVAR_20220621_LEZ_IT_Borgo San Dalmazzo	LEZ	Italy
UVAR_20220621_LEZ_IT_Borgomanero	LEZ	Italy
UVAR_20220621_LEZ_IT_Borgosesia	LEZ	Italy
UVAR_20220621_LEZ_IT_Bra	LEZ	Italy
UVAR_20220607_LEZ_IT_Brescia	LEZ	Italy
UVAR_20220607_LEZ_IT_Brugherio	LEZ	Italy
UVAR_20220621_LEZ_IT_Busca	LEZ	Italy
UVAR_20220607_LEZ_IT_Busto Arsizio	LEZ	Italy
UVAR_20220607_LEZ_IT_Calderara di Reno	LEZ	Italy
UVAR_20220428_LEZ_IT_Calenzano	LEZ	Italy
UVAR_20220621_LEZ_IT_Cambiano	LEZ	Italy
UVAR_20220621_LEZ_IT_Cameri	LEZ	Italy
UVAR_20220428_LEZ_IT_Campi Bisenzio	LEZ	Italy
UVAR_20220621_LEZ_IT_Candiolo	LEZ	Italy
UVAR_20220621_LEZ_IT_Canelli	LEZ	Italy

UVAR_20220607_LEZ_IT_Cantu	LEZ	Italy
UVAR_20220428_LEZ_IT_Capannori	LEZ	Italy
UVAR_20220621_LEZ_IT_Carignano	LEZ	Italy
UVAR_20220621_LEZ_IT_Carmagnola	LEZ	Italy
UVAR_20220607_LEZ_IT_Carpi	LEZ	Italy
UVAR_20220428_LEZ_IT_Carrara	LEZ	Italy
UVAR_20220428_LEZ_IT_Casale Monferrato	LEZ	Italy
UVAR_20220607_LEZ_IT_Casalecchio di Reno	LEZ	Italy
UVAR_20220621_LEZ_IT_Caselle Torinese	LEZ	Italy
UVAR_20220607_LEZ_IT_Castegnaso	LEZ	Italy
UVAR_20220607_LEZ_IT_Castel Maggiore	LEZ	Italy
UVAR_20220607_LEZ_IT_Castelfranco Emilia	LEZ	Italy
UVAR_20220512_LEZ_IT_Castelfranco Veneto	LEZ	Italy
UVAR_20220607_LEZ_IT_Cento	LEZ	Italy
UVAR_20220607_LEZ_IT_Cernusco sul Naviglio	LEZ	Italy
UVAR_20220607_LEZ_IT_Cervia	LEZ	Italy
UVAR_20220607_LEZ_IT_Cesano Maderno	LEZ	Italy
UVAR_20220607_LEZ_IT_Cesena	LEZ	Italy
UVAR_20220428_LEZ_IT_Chieri	LEZ	Italy
UVAR_20220512_LEZ_IT_Chioggia	LEZ	Italy
UVAR_20220621_LEZ_IT_Chivasso	LEZ	Italy
UVAR_20220607_LEZ_IT_Cinisello Balsamo	LEZ	Italy
UVAR_20220629_LEZ_IT_Cinto Euganeo	LEZ	Italy
UVAR_20220621_LEZ_IT_Cirie	LEZ	Italy
UVAR_20220629_LEZ_IT_Cittadella	LEZ	Italy
UVAR_20220428_LEZ_IT_Collegno	LEZ	Italy
UVAR_20220607_LEZ_IT_Cologno Monzese	LEZ	Italy
UVAR_20220607_LEZ_IT_Como	LEZ	Italy
UVAR_20220428_LEZ_IT_Comune di Signa	LEZ	Italy
UVAR_20220512_LEZ_IT_Conegliano	LEZ	Italy
UVAR_20220607_LEZ_IT_Corsico	LEZ	Italy
UVAR_20220629_LEZ_IT_Cossato	LEZ	Italy
UVAR_20220607_LEZ_IT_Crema	LEZ	Italy
UVAR_20220607_LEZ_IT_Cremona	LEZ	Italy
UVAR_20220428_LEZ_IT_Cuneo	LEZ	Italy
UVAR_20220607_LEZ_IT_Desenzano del Garda	LEZ	Italy
UVAR_20220607_LEZ_IT_Desio	LEZ	Italy
UVAR_20220629_LEZ_IT_Druento	LEZ	Italy
UVAR_20220428_LEZ_IT_Empoli	LEZ	Italy
UVAR_20220629_LEZ_IT_Este	LEZ	Italy
UVAR_20220607_LEZ_IT_Faenza	LEZ	Italy
UVAR_20220629_LEZ_IT_Feltre	LEZ	Italy
UVAR_20220607_LEZ_IT_Ferrara	LEZ	Italy

UVAR_20220607_LEZ_IT_Fiorano Modenese	LEZ	Italy
UVAR_20220428_LEZ_IT_Firenze	LEZ	Italy
UVAR_20220607_LEZ_IT_Forli	LEZ	Italy
UVAR_20220607_LEZ_IT_Formigine	LEZ	Italy
UVAR_20220621_LEZ_IT_Fossano	LEZ	Italy
UVAR_20220607_LEZ_IT_Gallarate	LEZ	Italy
UVAR_20220629_LEZ_IT_Galliate	LEZ	Italy
UVAR_20220629_LEZ_IT_Giaveno	LEZ	Italy
UVAR_20220607_LEZ_IT_Granarolo dell'emilia	LEZ	Italy
UVAR_20220428_LEZ_IT_Grosseto	LEZ	Italy
UVAR_20220428_LEZ_IT_Grugliasco	LEZ	Italy
UVAR_20220607_LEZ_IT_Imola	LEZ	Italy
UVAR_20220621_LEZ_IT_Ivrea	LEZ	Italy
UVAR_20220621_LEZ_IT_La Loggia	LEZ	Italy
UVAR_20220607_LEZ_IT_Lecco	LEZ	Italy
UVAR_20220629_LEZ_IT_Legnago	LEZ	Italy
UVAR_20220607_LEZ_IT_Legnano	LEZ	Italy
UVAR_20220629_LEZ_IT_Leini	LEZ	Italy
UVAR_20220607_LEZ_IT_Limbiate	LEZ	Italy
UVAR_20220607_LEZ_IT_Lissone	LEZ	Italy
UVAR_20220428_LEZ_IT_Livorno	LEZ	Italy
UVAR_20220607_LEZ_IT_Lodi	LEZ	Italy
UVAR_20220428_LEZ_IT_Lucca	LEZ	Italy
UVAR_20220607_LEZ_IT_Lugo	LEZ	Italy
UVAR_20220629_LEZ_IT_Mansue	LEZ	Italy
UVAR_20220607_LEZ_IT_Mantova	LEZ	Italy
UVAR_20220629_LEZ_IT_Mappano	LEZ	Italy
UVAR_20220607_LEZ_IT_Maranello	LEZ	Italy
UVAR_20220607_LEZ_IT_Milano	LEZ	Italy
UVAR_20220512_LEZ_IT_Mira	LEZ	Italy
UVAR_20220629_LEZ_IT_Mirano	LEZ	Italy
UVAR_20220607_LEZ_IT_Modena	LEZ	Italy
UVAR_20220428_LEZ_IT_Moncalieri	LEZ	Italy
UVAR_20220621_LEZ_IT_Mondovi	LEZ	Italy
UVAR_20220629_LEZ_IT_Monselice	LEZ	Italy
UVAR_20220512_LEZ_IT_Montebelluna	LEZ	Italy
UVAR_20220607_LEZ_IT_Monza	LEZ	Italy
UVAR_20220428_LEZ_IT_Nichelino	LEZ	Italy
UVAR_20220629_LEZ_IT_Nizza Monferrato	LEZ	Italy
UVAR_20220428_LEZ_IT_Novara	LEZ	Italy
UVAR_20220621_LEZ_IT_Novi Ligure	LEZ	Italy
UVAR_20220629_LEZ_IT_Oleggio	LEZ	Italy
UVAR_20220629_LEZ_IT_Omegna	LEZ	Italy

UVAR_20220621_LEZ_IT_Orbassano	LEZ	Italy
UVAR_20220629_LEZ_IT_Ovada	LEZ	Italy
UVAR_20220607_LEZ_IT_Ozzano dell'Emilia	LEZ	Italy
UVAR_20220607_LEZ_IT_Paderno Dugnano	LEZ	Italy
UVAR_20220511_LEZ_IT_Padova	LEZ	Italy
UVAR_20220607_LEZ_IT_Parma	LEZ	Italy
UVAR_20220607_LEZ_IT_Pavia	LEZ	Italy
UVAR_20220629_LEZ_IT_Pecetto Torinese	LEZ	Italy
UVAR_20220607_LEZ_IT_Piacenza	LEZ	Italy
UVAR_20220629_LEZ_IT_Pianezza	LEZ	Italy
UVAR_20220428_LEZ_IT_Pinerolo	LEZ	Italy
UVAR_20220629_LEZ_IT_Pino Torinese	LEZ	Italy
UVAR_20220629_LEZ_IT_Piobesi Torinese	LEZ	Italy
UVAR_20220607_LEZ_IT_Pioltello	LEZ	Italy
UVAR_20220629_LEZ_IT_Piossasco	LEZ	Italy
UVAR_20220629_LEZ_IT_Piove di Sacco	LEZ	Italy
UVAR_20220428_LEZ_IT_Pisa	LEZ	Italy
UVAR_20220629_LEZ_IT_Poirino	LEZ	Italy
UVAR_20220428_LEZ_IT_Prato	LEZ	Italy
UVAR_20220607_LEZ_IT_Ravenna	LEZ	Italy
UVAR_20220607_LEZ_IT_Reggio nell'Emilia	LEZ	Italy
UVAR_20220607_LEZ_IT_Rho	LEZ	Italy
UVAR_20220607_LEZ_IT_Riccione	LEZ	Italy
UVAR_20220607_LEZ_IT_Rimini	LEZ	Italy
UVAR_20220621_LEZ_IT_Rivalta di Torino	LEZ	Italy
UVAR_20220629_LEZ_IT_Rivarolo Canavese	LEZ	Italy
UVAR_20220428_LEZ_IT_Rivoli	LEZ	Italy
UVAR_20220512_LEZ_IT_Rovigo	LEZ	Italy
UVAR_20220607_LEZ_IT_Rozzano	LEZ	Italy
UVAR_20220607_LEZ_IT_Rubiera	LEZ	Italy
UVAR_20220629_LEZ_IT_Saluzzo	LEZ	Italy
UVAR_20220629_LEZ_IT_San Bonifacio	LEZ	Italy
UVAR_20220512_LEZ_IT_San Dona di Piave	LEZ	Italy
UVAR_20220607_LEZ_IT_San Donato Milanese	LEZ	Italy
UVAR_20220607_LEZ_IT_San Giuliano Milanese	LEZ	Italy
UVAR_20220607_LEZ_IT_San Lazzaro di Savena	LEZ	Italy
UVAR_20220629_LEZ_IT_San Maurizio Canavese	LEZ	Italy
UVAR_20220629_LEZ_IT_San Mauro Torinese	LEZ	Italy
UVAR_20220629_LEZ_IT_Santena	LEZ	Italy
UVAR_20220607_LEZ_IT_Saronno	LEZ	Italy
UVAR_20220607_LEZ_IT_Sassuolo	LEZ	Italy
UVAR_20220621_LEZ_IT_Savigliano	LEZ	Italy
UVAR_20220512_LEZ_IT_Schio	LEZ	Italy

UVAR_20220607_LEZ_IT_Segrate	LEZ	Italy
UVAR_20220607_LEZ_IT_Seregno	LEZ	Italy
UVAR_20220428_LEZ_IT_Sesto Fiorentino	LEZ	Italy
UVAR_20220607_LEZ_IT_Sesto San Giovanni	LEZ	Italy
UVAR_20220428_LEZ_IT_Settimo Torinese	LEZ	Italy
UVAR_20220428_LEZ_IT_Siena	LEZ	Italy
UVAR_20220428_LEZ_IT_Torino	LEZ	Italy
UVAR_20220621_LEZ_IT_Tortona	LEZ	Italy
UVAR_20220621_LEZ_IT_Trecate	LEZ	Italy
UVAR_20220607_LEZ_IT_Treviglio	LEZ	Italy
UVAR_20220511_LEZ_IT_Treviso	LEZ	Italy
UVAR_20220629_LEZ_IT_Trofarello	LEZ	Italy
UVAR_20220629_LEZ_IT_Valdilana	LEZ	Italy
UVAR_20220629_LEZ_IT_Valenza	LEZ	Italy
UVAR_20220607_LEZ_IT_Valsamoggia	LEZ	Italy
UVAR_20220607_LEZ_IT_Varese	LEZ	Italy
UVAR_20220428_LEZ_IT_Venaria Reale	LEZ	Italy
UVAR_20220511_LEZ_IT_Venezia	LEZ	Italy
UVAR_20220621_LEZ_IT_Verbania	LEZ	Italy
UVAR_20220428_LEZ_IT_Vercelli	LEZ	Italy
UVAR_20220511_LEZ_IT_Verona	LEZ	Italy
UVAR_20220428_LEZ_IT_Viareggio	LEZ	Italy
UVAR_20220511_LEZ_IT_Vicenza	LEZ	Italy
UVAR_20220607_LEZ_IT_Vigevano	LEZ	Italy
UVAR_20220512_LEZ_IT_Villafranca di Verona	LEZ	Italy
UVAR_20220629_LEZ_IT_Vinovo	LEZ	Italy
UVAR_20220607_LEZ_IT_Voghera	LEZ	Italy
UVAR_20220629_LEZ_IT_Volpiano	LEZ	Italy
UVAR_20220607_LEZ_IT_Zola Predosa	LEZ	Italy
UVAR_20220804_LEZ_IT_Padova_ES_I	EMERG	Italy
UVAR_20220804_LEZ_IT_Padova_ES_II	EMERG	Italy
UVAR_20220804_LEZ_IT_Rivalta di Torino_ES_I	EMERG	Italy
UVAR_20220804_LEZ_IT_Torino_ES_I	EMERG	Italy
UVAR_20220804_LEZ_IT_Torino_ES_II	EMERG	Italy
UVAR_20220804_LEZ_IT_Rivalta di Torino_ES_II	EMERG	Italy
UVAR_20220804_LEZ_IT_Venezia_ES_I	EMERG	Italy
UVAR_20220804_LEZ_IT_Venezia_ES_II	EMERG	Italy
UVAR_20220513_LTZ_IT_Aquila	LTZ	Italy
UVAR_20220607_LTZ_IT_Milano_AREA_C	LTZ	Italy
UVAR_20220503_LTZ_IT_Torino	LTZ	Italy
UVAR_20220517_LEZ_NL_Amsterdam	LEZ	Netherlands
*Amsterdam	LEZ	Netherlands
*Arnhem	LEZ	Netherlands

*Breda		LEZ	Netherlands
*Delft		LEZ	Netherlands
*'s-Hertogenbosch		LEZ	Netherlands
*The Hague		LEZ	Netherlands
*Eindhoven		LEZ	Netherlands
*Haarlem		LEZ	Netherlands
*Leiden		LEZ	Netherlands
*Maastricht		LEZ	Netherlands
*Rijswijk		LEZ	Netherlands
*Rotterdam		LEZ	Netherlands
*Rotterdam Maasvlakte		LEZ	Netherlands
*Tilburg		LEZ	Netherlands
*Utrecht		LEZ	Netherlands
UVAR_20220517_LTZ_NL_Amsterdam		LTZ	Netherlands
UVAR_20220607_LEZ_PT_LISBON1		LEZ	Portugal
UVAR_20220607_LEZ_PT_LISBON2		LEZ	Portugal
UVAR_20220822_LTZ_PT_LISBON1		LTZ	Portugal

* Dutch LEZ available at https://opendata.ndw.nu/milieuzones.xml

CCs feedback on the usability of the tool

Validation author: André Calçada (ARMIS)

Validation date: 01/09/2022

Use case	Validity (Y – yes / N – no)	Observations
User interface and basic functions		
Login	Y	
Location search	Y	
List search		
• List/map filter	Y	
Map		
• Zoom in/out	Y	
• Search map	Y	
• Zoom to default extent	Y	
Home		
• Home	Y	
Top bar		
• Hide map	Y	
• Language	Y	Some words are not translated like valid (UVAR List tag)
• User manual	Y	Needs to be updated after having a final version
• Current user		
o Change password	Y	
• Logout	Y	
List		
• Clone as template	Y	
• Zoom to geometry	Y	
• Edit UVAR	Y	
o Extended editing mode	Y	
• Open UVAR	Y	

• Delete UVAR	Y	
Language selection	y	
User manual	y	
Logout	y	
UVAR creation		
Import and export	Y	
Import of a fully digitized UVAR (DATEX II)		
• Select file	Y	
• Validation	Y	
• Import	Y	
• Export	Y	
• Export with templates	Y	
Semi-structured data import		Not able to test
Creation of a new UVAR	Y	
Select template	Y	
UVAR form		
• Zone table - name of UVAR	Y	
• Zone table – type of UVAR	Y	
• Zone table – traffic regulation order	Y	
• Zone table – traffic regulation	Y	
o Conditions (validity, location, applicability, exemptions)	Y	
Save	Y	
Save and exit	Y	
Validation messages		
• Save anyway	Y	
Geometry/location		
• Zoom to geometry	Y	

Use case	Validity (Y – yes / N – no)	Observations
• Draw geometry	Y	
• Edit geometry	Y	
• Add geometry from file	Y	
○ Select file	Y	
○ Search features	Y	
○ Select feature	Y	
Open UVAR		
Open UVAR	Y	
Edit an existing UVAR		
Edit UVAR	Y	
Templates		
Create an UVAR based on existing template	Y	
Save existing UVAR as a template	Y	
Manage and edit templates	Y	
Clone templates	Y	
General comments		
The application is a bit slow, the API take too long		

Validation author: Claudio Dispearti (MemEx)

Validation date: 05/09/2022

Use case	Validity (Y – yes / N – no)	Observations
User interface and basic functions		
Login	Y	
Location search	Y	

List search		N	Trying to search the string "_IT_" the returned results are different by the expectation.
• List/map filter		Y	The different lists (UVARs and Templates) could be better indicated
Map			
• Zoom in/out		Y	
• Search map		Y	
• Zoom to default extent		Y	Currently is set on Aachen. The zoom should be focused on the country of the operator (at the moment this information is not included)
Home			
• Home		Y	
Top bar			
• Hide map		Y	
• Language		Y	Some strings have not been translated (e.g. the tooltip text related the account username)
• User manual		Y	
• Current user			
o Change password		Y	
• Logout		N	The tool doesn't allow me to logout
List			
• Clone as template		-	The function is available. In any case shall be verified the compliance of the effective information kept compared with the expected ones.
• Zoom to geometry		Y	
• Edit UVAR		Y	
o Extended editing mode		Y	
• Open UVAR		-	The function is not available.
• Delete UVAR		Y	
• Open UVAR		Duplicated record	

Language selection	Y	
User manual	Y	
Logout	N	The tool doesn't allow me to logout
UVAR creation		
Import and export	Y	The function is available and accessible through the present command but a bug shall be solved related the "export with template" function
Import of a fully digitized UVAR (DATEX II)		
• Select file	Y	
• Validation	Y	
• Import	Y	
• Export	Y	
• Export with templates	Y	In this case, after export action and related unzip activity the PC returns an error.
Semi-structured data import	-	Test not performed
Creation of a new UVAR	Y	The tool is not enough user friendly. In the editing mode the available commands could be better organized. In particular could be difficult a correct understanding of fields to include or less for UVAR definition.
Select template	Y	
UVAR form	Y	The information and functions are available but, as already mentioned, the tool could be more user friendly.
• Zone table - name of UVAR	Y	
• Zone table – type of UVAR	Y	
• Zone table – traffic regulation order	Y	
• Zone table – traffic regulation	Y	
o Conditions (validity, location, applicability, exemptions)	Y	
Save	Y	

Save and exit		Y	
Validation messages		Y	
• Save anyway		Y	In some cases, if an error is present, it is correctly indicated in pop up message box highlighted in red color. In other cases, clicking on "I" icon, the explanation displayed is not understandable because it is referred to the lines and column of .xml file.
Geometry/location		Y	
• Zoom to geometry		Y	
• Draw geometry		Y	In case of error the correction of the drawn geometry is possible clicking the "Alt" button on keyboard and left-click on mouse. This command could be better suggested / made available to the operator through, for example, specific activating button.
• Edit geometry		Y	
• Add geometry from file		Y	
o Select file		Y	
o Search features		Y	
o Select feature		Y	
Open UVAR			
Open UVAR			
Edit an existing UVAR			
Edit UVAR		Y	
Templates			
Create an UVAR based on existing template		-	This operation shall be better investigated because in some cases the tool return errors. At the moment it isn't clear the cause of the emerged errors.
Save existing UVAR as a template		-	This functionality shall be verified again. In some cases, it was been not clear if all the necessary information has been saved in the template.

Use case	Validity (Y – yes / N – no)	Observations
Manage and edit templates	-	Starting the UVAR definition from an existing template the operation, in some case, seems didn't work correctly. More verifications shall be carried out.
Clone templates	N	
General comments		
Some additional information could be made available to operators. For example: in UVARs list the information related the validity period of specific UVAR should be showed. Furthermore, the operator could be able to modify it in a fast way directly in this view: this could be an important function to made available in case of annual UVAR (as LEZ in north Italy) to be renewed.		

Validation author: Florian Hilti (PRISMA solutions)

Validation date: 05/09/2022

Use case	Validity (Y – yes / N – no)	Observations
User interface and basic functions		
Login	Y	
Location search	Y	
List search	Y	
• List/map filter	Y	
Map	Y	
• Zoom in/out	Y	
• Search map	Y	

• Zoom to default extent	Y	
Home	Y	
• Home	Y	
Top bar	Y	
• Hide map	Y	
• Language	Y	
• User manual	Y	
• Current user	Y	
o Change password	Y	
• Logout	Y	
List	Y	
• Clone as template	Y	
• Zoom to geometry	Y	
• Edit UVAR	Y	
o Extended editing mode	Y	
• Open UVAR	Y	
• Delete UVAR	Y	
Language selection	Y	
User manual	Y	
Logout	Y	
UVAR creation		
Import and export	Y	
Import of a fully digitized UVAR (DATEX II)	Y	
• Select file	Y	
• Validation	Y	
• Import	Y	
• Export	Y	
• Export with templates	Y	

Semi-structured data import	-	Not tested, because no semi-structured data for Germany available.
Creation of a new UVAR	Y	
Select template	Y	
UVAR form	Y	
• Zone table - name of UVAR	Y	
• Zone table – type of UVAR	Y	
• Zone table – traffic regulation order	Y	
• Zone table – traffic regulation	Y	
o Conditions (validity, location, applicability, exemptions)	Y	
Save	Y	
Save and exit	Y	
Validation messages	Y	
• Save anyway	Y	
Geometry/location	Y	
• Zoom to geometry	Y	
• Draw geometry	Y	
• Edit geometry	Y	
• Add geometry from file	Y	
o Select file	Y	
o Search features	Y	
o Select feature	Y	
Open UVAR		
Open UVAR	Y	
Edit an existing UVAR		
Edit UVAR	Y	
Templates		
Create an UVAR based on existing template	Y	

Use case	Validity (Y – Y / N – no)	
Save existing UVAR as a template	Y	
Manage and edit templates	Y	
Clone templates	Y	
General comments		
The application is a bit generic, since it is based on the DATEX II data model for UVARs. As a future improvement, the usability could be more orientated on the user journey and thus enhance the overall user experience.		

*Validation author: Stefanie Nikl, Emily Stevens (AustriaTech)*

Validation date: 05/09/2022

Use case	Validity (Y – Y / N – no)	Observations
User interface and basic functions		
Login	Y	
Location search	Y	
List search	Y	
• List/map filter	Y	• Filter is not working as intended, for example "group: Austria" only shows a part of Austrian UVARs • Search works only partially, after finding results it often resets and you have to search again.
Map		
• Zoom in/out	Y	
• Search map	Y	
• Zoom to default extent	Y	Why is Aachen the default zoom?
Home		
• Home	Y	

Top bar			
	• Hide map	Y	
	• Language	Y	Controlled Zone Type à "ControlledZoneTypeEnum" is not in German; Applicable day "DayEnum", Special Day Type "SpecialDayTypeEnum" is not in German
	• User manual	Y	Is not up to date
	• Current user	Y	
	o Change password	Y	
	• Logout	Y	
List			
	• Clone as template	Y	Name is "save as template"
	• Zoom to geometry	Y	
	• Edit UVAR	Y	
	o Extended editing mode	Y	
	• Open UVAR	Y	Name is "edit UVAR"
	• Delete UVAR	Y	
	• Open UVAR	Y	
Language selection		Y	
User manual		Y	The Same points as in "Top bar"
Logout		Y	
UVAR creation			
Import and export		Y	
Import of a fully digitized UVAR (DATEX II)		N	
	• Select file	Y	No multiple selection of files.
	• Validation	Y	
	• Semi-structured data import	N	No test data or documentation
	• Import	N	Could not import the exported UVARs.
	• Export	Y	

• Export with templates		Y	
Creation of a new UVAR		Y	Only based on existing template
Select template		Y	
UVAR form			
• Zone table - name of UVAR		Y	
• Zone table – type of UVAR		Y	
• Zone table – traffic regulation order		Y	
• Zone table – traffic regulation		Y	
o Conditions (validity, location, applicability, exemptions)		Y	
Save		Y	
Save and exit		Y	
Validation messages		Y	
• Save anyway		Y	
Geometry/location		Y	
• Zoom to geometry		Y	
• Draw geometry		Y	
• Edit geometry		Y	
• Add geometry from file		Y	
o Select file		Y	No multiple selection of files.
o Search features		Y	
o Select feature		Y	
Open UVAR			
Open UVAR			Y
Edit an existing UVAR			
Edit UVAR		Y	
Templates			
Create an UVAR based on existing template		Y	

Save existing UVAR as a template		Y	
Manage and edit templates		Y	
Clone templates		Y	Named "save as template"

General comments
A visible UVAR Box Tool version ID would be nice.
A multiple selection of Import and Location data would be useful.
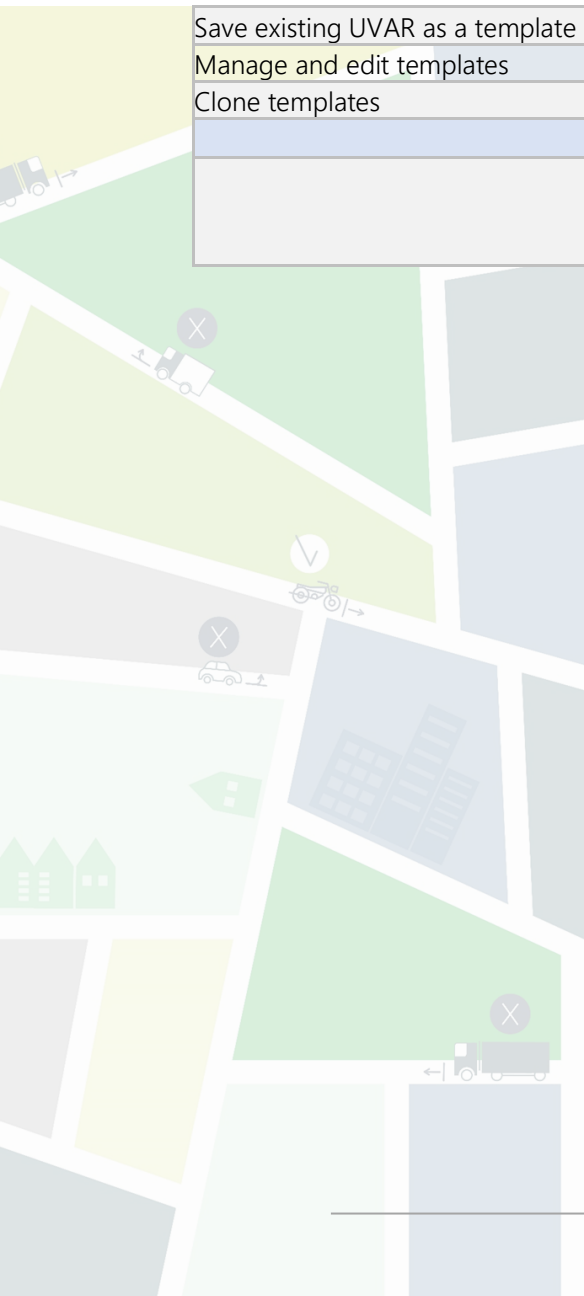
Questionnaire to users: <u>link to the questionnaire</u>

UVAR Box Tool - User acceptance

As a user of the UVAR Box Tool, your feedback is of extreme importance to us. Under this questionnaire, you can evaluate the UVAR Box Tool, the associated documentation, and the support/training material that has been made available. By doing so, we will be able to identify opportunities for improvement and guidelines for future developments.
The information is confidential, and no personal identifiers will be collected.

1. User identification

1.1 In which category of users does your profile fits? *

○ City/municipality representative

○ Region representative

○ Road operator or infrastructure manager

○ Transport authority/operator

○ UVAR data service provider

○ Digitisation service/software provider

○ National road authority

○ NAP representative

○ Outro: _____

1.2 What do you use the UVAR Box Tool for?

- ☐ Digitization of UVAR data
- ☐ Validation of UVAR data
- ☐ Consulting of UVAR data
- ☐ Export UVAR data for systems/apps development purposes
- ☐ Use of tool in other software/services
- ☐ Use of Datex II profile in other software/services
- ☐ Outro: _____

1.3 How were you made aware of the tool?

- ☐ UVAR Box Consortium members
- ☐ My Municipality
- ☐ My Country / State
- ☐ European Commission
- ☐ UVAR Box website
- ☐ Transport-related events/conferences (please detail which)
- ☐ Web search
- ☐ Outro: _____

2. Evaluation of the UVAR Box Tool

2.1 The tool was helpful for the digitization of the UVAR data. *

- ○ Strongly agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly disagree
- ○ I don't use the tool for digitisation

2.2 The tool was helpful for the using the UVAR data in our services. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

○ I don't use the tool for data provision

2.3 The tool was helpful for incorporating digitising UVAR into our digitisation services. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

○ I don't use the tool for this purpose

2.4 If you disagree with any question above, please detail what could be improved.

Sua resposta

2.5 The tool has a user friendly interface for creating/understanding digital UVAR *
data.

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

2.5.1 If you disagree, please detail what could be improved.

Sua resposta

2.6 The language and terms used in the tool are sufficiently clear. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

2.6.1 If you disagree, please detail what could be improved.

Sua resposta

2.7 The tool is easy to navigate (e.g. search for information, edit information). *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

2.7.1 If you disagree, please detail what could be improved.

Sua resposta

2.8 The templates provided were helpful for the creation of the UVARs. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

○ No templates were used

2.8.1 If you disagree, please detail what could be improved.

Sua resposta

2.9 Feel free to add any further comment/suggestion for the improvement of the UVAR Box Tool.

Sua resposta

3. Tool documentation and supporting material

If you haven't yet
used it, you can find the support material in https://uvarbox.eu/uvarbox-tool/ .

3.1 Regarding the user manual, the document is helpful, clear, and complete. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

3.1.1 If you disagree, please detail what could be improved.

Sua resposta

3.2 Regarding the Step-By-Step Guide, the video is helpful, clear, and complete. *

○ Strongly agree

○ Agree

○ Neutral

○ Disagree

○ Strongly disagree

3.2.1 If you disagree, please detail what could be improved.

Sua resposta

3.3 The UVAR Box team has been given the adequate support, according to my requests. *

- ○ Strongly agree
- ○ Agree
- ○ Neutral
- ○ Disagree
- ○ Strongly disagree
- ○ I didn't contact the UVAR Box team

3.3.1 If you disagree, please detail what could be improved.

Sua resposta

3.4 Feel free to add any further comment/suggestion for the improvement of the documentation and supporting material.

Sua resposta

3.5 My contacts, in case it is useful to ask you for further clarifications (voluntary).

Sua resposta

UVAR Box contacts and support
If you have
more detailed comments on any aspects, please email them to Sónia Soares
sonia.soares@armis.pt.

Template version and print date

Template version used	1.0 01-09-2020
Print date	30-3-2023 7:02