



MaaS made in Austria

Executive Summary

National framework conditions for the
realisation of Mobility as a Service in Austria

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ITS Austria

c/o AustriaTech – Gesellschaft des Bundes für
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Raimundgasse 1/6 | A-1020 Wien

T: +43 1 26 33 444 | F: +43 1 26 33 444-10 |
office@itsaustria.at | www.digitalvernetztmobil.at

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1 Preamble

Mobility as a Service (MaaS) represents a pioneering way of how to manage mobility and the access to it, which is the reason why ITS Austria regards it as a dedicated focus area. The ITS Austria Steering Committee initiated the working group "MaaS made in Austria" (WG MaaS miA) to describe and agree on the "MaaS made in Austria" ecosystem. The basis of the WG MaaS miA is the commitment to a jointly supported process of all responsible institutions respectively their representatives according to the alongside list. The approach of consensus through cooperation has proved to be viable and successful in previous processes, so it was maintained here as well.

In January 2019, all members of the MaaS miA working group were personally invited by the Steering Committee of ITS Austria to participate in the working group. The aim was to define the requirements (functionalities) for a "MaaS made in Austria" ecosystem and the common rules of access (rules of the game) to this ecosystem.

The expected requirements for a future mobility system, independent of today's technical systems, were written down through a technology-independent approach. This means that not the existing technologies were the drivers of the work of the WG MaaS miA, but that the defined requirements for a "MaaS made in Austria" ecosystem represented a contribution to the need for technical solutions. It was not the task of the working group to describe effects on companies or conduct any calculations regarding these effects.

This document reflects the expert opinion of the working group. It should be noted that the WG MaaS miA will neither create or design any mobility offers nor set up its own MaaS Company.

The present report is the short version of the results and findings of the working group MaaS miA and was prepared through cooperation of the following working group members (in alphabetical order without title):

- Gerhard Amtmann (Graz Holding)
- Martin Böhm (AustriaTech) – editor
- Oliver Danninger (Land Niederösterreich)
- Claus Dirnberger (Land Oberösterreich)
- Christian Ebner (ASFINAG)
- Ute Estermann (SCHIG)
- Britta Fuchs (NÖ.Regional)
- Barbara Hauenschild-Cyniburk (Wiener Linien)
- Jakob Lambert (ÖBB)
- Florian Matiasek (Austrian Federal Ministry of Transport, Innovation and Technology)
- Stefan Mayr (ARGE ÖVV)
- Helge Molin (Austrian Federal Ministry of Transport, Innovation and Technology)
- Martin Müllner (Verkehrsauskunft Österreich)
- Vincent Neumayr (Wiener Linien)
- Christian Nußmüller (Stadt Graz)
- Anna Paltauf (ÖBB)
- Martin Paweletz (ÖAMTC)
- Wolfgang Ponweiser (AIT)
- Tobias Schleser (ASFINAG)
- Franz Schwammenhöfer (Austrian Federal Ministry of Transport, Innovation and Technology) – chair
- Alexander Stiasny (IST Mobil)

2 MaaS made in Austria

“Mobility as a Service” (MaaS) is an end user-oriented, intermodal service that claims to combine the offers of existing mobility providers in all modes within the framework of the core components

- intermodal travel **information** and
- **use** of the travel offer under consideration of
- **Booking, Reservation, Payment** and Billing
- including **new forms of mobility** (e.g. Sharing Mobility)

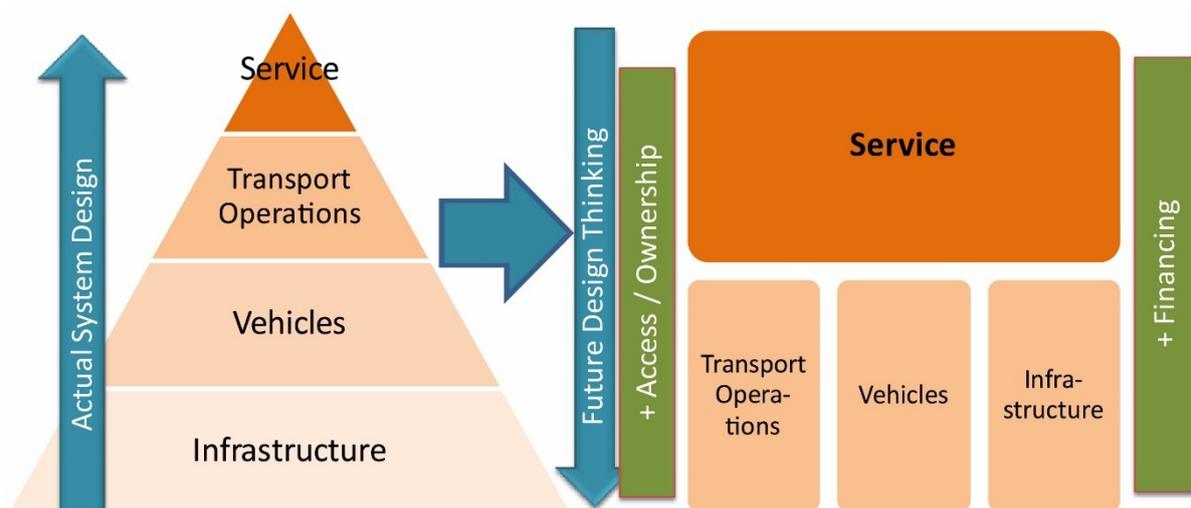
in an integrative service (e.g. one-stop-shop principle) and at the same time act as a basis for new services.

The development of MaaS as a term and concept is based on a general change in the transport sector from supply logic to service thinking, which manifests itself in an increasingly integrated mobility system. The traditional role of the public sector in transport till today has primarily been to provide infrastructure and services (such as seats and facilities) and to make them available to all users in a non-discriminatory manner. In view of current challenges such as increasing demand for transport, changes in user behaviour and increasing digitalisation, this role is more and more being questioned. In order to meet these challenges in an appropriate manner, an intelligent and integrated mobility system is required, which focuses

not only on capacity (coping with the demand for transport on the available infrastructures and, if necessary, shifting), but also on connectivity in the sense of routing chains (across modes of transport and means of transport), information and usage offers.

Accordingly, transport policy tasks are extended from the provision of infrastructure, availabilities and connections to the provision of new services such as individualised route optimisation or simpler travel planning and booking procedures in the intermodal system. The decisive factor here is that this new approach – similar to the provision of infrastructure – is pursued and coordinated simultaneously at national and European levels and the potential added value, efficiency and acceptance are identified and scaled.

Such a paradigm shift requires a design adaptation of the current mobility system, away from current approaches, which primarily refer to the planning of infrastructure or the design of the infrastructural foundations, towards a design approach that evolves in the direction of "Service First". Thereby, the needs of customers are taken into account at the beginning of mobility planning processes and aligned with economically, socially and environmentally desirable effects. The management and operation of the underlying systems, the necessary vehicle and product range as well as the required infrastructures form the basis for this. The Figure below shows the paradigm shift from system integration to service thinking and the key components of the mobility system.



3 Framework conditions for a MaaS miA System

The MaaS service in an Austrian MaaS miA ecosystem organises and realises the satisfaction of the individual mobility needs of customers via a non-discriminatory access to the intermodal mobility system. For each route in the mobility system there is an individual option to choose from (alternative). The aim of the MaaS miA service is to offer a mobility guarantee not only for the outbound trip but also for the way back, regardless of the chosen transport modes. Therefore, MaaS miA defines the framework for the scale and design of the mobility system according to the individual mobility needs. This gives a commitment to ensure mobility for all citizens while taking into account socio-political aspects (e.g. environmental aspects).

Access to mobility as a public basic provision for existence

MaaS miA considers the conservation and assurance of affordable access to mobility for all demographic groups as a basic provision for existence to be provided by the public sector. The term "affordable access" covers both affordable for the customers and affordable for the providers.

This publicly provided basic provision for existence includes in this case also access to mobility solutions in all areas according to the principle "as small and regional as possible". In rural areas there should be alternatives to the private car with the aim that families in rural areas can do without a second or third car in the future.

Access to mobility must also be simple. Easy and barrier-free (or low barrier) access for all population groups must be ensured.

When it comes to realising the need for mobility, it is important to offer alternatives. In addition to scheduled and individual transport, demand-oriented offers, pooling and sharing services as well as micro-public transport services must also be integrated into a MaaS offer. MaaS miA has the aim to provide a clear offer of new innovative mobility solutions and ideally even to enable them.

An important requirement for the acceptance of a future MaaS miA ecosystem is to ensure a corresponding quality of service. Travelers will only accept the service generated by the MaaS miA

ecosystem if they can rely on it. If travellers cannot rely on the MaaS service, they will not use it and will therefore continue to use their own car.

MaaS miA-Framework

The foundation to a trusting cooperation for a future realisation is the commitment to the collaboration of all publicly (co-)financed mobility providers. The following guidelines provide the framework for the collaboration with qualified MaaS providers:

- In their role as national designers of the mobility system, the publicly (co-)financed mobility providers are partners for qualified MaaS providers.
- The publicly (co-)financed mobility providers want to uniformly define the rules for access to data (definition of data, data requirements and data interfaces) for a cooperation with MaaS providers and acknowledge MaaS as an opportunity for the extended environmental network.
- The publicly (co-)financed mobility providers are committed to complying with the jointly defined rules for access to data. The avoidance of B2B offer-dumping and the definition of a feedback loop between MaaS provider and mobility providers are important basic elements.

Although a future MaaS miA ecosystem must be viewed very broadly, including neighbouring sectors and other services (e.g. payment service providers), an overall view of the mobility system and the requirements for the system components were initially focused on.

Opposites as a challenge

As already mentioned, MaaS miA should guarantee all customers access to the mobility system in all areas. However, this holistic approach must take the contrasts within the mobility system into account, which represents a major challenge for the design of the MaaS miA ecosystem.

The access to mobility offers in urban and suburban areas is completely different than in peripheral regions. While in urban areas public transport represents the backbone, in rural regions the private car is currently often the pre-

ferred access to the mobility system. Also, numerous new mobility offers (e.g. eScooters) are emerging in urban regions, while these are hardly made accessible in rural areas.

The MaaS miA system must be able to service daily journeys, such as journeys to the workplace, just as well as one-time journeys, such as those during holidays or on business trips. This includes access to both local and long-distance transport. MaaS miA claims to represent a complete and transparent mobility offer with a defined service and quality level.

In the structure of the mobility providers, the MaaS miA ecosystem must be able to take both, large regional providers, such as ÖBB, as well as small regional providers, such as local taxi companies, into account. While the large mobility providers are generally open to all users, small regional providers are often only available for registered and logged-in customer groups, which often do not have a digital information or user level.

From a technical perspective, there are many different solutions to handle the access to the mobility solution including booking, reservation and payment. The provision of timetables, if available, is also based on different technical solutions, some of which are based on open standards, but in many cases on proprietary solutions. While the large mobility providers regularly maintain their systems, smaller providers in particular rarely do so. Furthermore, the MaaS miA ecosystem must be able to ensure access using individual tickets as well as existing season tickets.

Ultimately, it is important to display and maintain neutrality when implementing the MaaS miA ecosystem. It must be able to provide an offer for smaller mobility providers to be integrated into MaaS miA without stirring fear of heteronomy. MaaS miA is also intended to provide assistance

for new, additional mobility providers in rural areas in order to close the gap between urban and rural areas in servicing of people. Each mobility provider must ultimately be able to identify its opportunities and risks as a part of the MaaS miA ecosystem and thereby scale its own mobility offerings according to the needs of existing and potential future customers.

Offers in a MaaS miA-Ecosystem

In addition to the definition of the framework conditions for a MaaS miA ecosystem, it is also necessary to determine which services the participants in this ecosystem must provide. MaaS miA itself will not generate any offers for end customers. Rather, it is a matter of making offers available to future MaaS providers. This can include data and data sets as well as access to existing services, such as those already offered today via information, booking and ticketing interfaces. These offers will be made accessible via transparent rules, whereby these rules will be based on specifications, laws, ordinances, etc.

In the MaaS miA ecosystem, the access to as many mobility offers as possible should be guaranteed. The considered mobility services include publicly (co-)financed mobility services, market economy-financed mobility services, private mobility (cycling, walking, driving a car), sharing services (car, bike, ride, scooter sharing), demand-oriented services as well as other value-added services (parking, tolls, refuelling etc.). In addition to flowing traffic, stationary traffic must also be integrated, which is why a special focus is placed on transfer points (= nodes). Only a well-integrated and well-known node will be able to ensure that intermodal routes are accepted by the customers of the mobility system in the future.

4 MaaS miA-Readiness-Level

Since the implementation of MaaS cannot take place immediately, but will gradually grow to full market integration, various MaaS service levels have been defined that allow a scaled approach to the MaaS miA ecosystem. These illustrate the extent to which different data and services from the MaaS provider are integrated into an end-customer service, and also allow self-assessment for the individual mobility providers.

In MaaS miA-Level 0 there is no integration and the customers of the mobility system have to compile their own mobility wishes, starting from and including the route, for each traffic provider. In addition, there is no trip chain-oriented linking of information. This status is common in many European countries. In Austria, there are mainly smaller mobility providers that have to be classified as MaaS miA-Level 0. Various private mobility offers (e.g. sharing offers) are often not integrated and can also be classified in this level.

For all other levels in which community-based (co-)financed services are an important component, political will and the creation of appropriate framework conditions are required. Level 1 is divided into two sublevels. On the one hand, data from public providers are integrated (MaaS miA-Level 1a), on the other hand, private sector data can also be integrated into an information service (MaaS miA-Level 1b). In MaaS miA-Level 1a, the static and dynamic data of the route chains of all participating public providers are integrated and made available to MaaS providers either as data or as an integrated service. This provides the traveller with consistent information on scheduled traffic and the traffic situation for individual traffic. Price information can be stored, but the booking and payment process must be organised by the travellers themselves. In Austria, for example, the MaaS miA-Level 1a has been implemented at Verkehrsankunft Österreich (VAO, traffic information Austria).

Mobility services from the private or public sector that can be used at short notice or provided

on a situational basis are integrated (e.g. sharing services, transport on demand), are usually ready-made services that are integrated into an information service. In this case we speak of MaaS miA-Level 1b. Here, too, there are already implementation examples in Austria. For example, the on-demand traffic offers by IST Mobil is integrated into the travel information services of VAO. However, the integration of numerous other (often private) mobility services is still missing.

As soon as a booking and payment function is also integrated into a mobility service, it is at least a matter of MaaS miA-Level 2. The basis for this is the definition of conditions of use by the public sector. In addition to access to booking and payment functions, a corresponding return flow of information must also be regulated (see also Chapter 6). This enables a MaaS provider to access and provide its customers with an intermodal mobility offer from the mobility providers. The mobility offers therefore become contractible and the traveller receives an individually tailored offer from the MaaS provider based on the available mobility mix.

MaaS miA-Level 3 opens up new opportunities for the public sector, since it provides the position to steer mobility through targeted (dynamic) incentives. For example, there may be an incentive setting in favour of the environmental alliance due to increased fine dust pollution. Also, new environmentally neutral mobility offers can be offered at special conditions. The MaaS service therefore takes the step up to Level 3 from just offering mobility to a comprehensive solution, including the steering integration of social and environmental policy aspects in coordination with individual needs. In this MaaS miA-Level 3 travellers get a mobility guarantee according to their individual mobility package. Booking and payment is made via the MaaS provider.

MaaS miA- Readiness-Level	Integration of policy and control	Demand in the MaaS miA ecosystem	Customer benefits
<p>MaaS miA Level 0</p> <p>No integration and no coordination</p>	none	<p>Various offers in all modes of transport. Existing season ticket models in public transport for regular trips (commuters). No path chain-oriented fusion for information and use.</p>	<p>Travellers have to compile their own routes and get single or season tickets.</p>
<p>MaaS miA Level 1a</p> <p>Integration of information</p>	<p>Agreement on terms of use from public side.</p>	<p>Path chain-oriented fusion of available information (static and dynamic) in all relevant modes of transport, additional pricing information. No offers beyond mere information.</p>	<p>Travellers get seamless information on scheduled public transport while taking individual transport into account, possibly enhanced by pricing information. Booking, payment, etc. must be handled by travellers.</p>
<p>MaaS miA Level 1b</p> <p>Integration of offers</p>	<p>Agreement on terms of use from public side.</p>	<p>Path chain-oriented fusion of information and pricing of all relevant mobility offers available on short notice (no membership models, etc.) from both public and private sector. Some offers of the path chain aside of daily trips might be bookable and payable electronically.</p>	<p>Travellers get seamless information on the offered mobility mix, possibly with pricing information. Booking, payment, etc. must be handled by travellers.</p>
<p>MaaS miA Level 2</p> <p>Contractible offers</p>	<p>Agreement/adaptation of terms of use from public side (e.g. pricing, public service, control and management measures), roll-out of pricing models, strategies for incentives, availability and use of aggregated data sets for offer controlling, new offers are ensured</p>	<p>Path chain-oriented fusion of large parts of the relevant mobility offers available on short notice and contractible personal selections by travellers. Intermodal path chains are integrated into the mobility offers.</p>	<p>Travellers get an individually designed offer based on the requested mobility mix. Booking, reservation and payment of individual travel demand is possibly handled by a MaaS provider.</p>
<p>MaaS miA Level 3</p> <p>Integration of agreements</p>	<p>Strategies for incentives and control (e.g. environmental alliance through public authorities) in regular operation and in case of events (e.g. fine dust)</p>	<p>Targeted creation of new mobility offers in the observation period in accordance with political preconditions.</p>	<p>Travellers get a mobility guarantee in accordance with their individual mobility package. The mobility system is used – payment, reservation and booking is handled by a MaaS provider within the individual mobility package.</p>

5 MaaS miA-Portfolio

The MaaS miA portfolio describes data and access to data. Since numerous European regulations are existing especially on the data layer, these were used as a basis for provision among all different modes of transport. Two regulations are of particular importance:

- Commission Delegated Regulation (EU) 2015/962 of 18 December 2014 with regard to the provision of EU-wide real-time traffic information services. Provided the listed data are available, this regulation is applicable for the high-level road network (Trans-European Road Network) since 23 July 2017.
- Commission Delegated Regulation (EU) 2017/1926 of 31 May 2017 with regard to the provision of EU-wide multimodal travel information services. Provided the listed static data are available, this regulation will be applicable for the whole transport network by 1 December 2023. For the high-level transport network, there will be a step-by-step availability by 1 December 2019. The provision of dynamic data is subject to Member State decisions.

These two regulation form the basis for the definition of the MaaS miA portfolio. It is important to emphasise that it also defines the standards for data interfaces:

- GIP (RVS 05.01.14) for spatial/geo-referenced transport network data
- INSPIRE for spatial/geo-referenced data
- DATEX II for data considering the road network
- NeTEx for static data of all non-road transport related traffic
- SIRI for dynamic data of all non-road transport related traffic
- OJP for the linking of services via open API interface

Apart from the technical basics of making static and dynamic data available, it is also important to regard the procedural aspect between the three layers of information, interaction and transaction.

How does my path look like?

Mere **information** involves the sharing of data that characterise the mobility system. These can be both static and dynamic data which describe the general access to the mobility system and allow travellers to plan their routes. Alongside any journey, no additional or just rudimentary information are provided with regards to the path chain. All data relevant for a journey should be made available in real time as far as possible by the mobility providers.

How do I continue my journey?

However to gain the best possible support while travelling, appropriate **interaction** between mobility providers, MaaS providers and the individual travellers must be ensured. In this case, real-time messages are being individually forwarded to the travellers concerned. In accordance with traveller expectations, the journey can also adapted along a path chain. The process must not end at making data from the mobility offers available, but it requires a feedback channel from the traveller via the MaaS provider to the mobility provider in order to enable corrective or management actions in real time.

I know my fare and can purchase a ticket.

As soon as booking and ticketing options become available to individual travellers, this is called **transaction**. In this case, data on booking, reservation and payment are made available to travellers by the mobility provider and via MaaS provider as well as vice versa. This requires a use of the distribution systems of the mobility providers in order to enable the most efficient booking and payment process.

6 Requirements for a MaaS made in Austria-Ecosystem

Hereinafter, the requirements elaborated in the ITS Austria MaaS made in Austria Working Group (MaaS miA) for designing a MaaS ecosystem in Austria shall be comprised. They will be accompanied by recommendations for action.

Creation of organisational and legal framework conditions

Recommendation 1

Set up terms of use for controlled access to information, booking and distribution systems for third parties and offer incentives for utilisation.

The potential for end user services arising from the opening of data and services is undisputed. This is especially true for a variety of MaaS providers, who will be able to support the differing demands of end customers in a best possible way. In the end, there should not be one or two big MaaS providers, but rather numerous operators offering tailor-made MaaS services to end users. Yet mobility providers remain sceptic about their systems being used by third parties, may it be small or large players. In order to tap the full potential of MaaS systems, clear conditions for a controlled access of third parties must be formulated, supplemented by incentives for opening their systems. The advantages of a regulated MaaS system (like proposed by MaaS miA) must be embedded in a targeted communication strategy in terms of addressing socio-political goals. This will require further discussion with the relevant public authorities as well as professional and financial support.

Recommendation 2

Create and support innovative business models and new, modernised distribution systems in the publicly (co-)financed transport offer while tapping the full potential for ecological advancement of the transport sector.

In order to support the first recommendation, the business models of publicly (co-)financed transport offers should be evaluated and adapted as the circumstances require. Demand-oriented mobility offers have great potential especially in peripheral areas. Demand-oriented offers should not appear as a “closed shop” for little or minor user groups, but serve as effective supplement to scheduled public transport (being resource-efficient and affordable) and thus be available for a broad range of end users. Both regions and municipalities have to be addressed in this matter.

Technical definition of the interfaces

Recommendation 3

Access to dynamic information from the mobility system should be enabled via opening of service interfaces based on utilisation of the OJP standard. These service interfaces should be provided by national “white label” services (e.g. VAO, EVIS AT).¹

As it has turned out to be, technical standards and specifications are existent to major extent. Interface standards have been defined especially from European side, which are to be transposed by Austria.

From an Austrian point of view, these regulations will be adhered, considering in particular the availability of static data. When it comes to dynamic data and information, it is up to national regulations if data are to be made available as well.

Since Austria is holding a European forerunner position with VAO and EVIS AT in terms of dynamic information, the recommendation of MaaS miA is to offer access to the respective services via open interface (Open API). Future MaaS providers should not have to interpret data, but just receive verified results from the operators via “white label” service, thus contributing to an increased quality of services in end user side. In this

¹ There has been disagreement in the MaaS miA WG regarding the provision of data or services via neutral OJP interfaces like e.g. VAO. ÖBB has preferred for a provision of data rather than services.

context, dynamic node information (e.g. availability of parking places) should also be integrated in these “white label” services.

Recommendation 4

Support the implementation of backend systems and well-defined interfaces for small and “new” mobility service providers (e.g. sharing) on several levels and ensure compulsory use of these interfaces. This will include the adherence to the terms of use of these interfaces.

The implementation of interfaces in accordance with European regulations is connected to costs, which can pose a particular organisational and financial challenge to smaller and new mobility service providers (e.g. demand-oriented transport). In principle the efforts on operator side in order to integrate the interface can be compensated by the MaaS providers.

Professional support for the creation of new offers and harmonisation of existing offers

Recommendation 5

Subventions for sustainable services in peripheral regions and/respectively for persons with reduced mobility should be granted in accordance with uniform and transparent criteria. Different models of demand-oriented transport and their interfaces should be harmonised so that they can be integrated in any future MaaS service.

As the discussions have revealed in the WG MaaS miA, the offering of sustainable and new mobility services is a particular challenge in peripheral areas. This is also the case with dedicated services for persons with reduced mobility. Although numerous solutions have been implemented as micro-public transport use cases up to now, these must still be harmonised and a consistently defined access to these services must be ensured. This will require coordinated action by public authorities.

Recommendation 6

Evaluate to what extent and under what pre-conditions flexible pricing models for access to public transport and transport solutions low in emissions can have a positive impact (environment, safety, efficiency) on the mobility system.

It shall be noted in general that there shall be no price dumping or “cannibalisation effects”, especially when public mobility services are involved. However, under special circumstances, (such as the exceeding of emission thresholds, the targeted avoidance of congestion in one mode of transport or the optimisation of the overall transport system) provision models in favour of public or low-in-emission transport are an explicit part of MaaS miA - Level 3.

Agreements on access rules for MaaS-providers

Recommendation 7

Design framework conditions for MaaS providers for agreements and core content for the arrangement of access to data and services from public authorities.

Access rights to data and services for MaaS providers should be designed consistently. They should contain, among other aspects, the following points:

- Access to data and services will be ensured if public mobility services are revealed as basic module and reference point of the end customer service. This shall also be represented in the order in which mobility solutions are displayed to the end users.
- The MaaS provider must have declared itself in accordance with the delegated regulations to the Austrian ITS contact point.

In the course of submitting a self-declaration to the Austrian ITS contact point, a seal of quality shall be awarded. This will certify that data are integrated into an end user service to full extent and content.

In case of nonconformity, sanctioning can be an option (e.g. data are not integrated into the end user service). Such kind of sanctioning can range

up to revocation of the data-service contract. Possibly, an adaptation of the Austrian ITS law will be necessary in this matter. Fares are to be passed 1:1 and the respective fare has to be revealed. In addition, customer rights and responsibilities within the mobility chain have to be clearly regulated and denoted.

Recommendation 8

Designation of a common public and neutral body which shall collect and provide aggregated usage data for planning and foresight purposes (impact monitoring, demand analysis, future mobility planning). This must also include the definition of standards for usage data.

Apart from the access to data and services, any contract in this field must also contain the feedback of information and data. In the ideal case, not only selected operators will have access to this feedback, but a newly created common public and neutral body will have access to these data for the planning of future mobility and the definition of the changing requirements to the Austrian mobility system.

Recommendation 9

The comparability of impacts of different measures in transport is a basic provision for every kind of impact controlling. A method for calculating emission data of single traffic participants respectively different modes of transport has to be agreed and developed. This will also serve as a basis for determining the CO₂ emissions of single administrative entities.

The following aggregated usage data will be of particular importance:

- Sales figures and statistics
- Socio-demographic basic data
- Movement profiles in predefined form
- Emission data
- Floating Vehicle Data (FCD)

Recommendation 10

Overall impacts are derivable from the clustering of ways and patterns of behaviour. The latter are again the basis for assessing the impact of measures that have been implemented. In this context, appropriate tools for the analysis of movement profiles should be developed. From the viewpoint of designing the overall mobility system it is therefore necessary to adapt the regulatory framework with regards to sharing data with neutral third parties in order to make use of aggregated data sets.

Apart from the feedback of aggregated data to a neutral body, the task is also to build up interaction with single mobility service providers. Especially when purchasing tickets it is important that path chains are comprehensible and clarity about the booking process is ensured. For this reason MaaS service providers shall have a transaction profile available.

Recommendation 11

For optimal end customer service, booking and usage data should be exchanged between MaaS providers and mobility providers so that a mobility guarantee can be granted to end customers.

End customers have to be services in case of special events. In the ideal case, usage data (on how different segments of a path chain are being used within a given time) are being exchanged between MaaS service provider and mobility provider. In this way the mobility guarantee as defined in MaaS miA Level 3 can be granted to the end customers.

Creation of a quality seal for end-user services

Recommendation 12

Definition of processes in the ITS contact point for inspecting the correctness of the self-declarations from MaaS service providers, especially considering the use of the MaaS miA portfolio as backbone for end customer services.

The idea of a framework contract in accordance with recommendation 7 includes the self-declaration of MaaS providers. Such a contract shall in particular describe the usage and incorporation of MaaS miA data and services. The correctness of the self-declarations will be inspected by the Austrian ITS contact point. In this context, the necessary processes must be defined and implemented.

Recommendation 13

Definition of requirements and processes towards a “mobility trust seal” for end customer services with regards to freedom from discrimination and integration of MaaS miA data and services in future end customer services.

Apart from a mere inspection of the self-declarations it will also be about a qualitative assessment when awarding a potential “mobility trust seal”, as also mentioned in the ITS Austria Working Programme. This seal will certify that data are integrated into the end customer service to full extent and content. The relevant process and the exact preconditions as well as the sanctions in case of nonconformity are still to be defined in detail.

7 Outlook

MaaS miA regards itself as positioning of the public sector, which to a major extent directly organises, or at least takes influence on, the majority of domestic mobility, starting at the design of public places and transport infrastructure up to public and individual mobility offers. This variety necessitates an increase in cooperation and coordination respectively and increase or adaption of rules.

The proposed path implies elements of “steering and controlling while enabling” of a prospective increase of variety in mobility offers which again might be less durable. Yet all of them will embrace and support the goals of being “safe”, “efficient” and “affordable” with regards to and in compliance with the ITS Austria Working Programme.

Another core task of the public sector is of relevance here, namely making these mobility services available for all regions of this country and in the end support the creation of suitable offers, while daily mobility must naturally remain in the centre of attention. Many of our ways are the same every day and this small-scale mobility with all its local and regional aspects is at the centre of MaaS miA.

Public/semi-public urban mobility offers – being the backbone of MaaS miA – need to be further developed for reasons of maintaining competitiveness and designing the framework conditions for MaaS. At the same time, hinterland and peripheral areas have to be in the centre of attention, especially because viable solutions tend to be established primarily in urban areas. In addition, public mass transport on both road and rail is the means of choice from the viewpoint of public mobility planning. While this must not mean that public or private sector supplements are meaningless, they are nevertheless not in the main focus of public mobility planning.

“Regional” and “small-scale” are those terms that primarily describe the future of MaaS miA. At the same time this indicates that, in addition to well-established national players in mobility and due to demand from inhabitants, municipalities and regions have moved to the position of mobility providers and planners

This considers infrastructure in the areas of edges and especially the small-scale nodes just like the mobility offers themselves.

Another crucial conceptual pair describing the future of MaaS miA is “consistent and standardised” and relates in particular to data and interfaces. Interfaces and standards that are consistent all over Austria will facilitate the overall integration and operation of systems. Regionalisation is not only possible, but welcome. Local identification is an important basis for further development and vertical integration into local and regional offers that go beyond mere mobility.

Owing to the regional character of our mobility, combined with the described consistency and standardisation and sufficient basics on European level, conception and implementation can be started with immediate effect. It must however be noted that a regional MaaS miA solution will never be finished and concluded. New offers will emerge, others will disappear because of insufficient demand of changing mobility behaviour. Yet this kind of flexibility is one of the core characteristics of the MaaS miA ecosystem.

The frequently conjured duality between public and individual transport belongs to the past, especially regarding the currently emerging diverse regional mobility offers. From the viewpoint of local and region mobility planners, MaaS miA is primarily a basic tool for (co-)designing mobility and a claim for participation in this process.

In this sense, the next steps are almost predefined. ITS Austria will actively support MaaS miA with the currently existing programme and initiate and accompany implementations.

Abbreviated index

AIT.....	Austrian Institute of Technology
API.....	Application Programming Interface
ARGE ÖVV.....	Arbeitsgemeinschaft der österreichischen Verkehrsverbund-Organisationsgesellschaften
ASFINAG.....	Autobahnen- und Schnellstraßen-Finanzierungs-Aktiengesellschaft
B2B.....	Business to Business
DATEX.....	Data Exchange
EVIS AT.....	Realtime traffic information road Austria
FCD.....	Floating Car Data
GIP.....	graph integration platform (Graphenintegrationsplattform)
INSPIRE.....	Infrastructure for Spatial Information in the European Community
ITS.....	Intelligent Transport Systems
MaaS.....	Mobility as a Service
MaaS miA.....	Mobility as a Service made in Austria
NeTEx.....	Network Timetable Exchange
ÖAMTC.....	Austrian Automobile-, Motorcycle and Touringclub
ÖBB.....	Austrian Federal Railways
OJP.....	Open Journey Planner
RVS.....	Guidelines and regulations for the road transport sector
SCHIG.....	Rail infrastructure service company
SIRI.....	Standard Interface for Realtime Information
VAO.....	Traffic Information Austria (Verkehrsauskunft Österreich)
WG.....	Working Group

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