

# Programme of Requirements pertaining to the Pre-competitive dialogue in order to form a consortium for the Framework Agreement for the implementation of 7 regional, nationally scalable MaaS Pilots

## 1 Introduction

### 1.1 Purpose and structure of the Programme of Requirements

This **Programme of Requirements (PoR)** is part of the Tender Document for the **pre-competitive dialogue for the formation of consortia for the Framework Agreement for the implementation of 7 regional, nationally scalable MaaS Pilots (Pre-competitive dialogue)** and part of the Pre-competitive dialogue Agreement.

This PoR could potentially change as a result of the feedback from the consultation process of the tender dossier for the framework agreement for the implementation of 7 regional, nationally scalable MaaS Pilots, during the pre-competitive dialogue.

There are two categories of requirements in this PoR:

- Chapter 1 sets out the requirements for the entire MaaS chain, as they will apply in the Pilots.
- In chapter 2 you will find the requirements for each MaaS functionality, as they apply to the qualification for the Pre-competitive dialogue.

**Chapter 1: Introduction.** With the help of the MaaS definition and the description of the MaaS functionalities and the MaaS chain, the basis is laid for the activities to be carried out in the Pre-competitive dialogue. Participants should accept the description in this chapter as the basis for the Pre-competitive dialogue.

**Chapter 2: Functional requirements.** This chapter describes the requirements for the parties to join the Pre-competitive dialogue for each functionality.

### 1.2 Concepts and definitions

The terms and definitions used in this PoR, insofar as they start with a capital letter, are included in the list of definitions as incorporated in this PoR.

### 1.3 MaaS Definition

The provision of multimodal, demand-driven mobility services, where customised travel options are offered to customers via a digital platform (e.g. Mobile app) with real-time information, including payment and transaction processing.

### 1.4 MaaS Functionalities

The functionalities necessary for a MaaS service are for the Pilots:

1. **Personal aspects and preferences:** The MaaS service should support the user's introduction of 'personal settings', so that the most 'appropriate' travel options are offered and only travel

options that are applicable to the individual concerned and that are perceived as attractive/usable are recommended.

2. **Plans:** A multimodal travel planner that allows Customers to plan a trip based on current departure and arrival times and on current departure and occupancy information with regard to the travel modality(s) offered by the Transport Providers, based on a location of origin and/or destination and times. In addition to rental and share bikes, this also includes rental and share cars, (part)taxis, buses, trams, trains, metro, voluntary transport, target group transport, water taxi services, ferries, etc.
3. **Booking:** Functionality offered that allows Customers to reserve a planned trip with different modalities at once with, or purchases from, the Participant.
4. **Travel:** Possibility for Customers to travel with a ticket offered by the Participant (e.g. e-ticket or unlock code for a share bike).
5. **Support:** Support offered by the Participant to Customers in Planning, Booking, Travel, Customizing and Paying for the Travel (e.g. by Mobile app or telephone).
6. **Modification:** Participant takes care of matters for Customers if, as a result of a calamity or unforeseen event, one or more travel modes offered by the Participant cannot be delivered or need to be adapted, or if the Customer himself (during the trip) requires an adjustment of the travel mode.
7. **Payment:** The possibility offered by the Participant to have the Customers pay for the entire trip using one existing payment facility and/or mobility card/subscription, which acts as a means of payment and/or admission ticket for all parts and modalities of the trip.

### 1.5 MaaS standards/APIs and data sharing

In order to achieve good MaaS solutions, good data sharing is necessary. To date, this has not been achieved. Collaboration between transport operators and MaaS providers is difficult to get off the ground because of, among other things, company interests and language differences. This has resulted, among other things, in no MaaS provider offering all 7 functionalities for a multimodal platform. Only if this is the case will a MaaS provider be able to make a good business case, a traveller may be able to switch more easily to another mode of transport and the authorities will gain more insight into the policy impact and (im)possibilities of policy control.

With 9292 or OpenGeo, the Netherlands has a unique platform for public transport. This is not perfect yet and can be further developed, for example with availability information and payment. MaaS is about opening up all modes of transport. Recently a number of share-bike players that are striving for interoperability have asked I&W to develop a blueprint for a standard/API for file-sharing. The same has been requested by (share)car players. This means that on the basis of these open standards, MaaS providers will be able to share data more easily and arrive at a single Mobile App. These standards will be published for the purposes of the Framework Agreement and will gradually need to be more stable and accepted.

For the purpose of the pilots, I&W facilitates the development of standards/APIs. In this way, it will be easier to link up public transport, (share)bikes and (share)cars than at present and result in sharing data. The MaaS pilots will require data sharing between transport operators, MaaS providers and the authorities. This data sharing is developing. It is difficult to predict exactly how this will happen. After all, MaaS has not yet been fully developed and neither have the standards and data sharing been developed yet. Transport operators, MaaS providers and the authorities will learn together. That is better than waiting for an outside platform. Ideally, there should be a win-win situation. For the agreements on standards and data sharing, cooperation in the form of a governance structure is needed from the start of the pilots, in which the parties (authorities, transport operators, MaaS providers) are represented.

By the end of the pilots it will become clear to what extent it will be necessary to have a modified, more stable set of agreements.

## 1.6 MaaS data chain

In order to provide insight into the primary data flows, this PoR refers to the simplest representation of the MaaS data chain for the Pilots, as shown by two examples of Private Transport Providers in Figure 1.

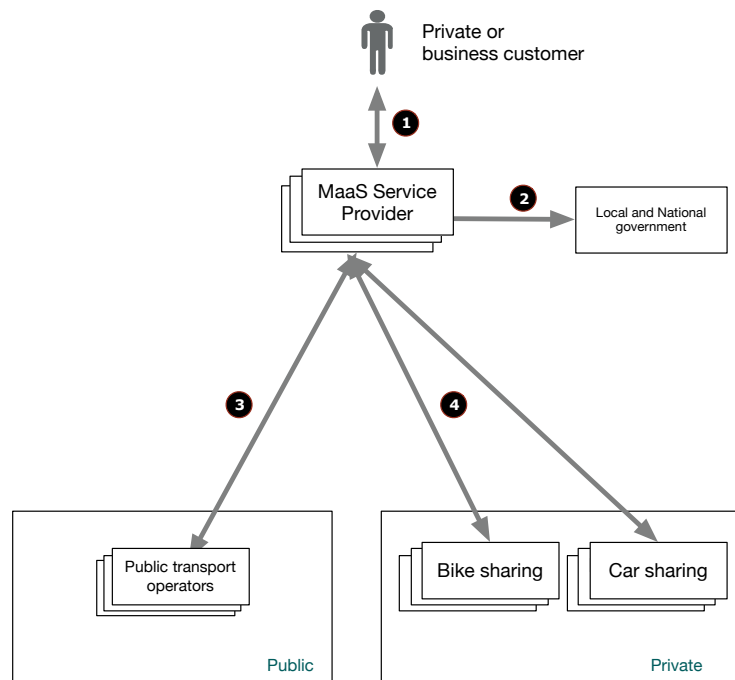


Figure 1.

In Figure 1, the following data sharing is distinguished for illustrative purposes:

1. Between **MaaS Service Provider** and their Customers.
2. Between MaaS Service Provider and Governments for national M&E and (regional) policy monitoring
3. Between the MaaS Service Provider and the Public Transport Providers (Concession holders)
4. Between MaaS Service Provider and Private Transport Providers

In reality, the MaaS chain will be more complex, with many players in particular in the midfield between the MaaS Service Provider and the Transport Providers. Think for example of data aggregators, connectivity platforms etc. each fulfilling a specific function and thus adding value to the MaaS chain. This creates a so-called MaaS ecosystem.

The data sharing can consist of dialogues, such as the purchase of a Transport ticket, in which the dialogue consists of several consecutive actions: check availability, reserve a transport ticket, pay for the Transport ticket and provide a transport ticket. Data sharing can also consist of a repetitive exchange of data from one actor to another, such as the delivery of data by the MaaS Service Provider to the M&E factory.

In the latter case, we define the requirements for data sharing between the actors in the form of access requirements. According to the agreed standard, the supplying actors must prepare the data for an authorised customer in order to retrieve it in an automated manner.

## 1.7 Data sharing

The data streams, as numbered in figure 1, can be functionally further broken down:

1. Between MaaS Service Providers and their Customers:
  - Data sharing in relation to the MaaS service
  - By making MaaS Service Providers accessible: Customer satisfaction information
2. Between MaaS Service Providers and Governments for national Monitoring & Evaluation and policy monitoring:
  - By making MaaS Service Providers available to M&E:
    - Basic customer data
    - Transaction data
    - Management reports
    - Interviews with Participant
    - Survey data for the national M&E
    - Incidental surveys
    - Exit survey
    - Travel data
    - Customer satisfaction information
  - By making the Monitoring & Evaluation process accessible:
    - To MaaS Service Providers and Governments, dashboard and the analyses and information created in relation to the Pilot.
    - To Clients, the Travel Data for the purpose of policy monitoring.
    - To third parties such as the Lower House of Parliament, progress reports.
3. Between MaaS Service Providers and the Public Transport Providers (concession holders):
  - Data sharing in relation to:
    - Plans;
    - Booking;
    - Travel;
    - Modification;
    - Payment.
  - By opening up Public Transport Providers to MaaS Service Providers:
    - Static data (timetable, rates and changes in the operational service implementation) - already occurs via the NDOV ticket offices.
    - Dynamic data (actual vehicle position and punctuality) - already happens via the NDOV ticket offices.
    - Information about characteristics and occupancy of the Transport Services.
  - By making MaaS Service Providers accessible to the Public Transport Providers:
    - Usage data
    - Customer satisfaction data
4. Between MaaS Service Providers and Private Transport Providers:
  - Data sharing in relation to:
    - Plans;
    - Booking;
    - Travel;
    - Modification;
    - Payment
  - By making Transport Providers accessible to MaaS Service Providers:
    - Static data (rates, characteristics, etc.)

- Dynamic data (availability).
- By making MaaS Service Providers accessible to the Private Transport Providers:
  - Usage data
  - Customer satisfaction data

The specifications of the above data streams and formats, if not already established during the Pre-competitive dialogue, will be jointly determined by Participants, Transport Providers and Authorities.

## 2 Description of functional requirements

Note: A Subscriber must meet at least one (1) of the functional requirements 2.1 to 2.7 in order to join the Pre-competitive dialogue.

### 2.1 Personal aspects and preferences

**Definition:** The MaaS service should support the user's introduction of 'personal settings', so that the most 'suitable' travel options are offered and only travel options that are applicable to the individual concerned and that are perceived as attractive/usable are recommended.

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

A number of Pilots have been provided that focus (partly) on target groups with physical (motor, visual, auditory) impairments and WMO indication, but in fact an accessible MaaS app is required for each Pilot.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. The introduction and management of 'personal aspects and preferences' via a Mobile App must be possible in an easily accessible and user-friendly manner.
4. The Mobile app should use the entered 'personal aspects and preferences' as input for an algorithm in order to arrive at the most optimal output in combination with current environmental variables such as weather conditions.

### 2.2 Plans

**Definition:** A multimodal travel planner that enables Customers to plan a trip based on current departure and arrival times and on current departure and occupancy information regarding the travel modalities offered by the Transport Providers, based on a location of origin and/or destination and times. In addition to rental and share bikes, this also includes rental and share cars, (share)taxis, buses, trams, trains, metro, voluntary transport, target group transport, water taxi services, ferries, etc.

The definition used for the pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. The Mobile app should contain a multimodal trip planner.
4. The multimodal trip planner should enable Customers to plan a trip on the basis of current departure and arrival information with regard to the travel modality(s) offered, based on a source and/or destination location and times.
5. The multimodal trip planner should support at least the following modes of travel available to the public:
  - Public transport (train, tram, metro, bus, water taxi, and ferries); and
  - Own car; and
  - Own bike.

### 2.3 Booking

**Definition:** Functionality offered to enable Customers to book a scheduled trip with different modalities at once with, or purchase from, the Participant.

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. The participant should provide products or services that can be reserved or purchased by means of a Mobile App.
4. The Mobile app should contain the functionality that allows you to go through the following steps:
  1. Check availability of the product or service to be delivered; and
  2. If available, make a reservation and return a confirmation to the Customer; or
  3. If not available, provide feedback to the Customer in addition to offering suitable alternatives.

## 2.4 Travel

**Definition:** Possibility of travelling with a ticket offered by the Participant (e.g. e-ticket or unlock code of a share bicycle).

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. Participants should give the Customer access via the Mobile app to the QR-coded receipts associated with a purchase consisting of multiple products or services.

## 2.5 Support

**Definition:** Support offered by the Participant to Customers in Planning, Booking, Travel, Modification and Payment for the journey.

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. To support the Customers, the Participant has set up a 'customer contact centre', where they can obtain answers to questions, reports and requests and submit any complaints they may have.
4. The 'customer contact centre' should meet the following minimum requirements:
  - The 'customer contact centre' must be accessible via several communication channels, including at least the Internet, e-mail and telephone;
  - The 'customer contact centre' should be available at least by e-mail 24 hours a day, seven days a week;
  - The 'customer contact centre' should be accessible by telephone and must lead to an operator answering on Working Days from 9:00 a.m. to 5:00 p.m.;
  - The employees of the customer contact centre should have a command of Dutch and English in both speaking and writing.

## 2.6 Modification

**Definition:** Participant takes care of matters for Customers if as a result of a calamity or unforeseen event one or more of the travel modes offered by the Participant cannot be delivered or need to be adapted, or if the Customer himself (during the trip) requires an adjustment of the travel mode.

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. The Participant should notify the Customer proactively through the Mobile app of any problems with products or services booked and offer possible alternatives at that time.
4. The Customer should be able to accept and implement the proposed or self made changes through the Mobile App.

## 2.7 Payment

**Definition:** The possibility offered by the Participant to have the Customers pay for the entire trip by means of one existing payment facility and/or by means of a mobility card/subscription, which serves as a means of payment and/or admission ticket for all parts and modalities of the trip.

The definition used for the Pilots is shown above, together with the requirements applicable for the qualification for the Pre-competitive dialogue below.

1. The Participant should offer products or services to end users and businesses.
2. The Participant should conduct its business by means of a Mobile app.
3. The Participant should enable the Customer, by means of the Mobile App to use at least, any of the following payment facilities: iDeal, Credit Card and PayPal, to pay for the products or services actually delivered.
4. The participant should run its business on a certified accounting system.