

## VOLUME D

### Passenger Count Tender for the Alternative - Guidelines for the POC Stage

#### **1. General**

- 1.1 According to the instructions of Tender section 11 in Volume A, bidders will be required to reach this stage of the tender, as required to effect a capability proving process (hereinafter: the “POC stage) for the Automated Vehicle Occupancy Detection Systems), being proposed by the bidder for the Alternative test.
- 1.2 The purpose of this POC stage is:
  - 1.2.1 To examine the compliance of the proposed system with the requirements of the tender, under the various scenario conditions.
  - 1.2.2 To check compliance of the system with the presentations shown by the bidder within scope of the methodology document, that was shown by bidder within scope of the tender quality inspection.
  - 1.2.3 To establish a quality score for the POC stage, according to the instructions of the tender section 11 in volume A.
- 1.3 Within this document, general guidelines are provided in respect to implementation of the POC stage. Hereby clarified that the guidelines of this document are of a general nature only, and the company reserves the right to update the manner by which the POC stage will be conducted, at its discretion, and specifically as applicable to the methodology document that will be presented to bidders within scope of their response to the tender. Furthermore, the guidelines may differ between one bidder and the next, according to the technological solution being proposed by the bidder, such that the principle of equality between bidders will not be affected.
- 1.4 The bidder will be given an advance notice of 7 workdays before start of the POC stage, as required for his preparations. Within the scope of delivery of said advance notice, detailed guidelines will be provided to the bidder for execution of the POC stage (hereinafter - detailed guidelines).

#### **2. General Principles for Preparation of the POC Stage**

- 2.1 The test will be conducted by the company, and the company will have the right to be assisted by experts and consultants to the effect that it sees fit, with participation of a bidder’s representative.
- 2.2 The POC stage will be conducted through 7 days, as required, and as detailed for each stage separately, that will be continued through regular workdays (Sunday to Thursday, between times of 10:00-21:00).
- 2.3 The POC will include 3 stages (details of each stage will be provided further on):
  - 2.3.1 Check of the installation stage - within the scope of this stage the means in the system will be examined, that will be required for its ongoing operation. The test will be conducted at an installation site, as determined by the company from among the various sites that will be proposed by the bidder. The bidder will propose suitable sites located in the Dan area.
  - 2.3.2 Test at a sterile site - at this time, capabilities of the system will be examined in response to various scenarios, in static state. The scenarios themselves will be established by the company, according to the type of system being proposed.
  - 2.3.3 Test in a live environment - at this time, capabilities of the system will be examined with a normal travel condition scenario, that will simulate operation of the system under Alternative test conditions. The scenarios themselves will be established by the company, according to the type of system being proposed.
- 2.4 For conducting of this stage within the POC, the bidder will be required to supply the following means, throughout each stage of the POC:

- 2.4.1 All parts and elements of the system, such that will provide for the installation of these in two (2) test vehicles, transmission of data, processing of the data, and sending of the data on-line to the company test team.
- 2.4.2 A Bidder's team that will be responsible for installation and operation of the system to the extent necessary.
- 2.5 The company will supply, at company expense, all other means that will be required for conducting of this POC stage, including:
  - 2.5.1 Sites at which interim stages will be conducted, as detailed above.
  - 2.5.2 Two (2) vehicles that will be used for conducting of the test (one vehicle with 5 seats, the other with 7 seats arranged in 3 rows).
  - 2.5.3 A team of examining personnel.
  - 2.5.4 Test personnel.
- 2.6 The bidder shall be prepared to deliver the information that has been gathered and on-line processed by the system to the portable computers of company representatives, that will accompany the POC stage, through all the sub-stages of the POC. The response time of the system will not exceed the defined in clause 5.6 below.
- 2.7 The company may document all the POC stages, by any means that it may select (including video and audio).
- 2.8 Hereby clarified that the bidder will be required to execute the POC stage according to the guidelines of this documents and according to the detailed guidelines that will be provided to the bidder prior to conducting of the POC stage. The bidder will be required, within scope of the POC, to act according to these guidelines, and he will not be allowed to diverge from these other than by approval of the company, in advance and in writing.
- 2.9 As a precondition for the execution of this stage, the bidder will obligated to declare that execution of the POC stage by means of the proposed system is not life threatening (human safety) as caused by electromagnetic radiation, and poses no risk of danger to the eyes, or any other danger, and that installation of the system will not be cause for any safety constraint or hazard to the driver (due to interference with operation of the internal data links in the vehicle CANBUS and/or for any other reason), including a declaration/examination of no electromagnetic affects as caused by bidder actions (bidder responsibility is maintained throughout execution of the tests). The test will be conducted by an authorized laboratory, that will be approved in advance by the company.

### **3. Examination of the Installation Stage**

- 3.1 As a preliminary stage, and at time as determined by the company 7 days after start of the POC stage, the bidder will be required to demonstrate his readiness for execution of the POC stage per the detailed plans. The presentation of the subject will include:
  - 3.1.1 A presentation of the team on behalf of the bidder for the POC stage.
  - 3.1.2 A presentation of the detailed methodology to be used for installation and execution of the system.
  - 3.1.3 A presentation of the system operation method by the testing factor.
  - 3.1.4 A check of system interconnections with the end accessories, the management and processing system, and position location of the system by GPS.
  - 3.1.5 A presentation of system responsivity to the required scenarios.
  - 3.1.6 A presentation of the method used for the obtaining of output to be forwarded on-line to company testing personnel, as detailed above.

- 3.2 After said presentations of bidder readiness, the bidder will be required to execute actual installation of the system end devices in the test vehicles, and to execute system connections to the system management module. The test will be conducted through one workday.
- 3.3 Within scope of the test, the following will be examined:
  - 3.3.1 Abilities of the test team to on-line receive the processed data from the system.
  - 3.3.2 Compliance of the test vehicle and lack of constraints in respect to matching with additional vehicle types.

#### **4. Test at a Sterile Site**

- 4.1 Within this stage the system will be examined at a sterile site, to be determined by the company.
- 4.2 This stage will require 2 workdays, including under light and dark conditions.
- 4.3 The tests will be conducted according to scenarios as detailed within detailed guidelines, and other guidelines as decided by the company's test team. Hereby clarified that the scenarios will include an examination of discrete capabilities or a test that will include several capabilities in parallel. The scenarios may include, among others:
  - 4.3.1 Use of puppets.
  - 4.3.2 Concealments in the passenger compartment.
  - 4.3.3 Partial or full covering of end devices.
  - 4.3.4 Disconnection of voltage/cutting of the cable to end devices.
  - 4.3.5 Connection attempts to the system.
  - 4.3.6 Use of blankets/cloths as require generating a deceiving inner volume.
  - 4.3.7 Attempts to move/divert the end devices.
  - 4.3.8 An examination of safety aspects in operation of the system.
- 4.4 As part of the tests, the bidder may be required to execute individual adaptations to the system.

#### **5. Test in a Live Environment**

- 5.1 Within this stage the system will be examined while driving on various roads, as determined by the company, such that will simulate travel by volunteers within the scope of examining the Alternative. Hereby clarified that the bidder will not be informed in advance in respect to the route of travel.
- 5.2 Within scope of the examination, various travel scenarios will be examined, that will include varying numbers of passengers in the vehicle, with various characteristics (1-5 passengers). In total, at least 5 scenarios will be examined with scope of this test, within which the number of passengers in the vehicle will change.
- 5.3 The vehicles will be driven by test drivers and volunteers on behalf of the company. In addition, a company test person will be present in the vehicle.
- 5.4 This stage will require up to four (4) workdays, including in daylight and at night.
- 5.5 The operational scenarios will be detailed within the scope of detailed instructions. Test scenarios may include, among others:
  - Changing of lanes with/without occasional vehicles around the test vehicle.
  - Exit at an interchange.
  - Travel in a tunnel.

- Various travel speeds.
- Changeovers between various types of roads.
- Travel near roadside vegetation (trees, bushes, lawns).
- Standstill in traffic jams.
- Transition between various polygons.
- Urban driving in an environment of traffic lights, road signs, and many pedestrians.

5.6 Within the scope of this stage, the accuracy level of the system will be examined. The minimal accuracy required at this stage will be as follows:

5.6.1 FP Percentage  $\leq 1\%$

5.6.2 FN Percentage  $\leq 2.5\%$

5.6.3 Total System Accuracy Percentage  $\geq 95.0\%$

5.6.4 Automation Percentage  $\geq 99.0\%$