EXPLANATION OF TENDER DOCUMENTATION

within the meaning of Section 98 (3) of the Act No 134/2016, on public procurement, as amended (hereinafter the "**Act**")

Name of public contract:

DELIVERY OF STATIONARY CAMERA SYSTEMS AND PROVISION OF RELATED SERVICES

Above-the-threshold public delivery contract,
open procedure (hereinafter the "**Public Contract**")

Reference number: VZ_2020_A46

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1	The contracting authority defines the test of samples and its course in the tender documentation and the subsequent set of explanations of the tender documentation. Judging by the number of questions and answers on this topic, including their content, there is probably a misunderstanding. The supplier considers that the aim of the sample test is to verify the ability of the equipment to meet the minimum requirements of the tender documentation, or to meet the offered evaluated parameters. Section 16.3 defines which parameters are subject to the test and Section 16.10 states that "... the subject of the test is all vehicles which pass through the relevant measured section of the road ...". This entry is undoubtedly correct. It follows from paragraph 16.10 that it is necessary to know the number of all vehicles passing the test site. And then relate to this number: • for parameter A1, the number of correctly engaged vehicles, • for parameter A2, the number of correctly read license plates + country of origin, • for parameter B1, the number of correctly identified brands + trade names, • for parameter B2, the number of correctly specified colors.	Partially accepted. The contracting authority agrees with the hypotheses of the inquirer that (cited) "*The result of this procedure is the fact that the basis for evaluation (= number of vehicles found) is lower than the number of vehicles actually passed there.*" And further (cited) "*This the condition can be very favorable for the supplier* "and considers them to be evidence of the contracting entity's non-discriminatory and fair approach to the testing of samples. The contracting authority does not agree with the inquirer's statement that (cit.) "The contracting authority evaluates the number of elements of set S in relation to the number of elements of set V in its sample test definition", because the contracting authority will evaluate the number of elements of set S in relation to the number of elements of modified set V. For the purpose of testing samples in the interests of transparency and equal access, the contracting authority shall exclude from the evaluation images of vehicles which are illegible, their illegibility being caused by external influences which the selected supplier could not influence, such as • the vehicle was traveling at a speed higher than 200 km/h, • the vehicle was in eclipse, • the vehicle was dirty and the verified data

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	Each parameter tested in this way has some set of correct results S. This is a subset of the detected vehicles D, and this in turn is a subset of all V vehicles. Set complements then represent errors: 1. all vehicles which have passed through the monitored point but are not among the detected vehicles, 2. all vehicles that have been detected but are not correctly evaluated vehicles. The ideal system has zero on these accessories, but there is no such. Not every system detects any vehicles, not every system evaluates some vehicles correctly. In its definition of the sample test, the contracting authority evaluates the number of elements of the set S in relation to the number of elements of the set V. While the number of elements of the set S is a clear intermediate result of the test of samples, then the number of elements of the set V is given precisely by how many vehicles passed the test site during the test and finding this number is not the subject of the sample test. This number can only be determined by actually adding up the vehicles - physically by people in the field or from a record. This is the only way to obtain information on the actual number of vehicles. The contracting authority proposes another procedure where the number of elements of the set V is to be determined by means of detection devices. The contracting authority will use an existing system and perform vehicle detection with it. A set of detected Ds vehicles is created. The test sample generally detects a different set of Dt vehicles. There is certainly a considerable intersection between the sets Ds and Dt. The unification of sets should then represent the set V according to the procedure of the contracting authority: '... (a) the selected supplier's system has detected the vehicle, but the contracting authority's system has not: OK, proceed to assess the metadata	cannot be detected by visual inspection, etc. The contracting authority does not agree with the inquirer's assumption that (cit.) "*Furthermore, the contracting authority assumes that the detection of its existing system is not very successful*." The contracting authority did not state this assumption anywhere in the tender documentation or in its explanations. In addition, the use of the contracting authority's existing system will be limited solely to the detection of the number of vehicles that have passed the measured section and not to the evaluation of the correct recognition of the parameters that are the subject of the sample test. The contracting authority also does not agree with the conclusions of the inquirer that (cit.) "*...The system can pass the test with a very good evaluation, which will work very poorly and a much much better system can be evaluated as poor quality system*", because it is based on incorrect premises that the contracting authority's system detects only 80% of vehicles that have passed the measured section. In the interest of transparency and equality, the contracting authority accepts the inquirer's recommendations and, in addition to parallel control by its own system, will provide a control video recording of the course of the sample test. This video recording, however, will not be used for direct evaluation of the sample test, but will be available for possible retrospective inspection and to document the correct and transparent course of the sample test.

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	assigned to the vehicle; b) the selected supplier's system did not detect the vehicle, but the contracting authority's system did: the vehicle is considered to be defectively recognized by the selected supplier's system in relation to all verified parameters. It follows clearly, transparently and verifiably from the above that the set of 100% of the records is the sum of sub-files (a) and (b) ... ' The contracting authority's statement that "that the set of 100% of records is the sum of sub-files a) and b) ..." is not accurate. The sum of partial records a) and b) is only a unification of two sets of detected vehicles. And this is not and will never be the same set as V - the number of Ds elements is given by the detection success of the client's system (less than 100%) and the number of V elements as well as the number of Dt elements is given by the detection success of the tested system (less than 100%) and V. It cannot be assumed that all vehicles not detected by one system have been detected by another - especially if the systems operate with similar or even identical technology, which cannot be ruled out in general. The result of this procedure is therefore the fact that the basis for the evaluation (= number of vehicles found) is lower than the number of vehicles that actually passed there. Furthermore, the contracting authority assumes that the detection of its existing system is not very successful, which further reduces the calculated number of vehicles. This situation can be very advantageous for the supplier (will be explained below), but it is always very disadvantageous for the contracting authority, because the actual quality of the monitored parameters will be lower than evaluated - it may not meet the minimum conditions at all. Example: For simplicity, consider a sample of 100 real vehicles. The contracting authority assumes that his system works worse than the tested sample.	

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	For the sake of clarity, let us have the detection quality of the client's system only 80%. This means that 80 vehicles are captured by the system, 20 are not. Let's imagine 4 different tested systems:	
	1. System number 1 will work in the same way as the contracting authority's system - it does not detect twenty identical vehicles. Twenty undetected vehicles suddenly disappear from the test because the client did not find out about them with a single detection system. If, for example, such a system reads 98% high-quality brands, then it would read 78-79 vehicles correctly. However, the vehicles passed in place 100 - the tested sample thus did not meet even the minimum requirements of ZD according to point 16.10, nevertheless the result is a test of information on the successful testing of the sample.	
	2. System number 2 will work with a similar, only differently tuned technology as the contracting authority's system. System number 2 no longer detects only 15 vehicles, but all 5 vehicles were detected in addition to the contracting authority's system - ie from a subset of vehicles not detected by the contracting authority's system, so the contracting authority's system did not detect the vehicle and the tested system did not detect. Thus, 85 vehicles were detected correctly, 15 vehicles were not detected, which are not known as in the case of system 1. If, for example, such a system reads brands with a minimum required quality of 95%, then it reads 80-81 vehicles correctly. However, the vehicles passed in place 100 - even this tested sample did not meet the minimum requirements of the ZD according to point 16.10, nevertheless, the result of the test is information about the successful testing of the sample, because it is being assessed. It is worth noting that a system with a lower reading quality (95 vs 98%) correctly read the number of more cars than a system with a higher reading quality.	
	3. System number 3 is completely different. Out of 100 cars, it can correctly capture 76 vehicles. Four vehicles must then be missing against the detection of the client, so the system enters the quality evaluation with four errors. Thus, the detection of such a system is 95%, although the system detected only 76 vehicles out of 100.	
	4. System number 4 is a different product. Detects 95 of 100 vehicles. Detects some vehicles not detected by the sponsor's system and does not detect some vehicles detected by the sponsor's system. Thanks to this, it can have 95 pieces well	

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	detected, but at the same time it enters the quality evaluation with five errors. This means that the contracting authority now counts as a "set of 100% of records". Not only do system 3 and system 4 detect the same percentage of records according to the client, but on a sample of one hundred vehicles, the tested sample of system 4 could no longer pass the test other than with 100% read quality. Even if it read 99% correctly, then 99% of the 95 vehicles are 94 vehicles correctly. Of the 100 vehicles now calculated by the contracting authority according to its methodology, the system will not pass the test result, although it is the best of the systems described here.	
	The above example demonstrates the possibilities of evaluation according to the procedure set by the contracting authority. Thus, a system that will work very poorly with a very good evaluation can pass the test, and a far much better system can be evaluated as a low-quality system. It is not possible to rely on warranty and contractual guarantees - if the poor quality of the system cannot be ensured in a test explicitly designed to assess quality, then it will be difficult to succeed sometime during operation. It is certain that the system reads nonsense, but it is not recognizable that it does not capture all cars.	
	An even worse situation occurs when false detections are mixed into the problem, which machine recognition in general can do. If the Contracting Authority's Detection System detects (erroneously) some additional vehicles (vehicle duplication, vehicle inscriptions, reflections, etc.) and the test sample does not (correctly) create them, then the test sample already has an error equal to the number of false detections at the start. Of course, these detections can be excluded from the test, but only by manually checking the detected images. And all this, because it is not possible to predict where false detection could be hidden.	
	The contracting authority further states that a manual addition from the record - which is the only way to actually determine the actual number of vehicles - is not feasible. But this is a mistake. Although this task may seem complicated and frightening to its workload, it is not uncommon and represents only a few hours of work. For example, ŘSD also tests in its orders, which contain a similar function - reading marks and others. The number of vehicles during the ŘSD (Czech Roads Infrastructure Manager, note fro	

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	mthe translator) tests is higher than the contracting authority's requirement in this contract. ŘSD requires recording from a camera just for counting cars - ŘSD also relates the required quality to the number of vehicles actually driven on the highway. In the context of the above clarification, we therefore again ask whether the contracting authority really requires a sample test to be carried out according to its definition, with the risk that both he and the unsuccessful supplier may be harmed?	

In Prague on 5 June 2020

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Ing. Jan Paroubek
in charge of the state enterprise