

Purchase of autonomous vehicles intended for public transport of persons in Cluj-Napoca Municipality

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Descriere: Cluj-Napoca Municipality intends to purchase autonomous vehicles for public transport of persons in Cluj-Napoca municipality by applying the procurement procedure Partnership for innovation. The aim of the partnership for innovation is the commissioning of an autonomous motor vehicle under the particular conditions of the indicated routes in Cluj-Napoca. The autonomous vehicle is to be configured according to the technical requirements resulting from the specifications of the tender book, following that after commissioning under the conditions required, it will undergo a process of updating in stages until the autonomous vehicle will reach the operating desideratum imposed by the beneficiary. The partnership for innovation supposes from the point of view of the final beneficiary (the City Hall of Cluj-Napoca), the achievement of the following operating desiderata, phased as follows: phase 1: development of a public transport solution in an autonomous regime through an autonomous vehicle under the particular conditions of Cluj-Napoca municipality, on the indicated routes, by particularizations of the autonomous vehicle so that it can reach the operating desideratum within the constructive - functional parameters approved and validated by the bidder, in compliance with the technical parameters in the tender book; the budget of this phase can represent 15% of the total value of the partnership agreement for innovation, which will be accessed only to the extent that external financing sources will be attracted (type: European funds, Horizon 2020, etc.); phase 2: increasing the speed of travel of the autonomous vehicle by 10 km/h compared to the speed at which the vehicle is validated to operate at the time of delivery and commissioning-specific for phase 1, as well as increasing the autonomy of operating the electric battery by 10% compared to the autonomy that the battery of the vehicle has at the time of delivery and commissioning-specific for phase 1; the budget of this phase can represent 15% of the total value of the partnership agreement for innovation, this will be accessed only to the extent that additional funding sources are to be attracted (type: European funds, Horizon 2020, etc.); phase 3: increasing the speed of travel of the autonomous vehicle by 10 km/h compared to phase 2, as well as increasing the autonomy of operating the electric battery by at least 10% compared to the autonomy that the battery of the vehicle has as a result of phase 2; the budget of this phase can represent 20% of the total value of the partnership agreement for innovation, this will be accessed only to the extent that additional funding sources are to be attracted (type: European funds, Horizon 2020, etc.); phase 4: the purchase and commissioning, according to the beneficiary's request of 10 autonomous vehicles whose maximum authorized travel speed is 50 km/h and with an autonomy of the electric battery increased by a minimum of 25% compared to the autonomy that the battery of the vehicle has at the time of delivery and commissioning - specific for the phase 1, reaching the minimum level of autonomous management - Level 4 (according to SAE J3016); the budget of this phase can represent 50% of the total value of the partnership agreement for innovation, this will be accessed only to the extent that additional funding sources are to be attracted (type: European funds, Horizon 2020, etc.); The maximum authorized travel speed with which it is validated to operate the autonomous vehicle at the time of delivery and commissioning-specific for phase 1 is at least 25 km/h. General note: the R&D component (research and development) to be developed under the partnership regime cannot contain technical solutions inferior to the tender book. The structural, hardware and software changes of the platform are to be

made only for the increase of the performance compared to the solution offered in phase 1. Autonomous vehicles will be made and equipped in accordance with the standardization documents in force, with national, European and international regulations regarding the technical conditions that must be met by road vehicles, in order to be able to apply for their approval and registration in order to circulate on public roads in Romania. Constructive description Autonomous vehicles will meet the conditions related to reliability, passenger safety, computer security, comfort, environmental protection at the level of the current European rules regarding road vehicles. Autonomous vehicles will be built according to the laws adopted regarding the access of passengers with reduced mobility, respectively: CEE-ONU 107/2015 Regulation, as further amended and completed. Autonomous vehicles will have a transport capacity of at least 12 persons, of which a minimum of 9 persons per seat. The construction of the bodywork of autonomous motor vehicles must be carried out in accordance with the current CEE-ONU regulations and EC Directives in force. The bodywork will be self-supporting with a modern, futuristic design, specific to the class of vehicles they are part of. The bodywork will be provided with at least one access door with automatic functioning for passengers, according to the CEE-ONU Regulation 107/2015, located on the right side, with 2 door sheets having a width of at least 1,200 m. The bodywork will be guaranteed against cracking, deformation, breakdown over the lifetime of autonomous vehicles (minimum 15 years). The autonomous driving system The autonomous driving system will be a hardware and software technological solution that will have the ability to drive without the need for human intervention on the control mechanisms of the vehicle, with the remote monitoring of the vehicle by monitoring/operating personnel through a software application called a management platform. According to UN 79/2017 Regulation, the autonomous vehicle must be designed in such a way that the monitoring/operating or accompanying/operating personnel can, at any time and by deliberate action, disable the autonomous driving function. From the point of view of the automation of the management, the autonomous vehicle will be in the Level 3/Level 4 according to the specifications of SAE J3016. Electric batteries The electric batteries will have a capacity that will ensure the operation of the autonomous vehicle on the selected routes within a minimum time of 8 hours, at maximum load with passengers (12 persons), with the temperature conditioning systems in the passenger compartment in working order. The electric batteries will allow a charging regime from 0% to 99% within a maximum time of 6 hours regardless of the ambient thermal regime. Immediately after the positive terminal of the electric batteries a general protection switch will be installed. Charging stations The successful bidder has no responsibility for the establishment of charging stations, instead it must ensure the compatibility of the autonomous vehicles provided with the existing charging systems available on the market, respectively with the charging stations existing at the beneficiary's locations. The bidder must provide all the necessary technical information regarding the technical solution adopted for the loading of autonomous vehicles. The charging of batteries of the autonomous vehicles will be achieved through charging stations located at the beneficiary's locations. Intellectual property rights - In order to carry out the "PARTNERSHIP FOR INNOVATION" type agreement, the parties will identify, frame and establish the rights over the following types of intellectual property: a) pre-existing to this agreement, within the partner teams or entities; the bidder has the full intellectual property right over the offered product; the factual status is valid until the phase 1 of the preamble of the tender book is reached - these provisions will be an integral part of the partnership agreement for innovation; b) resulting from the research activity related to the agreement and which is part of its objectives; in this case, once the results of phases 2 and 3, produce, by reaching the desiderata of established objectives, intellectual property, it will support the following proportion regime (90% the beneficiary share the bidder, 10% the beneficiary share the beneficiary); c) resulting from the research activity related to the agreement and which is not part of its objectives. insofar as these results are to be produced during stages 2 and 3 of the partnership agreement for innovation, they should belong exclusively to the bidder of autonomous vehicle. The profit share represents 10% of the sale value of any model in the bidder's portfolio of autonomous vehicles that uses the object of intellectual property resulting from this partnership agreement for innovation.
