

**ELIGIBILITY SYSTEM TO BE A SUPPLIER OR MANUFACTURER OF USER INTERACTION TERMINALS (TIU, by its Catalan acronym) FOR ITS INTEGRATION IN THE EQUIPMENT OF THE T-MOBILITAT SYSTEM**

**I.- Introduction.**

The T-mobilitat project is born from the necessity of the Autoritat del Transport Metropolità de Barcelona [Metropolitan Transport Authority of Barcelona] (hereinafter ATM) to face the limitation and obsolescence of the magnetic card, as well as its high costs of replacement and maintenance, through the migration of the magnetic system to a Contactless technology system of the Integrated Ticket System called T-mobilitat.

Taking advantage of this technological change, the T-mobilitat project intended to establish a new technological model to make it available to a new tariff model for a better and more efficient management of the integrated tariff system and thus guarantee the global objectives for a better and more efficient use of public transport.

This new technological model, which required a “Comprehensive Information System”, end to end, for the Interoperable Tariff Management, has been designed in order to allow the shared work of all the companies involved, and with special attention regarding the privacy of users’ data and their right to travel anonymously, as well as the development of new procedures to guarantee security and integrity of all data that will be assimilated to tickets or transport titles.

The responsibility of the ATM as the manager of the integrated tariff system and the entire system of stakeholders involved in collective public transport in the territory for which it is competent (all transport companies, sales companies of transport titles, income distribution system) lies on a solid technological system that guarantees transparency, efficiency and reliability of the system in any of the areas of management.

With this development of the technology model, the ATM has established a unified, shared, collaborative and mandatory framework that ensures the interoperability of the system with the objective that the transport user perceives the usage of the service as a single system.

Within this framework, the ATM deemed most relevant that the potential suppliers or manufacturers of the different types of User Interaction Terminals (hereinafter TIU) eligible for its use in the T-mobilitat system, complied with certain technical eligibility requirements and administrative eligibility requirements in order to give due coverage to the system and the most appropriate guarantee for the protection of the public interest in the transport service for which the ATM is competent.

It is for this reason that the ATM has an interest in enabling, in a non-exclusive basis, any suppliers or manufacturers that may provide or manufacture the different types of TIUs that are enabled in the T-mobilitat system, in order to make up a network of suppliers or manufacturers, stable in its provision and adaptable to the technological modifications that may occur in the T-mobilitat project system itself. It is considered that the development of functions by several companies in a non-exclusive basis and simultaneously will help to form a more powerful and efficient provision or manufacturing network.

The eligibility of suppliers or manufacturers of TIU is of a previous and compulsory nature in order to be able to take part in the tenders for the acquisition of TIUs to be carried out by the Transport Operators for its use in the T-mobilitat System.

The eligibility of suppliers or manufacturers of TIU is a necessary but not sufficient condition for the development of a TIU since it only ensures the fulfilment of the common technical requirements, the characteristics and specific functions of the TIU will be established in the tender of the corresponding Transport Operator.

In light of the aforementioned considerations, this document includes the eligibility procedure that suppliers or manufacturers of the different types of TIUs in the T-mobilitat system are required to fulfil, by certifying compliance with the requirements set for this purpose in the present document and the subsequent signature of the corresponding eligibility agreement that is attached to this document as **ANNEX I**.

In this sense, this administration reserves the definition of the conditions of commercialization with the owner and/or distributor of these types of terminals.

## **II.- Eligibility procedure.**

### **a) Administrative requirements.**

The suppliers or manufacturers interested in being eligible vis-à-vis the ATM in order to carry out the tasks foreseen in this document must meet the administrative requirements necessary for the eligibility, submitting the following documents:

- Eligibility request of the types of TIUs according to the form in **ANNEX II**.
- Documents certifying your status:

In the case of an individual, a photocopy of the ID document legitimated before Notary Public or duly authenticated.

In the case of a legal entity, original, authenticated copy or legitimate copy of the deed of incorporation or modification of the company or analogous deed, registered in the Commercial Register or analogue, when this requirement is enforceable. Otherwise, the deed or document of incorporation, modification, statutes or foundational act, or analogous document, in which the rules by which its activity is regulated are established, enrolled, if applicable, in the corresponding official register. A photocopy of the Tax Identification Number or similar document legitimated before Notary Public will also be required.

In the case of a company acting by representation, it must submit original or authenticated copy of the deed of powers or similar document duly enrolled in the Commercial Register or analogous, accompanied by the affidavit of its validity issued by the person or body responsible for its dispatch, as well as a photocopy of the ID document or similar document legitimated before Notary Public.

In the case of a number of companies constituting a joint venture, according to the Law 18/1982, of 26 May, as modified by the Law 12/1991, of 29 April, each one of the suppliers or manufacturers in it will have to certify their status and

representation through the aforementioned documents. In addition, they must indicate the names and circumstances of the suppliers or manufacturers that are part of it. It will also be necessary to declare that they are bound, jointly and severally, before the ATM, in the exercise of their rights and in the fulfillment of all the obligations deriving from the model agreement that they may sign. They must indicate the participation of each of the companies and designate a representative or proxy of the joint venture, which must be an individual, and also the address of the joint venture for purposes of notifications.

In case the joint venture is enabled by the ATM, the companies that constitute it must grant the corresponding public deed of its constitution, in accordance with the provisions of article 8 of Law 18/1982, of 26 May. They must confer on a representative or proxy of the joint venture sufficient powers to exercise all rights and fulfill all the obligations that may arise from the agreement to be signed with the ATM.

- Documents certifying that the activity or corporate purpose bears a direct relationship with the purpose of this eligibility.
- Documents certifying that an organization with human and material elements exist, which are sufficient in order to properly execute the model agreement.
- Accreditation that the supplier or manufacturer can fulfill all the tasks indicated in this document and in the model agreement. This accreditation will be carried out through the means that the supplier or manufacturer may deem most appropriate, in order to be properly taken into account by the ATM.
- Documents proving to be current with tax obligations and vis-à-vis the Social Security.

In the event that the individual or legal entity is not bound to be registered in a tax, to pay taxes or to comply with obligations with the Social Security, in accordance with applicable law, this circumstance will be stated by means of a statement of compliance, specifying the legal matter of exemption that applies.

- Statement of compliance submitting to the jurisdiction of the Spanish courts and tribunals of any order for all incidents that may directly or indirectly arise from the model agreement.
- Statement about the global volume of business and, if applicable, on the volume of business in the scope of activities corresponding to the purpose of the eligibility, referred at most to the last three financial years available depending on the date of creation or start of the activities of the distributor.
- Email address for communication and notification purposes.

Documents must be submitted at the headquarters of the ATM, either in person or by ordinary mail, through the corresponding entry register, without prejudice to the fact that it can also be done through other means legally admitted.

Applications may be submitted at any time from the date of publication of this document in the Diari Oficial de la Generalitat de Catalunya [Official Gazette of the Government of Catalonia].

## **b) Technical eligibility requirements.**

The suppliers or manufacturers interested in being eligible by the ATM to carry out some of the types of TIUs identified in this document must meet the common technical requirements necessary for the eligibility in accordance with the procedure detailed in this section.

In this sense, and once the administrative process has been completed, the technical eligibility procedure of the TIU will be carried out in any of the types identified, as it is described below.

The eligibility procedure of any TIU will be shared and supervised by the ATM of Barcelona, and will include the following stages or steps, just as a number of phases:

### **STAGE 1:** Identification of the TIU/s to be eligible

This stage determines the scope of the work to be carried out.

### **STAGE 2:** Personalization of the eligibility process.

The eligibility process of TIUs will be carried out by means of a procedure of systematic and standardized work for every and each supplier or manufacturer of TIUs, depending on its situation, the type of TIU to be eligible and the resources that may be used.

In this stage the contents, scope and time purpose for every and each phase of the process are identified:

- Analysis and Engineering Phase.

The objective of this phase is to ensure that the supplier understands the scope and is committed to complying with the common technical requirements and the specifications that ensure the interoperability of the TIU to be developed through the analysis and acceptance of the design of the TIU/s to be eligible to.

- Development phase.

Sub-phases in the development of the TIU, contents, scope and time forecast are described.

- Pre-series phase.

The development of a Pre-series and its delivery at laboratory level are described.

**STAGE 3:** Development Prototype ccTIU.

With the mandatory technical requirements and technical specifications acknowledged by the supplier, he will develop a Prototype ccTIU (CPU embedded ecosystem for real-time computing) that must meet all the common features of any TIU.

**STAGE 4:** Prototype ccTIU Acceptance tests.

Before proceeding to the next stage, Compliance and Acceptance tests will be carried out in order to consolidate the work done.

**STAGE 5:** Development of Pre-series (TIU at laboratory level).

The Pre-series is the TIU Terminal completed, with the ccTIU integrated and with all common interaction interfaces, finalized at laboratory level.

In this stage technical requirements common to all TIUs will be met, and also those common technical requirements according to the role of the TIU in the T-mobilitat system.

**STAGE 6:** Acceptance tests of the Pre-Series (TIU at laboratory level).

Before proceeding to the next stage, Compliance and Acceptance tests will be carried out in order to consolidate the work done.

**STAGE 7:** Eligibility certificate of the common technical requirements of the TIU.

Once all the tests have been satisfactorily completed, the corresponding eligibility report will be issued that will allow the different T-mobilitat transport Operators to acquire and install equipment from the eligible TIUs suppliers.

**c) Objectives.**

The Common T-mobilitat Technological Model (hereinafter MTC, by its Catalan acronym) is based on the compliance of a number of mandatory strategic principles:

- The MTC has the **INTEROPERABILITY** concept as the most important strategic element, understood, from a technical point of view, as the capacity of "Hardware" and "Software" in the equipment of various suppliers for exchanging and using information.
- The T-mobilitat interoperability is based on the usage of definitions, formats or processes that have been approved by **international STANDARDS** or accepted "de facto" as such by the Industry, and on the mandatory development of open technical specifications of the processes and interfaces not covered by European, international and national rules.

- From a technological point of view, the MTC is **NEUTRE** having as the only generic requirement the use of the NFC Contactless Technology, allowing technology suppliers to use whatever they may deem appropriate in the Hardware/Software Solution to be implemented. That is, it defines interfaces that allow the interaction between computers, but not with what technology it is achieved.

The **essential objective** of these mandatory strategic principles is:

- Providing the MTC with the **capacity to adapt to the progress** of technologies and electronic communication systems that will most probably be produced over time;
- Guaranteeing **independence in the choice of alternatives** by the Operators in the future;
- Promoting the **controlled open competition** between suppliers through a strong **Protection of their Intellectual Property** as a means of encouraging technological development as **innovation** tool.

#### **d) Resources and Costs**

With this document, the ATM, together with the Transport Operators, opens an eligibility process for technically interoperable TIUs to use in the T-mobilitat, based on international standards and neutral from the point of view of technology.

With a temporary and exceptional nature, and until having a sufficient number of manufacturers of TIUs adequate both in quality and in quantity, the ATM will make available to the process all the technical means and resources available for supervising and guiding the manufacturers in this process, leading and assuming the costs derived from putting these resources at the disposal of the process.

It will be a responsibility of the supplier or manufacturer of the TIU Terminal to assume the costs associated to:

- Making Prototype/s ccTIU/s with own technology;
- Pre-series at laboratory level;
- Assistance and maintenance during the tests;
- Obtaining certificates at external laboratories (if applicable);
- Travel;
- etc. ...

According to the technical documentation submitted, the ATM will evaluate each application and will resolve the technical eligibility procedure, issuing, in a positive case, the corresponding Eligibility Certificate and the mandatory eligibility resolution of the General Director of the ATM prior to the formalization of the model agreement here as ANNEX I.

### **e) List of eligible TIUs**

The following is a non-exhaustive initial list of types of TIU Terminals to be eligible for their use on the T-mobilitat, to be taken into account as reference:

#### **1. Validation systems.**

- **Group 1:** TIU Terminal for “closed barrier validation”

In this case, the control of the access to transport facilities is carried out through barriers, controlling both entrance and exit.

- **Group 2:** TIU Terminal for “open autonomous validation”

In this case, validators are fixed in the facilities of the operator (not in the vehicle) and there is no physical barrier to control.

- **Group 3:** TIU Terminal for “on-board validation”

In this case, validator is one of the computing elements or equipment in the on-board sub-system on buses, but not the only one.

#### **2. Driver’s Control Panel - Desk.**

- **Group 4:** TIU Terminal for “Driver’s Desk”

The Driver’s Control Panel or Desk is associated to a hardware made of a man-machine interface that allows the driver to easily manage all associated peripheral equipment and on-board services.

The desk has, among others, screen, thermal ticket printer, contactless ccTIU, Ethernet communications, 4G/3G/UMTS/GPRS mobile communications, serial communication, geo-localization and all on-board devices...

#### **3. Sale and recharge systems for automatic vending machines.**

- **Group 5:** TIU Terminal for “vending and auto-recharge”

Equipment transport operators in closed environments place in the stations, automatic vending machines for the user to buy tickets and get information.

#### **4. On-board information systems.**

- **Group 6:** TIU Terminal for “on-board information”

Equipment installed on buses for the users to get information about contents related to the contactless tickets.

## 5. Inspection systems.

- **Group 7:** TIU Terminal for “inspection”

Equipment with inspection functions that are common to the management and to the control of inspection.

## 6. Customer Service systems.

- **Group 8:** TIU Terminal for “Customer Service Locations” (PAC in its Catalan acronym)

Equipment with hardware and software needed for providing the clients with services regarding the T-mobilitat Tariff System, like the following:

- Personalization Service
- Client Management
- Cards and tickets sales
- Cards re-charge
- Incident Management
- Cards recovery
- Etc.

### **III.- Formalization of the eligibility request**

The eligibility request for equipment will be done by means of an agreement of the ATM in the maximum term of **12 months** from the date the application has entered the ATM register together with the complete documentation specified in this document. The acceptance of the eligibility request will be notified to the company at the address indicated for notifications purposes in the eligibility request and will be immediately followed by the formalization of the model agreement here as **ANNEX I**.

In the event that the accreditation documentation submitted by the supplier or manufacturer is incomplete, he will have a new 30-day period to amend the lack of mandatory accreditation documentation for the eligibility request.

The formalization of the eligibility agreement of the TIU equipment once successfully passed the entire process will be done in an administrative document that matches exactly the model agreement and its contents, constituting this administrative document title enough to access any public register. However, the supplier or manufacturer may request that the agreement be executed as a public deed, assuming himself the corresponding costs.

The supplier or manufacturer will have to use the Catalan language in its relations with the ATM derived from the agreement, and in the rest of general communications that may derive from the execution of the features object of the agreement.

Likewise, the supplier or manufacturer assumes the obligation to allocate, in the execution of the agreements, the means and the personnel that are appropriate to ensure that the features of the agreement can be carried out in Catalan. To this end, if applicable, personnel who might be in contact with the public, must have sufficient knowledge of Catalan to develop the tasks of customer service, information and communication in a fluent and adequate way.

In any case, the company is subject to the obligations deriving from Law 1/1998, of 7 January, on language policy and the provisions that develop it. In the territorial area of the Vall d'Aran, companies will have to use Aranese in accordance with Law 16/1990, of 13 July, on the special regime of the Vall d'Aran, and with the own regulation of the Conselh Generau d'Aran [General Council of Aran] that develops it.

In case the agreement entails the delivery of documents and reports to the ATM, these must also be delivered in Catalan.