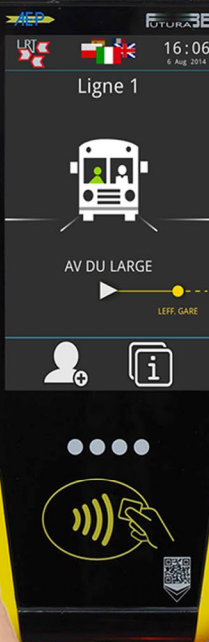
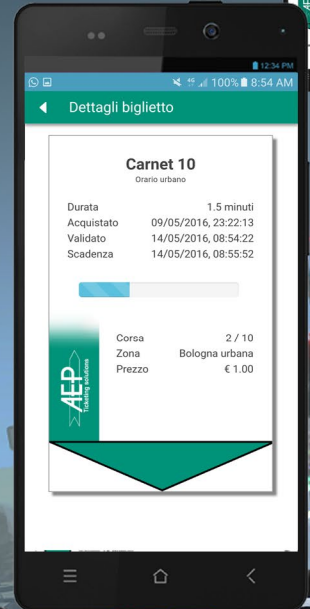


THE SECOND GENERATION OF MOBILE SYSTEMS IS ALREADY HERE!



ET - MOBILE

THE SECOND GENERATION OF MOBILE SYSTEMS IS HERE

Mobile, the new frontier

Nowadays the market offers many proposals for "mobile" ticketing, which are mainly based on 2-dimension bar codes (QR-code), even though many of them present features which are too far from the real needs and security requirements of a Transport Company.

AEP is then proposing ET-MOBILE, which sets new market milestones to be considered the second generation of this kind of solutions.

ET-MOBILE is a very ample solution, founded on the solid **ET - The Easy Ticketing** suite, with which it fully integrates, deploying and multiplying its remarkable potentialities.

Why mobile ticketing?

Nowadays all major Transport Companies have already adopted Automated Fare Collection Systems and are looking for innovative solutions to improve the service to their customers and at the same time reducing the costs, which, about ticketing, are mainly due to physical supports and their distribution: company agency personnel, commissions to distributing network, vending machines etc. With the traditional solutions, most travelers have no choice other than going to ticketing offices, queuing for attention i.e. wasting their time and occasionally getting frustrated.

The **mobile** ticketing wants to propose a solution to all these problems by using mobile terminals, i.e. mobile phones, that most users carry in some way. Even though the current trend is for using QR codes, **ET-MOBILE** offers also other functionalities like e.g. the NFC communication.

Why ET-MOBILE is better?

ET-MOBILE is just different from the other market proposals because it is based on principles that extend its application field. AEP engineers have in fact developed new algorithms which, yet very secure, overcome those limits which until recently seemed unsurpassable, if not by using smart cards and SAM modules. **ET-MOBILE** looks at the "mobile problem" with a broader view. The mobile is now seen as an extension of the Electronic Ticketing System and not as a structure independent from the other components.

What is a QR-code

The QR-code is a system to make possible optically reading by a machine of alphanumeric character strings. It derives from the most commonly used bar code, the origin of which dates back to 1948.

The QR-code thus only contains a set of data and does not offer any additional security nor auxiliary functions other than the time and efforts saving respect to manual inputting on a keyboard..



First in France - AEP is carrying out for STGA (Grand Angoulême) the first installation in France for a system that includes besides a traditional ticketing solution, also ET-MOBILE, the mobile ticketing 2.0.

Start from the tail?

A common error is in identifying the mobile ticketing with the QR-code. It is in fact one of available means to facilitate the validation and verification, but this is only the "tail" of a complex process that, in order to be used in a professional environment, requires also a "head" and other elements such as "legs" and "arms".

The AEP approach

With these principles AEP has concentrated its attention on the whole process, and not only on its "tail", by defining the techniques to generate, sell and use some "secure" data packets call cryptograms which are per se the Travel Documents (TD).

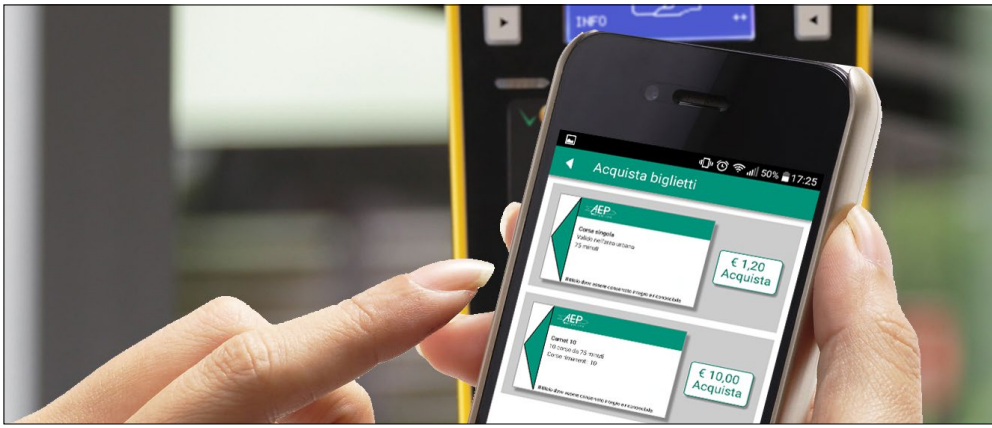
The Cryptogram Engine©

The heart of ET-MOBILE is its Cryptogram Engine© (ET-CREN), the "engine" which generates and sells the cryptograms. ET-CREN is integrated with ET-CSC, the Supervision and Control Centre, and allows other applications to generate, purchase and pay the tariff products as set by the ticketing rules.

Obviously open!

One of the most remarkable feature of the AEP systems is their openness. AEP is perfectly aware that in the modern world no system can be a secluded island and it is necessary that an AFC be capable to integrate with applications from other suppliers.

Therefore, ET-MOBILE makes itself available for the world of **independent developers** and offers the possibility to purchase a cryptogram under the enforcement of some rules and a specific agreement with the Company.



Maximum openness - ET-MOBILE, which is founded on ET - The Easy Ticketing, the AFCS from AEP, has been designed to manage all Company's mobile ticketing services but does not mandatory require the use of an app from AEP.

ET-MOBILE is open and allows the integration of third-party apps to enlarge the Company's commercial opportunities

Who can buy cryptograms?

The cryptograms can be purchased by any application by using AEP **Interago®** web-service interface. Typical customer applications can be e.g.:

- web portals
- mobile terminal apps
- vending machines.

The Company can so decide e.g. to promote the development of new third-party applications, which can all integrate with ET-MOBILE, **multiplying purchase opportunities** by the end users.

And the mandatory validation?

Many mobile solutions of the previous generation demand the user to self-validate a Travel Document before they get on board. This solution is obviously quite limiting. The experts agree on the importance of a **mandatory validation** as the best mean to assess the passenger traffic, fundamental to strategic decisions and, most important, to fight payment evasion.

Many Regions and Companies are actively enforcing the mandatory validation, made possible by Electronic Ticketing systems, counting on the "social control" by passengers who naturally spot the non-validating ones (a non-validating passenger is perceived as equaling an evasion). In addition, mandatory validation eases the clearing among Companies sharing an interoperable network.

Therefore, it is indispensable that any mobile solution makes possible the validation, which, by the way, is a definite requirement for Metro or BRT gates.

ET-Mobile not only offers the standard features, like the optical reading and the auto-validation whenever necessary, but also the possibility to use an NFC interface to transform a mobile phone into a contactless smart card without facing the crucial problem of accessing the "secure element" or the SIM from a phone network operator.

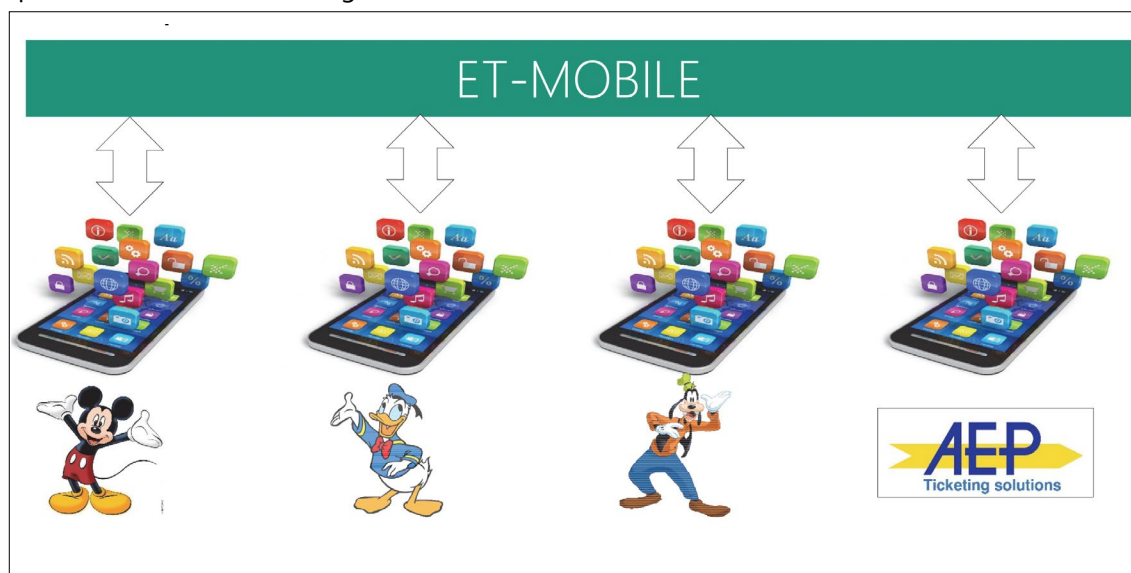
Security

In AEP we well know that security is the fundamental feature of any Electronic Ticketing System. Travel Documents represent a considerable asset but it is not only that; any detected fraud represents, besides the economic damage, also a two-fold loss of credibility of the Company and the Institutions in general.

For this reason, we have worked on two different fronts by creating operating logics and innovative algorithms that allow ET-MOBILE to offer a very high security level against frauds. This security is comparable with the one offered by contactless smart cards, and takes also advantage of the modern techniques to make secure applications.

The Communication Engine©

This security is partly due to the Communication Engine©, the communication management engine which is capable to operate in full and quasi real-time, the latter applying during a temporary communication channel failure. This module has been initially developed to support ET-PASS for the EMV cards.



Any engineer with the relevant software development kit can create an app to purchase and use Travel Documents by using ET-MOBILE. This represents for the Company a significant opportunity to increase their sales. Among the possible application, there is also the one from AEP, called AEPAPP.



All most recent devices from AEP can be equipped with a professional optical reader, which offers excellent performances of speed and reliability incomparably superior to any mobile phone camera. Besides, it features a light beam that eases the reading process. In addition, it is laser free, an indispensable feature for a device installed in a bus, where a child could look at the reader aperture and get a retina damage if this were a traditional laser beam.

Progress bar: to be noted the progress bar which indicates the TD's residual validity (in the example the TD is about to expire).

The two halves of the apple

AEP, which since the beginning of its activity is designing and producing validation terminals, offers, in all its most recent products, a professional laser-free optical reader which features excellent performances of speed and reliability, incomparably superior to any mobile phone camera.

The AEP know-how proposes the whole solution, made of ET – The Easy Ticketing, Cryptogram and Communication Engines©, suitable terminals and all necessary applications, so that to guarantee the possibility to conform with the “mandatory validation” rules.

But we have gone well beyond!

ET-MOBILE represents an important innovation in the Electronic Ticketing panorama. Its characteristics allow to go well beyond its classic mobile scheme, based on mobile terminals. In fact ET-MOBILE allows to offer a modern version of the traditional paper ticket which can be very low cost and distributed through the traditional sale channels like shops, tobacconists and news stands, without compromising the security level fit for the application.

Do you want to learn more?

Call us, we are at your disposal.


THE EASY TICKETING



Is the paper back? ET-MOBILE is so versatile to provide a high number of security measures as to introduce the modern version of a paper ticket. The tickets can be made and distributed exactly like the old traditional tickets but they offer features which are comparable with the electronic tickets, in particular if the ticket is for a single ride on an urban environment.



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