COMPANY PRESENTATION

AEP Ticketing solutions

YOUR IDEAL PARTNER FOR EVERYTHING TO DO WITH ELECTRONIC TICKETING

IMAGINE A PLACE
WHERE ELECTRONIC TICKETING
IS THE ONLY AREA OF DEVELOPMENT

WHERE THE BEST SPECIALISTS
ARE AT WORK

WHERE THE PURSUIT OF EXCELLENCE
IS THE EVERYDAY NORM

WHERE THE CLIENT
IS A PARTNER TO
JOINTLY WORK WITH

THAT PLACE EXISTS

WELCOME TO
THE AEP WORLD

WE DO THIS ONLY

We do this only

AEP has been focussing exclusively on Electronic Ticketing for Public Transport for almost twenty years.

We do only this and strive to do it in the best way, with a concrete commitment and a desire to innovate, without wasting our energy, ready to offer the structural opening of our systems to operators in adjacent sectors.

The facts speak for themselves

In this document, we tried to represent the AEP wolrd: prefer not to write about our abilities but about our Clients and what we have proudly already made for them.

We would have liked to speak about everyone, describe the enthusiasm, competence, and commitment we see every day in the many "big-small" organisations that have chosen AEP but AEP's customers now number hundreds and we have had to limit ourselves to some installations.

AEP
Ticketing solutions

"...We do only this and strive to achieve it in the best way, with a solid commitment and will of innovation...

...we have preferred not to write about our abilities to produce but about our Clients and what we have already made for them...

Complete systems

The great strength of AEP are the complete systems, not only those that manage millions and millions of daily transactions, but also those for medium and small companies which can access, at reasonable cost, a wealth of knowledge and of deep and consolidated experience, where software and equipment, all coming from the **same supplier,** merge and integrate to constitute the ideal solution for every need in electronic ticketing.

OEM supplies

AEP product system is one of the widest and most flexible on the market and is also available to OEM customers, along with the related development kits: contactless, magnetic , traditional paper validators and any of their combinations, ticket vending machines, on-board computers, driver consoles, etc., in hundreds of variants.

The results prove we are right

The secret of our success is very simple: aiming to be recognised by the Clients as one of the most reliable, competent and cooperative partners rather than suppliers.

The results prove we are right: today we are the best known Italian company in the world operating in this industry.

Tens of systems and more than 50,000 AEP devices are used in Italy, in Europe, and in the other continents for million transactions every day.

Finmeccanica Branch acquisition

SELEX ELSAG
A Finmeccanica Company

June, the 8.th 2016: **Finmeccanica** (now Leonardo), the largest Italian company, **has sold to** AEP **the Monetica Branch** including all their activities in the Electronic Ticketing sector, (formerly included in Leonardo's companies **Elsag** Datamat and **Selex** ES).

As a consequence AEP has acquired, to all intents and purposes, the human resources, the systems and the products, the previous references and the customers; With this acquisition AEP has extended the number of **internal resources to almost 90,** plus a dozen external collaborators and has established **a new factory in Genoa**.

Check for yourself

Do you want to see with your own eyes? We will be really happy to accompany you on a visit to the installations already in operation, put you in contact with our Clients, and let you personally check the results obtained by AEP and its team of specialists, which we are proud of and consider to be among the best in the world.

Head Office • AEP (photo 1) is based in Signa, very close to Florence (Italy). You can reach it easily by car, train or plane.

Technology • *AEP believes that the extensive knowledge of the international standards, the full possession of technologies, and very high quality levels are the fundamental requisites for correctly approaching the market.*

AEP invests more that 15% of its profits in research and development every year. IHas created internal test and measurement laboratories (photos 2, 3, 7 and 8) to guarantee that compliance with the law is an integral part of every new project from its early stages.

Quality • *AEP invests in quality and disseminates the culture of quality inside the company. Production is entirely carried out in Italy (photos 4 and 5) and is 100% tested. Picture 6 shows an automated test system for the contactless reader. A camera analyses and reads the display while a robotised system presents numerous types of contactless cards at various distances.*

Our quality system is ISO 9001:2008 certified and production sites are accredited by the Ministry of Transport of the Italian Republic.

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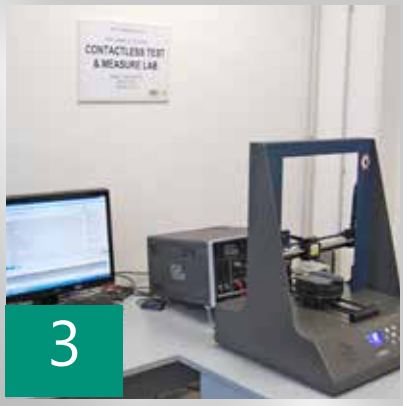

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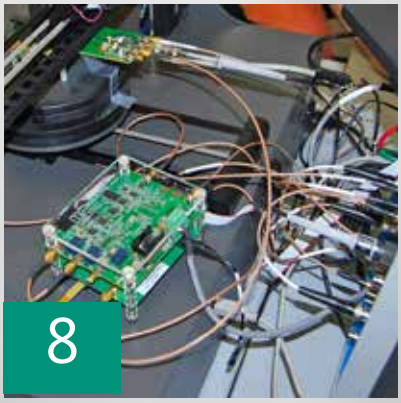
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...Your opinion of our quality is very important to us. It will be a pleasure to open our door, show you our plants, and our test rooms, put you in contact with our technicians, and listen to your suggestions.

...conceived out of the experience on international markets, where ET is now increasingly preferred to the proposals from the best known multinational ticketing companies..."

"In all countries where it operates, AEP employs mother tongue experts...

Solutions, not problems

With ET-The Easy Ticketing, AEP offers solutions, not problems, and above all it offers a totally new approach where the Client and supplier work together for the sole purpose of obtaining concrete results at a reasonable cost and time.

Tested and reliable solutions, which are implemented by using industrial principles, rather than using artisan techniques where every new installation starts with the replication of an existing system.

Thanks to the investments made by AEP, today the Transport Companies can now choose a powerful, light, easy-to-use and modular solution to build up their e-Ticketing system with validators, vending machines, on-board computers, and other accessories, all provided by just one single supplier.

Easy to use

ET users have rated it to be one of the easiest e-Ticketing systems to use.

The whole project is based on the assumption that all its users are not computer engineers. Their task is managing transport, not learning IT.

Designed for the global market

In fact, AEP puts its know-how at your disposal; know-how gained from experience on the international markets where ET is now increasingly preferred to the proposals coming from the best known multinational ticketing companies.

AEP speaks your language

AEP employs mother tongue experts in all of the countries where it operates in order to strengthen the necessary spirit of co-operation that is the key to the success of any new project.

One for everyone

Our customers share applications derived from the same source code: the small companies can now access to the same level of quality, performance, versatility, and reliability of the large operators.

Modular and flexible

ET features a modular structure that is able to acquire and use the actually requested functions only, with the possibility of extending the system at a later stage.

ET-CSC, the Supervision and Control Centre, is able to manage more companies, including a hierarchical organisation. So it can cover the role of a Regional Supervision Centre.

ET modules

In addition to ET-CSC, there are modules for the management of communications, ticket offices, on-board equipment, sales via the Web, ticket inspectors, violation management, miniAVM for fleet management, miniIV for travel information, remote SAM, Remote SAM Management, etc. ET-PASS for the validation with EMC bank cards, and ET- MOBILE for innovative QR-code and NFC-based sales systems have been added recently.

Other modules are being added every day to increase ET's capabilities. Each module is available separately in order to reduce the initial investment and add additional functionalities as the Company grows.

Web architecture

ET is based on a web architecture and can be used from an indefinite number of work stations with a simple browser. Depending on your installation's safety policies, it can also be used while you are comfortably sitting at home.

However, part of the software applications can operate locally to guarantee a non-stop service even if the communication lines fail.

Configuration vs Customisation

All modules integrating ET are based on an approved architecture that ensures maximum flexibility through the simple definition of parameters to meet the specific requirements of any Company with no need to customise the product unless it is really necessary.

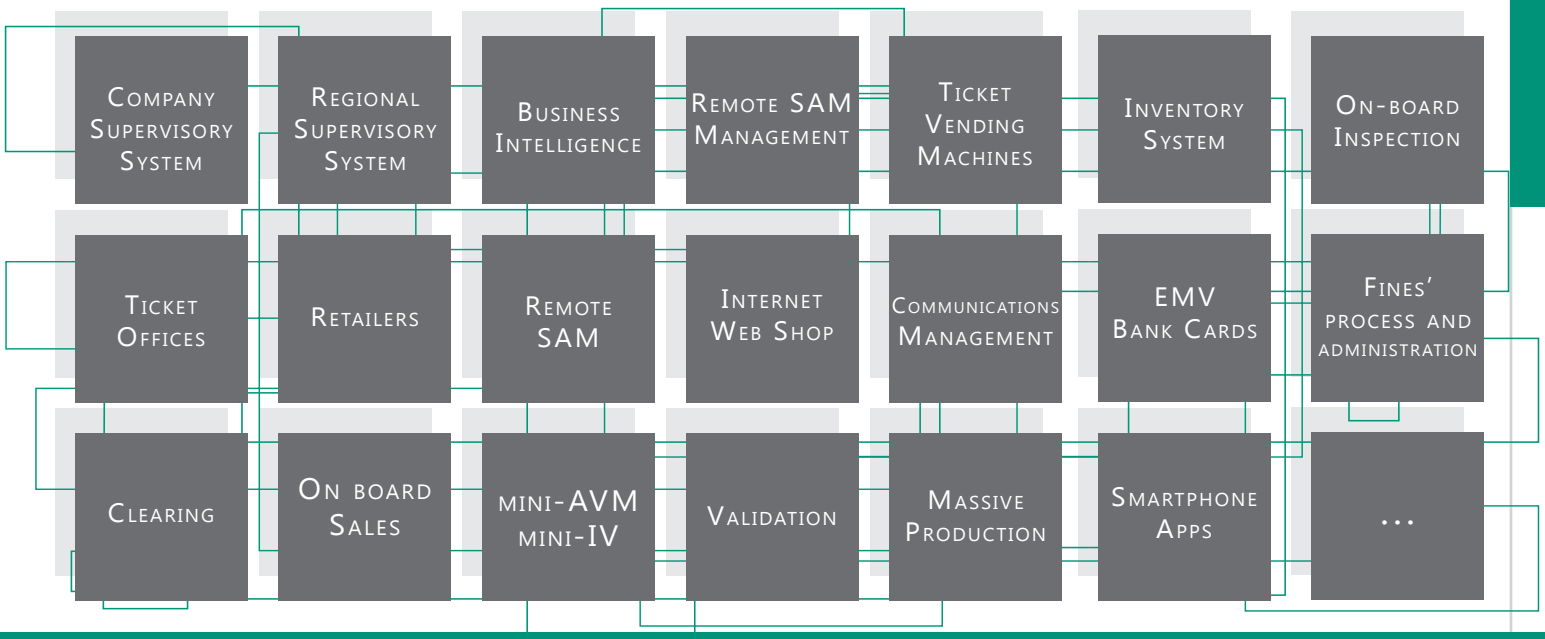
Openness

All the data produced by ET is collected in a central database. Using the Interago® platform combined with the extensive use of "web services", ET structurally allows other applications to interact and access the information, providing the interoperability with all the advantages you can easily image.

Hardware/Software Integration

System software, firmware, and devices are conceived and designed by teams that work in synergy for perfect integration.

ET THE EASY TICKETING



Modular ET - *The Easy Ticketing is an application suite built up of many components well*

tested solutions that cover all the requirements of Electronic Ticketing.

Business intelligence ET-BI, *one of the new 2017 modules - a very powerful set of tools*

which allow you to quickly transform the enormous amount of raw data produced by the SBE into knowledge and then in decisions, multiplying its utility.

Persona *is the configurable, simple and consistent user interface of all ET system apparatuses. Only a company such as AEP, which designs and produces everything from the center software to that of every single device, is able to offer such powerful and integrated solutions at all levels. From left examples of CDB-4 PLUS, RTVM-T and Futura 3B.*

Transport is evolving

All main Transport Companies have adopted an Electronic Ticketing and are looking for innovative solutions, as to improve the service offered to the clients, and reducing the costs of the physical support and their distribution, such as the number of staff for corporate ticket offices and commissions for the retailers, etc. Traditional solutions also force the passengers to waste their time to go to a ticket office, queuing, etc.

Bank cards: the solution

The possibility to validate a ride by directly using an already owned bank card, as already implemented in the city of London, is therefore very attractive. The solution is simple and logical, it minimizes the Transport Company's costs, it is practical and convenient for the Users.

No registration or queueing are necessary. No expiration date to remember, nor complex rules to learn. It reduces to nearly zero all the "non-intentional evasion" of those who cannot easily buy a ticket but would be willing to pay the due amount if convenient.

Security and complexity

The implementation of a Ticketing Automation solution where the validators can seamlessly accept ordinary public transport cards and bank cards is very complex and normally approachable only by large companies who can afford large investments and the long wait time to develop and test applications that are subject to the most stringent security requirements for electronic payment.

ET-PASS, the solution by AEP

AEP is happy to present ET-PASS, part of the ET - The Easy Ticketing suite, that offers the possibility of using bank cards for electronic ticketing. AEP has already made all necessary investments to solve complex problems, to get all certifications and authorizations, and therefore can grant the direct use of bank cards as an integrant part of your system.

ET pass

MasterCard VISA AMERICAN EXPRESS

ET-MOBILE

ET-MOBILE is the AEP new innovative ticketing solution that uses mobile terminals such as smart phones to offer new ways of using public transport services.

Currently, there are a lot of solutions based on the QR-code but their content is

ACCOUNT BASED

often modest and limited to the implementation of few simple functions.

ET-MOBILE goes much further than that and can be considered to be a «mobile solution 2.0". Built on the AEP's solid **ET - The Easy Ticketing** platform, it increases its potential as to sell travel documents through the Internet, and not only that.

With ET-MOBILE, you can...

With ET-MOBILE you can purchase travel documents from remote. For instance, the purchase can be carried out via a smartphone or PC, using the corresponding App.

The purchased ticket can be validated as a QR-code if validators are equipped with an optical reader but also with the NCF antenna, if available, or otherwise using a manual operation.

ET-MOBILE goes far beyond

ET-MOBILE does much more. Thanks to an algorithm that works in real-time or in lack of communication, ET-MOBILE manages **paper tickets** with a highly secure QR-code which can be distributed to the retail network like the old-fashion paper tickets.

Security

As previously mentioned, ET-MOBILE is a wide and complete system that, thanks to the techniques implemented by the AEP's designers, has got results which until recently have been considered even unthinkable for a secure anti-fraud operation that, for practical purposes, is comparable to a solution based on electronic cards.

Openness

ET-MOBILE offers the Cryptogram Engine (CE), which is a tool of general validity for the remote sale of cryptograms and represents the basic element of all remote functions. The CE can also be used by third parties to encourage the construction of new sales channels and opportunities.

Leaders in France

AEP is implementing the first ET-MOBILE system, the mobile ticketing 2.0, for STGA (Grand Angoulême) in France. That adds up to the solution based on traditional cards.

Account Based Ticketing

Account Based Ticketing (ABT) systems represent the new frontier of electronic ticketing. In them, user information is no longer stored on the card but in an account physically located in the cloud and the transaction process no longer takes place locally in the terminals, but is as well moved to the cloud.

ABT systems were unthinkable until a few years ago, but the enormous progress of Data Mobile Networks makes possible their gradual introduction alongside today's card-centric systems.

Even in ABT solutions, AEP is now at the forefront: ET-PASS and ET-MOBILE, in fact, can operate both online and in case of temporary absence of communication, while preserving the consolidated functionality of Card Based Ticketing, which for many years will still remain completely irreplaceable.

EQUIPMENT

Sound Technical Base

The reasons for AEP's success, among the others, are the technical competence and capability.

Since 1993, we have been designing our products starting from each individual component using the latest generation advanced techniques, especially focused on magnetic and contactless technologies, which are the most commonly used for the public transport.

Most of our designers are graduated engineers who represent the excellence in their field of competence.

An infinite range

AEP range of products for Electronic Ticketing is perhaps one of the largest in the world.

The flexibility of our product system is such that we have had to create **Genio**, a specific configuration software similar to the one used by automotive companies (image on the right). It allows an interactive "creation" of the desired product by adding or removing options, with automatic alarm for any incompatible or missing items, and automatic production of the corresponding technical documents.

Conformity

All devices fully conform to the applicable international standards and EU Directives.

The devices to be installed on buses or trams are subject to approvals by the Italian Ministry of Transport. These documents enjoy an international recognition.

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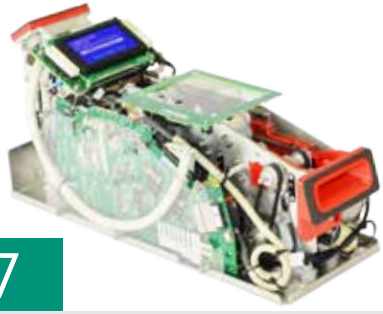

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ON BORD

(1) Futura 3B • *the newest and best validator ever designed by AEP: components, materials and construction techniques have been carefully selected, with the suppliers being involved in the project in order to turn the Futura 3B into the most innovative product on the market, complying with all international standards. Its exceptional style has been created for AEP by Giugiaro Design, and it is definitely the most beautiful on-board device ever seen.*

The Futura 3B interacts with the user by means of words, sounds, music, touch, and lights in a more efficient way than any text message, providing an exceptional experience for the user. The 7" touch screen is robust and bright, and can reproduce AVI or MP3 videos.

The Futura 3B can process every type of smart card, including Calypso, DESFire, MIFARE, PayPass or PayWave, and NCF phones. It can also validate QR-codes, displayed on a phone.

(2) CDB-6 PLUS • *embeds many functions in one single unit: on-board computer, driver console and terminal for sales and top-ups. Thanks to a display and an user keypad, it can also be used as a smart card or contactless validator. A specular version can also be provided for left-hand-drive countries.*

(3) CDB-4 PLUS • *is the new multifunctional unit that can be adopted as a terminal for ticket inspectors, for points of sale, as a driver console, or as an on-board computer. It comes with the CR4-B bus cradle for convenient positioning.*

(4) F240 • *combined validator for contactless cards, traditional paper tickets and contact cards.*

(5) Futura 3A • *is the most widespread validator made by AEP: full contactless version with an exceptional price/performance ratio.*

(6) Futura 4A • *for contactless cards and magnetic-stripe tickets, in ISO or Edmondson format.*

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(7) EPU-6 • *validator for contactless cards and tickets with magnetic stripe, for access gates to the underground service.*

(8) CDB-5A • *a simple driver console capable of performing many functions of a bigger on-board computer.*

(9) Futura 3M • *New validator designed for Account Based Qr-Code , manage Traditional and EMV Cards.*

(10) EMV • *All validators are available in the "E" version, and are equipped with a contactless card reader that complies with the EMV and PCI-PTS standards for the bank cards processing.*

Find out more

Commercial brochures and Product Descriptions are available for all depicted products.

V E N D I N G

Vending machines are appreciated by the public and are a good value for the Company because they autonomously perform all operations for which you would otherwise have to queue to buy a ticket.

AEP has been designing and manufacturing self-service vending machines since 2001.

Outdoor units of the RTVM (Road Ticket Vending Machine) line are reliable, strong, convenient, and facilitate:

- the purchase of smart cards or electronic tickets that have been previously encoded or are encoded upon vending;
- the purchase of ordinary and magnetic paper tickets;
- the top-up or renewal of contactless smart cards;
- the payment with coins, banknotes, credit cards and Company smart cards as well as QR-code vouchers;
- provision of customer information through an Internet connection.

RTVM's are also designed for disadvantaged users and can also communicate with the centre in hands-free mode. In case of alarms (for instance, paper near to end, power failure, vandalism, etc.), they can send SMS's to up to 6 different phone numbers.

CLM, the "cashless"

The CLM is the multifunction designed by AEP to offer services to the users. Under the surveillance of a camera and provided with an intercom system, it can top-up cards, renew season tickets, and provide any bit of information. Only bank cards are accepted by this system. The absence of cash money in the machine discourages criminals, and prevents break-in attempts. The large-sized touch screen eases the user interaction. The printer is equipped with a cut device to deliver payment receipts and reports.

RTVM-I • *(on the left) is an extremely convenient, medium-advanced model which:*

- *Accepts coins and issues change, accepts credit cards, and reads QR-codes;*
- *It includes an issuing unit to generate paper, magnetic or contactless tickets of every type, and/or distribute smart cards including a real-time encoding;*
- *Has a sturdy 12" colour touch screen provided with projected capacitive technology that can be used while wearing gloves. A speech synthesiser guides users through the various purchase steps.*

RTVM-T • *(page on the right) on the other hand is a recently introduced device which features all the characteristics of the tested RTVM-I but offers much more including :*

- *17" screen, VOIP hands-free communication with the centre, speech synthesis, and LED guard lights to help the users through the various different purchase steps;*
- *possibility of installing two issuing units in any combination. For instance, it can issue contactless tickets (chip-on-paper) and distribute rigid plastic smart cards;*
- *possibility of choosing various coin process solutions which can include an "escrow unit" to return the same coins upon an user cancellation; and three "hoppers", i.e. very large cash-boxes for coins;*
- *different types of equipment for banknote processing with stacking, cancellation, and change functions:*
- *internal and external surveillance cameras;*
- *internal gun-shaped bar code reader for cash box reading.*

The RTVM-T has been specifically designed for extreme climates. The picture on the right shows the standard version (in light blue) and a version with the colours of two AEP's important customers: the red machine has been set up for Astana (temperatures between -40 and +40°C) whereas the black one is being used in Martinique (Caribbean). The Astana version incorporates also four buttons under the display so that the machine can be used even if the touch screen is covered by ice.

MACHINES

Saperne di più *Per tutti i prodotti qui raffigurati, sono disponibili le brochure commerciali e le Descrizioni di Prodotto. Per RTVM-T è disponibile anche un'analisi tecnica approfondita , sotto forma di presentazione (P/N 704427).*

La famiglia RTVM *Le emettitrici automatiche self-service della serie RTVM hanno contribuito significativamente alla crescita di AEP. Le prime unità, chiamate semplicemente "RTVM" per Road Ticket Vending Machine, furono progettate nel 2000 per la città di Trieste, che ne acquistò diverse decine. Da qui l'esigenza di una costruzione particolarmente robusta e della ribaltina destinata a proteggere l'accettatore delle banconote dalla bora. L'ottima impostazione iniziale si è conservata fino alla RTVM-I dei giorni nostri.*

ATM & TRENORD

The Milanesi do not know....

...but since 2004 there has been an extremely competent group of people who have been contributing in a meaningful way to grant the movement of millions of people around the Italian economy capital every day.

These women and men are among the best experts in the world in this sector and are now with us in AEP.

Finmeccanica - one of the largest international companies - has made SBME in Milan, which is the biggest Italian Ticketing System for ATM, Ferrovie Nord Milano and Trenitalia, as part of a group.

With the sale of the electronic payment business to AEP, the whole software behind the SBME and specialists who have created it, have become part of the know how available for our Customers.

ATM Milano

Founded in 1931, the Milanese Transport Company manages the public transport in the Lombard capital and in 46 Municipalities within the Province, serving a territory that covers 2.4 million inhabitants with buses, trams, trolley buses, and the underground, integrated with the Trenord railway line.

ATM's offer includes a light underground service plus the Como-Brunate cable railway, GuidaMi car-sharing and BikeMi bike-sharing services. It manages 21 connection parking places in addition to the SostaMilano parking system, with control of parking areas and all payment systems of the city.

The new underground Line 5, in the Bignami-Zara section, came into operation in 2013; the end at the San Siro Stadium was completed in 2015.

ATM transports almost 700 million passengers over about 150 million Km per year, employing a staff of more than 9,000 people.

Trenord

TRENORD is a company with more than 4,000 employees and is unique in Italy because it is exclusively dedicated to the public transport by rail in a whole region, the most "mobile" in the Country, where more than 700,000 people a day - about 200 million a year - travel by train.

It is the first operator to specialise in local rail transport, which manages the regional and suburban railway service, Malpensa Express airport connection service, and thecross-border connection with Switzerland via TILO, a company that is 50% owned by Trenord, for a total of 2,300 trips per day which mainly flow in and out of the Milan hub.

SBME

The Integrated Magnetic and Electronic Ticketing System of Milan and corresponding province (SBME) works 24 hours a day, 365 days a year, and more than 3 million tickets a day are validated by more than nine thousand devices installed on thousands of vehicles. It checks more than 220 underground stations and tens of depots, garages, guarded and automated parking lots, etc.

SBME has a clearing system, three Control Centres (ATM, Trenord and Trenitalia), two electronic and magnetic encoding centres, and three mixed-technology data transmission networks. SBME is operated by AEP.

Distribution of cash *SBME also distributes the cash among the participating companies by processing sales data and validations, checking the types of contracts as a function of the parameters as to calculate the compensation, etc.*

Anti-fraud processing *A system of this size, involving a lot of people and various third-parties, obviously requires a strong control to verify that no fraud is taking place. For instance, that each used travel document corresponds to an actual issuance and there is no multiple use resulting from possible duplications. Other checks refer to the use by the expiry date, congruity and other cross-checks...and notification of loss, theft, or damage by the user as well as diffusion of black lists in real time.*

Remote Control *(next picture) The Control Centre can check all peripheral systems via a graphic page that provides a representation of the whole network*

Massive Production *(below) Thanks to Finmeccanica's great experience on large-sized post centres, Robotick, a robotised system for massive production of travel documents, has been created. Once the work plan had been designed, the system was installed and started production of printed ticket blocks, wrapping, sealing, packaging, and box labelling. The production can also be carried out in suburban areas, using a small-sized piece of equipment. A video showing the operation of the production chain is available on the AEP's website.*

M I L A N O


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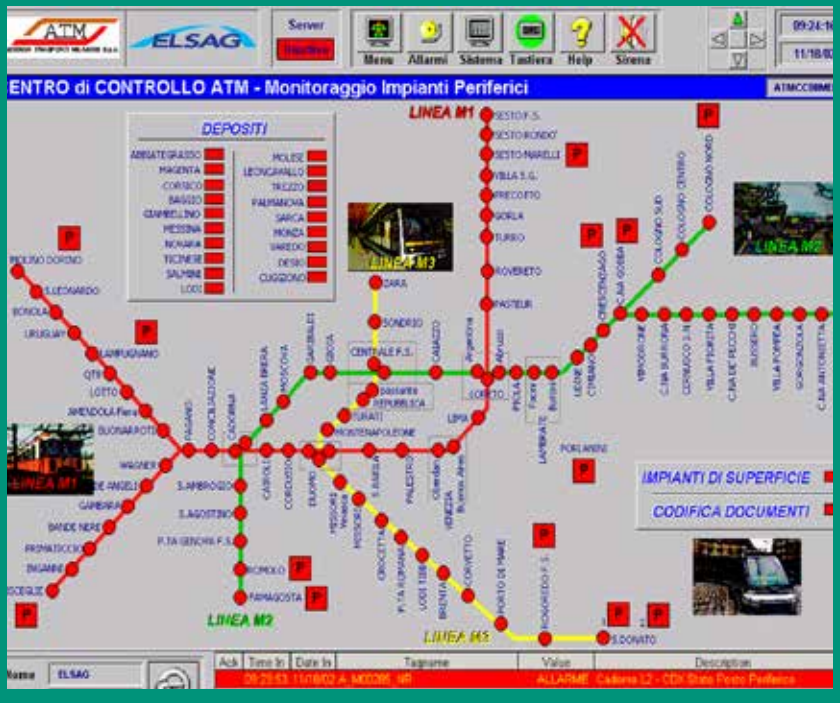
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DEPOSITI
LINEA M1
LINEA M2
LINEA M3
LINEA M5
IMPIANTI DI SUPERFICIE
CODIFICA DOCUMENTI

GTT TURIN & OTHER-

BIP

BIP is the acronym for «Integrated Piedmont Ticket», the electronic ticket of the Region of Piedmont. This is probably the most extensive project in Italy which will serve an area where around 5 million inhabitants live, with about 3,000 bus and underground lines as well as regional railway lines, with expansion to other mobility services such as bike-sharing, car-sharing, and parking.

The Turin Transport Group belongs to the FCT Holding, a financial company controlled by the Municipality of Turin.

GTT

The Turin Transport Group, GTT, was founded in 2003 by merging ATM and SATTI, and is today one of the leading companies in the mobility sector, with about 200 million passengers a year and marked intermodality characteristics. With 1,000 buses and 220 trams, it provides public urban, suburban, and out-of-town transport services, manages two railway lines, and the new automated system of Turin modern underground.

The offer is integrated by complementary activities, including pay parking and tourist service management.

Extra.To

Extra.To is the transport operator in the Metropolitan City of Turin, which gathers the 21 historical providers of out-of-town public transport operating in the wider area of metropolitan Turin to build up a unique network capable of covering each stretch within the surrounding province.

ATAP Biella

ATAP runs the public transport service in the provinces of Vercelli and Biella in the form of a service integrated with the out-of-town network and on some stretches in the province of Turin.

SUN Novara

SUN is the public transport company of the City of Novara, and was founded on the initiative of a group of Genoese entrepreneurs in 1950. Today, it serves the territory of Novara and several surrounding municipalities, has more than 160 employees, runs more than 2.3 million kilometres, and carries more than 8 million passengers.

The system

The GTT system integrates more than 20 companies and was implemented by Finmeccanica.

Today, this important installation is also part of our technical know how thanks to the transfer to AEP of the Finmeccanica electronic payment business. So it has become an important reference for AEP as well as the specialists who have created it.

The systems is composed of:

- two Primary Business Control Centres;
- a Control Centre for Disaster Recovery;
- 2,166 vehicles (buses and trams);
- 4,000 validators;
- 905 multifunctional units;
- 31 depots;
- 35 railway stations;
- 102 company ticket offices;
- 1,650 POS terminals for private retailers;
- 430 check and maintenance terminals;
- 12 self-service vending machines;

Equipment

In Piedmont, there are 7,121 items of AEP equipment, principally including:

- **5.702** AEP Futura 3A validators, a "contactless only" validator model based on an Mxm operating system, which is compact, light, and efficient with a very good price/performance ratio;
- **1.108** multifunctional CDB-5 PLUS units, the model preceding the current CDB-6 PLUS. CDB-5 PLUS is also based on Mxm, which optimises the use of the hardware platform;

Business Intelligence *(next figure) For a large company like GTT, the chance to constantly analyse the data generated by the Electronic Ticketing System via Business Intelligence functions is very important, which supports both reports and interactive strategic and managerial interactive analysis on the ticketing process. Business Intelligence analyses operate on a Data Warehouse where summarised process data is periodically exported to.*

The system offers three main ways to analyse the data:

- **Easy Report**, *which allows the operators to create reports with a high formatting level, connected practically to any data source;*
- **Web Intelligence** *which provides both self-service access to the data and intuitive and multidimensional information analysis functions;*
- **Ultra Report**, *which uses dashboards to provide consolidated views of key metrics, so that enquiries on the business trend can receive an instant reply;*

The end users can display reports which have extraordinary visualizations and create business reports.

APP for BIP *AEP has created for the BIP project a new subsystem mobile/NFC able to be used by third-party developers to create their own App with its Software Developer's Kit.*

BIP COMPANIES

ŚKUP CARD

The ŚKUP Card is a reality

After three years of intensive work, the ŚKUP Card project for the region of Silesia is a reality. It is one of the largest systems ever implemented by AEP. The main idea of the project concerns the construction of an integrated electronic pay system for public transport and other public services that is able to collect data on demand.

A really big project

The ŚKUP Card represents the largest project ever made in the sector of e-Government services in Silesia. The total cost of the project amounts to €35,836,206.08 and has been co-funded by the European Union for €23,496,650.90. Including maintenance for 5 years, the projects exceed 44M EUR (190M PLN).

The most interesting characteristics include the card's value in **cash**, which is a bank and not an EMV card, the fact that it is complete, and has an advanced **Check-in/Check-Out** system.

The ŚKUP system is not something as yet to be decided - "we will do...", "we will implement", etc. This is a concrete reality, based on the **ET - The Easy Ticketing system**, that has been tested and is up and running, in which thousands of AEP devices have produced almost **two-million** sales transactions in the first quarter of 2016 (1-3/2016).

The success of the ŚKUP project has also been determined by the extraordinary organisation set up by the main contractor **Asseco Poland**, one of the largest European

companies in the ICT sector that has had to coordinate many different suppliers from various countries and a team of hundreds of people.

Check-In/Check-Out

The ŚKUP system's Check-In/Check-Out method, which is increasingly attracting the attention of Transport Companies, is one of the most interesting implementations in the world.

The ŚKUP card purse enables the direct purchase of tickets on public transport vehicles. Km, zone, or time tariffs can be selected.

In the case of km tariffs, the amount paid is strictly proportional to the distance actually travelled thanks to the adoption of the Check-in/Check-out method.

When the passenger enters a vehicle, he/she scans the card on the AEP validator (Futura 3A, F240B). Unless other Travel Documents are already present, the display shows the furthest stop a passenger can reach with the remaining amount in the purse and is charged immediately. When getting off the vehicle, the passenger scans the card again and the excess amount is returned. As a result, only the amount corresponding to the distance actually travelled is paid.

MiniAVM

CDB-6 PLUS has also the miniAVM functions and handles 5,700 stops. A BE function which has generated substantial savings, avoiding the need for a second on-board system.

Components

- based on the ET – The Easy Ticketing
- +5.000 devices AEP;
- 40 Customer Service Points (POK);
- 109 self-service machines;
- 223 parking meters;
- 410 pay terminals for municipal services,
- 800 sales points (POP);
- 1.500 equipped vehicles, of which about 330 are trams;
- 320 devices for ticket inspectors;
- two Data Centres;
- central supervision and control system;
- clearing system;
- 700.000 operating cards;

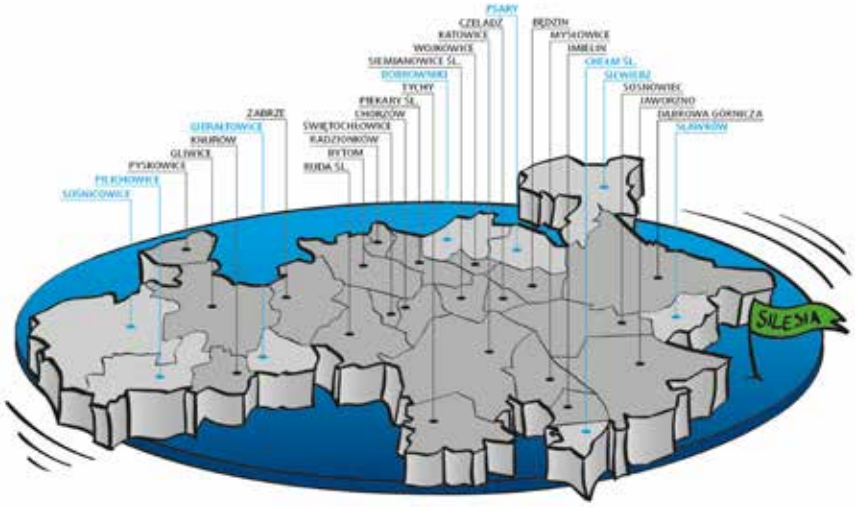
On the lower left: trams are widely used for urban transport in the region of Silesia. The towns in the ŚKUP project (in black).

The ŚKUP Card project is so wide ranging and so important to us that it cannot be described in these lines. So we have decided to dedicate an entire publication called "ŚKUP Card, a Polish project with an Italian Heart" P/N 708441 that you can request from our company or download from our website.

SILESIA (POLAND)

After three years of intensive work, the ŚKUP Card project for the region of Silesia is a reality. It is one of the largest systems ever implemented by AEP

KZK GOP



ASTANA KAZAKISTAN

One of the most modern cities of Central Asia chose AEP for ticketing.
The System works since the Expo 2017 "Future Energy"

EXPO 2017
• Future Energy •
Astana Kazakhstan

Astana, venue of Expo 2017

Astana is the capital city of Kazakhstan and one of the most modern cities in the world. Within the framework of modernising private and public transport services and, after a long preliminary test, AEP solutions have been chosen for an important contract with Swarco Mizar that also includes the AVM and traffic control.

The new system is based on **ET – The Easy Ticketing**, the suite of AEP software applications for electronic ticketing, that covers all areas: centre, ticket offices, retailers, self-service vending machines, on-board equipment, ticket inspectors, web shops, and massive production.

There are almost **three thousand** operating devices, including multifunctional CDB-6 PLUS units, Futura 3A validators, RTVM-T vending machines etc.

The project has brought interesting new challenges to AEP, the use of MIFARE PLUS cards, which are very different from MIFARE Classic, and in terms of the environmental conditions which are really extreme and change from almost -40°C in winter to almost +40°C in summer. The new "premium" RTVM-T vending machine (see the picture below) has been designed and tested to operate in this challenging environment.

In 2017, from June to september, Astana city hosted Expo 2017, focused by energies of the future . AEP did its part with the new electronic ticketing system that is now fully operational.

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..really extreme environmental conditions that change from -40°C in winter to +40°C in summer.

The new RTVM-T vending machine has been designed and tested to operate in these challenging environments.

BUSITALIA

Busitalia Sita Nord is the company in the Italian State Railway Group that provides the bus transport for people. The company mainly develops bus services in the sector of Local Public Transport, offering - directly or through controlled Companies - various urban and out-of-town connections in the Italian regions of Veneto, Tuscany and Umbria.

The Busitalia group's transport offer currently covers about 90 million bus km a year, 2.9 million train km, and 41 thousand nautical miles, provided by about 2,000 buses, 46 trains, 16 trams, and 7 motorships. There are about 3,700 employees.

ATAF Firenze

Together with CAP and Autoguidovie, since the 1st of December 2012, Busitalia - Sita Nord has managed the public transport in the city of Florence through the company ATAF GESTIONI that operates throughout the metropolitan area of Florence.

In 1994, ATAF was the first to adopt the AEP Classic validators, which have operated uninterruptedly for more than twenty years, but were replaced in 2015 with the Futura 3B, the AEP multimedia validator designed by Giugiaro.

ATAF Electronic Ticketing System is based on **ET - The Easy Ticketing** by AEP.

Umbria Mobilità

Umbria Mobilità is the Public Transport operator in the Region of Umbria, resulting from the merger of pre-existing companies and is controlled by Busitalia. At the end of

July of 2011, it commissioned AEP to implement a new ticketing system, based on the pre-existing Calypso cards to manage 40 ticket offices, more than 700 buses, almost all equip with theAEP Futura 4/MX contactless/magnetic validators and trains of the Central Umbria railways, becoming one of the main customers of ET - The Easy Ticketing.

Busitalia Rovigo

Busitalia Rovigo has also adopted the Futura 3B validators like ATAF Firenze.

1 *A stop of Umbria Mobilità with a smart post. On the background, a Minimetrò car (see the following page).*

2 *Ing. Renato Mazzoncini (today CEO at Trenitalia) with the mayor of Florence, Mr. Nardella, presenting the new, up-to-date buses provided with AEP Futura 3B validators.*

3 *New buses for Florence.*

4 *A young user of public transport practices validating on a Futura 3B.*

5 *Two art masterpieces: the Nettuno fountain in Piazza Signoria in Florence and the AEP Future 3B validator by Giugiaro Design.*

3

4

5

Tuscany, land of AEP

Tuscany is the region of AEP by all meanings. Part of the merit of AEP's growth is also due to the Tuscan Companies that trusted it and helped it grow. If today almost all devices available in the region are AEP branded, we have to say **Thank you Tuscany!**

CTT Compagnia Toscana Trasporti

CTT is the result of a huge corporate transaction in the Tuscan public transport sector in 2012 when several historical Public Transport companies joined together to create the largest public regional transport service provider.

CTT includes about 1,600 workers and 900 buses, and does its business in the territory of Livorno, Pisa, Lucca, and Massa-Carrara.

One of the CTT's reference shareholders is **CAP**, a private cooperative that has been managing the public transport in the Tuscan town of Prato for more than 70 years and has been our Company's first ever Customer.

CTT has chosen **ET - The Easy Ticketing** as its electronic ticketing system.

On the 23rd of February of 2015, CAP presented the new Electronic Ticketing System that thanks to the Company strategies, is one of the most efficient on the Italian market and among the most modern in Italy.

More than 2,000 AEP devices have been installed in CTT including many F240 validators and multifunction CDB-5 PLUS units.

Tiemme

Tiemme is one of the top-ten Italian transport companies. It has 1,150 employees, 750 buses, and runs 34 million km bus/year, with a turnover exceeding 90 M.

In 2011, Tiemme commissioned AEP to supply the new ET - The Easy Ticketing system integrated with parking areas and bike hire. Based on the Calypso technology, AEP has designed and implemented the Arezzo Card and the Siena Card whose Card Data Model is extending to all areas covered by the Tiemme service and has also been accepted by CTT. More than 1,500 AEP devices have been installed in Tiemme, such as contactless and paper F240 model validators.

RATP, IFlorence Tramway

GEST, founded in 2004 to manage tram transport in the Florence area, is controlled by the French company RATP Dev which belongs to the RATP Group, one of the largest groups in the public transport sector in the world. Line 1 of the tramway carries more than 13 million passengers per year and, according to more recent surveys, more than 80% of Florentines said they were satisfied with the tram service. After the positive experience of line 1, equipped with AEP F240 validators, the new lines 2 and 3 will also be equipped with AEP F240 validators.

TUSCANY &

In 2016, TPL Company also decided to use the AEP self-service RTVM-I on the new lines 2 and 3, replacing with this model also the pre-existing ones of another supplier on line 1.

The tramway tariff system is integrated with Busitalia / ATAF.

Li-nea

Li-nea is the company that manages the local public transport in the Florence metropolitan area, with AEP F240 validators. The Li-nea tariff system is integrated with the Busitalia/ATAF system.

Umbria

Public transport in Umbria is mainly managed by Umbria Mobilità, a company belonging to the Busitalia group (see the previous page). On the contrary, Minimetrò (photo on the previous page) is an innovative transport system that operates a 3.2km-long line to the centre of the city of Perugia.

The gates on the seven stations are equipped with Futura 4/MX*EPU magnetic/contactless validators and RTVM-S vending machines.

U M B R I A

In Naples, the public transport has always been managed by ANM which dates back to 1875 when the first horse line began its service. After the merger with Metronapoli in 2013, ANM today manages 2 underground lines, 4 funiculars, more than 700 buses, trolley buses, and trams with more than 800 AEP validators in an urban area exceeding 500 km and 90 million passengers/year.

The Region of Campania (Italy)

At a very early stage at the end of 2003 AIR Avellino ordered ten Futura 4/MX validators from AEP, the first of a successful series that today is still much appreciated wherever magnetic tickets and contactless cards are to be processed.

Since then, 2,889 Futura 4/MX validators have been installed in the Region of Campania, increasing the total number of AEP devices and systems to more than 3,000.

So it is clear how Campania, which has contributed so much to our growth, is in all of our hearts and the relationships that have been established with Companies over the years that are now able to provide a fundamental service to one of the most important Italian regions even if in uneasy conditions.
ANM

CTP

CTP was also founded many years ago when Alfonso and Eduardo Otlet established the Societé Anonyme des tramways à vapeur de Naples in 1881. Today, CTP has more than 400 buses and is the main operator in the metropolitan area of Naples employing more than 500 Futura 4/MX.

Other Companies

There are many client companies we would like to talk about, the first being CSTP of Salerno and last but not least, the private company of Laudato brothers in San Felice a Cancello, where the first ET - The Easy Ticketing installation was tested, and which has helped us develop our Electronic Ticketing System.

CAMPANIA

Sardinia, surpassing ourselves !

Sardinia has posed a new challenge: implementing a huge system using not only AEP equipment but also recovering many old components from other suppliers.

We have won this challenge too, confirming the ability of AEP to operate as a Customer's partner rather than a standard supplier.

ARST, the largest

ARST is the largest LPT company in the region, and one of the most important in Italy. It operates across a very wide area with urban and suburban services using buses and trains.

In 2014, AEP, in RTI with Swarco Mizar, has been awarded the contract to complete the Integrated Ticketing and Automobile Fleet Monitoring system and ARTS railway infrastructures. This contract is now at an advanced stage and provides for the complete renewal of the software, the supply of new equipment, and integration into the existing one. This is a very complex job that includes five different types of on-board systems with devices from several suppliers.

The new system is totally based on **ET, The Easy Ticketing** and includes:

- Regional Supervision Centre
- Corporate Control Centre
- 19 ticket offices
- 21 stations and 16 depots
- 20 automatic RTVM-I vending machines
- 800 sales offices
- 80 inspectors
- 900 bus, buses, mainly equipped with 4/MX magnetic/contactless validators.

ATP Sassari

The Public Transport Company of Sassari is one of the most important economic organisations in the territory and manages 25 urban and suburban lines. With more than 100 buses, it runs 330,000 trips a year on a network composed of 800 stops, covering more than 4 million km and carrying more than 9 million passengers.

ATP has chosen **ET - The Easy Ticketing**, and it was exciting for AEP to work with such an active company, rich in professionalism, even recovering the devices previously supplied by other suppliers in this case.ATP Nuoro

ATP Nuoro manages the public urban transport service with buses around the city of Nuoro, with more than 10 lines and 26 vehicles.

It is the first company using an **ET - The Easy Ticketing** system in which AEP's multifunctional CDB-6 PLUS devices also perform as a console in the Swarco Mizar's AVM system, rationalising the on-board system and

simplifying the driver's activity in addition to reducing the system's global cost including its maintenance.

> *...a very complex work with five different on-board system from multiple suppliers...*

SARDINIA

AIM Vicenza

Since 1911 AIM has been managing the public transport service in the town of Vicenza and surrounding areas, running about 5 million km/year and carrying about 11 million passengers in the Region of Veneto. In 2011 AIM selected AEP to supply its new travel document system based on the ET, The Easy Ticketing software.

The system supplied by AEP includes the Control and Supervision Centre, four ticket offices, and on-board systems composed of a multifunctional CDB-5A unit with Wi-Fi and UMTS communication, a GPS-3 receiver, and Futura 3A contactless validators.

The ET openness capability is in this case totally exploited. A third party's system interfaces with the AEP central system through web services that enable the purchase or renewal of tickets with an SMS from any mobile phone. This is a simple and fast system that is much appreciated by the users.

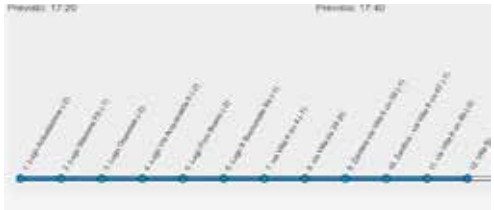
COERBUS Emilia Romagna

COERBUS is a private consortium established in 1992 in the passenger transport sector. One of the founding partners is Cooperativa di Riolo which celebrated 70 years of operation in 2015.

Putting together the experience and professionalism of the other partners, it has been able to conquer new market sectors, contributing to the development of the consortium activity.

Today COERBUS has 40 partners, more than 500 vehicles, and 530 employees. Since 2005 it has been managing all public transport services in the Province of Ravenna. COERBUS decided to introduce electronic ticketing in 2013. So it had to select a supplier able to not only to offer a good solution at a reasonable cost but also the functions of an AVM integrated with STIMER, the regional system already adopted by public companies in the region of Emilia Romagna. The choice was AEP and **ET - The Easy Ticketing**, which has fully met the expectations and is now totally operating with the 14 companies of the Consortium, which are able to process regional travel documents and their contactless and magnetic tickets. In addition to ET-miniAVM, the new mini-IV module is operational, and this provides information services to travellers trough the Internet and mobile phones, by spotting QR-codes to identify the stops.

OTHER CLIENTS



TPER Bologna

With a turnover of 230M and 2,500 employees, TPER is the sixth largest passenger transport operator in Italy and the biggest Local Public Transport company in the Region of Emilia-Romagna. AEP has implemented a ticket service for TPER on the "BLQ" line, which links the Bologna airport to the railway station. Seven RTVM-I vending machines sell magnetic tickets accepting cash, credit cards, and QR-code-based vouchers which are accepted directly on the vehicle through the CDB-6 PLUS optical reader.

I T A L Y

FACETS OF FUTURA 3A

Trenitalia
Italy

Olivetti
V@lida 250

TGL
Longwy, France

ATAP
Biella, Italy

SUN
Novara, Italy

ASTRA
Astana, Kazakistan

Standard version
Italian language

KZK-GOP
Silesian, Poland

MOM
Treviso, Italy

GTT
Turin, Italy

Extrato
Turin, Italy

Futura 3AE
EMV contactless

Standard version
French language

DK'bus Marine
Dunkerque, France

TCB
Portugal

CFTU
Martinique, France

BMT
Béziers, France

Standard version
English language

SEAM Cortina

SE.AM. is the company of the municipality of Cortina d'Ampezzo responsible for providing a range of local services besides public transport. Despite its small size, a powerful **ET - The Easy Ticketing** system manages 10 urban lines and travel documents based on a magnetic support and contactless MIFARE cards. It includes a bus depot equipped with Wi-Fi communication and a ticketing station. A good reason for a journey to Cortina.

ATAP Pordenone

ATAP was established in 1976 to provide local public transport to the city of Pordenone and surrounding area. In 2000 it was not only awarded the urban and suburban public transport service in the Province of Pordenone but also in the area where the companies SAF and ATVO were operating.

ATAP is a public company managed by maximum efficiency criteria. Its staff has even worked with us to design some special RTVM-I automatic vending machines which today are still in operation.

MOM Treviso

MOM manages the local public transport with urban and suburban lines in the city and the province of Treviso. It operates 462 buses, carries 28 M passengers and covers 18 M km/year. MOM buses are equipped with the Futura 3A and CDB-5A.

OTHER CLIENTS

FRANCE FIRST

France, AEP's first market

In 2015, the AEP turnover on the French market has exceeded the revenues from Italy for the first time. But this is not the only reason why AEP likes this land on the other side of the Alps. In fact, it is well known that France is one of the most advanced nations in electronic ticketing where even small-size companies invest significantly. The possibility of working with companies with such great a knowledge and professionalism has been an opportunity for us to improve our know-how and offer.

The wide range of models used to provide solutions for the French market, is a reference for all other countries in the world; as we often say, **ET - The Easy Ticketing** has been specifically moulded to the French market.

Uniform solutions

Most of the systems made in France by AEP are based on **ET - The Easy Ticketing** and follow this pattern:

Control and Supervision Centre ET-CSC

- **Point-of-Sale Terminals,** i.e. ticket offices based on ET-TIC
- **Web Boutique** based on ET-WEBS
- **On-board control** based on ET-MOB.

In fact, ET-MOB often provides other functions as, e.g., inspectors in France sell tickets. In some cases, they even act as friendly sales agents in front of schools for season ticket renewals.

In addition to renewals and top-ups, **on-board** tickets can very often be sold by the driver with a CDB-6 PLUS console. Unlike what happens in Italy where the "pupitre chauffeur" is considered an option, this operator is almost always present in France because he/she is considered to be a real validator, whereas the physical validator is not considered to be as indispensable and is only added in those cases where the volume of on board passengers is very high.

Consequently in **depots**, they frequently use the so-called "automate conducteur" which is a self-service machine in which drivers can leave the cash from the on-board sales that are then counted automatically. The same unit can also distribute correctly counted cash funds and electronic ticket packages.

Attention to Project Management

In France, the executive design and project management are highly rated. The best experts in the sector often work as a team with the aim of matching the contract deadlines and the start-up phases.

TGL Longwy

Transport du Grand Longwy (TGL) has been

the first French Company to trust AEP and, for this reason we all feel very close to them. This is the first **ET - The Easy Ticketing** installation ever made in France, which also provides the interoperability of the Lorraine region (SimpliCités card). Thanks to mini-AVM, TGL have been able to limit their investments. In fact, the AEP Ticketing System offers also all the main functions of an **AVM** system, such as advance/delay notification and service quality analysis.

Trans-Landes

Trans-Landes is the Local Public Company (SPL) based in Mont-de-Marsan, whose organising authorities are the General Council of Landes, the Community of the Grand Dax conurbation, the Community of the municipalities of Maremne-Adour-Côte-Sur, and the town of Biscarrosse.

AEP has implemented an electronic ticketing system serving the XL'R, Couralin, MACS and the on-call bus networks based on **ET – The Easy Ticketing** and on Calypso cards, in addition to the SRT512 contactless tickets.

The Trans Landes system includes the web boutique which can be accessed by

MARKET OF AEP

standard users as well as retailers, both enjoying different dedicated services. There are also the mini-AVM, and the new ET-mini-IV modules that provide information services to travellers through the Internet and mobile phones as well as using QR-code stop identifiers to be read by mobile phone cameras.


NOUVELLE BILLETTIQUE : CARTE PASS'PASS
Avec ma carte Pass Pass,
Je monte,
Je valide !
POUR + D'INFOS :


COMMENT RECHARGER SA CARTE PASS PASS ?
LE SERVICE APRÈS-VENTE


LE SELECT

DK'BUS DUNKERQUE

DK'Bus Marine, Dunkerque

The public transport in the city of Dunkerque is organised by an Urban Community of 16 municipalities and is managed by DK'Bus Marine, covering more than 6 million km and carrying more than 15 million passengers. The network is operated by STDE, a company controlled by Transdev.

Since 2012, DK'Bus Marine has been one of AEP's most important Customers. Its highly competent staff, with their attitude an suggestions, have meaningfully contributed to the improvement of **ET – The Easy Ticketing**. The DK'Bus system follows the previously described model with a Control and Supervision Centre (ET-CSC), a ticketing (ET-TIC), an on-board system equipped with the CDB-6 PLUS and the Futura 3A, a mobile sales/control system with a hand-held computer, and an ET-MOB and AEP TPV Bluetooth reader. DK'Bus has completed several important integrations by using software implemented in-house, exploiting the Interago® system openness features. There are also some RTVM-I's and «automates conducteur» that we mentioned in the introduction to the peculiarities of the French market, that are used to collect the payments received by the drivers and provide them with other services (photo on the next page).

AEP is very grateful to DK'Bus Marine for their availability in kindly welcoming the AEP staff their possible customers to visit their organization.

Promotion or art?

Every Company spends a lot of efforts to promote a new SBE system but DK'Bus has really distinguished themselves with a campaign that nears the true art. We are pleased to show the following images not generated by a computer (which is the norm today). The photos are coming from sculptures made out of ductile materials painted by hand by an artist who is also a DK'Bus Marine employee, whom we warmly congratulate with.

CFTU Mozaïk (CACEM)

Mozaïk is the trade name of the public transport of the Communauté d'Agglomération du Centre de la Martinique (CACEM), which is located in the Caribbean and is a territory of France. It is managed by the Compagnie Foyalaise de Transports Urbains (CFTU), of mixed private/public capital controlled by Transdev. Mozaïk is based in Fort-de-France, has more than 500 employees, and carries 8 million passengers every year covering almost 7 million kilometres.

AEP has implemented the Mozaïk's electronic ticketing system based on **ET - The Easy Ticketing**, with ET-TIC ticket offices, multi-functional CDB-6 PLUS units, Futura 3A validators, in the orange livery as shown in the figure on the left. There are also more than 30 RTVM-T automatic ticketing machines (in the big picture and below) in anthracite grey colour.

The system is based on the Calypso and MIFARE UL cards and is composed of a web portal and the suite for ticket inspection and mobile sales on the new portable AEP CDB-4 PLUS terminal (in the picture here, on the left).

MOZAÏK CACEM

ÎLE DE LA MARTINIQUE

OTHERS IN FRANCE

Transdev STAO72, Le Mans

STAO72 with the TIS network offers public transport services in the Department of Sarthe and has a turnover of 21M, 319 employees, 248 buses, and covers 8M km per year. TIS is controlled by Transdev, world leader in mobility, and is particularly oriented towards innovation and efficiency. After experiencing alternative solutions to the traditional electronic ticketing, TIS has adopted **ET - The Easy Ticketing**, including the **mini-AVM**, the **mass card production** station, and the new portable CDB-4 PLUS terminals for inspectors and retailers.

BMT, Béziers

Béziers Méditerranée Transports is another company controlled by Transdev that manages the urban transport in the town of Béziers, with 7M trips/year. BMT has a complete **ET - The Easy Ticketing** system, based on the Calypso card, interoperable with the region of Languedoc-Roussillon.

Q R - C O D E

TUB Meuse Grand Sud

The TUB organising authority is the Communauté d'Agglomération Bar-le-Duc Sud Meuse, which incudes 33 municipalities in the area. TUB, another Transdev, provides the service in the town of Bar-le-Duc and owns a complete ET - The Easy Ticketing system, soon to be integrated with the region of Lorraine.

R'bus Rochefort Océan

Transdev Rochefort Océan is responsible for the R'bus network which operates urban transport on behalf of the Community of the

Rochefort Océan conurbation. R'bus has also chosen a complete **ET - The Easy Ticketing** system. On-board, a high level solution, with the CDB-6 PLUS and the **Futura 3B**, a multimedia validator designed by **Giugiaro**. The Calypso card is interoperable with the SYMOD partners and will be at a later stage with the region of Région Loraine.

STADE Annonay

STADE of Transdev (Annonay, Davezieux et Extensions) is one of the companies in the b.a.bus network for the towns of Annonay and Davezieux. A small network that, in any case, has selected a complete **ET - The Easy Ticketing system**, confirming the great importance of this tool, which in Italy until now has been deployed only by much larger Companies.

Évéole Douai

The public transport network of the Joint Transport Committee of Douai (SMTD) is Évéole that serves the 35 municipalities of the urban community and 11 towns in the eastern part of the district. Évéole has acquired a system with 15 RTVM-I's for the extension of the BHNS lines, based on **ET - The Easy Ticketing.**

CATP & AGIR

CATP (Centrale d'Achat du Transport Public) has been established in 2011 to optimize the purchasing service for the public transport. AGIR is the *Association pour la Gestion Indépendante des Réseaux de transport public* that supports CATP and counts 192 members from the communities and managers of public companies.

In 2016 AEP, together with another company, has been selected by CATP, through a public tender, as preferred supplier of electronic ticketing systems. The CATP members, like AGIR can purchase the AEP solutions directly without going through a tender process.

CFTA, Limoges-Tulle route

CFTA, itself part of Transdev, has purchased a ticketing system from AEP for the Limoges-Tulle line that uses a CDB-6 PLUS connected to ET-CSC.

STGA Grand Angoulême • – *STGA is the public transport carrier in the town of Grand Angoulême. AEP has been awarded the supply of their new ticketing system, winning the contract against big international groups. This is the first implementation of a system in France that in addition to traditional cards provides a QR-code-based solution with on-board real-time validation.*

OTHERS IN FRANCE

SCMT, Chartres

Ticketing system for the **Communauté d'Agglomération de Chartres Métropole** which defines and finances the public transport service in a territory made up of 46 municipalities.

The project aims to replace the old, outdated system with a new one based on contactless cards and tickets, open to regional interoperability, and innovative QR-code solutions by **ET-MOBILE** (see page 9). The new system is also designed for the direct use of bank cards as travel tickets, thanks to the Futura 3B/E validators with PCI-PTS approved reader. The supply includes many ET-series modules, including the AEP-APP for smartphones, the Internet portal, interfaces with third parties' applications as Hastus, TEO, Titan, Titan Fraudes and much more.

CAGP, Poitiers

Ticketing system for the **Communauté d'Agglomération de Grand Poitiers**, which defines and finances the public transport service in a territory made up of 42 municipalities. The current system uses paper tickets and subscription cards with monthly coupons. The new system provides for the transition to contactless technology, with Cards and Contactless Tickets. Among the special features, the new **ET-BI module** for Business Intelligence (page 7), mini-AVM, fines' issue with QR-code payable on self-service units, interfaces with third parties' SAE systems like Heures, Titan and Titan Fraudes. Among the supplied materials, the RTVM-I ticket vending unit equipped with the new dual-feed issuing group. Very interesting, also from a social point of view, the possibility of buying a subscription on favorable terms in the event of a fine.

SMT - TADAO, Lens

The SMT Artois-Gohelle defines and finances the public transport service in an area consisting of 150 municipalities that make up the agglomeration of Lens - Liévin, Hénin-Beaumont - Carvin et Béthune - Bruay - Artois-Lys-Romanes.

SMT organizes and manages the **TADAO** network, to which AEP is providing the new ticketing system, obviously also based on ET - The Easy Ticketing in a "full options" version, with **ET-MOBILE** modules (page 9), **ET-BI** for Business Intelligence (page 7), EMV PCI-PTS prearrangement etc.

One of the most interesting peculiarities, in addition to the integration with the interoperable **PASS-PASS** fare system of the Northern Region - Calais Pass, is the high number (115) of automatic RTVM-I vending machines (over 100).

Nelle foto: *in alto a destra un bus di TADAO, nel classico colore viola della Compagnia. Sarà equipaggiato di unità multi funzione CDB-6 PLUS e validatrici Futura 3B. Subito sotto, un Park & Velo di TADAO. I P&V sono ormai sempre più sovente integrati nei sistemi di bigliettazione elettronica basati su ET. A sinistra: un bus Vitalis della rete di Poitiers; anche esso sarà equipaggiato di CDB-6 PLUS e validatrici Futura 3B. In basso a sinistra alcuni bus della flotta Filibus di Chartes.*

DBOX *(in basso a destra) la nuova periferica salvaspazio per i Terminali Punti Vendita delle biglietterie.*

SNTF

SNTF (Société Nationale des Transports Ferroviaires) is the company responsible for rail transport services, freight and passengers, which operates in monopoly throughout the territory of the Republic of Algeria.

These are the main figures for the SNTF:

- network length: 4745 Km;
- number of operating stations: 217;
- passengers: 32.7 million passengers/year;
- freight: 5 million tons/year;
- turnover: 40 million dollars;

Railly, the platform for SNTF

SNTF uses **Railly**, the AFCS platform by AEP for railway networks to manage the ticketing process across the entire network.

Railly includes the sale of travel documents with seat and couch reservation, food orders, air conditioning, travelling with pets etc. Reservations can be made from stations, travel agencies, the online portal and also on board the train. **Railly** centralises all definitions referring to the whole network and so allows the configuration of lines, the composition of trains, tariffs, times etc. **Railly** includes accounting functions, even for an individual station, and the collection of sales data for the subsequent generation of statistics at regional and national level. It is also possible to manage stations that are not permanently connected.

SNTF RAILWAYS OF ALGERIA

EGYPTIAN RAILWAYS

Egyptian National Railway

Egyptian National Railways is one of the largest economic institutions in Egypt and the Arab world. It is the largest in the freight and passenger transport service sector. It is regarded as the backbone of passenger transport in Egypt. This company carries 500 million passengers and 6 million tons of freight on a network of almost ten thousand kilometres with more than seven hundred stations. Egyptian National Railway uses Railly, and the system is very similar to the SNTF's. More than 32M tickets have been sold in 2015 alone.

DTIC-A ENR *Ticket offices use the AEP DTIC-A desk reader, shown here to the side.*

RIYADH METRO

Princess Nourah University is the biggest public university in the world reserved for women, and is based in Riyadh, the capital city of Saudi Arabia.

It can be reached by means of the Automated People Mover (APM), a driverless underground service on an 11.8-km line with 14 stations. The network is managed by Railly with AEP Futura 3A validators connected to the access gates.

AEP , Today's site in Genoa in 1905.

The building designed by the illustrious Gino Coppede as the seat of the Fabbrica Automobili San Giorgio, then Elettronica San Giorgio, then Selex ELSAG, more than a century away, remained virtually unchanged and hosts today the AEP headquarters of the Ligurian capital.

AEP
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