ET, The Easy Ticketing
All the colors of e-ticketing

ET 6.0

ET 6.0

AEP
Ticketing solutions

A new page in e-ticketing
6.0: THE BEST ET EVER

FOR TWENTY YEARS

For **over twenty years** AEP has been dealing only with electronic ticketing. In 2012 AEP decided to enter the application software sector by introducing the suite **ET, The Easy Ticketing**.

In 2016 it also acquired from Finmeccanica (now Leonardo) the Monetica business unit with all its extraordinary wealth of experience and customers, such as ATM and Trenord (Milan), GTT (Turin), the Egyptian and Algerian railways.

ET has achieved enormous success in these years and has been adopted by dozens of companies in Italy, France and the rest of the world.

THE NEW WORLD

But electronic ticketing is **no longer what it was twenty years ago**, or even ten years ago: **bank cards, Account Based, e-Commerce and Apps** now offer completely new possibilities, which are in addition to traditional solutions, but without replacing them.

READY TODAY FOR TOMORROW'S CHALLENGES

This is why AEP writes today a new page in the history of ticketing: **after more than two years of testing and very significant investments, we are proud to present ET 6.0**, the application software that builds on all previous experiences and offers the best available on the market today.

ET 6.0 changes everything: nnot only for the **large number of modules** offered and for the **extraordinary wealth of functions**, but also for the **new approach** with which it was created.

THANK YOU, CUSTOMERS!

We would like to be able to tell you that **ET 6.0** is all our own work, but that would not be true. Yes, we hve created it but if we have reached these level of these levels of functional and performance wealth, it is also **thanks to the collaboration of our Customers**. . It is with their contribution and their **precious experience** that we have been able to realize **the best ET in our history**.

In **ET 6.0** there are not only bits, bytes and lines of code but also **a lot of know-how** from the best Italian and foreign experts in electronic ticketing.

TESTED!

We also want to emphasize that **ET 6.0** ndoes not start today its life cycle or development, but it is a product already **well-tested** on particularly challenging foreign markets, **ready now to be ordered and installed.**

ET 6.0 is supplied with all the necessary **documentation a**nd related **services,** from the **preliminary analysis** to the **help desk** support.

Note: some of the functionality described in this document is performed in conjunction with third-party modules. We are available for any information..

SOME VIDEOS
Our Clients often produce videos that describe our systems. Here are a few examples:
http://www.aep-italia.it/2019/04/tre-bellissimi-video-da-stga-angouleme/
http://www.tadao.fr/805-Mode-d-emploi-Presto-28Paiement-sans-contact29.html
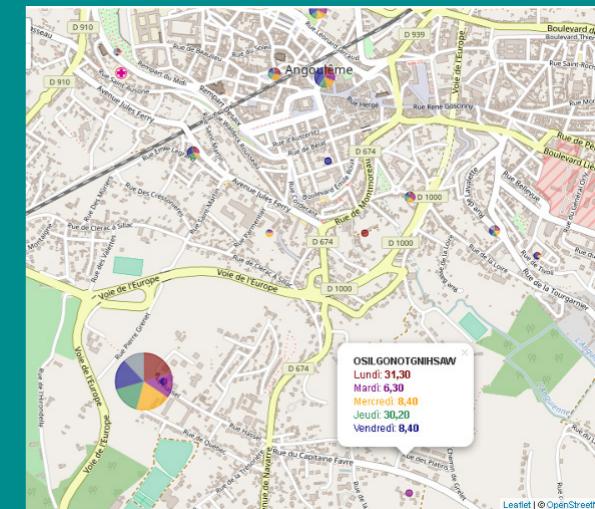https://www.youtube.com/watch?v=NdcA8SHnUU0

1) HURRAY FOR THE SALE!

The Company's **financial results** are directly linked to **ticket sales**. The **best results** can be obtained with a very **wide range** of solutions for **sales** and **payment**. **ET 6.0** enables to obtain **personal cards at the ticket office** or **via the web**, with a complex process of approval and mass production, and also through the **CLM-3 self-service** machines.

Tickets can be t the **ticket office**, at the **retailers'** shop (both pre-distributed and with on-the-fly issuing), on the **web**, via the **App**, on **board the bus directly at the validators**, using EMV bank cards, from the **driver** and also at the **inspectors**. It is also possible to top up and renew at parallel networks, e.g. **ATM.**

And **payment** solutions include **cash, bank cards, vouchers** and **company discount coupons, direct debit** and **instalments.**

3) KNOW YOUR COMPANY

A ticketing system produces a really **huge amount of data**: sales, payments, validations, many of which are related to space and time. This data would like to **speak to us** and tell us how to **better manage** the Company and the duties it performs, in order to **reduce waste**, achieve **better economic results** and be able to offer users a **better quality of service**.

The main advantage of **ET 6.0** is not simply in the quality of the analysis tools or in the graphics of the diagrams, but precisely in their content, derived from the experience of numerous customers and the preparation of the **most experienced consultants** in the international arena..

OSILGONOTGNHSAW
Lundi: 31,30
Mardi: 6,30
Mercoledì: 8,40
Jeudi: 30,20
Vendredi: 8,40

Leaflet | © OpenStreetMap

FOUR GOOD REASONS

The best quality of ET 6.0 is the **immense wealth of experience and know-how** it contains within it and therefore in the number and quality of the functions it can perform to improve the experience of users and above all to make the management of the trans-

TO CHOOSE ET 6.0

port company that uses it **more rational and profitable**. Anyway, we have tried to present in these pages the **four main reasons** constitutes the **best choice** you can make for the ticketing system of your company. We are at your disposal to show it to you!

2) YOUR REVENUES SAFE

The **security** of your system is very important, not only for compliance with legal obligations but also because **your revenues** depend largely on it. Even a simple scam by unfaithful employees can quickly turn into **extremely large losses**.

Not all e-ticketing systems offer adequate safeguards:

AEP has been a pioneer in the design of secure devices, in the use of SAM modules, in systems for their remote management, and now also in the higher level security of **banking systems**.

With **ET 6.0** you can keep your system **under strict control**, tracking every operation: you can give to each device or retailer opening and closing **times**, impose **payment limits**, be warned in case of anomaly and have the equipment **automatically locked** in case of theft, always with encrypted and secure communications with the central system.

AEP cares about your security!

4) IT'S AN AEP PRODUCT!

For **over twenty years** AEP has been focusing **exclusively** on Electronic Ticketing.

Only a company that, like AEP, produces **equipment** and **software**, knows how to make them work together in the best way.

Only a company that, like AEP, operates on **international markets** with systems of **all sizes**, is able to provide **wide-ranging, standard-compliant solutions** that anticipate today the solutions of tomorrow.

And only a company that, like AEP, always puts **in first place** the relationship with the Customer, can guarantee, even in unexpected situations, to be **always at his side** to solve together even the most difficult problems.

The modules that constitute ET 6.0
WE DO ALL KINDS OF COLORS

Module	Description	Module	Description
ET-CSC	ET-CSC is the application for the Supervision and Control Centre which is the basis of the whole ET system. It can manage one or more Transport Companies, also organized in a hierarchical form and operating synergistically. Due to its wealth of functions, it can be the heart of an entire regional interoperable system.	ET-WH	ET-WH (Warehouse) manages the stocks of the supports of the Travel Documents (smartcards, tickets, etc.) in an integrated way with the rest of the system. It ensures the monitoring of the life cycle, from the moment of insertion in the system until consumption, even in case of discard, loss or theft.
ET-Mini BI	The Electronic Ticketing System produces every day a large amount of valuable data for the correct management of the Company and the organization of the public transport system. ET-miniBI offers advanced Business Intelligence tools based on Data Warehouse.	ET-RSM	ET-RSM allows the centralized management of SAM modules. It manages blacklists, remote activation and ceilings, ensuring the security of the entire system. In case of theft, it allows the automatic deactivation of the devices after a limited number of operations.
ET-TIC	The company's ticket offices are equipped with "Point of Sale Terminals" (POS), consisting of PC, thermographic printer for cards, camera for photos, etc.. ET-TIC is the application that enables the POSs to perform all their functions such as issuing, selling, supporting, etc.	ET-TVM	ET-TVM is the multilingual application for RTVM-I and RTVM-T automatic vending machines. Through the touch screen it sells and distributes smart cards and contactless, magnetic or simply paper tickets. It Reloads/renews cards and accepts payments in coins, bills, credit cards and electronic purse. It allows payment of fines.
ET-MPC	ET-MPC equips stations for mass production of encoded media, typically personal or impersonal smartcards. It can work in conjunction with the ET-WEBS module to implement a semi-automatic issuing cycle of personal smartcards requested through the portal.	ET-BUS	ET-BUS is the application for the multifunctional on-board units CDB-6 PLUS to make them the heart of the on-board system or even the only unit installed on the vehicle which, thanks to the incorporated ET-VAL module, can also perform the functions of contactless or optical validator.
ET-MOB	ET-MOB performs ticket verification, validation, sale and penalty issuance using a compact handheld terminal such as CDB-4 PLUS by AEP.	ET-MOBILE	ET-MOBILE is the module for Account Based ticketing. It allows to use an App for the telematic purchase of tickets or also the production of paper tickets with QR-code, validated as contactless ones.
ET-WEBS	ET-WEBS implements the "Web Shop" to reload or renew tickets, apply for a personal card and offer other telematics services through the Internet. Purchases are distributed in real time to validators.	ET-VAL	ET-VAL is the validation module that can be used for validators and multi-function units. It manages various types of user interfaces and various types of media, such as contactless magnetic, optical or even normal paper tickets. It also performs Internet reloads based on blue lists.
Ticky	Ticky is AEP App that can be used on Android and iOS smartphones to purchase tickets through the ET-MOBILE module. These tickets can be validated by optical means, by presenting the QR-code to the validator, by NFC or by self-validation.	ET-PASS	ET-PASS is the module that realizes the on-board sale of tickets at the validators through the use of EMV contactless bank cards, according to the Transit model originally introduced by the city of London.
ET-mini FMS	ET-miniFMS sfrutta le infrastrutture del SBE per il monitoraggio della flotta dei bus. Permette di individuare i passaggi alle fermate e di avere un'indicazione sulla regolarità del servizio, informando l'autista dell'anticipo o del ritardo con cui sta viaggiando. Può offrire anche funzioni di informazione ai passeggeri.	ET-midi FMS	ET-midiFMS is the most advanced version of ET-miniFMS. It allows the continuous tracking of the bus position and a more accurate prediction of arrival times at bus stops.

ET 6.0

Who is using AEP solutions
SOME CUSTOMERS

- **Amag Mobilità**, Alessandria (I)
- **ATAF Gestioni**, Florence (I)
- **ATAP**, Bielle (I)
- **Atoumod** (SBIS), Normandy region (F)
- **ARST**, Cagliari (I)
- **ASF**, Como (I)
- **ATM**, Milan (I)
- **ATP**, Nuoro (I)
- **ATP**, Sassari (I)
- **ATV,** Verona (I)
- **Automobilistica Perego**, Tirano (I)
- **beeMob**, Béziers (F)
- **Busitalia** Umbria (I)
- **CO.ER.BUS**, Lugo (I)
- **CTPI**, Varese (I)
- **CTT Nord**, Tuscany (I)
- **Egyptian Railways** (ET)
- **Extra.To**, Piedmont (I)
- **Filibus**, Chartres (F)
- **GTT**, Turin (I)
- **Imagine**, Epinal (F)
- **LRT**, Astana (KZ)
- **Turin Underground** (I)
-

- **Mobigo**, Bourgogne Franche-Comté region (F)
- **Möbius**, Angoulême (F)
- **MOM**, Treviso (I)
- **Mozaïk**, Martinique (F)
- **People Mover**, Bologna (I)
- **Pisa Mover**, Pisa (I)
- **R'Bus**, Rochefort (F)
- **Rémi**, Centre-Val de Loire region (F)
- **SADEM Arriva Italia**, Milan (I)
- **SEAM**, Cortina d'Ampezzo (I)
- **SITAC**, Châlons-en-Champagne (F)
- **Śkup card**, Silesia region (PL)
- **SNTF**, Algerian railways (DZ)
- **Società Vicentina Trasporti**, Vicenza (I)
- Sardinia region (I)
- **Trans-Landes**, Dax (F)
- **TADAO**, Lens, Béthune (FR)
- **Tiemme**, Tuscany (I)
- **Tper**, Bologna (I)
- **Trenord**, Milan (I)
- **Trieste Trasporti**, Trieste (I)
- **Trotta**, Rome (I)
- **Vitalis**, Poitiers (F)

The Easy Ticketing
EASY AS AN APP

even more Easy
DRIVEN BY COLORS

The main applications of **ET 6.0** use a very intuitive user interface inspired by the latest generations of **smartphone** and **Apps**, which ensures an excellent user experience.

It only takes a few minutes to learn how to use them, thanks also to **the logic of colors and icons** that guides all the main applications.

As you can see in the figures shown in this and other pages of this document, **operations are grouped by category** and are accessed through easily understandable **colored icons**. From that point on, all menus that belong to the chosen category will always be characterized **by the same coloring**. In short, each category of functions has its own color.
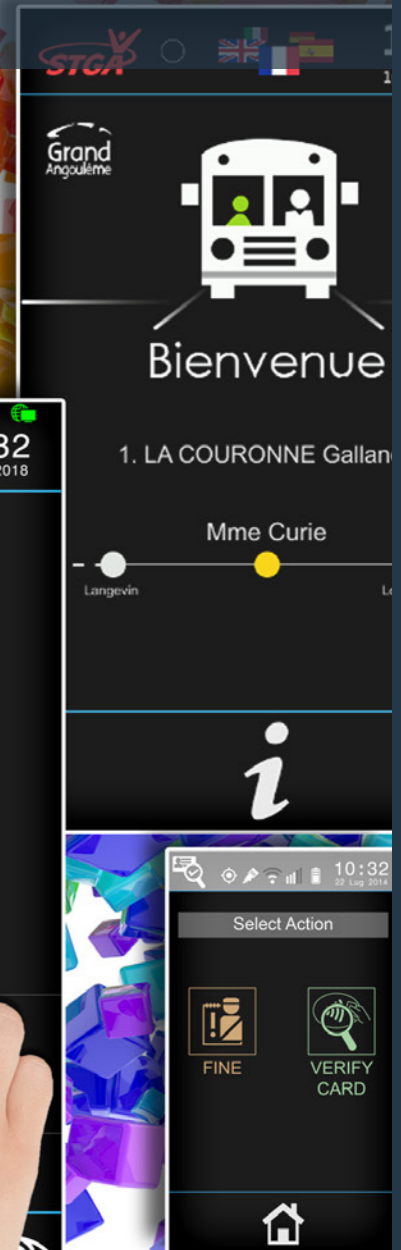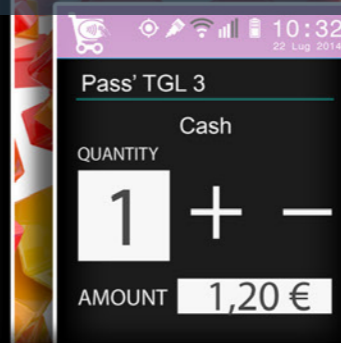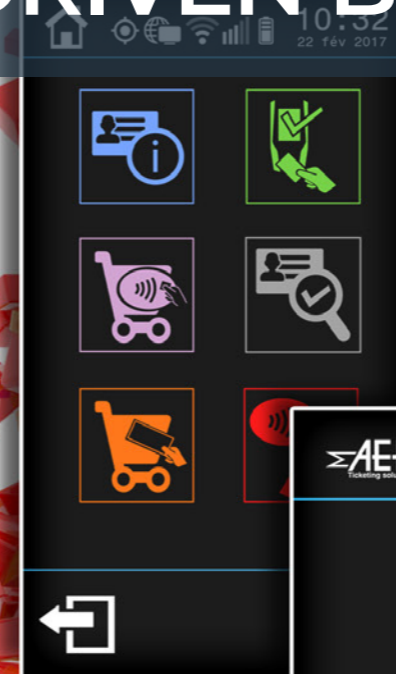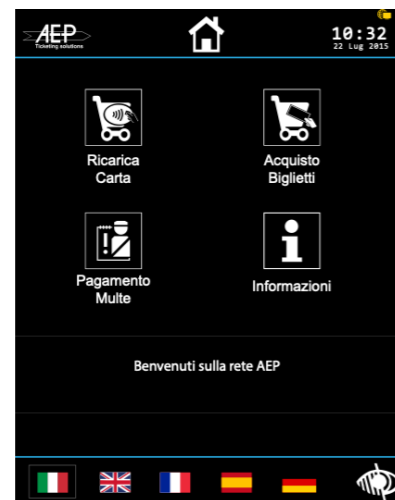
The self-service machines also include a high-contrast mode to assist **visually impaired people** (images at the bottom of this page) and also **voice synthesis**, to guide the most disadvantages users.

All ET 6.0 modules can be used in different languages; they are normally available, in Italian of course, and also in **French**, **English**, **Russian** and **Kazakh**. Other languages are also available for vending machines (e.g. German, Spanish, etc.), while others can be supplied on request.

There must be a reason for calling ET **"The Easy Ticketing"**...

Real-time list distribution: Internet purchases are immediately available on the bus.

New data management: improved performance; greater control over data; possibility of importing sales data in real time;

Interoperability: support for the NF 99 503 INTERBOB interoperability protocol.

Preferential channel (e.g. Wi-Fi 3G/4G) that can be set for each file exchanged with the central system.

Advanced association of tariff products: e.g. to agents or groups of agents; to devices or groups of devices

Differentiated configurations for individual devices and groups of devices.

Restrictions on the use of devices by specific agents.

Time slots for equipment use.

Daily, weekly, monthly and annual **payment limits** with possibility of unlocking from the center using a single-use code (overdraft)

Tickets with limitation of the stops that can be used when boarding or leaving the bus.

Saleability of tickets based on the **age of the customer** at the time of purchase.

Discounted tickets with economic contribution of several entities.

Tickets with sale conditional to the possession of another ticket (e.g. Park & Ride).

Possibility of associating/restricting payment terms to: specific fares, specific agents, specific equipment, groups of agents and equipment.

Smart refunds with refund rules that can be customized according to the devices used.

Loyalty points: a customer accumulates them with purchases and can convert them into credits or gadgets.

Third party vouchers: they are issued by the Company and sold, financed and distributed by other entities (e.g. social organizations, third-party companies, etc.).

Single-use commercial vouchers issued by the Company and distributed to the public according to varying criteria. They can be used to pay for travel tickets in Ticket office, on the online store and on TVMs.

Discount coupons associated with tickets or groups of tickets valid for a defined period of time, whose value can be defined in absolute or percentage terms.

Best-fare and post-payment support: possibility of payment by direct debit at the end of the month (SEPA).

Instalment support: long-term subscription (annual) with instalment payment by direct debit. Configurable installment period.

Tacit renewal: e.g. 6 times monthly subscription with automatic renewal and charge to bank card.

Invoicing to third parties: configuration of the facilities and third parties to be billed. Configuration of the tariff products that provide a facility. Possibility of selecting a tariff profile of the "facility" type at the time of sale if foreseen. This tariff profile determines a price reduction for the end customer. Possibility of dividing the amount to be invoiced to third parties into parts and invoicing each part to a separate entity. Automatic selection of the facility: it is possible to assign to a given card, for a defined period of time, a tariff profile of the "facility" type which allows the end customer to purchase certain tariff products at a reduced price thanks to the contribution of one or more third parties. Production of transactions with the amounts to be invoiced to third parties. Production of reports indicating the amounts to be invoiced to each entity.

Tariff Ranges: Ability to create, edit and delete multiple tariff ranges. Verification and approval process for tariff ranges. Controlled publication of tariff ranges. Management of sales dates and usability. Management of tariff ranges in scheduled sequence.

Ticket office: customer records with purchase history and associated payment receipts. Management of the **payment schedule** and unpaid invoices. **Refunds** of tickets issued by the DATs in case of error.

Mixed payments: cash, bank card, POS integration for automatic amount transfer, third party vouchers, Company vouchers, discount coupons, loyalty points. Online IBAN decoding and receipt of bank data.

Functionality for families: Group concept. Paying customer (e.g. parent). Possibility of purchasing several tickets with a single SEPA mandate even on different cards. Family discounts (e.g. large families). Possibility of operating on group members even in the absence of a card.

Media management. Stock management: receipt of a lot, acceptance of the lot, refusal of the lot, lots taken over. Production of QR-code. Possibility to sell and check the validity of paper tickets with QR-code. Possibility to associate a different selling price for each type of media. Generation of movements for the automatic unloading of stock.

Shopping cart in e-Commerce style. Multi-card and multi-media shopping cart. it is possible to buy with a single transaction several tickets on a single card or on several cards. it is possible to buy new medias and make operations on one or more cards in a single transaction.

New reports: all receipts and end-of-session and end-of-shift reports are saved in the central system so that they can be retrieved at any time for viewing and printing. Management of receipts with VAT separation. New shift end reports.

Loyalty management through loyalty points campaigns.

TVM and Web with advanced features. Customer account management. FAQ management. Fine payment management. Customer account request without card, request for physical media purchase, profile change, card locking, duplicate card. Sales history (with report printing). Management of bank coordinates and electronic signature. Visualization and payment of unpaid installments. Purchase and verification of QR-code tickets. Management and reporting of discount coupons. Mixed payments.

ET-CSC THE CENTER OF ALL

INTEGRATED WITH ALL

A "ROCK SOLID" BASIS

ET-CSC (Center of Supervision and Control)is **the basis of the entire ticketing system**. Many of the innovative functions of ET 6.0 are possible thanks to ET-CSC.

EXTENSIVE FUNCTIONS

ET-CSC has numerous functions, such as, for example:

- **multi-company management**
- **management of system operators;**
- **devices management;**
- **definition of device group cashout limits;**
- **device unlocking;**
- **vehicle management;**
- **retailer management;**
- **management of SAM modules;**
- **management of tariff ranges** (it is possible to define multiple tariff ranges and relative approval processes)
- **customer management with configurable personal data;**
- **card management;**
- **management of black lists and top-up lists;**
- **management of tickets;**
- **groups of tickets;**
- **invoicing to third parties;**
- **batch production of QR-codes;**
- **production of solidarity vouchers**
- **production of discount vouchers;**
- **production of purchase vouchers;**
- **statistics and sales details;**
- **diagnostics and supervision;**
- **account based functions for App and QR-code management;**
- **Web interface;**
- **Interago: web service for interfacing with other systems.**
- **warehouse management (stock, cards, tickets, other products)**

ADVANCED COMMUNICATION

ET-CSC also provides **communication services** with the operational periphery. In version 6.0 **it is possible to transfer data in the background even when the shift is open**: the download of new configurations, recharge lists, software updates take place even when the shift is open and **the lists become immediately active to carry out recharges and renewals on the users' cards.**

It is now possible to set the **preferred channels** for data transfer according to the type of data (e.g. Wi-Fi for software updates, 3G/4G for real-time lists and configuration data).

INTEGRATED WITH ALL

ET-CSC is designed to interface with third party systems.

It is already integrated with various software for **service and network topology management** (e.g. Hastus, Heures, TEO, Maior, etc.), with **FMS systems for fleet management** (e.g. Mizar, Ineo, Hanover, etc.) and with **accounting management systems** (e.g. Titan).

In general, **ET-CSC** is able to **export** all ticketing information (sales, validations, service information, infractions, etc.) to external systems for marketing, statistics, etc., and transport network management.

See also the **Interago** page in this same document.

On the opposite page: menu of ET-CSC and some of the many slides from the training course.

Apply for a card, buy tickets, pay fines
WITH OUR WEB PORTAL

while staying in your home
START SELLING QUICKLY
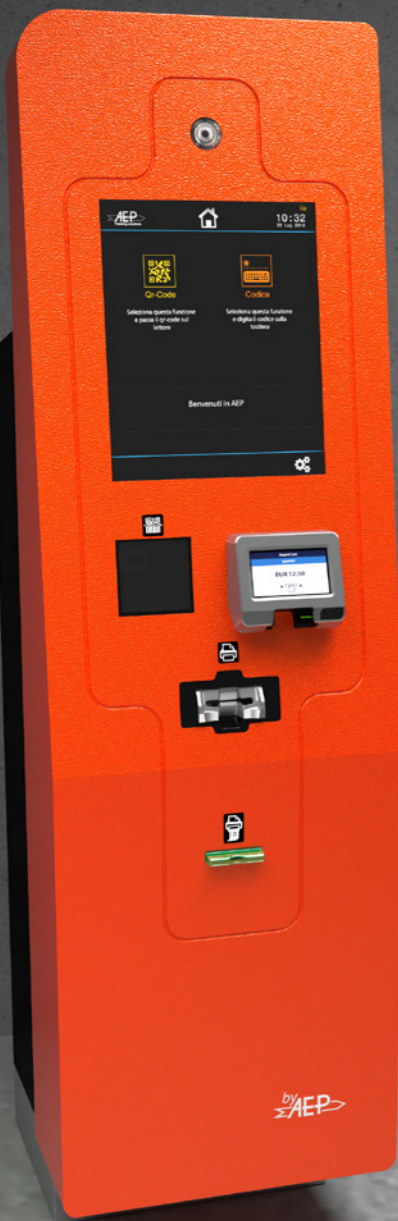
ET-WEBS 6.0 (Web Shop) is the **maximum evolution** of an Internet portal through which the Company can provide its sales services to the final Customer. Through **ET-WEBS,** the Customer can not only **buy** his ticket but also provide the **request for a subscription**, by entering his data and **uploading his picture** and other documents eventually requested (e.g. school enrollment certificate), as well as **manage his cards and his account and pay fines**.

A specific auxiliary module **allows the Company's operators to view the requests and authorize the production of the cards**, through the Massive Issuing Center (ET-MPC module) or through the new **CLM-3 self-service**

units, where the Customer can go with only the QR-code received by email and where he can also make the payment, if not already done through the portal.

Due to the communication capabilities of ET 6.0, **normal top-ups and renewals** are carried out by means of top-up lists transmitted to all devices in **real time**, therefore without waiting.

This approach is **extremely advantageous** for the company, as it leads to a **significant reduction in the workload** at the ticket offices, while at the same time making **smart working** possible for its employees, who can thus operate from any location, even from home.

Some portals made by AEP
- https://boutique.tadao.fr/
- https://eboutique.stga.fr/
- https://www.sitacmaboutiqueenligne.net/
- https://eboutique.imaginelebus.com/

Liste des demandes de cartes
Demandes au total: 9

	0 Refusée	0 Présentée par l...	1 Prise en charge	0 Suspendue	5 Acceptée	0 Carte prête	3 Carte envoyée

Chercher : [   ]   Toutes les demandes ▼   Télécharger en format csv

Date de la demande	Etat	Nom	Prénom	Email	Titres	TransactionID	Images	
27/03/2019 12:24:06	Acceptée	FRUSCIANTE	JACK	frusciante@20mail.it	Solidarité 50% : Mensuel +26ans solidarité 50% (+17,80 €) Tout Public : Ticket 10 Voyages (+9,00 €)	19086122419316	0	Modifier
12/03/2019 15:46:16	Prise en charge	LACAUD	DOMINIQUE	dominique.traduce@gmail.com	Tout Public : PASS 24h (+3.60 €)	190711154636800	0	Modifier
07/03/2019 09.29:17	Carte envoyée	MAJOR	MARIE	testaepaki@gmail.com	Tout Public : Annuel ZEN (+197.90 €)	19066093053841	0	Modifier
06/03/2019 11:21:20	Carte envoyée	MALI	MARIO	fodixoru@web-experts.net	Corr. TER/CAR : Annuel 18/25 12M PA (+242,70 €)	19065112149852	0	Modifier
05/03/2019 18:35:38	Acceptée	AOUDIAAA	AKLII	jege@younweb.email	PDE : Annuel 18/25 12M PA (+242,70 €)	19064183602230	0	Modifier

Apps are many,
OUR TICKY

millions of millions...
IS REALLY DIFFERENT

I'M HERE, BUY ME!

Ticky is the name of our App: **it's immediately available and ready to use, for both Android and iOS.**

WHY IS TICKY DIFFERENT?

The market offers today an incredible number of Apps. Why is Ticky different? For one simple reason: in many cases, the App **itself** is the solution or **simply complements** the company's ticketing system.

Ticky is instead **just a component of ET 6.0**, a wide, complete and powerful system, with which it perfectly integrates and from which it derives its innovative features.

WHAT DOES IT DO IN MORE?

This allows Ticky to **perform real validations**, either through the QR-code reader of the validators, or through the NFC interface, or through advanced self-validation functions.

When you present your smartphone to the validator, it **per-**

forms a true validation in a manner entirely similar to the smart card: it reacts by turning on its lights, emitting messages on the display and sounds from the loudspeaker, **complying among other things with Decree on mandatory validation.**

ALL DATA TOGETHER

The validation transaction is sent to the center with those of the contactless system and **appears with them in your reports,** just as the purchases made from the smartphone are conveyed together **with all the sales data**.

WHAT IF I WANT MY OWN APP?

Many companies already have their **own app** and don't always want to add a new one to the list. Even in this case no problem: AEP makes available the **Software Development Kit** (SDK) with which you can easily integrate Ticky's functions in your App, with certainty of the result: **behind everything there is always the security of AEP technology**.

ET-MOBILE: module for Advanced
BACK TO

Account Based Ticketing (AABT)
THE FUTURE

THE MOST COLORFUL

If it were really possible to define ticketing systems with colors, **ET-MOBILE** would probably be the... **most colorful!**

In fact, **ET-MOBILE** offers so many possibilities that it is one of the **most interesting** modules of the ET line.

WELCOME BACK PAPER!

With **ET-MOBILE,** we add to the **modern Apps** a beloved solution of the past, the **paper ticket**, with all its advantages and without the problems that characterized it.

ADVANCED ABT

ET-MOBILE makes it possible to create an **Advanced Account Based Ticketing** (AABT) system, as it completes the advantages of ABT with an extensive series of solutions that make it probably unique.

ET-MOBILE can operate with **smartphone+App and with paper tickets with QR-code** issued

by all the devices of the system (ticket offices, TVM, e-commerce portal, on-board devices, etc.) or mass-produced in typography and **distributed to retailers** or staff.

With **ET-MOBILE** complex transport tickets, such as **multi-passenger tickets, multi-ride carnet and check-in/check-out**, are possible both on paper tickets and on App.

EVEN OFF-LINE

ET-MOBILE solves one of the main problems of ABT systems, as it can operate for a certain period of time **even in the absence of communication** with the center, thanks to an **optimized local replication** of the data base contained in the central system; and this not only for **validation** and **inspection** purposes but also for **sales**, which can thus also take place on buses.

OPEN TO THIRD PARTIES

ET-MOBILE can operate both

with the Ticky App by AEP described in this document, and in conjunction with **third-party systems or Apps**, for example to securely generate, from a single point, **cryptograms** that can be materialized as QR-codes.

For example, integrations have been realized with parking systems and with Trenitalia QR-codes (Pisa Mover).

AS A COMPLEMENT

As a complement to **ET-MOBILE**, other functional modules are provided, for example to prepare the **typographical printing** of tickets with QR-codes based on cryptograms and the integration with the **warehouse program** aimed at allowing the accounting and **activation** of packages. In this way, non-activated tickets have no value and do not require physical protection against theft.

ET-TIC: module for ticket offices
A TOP TICKET OFFICE
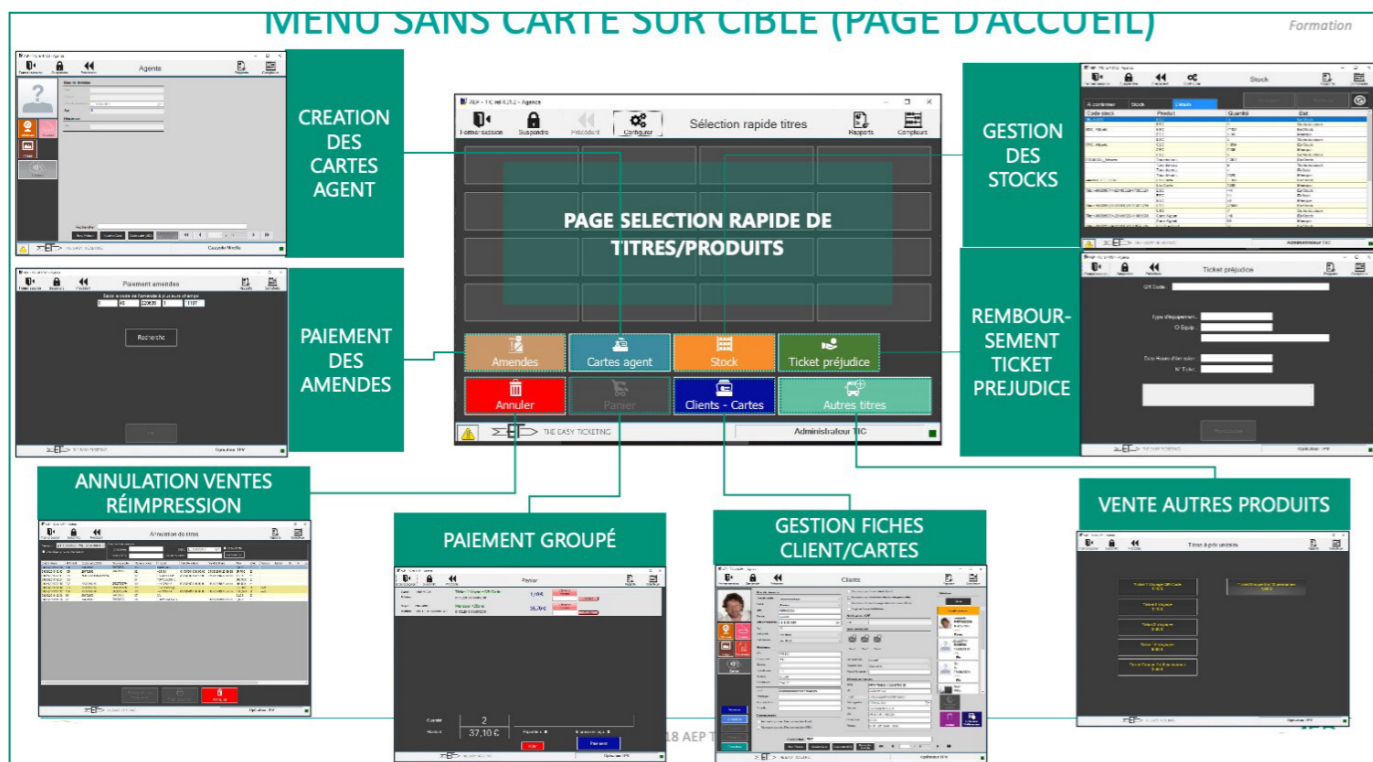
We would like to be able to tell you that the ticket office is no longer needed and that nowadays everything can be done by the customer electronically. **But this is not the truth**: even if web portals and Apps considerably reduce the need for physical meetings, **in a modern ticketing system** it is not possible to disregard a place of **contact** between the users and the transport company.
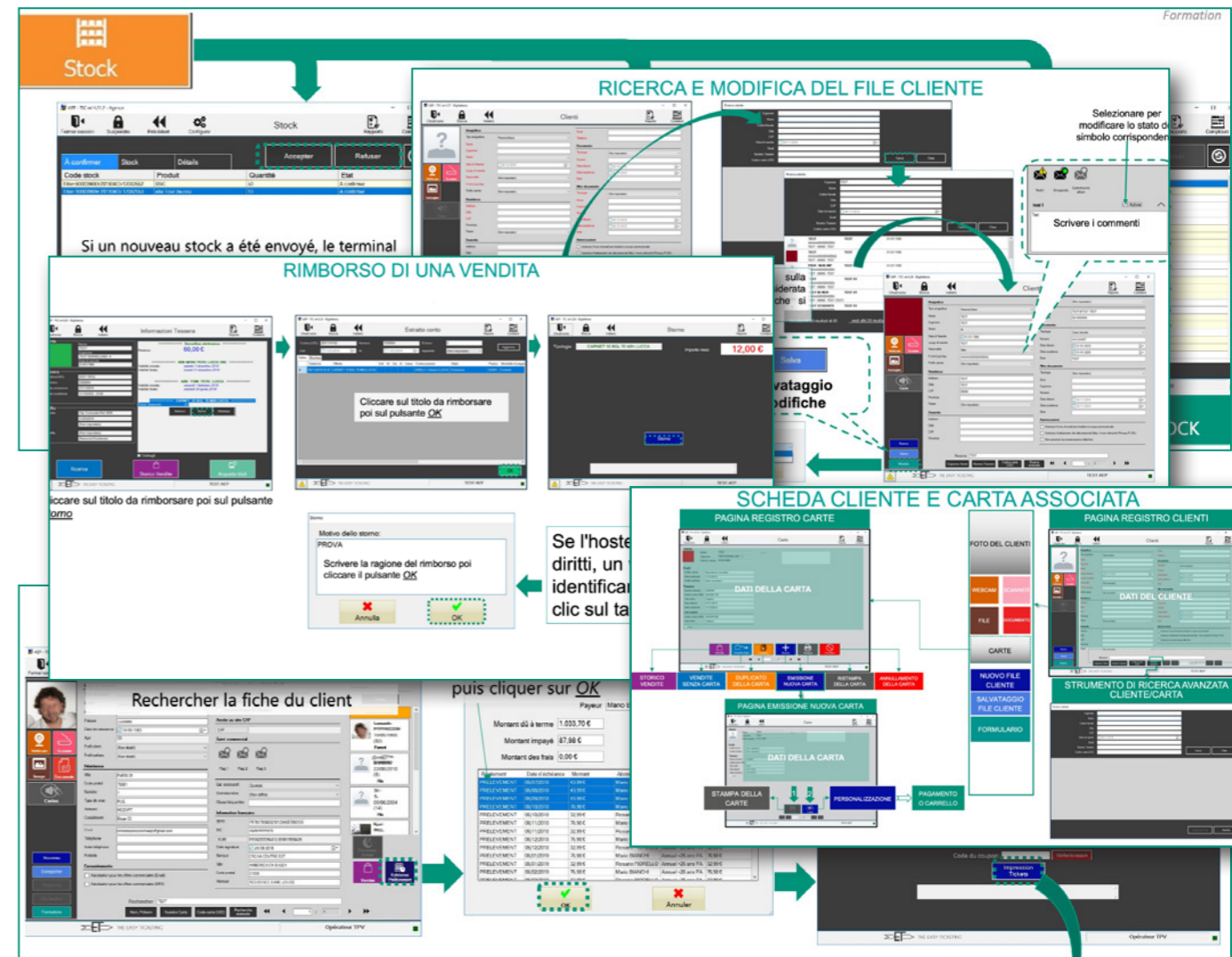
The functions offered by **ET-TIC** are really numerous: **it is possible to manage Customers and their profiles, even complex ones, to issue, issue duplicates and block cards and to sell any type of ticket**, as well as to request **an account without a card,** to set up **bank details** and perform **electronic signature,** as well as to **reprint receipts** and **refund change**

missing from TVMs.

It is possible to define the **family group**, establish **the most varied methods of payment**, even in mixed mode (**e.g. cash, bank card, installments, post-payment with debit on account, Company coupons, discount vouchers, etc**.) and make **refunds**.

ET-TIC also offers the so-called **shopping cart**, i.e. the sale of several products in the same transaction.

It is also possible to **pay fines** or **regularize unpaid installment**.

ET-TIC also manages **counter accounting** and generates all movements necessary for the **management of the physical media warehouse**, automatically down-

loading those sold, in full integration with the central system and other Company programs. These functions allow to **keep under control** all the operations carried out by the counter operators.

ET-TIC is not only used for counters open to the public, but is also used in **back-office workstation**s,

to perform operations related to the web portal or other administrative activities.

New features include the predisposition for **recurring payments** associated with a bank card and **remote top-up** via real-time lists upon receipt of payment by the Customer.

ET-TIC-TVM: module for
TVM? NO, A COMPLETE
self-service machines
SERVICE POINT

ET-TIC-TVM FOR SELF-SERVICE MACHINES

ET-TIC-TVM FOR SELF-SERVICE MACHINES

WHY A TVM?

The introduction of automatic machines in the transport network is consistent with the general trend of **reducing costs** and **extending the service hours** of counters open to the public.

A LONG HISTORY

AEP supplied the first TVMs (Ticket Vending Machines) in **2001** and since then over 500 units have been in operation today. Their success and software evolution have been almost uninterrupted.

SERVICE POINT

The **ET-TIC-TVM** module not only sells tickets, but also transforms the TVM into a **service point** available to users, to **manage tickets with QR-code or Chip-on-Paper**, consult the transactions of their **account statement**, purchase or **renew** tickets on their **contactless media**.

It also allows you to **pay fines**, simply by presenting the penalty ticket with the QR-code to the optical reader with which the machine is equipped.

PAYMENT

All **methods of payment** are accepted, not only **coins, banknotes** and **bank cards** but also **discount vouchers** and **Company coupons**, for example to refund unused subscriptions.

If supported by the physical configuration, **ET-TIC-TVM** manages the escrow and returns the change in coins and banknotes, as well as allowing a complete **remote control**, accounting and transferring to the center all the operations and handling of the physical media.

MAINTENANCE

ET-TIC-TVM also has an extensive section to perform all **installation, testing, maintenance and repair operations.**

AEP's two RTVMs: on the right, RTVM-T, the most complete self-service machine in the family. On the left, RTVM-I, a compact machine with a great price/feature ratio. Also visible is a QR-code ticket issued by an AEP TVM.

ET-RSM module, supervises supervisors
ENSURE SECURITY

SAM, THE BASIS OF SECURITY

Secure Access Modules (SAMs) are physically similar to phone SIMs and form the **basis of transaction security** for contactless cards and QR-codes (not bank cards, which use even higher security standards).

ET-RSM, SAM SURVEILLANCE

Given the importance of SAMs, ET 6.0 includes a module called **ET-RSM** (Remote SAM Management) to **keep them under control** remotely at all times. When a SAM loses its connection with the ET-RSM system, it automatically **locks up**. A stolen device can in this case perform at most a **limited number** of operations (e.g. renewal of subscriptions) before going into a state of interdiction.

ET-RSAM, REMOTE SAM

SAM modules can be used **only on particularly advanced terminals**, such as AEP validators and multifunction units.

ET 6.0 offers an additional module, called **ET-RSAM** (Remote SAM) that, in spite of its similar name, assures very different functions from ET-RS. With it it is possible for **a generic device to remotely and safely operate** a battery of SAMs in the ticketing center, as if they were connected ... **with a long wire**!

This allows, for example, an **ATM** or a **smartphone** to perform top-up/renewal operations, such as those offered by TVMs, ticket offices, etc., on-line and without the need for an on-board SAM.

ALL YOU NEED IS A SMARTPHONE!

With ET-RSAM, all you need is a smartphone to perform a purse top-up or subscription renewal, writing it on your public transit card as if the transaction had been performed at the ticket office.

With ET-RSAM an ATM is enough
TOO CONVENIENT!

With the ET-RSAM module, AEP offers the technology necessary to use normal ATMs as a top-up/renewal point.

This makes it possible to perform operations autonomously that would otherwise require going to the ticket office.

The more solutions offered, the greater the customer satisfaction!

ET-MOB: retailer module
A SMALL TICKET OFFICE

Also for sale
IN MOBILITY!

INFO SUPPORTO

VENDITA CONTACTLESS

VENDITA QR-CODE

RIMBORSO

We've been working for years to make **ET-MOB the most powerful tool for retailer** and mobile sales. We've succeeded, while at the same time creating **the most user-friendly** one.

With the use of the compact terminal **AEP CDB-4 PLUS**, which can also be powered by battery, the functions of ET-MOB require only a **little space**, comparable to that of a normal POS and without the need for a wired connection, given the presence of **Wi-Fi,**

3/4G modem and Bluetooth.

Sales on contactless media, QR-code sales, information on the user's card and account, refund management: over **100 pages** available to the user but **so well organized and intuitive** that it hardly requires any training; **after just a few minutes it already feels like it's been used forever.**

From the center of ET 6.0, it is possible to have a **complete remote control** of the retailers: enable and disable them, estab-

lish opening and closing times, impose limits on the cashout allowed and manage the automatic switch-off of the device.

With the Remote SAM Management ET-RSM system, the theft of a device limits **the economic risk to almost zero**.

The same **ET-MOB** module, only differently configured, is also used for **portable controller terminals**, as described later in this document.

ET-TIC-BUS: multifunction module:
ON-BOARD TICKETING

sales, validation and localization
AND MORE

ON-BOARD TICKETING

Selling on board is still applicable to many Transport Companies, as it **reduces the costs o**f distribution, allows to satisfy the requests of many travelers who have not been able to buy a ticket and can offer the driver the possibility of an additional income.

ET-TIC-BUS is the module designed specifically for the **AEP CDB-6 PLUS** multifunction unit, which includes the on-board computer, the driver console and a contactless / optical validator.

ET-TIC-BUS with its touch screen is easy to use and allows the sale of paper tickets with **QR-code** or **chip-on-paper, pre-coded or coded on the fly**, with automatic handling of **warehouse** stocks, as well as the sale of top-ups and renewals on the Customer's card, in full integration with the relevant accounting.

NOT ONLY TICKETING

With **ET-TIC-BUS**, the CDB-6 PLUS allows operators to concentrate a real **service center** in a small space; In fact it makes possible, other than selling new tickets, also **validation**, **supervision of the on-board system**, **communication** with the center via Mobile Data Network or Wi-Fi. With such a terminal, in conjunction with the ET-miniFMS or ET-midiFMS modules, it also becomes possible to perform many **fleet monitoring** functions, with **localization**, ad-vance and delay assessment and **management of shifts and itineraries**.

CDB-4 PLUS also offers many of the functions described above using the ET-MOB module described in this document. With battery power, it can also be used on vehicles without a fixed installation.
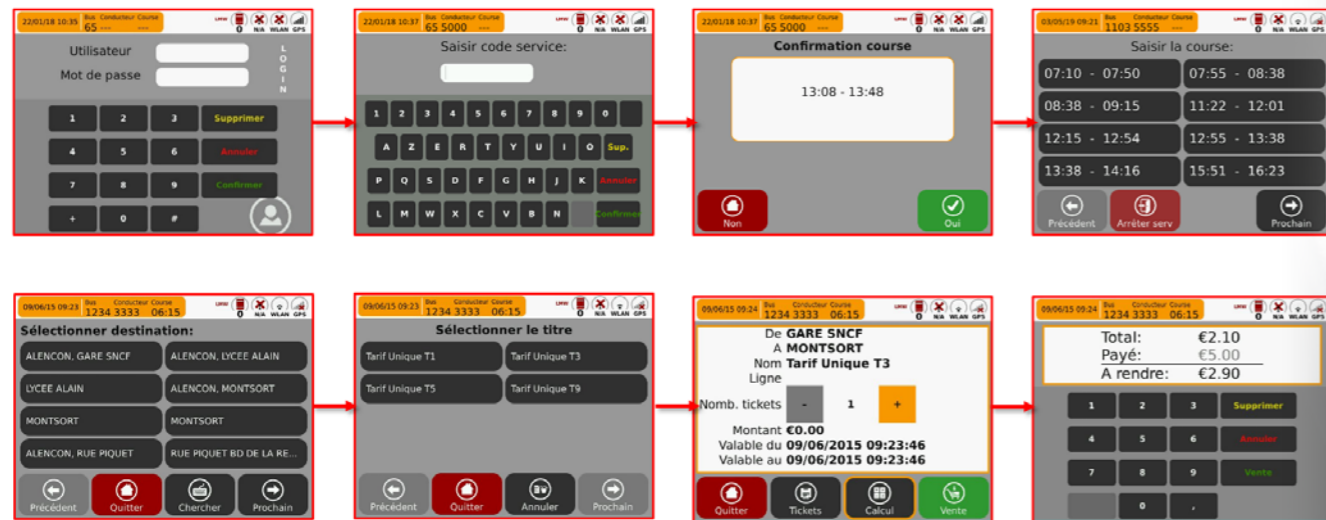
Simplified fleet control
ET-miniFMS

Continuous fleet tracking
ET-midiFMS

It is not always indispensable to purchase a stand-alone fleet management system (**FMS**): in fact, the electronic ticketing system normally includes all the necessary hardware for this function.

ET-miniFMS is a simplified FMS system that takes advantage of the e-ticketing system equipment, typically an **AEP CDB-6 PLUS** multifunction unit, to which the **AEP GPS-3** receiver is connected

ET-miniFMS allows to identify the **passages at the stops** and to have therefore an indication on the regularity of the service, informing the driver and the center of t**he advance or delay** detected at the passage to the last stop.

ET-miniFMS requires integration with data from third-party software for service planning (stops / lines / timetables / shifts / itineraries). Numerous integrations with the main suppliers of this type of service are already available.

It can be integrated with the auxiliary module **ET-miniIV**, which allows passengers to know the situation of the service in real time.

Two views of the ET-miniAVM central. At the top the representation on the map, at the bottom two diagrams called "thermometer", where you can see the stops in a schematic form. In brackets are shown the values of advance or delay detected when the bus passes.
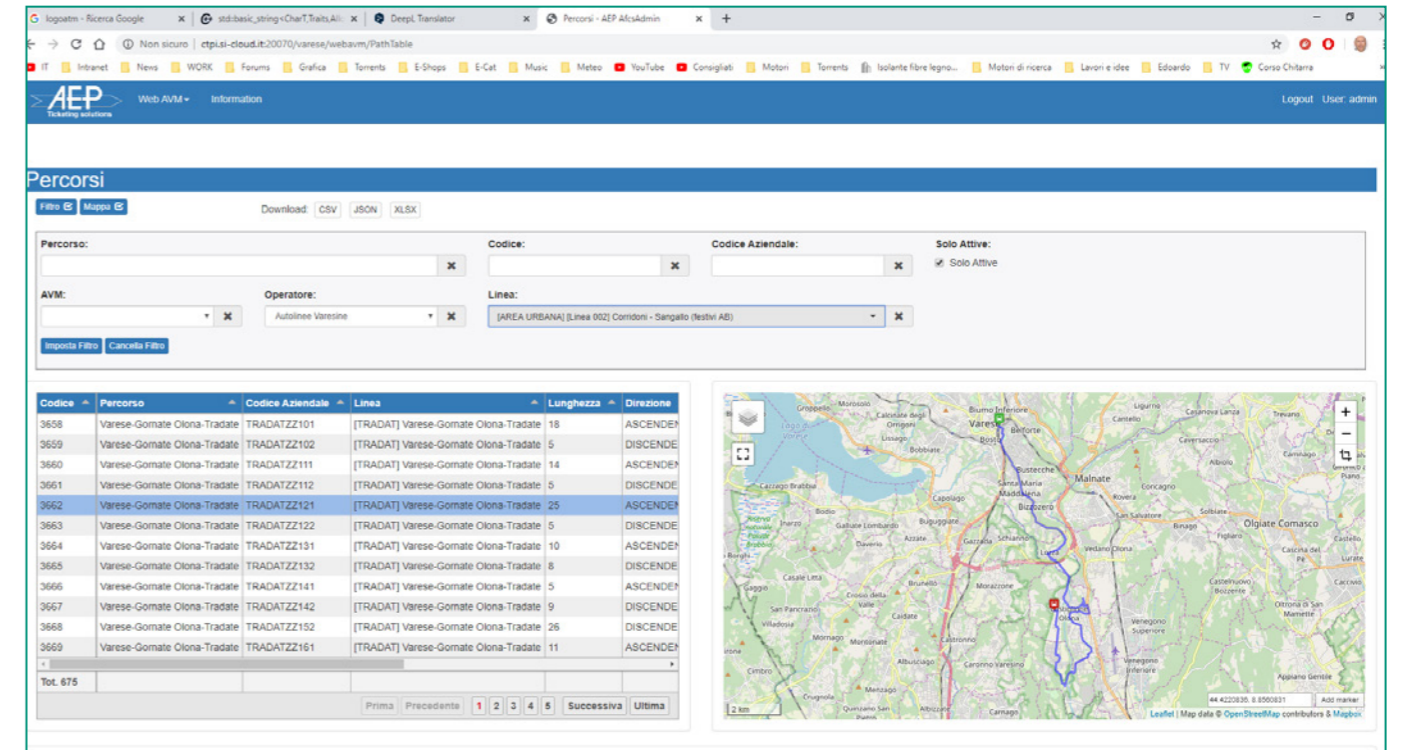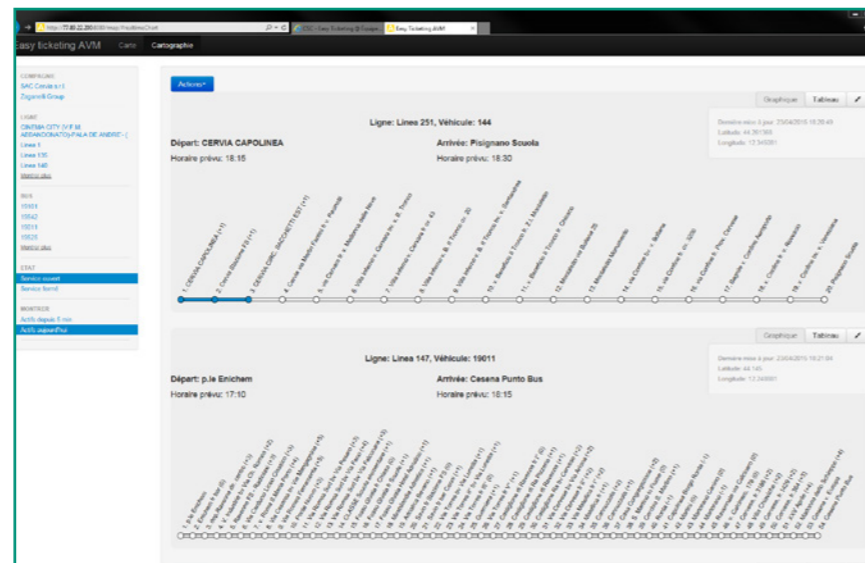
ET-midiFMS* is an FMS system that, like ET-miniFMS described in the opposite page, exploits the e-ticketing system infrastructure for monitoring the bus fleet, typically an **AEP CDB-6 PLUS** multifunction unit, to which the **AEP GPS-3** receiver is connected.

Unlike ET-miniFMS, ET-midiFMS allows continuous tracking of the bus position, comparing it with the network graph, typically derived from GTFS data. The exact geographic positioning allows a more accurate prediction of bus arrival times at bus stops.

ET-midiFMS also requires integration with data coming from third party software for service planning (stops / lines / timetables / shifts / itineraries / graphs...).

The system provides a **particularly accurate graphical interface** (figure above), which greatly simplifies the work of the operators in charge of monitoring the service.
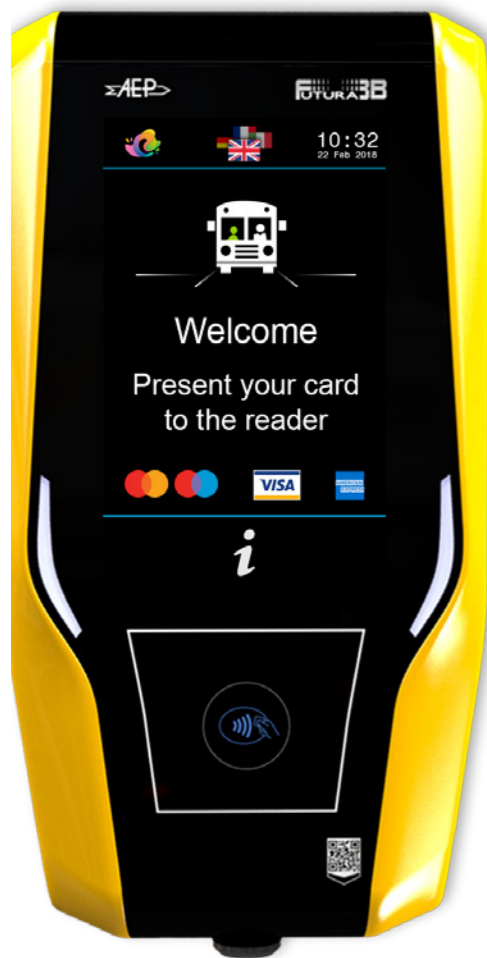
The data of ET-midiFMS are made available to third-party applications to make possible the creation of web portals or Apps for customers.

* Available 1° QT 2021

WE ARE NO LONGER   JUST TICKET MACHINES

the **ET-VAL** validator module is **very advanced**. In fact, it must validate various types of media (**contactless cards, chip-on-paper, bank cards, QR-codes, etc**.), recognizing **all the tickets in the tariff range**, and must be able to communicate with the other devices on board through the **Ethernet network**, with the depots through **Wi-Fi** and with the central system through the **mobile data network**.

ET-VAL is also designed to offer the user maximum ergonomics. Its **Persona programmable interface** offers wide customization possibilities according to the

Company's requirements (see figure on the right).

Thanks to the **real-time communication with the center, ET-VAL** allows then to have constantly updated top-up lists: **when a customer buys a renewal on the Internet portal**, he can **immediately** go on board, sure to find his purchase ready.

ET-VAL also provides many **maintenance and diagnostic functions, both locally and remotely**, to make management by the staff as easy as possible.

Validators must be **easy to use** because Customers must be able to use them **quickly**, without wasting time trying to understand their operation.

Despite its apparent simplicity,

MESSAGES   LIGHTS   SOUNDS
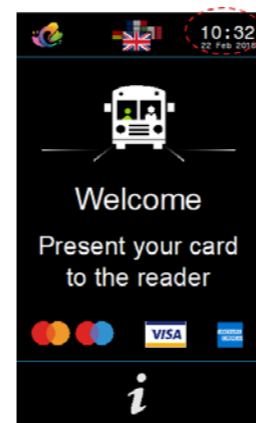
ICONS AND MEANING	RED	GREEN
Connection to Central Supervision and Control(CSC)	Absent (NOT CONNECTED)	Present (CONNECTED)
Indicates the signal strength of the Mobile Data Network. The strength level is indicated by the number of green bars.	No signal.	Signal present. Maximum intensity.
AVM system connection. The icon appears only if the connection with the AVM is planned and configured.	Absent (DELOCALISED)	Present (LOCALISED)
Ethernet network connection	Absent	Present
Wi-Fi network connection	Absent	Present
Represents the slave validators present, if the colour has the following meaning.	No slave validator detected.	All planned slave validators have been detected.

ET-MOB: module for control
CONTROL AND PENALTIES

ET-MOB for inspectors can also be supplied for PAX A920 terminals, which are also able to make POS payments (1° QT 2021)

The **ET-MOB** module allows the geo-referenced control of tickets on **contactless media and on QR-code**, as well as the issuance of penalties, with full integration in the systems for their management and follow-up, as well as in those for fraud detection.

The control process is **extremely easy and fast**. It is possible to have an immediate OK/KO result and to proceed to a more accurate examination of the ticket in case of particular situations.

It is possible to auto-complete the customer's personal data from the center and to issue a fine with **automatic association** to the violation detected.

It is also possible to capture the **offender's signature** from the terminal screen.

The fine is printed with a QR-code so as to **facilitate its payment** at ticket offices, TVMs or retailers.

The **ET-MOB** module is the same as the one used in retailers. This means that it is possible to configure the control terminal in order to have all **sales functions**, thus creating a real mobile resale.
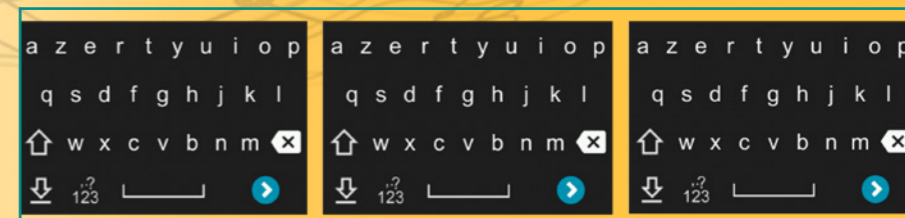
ET-PAM module, SOMETIMES FINING

administrative process of fines IS NOT ENOUGH
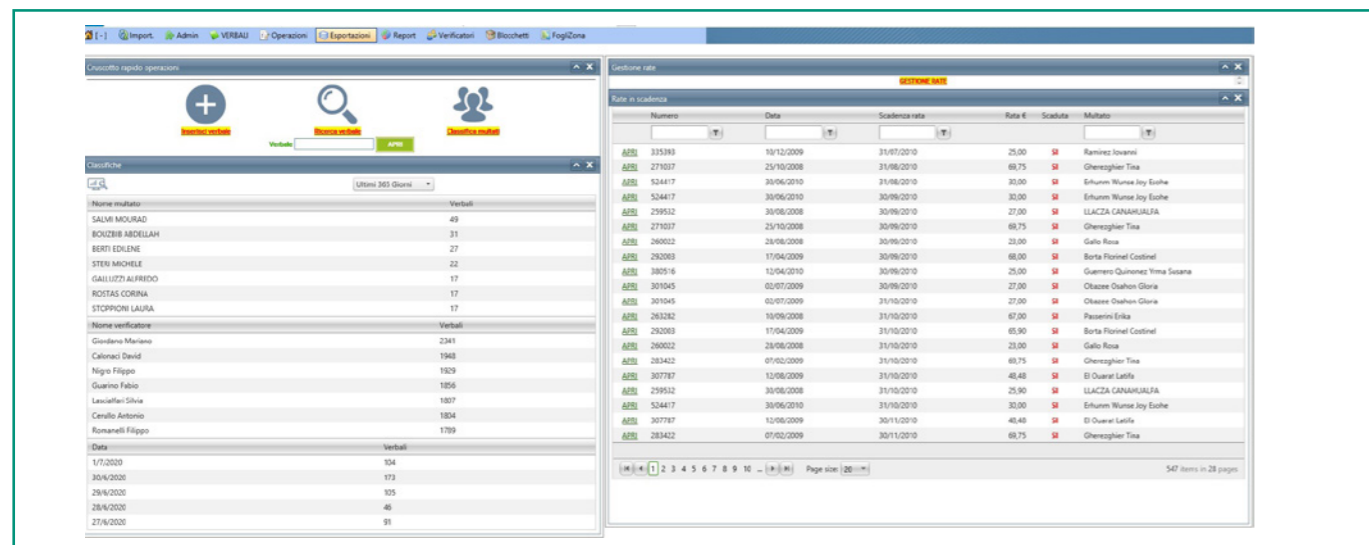
ET-PAM (**Administrative Process of Fine**) is an application that allows you to manage all the procedures following the issuance of fines.

Insertion of the fine - the fine can be introduced manually or via scanner or acquired directly, if portable terminals are provided. The insertion procedure has been designed to make the operation easy, quick and safe. It is possible to insert the data of the guardian in case of underage offenders

Search functions - the search includes all the necessary filters and makes it possible to find offenders' fines quickly and without

error, as well as to produce lists. Personal data searches for foreign languages.

Edit fine - it allows operator to edit the fine, to print one copy for the office, one for the client, to print the payment slip, export the form in PDF and send it by email.

Fines history - it is possible to view the history of the fines of the same fined person in order to have his position under control (previous fines, outcome of the payment, changes of address…).

Payments - various methods of payment are possible: full, partial and multiple payments by card, bank transfer, on-line payment,
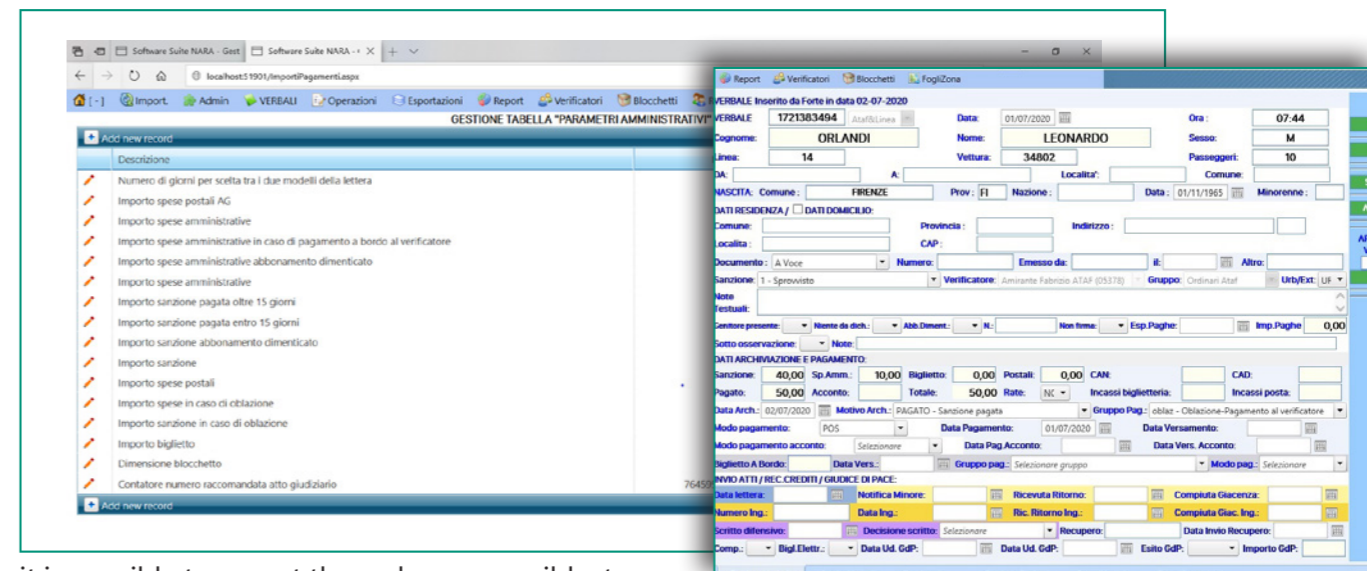
etc. The daily incomings of the operator and the export to the accounting system are also managed. Export is possible, also to the main debt collection companies.

Payment lists - acquisition of payment lists (or archives) by scanner.

Installment payments - it is possible to to define an installment payment of a single fine or the total of several fines. It is possible to establish a schedule for each fined person. At the expiration of each installment will be sent a notice of expiration by email.

Injunctions and notifications -

it is possible to export through an external service for massive printing or immediate printing.

Legal proceedings - if possible, automatic issuance of forms, including a copy of the fine. The mechanized copy of the report includes a barcode for subsequent management, such as the archiving of letters not received or delivered.

Recourse management.

Connection to Municipalities - it is possible to send letters of request for a registry check to the municipalities of residence of the fined person. If enabled, it is

possible to query the municipalities in order to directly carry out on-line registry checks on those fined and obtain the family status in the case of underages.

Activity of the inspectors - it is possible to obtain various types of reports on the activity of the inspectors and on the state of collection of fines. it is possible to associate profiles and periods to the inspectors for statistics. E.g.: unsuitable, voluntary, ordinary, additional, etc.

Booklet management - it is possible to manage the history of the

booklets for fines, from the time they are taken over by the printer, to their movement to the warehouse and office, to their assignment to the inspector and their actual use. For each booklet it is possible to reconstruct the history and verify any problems (e.g.: booklets in charge not returned).

Zone sheets - the activity of the inspectors can also include the drafting of the so-called *zone sheets* (or *up/down*). This management is fully integrated and makes it possible to produce statistics, reports and exports for the Provinces and Regions.

ET-PASS: Transit module according to the Transport for London model
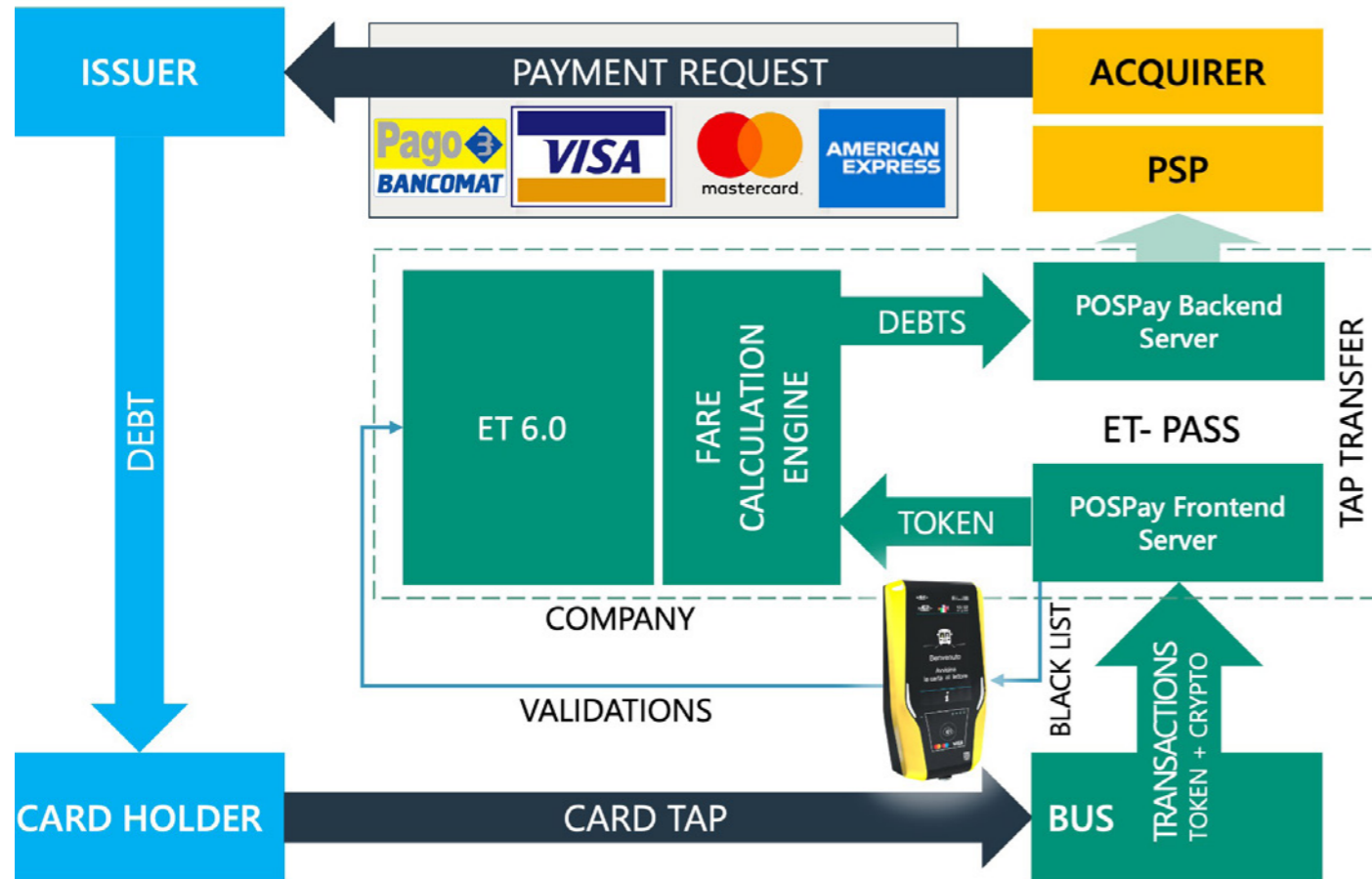## THE SPREADEST SOLUTION IN ITALY FOR EMV CARD

ET-PASS is the most widespread solution in Italy for on-board payment with EMV bank cards. We were **the first in Italy and France** to activate an EMV system on board a bus.

Users are **enthusiastic** about this form of payment: no registration is necessary, there are no queues, there are no complicated rules or expiration dates to learn and remember: it is really difficult to imagine a **more practical** and **simpler** solution for customers than the direct use of **contactless EMV bank cards**, good even for those who couldn't find their tickets on the ground. And it is very easy, thanks to the **user portal**, to keep all one's trips under control at all times.

From the company's point of view, the advantages are also considerable, since the management of **cash** and the **distribution** of tickets with all related costs (physical media, storage, distribution and reordering...) are **eliminated**.

Boarding times are also drastically reduced, resulting in **smoother traffic flow, better adherence to schedules, lower vehicle consumption and less pollution**. A sale made by a driver requires a minimum of 10 seconds, while the presentation of the card takes less than a second.

Every 100,000 tickets sold on board therefore saves 250 hours!

We have made all the necessary investments, solving very complex problems, introducing new lines of equipment, developing all the required software and **obtaining the necessary certifications and authorizations.**

ET-PASS is ready for you to start operating immediately!
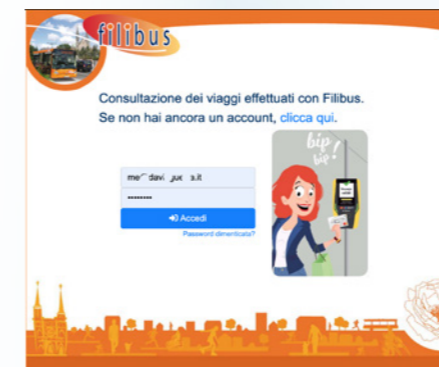
Some of the new features of ET 6.0: customizable mechanisms for the resubmission of failed transactions (recovery debit); integration of multiple business units belonging to the same company; detailed reporting to support administrative departments in month-end procedures; new procedures to perform on-board bus control; new procedures to simplify the After-Sales Service and relations with end users.

ET-miniBI: data warehouse and
DISSOLVE THE FOG

business intelligence tools
ON TICKETING DATA

ET-miniBI is a **Business Intelligence** tool in addition to the reports normally produced by ET-CSC based on OLTP (On-Line Transaction Processing) techniques.

ET-miniBI, thanks to OLAP (On-Line Analytical Processing) techniques, provides managers with an easy-to-use tool that allows them to easily produce reports, statistics, indicators, graphs in an almost immediate way and almost without any specific training.

It is possible to follow an idea, transforming **data** into **information** and information into **knowledge**, through rapid and intuitive processes, producing plans capable of orienting the decision-making process in the various levels of the Company.

ET-miniBI includes the **Data Warehouse** and the data extraction/aggregation tools that make data available for analysis.
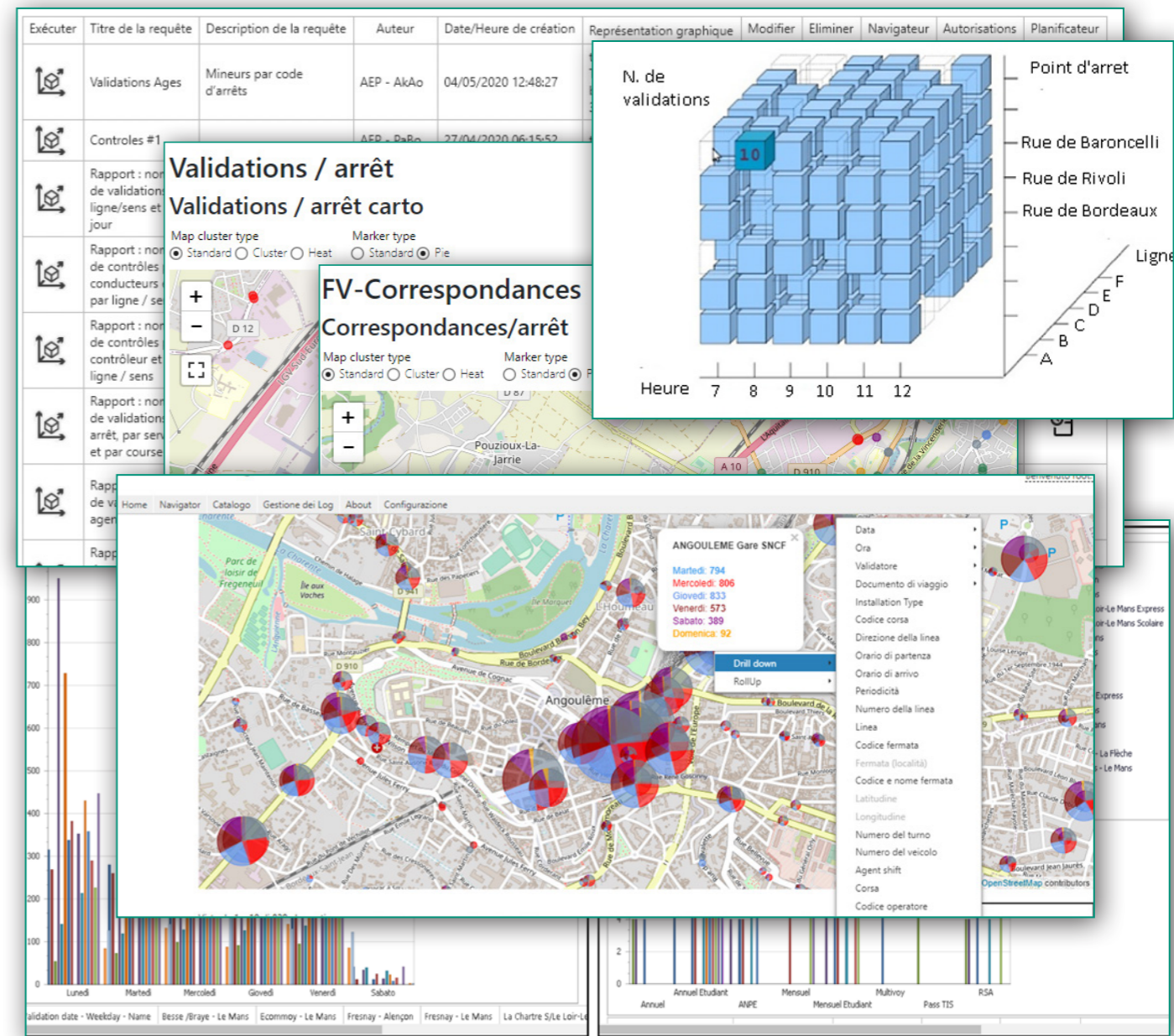
The basic version of **ET-miniBI** includes several **hypercubes** suitable for the most common transportation service analyses. Other hypercubes can be purchased

separately or built by AEP according to Company requirements.

Some new features of version 6. 0: possibility to schedule the execution of reports and send them via e-mail; possibility to export data to Excel (tables and pivots); user profiling: the user creates reports and shares them with others; standard cubes: sales, validations, violations, verifications; data are anonymized; analysis on customer habits, with profiling of customer data (age, residence); analysis on transportation cards: issuance, duplication, expiration and non-renewal by the customer; analysis on validation and use of tickets; analysis of violations and penalties; analysis on customer trips and transfers.

I am interested, convince me
SEE FOR YOURSELF

Everything described in this document is ready, tested and visible in operation at real Customers who use it at full capacity.

AEP is at your complete disposal to organize **technical visits** to the users of the solutions you find here represented.

It is also possible to carry out **tests and demonstrations**, both at our offices in Florence (Signa) and Genoa or as **Webinars**, which are particularly useful and convenient.

AEP also periodically organizes **training courses** in which the products are explained in every part by our system engineers, in Italian, French or English.

At the end of each course you can take an exam and receive a certificate.

All the modules described here are then provided with **very detailed** and fully illustrated **manuals** available in Italian and French.

In the picture below, a STGA ticket office (Angoulême, France)

No system is so open to the outside world
THE WORLD BEYOND AEP

WE ARE NOT ALONE

For over twenty years we've been doing just ticketing, says our slogan. So **who does everything else**? We know that an e-ticketing system, no matter how extensive and rich in functions, **always requires integration with other applications** sooner or later.

INTERAGO®

AEP does not hinder but rather **encourages the integration** of its systems with those of **third parties**.

For this purpose AEP has created the **Interago®** platform, already used by many developers in Italy and abroad, which has basically two purposes:
- **to facilitate the integration** with third party solutions;
- **to allow third parties** to develop their own applications that use the enormous potential of ET 6.0.

Interago® can be used, for example, to request the issuance of personal media, purchase / top-up / renew tickets and many other functions.

It can be used to create **Internet portals** or **Apps** for smartphones or to exchange data with other applications, such as **FMS systems**, **accounting** programs, applications that produce **shifts and rides** etc

Many integrations have **already been implemented** and can therefore reduce the investment required to implement your system. Ask us for information, we are at your disposal!

Figure below : Titan is a program for the management of a transport company that is very popular in France. It performs many functions including accounting management, installment management, warehousing, etc. Thanks to Interago, Titan is today perfectly integrated with ET, as well as many other softwares such as FMS, accounting programs, topology programs, etc.
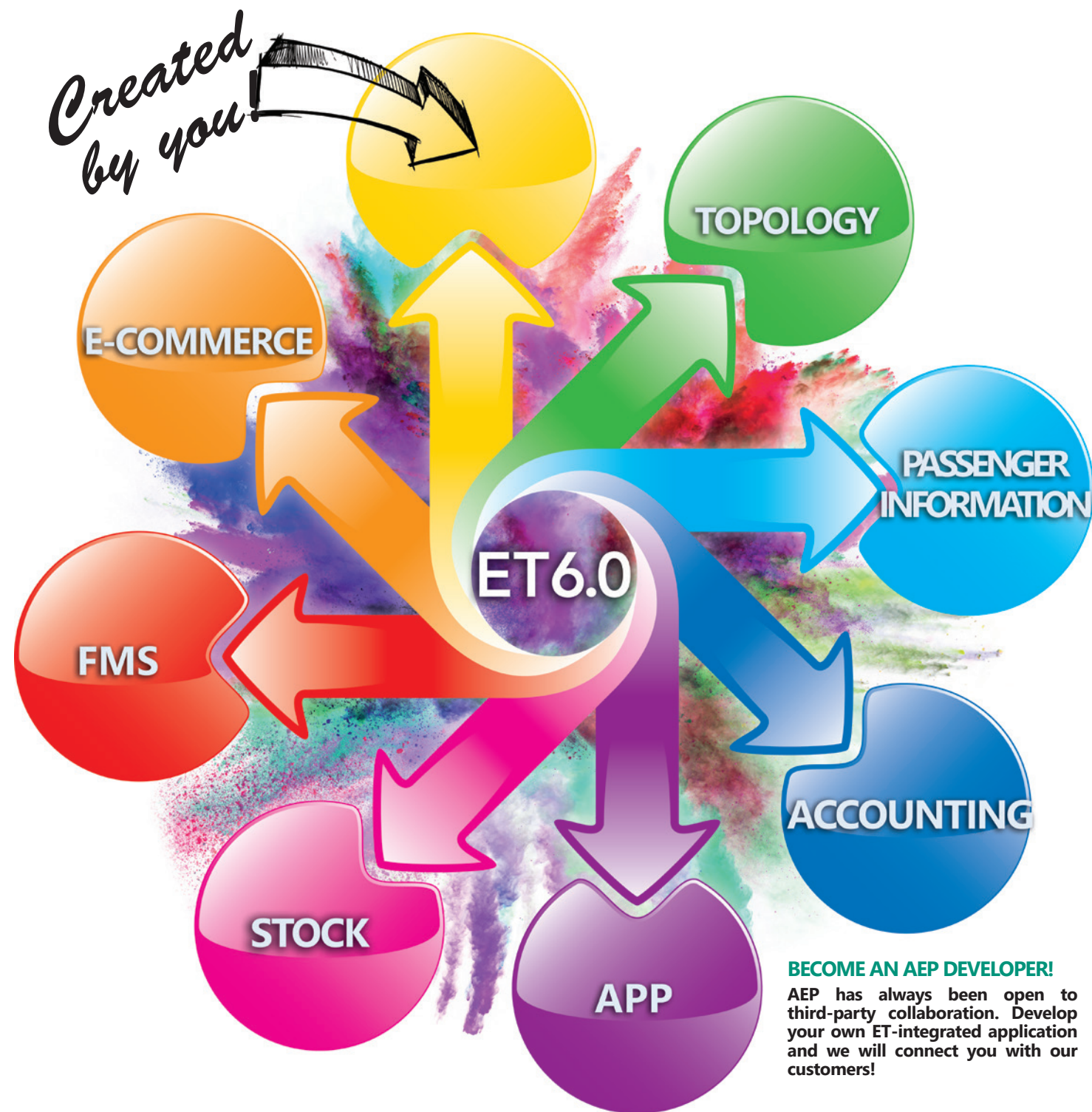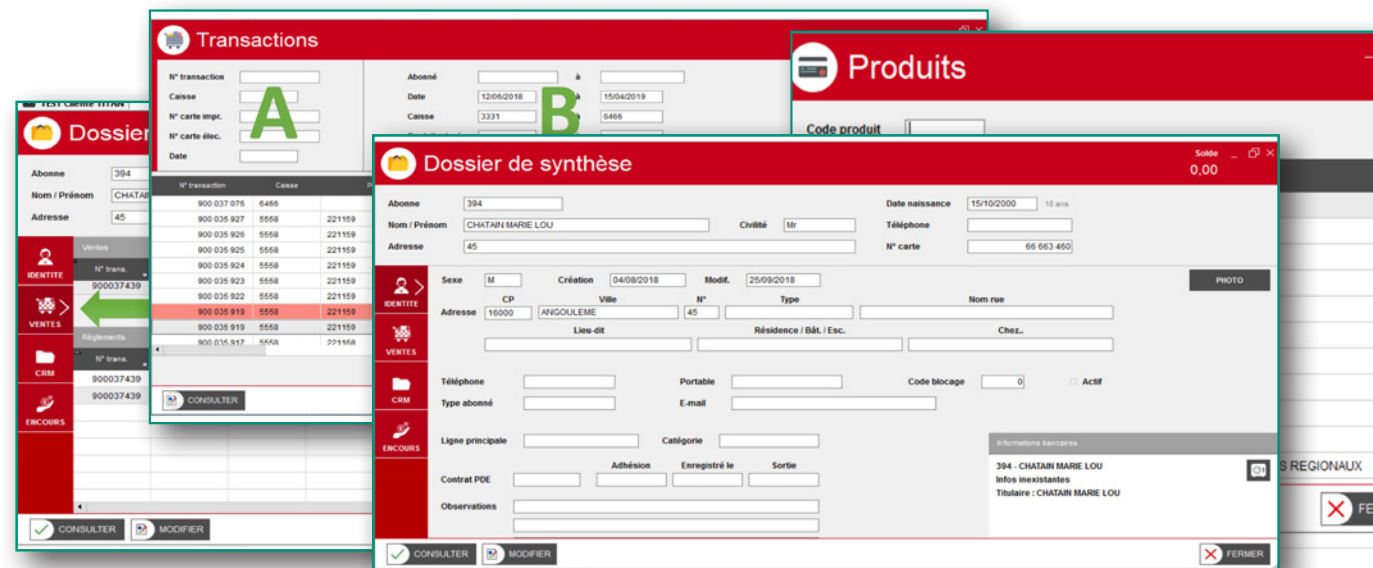
BECOME AN AEP DEVELOPER!

AEP has always been open to third-party collaboration. Develop your own ET-integrated application and we will connect you with our customers!

AEP P/N 740556.E01.EN Brochure ET 6.0

≡AEP≥
Ticketing solutions