





Cross-Border Interoperability: The Alliance of ASF and Bidegi in France and Spain

By Jean-Pierre Pascouau and Bernard Fer

One of the most important issues in Europe's toll industry today is attaining electronic toll collection (ETC) interoperability. Toward this goal, the European Commission established European Directive 2004/52/EC to provide a framework for the interoperability of toll collection systems within the European Union.

The European electronic toll service (EETS) envisioned in the directive is still in the development stages, but two projects currently under way in Europe may help define such a system:

- The Common Electronic Fee Collection System for an ASECAP Road Tolling European Service (CESARE) Project, now in its fourth phase and financed by the European Commission. (ASECAP is the 21-member European association of toll-road operators.) CESARE's objective is to define a set of basic guidelines for providing an EETS from a technical, contractual, legal, and procedural point of view.
- The Management of Electronic Fee Collection by Dedicated Short-Range Communications Interoperability (MEDIA) Project, an initiative of tolling operators from the Alpine countries (Austria, France, Italy, and Slovenia). The project's objective is to find and implement a practical solution that allows ETC interoperability.

The EETS is expected to enter into service in 2009 for trucks and 2011 for other vehicles.

As the European Commission continues its work to facilitate ETC, one regional success story in particular may aid its efforts: the interoperability alliance between concessionaires ASF of France and Bidegi of Spain, which together have implemented the first cross-border ETC system in Europe.

Stakes and Challenges

On both sides of the French–Spanish border (see Figures 1 and 2), along the Atlantic Ocean a conurbation is forming of approximately 700,000 inhabitants. This network, called the Eurocité Basque (Basque Country Euro-Site), between San Sebastián, Spain, and Bayonne, France, covers a stretch of 60 kilometers (37 miles) and enables the two communities to interact in several ways:

- **Business:** Many commuters traverse the border each weekday.
- **Commerce:** Several international firms operate on both sides of the border.
- **Shopping/recreation:** On public holidays, French and Spanish residents cross the border in both directions to shop. Moreover, the Spanish enjoy skiing in France during winter.

For the majority of these trips, due to the narrowness of the region between the sea and the Pyrenees Mountains, travelers use mainly the international north- and southbound motorways.

These consist of:

- A8 in Spain, operated by the state-owned Bidegi; and
- A63 and A64 in France, run by ASF, a privately held company owned by Vinci Concessions.

Prior to 2004, these two networks had been operated independently and were both subject to extremely heavy traffic made up largely of international trucks. Problems on one generally affected the other, with, for example, traffic jams starting in Spain continuing into France and vice-versa. In 2005, ASF and Bidegi signed a cooperative agreement with the aim of improving matters and maximizing service to their mutual customers. The agreement encompassed:

1. Sharing real-time information (including camera pictures, traffic data, and the like) that would aid in anticipating traffic flow.
2. Coordinating efforts to extend and improve the Biriattou tollgate (on the A63 motorway), located close to the French–Spanish border in France.
3. Making a cross-border ETC system available to each other's customers, based on existing ASF and Bidegi products.

Although the two operators don't share subscriber account numbers, with each managing its own customer accounts, they do exchange transaction

Figure 1: Map of the Trans-European Road Network with the Location of the ASF–Bidegi Cross-Border ETC Service Highlighted



data to ensure smooth system operation on both sides of the border.

Getting to Full Transparency

By 2002, both Bidegi and ASF had established an ETC for passenger cars, but each operator's system was based on relatively different concepts:

- Bidegi's ETC system was set up to use tags issued by Spanish banks. The operator sends its customer trans-

action files to the relevant banks, which in turn debit the applicable toll fees from their customer accounts and then forward the payments to Bidegi. The concessionaire is responsible for printing and transmitting the bill to the client at the beginning of the month. A special discount is given to people living in the Gipuzkoa area to encourage its residents to use ETC.

The aim of the cooperative agreement between ASF and Bidegi was to make their two ETC systems compatible, interoperable, and fully transparent to their subscribers, so that tags belonging to French and Spanish drivers would be recognized in both countries.

- Unlike Bidegi, ASF issues its tags itself and doesn't require bank involvement. This enables the concessionaire to offer special rates to customers in its zone.

Prior to 2007, a French driver couldn't use his tag in Spain on the A8 turnpike and instead had to pay with cash or credit card, in the regular pay lanes. Likewise, a Spanish traveler had to do the same when driving on A63 or A64 in France. To further complicate

matters, some Spanish credit cards weren't accepted on the A63 and A64 networks. As a result, drivers from both countries found themselves stuck in the congested toll plazas of this cross-border network, unable to use their tags during heavy traffic periods.

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Figure 2: ETC Cross-Border Service Map



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Objectives. The objectives of the agreement were to:

- Greatly simplify subscriber processing for each party while allowing highway users to use their tags on both sides of the border without having to buy a second tag.
- Increase traffic flow through the tollgates of both countries, especially during periods of heavy use.
- Increase the number of subscribers for both operators by offering an appealing cross-border,

complimentary service that would attract new patrons.

- Restrict the building of new toll lanes in favor of using ETC, which would entail equipping existing non-ETC lanes with ETC technology in both countries.
- Reduce operating expenses for both concessionaires.
- Better protect the safety of on-site employees and customers. For example, in the past, when a customer's credit card was refused and the driver had no cash, a highway employee would be called upon to assist the customer in the lane.

BUILDING A U.S. MODEL: THE ALLIANCE FOR TOLL INTEROPERABILITY

The concept of national toll-system interoperability is gaining ground in the United States. In February 2008, representatives of approximately 20 toll agencies formed the Alliance for Toll Interoperability (ATI) to focus on how best to achieve this important goal. Since then, the group has extended its reach in North America, with membership now approaching 30, including a Canadian agency.

"With more toll agencies switching to open road tolling and an increasingly mobile public, agencies have to figure out how to be interoperable on an ever-increasing and broader basis," says the group's acting chairman, JJ Eden, chief operating officer of the North Carolina Turnpike Authority, in citing the need the group fills.

The organization's first priority is to establish a video-data standard that would allow cashless tolling cameras to read and process out-of-state license plates. ATI's target date for a video-sharing standard is February 2009.

Group members share other information with each other as well, such as details of tests, evolving standards, demonstrations, and other topics of interest to toll operators.

"Some of the best, brightest, and most dedicated minds in this industry are housed in our toll agencies," notes Eden. "Who better to determine how we can best serve our geographically expanding customers and the touring public."

ATI is open to all toll operators, public and private. Meetings are held on an as-needed basis, by phone and face-to-face. Interested readers may visit the ATI Web site at www.tollinterop.org or contact JJ Eden at jj.eden@ncturnpike.org.

Figure 3: View of the Spanish Tollgate of Irún Ventas with Signage Showing That Spanish and French Tags Are Accepted



The new cooperative setup reduces the occurrence of such incidents by lessening the number of non-ETC users.

- Help meet the goals of the European Commission's directive on interoperability by offering a cross-border ETC service consistent with the specifications set out in the directive.

Testing and delivery. To help ensure the smooth delivery of their new service, in spring 2006 ASF and Bidegi developed computer programs,

performed technical tests, and investigated legal and tax matters pertaining to interoperability. After a few months of testing and adjustments, the team successfully put the new system into service on March 1, 2007, with the following conditions:

- Customers keep tag accounts with only their country's home company.
- All business transactions between Bidegi and ASF occur without any intervention from banks issuing tags in Spain.

- Toll plazas on the French side of the border are integrated into the Spanish system as extra toll plazas and vice-versa.
- Twice a week, each company transfers the appropriate transaction statements to its counterpart to bill customers for transactions that occurred across the border.
- Specific/dedicated lanes and special signaling for interoperability have been set up on the Spanish side of the border, while all ETC lanes are usable on the French side.
- A mailing list of both companies' subscribers has been compiled and information sent out detailing all the terms and conditions of the arrangement. This has enabled ASF and Bidegi to communicate inexpensively and efficiently with customers about the service.

In short, the new service was set up rapidly, is operating smoothly, and has been well understood by the clientele. Today, Bidegi enjoys 50,000 subscribers and ASF, 39,650.

Budget and funding. Bidegi and ASF each guaranteed the project's financing, at a total cost of approximately €150,000 or about US\$236,475. The total comprised:

- Computer development and modifications to ETC system software (with the software constituting the bulk of the project costs);
- Legal and tax studies and controls; and
- Installation of new signage on site (see Figure 3).

All of this was achieved on a very tight schedule and within the forecasted budget.

Success Story

After a full year of implementation, the cross-border ETC system is working beautifully, with several beneficial outcomes:

- *“Free” service.* In addition to the obvious advantages of having simplified toll transactions, the system has provided subscribers an important extra service at no additional cost.
- *Legal and regulatory coordination.* The team developed several efficient solutions to address the effects of having different laws and regulations on each side of the border. Chief among these is the ability of one operator to bill the other for transactions involving the other's subscribers.
- *Better traffic flow.* A notable reduction in backed-up traffic at the tollgates

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has already been observed on Sunday evenings during peak ski periods. Over the entire year, according to the French department of transportation, this amounts to 150,000 hours worth of congestion saved that is directly attributable to the new system, a socioeconomic gain valued at €5.0 million (approximately €35 per hour), or about US\$7.9 million. This translates to a savings of four hours of congestion per day during peak times.

- *Growing trade and commerce.* The joint endeavor has helped advance the relationship of two major regions in Europe, the Spanish Basque country and the French Aquitaine area, fostering industry by facilitating the flow of traffic between the two countries.
- *Reduced infrastructure costs.* ASF realized €6.0 million, or US\$9.5 million, in tollgate expansion savings.
- *Political support.* When it was launched at the end of 2005, the project was supported by elected representatives on both sides of the border. The recognition it has received from politicians and legislators since its completion is proof of the project's excellence.
- *Improved motorway management.* The cross-border alliance presented an important opportunity for ASF and Bidegi to better manage the A8, A63, and A64 motorways. The well-run

system has overcome not only differences in working styles between the two concessionaires but also in the rules and regulations between the two countries. Regarding the tax code, for example, the VAT (value-added tax) rate is 11 percent for Spain but 19.6 percent in France. Indeed, the project's success reflects the excellent management skills of the teams involved as well as the system's technical quality.

- *Positive feedback.* Customers have responded enthusiastically to the cross-border system. Additionally, the project has received favorable reviews from the press while eliciting interest from European transportation authorities and industry professionals.

Expansion to Other Countries

At first, usage of the cross-border ETC system was restricted to tag holders in the Basque regions of Spain and France, but today it extends beyond these boundaries, and to all tag holders in Spain. The idea of equipping all French



tag holders can be considered in the future, once agreement is reached with other concessionaires on the French motorways. Indeed, in its work with Bidegi, ASF has acquired important knowledge and experience that it can share with other French operators.

Similarly, with local adaptations, this system could be applied in other

countries with shared borders, such as the United States and Canada. It is hoped that with the continued support and guidance of the European Commission, the successful alliance between ASF and Bidegi to facilitate cross-border traffic flow will serve as a model for others in Europe and elsewhere to follow.

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