

---

# TIRIS FOR AUTOMATIC RECOGNITION OF CONSUMERS

---



---

## WHAT IS AUTOMATIC RECOGNITION OF CONSUMERS?

---

State-of-the-art radio frequency identification (RFID) technology from Texas Instruments TIRIS provides retailers with automatic recognition of consumers to boost revenues, to speed purchases, to personalize services, to create automated loyalty programs, and to build new marketing tools.

TIRIS is a leading supplier to a number of important target markets that include automatic fueling, automotive security, access control, asset tracking, and logistics automation. More than 40 million TIRIS RFID tags are currently in use. Now, with proven experience automating retail fueling, TIRIS demonstrates that integrating point-of-sale systems with RFID enhances the process of serving the customer.

### **A Custom Solution**

For years, the fleet operations of companies worldwide have used TIRIS-based systems for automatic and fraud-proof refueling. Applying this leading technology to consumer retail fueling was a logical next step.

Nevertheless, integrating RFID in this application was a challenge. Meeting the tough requirements in pay-at-the-pump for 100% accuracy and reliability demanded a well-tailored approach and rigorous field testing.

TIRIS teamed up with fuel dispenser manufacturers to develop a highly functional, accurate, robust system that provides speed and efficiency at the pump, and makes it simpler for the customer.

*Texas Instruments systems meet the high standards of quality and accuracy in this application.*



**TIRIS vehicle tag-the only widely deployed tag of its kind for retail fueling.**

### **New convenience at point of sale**

The TIRIS solution is the first of its kind for retail refueling and the first of many applications where using TIRIS tags for purchasing is a natural fit.

This new approach eliminates actions, such as locating and inserting a credit card, fumbling with cash and entering numbers on a keypad.

---

## EXPERIENCE COUNTS

---

TIRIS applications benefit from TI's experience in designing RFID components for use in some of the most rugged environments, such as electronic toll road collection and vehicle security. Exposing the RFID system to the harshness of outdoor environments and repeatedly staging scenarios of actual operating conditions helped designers anticipate problems and fine-tune the system.

In the retail world, TIRIS is fast becoming an industry standard. Today, a major oil company uses

TIRIS in a nationwide customer service and convenience program for pay-at-the-pump. Millions of consumers carry TIRIS tags to buy gasoline.

For your customer, the technology is simple and seamless. For you, it's the best RFID-based payment system proven and available. Simple, secure, yet advanced and cutting edge—TIRIS gives businesses a competitive edge, especially in automatically recognizing consumers.



RFID advances pay-at-the-pump with more speed and convenience.

---

## TYPICAL MARKETS

---

Typical markets where speed and convenience are paramount include roadside convenience "C-stores" and drive-thru operations. Using RFID, the amount of a transaction is automatically billed to the card of choice. No signature is required; no change must be made. The transaction is completed quickly, cleanly and automatically.

Another benefit of TIRIS RFID is the ability to capture and store personalized, unique data about each customer. This information can be the basis of innovative one-on-one marketing programs.

### ***Drive-Thru Purchasing***

Customers of fast food, prescription pharmaceuticals, even gourmet coffee drive-thru operations, demand speed, convenience and accuracy. This purchasing environment provides an excellent opportunity to apply the TIRIS technology.

With a TIRIS vehicle tag, a customer is recognized as soon as he drives up. A clerk can pull up the customer's file or begin to fill the order in advance, thus speeding up the process.

If you've ever watched cars with RFID tags speed through the toll collection lanes without having to stop for change, you have an idea of how fast the purchases made with RFID tags can be.

Speed and convenience are mainstays of drive-thru operations. The RFID system makes the sales transaction more efficient and faster. Data capture, too, is more accurate

because no data must be entered manually. Instead, data is automatically transferred from a customer's tag to the host system.

Opportunities abound for loyalty programs, such as keeping track of purchases to offer incentives that trigger more purchases.

### ***In-store, C-stores***

Today, loyalty has very little to do with the reason why customers stop at convenience stores. Instead, it's usually the location. Because customers are nameless, on the go, and expect fast service, there is little opportunity to establish a relationship or encourage repeat business.

TIRIS provides the ability not only to speed the process of servicing the customer, but also to identify him. This information, which usually goes uncaptured, is now accessible because of the cross matching between the credit card number and the unique customer ID stored on your system. Once you identify these customers, you can reward regulars with loyalty points or with discounts on special promotions.

The TIRIS solution is flexible in meeting your needs. It can be integrated into an existing POS or can reside as a stand alone application.



Choose from two tag options: vehicle-mounted or keyring type.

---

## BENEFITS TO BOTH CUSTOMERS AND RETAILERS

---

### **Simplicity**

RFID simplicity—both to the customer and to the retailer—is a significant benefit. Just pass the tag past the reader and the transaction is initiated.

The unique ID stored in the tag is registered to a customer and can be linked to any preferred credit card. From the customer's point of view, input is minimal. Once she registers for the tag, that's it. The customer does not re-register at each retail outlet that uses the system.

Tags and readers are optimized for retail environments. For the retailer, readers are located at point-of-sale locations such as gas pumps, check out counters and drive-thru windows. They can be integrated with the existing POS or stand alone.

Since individual transactions are logged at the point of sale *without* customer intervention, retailers can unobtrusively collect and store vital information on customer buying patterns. At this point, it is up to the retailer to analyze and use the data creatively in designing new selling opportunities.

### **Security**

Ensuring the security of the card and the purchase transaction are major issues, especially for credit card transactions. TIRIS has some unique safeguards. Firstly, silicon-based RFID tags are difficult and costly to copy.

In addition, TIRIS tags have a proprietary challenge/response


*TIRIS Radio Frequency ID is changing the way retailers serve their customers.*

authentication feature that includes a secret key, a fixed algorithm, and the generation of a unique digital signature for each transmission between the tag and the reader. The host system performs the same algorithmic calculation as the tag. When the two solutions match, the tag is deemed authentic and a transaction is processed. Surprisingly, this whole sequence of events takes place in milliseconds.

This is deemed more secure than conventional credit card methods.

### **Cost-effectiveness**

It is estimated that magnetic stripe cards must be replaced two to three times per year. This is not the case with TIRIS tags, as there are no exposed and vulnerable parts to break on this rugged device. This is true of reader electronics, as well, that are kept safe inside a closed box. There are no insertion points to get damaged, as with card readers. The lifetime investment and ongoing maintenance costs for RFID below that of the known alternative choices like magnetic stripe systems.



### *TIRIS has established itself as a successful RFID supplier.*

For example,

- Ford, Toyota and Chrysler use TIRIS technology to deliver fool-proof security for their customers' vehicles. Many millions of TIRIS tags are at the heart of anti-theft immobilizer systems that exceed the security requirements of insurance companies—and make vehicles safer.
- Gates at parking garages and gated communities are opened daily using TIRIS technology.
- Corporate fleets have used TIRIS for years to authorize commercial fueling and track shipments.
- Security personnel at the 1996 Atlanta Olympics relied on TIRIS technology to protect athletes, as did marathoners for accurate race timing at the Games.

---

## COMPETITIVE ADVANTAGE

---

According to the Forrester Brief, an esteemed financial newsletter, over one million customers were using TIRIS nine months after its introduction by Mobil Corporation—which was "three times the number using smart cards after years of market pilots." With this kind of acceptability rate, TIRIS provides an undeniable competitive advantage that comprise opportunities for one-on-one marketing, for building brand loyalty, consumer confidence, and ultimately increased market share.

By quickly collecting data automatically that otherwise would be lost or prohibitively expensive to collect manually, TIRIS offers the competitive advantage of knowing the customer. In turn, the new data, if properly analyzed and used, helps grow businesses and gives you an opportunity to partner with others.

### **Identifying users**

For a retailer, TIRIS also offers the unique ability to discretely know every customer and every purchase. Marketing takes on more precision, adding to profitability.

Retailers of different segments can form alliances so that customers can use the same tag at different outlets.

Stored information about customers' preferences also provides the opportunity to humanize the transaction—even when gaining economies of scale from offering the same services consistently nationwide or even globally. This kind of one-on-one marketing is also a way

*The ability to know every customer  
and every purchase to optimize your  
marketing, retain customers and  
multiply sales.*

for machines to talk to machines without losing the personal touch while gaining in accuracy and efficiency.

### **Capturing customer preferences**

An RFID system gives retail operations, such as hotel or restaurant chains and department stores, the ability to provide preferred services to each customer. The tag can indicate preferences, such as room temperature, wakeup call time, and favorite meal—providing the visitor a truly customized experience.

In a department store, a customer's TIRIS tag can be associated to preferences so that sales staff can use the information to guide them in providing personalized shopping for their customers. Special mailers can be sent to specific customers to notify them of an upcoming sale on their favorite brand items.

### **Building loyalty programs**

A leading, independent researcher to the oil industry reports that customers using Speedpass™, a highly successful TIRIS implementation,

are twice as loyal to the brand as any other type of customer. This finding means that TIRIS provides unparalleled advantages to retailers in highly competitive markets.

RFID solutions can be customized to a company's business strategy while remaining cost-effective. In fact, RFID solutions can be built on existing infrastructures, extending and optimizing company assets. You can have the ability to identify your most profitable customers. A loyalty program built on recognizing, then rewarding these consumers is a natural fit for RFID.

As a data collection tool, the RFID tags provide better information about customers—that is, the what, where, and when of each transaction. The more the knowledge of the individual transaction, the more able you are to improve service, and gain repeat business and increased revenues.

As the retail fueling industry's most broadly deployed RFID system for automated payment, the use of TIRIS technology helps attract and retain customers and multiply sales.

### ***Highly defined market segments***

With TIRIS in place, you can get detailed profiles of customers for a certain geographical area or even as finely defined as a single store. If the same tag is used at other retail outlets, you can collect data of the same customer's buying patterns of other products. For example, you can determine what airlines your customers fly, what department stores they visit, and so on. This allows you to custom-tailor your programs to market segments—to anticipate customer demands.

Instead of relying on national, one-size-fits-all planning, you can add products to the market basket for a particular region or a store to fit a particular market segment of customers. Stock your stores or establishments to meet your customer's needs and wants.

Because TIRIS can discretely collect vital information on customer buying patterns, you can strategically grow your customer base, while continuing to attract those customers who are loyal to your store or brand. You can plan ways to increase the share of the customer's wallet.

The ARC tag provides you with the means to directly match the right

value proposition to the consumer. What kind of information you choose to store about each customer, the programs that you set up to work with the data collected, the opportunities you offer your customer to encourage allegiance—all this is up to you and how you use TIRIS.

### ***Preferred customer programs***

You can reward valuable customers with soft or hard rewards. Soft might include recognition or information on upcoming sales. Hard rewards might include points, coupons, discounts, or giveaways based on amount purchased or dollars spent. For example, buy so many gallons and get a free car wash. Perhaps 10 points earn a free breakfast at a chain outlet.

You can create loyalty programs that have hooks into what your customers value and what makes a store visit more enjoyable for them.

### ***Forming creative alliances***

Real estate is at a premium especially for drive-thru operations (fast foods, drugstores) and gas stations located at the junction of arterial roads. Stores that share customer profiles and location, but not necessarily

product mix, can benefit from crossover traffic. There is an opportunity for these stores to form an alliance based on a TIRIS-based automated payment system to maximize their sales. A gas station with a dry cleaner next door, for example, can cater to the same hurried professional clientele. Using TIRIS easy-to-use tags for both establishments will increase the opportunities for increased traffic but also for impulse buying.

### ***Payoffs***

Texas Instruments TIRIS has greater market potential than other new payment technologies.

1. Consumers latch onto the simple concept—it's like a credit card but easier to use.
2. The profitable business model is already established. Sales are incremental.
3. It builds upon the existing payment infrastructure, leveraging today's credit card system.
4. It is rugged and durable with low maintenance costs.

*Simply put, TIRIS, transforms the consumer's buying experience and offers you new and creative ways build your business.*

To discuss these applications further, go to the TIRIS Overview section of our web site at <http://www.tiris.com> where you will find the representative in your area.