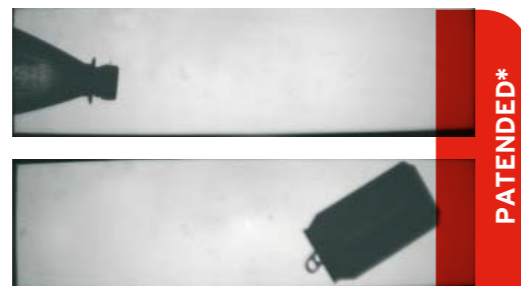


Featuring

IMMEDIATE OBJECT REGISTRATION

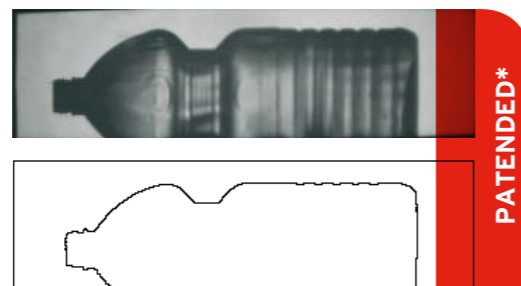
Objects inserted into the machine can be immediately analyzed to determine if they should be allowed to continue to the full recognition phase. In this way, only TOMRA Sure Return™ Technology provides an immediate gatekeeping function ensuring that containers are properly inserted into the machine. This makes the overall recognition process faster and more secure.



* Patent US 6,137,900 & family

PRECISE SHAPE RECOGNITION

The unique illumination and image processing system makes it possible to produce a high contrast, perspective-free silhouette image at any point within the recognition chamber. This delivers great accuracy in establishing a true contour of a container, and consequently, the ability to correctly identify the container.



* Patent US 5,898,169 & family

COMPREHENSIVE FRAUD PROTECTION

After a container has been identified and accepted, the imaging system continues to monitor its transport through the recognition chamber. If any attempt is made to cheat the system such as trying to pull the container out again, the continuous imaging system will register the attempt and cancel the refund.



* Patent US 7,245,757 & family





Providing unmatched recognition, security and speed

Your customers will recognize the difference



A well-functioning return system helps save money and attract valuable customers

Rely on the dependability of TOMRA Sure Return™ Technology

 <p>TOMRA SURE RETURN TECHNOLOGY</p>	<p>TOMRA's reverse vending machines are equipped with TOMRA's unique patented recognition technology, Sure Return™. This technology provides continuous video surveillance of inserted items, ensuring correct deposit refunds, the best protection against fraud, and the market's fastest return process for your customers.</p>	 <p>CORRECT REFUND</p>	 <p>FASTEST CONSUMER INTERFACE</p>	 <p>BEST FRAUD PROTECTION</p>
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TOMRA Sure Return™ Technology/ENG-intl/BR/Rev OIP (0208, 2000 ex)

Helping the world recycle

With over 35 years of experience and 60,000 installed reverse vending systems worldwide, TOMRA is a global leader in helping the world to recycle and reuse its valuable natural resources.

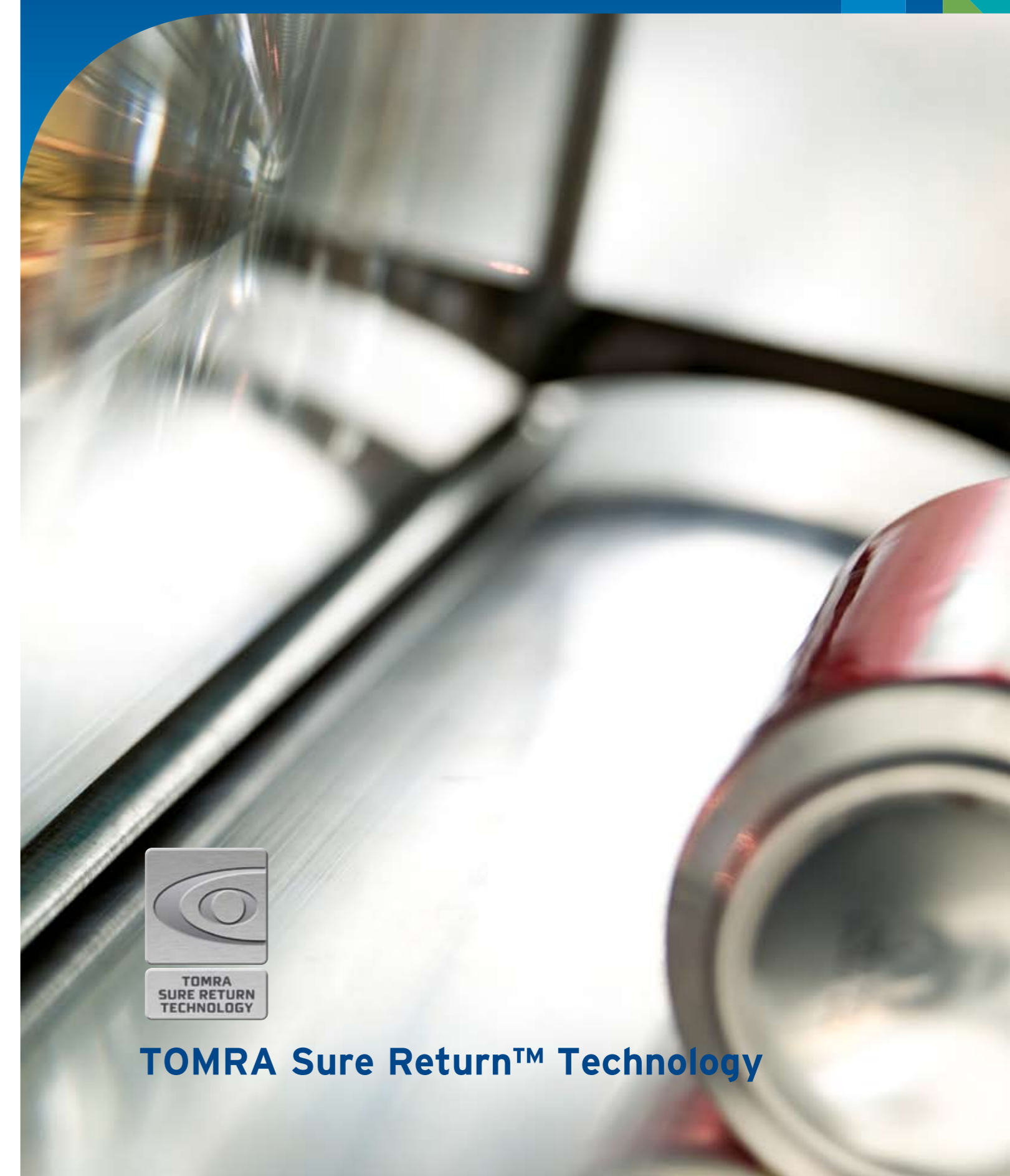
Each year TOMRA's automated solutions help to efficiently recover tens of billions of waste items and significantly reduce CO₂ emissions. We are proud of the value this provides to society, and look forward in the years ahead to making an even greater impact toward a cleaner, more sustainable world.

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TOMRA
Helping the world recycle



TOMRA Sure Return™ Technology



TOMRA's patented Sure Return™ Technology

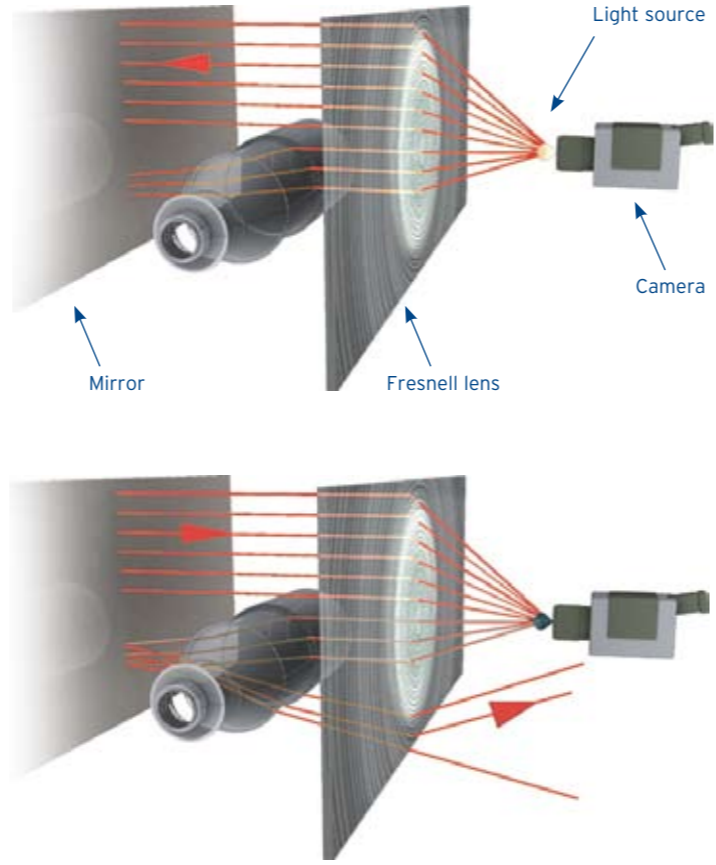
Being able to quickly and accurately distinguish between thousands of different containers is complicated. If the technology you choose is not completely up to the task, you could be paying out much more than you should in deposit refunds. With TOMRA Sure Return™ Technology, you can be assured of having the best system available for quickly and accurately handling the return of deposit containers.



UNIQUE VIDEO SURVEILLANCE SYSTEM
 TOMRA Sure Return™ Technology delivers constant monitoring and control of objects inserted into the machine, providing unmatched recognition, security and speed.



This is HOW IT WORKS



- > Light source and camera are positioned in the same location.
- > Light passes through a fresnel lens, which makes it possible to direct the light into parallel rays.
- > Parallel light rays go into the recognition chamber.
- > Light rays travel across the chamber, hit the mirror on the opposite side, and are reflected back toward the fresnel lens.
- > Light rays which hit a passing object and are not returned to the fresnel lens at a 90 degree angle, are unable to go back through the lens to the camera.
- > The light rays which pass back through the fresnel lens are deflected toward the camera lens. The video camera is therefore able to register a sharp, perspective-free silhouette of the object, regardless of its position in the chamber.

- CORRECT REFUND**
- FASTEST CONSUMER INTERFACE**
- BEST FRAUD PROTECTION**

A patented illumination and image processing system

Why is this technology more effective?

All shape recognition systems are based on the principle of identifying a container by capturing an image of it, extracting an outline of its contour, and then comparing this contour to those stored in the machine's database. The difference between TOMRA Sure Return™ Technology and competing systems is the way in which the contour outline is formed:

SureReturn™ SHAPE RECOGNITION
 TOMRA's shape recognition system creates a true side-view image with high contrast making it easier to distinguish the profile of the container. Further, the same image will be created of the container regardless of its position in the chamber. This uniformity also contributes to a more precise contour identification.

TOMRA SureReturn™ shape recognition creates identical contours for identification regardless of the container's position in the chamber.

DATABASE SEARCH
 Identical shape pictures. Same classification regardless of positioning.

ALTERNATIVE METHODS
 Other methods can provide images with poor contrast and an angled perspective (similar to a fisheye effect). This makes it more difficult to define the container's contour. Additionally, the actual image of the container can differ according to its position in the chamber, making it more complicated to correctly identify containers.

Alternative methods may produce different contours as a result of the container being placed in different positions in the chamber.

DATABASE SEARCH
 Different position, same bottle. Incorrect classification - Wrong deposit? Wrong sorting?