

# TechBriefs

## Savannah River National Laboratory

U.S. DEPARTMENT OF ENERGY • SAVANNAH RIVER SITE • AIKEN • SC

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### At a glance

- > Securely conceals identification numbers or symbols
- > Applications for weapons, automotive
- > Tamper proof
- > Information retrievable through non-destructive examination
- > Multi-level coding complexity possible
- > U.S. Patent 8,837,672

### Contact Information

**Dale Haas**  
Commercialization Manager

Savannah River National Laboratory  
Bldg. 773-41A, Room 238  
Aiken, SC 29808

Phone: 803.725.4185

FAX: 803.725.4988

E-mail: [dale.haas@srnl.doe.gov](mailto:dale.haas@srnl.doe.gov)

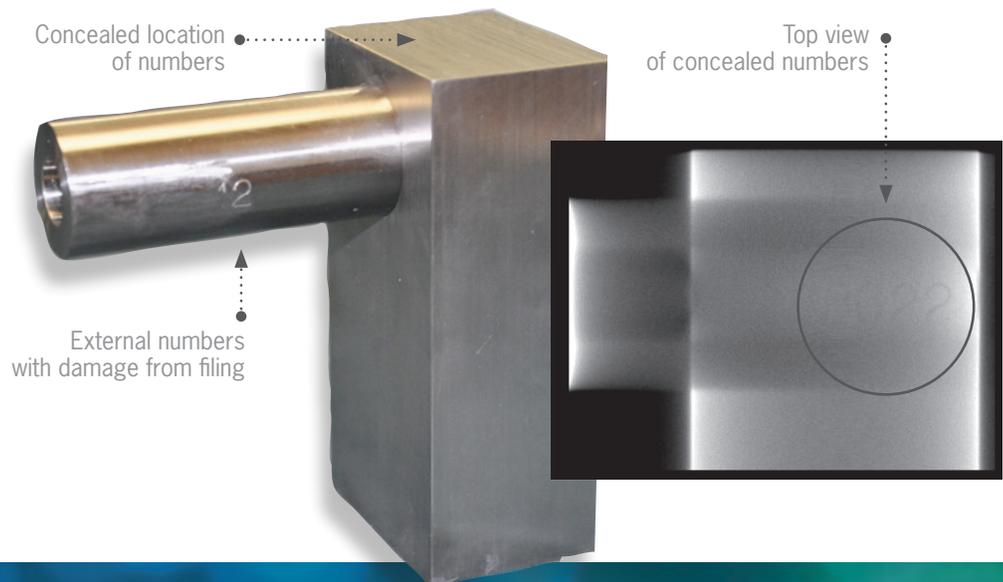


## InviziMark: Concealed Identification System

Engineers at the Savannah River Site (SRS) have devised new security measures and identification systems related to the protection of valuable property. Currently weapons and automobiles have serial numbers and vin numbers respectively, that are currently prominently displayed on these devices. The fact that they are readily visible makes them less than secure from possible alteration.

### Background

This invention provides a method to conceal identification symbols (i.e. symbols, bar codes, numbers, letters, etc.) within an object and retrieval of information by X-ray inspection without destructively dismantling or testing the object. The internal placement makes it difficult to remove or alter identification information. These properties would be useful in protecting valuable property by deterring theft, identifying lost or stolen property, or tagging and tracking of property and sealed containers during shipment.



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### Technology transfer

The Savannah River National Laboratory (SRNL) is the U.S. Department of Energy's (DOE) applied research and development laboratory at the Savannah River Site (SRS).

With its wide spectrum and expertise in areas such as homeland security, hydrogen technology, materials, sensors, and environmental science, SRNL's cutting edge technology delivers high dividends to its customers.

The management and operating contractor for SRS and SRNL is Savannah River Nuclear Solutions, LLC. SRNS is responsible for transferring its technologies to the private sector so that these technologies may have the collateral benefit of enhancing U.S. economic competitiveness.

### How it works

Identification symbols can be inserted and sealed through welding, slip fitting, pressing, forming, layer construction, plasma deposition, vapor deposition, powder metallurgy, sintering or other means to internalize the symbol, providing no access to the outside of the object. Placement can be through sealing an internal void, press fitting one component within another, and through layer construction. It can be utilized on metals, ceramics, and plastics. The identification information is recovered by X-ray inspection and cannot be removed by external destruction. Various levels of complexity can be obtained by placement of the identification symbols on internal curved surfaces or, use of 3-D symbols, or complex computed tomography to identify and decipher.

### Stage of development

Savannah River Site has bench-scale tested this method on a prototype. A patent has been filed on this invention with the U.S. Patent and Trademark Office.

### Partnering opportunities

SRNS invites interested companies with proven capabilities in this area of expertise to develop commercial applications for this process or product under a cooperative research and development agreement or licensing agreement. Interested companies will be requested to submit a business plan setting forth company qualifications, strategies, activities, and milestones for commercializing this invention. Qualifications should include past experience at bringing similar products to market, reasonable schedule for product launch, sufficient manufacturing capacity, established distribution networks, and evidence of sufficient financial resources for product development and launch.

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