

Products and Services

TraceTag is a leading provider of highly effective security marking and tracing solutions to combat counterfeiting, fraud, and parallel trading.

We provide a range of tailored solutions to suit individual customers' requirements in a cost effective manner.

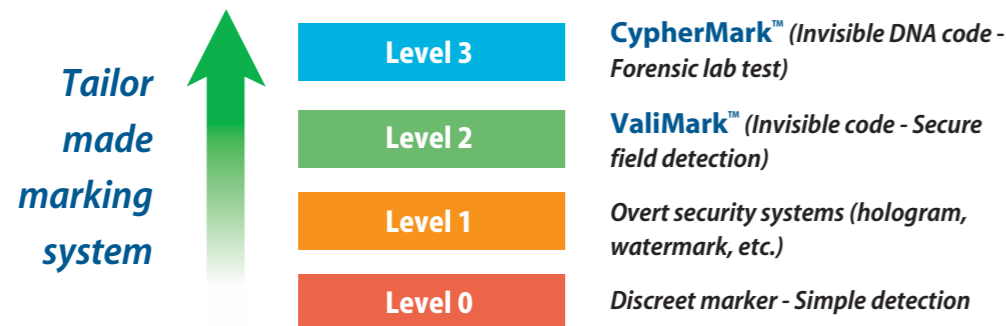
Behind TraceTag are several strong international organisations that are an important source of strength for the group.

Vision: To be the leading provider of the most effective security marking and tracing solutions in the world to combat counterfeit, fraud and parallel trading in order to protect customer brand equity and prevent erosion of value.

These solutions range from covert optically or chemically based systems capable of detection in the field (**ValiMark™**), to totally secure forensic systems based on proprietary DNA technology (**CypherMark™**). **TraceTag** is the originator of DNA tagging systems for security and brand protection, and continues to be the leading innovator with robust and practical solutions that work.

THE WORLD'S MOST ADVANCED SECURITY SOLUTION

TTI Multi level marking and identification systems



ValiMark™

ValiMark™ is a family of field-based tagging systems which applies chemical and luminescent tracers to a wide variety of liquid and solid materials. Marked items can be identified to provide proof of ownership or source which facilitates the detection of fraud, theft or illegal deposit.

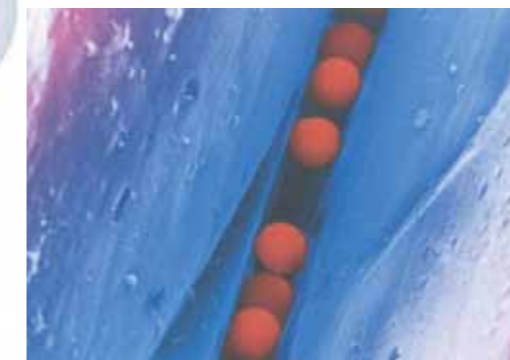
ValiMark™ can be encapsulated into sub-micron beads as well as being tailored to enable versatile usage in a number of other delivery systems such as inks, glues, solvents etc.

ValiMark™ offers a state-of-the-art covert security system which is undetectable under UV or IR illuminations. For convenient on-site validation, ValiMark™ is detectable using proprietary hand-held scanners, or with existing forensic equipment currently used in high security document examination. Some configurations of ValiMark™ offer the possibility of incremental tagging, where each marked item bears a unique distinctive code.

This track and trace approach has an immediate benefit for all those who suffer parallel trading or illegal imports of their products.



TraceTag International Ltd



ValiMark™ fluorescent spheres lodged in a raw diamond fissure. Magnification: X 2000

CypherMark™

CypherMark™ is a novel system which allows the application of singular, unique codes to inks and printing materials - allowing unequivocal identification of the source of the printed material.

CypherMark™ is available in an unlimited number of unique batches, with billions of codes available.

- **Is totally secure and uncounterfeitable.**
- **Is used in tiny concentrations, less than parts per billion.**
- **Is stable and permanent.**
- **Is environmentally safe and non toxic.**
- **Is a product whose formulation is variable to suit specific application needs.**

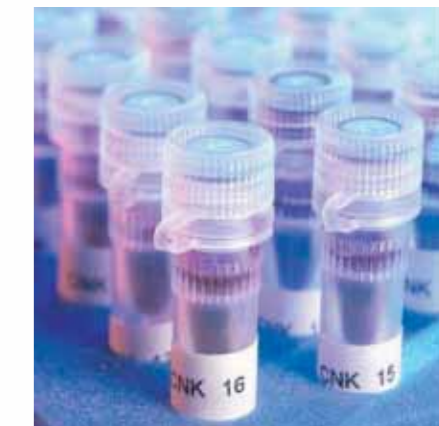
CypherMark™ is based on the design, production, application, recovery and identification of unique DNA molecules. DNA is built up of four distinct chemicals (whose shorthand notation are A, T, C, and G). A **CypherMark™** tag comprises two primer sequences whose identity must be known before the unique code sequence can be accessed, and this information/capability is only available to **TraceTag**.

The order of these chemicals in the DNA molecule provides the uniqueness and specificity to the DNA tags. Our laboratories in U.K. and France undertake the recovery and identification of the individual DNA molecules from marked items.

A DNA identification technology known as real-time quantitative polymerase chain reaction (qPCR) is employed, allowing the amplification, quantitative determination, and sequence identification of DNA molecules in a single assay. This amplification procedure allows very low concentrations of tracer to be detected with absolute specificity, enabling low and cost-effective use rates of **CypherMark™**.

TraceTag owns a number of key patents covering both enabling technology, and the usage of qPCR for amplification and sequencing.

This specificity allows the detection of different tracers in the same print process and has real value in permitting multiple point tagging to be undertaken with a single sampling regime.



Simple to apply, **CypherMark™** features a unique coding capacity



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Uses in security printing

ValiMark™ & CypherMark™ are used to tag the following substrates;

- *Paper*
- *Foil*
- *Cartons/packaging*
- *Plastic film*
- *Currency/security documents*

ValiMark™ & CypherMark™ are used with the following range of inks and coatings;

- *Conventional pigmented inks: solvent based, water based, uv inks*
- *Invisible inks*
- *Surface treatments or agents*
- *Glues*
- *Varnishes*
- *Overlaquers*

ValiMark™ & CypherMark™ can be used with a wide variety of printing techniques;

- *Rotogravure and flexoprinting*
- *Offset printing*
- *Tampo printing*
- *Ink jet printing*
- *Silk screen printing*
- *Thermal transfer*
- *Rubber stamping*

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