

Heart of glass

November 24 2010



Glass ball made in Verrerie of Bréhat. Credits: Chmouel Boudjnah / Wikipedia

What's the best way to keep track of medicines or luxury goods? Just give them a number, of course. But what if the item you want to keep your eye on is made of glass?

Thanks to a new <u>laser technology</u> developed for space, a Belgian start-up company called Trackinside is now able to inscribe numbers in <u>glass</u> without cracking, heating or leaving any external marks on the glass.

"It's the only technology that can mark glass without damaging it," said Jean Michel Mestrez, Trackinside Managing Director. The low-impact laser inscribes serial numbers inside, rather than on the surface, of the



glass used in medical syringes, perfume vials or drinks bottles.



The gigantic telescope of ESA's Herschel infrared space observatory is prepared for assembly with its spacecraft. Herschel uses the largest mirror ever flown in space. Credits: ESA

The laser technology was initially developed in Belgium at the Centre Spatial de Liège (CSL), working with the LASEA CSL-spinoff group, which was initially devoted to developing cleaning processes using lasers. CSL is a partner of the Belgian Space Technology Platform, ESA's national technology transfer broker.

There, it was created for things like etching the surfaces of lenses and mirrors that would then be used in space telescopes and measuring equipment.

The 'femtosecond laser' works much like the laser used in eye surgery, where it beams energy through the surface of the eye to make incisions deep below.





Identification inside glass ampoule inscribed by the technology developed to mark space telescope components. The technology was developed in Belgium at the Centre Spatial de Ličge (CSL), and transferred to non-space applications by the Belgian start-up company Trackinside. Credits: Trackinside

The Trackinside laser is calibrated for glass, sending beams of energy through the surface of, say, a syringe.

The beams then 'land' at a focal point inside the glass, marking the material there. Serial numbers or other identification are inscribed using very brief pulses.

Because it is so low-impact, the laser does not damage the delicate material.

In the past, medicines would be marked in batches, not syringe by syringe. But new EU regulations are leading more pharmaceutical companies to seek out this kind of 'down to the last drop' tracking capacity.



"Labelling each syringe has other benefits, too," said Mr Mestrez. "With this technology, you can track medicine from the point of production." This can greatly reduce the risk of mix-ups.

"If you have a number labelled directly after filling up the syringe, you can trace that syringe all the way along, from production to use to disposal."

While pharmaceutical companies make up the bulk of Trackinside's business for now, other clients include makers of perfume and cosmetics. For luxury goods, this new type of numbering is useful not only to track products, but also to protect high-profile brands.

"With pharmaceuticals, it's about traceability. With perfume, cosmetics and luxury beverages, it's about anti-counterfeiting," said Mr Mestrez.

One of the real benefits of his company's technology for companies selling <u>luxury goods</u>, according to Mr Mestrez, is that labelling individual bottles gives producers the ability to track distribution channels and grey market activities.

For example, if a beverage is produced for the Asian market, but the bottle shows up in Europe or Africa, the maker can see that a grey market is operating.

Provided by European Space Agency

Citation: Heart of glass (2010, November 24) retrieved 26 April 2024 from <u>https://phys.org/news/2010-11-heart-glass.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is



provided for information purposes only.