Markenschutz
Von der Technologie zum Produkt

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CSEM at a glance

Our mission
Development and transfer of microtechnologies to the industrial sector – in Switzerland, as a priority – in order to reinforce its competitive advantage

- Cooperation agreements with established companies
- Creation of start-ups
Closer to industry ...
CSEM SA

CSEM at a glance

- Incorporated, not-for-profit Research and Technology Organization (RTO), supported by the Swiss Government

- A public-private partnership
  - 31% public
  - 69% private

- Key figures (2013)
  - Revenues ~ CHF 74.6 mio
  - Employees ~ 400
Counterfeiting is everywhere ....
Was trägt CSEM zur Fälschungssicherheit bei?

Pharma als Beispiel

Markenschutz & High Security
Security in Pharma

Securit in Pharma

From chocolate

to a brilliant idea

Direct marking of medical products
with secure microstructures
- Tablets
- Pharma caps
- Sterile pouches

“In just two months, the EU seized 34 million fake tablets at customs points in all member countries”

G. Verheugen EU Ind. Commissioner 2009
Targeted security features

**Product**
- eg. Tablets, medical device
- Track & trace
- Verification of product authenticity

**Packaging**
- eg. Blister packs, injection-molded containers, medical pouches
- Holograms including covert features
- Optical verification between packaging materials

**Self-verifying link**
- Embossed or molded Data-matrix code.
- Data-matrix code or other optical verification (eg. Moiré)
- Hologram or Moiré effect applied with no additional process or material

Security in pharma
Security in pharma → tablets

Molded data-matrix codes hidden

**uncoated**

![Uncoated tablet](image1)

Tablet with a data code matrix before and after the coating deposition. Coating thickness ~50um -> code invisible

**coated**

![Coated tablet](image2)

Tablet with a data code matrix after coating deposition. Coating thickness <50 um -> code still visible
Molded hologram security features

- **Level 1**: Holographic logo or pattern that diffracts light to different colours at different angles, difficult to produce, directly moulded from hard steel mould tools.
- **Level 2**: Complex hologram, appearance changes when viewed from different angles.
- **Level 3**: Hidden detail (only visible when inspected at a specific point or using a specific method).
Brand protection → complex holograms

Example of holographic effects and DOE

- Hidden text

Laser pointer

The reflected beam displays a clear text in a specific area on the hologram
Steel & plastic surface structuring
Security in pharma ➔ packaging

Holograms including covert features

- Unique process to apply holographic gratings to flat or curved hardened steel surfaces
  ➔ injection moulds
  ➔ embossing tools

- Simple and complex grating structures, Moiré structures,... directly onto steel.
Molded hologram security features

• High-contrast holograms directly injection moulded onto plastic packages

• Holograms directly embossed onto blister packs in a standard packaging line

• Holograms embossed onto medical pouches as part of a standard film converting line
Further CSEM technologies for High Security and Brand Protection
CSEM is active in

- Brand protection, packaging, watch, ...
- High security features with banknotes, ID, passports, ...
- Security in pharma, pills, packaging, ...
  
and

- Replication of holograms in Swiss Chocolate !!
Thank you for your attention.