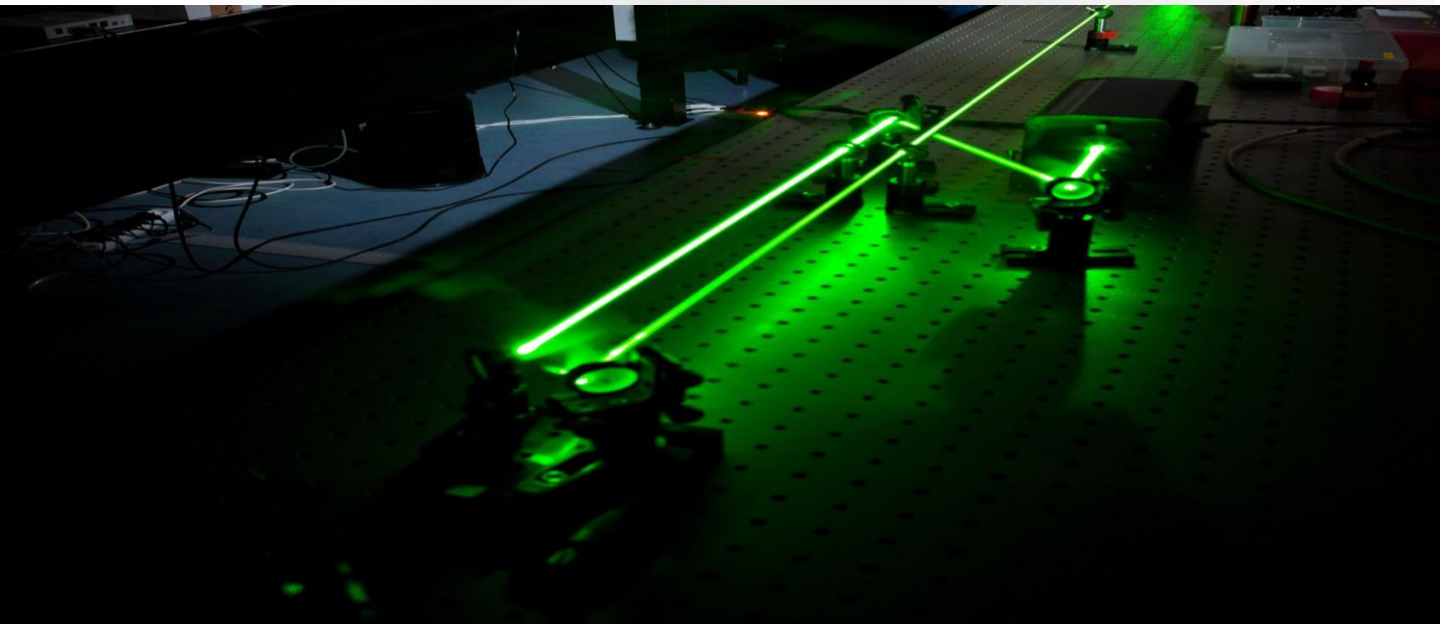
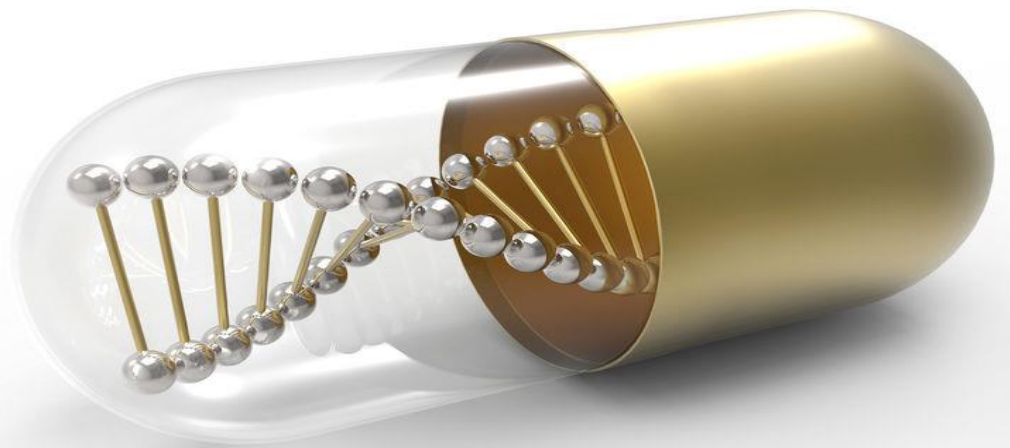


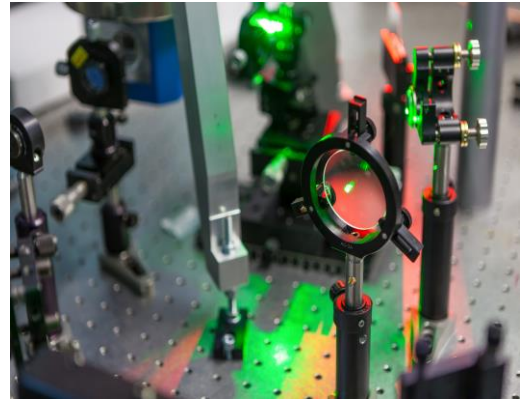
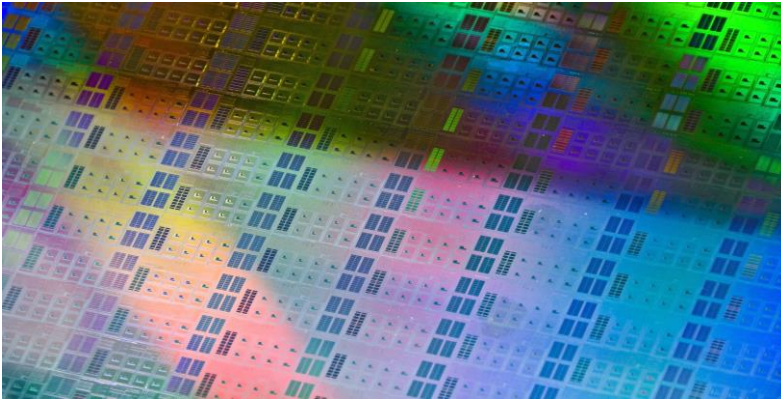


Just Micro machining



海納光電股份有限公司

➤ **Hi-Nano produces the highest quality products with “ Non-Contact Micro Machining” technology. (非接觸加工技術)**



Hi-Nano is dedicated to the development of Micro Machining solutions to the industry since many years. Using the latest ideas and innovative technology solutions such as Ultra-Short Pulse laser and other unique laser tools started helping the customers across the globe starting from offering novel research ideas to pilot run to mass transfer in production.

All Hi-Nano's Micro-Machining solutions and LASER System are based on Non-Contact, No Contamination, No Chemicals and low power consumption principle, absolutely Eco Friendly.

Hi-Nano is the best reliable partner to boost your product fabrication from concept to market and technical services.

Hi-Nano technologies and services can be applied to Semiconductors, Displays, Optoelectronics, Energy, Sensors, Automotive and IOT industries etc...

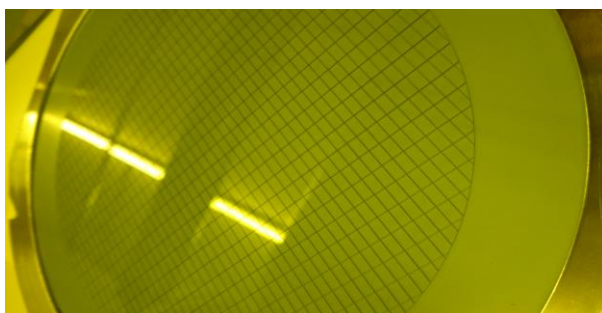
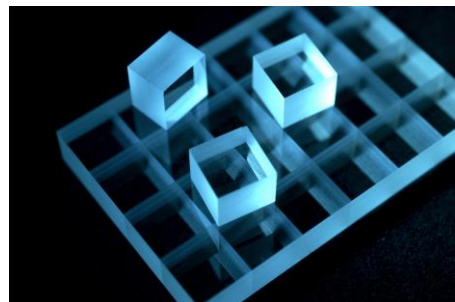
➤ **The Perfect Cleave Technology ° (雷射無縫切割技術)**

Utilizes the most advanced ultra short pulse lasers, such as pico second laser and femto second lasers, Hi-Nano can design and manufacture custom laser systems for many applications, especially on fine cutting of transparent and brittle materials.

Due to extremely short pulse duration and extremely high peak power, the material can be cut without HAZ (Heat Affected Zone), achieves high precision clear and clean cut.

Advantages:

- ❖ Zero kerf width
- ❖ Minimum chipping (< 10um)
- ❖ Fast processing speed (~ 500 mm/s)
- ❖ High cutting quality (Ra< 1um)
- ❖ No tool wear
- ❖ No contamination
- ❖ Less power consumption
- ❖ Eco friendly



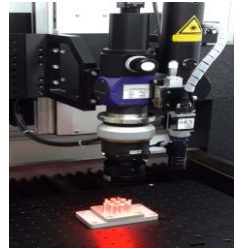
➤ Laser Systems (客製化 雷射微加工系統)

Hi-Nano accumulated an extensive experience in laser Micro-Machining of glass, quartz, sapphire, diamond and various brittle and transparent materials. Hi-Nano is capable to process different types of glass with thickness ranging from 0.03mm up to 6mm. Our Laser glass cutting systems can perform straight and curved cuts with extremely high cutting quality and high throughput. In most cases, no post treatment is needed.

We design and manufacture laser Micro-Machining systems according to customers application and requirement.

The systems we developed can be summarized into following categories:

- ❖ High Precision Laser Glass Cutting System
- ❖ Laser Hole Drilling System
- ❖ Ultrafast Laser Micromachining System
- ❖ Probe Card Laser Drilling System
- ❖ Fully Automated Car Mirror Production Line
- ❖ Laser perforation system for ceramic green sheet
- ❖ Customized Laser Micromachining System



➤ Micromachining Solutions (微加工方案)

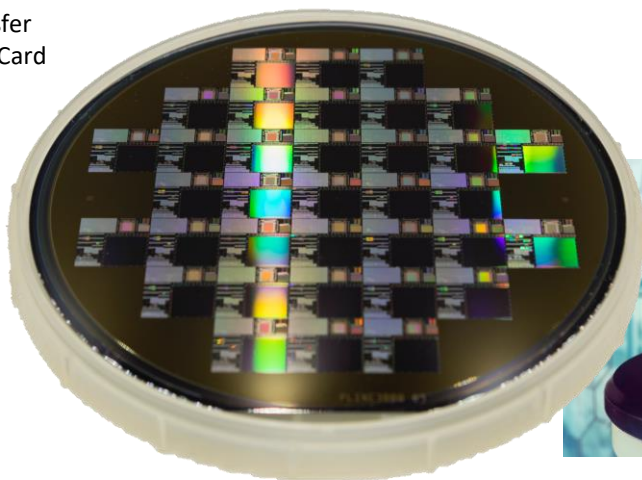
Hi-Nano has experienced R&D and Technical services team with years of experience in hand with different industries, such as Semiconductor, MEMS, FPD and Optoelectronics. Having such an experienced team, Hi-Nano is not only a system integrator but also provides total solutions to the customer by understanding clients need.

When the conventional process can not satisfy the new products or new materials, Hi-Nano offers feasible solutions and also completely works with the customer to develop new solutions with our expertise and experience.

Hi-Nano Optoelectronics Co., Ltd is your trusted strategic partner for the design, manufacture and process development.

Below were part of projects that we involved and contributed.

- ❖ Laser Lift-Off (LLO)
- ❖ Micro LED Mass Transfer
- ❖ Guide Plate for Probe Card
- ❖ Micro-fluidics
- ❖ 3D Curved Glass
- ❖ Laser Glass Polishing
- ❖ LTCC Perforation



➤ Jobshop Services: (代工服務)

Hi-Nano offers a broad range of laser Micro-Machining services starting from providing a concept to the end of product manufacturing to support the customer.

With a myriad of laser sources and process know-how, Hi-Nano can micro machine most of hard and brittle materials.

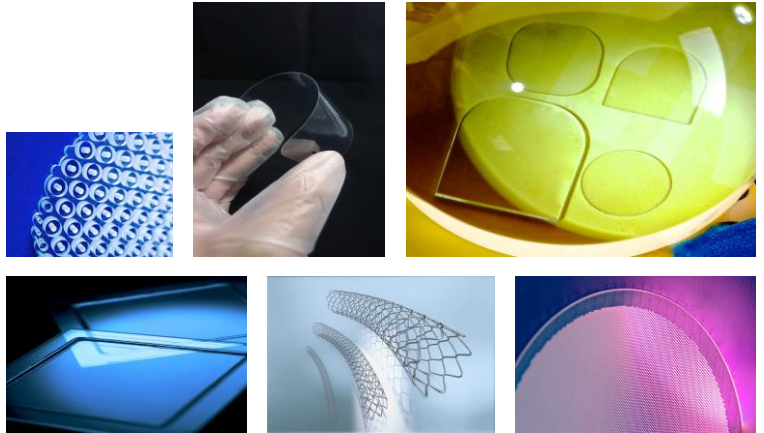
Our job shop services not only solves customer's technical problems, but also dramatically shorten the time to market, reduce manufacturing cost and risks.

Sub-Contract Laser Micro Machining :



- ❖ Laser Micro Cutting
- ❖ Laser Micro Drilling
- ❖ Laser Polishing of Optical Glass
- ❖ Laser Engraving
- ❖ Laser Patterning
- ❖ Glass Spacer for 3D WLP
- ❖ Cap Glass Wafer
- ❖ R&D Case Study

Application examples :



Hi-Nano Optoelectronics Co., Ltd .

No.15-2, Yike S. Rd., Yilan City,
Yilan County 260011 ,Taiwan

Tel: +886-3-925-3663

Fax: +886-3-925-6243

Email: sales@hinanomms.com

Website: www.hinanomms.com

海納光電股份有限公司

260011 宜蘭縣宜蘭市宜科南路 15-2 號
(宜蘭科學園區)

DM- EN 202402