

# NanoPrint 3D Intelligent Laser Nanofabrication System

## CONTACT US

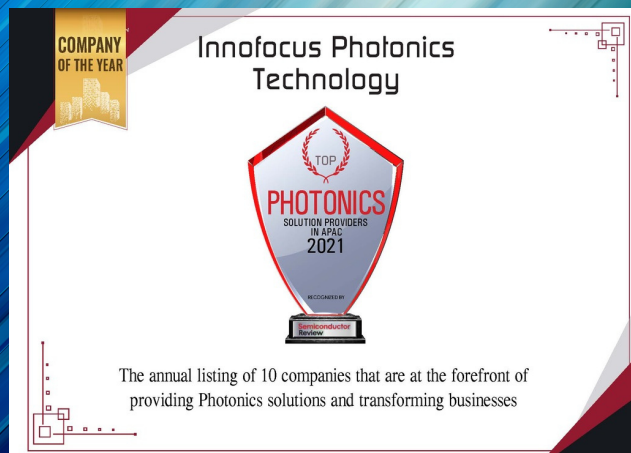
INNOFOCUS PHOTONICS TECHNOLOGY PTY LTD

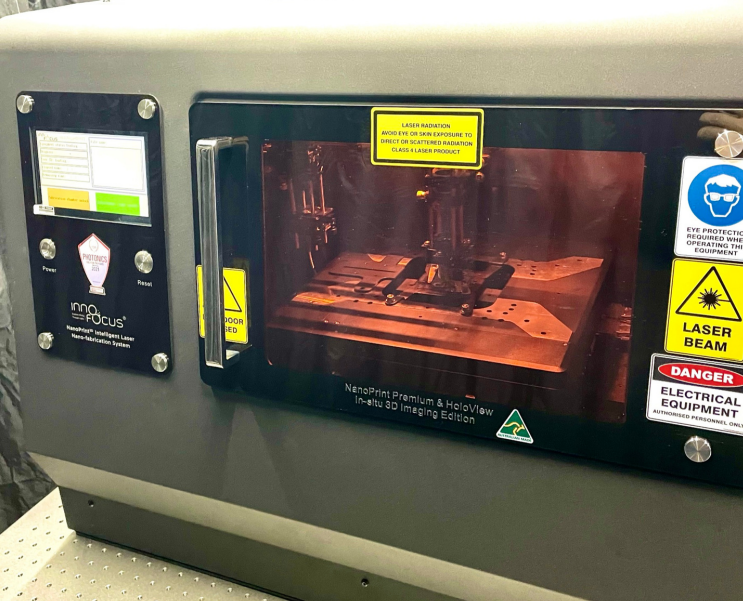
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*Taking Nanofabrication  
to Intelligent Era*





## One-stop-shop Solution

We provide a full range of products, solutions, and services such as design and verification test services, sample fabrication services, system equipment product, customised product co-development, and standard application consumable devices.

## TRULY INTELLIGENT

Innofocus NanoPrint 3D Intelligent Laser Nanofabrication System meets the customers' needs from both academia and industry.

- high degree of automation
- intelligent advice on parameter configuration
- scenario-oriented solution package
- SOP-based software modules
- embedded optimised fabrication algorithm package
- easy to learn and use
- safe and reliable
- in-situ 3D refractive index characterisation functions.



NanoPrint 3D Intelligent Laser Nano-fabrication System is one of Innofocus' core product series, with world-leading technical capability and product performance.

Innofocus has a number of core technology invention patents in this domain, with complete intellectual property rights and independent manufacturing capabilities in the fields of optics, electromechanics, algorithms, and automated software systems.



# HIGHLY AUTOMATED, EASY & SAFE TO USE

Femtosecond laser 3D nanofabrication technology, a high-performance laser direct writing technology with micro and nano processing scale, is more suitable for high-precision large-area complex structure in one go compared with traditional processing means. It has important significance and broad prospects in the research and application development fields of physics, chemistry, materials, electronics, mechanics, and biology, among other disciplines.

Our products provide intuitive interface, intelligent suggestions for parameter configuration, software packages based on different processing scenarios as well as standard operating procedures. Our production process pursues precision on each critical design detail, thus creating the best customer experience and improving the processing efficiency and results

## More...

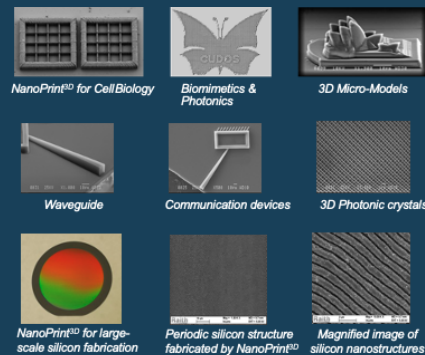
### More material choices



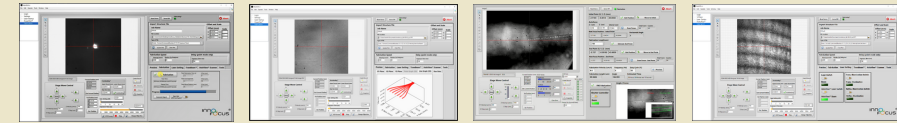
### More design formats



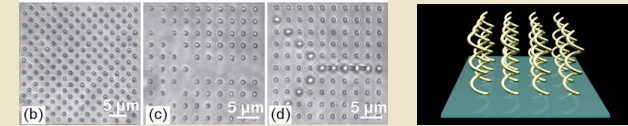
### More application fields



## SOP-based visualised software



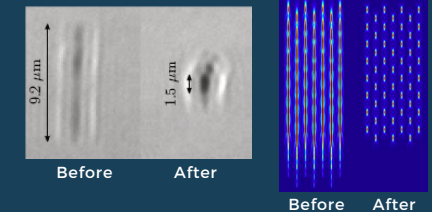
## Multifocal parallel fabrication



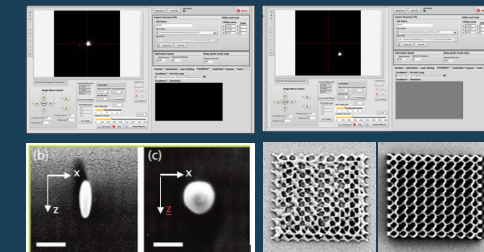
## Faster...



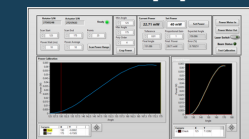
## Aberration compensation



## Focal spot shaping



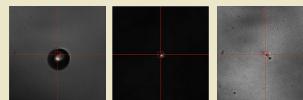
## 1024-step power control



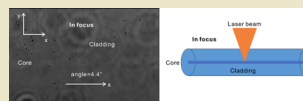
## Finer...

## Easier...

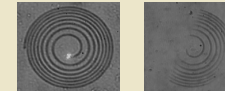
### Surface auto-landing



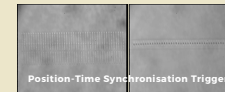
### Fiber core auto-tracing



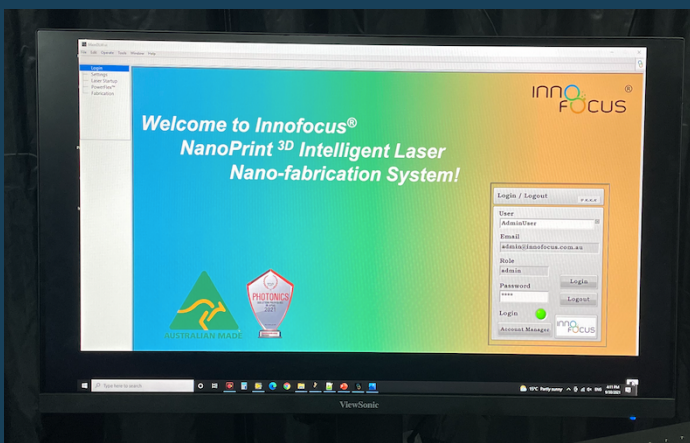
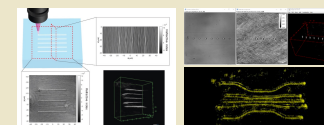
### Surface auto-tracing



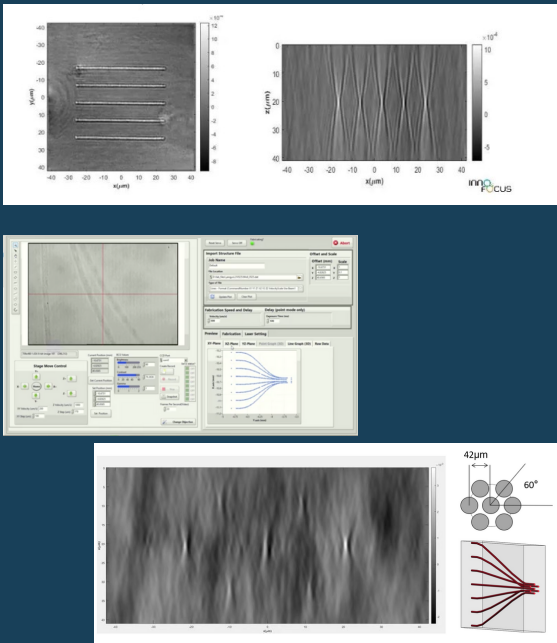
### PTST fabrication control



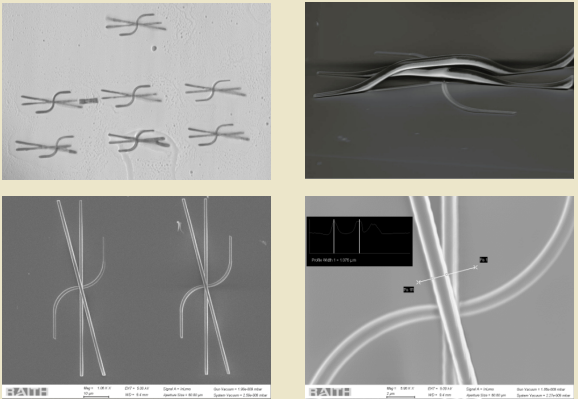
### In-situ 3D refractive index imaging



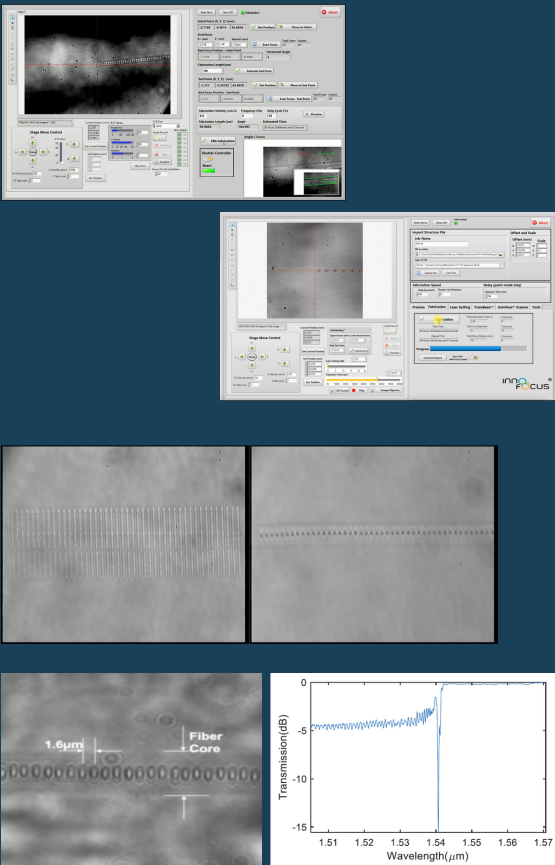
# Waveguide devices



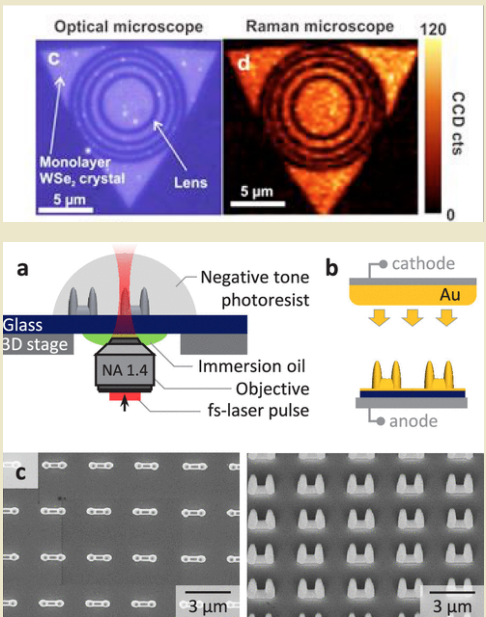
# Photonic wire bonding (PWB)



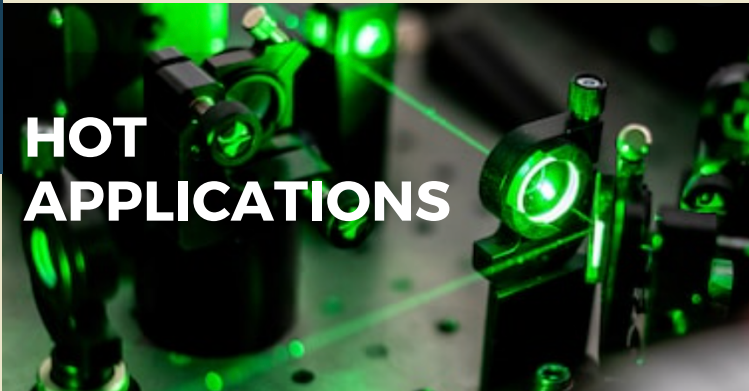
# FemtoFBG devices



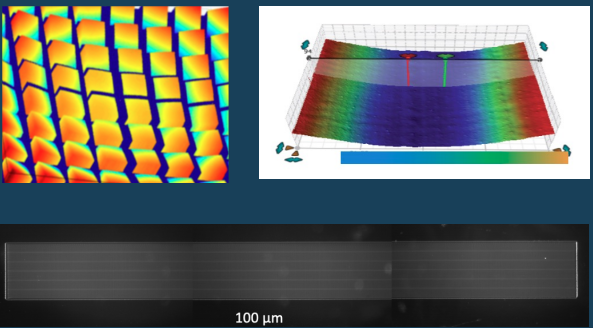
# 2D/3D Metamaterials



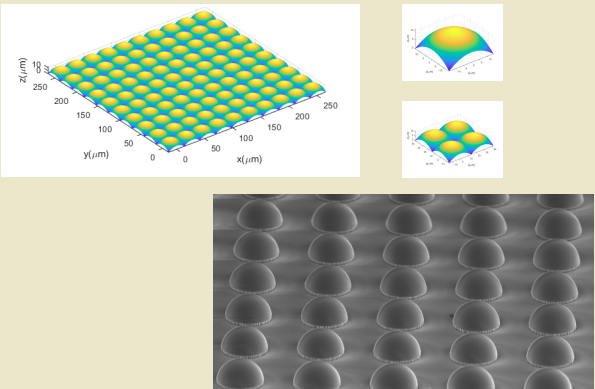
# HOT APPLICATIONS



# Free form optics device



# Micro lens array



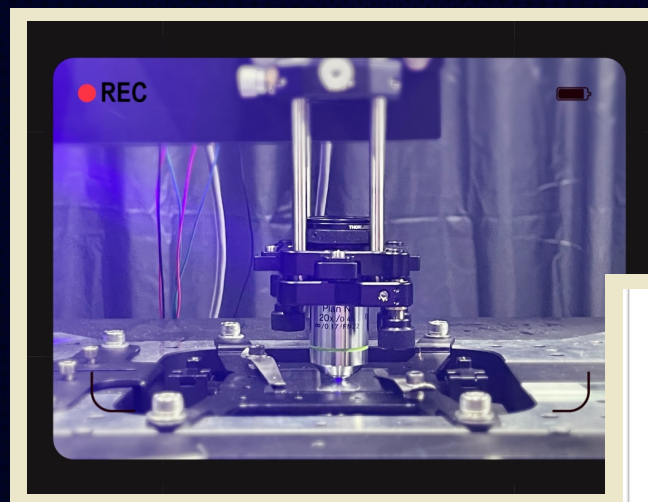
# 3DRI

## HoloView 3D In-situ Refractive Index Imaging Function Module

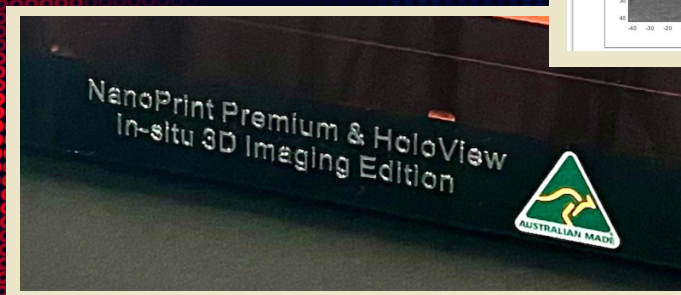
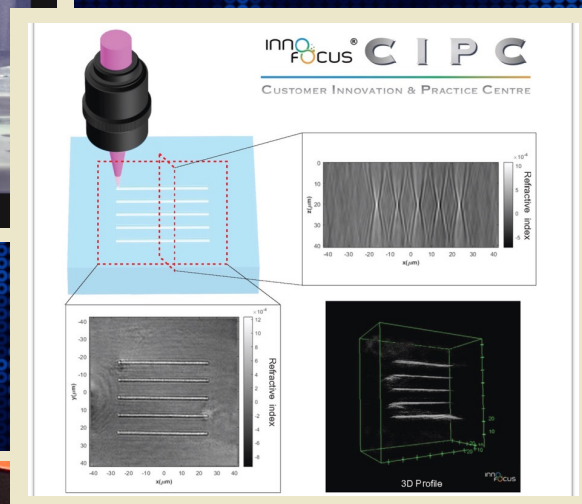


Innofocus has launched the world first 3D laser nanofabrication system equipment with in-situ refractive index imaging functionality called "HoloView 3DRI Imaging". This advancement represents a major breakthrough in laser nanofabrication sector, allowing on-line inspection of the fabrication outcomes and on-site correction of fabrication conditions.

It greatly reduces the time span required for photonic device fabrication and characterisation and in the meantime significantly increases the fabrication accuracy and reproducibility.

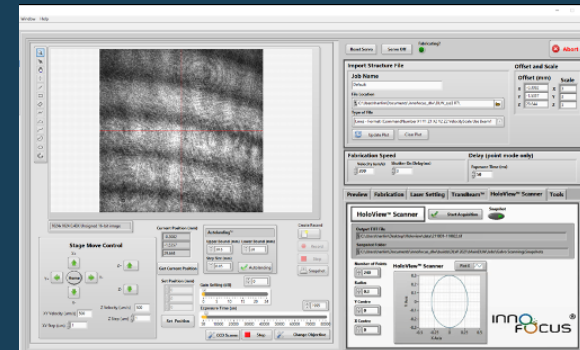


*World First In-situ  
3D Refractive Index  
Imaging Function*

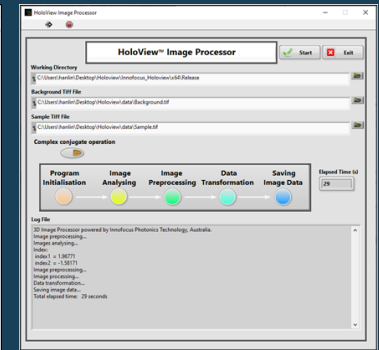


# Application Scenarios

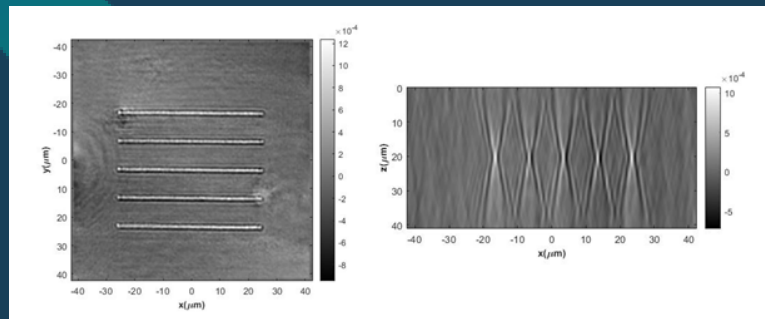
- Fabrication condition characterisation
- Fast parameter optimisation
- Optical waveguide morphology characterisation
- Optical material uniformity characterisation
- Internal damage characterisation for micro optical elements
- FBG in-situ characterisation
- Optical component material properties characterisation



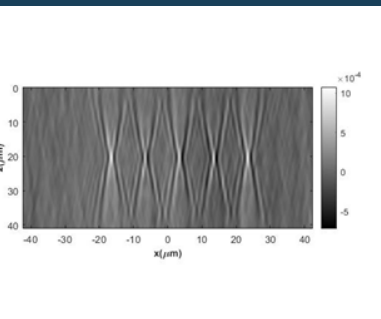
HoloView Image Scanner



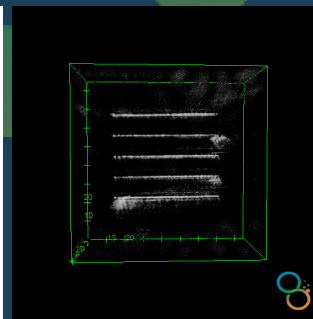
HoloView Image Processor



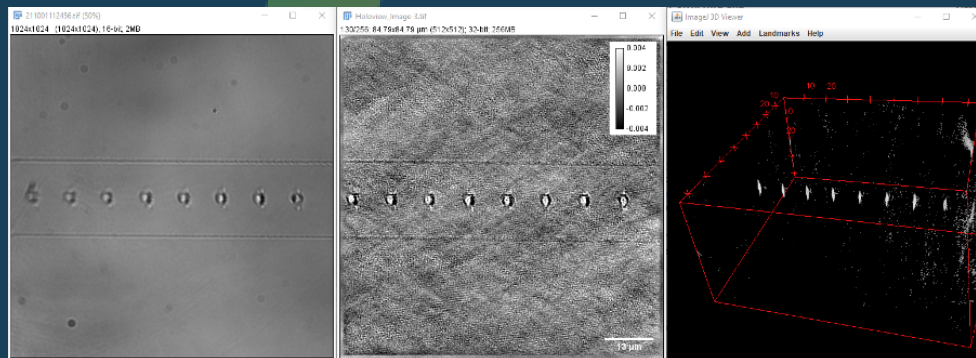
Waveguide Top View



Waveguide Side View



Waveguide 3D Image



FBG CCD Image

Reconstruction RI Image

FBG 3D Image

## Customer Value

- The world's only commercially available high-resolution in-situ 3D refractive index distribution characterisation equipment,
- In-situ refractive index characterisation for rapid optimisation of design and fabrication parameters
- Characterises a wide range of commonly used optical materials, including polymers, glass, sapphire, optical fibres, and more.
- Provides customers with an ever-expanding reference system for quantitative 3D refractive index measurements.
- Wide range of applications to test surface and internal refractive index distributions under extreme environmental conditions.
- Convenient one-button operation and highly efficient (less than 5 minutes for an imaging session).
- Obtain unique 3D refractive index distribution data for leading scientific research.