



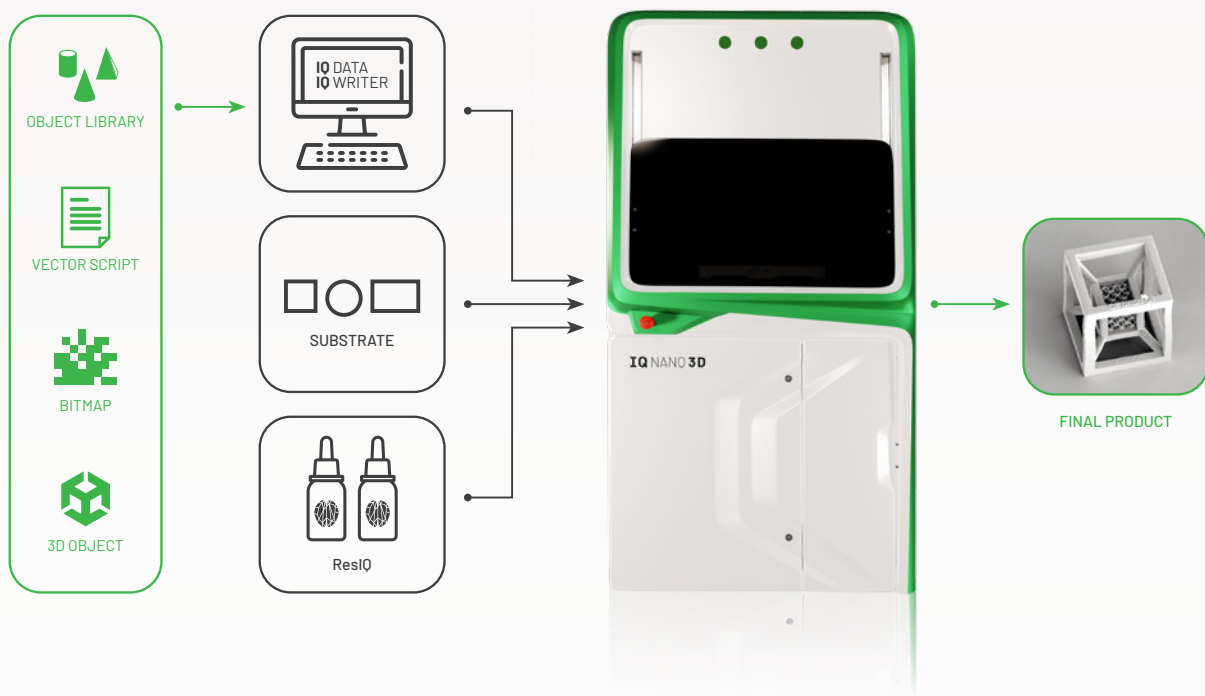
EXCEPTIONAL RESOLUTION  
WITH THE FASTEST  
PRINTING SPEED

**IQ NANO 3D**

The IQnano3D printing system is a complex high-tech solution for applications requiring high-precision additive manufacturing. The 3D printing process is based on two-photon polymerization using a unique acousto-optic beam deflection system, enabling extreme writing speed while maintaining high printing resolution.

The IQnano3D printer is the perfect tool for many fields of application such as biotechnology, optics, electronics, energy storage, micromechanics, pharmacy, aerospace, and new materials.

## BECOME ARCHITECT IN NANOWORLD



### Brief Overview of Technical Features

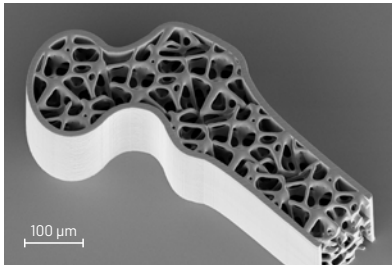
- Ultra-fast 3D nanoprining with resolution down to 100 nm
- Capable of printing objects from micro to meso scale
- Straightforward additive manufacturing workflow
- Flexibility in design and user-friendly data preparation
- Broad range of printing materials

### IQnano3D complex solution:

- Customer technological support, training and services
- Customization of IQnano3D according to customer requirements
- Intuitive IQWriter software for data preparation and IQnano3D control
- ResIQ printing materials specifically tuned for IQnano3D

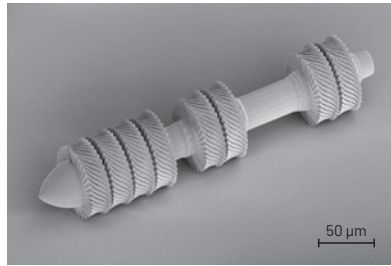
# SAMPLE GALLERY

## BIOMEDICAL ENGINEERING



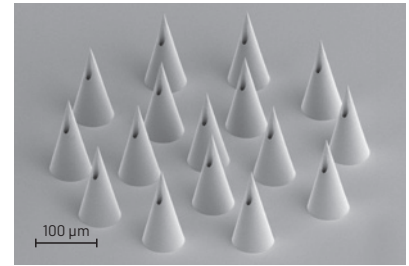
3D bone-inspired scaffold

## ENGINEERING



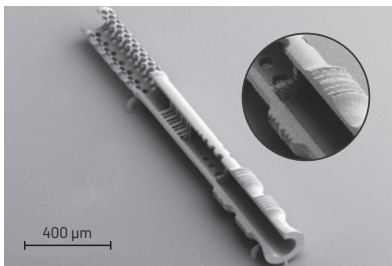
Microturbine model

## MICRO-NEEDLES



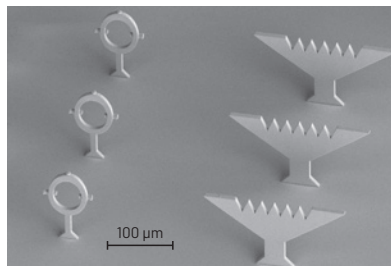
Hollow micro-needle array

## MICRO-IMPLANTS



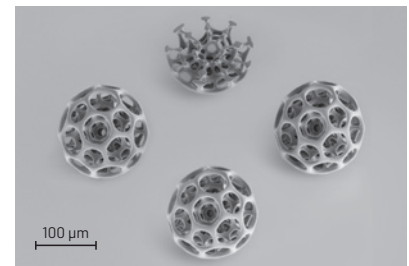
Cross-section of a fibre with complex geometry

## MICROCOMPONENTS



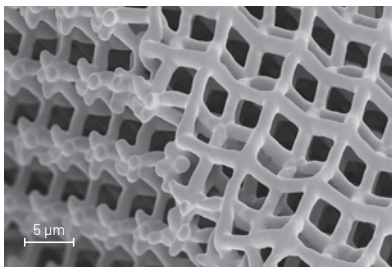
Examples of micro-holders

## MICROPARTICLES



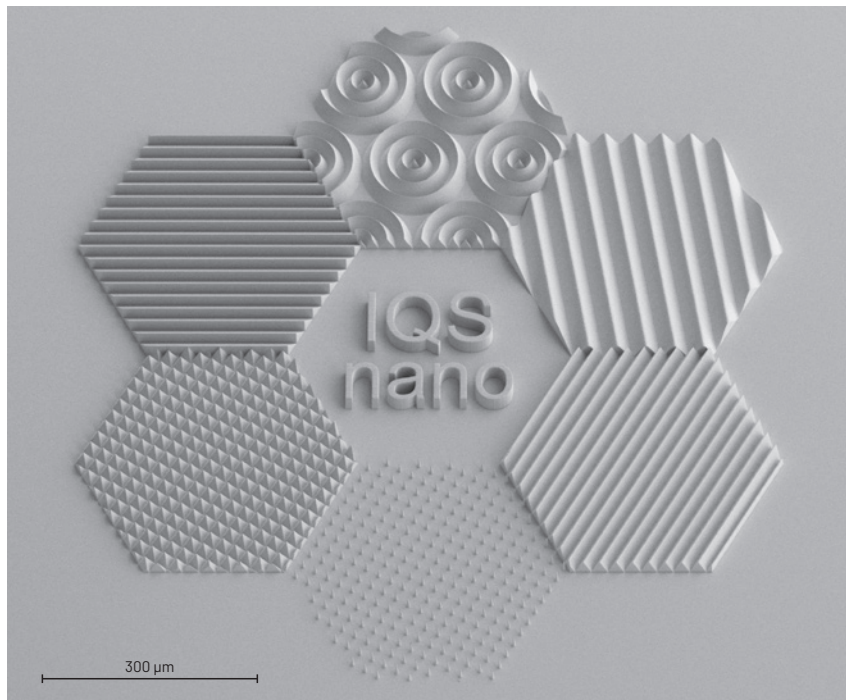
Engineered microparticles

## METAMATERIALS



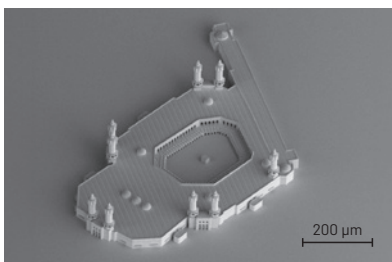
Microlattice defining the properties of a new material

## MICROOPTICS



Various microoptical patterns printed with different writing modes

## 3D ART



The smallest printed micromodel of the Great Mosque of Mecca (presented at EXPO2020 in Dubai)

# DESCRIPTION

## Technical Parameters

XY resolution:	> 150 nm
Z resolution:	> 100 nm
Printing area (max.):	50 mm x 50 mm
Surface roughness:	< 30 nm
Laser wavelength:	515 nm
Printing speed:	0.5–5 m/s <sup>1</sup>

<sup>1</sup> Depends on the selected magnification of the writing objective and the choice of resin (e.g., 0,5m/s with a 100× objective, 5m/s with a 10× objective)

## Other Features

Autofocus system
Substrate curvature compensation
Vacuum sample holder
Antivibration system
Writing objectives: high-resolution / high-speed objectives
Live camera
Writing modes: raster / vector
Library of different shapes in Step&Repeat mode or Flying Stage mode (stitching-free)
Printed manual
Customization of the device according to the customer's requirements

## Substrates

Reflective / Non-reflective (Si, glass, etc.) Size up to 140 mm x 140 mm. Thickness up to 40 mm

## Recording Materials

Wide range of positive or negative photopolymers (transparent resin only)

## IQWriter Control Software

IQData (Data preparation)
IQWrite (System control)



[www.iqsnano.com](http://www.iqsnano.com)  
[info@iqsnano.cz](mailto:info@iqsnano.cz)

