Innolite
Tailored Molds and Optics

Ultraprecision Technology
for the Watch Industry
Cutting with single crystal natural diamond

Diamond cutting with ultra precision machine tools allows for the highest surface quality on metal surfaces. Smooth surface as well as ultra precise micro structures can be realized deterministically to the highest customer demands.

ILSonic – Machining Stainless Steel with natural Diamond

The unique Innolite development of the ultra sonic tool holder ILSonic allows for applying diamond turning to stainless steel surfaces. The realization of optical surface finish micro structures becomes feasible for the first time.

Customized solutions for highest production requirements

Innolite provides manufacturing services for feasibility analysis as well as serial production. Beyond Innolite will supply the required machine and automation equipment for transferring the technology into your production for higher volume manufacture.
Process performance

Materials, Standard
Brass, Gold, Aluminum, Titanium

Material @ Ultrasonics
Stainless Steel (up to 60 HRC)

Structure Features
Depth up to 50 µm
Lateral up to 500 µm
Inclination up to 5°

Surface finish
Shape accuracy < 2 µm
Surface Roughness < 5 nm Ra

The machines

IL300  3 Axis Turning  Dynamic untrue turning for superimposed microstructure
IL600  Up to 5 axis machining  Ultra precise Turning, Milling, Ruling
ILSonic  Transversal Ultrasonic Unit  Diamond cutting of steel @ 98 khz for high productivity
ILCAM  Software package for machine programming  Code generation for IL300 and IL600

Ultra precise automation in perfection
Customized micro structures