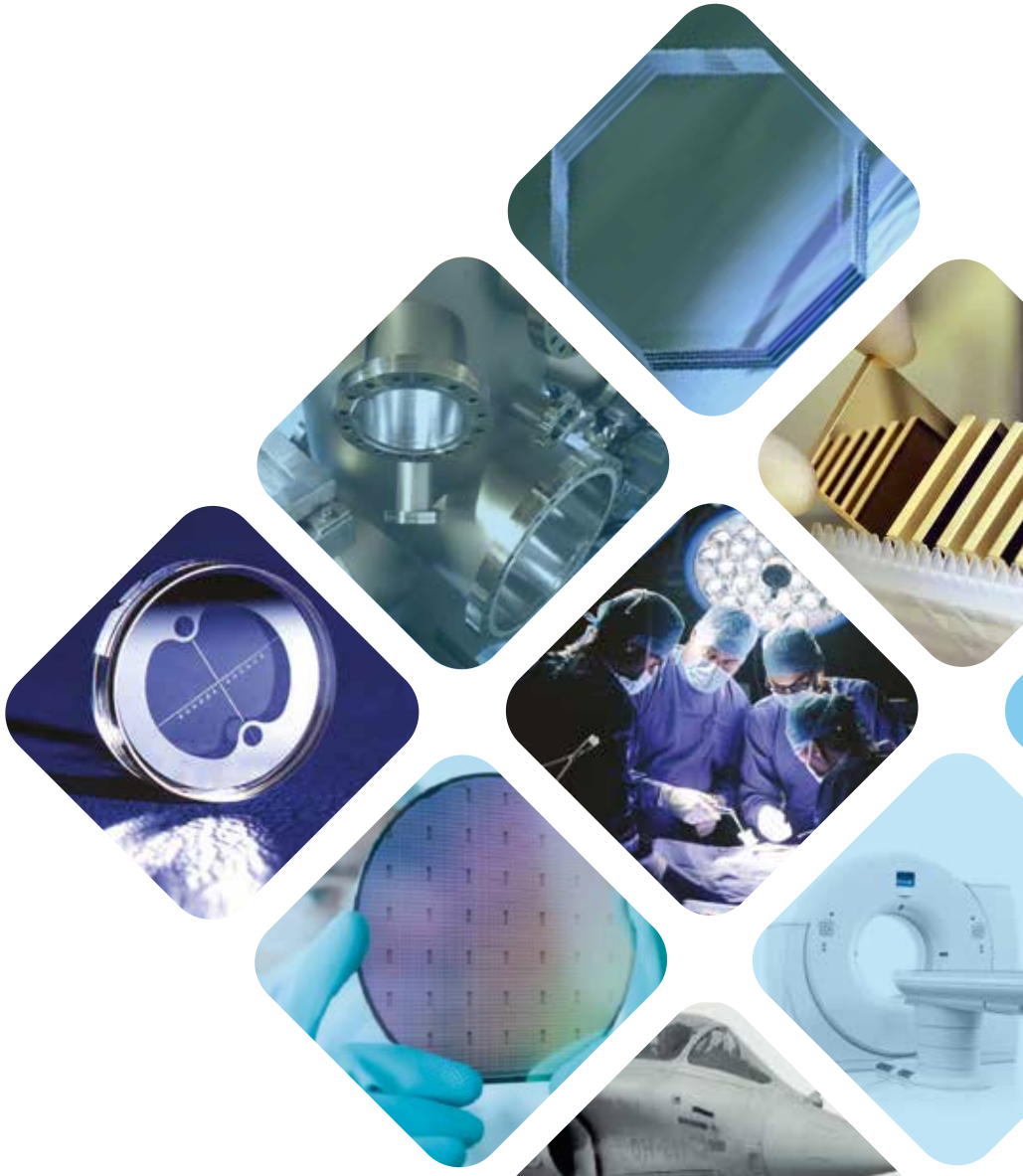
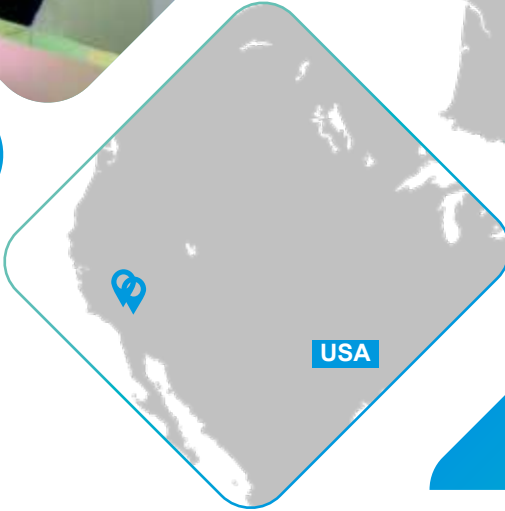




Surface materials engineering
From R&D to large volume





- 8 factories
- 2 countries
- 250 employees



**HEF Photonics, today on 2 continents
and tomorrow with you around the world.**



HEF Photonics serves a variety of markets including:



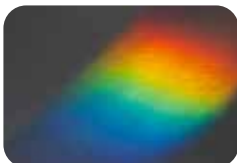
Defense



Industry



Medical



Instrumentation



Research



Aerospace

FROM PROTOTYPE TO VOLUME PRODUCTION

Precision polishing:

- Precision up to $\lambda / 20$ for diameters under 300 mm
- All types of materials: silica, sapphire, silicon, germanium, ceramics, quartz, zerodur...
- All types of shapes : windows, mirrors, prisms, lenses, beamsplitters, waveplates, filters and more
- Polishing of dimensions up to 1000 mm

Glass fabrication technology:

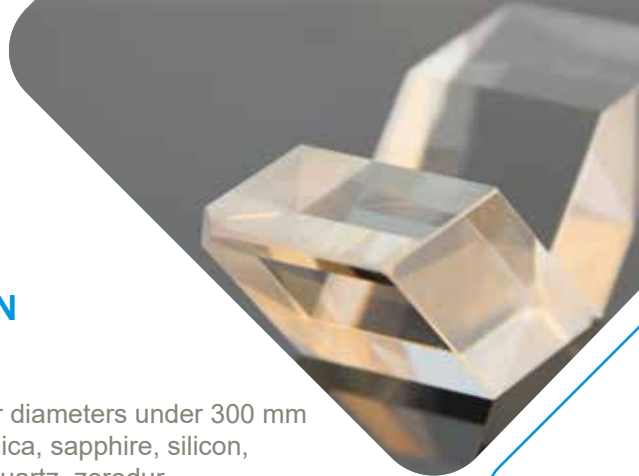
- Chemical strengthening
- Heat tempering
- Screen printing of Graphics
- Laser-marked displays

Optical thin films:

Over 35 chambers dedicated to fulfill our customer requirement
Technologies : Ebeam deposition, Ion Assisted Deposition, Sputtering evaporation, thermal CVD deposition.

Coating solutions are offered from 200nm in the UV to 20 microns in the far infrared


- Anti-reflective, metallic, dielectric coatings, beamsplitters, filters, polarizing coatings
- Multispectral coatings
- Internal (prism) or external
- Filters: broadband, narrow band
- Intense black coating
- Transparent conductive (ITO)
- Bus Bar
- Hydrophobic solutions
- High laser damage threshold coatings





Masking and lithography

Engraving using different types of technology (photolithography, lift-off, wet etching, laser)


- Masking and creation of complete optical components
 - On substrates from 2" up to 8"
 - Resolution down to 1 μ m in width and 0.15 μ m in thickness
 - Different types of substrates and etched materials (Au, Al, Ag, Cr, Cu, Ni...)
- 

Electroforming

- Nickel deposition, thickness from 30 to 200 μ m
- Circles, slits, closed shapes down to microns
- Coated for emission and reflection

Precision dicing

Technologies : laser, scribe cutting, waterjet, slicer, wafer dicing

- Glass, stacks, Si wafer, metals, plastics
 - Thickness down to 50 μ m
 - Lateral roughness down to 3 μ m
 - CNC machining
- 



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