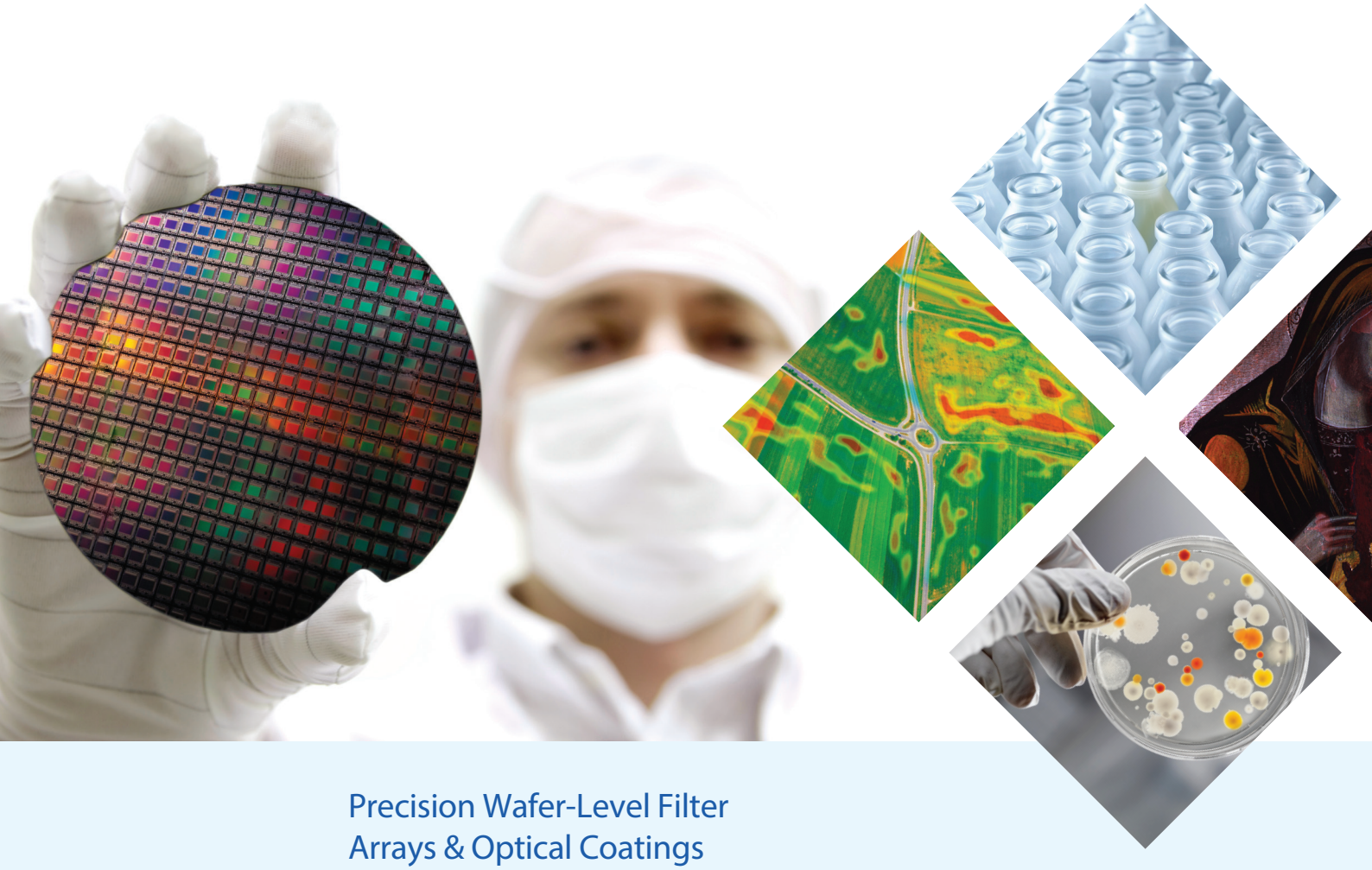
Micro-patterned Optical Filters

SALVO COATINGS
a Division of Salvo Technologies

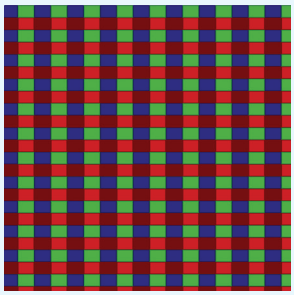


Precision Wafer-Level Filter Arrays & Optical Coatings

PIXELTEQ micro-patterned optical coatings combine patented microlithography expertise with state-of-the-art coating technology to enable smaller and simpler optical designs for portable or complex optical systems.

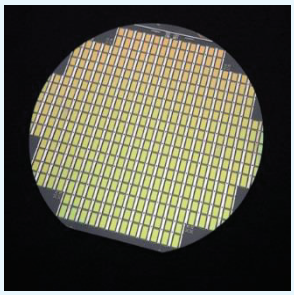
This exclusive technology enables patterning of multiple dielectric, metal, and color filter arrays on a single substrate. Standardized processes have been developed and are used today to manufacture these devices in a new, world-class optical semiconductor waferfab specifically designed for this purpose. The process is scalable to wafer-level glass or semiconductor volume production, with tens of millions of custom micro-patterned optical devices delivered annually.

PIXELTEQ patterned coatings are used to enhance performance in a multitude of biomedical, industrial, and aerospace OEM applications – enabling next-generation integrated optical devices that are more compact, robust and cost-effective.

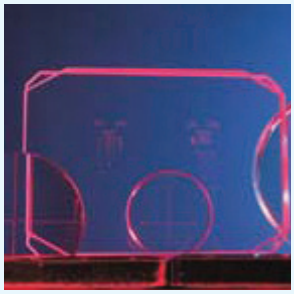


Bayer Filters

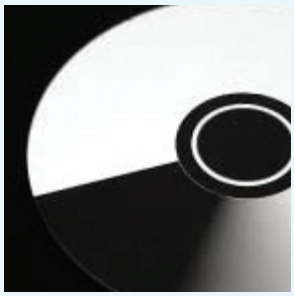
Stripe Filters



Active Wafer Deposition



Precision Reticles



Gradient Filters

At PIXELTEQ, we focus our operations to support customers in developing their next-generation imaging and sensing equipment. With a toolbox of processes and technologies, we can quickly design the most effective way to develop products based on your application or product functionality. Our application engineers work with you to quickly assess your requirements and provide a proposal of technical feasibility.

Some of the design parameters and decisions are based on:

- Substrate: semiconductor wafers, optical-grade glass, fused silica or other materials
- Number of filter bands combined on one substrate (multispectral sensing)
- Filter design parameters: transmission bands, blocking specifications
- Feature geometries: smallest size, tolerance in position
- Alignment accuracies and available alignment markers
- Defined (e.g. ESD) handling, dicing, finishing, testing and packaging

The equipment in our Class 100/1000 wafer fabrication cleanrooms have been selected and custom-designed for micro-patterned coatings, enabling us to support ultra-small (µm) pixel-level features for imaging applications. We use the latest coating technology, including IAD evaporation, magnetron sputtering and ion beam sputtering techniques. In the lithography fab, semiconductor-style mask aligners are used to handle wafers up to 8 inches.

Currently, we can implement and combine the following designs and materials:

- Custom wavelength bands | UV, VIS, NIR, SWIR
- Dichroic | bandpass, short-wave pass, long-wave pass, BBAR & more
- Metallic | high reflector, dark absorber, apertures, neutral density & more
- Color filter array | RGB, CMY, absorptive dyes

Optical Technology Utilization	Multiple Industry Applications
Multispectral sensing for spectroscopy	Non-invasive biomedical imaging
Multispectral imaging with custom CCD & CMOS sensors	Remote sensing for satellites, defense & precision agriculture
Precision reticles & alignment patterns	Industrial quality control sensing & imaging
Patterned pixels & apertures	Color mixing for entertainment lightingz
Focal plane arrays (FPA)	Light intensity control in industrial equipment
Color mixing & dimming	Sensing for consumer wearables
Variable/gradient filters	Integrated custom optics for scientific devices

Contact our engineers today to discuss your application.
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