

# CODE V MetaOptic Design

## Integrate meta optics into your next design

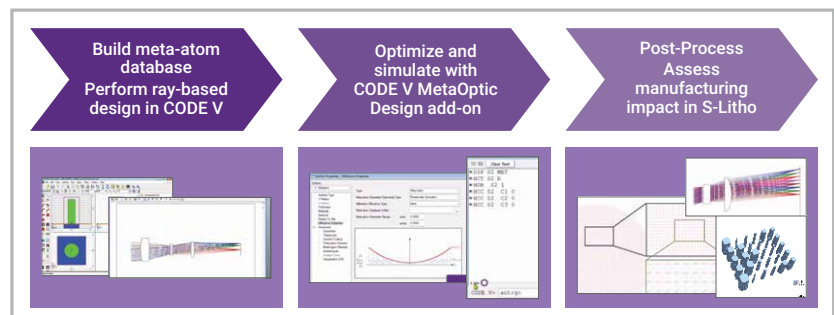
### Key Features and Benefits

- Cutting-Edge Metalens Technology:**  
 Utilize advanced metalens technology to enhance optical systems. Metalenses, a type of diffractive element, offer significant improvements in focusing performance, miniaturization, and efficiency, making them indispensable tools for optical engineers.
- Sophisticated Meta-Atom Modeling:**  
 Use advanced modeling to apply intricate patterns of meta-atoms to surfaces. This feature enables precise performance analysis by accounting for the diffraction effects of each meta-atom, tailored to specific design parameters like nano-pillar diameter and nano-fin rotation angle, while also considering wavelength, angle of incidence, and polarization dependence.
- Integrated Optimization Tools:**  
 Optimize metalens design and conventional refractive/reflective elements simultaneously. The integrated optimizer balances system performance across multiple wavelengths and field angles, ensuring superior optical performance.

The CODE V MetaOptic Design add-on supports a significant advancement in optical technology by enabling the design of meta optical surfaces. These surfaces are thin, flat structures that can significantly enhance the performance and functionality of traditional lenses. Metalenses, like other diffractive elements, have the potential to become a powerful new tool in an optical engineer's toolbox.

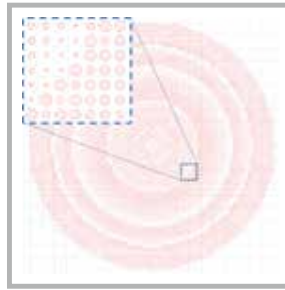
### Comprehensive Metasurface Design Workflow

- Build meta-atom database**
  - Can be a pre-supplied database or custom database using [DiffractMOD](#), [RCWA](#) or [FullWAVE FDTD](#)
- Perform ray-based design**
  - Set optical system in CODE V
  - Optimize refractive lens and metalens
- Use CODE V error function** (spot size, wavefront error, or user-specified error function)
  - Set variables and constraints
- Post processing and manufacturing**
  - View results
  - Perform post-processing
  - Integrate manufacturing impact in your design using [Synopsys S-Litho](#)



## Manufacturing Support for Seamless Production

You can export your CODE V meta optic design to a GDSII file, which is required by manufacturers.



## Licensing and Activation

This tool is an optional add-on for CODE V and is available for an additional fee. It also requires Synopsys Common Licensing for activation.

For more information, please contact the Synopsys Optical Solutions team at (626) 795-9101, visit [synopsys.com/optical-solutions/codev](https://www.synopsys.com/optical-solutions/codev), or send an e-mail to [optics@synopsys.com](mailto:optics@synopsys.com).