

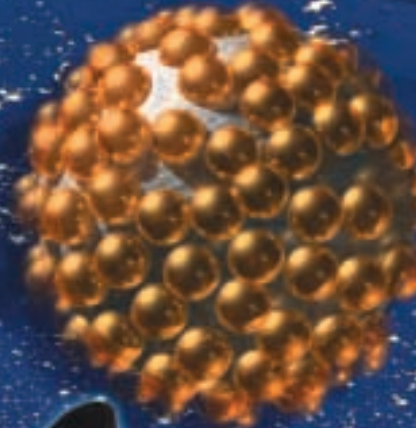
# Optics and Photonics

## Working for a Better and Brighter World

Optics and photonics technologies are enabling energy-efficient solid state lighting for a sustainable future.



Nanophotonics holds much promise for biomedical applications, such as using quantum dots and nanoshells for targeted therapies.



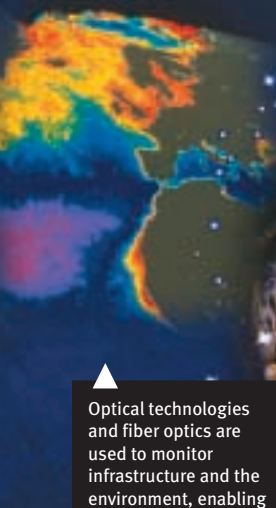
Adaptive optics opens the farthest reaches of the cosmos.



Science mimics nature: butterfly wing with iridescent nanostructures serves as the model for manmade nanostructures.



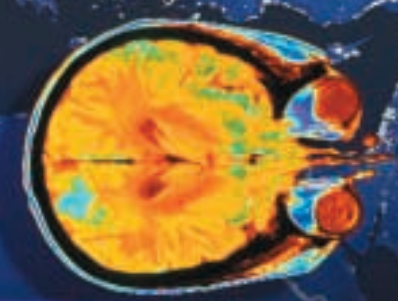
Optical technologies and fiber optics are used to monitor infrastructure and the environment, enabling prompt remediation. Optically based biological and biochemical screening leads to a better quality of life for all.



Light is bringing knowledge to the farthest corners of the world through fiber optics and photonics telecommunications.



Advanced imaging technologies such as OCT (optical coherence tomography) and minimally invasive diagnostics, e.g., endoscopy, improve disease detection and ease patient trauma.



Lithography, monitoring, and metrology are applications of light that have enabled the knowledge and entertainment revolution.



Optically enabled genetics/proteomics and molecular imaging are being used to study processes and devise therapies at the molecular level.

