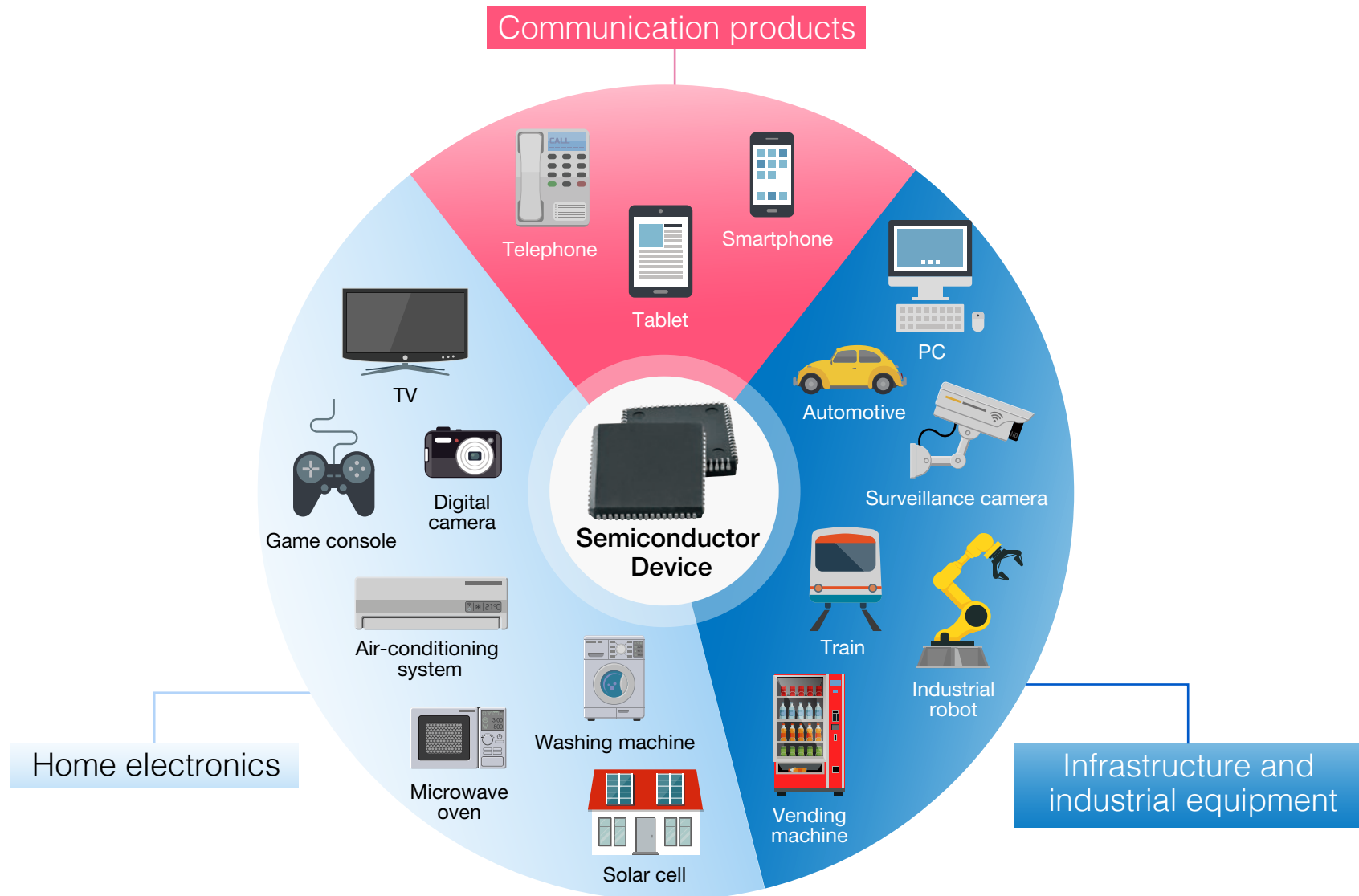


Area of expertise :
Semiconductor-related
Inspection Equipment

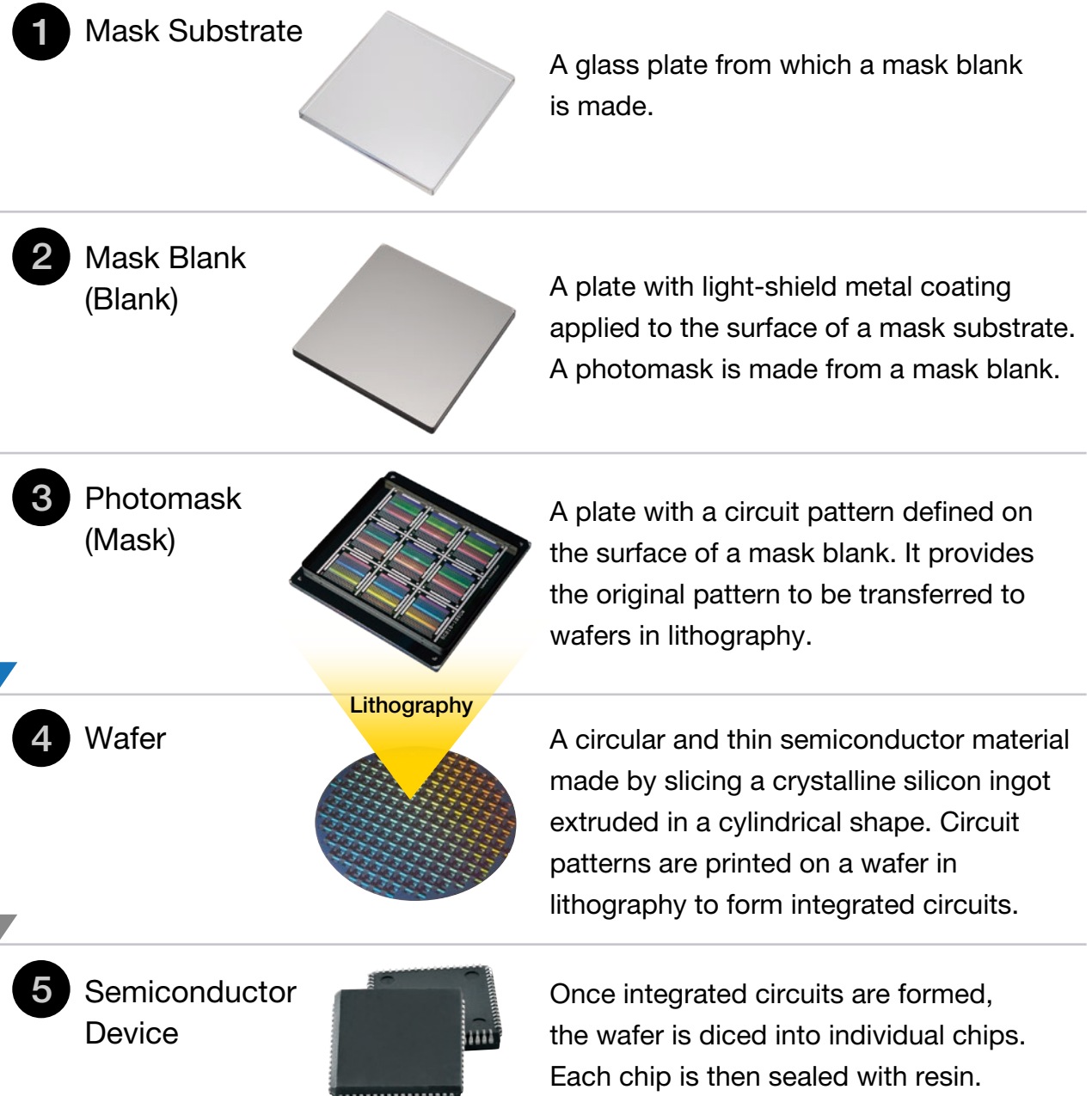
Lasertec manufactures unique inspection and measurement systems that incorporate the cutting-edge **technologies of applied optics** and offers them to **customers worldwide**. Our core business is the manufacture and sale of semiconductor-related inspection equipment.

Ubiquitous semiconductor devices

Semiconductor devices are used in almost every electronic device and industrial product around us today. Their applications span a wide range of areas, from consumer products such as smartphones, PCs, TVs, and air-conditioning systems, to cars and trains, and to credit cards and digital currencies.

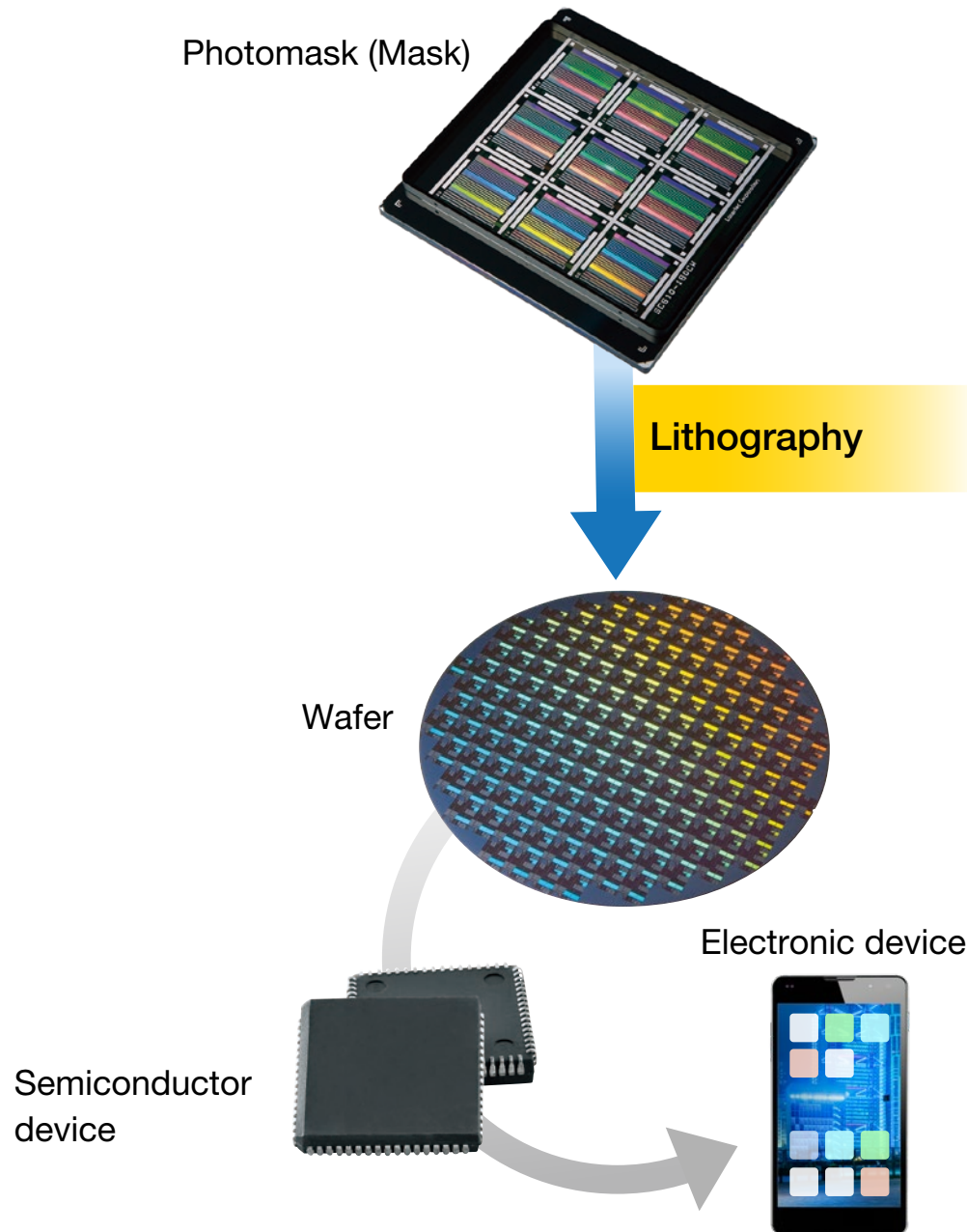


Semiconductor devices are manufactured using photomasks, which serve as the source of original patterns for integrated circuits. Lasertec's inspection systems are designed to optically inspect photomasks and their pre-patterned substrates called mask blanks.

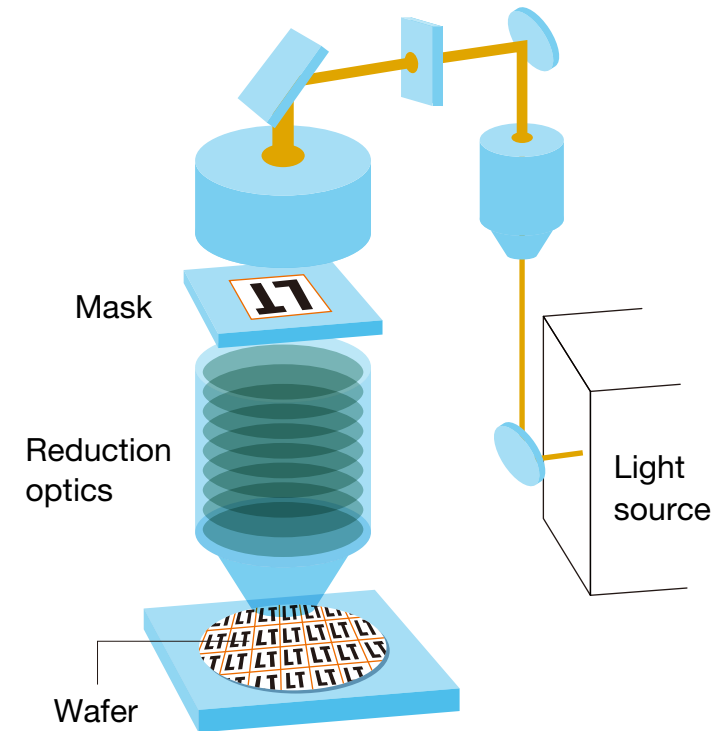


Mask to Semiconductor Device

As electronic devices become more downsized and better performing, more masks are required.

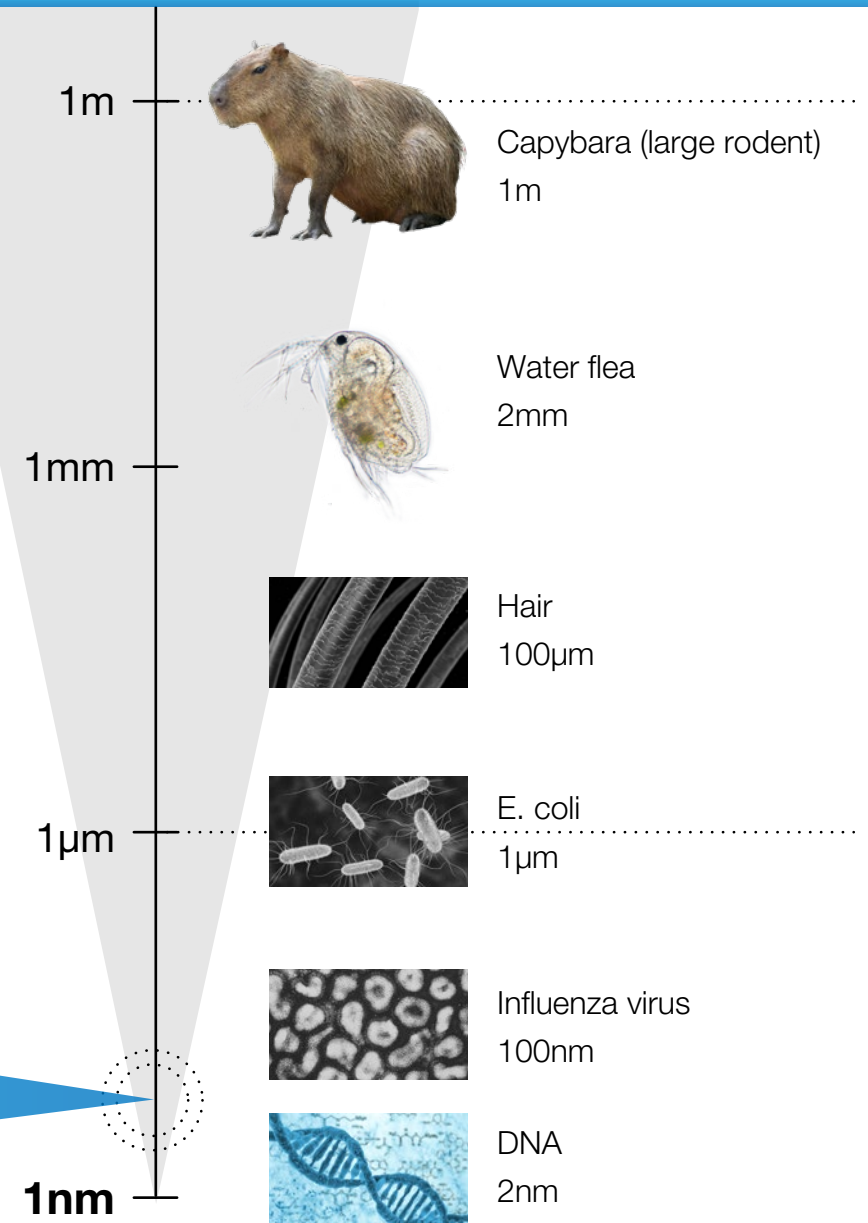
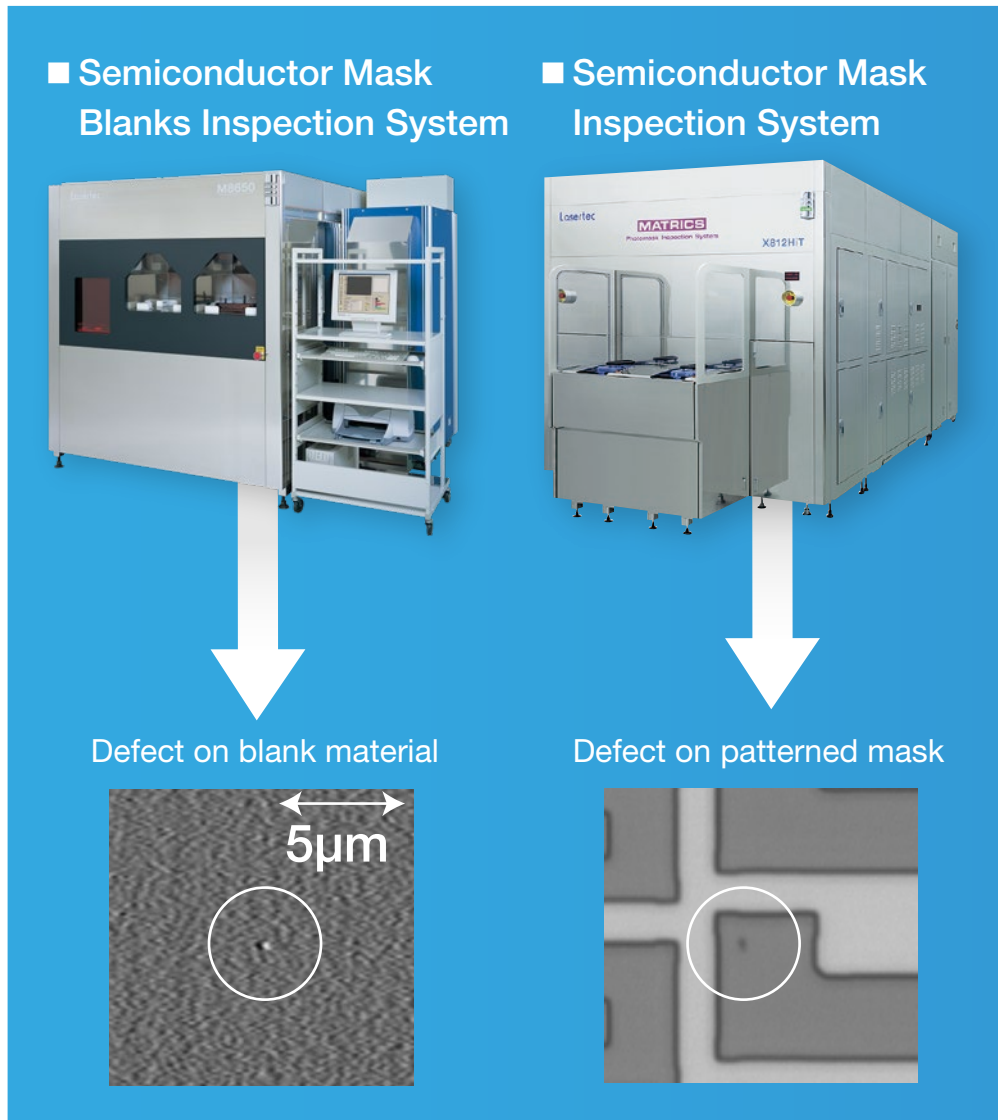


Lithography



The original circuit pattern on the mask is transferred to wafers in lithography using reduction optics. The process is repeated many times with different masks to print multiple-layer patterns on each wafer to create semiconductor devices.

Size of defects detected by Lasertec's inspection systems



One nanometer is a billionth of one meter.

Semiconductor devices will be used in greater numbers.



Mobile / IoT

Various things connected
to the Internet



Data Center

Massive data storage



AI

Emergence of artificial
intelligence



Automotive

Electric vehicles,
onboard electronics,
and self-driving
cars

The expansion of these four areas will dramatically increase the demand for semiconductor devices.

- **Logic devices** for calculation and image processing
- **Image sensors** for light sensing and imaging
- **Memories** for data storage
- **Power devices** for optimum power conversion and control

As the scope of semiconductor application expands and the demand for semiconductor devices increases, inspection systems will be required in greater numbers. Lasertec will offer the cutting-edge technologies of inspection and metrology to meet the requirement and contribute to society.