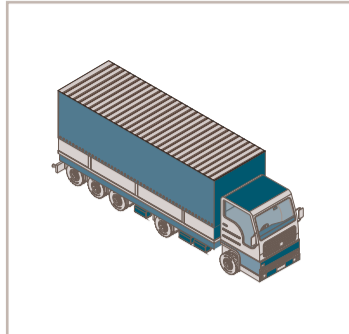


Operational Excellence at Entegris

A Premier Advanced Materials Company

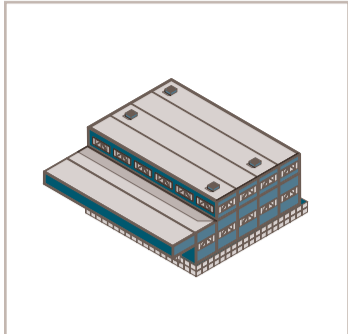
For more than 50 years, Entegris has been researching and developing novel ways of supporting complex, high-volume manufacturing. We have expanded our capabilities, invested in innovation, and driven operational excellence into all aspects of our company to help our customers meet their objectives.



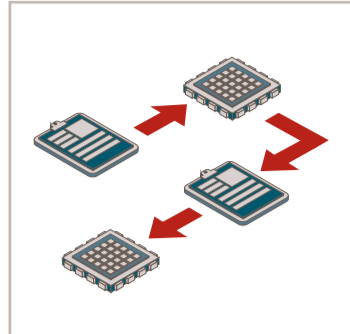
SAFE AND ROBUST SUPPLY CHAIN



PREDICTABLE AND STABLE QUALITY



EFFICIENT MANUFACTURING



SPEED OF NEW PRODUCTS

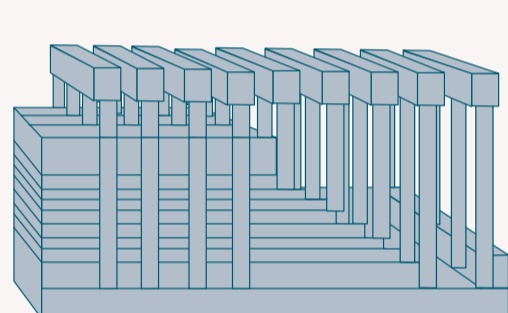
SUPPORTING EXPLOSIVE GROWTH

Semiconductor fabricators face a number of critical challenges from the explosive growth of megatrends including artificial intelligence, robotics, autonomous vehicles, and the Internet of Things (IoT). Entegris is here to help.

75 BILLION IOT DEVICES WE CANNOT AFFORD DEFECTS

With the migration from 4G to 5G networks, and the explosion of "smart" everything, the number of chip-enabled IoT devices is expected to grow from ~23 billion in 2018 to 75 billion devices by the year 2025. These devices fall into a number of industries, including those critical for our health and safety.

FOCUS: MEMORY DEVICE FABRICATION

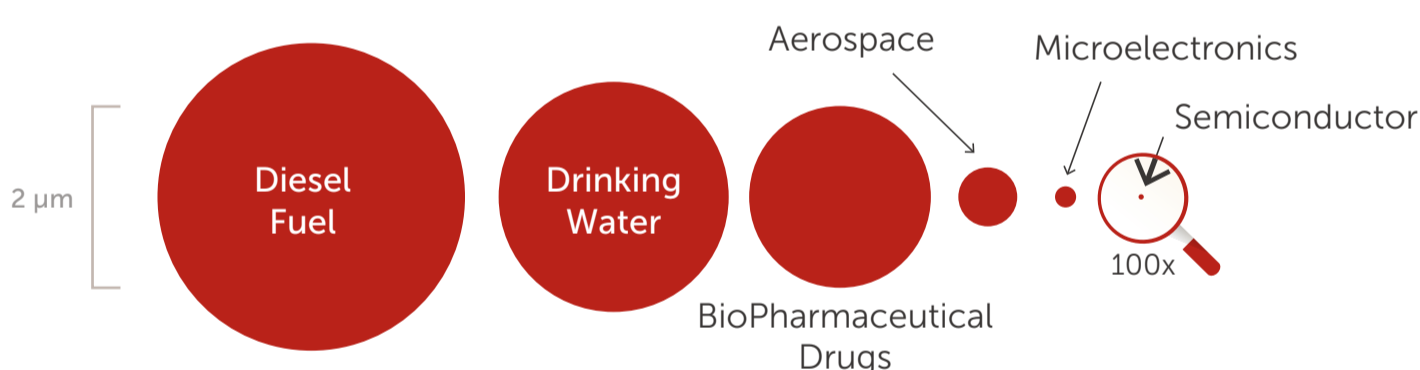


- Need for material purity
- Local, high-quality supply chain
- High volume specialty gases and advanced chemicals

MATERIAL PURITY AND PREVENTING DEFECTS

Material purity has a much greater impact on yield and performance in the world of integrated circuits than in other device manufacturing industries, which have far higher defect tolerances.

SIZE OF KILLER DEFECT BY INDUSTRY



SAFETY AND ENVIRONMENTAL STANDARDS

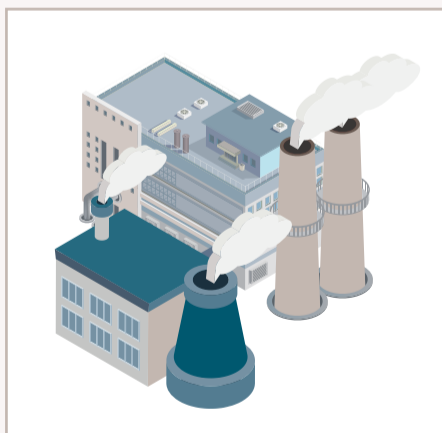
To prevent destructive and costly accidents and environmental damage, suppliers are held to stringent regulations. Through supplier qualification, Entegris supports the highest safety standards with proprietary technologies such as SDS® cylinders, gas cabinets, and delivery systems.



MATERIAL HANDLING SAFETY



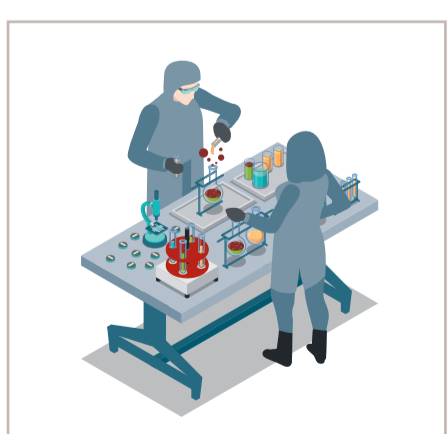
MATERIAL TRANSPORTATION



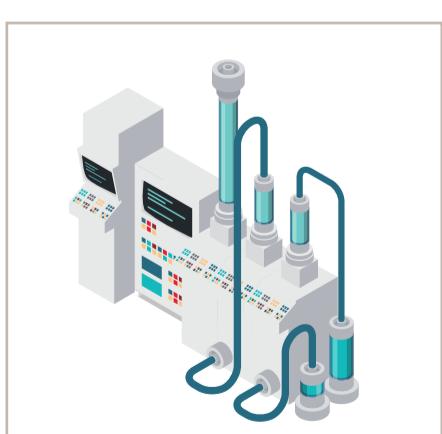
POLLUTION AND EMISSIONS

RELIABLE AND PREDICTABLE SUPPLY CHAIN

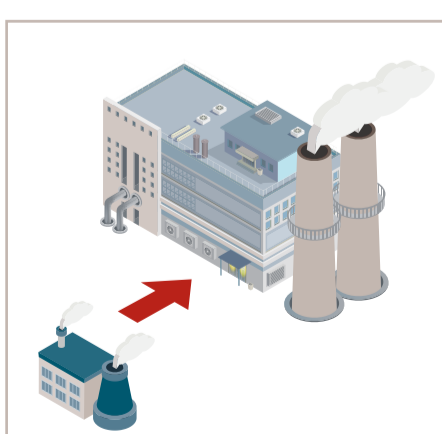
Semiconductor fab suppliers must provide reliable and extremely high-purity materials. Key qualities for suppliers:



DEVELOP NEW MATERIALS AND DELIVERY SYSTEMS



MATERIAL SYNTHESIS AND PURIFICATION



ABILITY TO SCALE UP RAPIDLY

Learn More

www.entegris.com/operational-excellence