PRESS RELEASE

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# ENTEGRIS RECOGNIZES TWO INDUSTRY MILESTONES VITAL TO THE TECHNOLOGY ADVANCEMENTS OF THE FOURTH INDUSTRIAL REVOLUTION

*Industry events mark an unprecedented opportunity to enable next-gen chips with advanced materials science*

BILLERICA, Mass., April 9, 2019 - This month, Entegris is celebrating two key industry milestones; Global Internet of Things Day (IoTDay) on April 9 and the anniversary of Moore's Law on April 19. Both of these events highlight the semiconductor industry's ability to achieve things today, that previously could only be imagined.

"We are in the midst of a digital transformation fueled by the demand for modern technologies, including artificial intelligence, robotics, autonomous vehicles, and IoT," said Jim O'Neill, chief technology officer, Entegris. "The integration of these technologies into people's daily lives requires the development of enabling materials, control of purity levels, and the safe transport and delivery of the specialty materials. Entegris has the unique ability to provide all three of these essential building blocks which are key to enabling the Fourth Industrial Revolution."

IoT Day

First initiated by the IoT Council in 2010, Internet of Things Day serves as an invitation to communities around the world to discuss the implications and visions for the future of IoT. The event has grown in scale and scope as advancements in smart devices connected to wireless networks (4G/5G), WiFi networks, and near field communications (NFC, RFID, Bluetooth) continue to grow and touch our everyday lives, including smart homes, smart cities, smart transportation, smart energy, and autonomous cars.

As devices proliferate, so does the demand for the high-performance and reliable semiconductor chips that power them. Additionally, according to a study by IDC, the volume of global data will increase 10x to 163 zettabytes (or one trillion gigabytes) by 2025. This data explosion will lead to more demand of integrated chips (ICs) as data storage, analysis, and process will play a central role in IoT infrastructure.

The Anniversary of Moore's Law

In 1965, Gordon Moore predicted that the number of components possible to fit into a microchip would double approximately every year for the next ten years. Until recently, the semiconductor industry has kept to Moore's Law by "shrinking" chip features to pack more transistors into a smaller area. As the traditional scaling approach to Moore's Law has slowed, there has been pressure to find new ways to improve performance, manage costs, and mitigate risks through innovations in design, equipment, and materials.

As seen in recent months, 5G networks are beginning to ramp up and roll out, promising to transfer large amounts of data 100-200X faster than 4G LTE. For the true value of 5G to be realized, however, various components of the IoT infrastructure (processors, modems, and logic chips at leading edge nodes and devices) will need increased memory output and higher performance to sustain the next-gen applications of the future.

It is clear that advanced materials science is a foundational piece of innovation and a requirement to enabling high performing, reliable electronics that society is increasingly demanding. Without the ability to create, purify and safely transport specialty materials, innovation cycles will fall behind demand and priorities like reliability and speed will be compromised.

## ABOUT ENTEGRIS

Entegris is a leader in specialty chemicals and advanced materials solutions for the microelectronics industry and other high-tech industries. Entegris is ISO 9001 certified and has manufacturing, customer service, and/or research facilities in the United States, China, France, Germany, Israel, Japan, Malaysia, Singapore, South Korea, and Taiwan. Additional information may be found at www.entegris.com.

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**Media Contact:**
Alexa Manocchio
Public Relations
+1 978 436 5659
alexa.manocchio@entegris.com