

The Essential Photomask Blanks Powering Semiconductors and Driving the Digital World

SINGAPORE, June 6, 2025 /EINPresswire.com/ -- HOYA Electronics, a global leader in photomask blanks, today announced the release of a short video production as part of the "Economy 4.0" documentary series hosted on CBS News. The film delves into the critical, yet often unseen, role of photomask blanks in the manufacturing of semiconductors, the tiny engines powering our increasingly connected digital world.

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*Geoffrey Maroun Akiki, HOYA
IT Segment Company
President*

The documentary aims to bridge the gap between the complex world of semiconductor manufacturing and the everyday technologies consumers rely on. Semiconductors are fundamental—from smartphones in our pockets and the computers on our desks to the vast networks enabling the internet, 5G connectivity, and the rapid advancements in Artificial Intelligence (AI). It is nearly impossible to navigate in the modern day without interacting with the technology enabled by these intricate components. The documentary explores how HOYA Electronics, through its supply of essential photomask blanks, plays a pivotal role in ensuring the seamless function of these devices that

define contemporary life.

As the demand for more powerful and energy-efficient electronics grows, the semiconductor industry continually pushes the boundaries of miniaturization. Manufacturing chips with features smaller than 7 nanometers (nm) requires overcoming the limitations of traditional optical lithography. The video feature will shed light on Extreme Ultraviolet (EUV) lithography, a revolutionary technology enabling this leap forward.

Central to EUV lithography are EUV blanks. An EUV blank is far more complex than its predecessors; it consists of an ultra-pure, extremely flat base substrate coated with multiple layers of specific materials designed to reflect EUV light (13.5nm wavelength) with high efficiency and precision. This blank serves as the foundation for the EUV photomask, which acts like a highly sophisticated stencil, projecting the intricate circuit patterns onto silicon wafers. Without pristine, defect-free EUV blanks capable of handling this demanding process, the mass production of next-generation sub-7nm chips would not be feasible.

The documentary also highlights how HOYA Electronics' cutting-edge EUV blank products are indispensable for chipmakers adopting EUV technology, supporting the entire semiconductor ecosystem and enabling the future of high-performance computing, AI, and advanced communication technologies.

"The relentless pace of innovation means the technologies we develop today, like our advanced EUV blanks, directly enable the devices and capabilities that will shape tomorrow's world. We hope this feature provides viewers a clearer understanding of the foundational components driving our digital age" said Geoffrey Maroun Akiki, HOYA IT Segment Company President.

[Watch the Campaign Live on CBS here.](#)

About HOYA Electronics (LSI Division)

HOYA Electronics (LSI) is a division of HOYA Corporation and a leading global supplier of optical and Extreme Ultraviolet (EUV) photomask blanks for semiconductor manufacturing. With decades of experience and a commitment to innovation, HOYA Electronics provides state-of-the-art EUV blanks, enabling chipmakers worldwide to produce increasingly complex and powerful next-generation chips that drive technological advancement across various applications, such as artificial intelligence, high-performance computing, and 5G. The company also manufactures a range of photomask blanks used in producing chips for applications, including memory, logic, and power devices. For more information, visit our [website](#) and connect with HOYA Electronics on [LinkedIn](#).

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