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ASML partners with Nippon Control System to streamline process flow from design to mask production

San Jose, California, 22 February 2016 – ASML Holding NV (ASML) today announced a partnership with Nippon Control System Corporation (NCS) to integrate their products from optical proximity correction (OPC) to mask data preparation (MDP) on a common platform, delivering improvements in mask tape-out productivity and patterning performance in wafer fabrication. Semiconductor manufacturers will now be able to deploy ASML's computational lithography products and NCS' MDP products into a seamless process flow for a faster and more accurate design to mask (D2M) solution.

The collaboration addresses the challenges customers are facing in mask tape-out and wafer patterning driven by growing mask complexity with shrinking process nodes in both multiple patterning and EUV applications. Specific integration examples and benefits include:

- A complete MDP flow to identify and improve mask accuracy required for pattern fidelity, critical dimension uniformity (CDU) and overlay performance;
- A seamless processing and handling of large volumes of data between OPC and MDP operations to reduce cycle time and optimize productivity, while maximizing utilization of available computing resources.

“By connecting ASML's OPC and NCS' MDP in an integrated tape-out flow, we have efficiently utilized computing clusters and greatly reduced our design to mask cycle time,” said Laurent Tuo, Fellow and Technical Director at TSMC. “Such connectivity also enables mask process enhancements based on OPC output to deliver better imaging performance and more robust process window.”

An integrated OPC and MDP solution is of greater importance for EUV lithography. “Mask proximity effects are stronger with electron back scattering from the multi-layer mask stack composed of heavy metal elements,” said Nobuyasu Horiuchi, President of NCS. “An integrated EUV MDP solution flow will help accurately model and correctly handle mask making and wafer imaging processes that impact CDU in EUV lithography.”

“Together with NCS, we are enabling complete solutions from design to mask and driving wafer patterning performance to support our customers’ roadmaps at leading-edge nodes,” said Christophe Fouquet, Executive Vice President of Applications at ASML. “This partnership will further extend the scanner imaging and overlay capabilities, by incorporating MDP in the holistic lithography solutions that consist of computational lithography, wafer lithography, metrology and process control.”

About Nippon Control System Corporation (NCS)

Nippon Control System Corporation (NCS) is a mask data preparation (MDP) software provider and has been providing MDP systems and fracturing tools to the semiconductor industry since 1990. NCS offers NDE Mask Manufacturable Suite (NDE-MS) which includes all applications required by mask manufacturers after OPC and before mask writing. The applications are NDE-Fracture, MRC, Select, Pattern-Match, SCRD, PEC, MPC, and View, supporting rule-based and model-based mask process correction (MPC), for both DUV and EUV mask applications. For more information: <http://www.nippon-control-system.co.jp>

About ASML

ASML is one of the world’s leading manufacturers of chip-making equipment. Our vision is to enable affordable microelectronics that improve the quality of life. To achieve this, our mission is to invent, develop, manufacture and service advanced technology for high-tech lithography, metrology and software solutions for the semiconductor industry. ASML's guiding principle is continuing Moore's Law towards ever smaller, cheaper, more powerful and energy-efficient semiconductors. This results in increasingly powerful and capable electronics that enable the world to progress within a multitude of fields, including healthcare, technology, communications, energy, mobility, and entertainment. We are a multinational company with over 70 locations in 16 countries, headquartered in Veldhoven, the Netherlands. We employ more than 14,000 people on payroll and flexible contracts (expressed in full time equivalents). ASML is traded on

Euronext Amsterdam and NASDAQ under the symbol ASML. More information about ASML, our products and technology, and career opportunities is available on: www.asml.com

Forward Looking Statements

This document contains statements relating to certain projections and business trends that are forward-looking, including statements with respect to ASML's partnership with NSC and the expected benefits from the partnership, including the expected performance and productivity improvements in semiconductor fabrication. You can generally identify these statements by the use of words like "may", "will", "could", "should", "project", "believe", "anticipate", "expect", "plan", "estimate", "forecast", "potential", "intend", "continue" and variations of these words or comparable words. These statements are not historical facts, but rather are based on current expectations, estimates, assumptions and projections about the business and our future financial results and readers should not place undue reliance on them. Forward-looking statements do not guarantee future performance and involve risks and uncertainties. These risks and uncertainties include, without limitation, the risk that the expected benefits with respect to ASML's partnership with NSC may not be realized and other risks indicated in the risk factors included in ASML's Annual Report on Form 20-F and other filings with the US Securities and Exchange Commission. These forward-looking statements are made only as of the date of this document. We do not undertake to update or revise the forward-looking statements, whether as a result of new information, future events or otherwise.