0.33 NA EUV Systems for High-Volume Manufacturing

Roderik van Es, Christophe Smeets, Joe Carbone, Guido Salmaso, Nico Benders, Arthur Minnaert and Marcel Mastenbroek

ASML Netherlands B.V.

De Run 6501, 5504 DR Veldhoven, The Netherlands

ASML NXE:3400 and NXE:3600 scanners are now commonly used for High Volume Manufacturing (HVM) of 7nm and 5 nm logic devices as well as 1z memory node devices. In 2021, ASML has introduced the NXE:3600D scanner to the market, targeting 3nm logic and 1a and 1b memory nodes. This system by now has entered the HVM phase as well and is shipping in volume after the field introduction in 2021. In this paper we will share the latest performance of these systems, including excellent overlay, critical dimension (CD) control, stability, reliability, and high productivity.

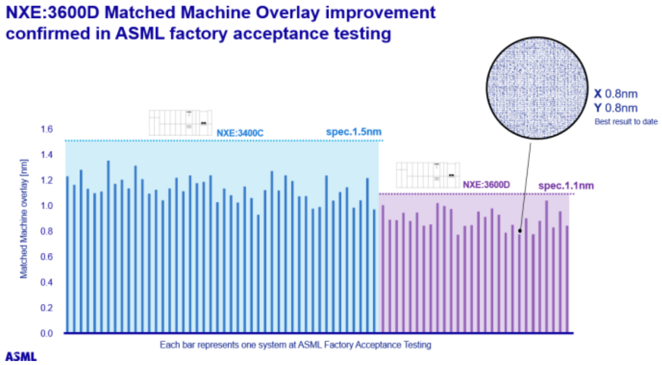

Figure 1 NXE MMO results -
additional data will be available at SPIE 2023

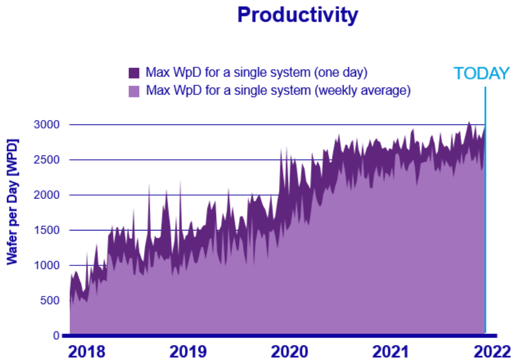

Figure 2 NXE productivity results -
additional data will be available at SPIE 2023

Furthermore, we will address the ASML roadmap for meeting the requirements for the 2 nm node and beyond.