



IEUVI Resist TWG

November 1, 2007

Sapporo, Japan

EUV Exposure Tool

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ADT Specifications	
λ	13.5 nm
NA	0.15 – 0.25
Field Size	26 x 33 mm
Wafer Size	300 mm
Mag.	4x
Flare	16%
Dense	40 nm
Iso.	30 nm
CH	55 nm
Overlay	12 – 15 nm
Throughput	6 – 10 wph



35nm dense line features

Current results from Albany
ADT1 – October, 2007
ASML Test Reticle

FOCUS (nm)

-120

-80

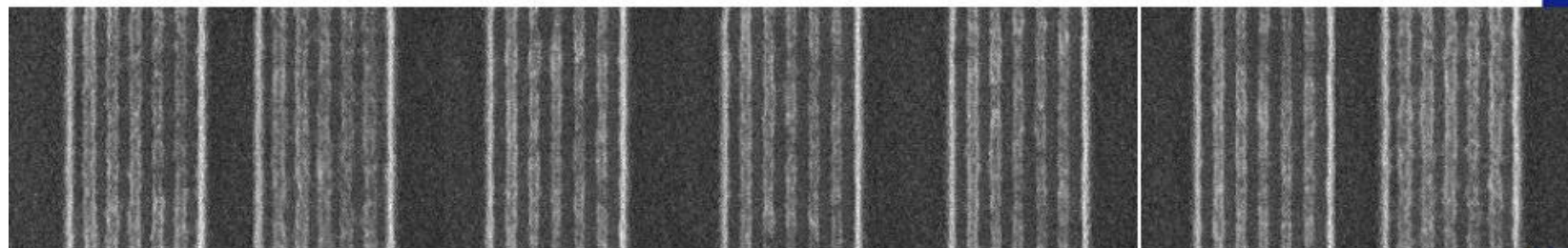
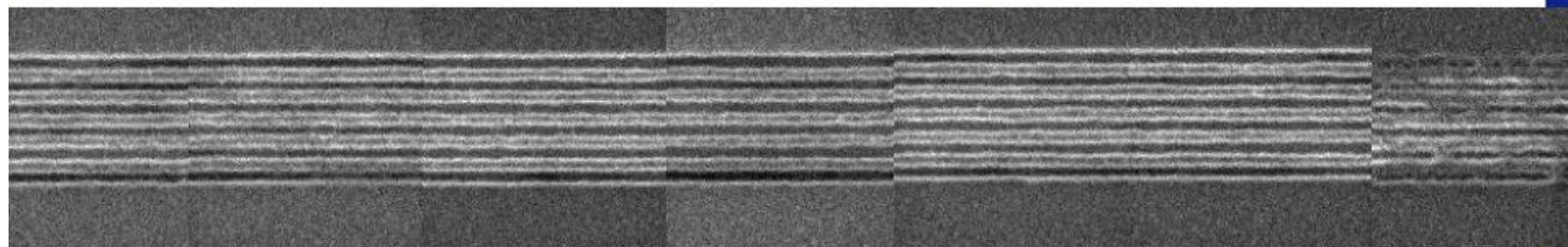
-40

NF

+40

+80

+120



Resist: Rohm Haas XP-5721-I

Thickness: 120nm

Dose: 23.6mJ/cm²

NA=0.25 $\sigma = 0.5$

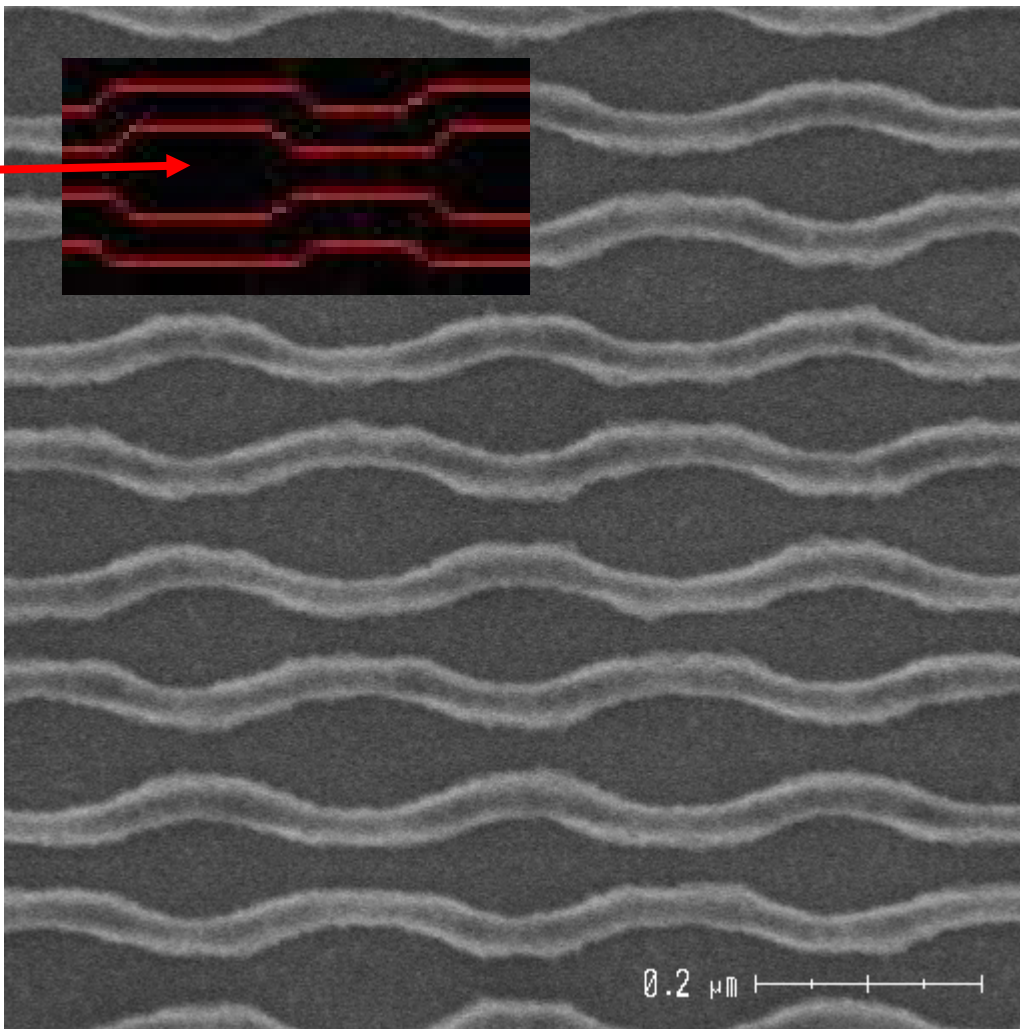
/ Slide 1





INVENT Reticle – 1st High Resolution Images!

GDSII excerpt
from Alpha-1
layout



40nm resolution test site
Resist: Rohm Haas XP-5721-I
Thickness: 100nm



ASML EUV Alpha Demo – TEL Act 12 Cluster

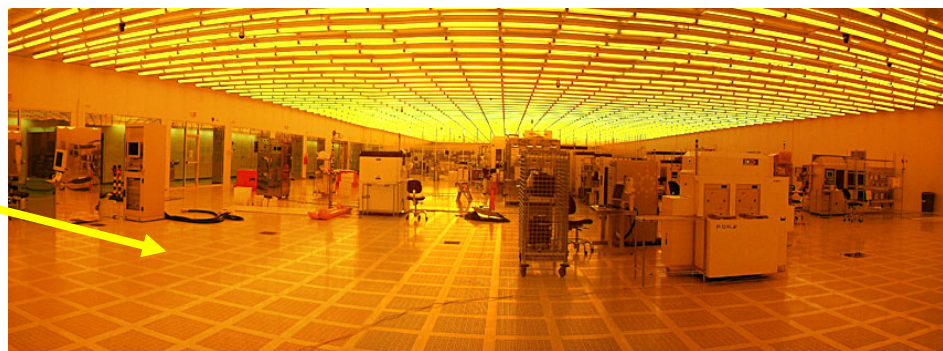


**13.5nm EUV
NA 0.25**

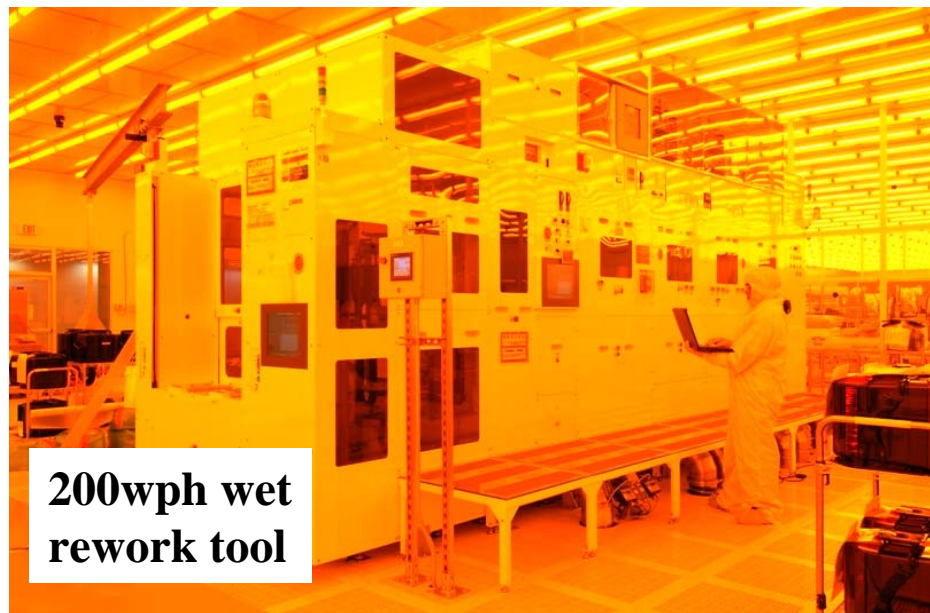


Reticles and Resists

- Reticles and Resist materials must conform to ASML specifications.
- Reticles must come from ASML certified process.

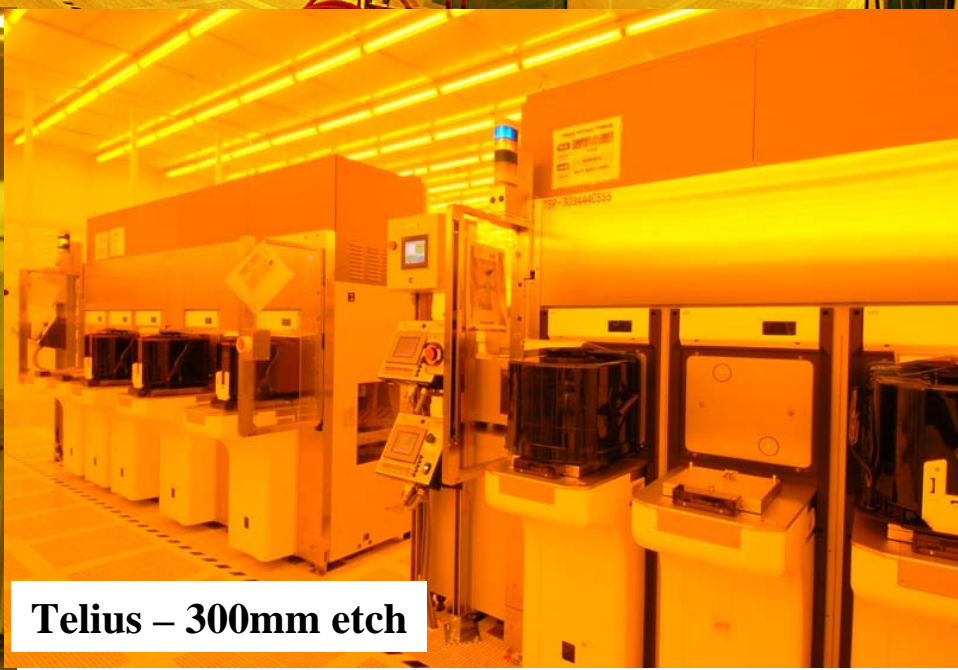
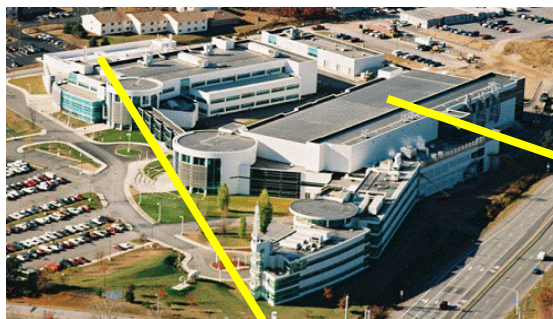


- **CNSE will house over 125 state-of-the-art 300mm wafer tools when build out is completed.**
- **Designed for 32nm node & beyond but compatible with previous generations.**
 - ✓ **Unit process, module integration, and full flow capability.**
 - ✓ **Initially facility will have a 90nm baseline process for use by partners moving to 65nm / 45 nm as test-sites are available.**
- **Facility capable of 25 integrated wafer starts (WSD) per day. 14 WSD in start-up moving to 19 WSD 3Q07.**
 - ✓ **24/7 operation, wafer release 6 Days / Week**
 - ✓ **Quick Turn Around Time (QTAT) to speed learning.**
 - ✓ **Capacity upgrades possible if needed.**





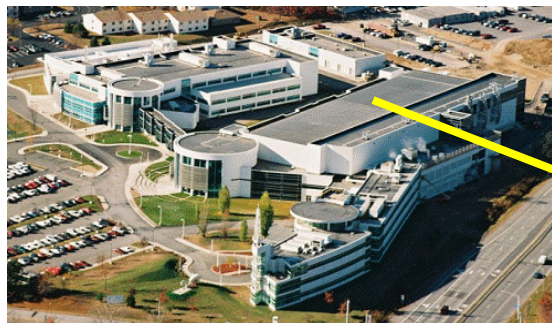
TEL Technology Center America



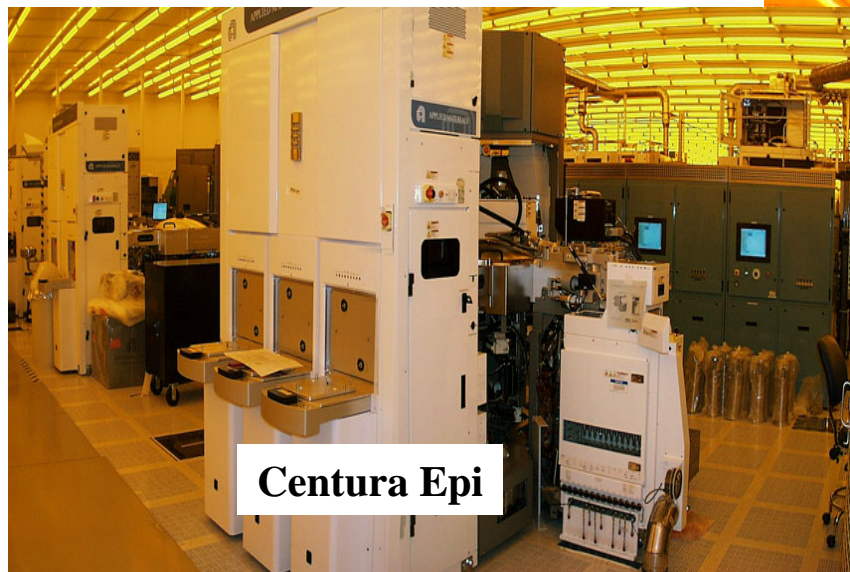
Telius – 300mm etch



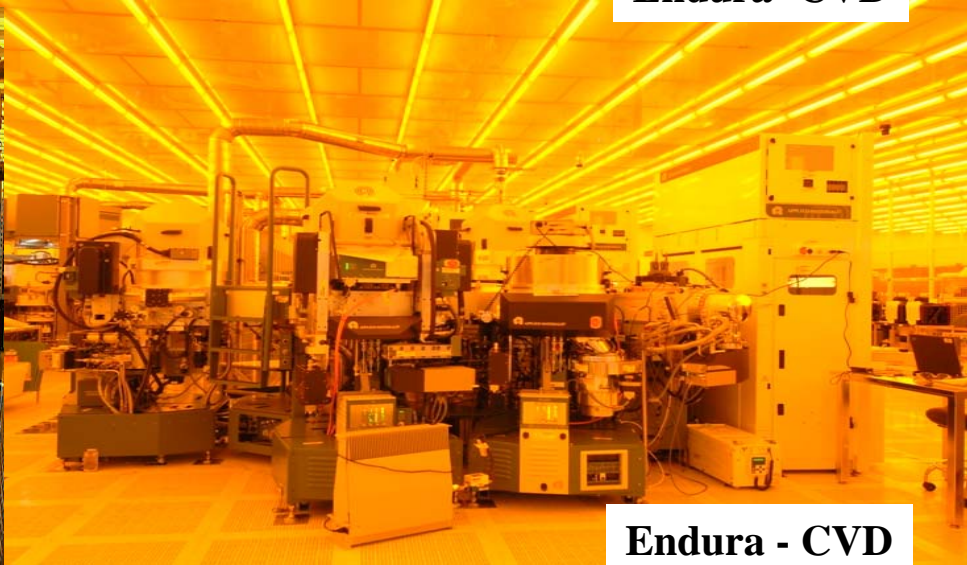
AMAT Tools in the CSR



Endura -CVD



Centura Epi



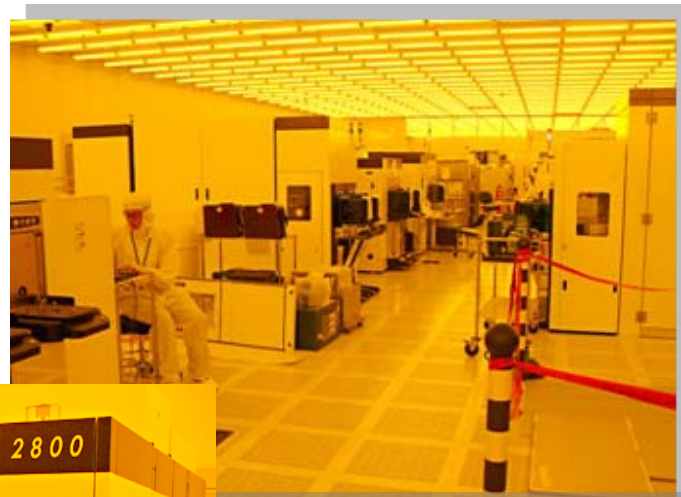
Endura - CVD



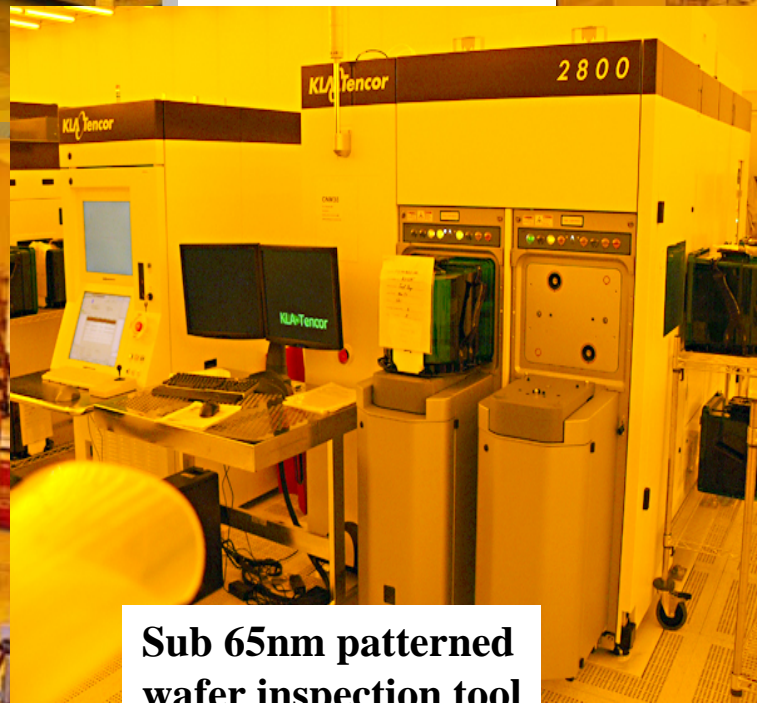
CSR Metrology Systems



FTIR



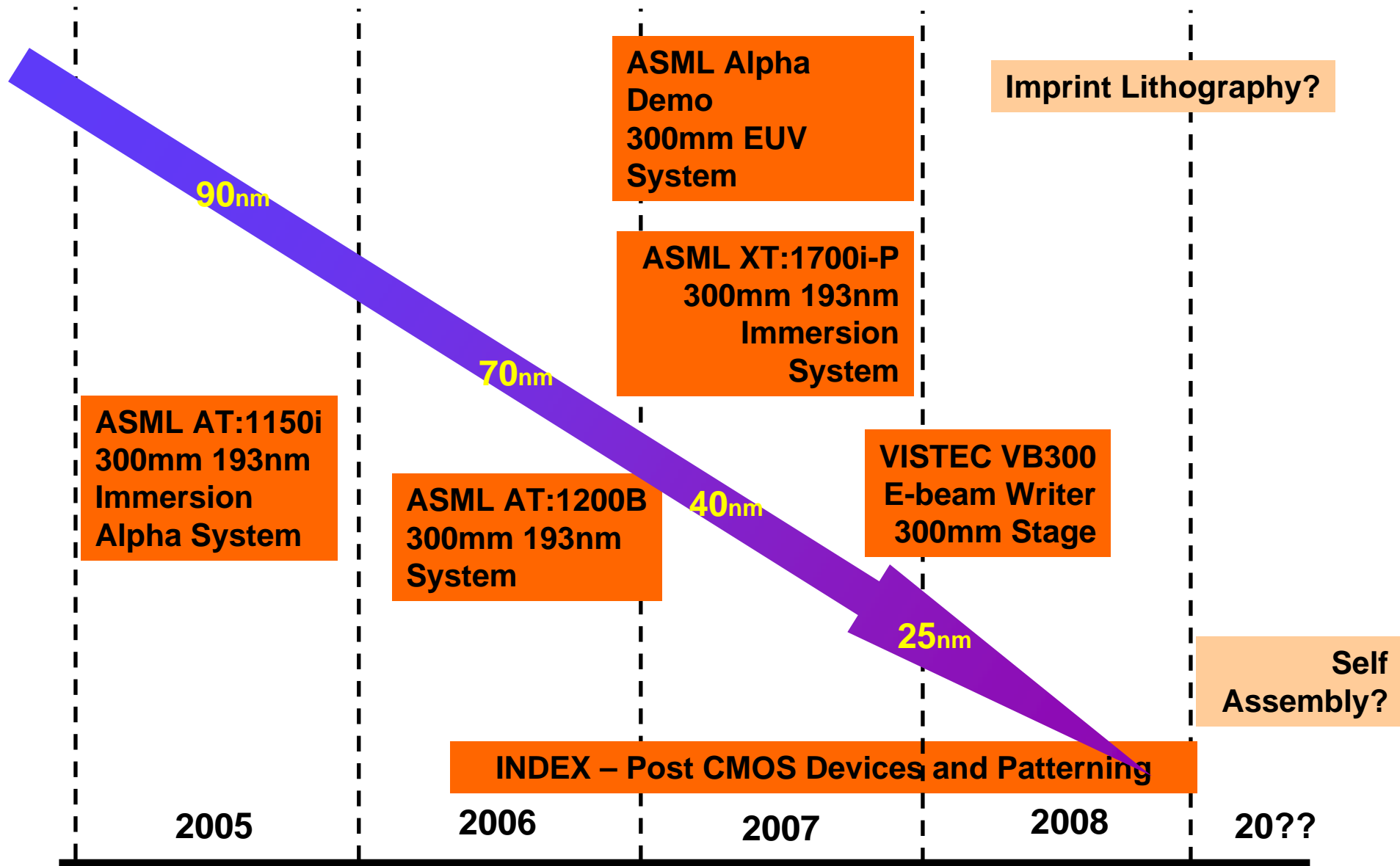
DUV optical microscope



**Sub 65nm patterned
wafer inspection tool**



Wafer Prober





Tool Access

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