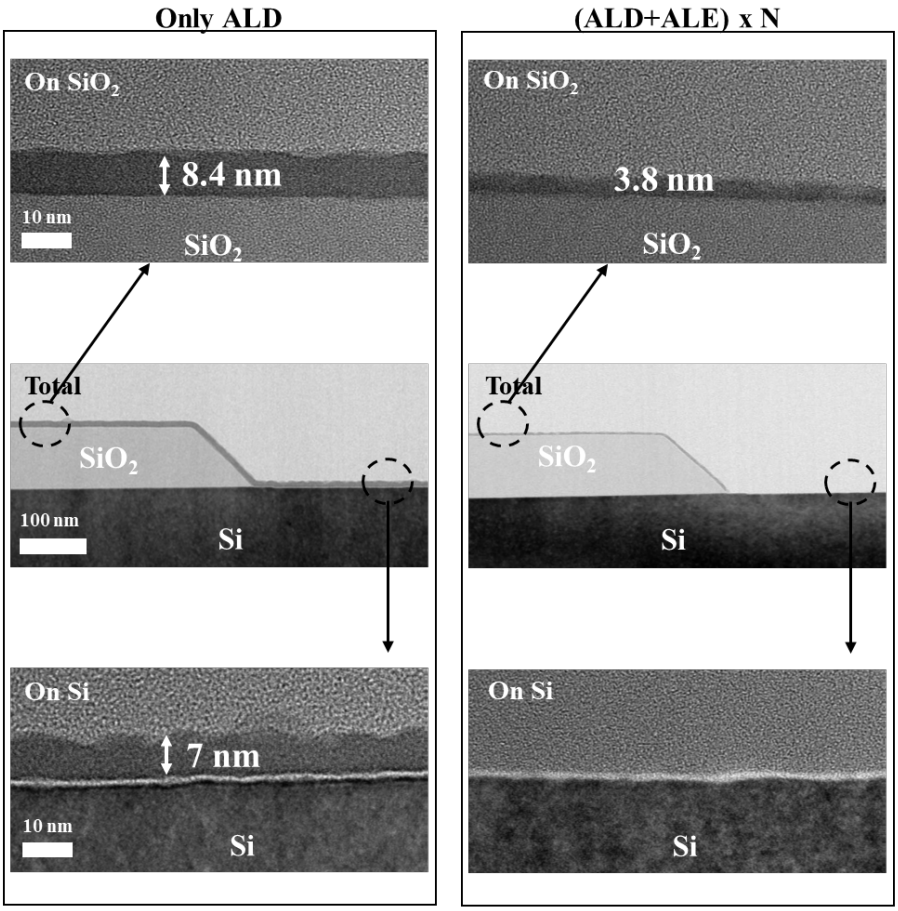

Left column: Cross-sectional TEM images of 300 cycles of ALD TiO_2 at 170°C on patterned Si/SiO_2 wafers. The reduced thickness on Si (bottom image) compare to that on SiO_2 (top image) is due to delayed nucleation on the Si-H surface. **Right column:** Results of Atomic Level Processing, where 240 cycles of ALD TiO_2 are combined with 40 cycles of TiO_2 ALE at 170°C (following a repeated sequence of 30/5 ALD/ALE cycles, respectively). No TiO_2 is visible on the Si-H surface, demonstrating ~ 4 nm of selective TiO_2 deposition. Other techniques, including XPS, SEM, ToF-SIMS, AFM and ellipsometry show consistent results.