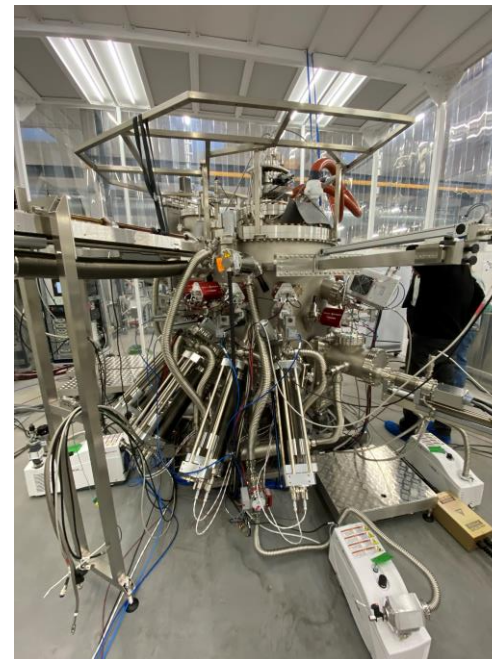
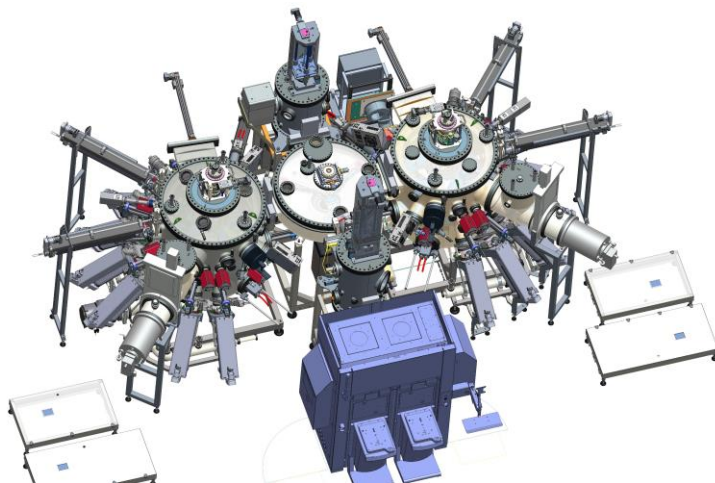


# 300 mm Si MBE Cluster for Photonic Materials



Maximum temperature of 300 mm Si wafer	950	°C	Pyrometer
Maximum manipulator heating rate	60	°C/min	Pyrometer on Si wafer, timer
Temperature variation across 300 mm Si wafer at temperatures between 25 °C and 950 °C (excluding 5 mm edge zone)	≤ 5	°C	IR camera and optical pyrometer
300 mm Si wafer bow after subject to temperatures up to 950 °C	≤ 100	μm	Reflection (measured by external lab)
Cooling time from 950 °C to 200 °C	≤ 35	min	Pyrometer and thermocouple

Light point defects (down to 90 nm)	≤ 100		SPX measured at ISO-certified external lab)
Area defects (down to 250 nm)	≤ 5		SPX (measured at ISO-certified external lab)
Area defects (down to 1000 nm)	0		SPX (measured at ISO-certified external lab)
Surface metals	≤ 5 x 10 <sup>10</sup>	# of atoms/cm <sup>2</sup>	VPD-ICP or TXRF (measured at ISO-certified external lab)