## Sierra High Step Coverage TiN/TSN ALD System



## **Key Features**

- Based on QXP+ and adds:
  - Heated TiCL4 delivery
  - Independent valves for each process station
  - Modified shower head
  - Change in dry clean from NF<sub>3</sub> to CIF<sub>3</sub> for greenhouse gas emissions

## **Benefits**

- Excellent station to station non-uniformity
- Step Coverage required for current and future 3D structures
- Hardness / Modulus >25 / >300 GPa @ TSN
- >40 wph for 120Å TiN
- >50 wph for 150Å TSN