

Technologies

We have an extensive suite of epitaxial growth tools - including MBE and MOCVD, wafer characterisation equipment, and extensive experience of design for manufacture.

III-V Epi has the following MBE and MOCVD capabilities:

Current MBE and MOCVD tool configurations:

Epitaxy Technology	Wafer Size	Alloys	Dopants	Epitaxy on Si?
MBE	2-4" (50-100mm)	AlGaInAsSbP	Si, Te, Be	Yes – High Temperature Capability
MOCVD	2-4" (50-100mm)	AlGaInAsP	Si, Zn, C, Fe	Yes – High Temperature Capability

We have high resolution X-Ray Definition (XRD), Hall-effect, and eCV measurements that allow structural and electrical characterisation, backed up by strong links to external partners for TEM, SIMS, etc.

Our optical characterisation techniques span the UV to Mid-IR spectral ranges, with photoluminescence (PL) and reflectivity mapping, low temperature PL wafer mapping and micro-PL mapping.

We have a number of device-level metrology and characterisation test services available.

Our MBE capabilities:

Our equipment and material capabilities include:

- VEECO MBE Reactors
- Up to 4" / 100mm
- Up to 1200C
- III-V on Silicon
- Group III : Ga, In, Al
- Group V : As, Sb, P
- Dopant : Si,Te (n), Be (p)

Our expertise includes:

- Sb based LEDs, LDs, PDs
- InP and GaAs HEMTs
- Quantum Cascade Lasers
- Quantum dot structures

Our MOCVD capabilities:

Our equipment and material capabilities include:

- Aixtron Reactors
- Up to 4" / 100mm
- InP regrowth
- GaAs regrowth
- InGaAsP alloys
- AlGaAsInP alloys

Our expertise includes:

- Red-NIR (630-1700nm) LEDs, LDs, PDs
- GaAs based VCSELs, VECSELs
- Re-growth of InP and GaAs – DFBs, Buried Heterostructures, Selective Area Growth