RIT Epitaxy Facility

- RIT recently completed installation of a new Aixtron Close Coupled Showerhead (CCS) MOCVD
  - 3x2”, 1x3” and 1x4” capability
  - Epitaxy of III-V compounds of As, P and Sb
  - In-situ diagnostic LayTec EpiTT-Curve system gives real time information of temperature, stress, strain and surface roughness
  - Materials used for advanced applications in solar energy, integrated photonics, nanomanufacturing, infrared detectors and next generation electronics
MOCVD Recharge Center

- Staff of the RIT Epitaxy Facility are available to work with customers for any standard or customized growth or device structure.
- All growth runs are completed in-house by our staff of research scientists, all of whom have advanced training in semiconductors and epitaxy.
- Base cost for tool use is the per-run cost to use the tool, but does not include precursor material costs.
- Any additional time for design or product development is not included and would be a separate charge.
- Commercial rates need to be adjusted to account for personnel costs.

Source/ Material Costs

Source/ Material Costs are based on the actual cost of materials consumed. Calculations for this cost is project specific, depending on substrate and growth requirements.

Current Options:
- Wafers: GaAs, InP, GaSb (test and prime wafers)
- Metal Oxide: TMAI/ TEGa/ TMGa/ TTBAI/ DEZn/ TMIn/ TBAs/ TMSb
- Hydrides: AsH₃ / PH₃

### 2018 Base Rate for MOCVD

<table>
<thead>
<tr>
<th></th>
<th>Federal Rates</th>
<th>Commercial Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>RIT and other University</td>
<td>$140</td>
<td>Based on customer needs</td>
</tr>
<tr>
<td>customers</td>
<td></td>
<td>Quotes available upon request</td>
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<tr>
<td>for runs &lt; 2:30;</td>
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<tr>
<td>+$20 for each additional 15 min.</td>
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<tr>
<td>The Base Cost is applied to all MOVPE growths and is a per run charge. Projects are invoiced monthly/</td>
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Rates effective Oct 1, 2017-Sept 30, 2018