MIT Mobility Initiative
Vision Day
Financing the Mobility Transformation

Patrick Steinemann, Head of Global Mobility Group
Bank of America Securities
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The world needs several trillion dollars to finance the future mobility transformation.

**Total global investment need by 2030**

- **Electric Vehicles**: $500 – 800bn
- **Battery**: $600 – 900bn
- **EV Charging**: $150 – 250bn
- **Mobility Services**: $500 – 1,000bn
- **Autonomous Vehicles + Software**: $100bn

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Source: Wall Street research and publicly available data.

(1) Encompasses cumulative investments in areas of Electric Vehicles, EV Charging, Battery and Autonomous Vehicles + Software segments over the period up to 2030.
## Stages of Development for Mobility Companies

**Developing and transitioning mobility related technology at global scale requires a bespoke menu of financing solutions and a plenitude of capital sources.**

<table>
<thead>
<tr>
<th>Development Phases</th>
<th>Key Milestones</th>
<th>Capital Intensity</th>
<th>Capital Sources</th>
<th>Public Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Development</td>
<td>Product development</td>
<td>Seed</td>
<td>Seed Funding</td>
<td>IPO</td>
</tr>
<tr>
<td>Pilot / Demonstration</td>
<td>Pilot facility</td>
<td>Early Stage (Series A/B)</td>
<td>Venture Capital</td>
<td>Follow-On Equity</td>
</tr>
<tr>
<td>Pre Commercialization</td>
<td>Full-scale prototype</td>
<td>Later Stage (Series C/D)</td>
<td>Venture Capital</td>
<td>Convertibles</td>
</tr>
<tr>
<td>Final Commercialization</td>
<td>Major contracts signed by customers</td>
<td>Growth (Series D/E/F+)</td>
<td>Government Grants, Loans, ATVMs</td>
<td>Debt Financing</td>
</tr>
<tr>
<td>Scale</td>
<td>Full scale production</td>
<td>Public Capital</td>
<td>Corporate VC</td>
<td>Bank Loans</td>
</tr>
<tr>
<td></td>
<td>Business generating cash flow</td>
<td></td>
<td>Venture Debt</td>
<td>Project Financing</td>
</tr>
<tr>
<td></td>
<td>Diversify and grow sales</td>
<td></td>
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</tbody>
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### Sources of Funding

- **Seed**
  - Angels
  - Corporate R&D Funding
    - R&D Grants
- **Early Stage (Series A/B)**
  - Venture Capital
- **Later Stage (Series C/D)**
  - Venture Capital
- **Growth (Series D/E/F+)**
  - Government Grants, Loans, ATVMs
  - MDBs, ECAs

### Public Capital

- IPO
- Follow-On Equity
- Convertibles
- Debt Financing
- Bank Loans
- Project Financing
Funding the Global Mobility Sector

Mobility sector largely funding its transitional growth with equity through venture capital and IPO activity

Large corporations financing the mobility transition mostly with own funds and debt

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**Global Fundraising in the Mobility Sector**

<table>
<thead>
<tr>
<th>Year</th>
<th>Private / Venture Capital</th>
<th>IPO / SPAC</th>
<th>Public Equity / Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>55%</td>
<td>23%</td>
<td>23%</td>
</tr>
<tr>
<td>2021</td>
<td>47%</td>
<td>45%</td>
<td>9%</td>
</tr>
<tr>
<td>2022</td>
<td>48%</td>
<td>47%</td>
<td>12%</td>
</tr>
<tr>
<td>2023 - 1H</td>
<td>48%</td>
<td>47%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Source: Dealogic, Pitchbook, Wall Street research and publicly available data.