National Mission for Electric Mobility
Technology Platform
Road is the biggest infrastructure; it can become intelligent – sense & communicate. Calm Traffic.
Congestion & pollution are related; but need not any longer
Electric Mobility is difficult in rural areas but is good for hills.
DHI-DST Technology Platform for Electric Mobility

- Inter-ministerial Technology Platform for Electric Mobility
  - ~20% of funds of National Mission for Electric Mobility is for Technology Development
- Program outsourced to DST by DHI ~5 years
  - Public-Private Partnership in R&D
  - Industry led Technology Projects, co-shared funds
  - Three Technology Readiness Levels to achieve
  - Innovation Program for Excellence
# Reference Vehicles under TPEM

<table>
<thead>
<tr>
<th></th>
<th>2W</th>
<th>3W</th>
<th>Small Car</th>
<th>Sedan</th>
<th>Mini Bus</th>
<th>Full Bus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>100-150 kg</td>
<td>400-600 kg</td>
<td>1-1.5 Ton</td>
<td>2-3 Ton</td>
<td>5-6 Ton</td>
<td>10-12 Ton</td>
</tr>
<tr>
<td><strong>Voltage</strong></td>
<td></td>
<td>Low &lt; 60V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power (kW)</strong></td>
<td>2 kW</td>
<td>7 kW</td>
<td>20-60 kW</td>
<td>80-100 kW</td>
<td>50-60 kW</td>
<td>&gt;100 kW</td>
</tr>
<tr>
<td><strong>Battery</strong></td>
<td>1-3 kWh</td>
<td>5-10 kWh</td>
<td>10-15 kWh</td>
<td>25-50 kWh</td>
<td>100 kWh</td>
<td></td>
</tr>
<tr>
<td><strong>Range</strong></td>
<td>50-100 kms</td>
<td>100-200 kms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Slow Charging</strong></td>
<td>AC Low Power, Single Phase</td>
<td>AC High Power Type-2 charger</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fast Charging</strong></td>
<td>Fast: DC low-voltage</td>
<td>Fast: DC high-voltage</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Trip Length ~50 km**

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*References to different types of vehicles with icons.*
Battery – how can we get the best? Make in India?
Universal Lithium ion Battery modules?

1. Light EV (2W/ 3W/ Quadricycle)
2. Cars, SUVs, Vans
3. Mini Bus, Urban EV Bus