Applied GaN: Innovations in Energy Management Systems

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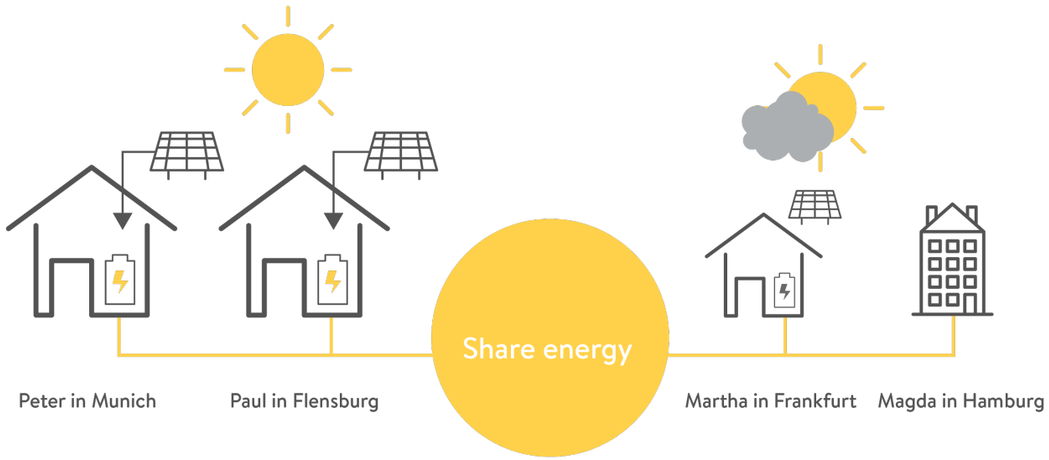
Renewable Energy Management

Energy Storage Systems enable renewable energy by adding an extra degree of freedom

- Net Metering are challenging original ROI calculation
  - Lower Feed-In Rates
  - Zero-Export Regulation
- Energy Independence
  - Solar production only works when grid-tied
  - More demand on weaker grids
  - Use it when you need it
- Grid Resiliency
  - Enhance grid-edge by deploying virtual power plants
  - Allow end-nodes to remain operational during outages



Energy Storage Systems Status Quo

Renewable energy know-how comes from the learnings and teachings derived from PV and Wind

- Monodirectional designs have been adapted to operate in bi-directional configurations
  - Uneven efficiencies

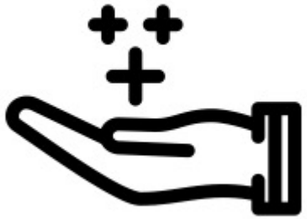
- High Power is the best power
  - Targeting better efficiencies at nominal power
  - ESS benefits from high power charging and low power discharging

- Integrated solutions are hard to come by
  - Each component is sold separately
  - Sophisticated Installers required

Advantage with GaN Systems

Integrated solutions can help us achieve a new product offering that centers not only on power harvesting but properly manage energy as individual unit or a collective virtual power plant

- Leveraging GaN Systems' technology gives us improved design freedom
  - Higher Efficiencies: **4% round-trip efficiency increase**
  - Normalized Efficiencies: **at low and high power**
  - Reduction in Material Cost: **8% BoM cost savings**
  - Reduction in Size: **30% smaller**



- GaN Systems allow us to pack an improved value-stack at a competitive cost position
  - Extending the value of the battery usable capacity by improving directional efficiencies
  - Allow us to design more integrated solutions