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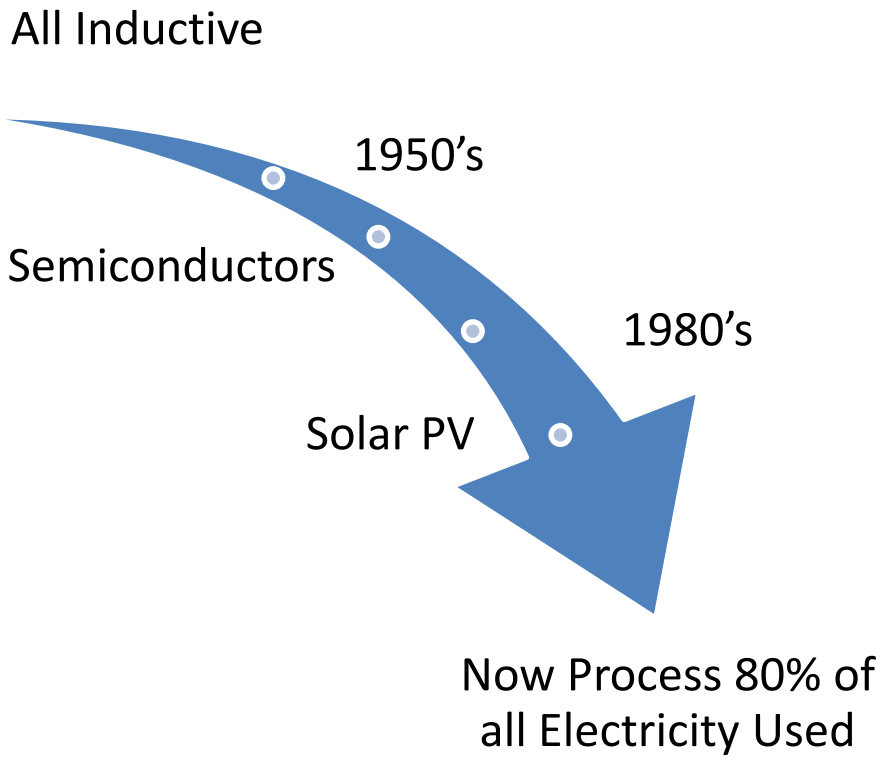
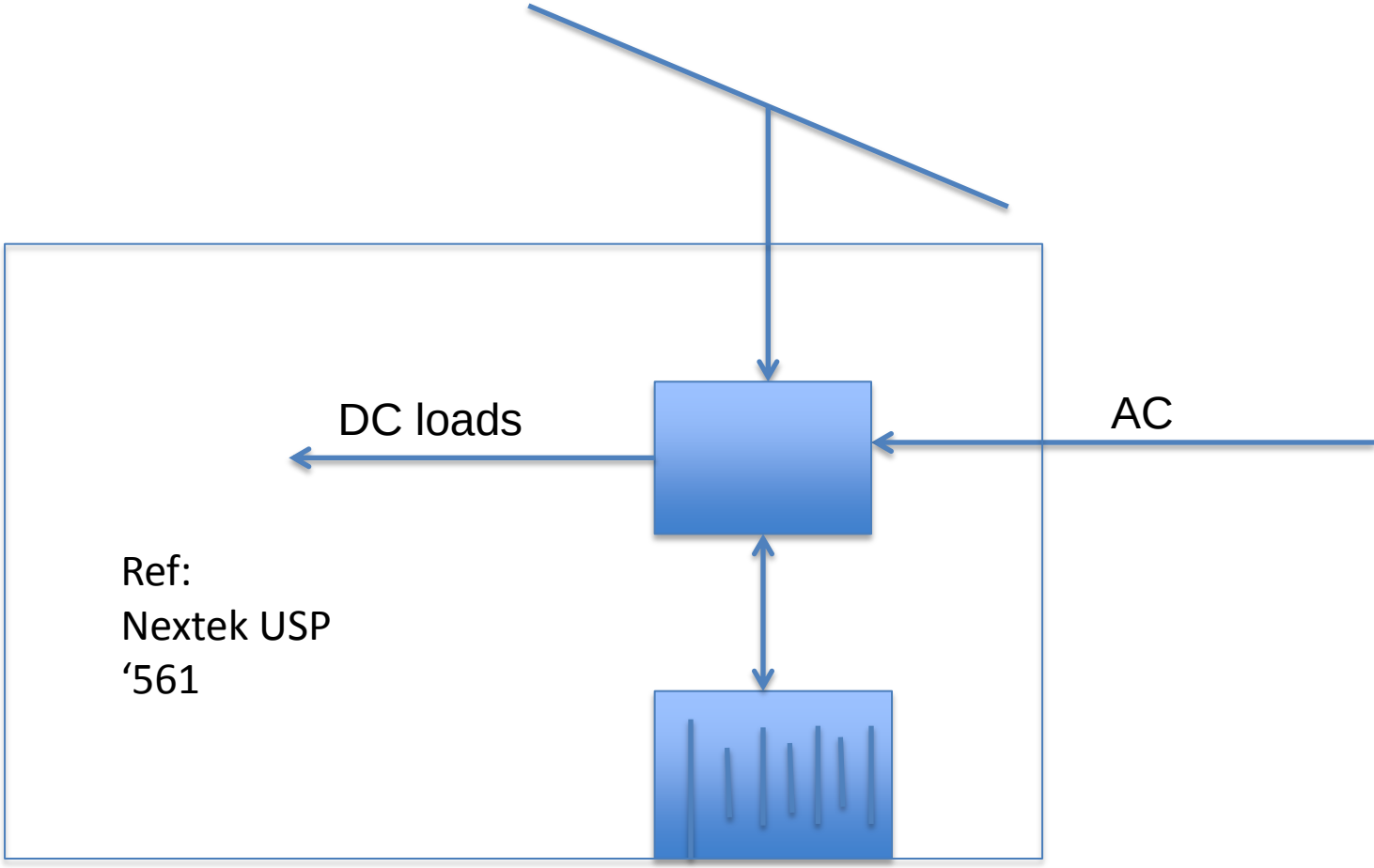
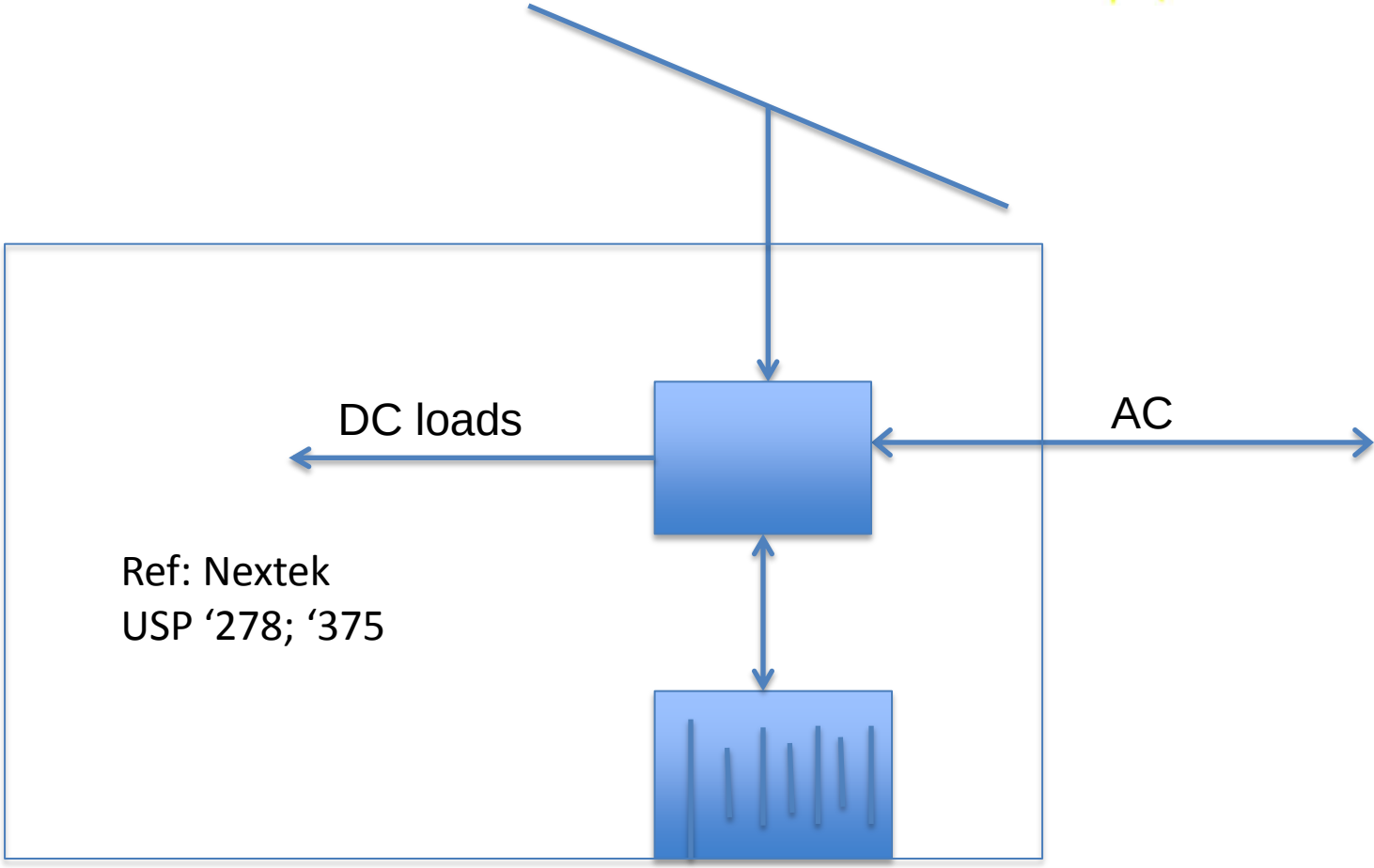
Shift to Semi-conductors



DC Microgrid Idea



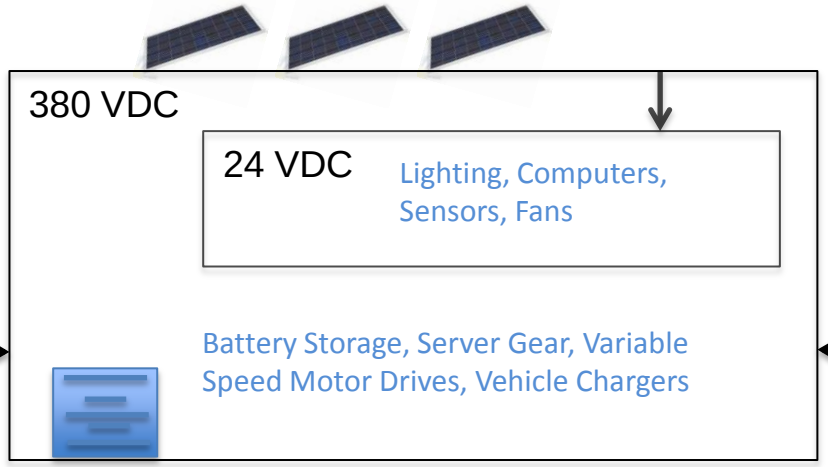
Bi-Directional DC Microgrid

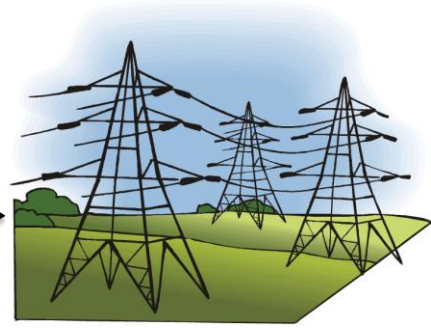


"The total amount of energy flowing into external power supplies in the U.S. today is about 100 TWh/year. DC power is also used in electronic products with internal power supplies. These collectively consume in excess of 250 TWh/year. Taking the Energy Star Tier 1 levels as the average for the near-future stock, the average efficiency of this conversion is about 68%..."*

Sector	Potential MWh Saved	Potential Efficiency Gain in Sector(s)	Potential Reduction in National Load
Residential	185,264,820	25.32%	2.98%
Commercial	123,290,000	19.03%	3.03%
Manufacturing	77,128,960	20%	1.90%
Data Centers	9,657,827	18%	0.24%
Total	396,341,607	21.15%	8.15%

***Low-voltage DC: Prospects and Opportunities for Energy Efficiency** Bruce Nordman, Rich Brown, Chris Marnay Lawrence Berkeley National Laboratory, November 16, 2007





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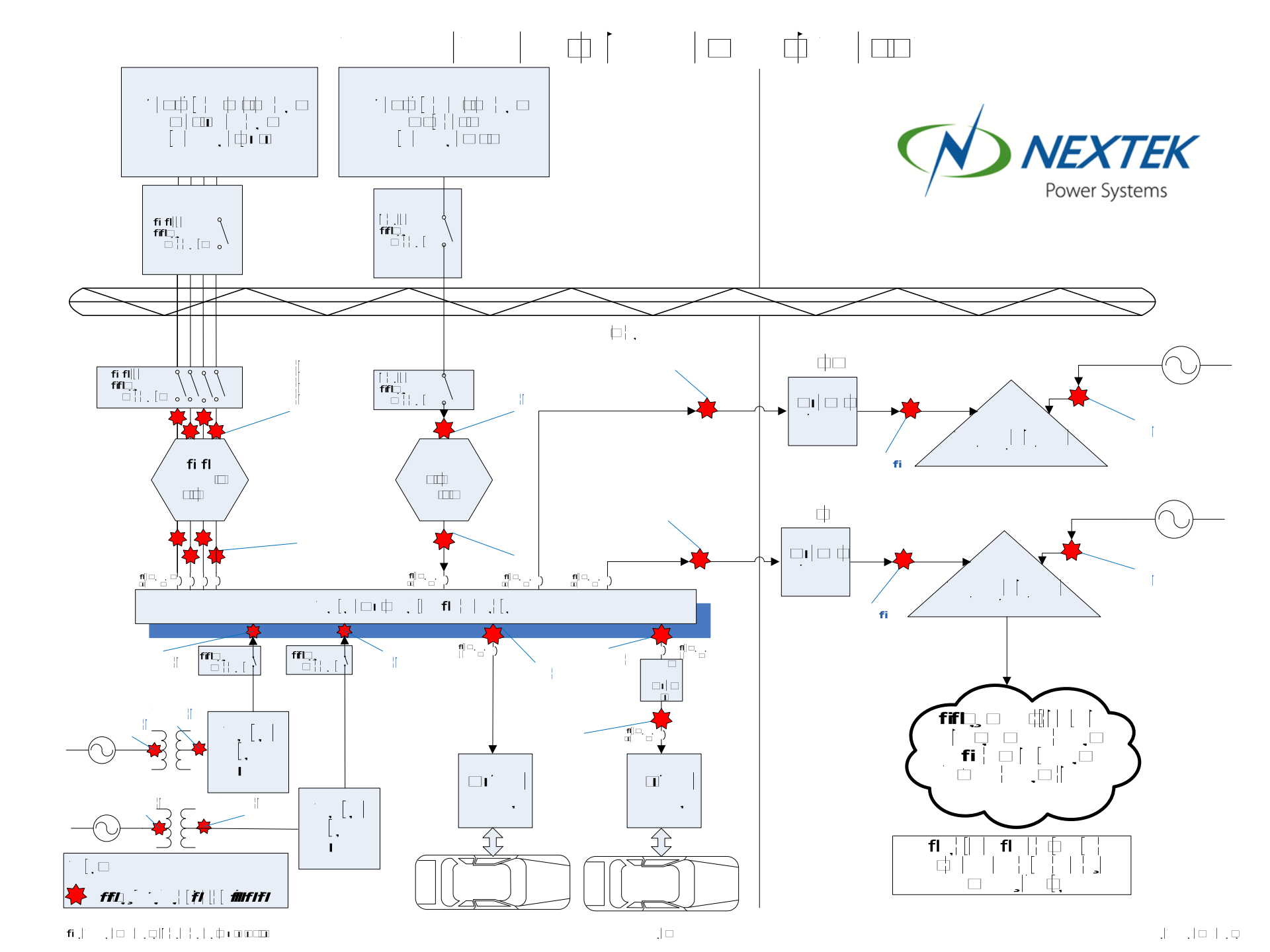
Protected under US Patent# 7872375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Michigan Assembly Plant

Birth Announcement

EMerge™ ALLIANCE

MEMBER GOVERNING

Welcome!

- *24 VDC*
- *380 VDC*

XOXO ~ 75 Stakeholders

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lauckgroup
Architectural Office
Dallas, TX

US Green Bldg Council
Conference Rooms
Washington, DC

Nextek Power NextEnergy
Center
Detroit, MI

UC San Diego
Sustainability Center
San Diego, CA

Southern Cal Edison
Utility Services Office
Irwindale, CA

Johnson Controls
Headquarters Office
Milwaukee, WI

Optima Engineering
MEP Firm
Charlotte, NC

LA Community College
Trade Tech Campus
Los Angeles, CA

CLTC
UC Davis Campus
Davis, CA