

PSMA Power Technology Roadmap Report Structure

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Report Structure

- A Three-Dimensional Cross-Cut Look at Technology, Components, and Applications
 1. **Power Conversion Technology Segments**
 - Ac-dc Power, Isolated Dc-dc, Inverters, etc.
 2. **Components**
 - Semiconductors, Magnetics,
 - Capacitors, Packaging, etc.
 3. **Key Applications**
 - Servers, Telecom, Datacom,
 - Lighting, Solar, etc..
- Segment Details
 - (Next slides)



Report Structure:

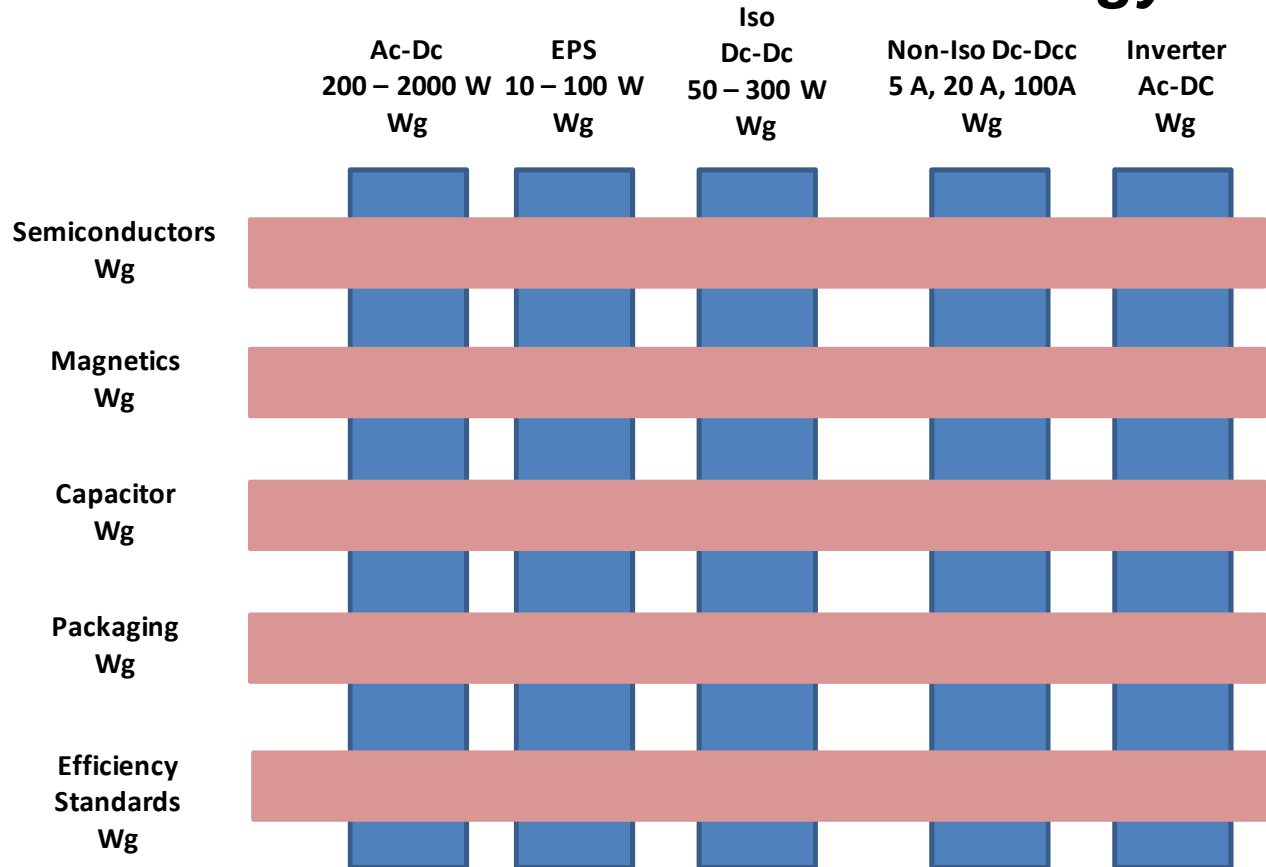
5 Key Technology Segments + Applications

- 1. Ac-Dc Power Supplies 200 - 2000 W**
 - Will have two subcategory ranges: 200 – 600 W range (for mid-power ac-dc supplies) and 1000-2000 W range (for server and telecom front-end supplies)
- 2. Ac-Dc External Power Supplies**
 - Will have two sub-categories (10 W & 100 W to cover different technologies)
- 3. Isolated Dc-Dc Converters**
 - Expanded to include two sub-categories (50 W and 300 W) for both regulated bricks and bus converters
- 4. Nonisolated Dc-Dc Converters (Arnold Alderman - Anagenesis)**
 - Will include 3 sub-categories (5 A, 20 A and 100 A)
 - Henry Lee will support Arnold
- 5. Inverters (Dc-Ac Converters) (Chuck Blair - Liebert)**
 - PV Inverters - includes big inverters for wind power as well as micro-inverters for solar
- 6. Applications**
 - To cover application-specific key power trends



Cross-cut working groups

Resources for the Technology Segments



Goal: to help fill out the roadmap in a more complete way.

Example: A working group of ac-dc experts, and a working group of external power supply experts would each prepare their roadmap material. Then crosscut experts in magnetics and semiconductors etc would add their input to each power supply working group as shown.

Hole: Capacitor Working Group / Expertise. Resurrect PSMA Capacitor committee?



Application Segments

To cover application-specific key power trends

COMPUTING	Servers	Ed Stanford / Intel
	PC Power	Bruce Miller? Tomm
	Notebook Pwr	Aldridge/Intel Energy Labs
COMMUNICATION	Datacomm	Bob White? Dusty Becker? Ed Carreno? Lineage (JosephT)?
	Telecom	
CONSUMER	Displays	Semiconductor group (IR, FCS, ON, TI, etc.)
	Game	
RENEWABLE ENERGY (Distributed Energy Sources)	Solar Inverters	Ash Sharma / IMS
	Energy Storage	John Bowers / Sandia
	Wind Power	
LIGHTING		Marshall Miles / Power Perceptions
MIL / AERO		Ernie Parker / Crane
INDUSTRIAL		Kevin Parmenter?
MEDICAL		Peter Resca (Astrodyne)/ SL Power?
AUTOMOTIVE		Jim Spangler / Randy Frank? Ralph Tayler (Delphi)

PTR 2011

Key Changes From Previous Roadmaps

- **Plan to do every two years (from every three years)**
 - Per PSMA members' request
- **Added one more power technology segment (Inverters)**
- **Modified Definition of some of the segments**
 - To include wider power ranges and topologies
 - E.g. Embedded Ac-dc now covers 200 W – 2 kW.
- **Cross-cut Working Groups**
 - Resources to help all technology segments
- **Application Segments Commentary**
 - To cover application-specific key power trends
- **Mid-term Update White Papers**
 - To highlight key trends changes that happen between roadmap reports

- **Keeping these Changes from PTR 2009**
 - On-line Presentations
 - Segment Leaders
 - Co-chairs



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END

