

You Capture the Sun. We help you do it longer.

## Power Electronics in PV Systems

**The solar PV market is experiencing rapid technological change due to the growing influence of module integrated electronics. This can take a number of different forms**

- Detached micro-inverters and DC optimizers (attached to racking)
- Micro-inverters/DC optimizers attached to PV module frame
- Micro-inverters/DC optimizers integrated onto PV module back-sheet

All these new approaches have technical and business advantages and disadvantages, and they all compete with traditional centralized string inverters. In addition, each technology has a different value proposition depending on the market: residential, small commercial, large commercial and utility scale. The advantages claimed by these solutions include:

- Differentiated product offering
- Significant LCOE reduction, up to 20%
- Incremental revenue
- Increase market size by addressing new markets
- Increase system safety and faster installation inspector approvals

To help PV module companies, that may not be familiar with this new technology, or have the resources in place to perform a thorough evaluation, DfR Solutions offers a range of capabilities to help them make the best choice for their target market, and to get to market in a timely fashion.

Residential  
Small Commercial  
Large Commercial  
Utility Scale

## Services

**Competitive analysis:** review the offerings of all the many companies developing power electronics solutions for different markets. Identify the performance and business trade-offs of each solution and identify the best solution for your business.

**Power module test/evaluation:** In-depth evaluation of modules with respect to:

- Reliability
- MPPT tracing
- Solar shading performance
- IEEE1547 compliance
- Efficiency (CEC)
- Snow load testing
- Regulatory approvals
- Energy harvest under typical operating environments

**Power vendor audits:** detailed audits of the vendors business organization systems:

- Design procedures and capability
- Quality systems
- Order management systems
- Return Material Processing (RMA) systems
- Production factory on site audit

**DfR Solutions** has the expertise and capability to provide critical technical and business support to allow you to make the best decision on which of these many technologies to incorporate into your product offering. We also enable a successful launch to meet time to market business requirements and enable long term, sustainable competitive advantage.

### For more information

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