DECENTRALIZED COMMERCIAL SYSTEMS

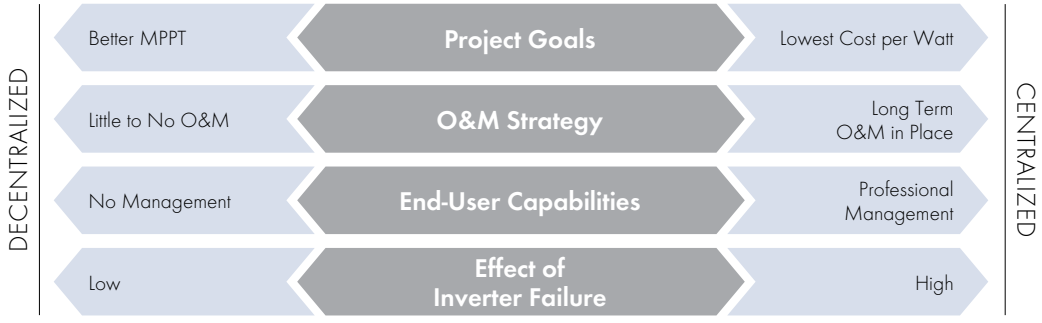
The Flexible Solution

THE CHALLENGE:
OPTIMIZING FLEXIBILITY, COST, AND TIME-TO-MARKET

Cost. Energy production. ROI. When considering the design and layout of a commercial PV system, selecting the right technology and applying the most cost/performance-optimized method is paramount. It all comes down to ROI.

Through the adoption of global best practices and leading SMA string inverter technology, PV integrators are moving towards a better model: decentralized commercial rooftop systems using string inverters. For PV plants ranging from 50 kW to 1 MW, this model is simplifying installation, increasing energy production and lowering long-term costs, adding profit to the bottom line.

KEY CONSIDERATIONS



A BEST PRACTICE FOR COMMERCIAL SYSTEMS

Decentralized commercial systems have been the preferred design concept in Europe and other international locations for a number of years. SMA is proud to bring this best practice to North America, where integrators can take advantage of our unique experience, world-class technology and unrivaled support.

CENTRALIZED OR DECENTRALIZED: WHICH IS RIGHT?

The answer is the technology that is best for your project. When determining the technology to use for any given PV system, many considerations are made. Installation capabilities, upfront and long-term costs, energy production, maintenance, component availability, supplier stability and many more ultimately factor into the final decision.

UNMATCHED FLEXIBILITY

Integrators using leading SMA string inverters can take advantage of greater design flexibility and a more granular approach to system optimization. Additional choices for string sizing and layout maximize energy harvest potential. And, by using SMA's free system design tool –Sunny Design– proper sizing is made simple.

CONCEPT TO COMPLETION IN RECORD TIME

Time is money. By choosing a decentralized approach, integrators can take advantage of SMA's global manufacturing capacity and local production, which means lead times are reduced to days, instead of months. This competitive advantage means less time is spent throughout the process, from ordering to installation.

KEY ADVANTAGES

1

OPTIMIZE VALUABLE REAL ESTATE

Without the need for a concrete pad or large area dedicated to housing a central inverter, parking and shipping areas remain free of obstruction. Likewise, on a commercial rooftop, all of the space is utilized for the system, with none being wasted. An SMA string inverter can be integrated into the array structure, reducing the overall system footprint.

2

IMPROVED ENERGY HARVEST POTENTIAL

A decentralized PV plant yields numerous performance advantages. Using SMA string inverters, with industry-best efficiencies, integrators can immediately realize more energy production. With multiple MPPTs, energy harvest is optimized. Should problems arise, the redundancy provided by multiple inverters preserves system uptime and protects the owner from lost profit. Superior array monitoring options are also available, with minimal additional equipment, protecting the investment further.

3

REDUCED INSTALL AND TRANSPORT COST

Utilizing cutting-edge SMA string inverters, integrators eliminate the need for costly heavy machinery such as cranes and rigging systems. Access roads, foundations or piers required for central inverters are eliminated. Transport is much simpler and freight costs are lower.

4

BALANCE OF SYSTEM (BOS) SAVINGS

Shorter DC cabling runs and the elimination of DC combiner boxes save money. Combined, these make a decentralized approach to commercial PV the most cost-effective and profitable method available.

5

WORRY-FREE LONG-TERM OPERATION

Every commercial PV system needs an O&M plan. By selecting the most reliable inverters available – SMA string inverters – O&M can be virtually eliminated. If problems do arise, a longer factory warranty and short replacement product lead time ensure the disruption is kept to a minimum. With the decentralized approach, site hosts can be assured of years of worry-free operation with a minimum of plant maintenance.

The world's best selling inverter – the SMA Sunny Tripower – is now UL listed and available in North America. This three-phase transformerless inverter is rated for 600 or 1000 V DC maximum system voltage and has peak efficiency above 98 percent. It offers unmatched flexibility with a wide input voltage range, two independent MPP trackers and OptiTrac Global Peak for shade mitigation. It is also equipped with all-pole ground fault protection and integrated AFCI. With an eye on the challenges of today and tomorrow, the Sunny Tripower TL-US inverter series delivers a future-proof solution with full grid management, and communications and monitoring features.


1
2
3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4

ADVANTAGES IN ACTION

MAXIMIZE AVAILABLE ROOF

Using string inverters in a decentralized approach can take full advantage of all usable space for maximum production.

Photo courtesy Inman Solar

INTEGRATED SYSTEM

Mounting the string inverter to the racking can offer protection against the elements, conserve space and cabling costs, and speed installation.

Photo courtesy Inman Solar

SHOWCASE COMMITMENT

Business owners can use a clean, professional installation to highlight their commitment to the environment and build public goodwill.

SIMPLE, FLEXIBLE ENGINEERING

By using standard components and methods, installers are able to implement inexpensive, efficient solutions to quickly complete projects.

ENERGY
THAT
CHANGES

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