

THE RIGHT DECISION:
GRID-CONNECTED PHOTOVOLTAIC SYSTEM TOGETHER WITH SMA



COMPLETE PORTFOLIO FOR ALL APPLICATIONS



GLOBAL #1 FOR SOLAR INVERTERS FOR OVER TWO DECADES NOW



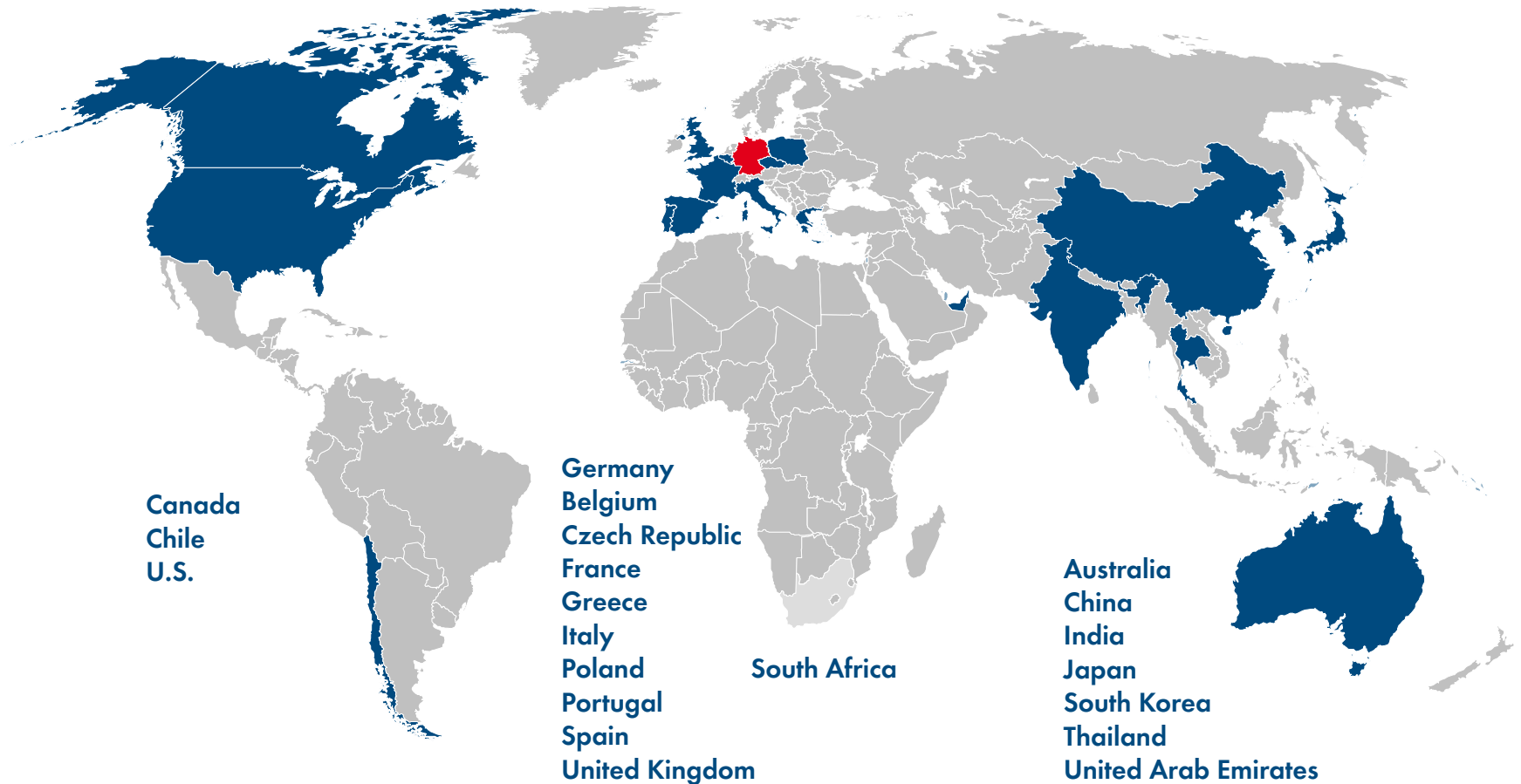
Unmatched product and service portfolio and global presence

- > Over 30 years of experience
- > Innovative solutions and strong system know how in grid management and storage
- > Key technologies for the energy transition
- > Complete product range, proven technology and game-changing new products
- > Global presence with strong sales and service infrastructure and local networks
- > Service excellence



- > **SMA is the only specialized PV manufacturer with a complete portfolio, global reach and a high innovation rate with 21 new products introduced in 2014 alone.**

STRONG PRESENCE IN 21 COUNTRIES ALL OVER THE GLOBE



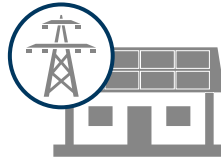
> Nearly 50 GW installed SMA inverter power worldwide.

FITTING SOLUTIONS FOR ALL REQUIREMENTS WORLDWIDE

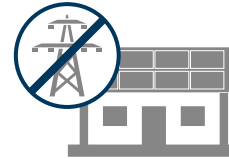


Compatible with
all module types and
all technologies

On Grid



Off Grid



Backup



Unique portfolio
Hardware, Software
and Services

Hardware



Software



Services



All PV applications
All market segments

Residential



Commercial



Utility



> SMA will continue to serve all PV applications and all attractive PV markets.

RESIDENTIAL PV APPLICATIONS SOLUTIONS FOR YOUR HOME



SMA HOME SYSTEMS



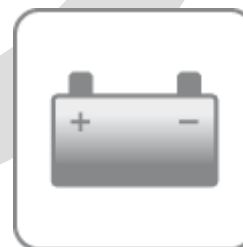
String Inverters



Support & Service

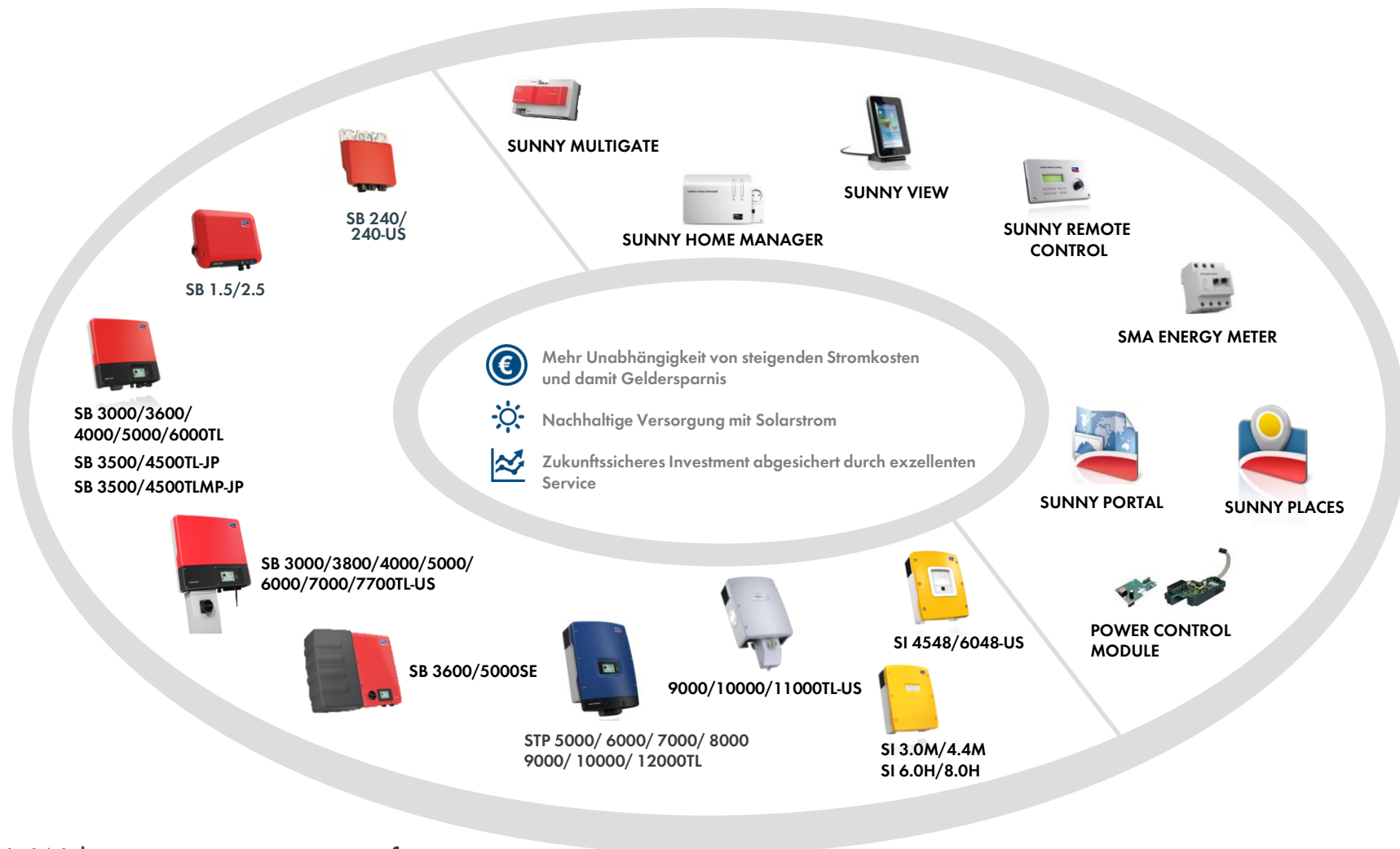


Monitoring & Control



Storage Integration

PRODUCT PORTFOLIO RESIDENTIAL



> With a warranty extension for your inverter you secure your long-term energy yields and self-consumption.



Extended Warranty



Upgrade

HIGHLIGHT: THE NEW SUNNY BOY 1.5/2.5



SUNNY BOY 1.5/2.5

The new standard for small PV systems

- > Smooth commissioning via integrated wireless user interface
- > Wireless connection with home network and mobile devices via WLAN
- > Easy installation thanks to low weight of 9 kg and intelligent communication concept
- > Broad input voltage range of 80 V to 600 V

> SMA is industry trendsetter and sets new standards through key innovations

SMA SMART HOME

THE RIGHT SOLUTION FOR EVERY APPLICATION



SMA Basic System



Sunny Home Manager + RC Socket

- > Example:
Power consumption: 3000 kWh
PV system: 6 kWp
Battery: none
- > Autarky: **40 – 50 %**
- > Self consumption: **20 – 25 %**

SMA Integrated Storage System



Sunny Boy Smart Energy incl. Li-Ionen-Batterie Sunny Home Manager + RC Socket

- > Example:
Power consumption: 3000 kWh
PV system: 7 kWp
Battery: 2 kWh
- > Autarky: **60 – 70 %**
- > Self Consumption: **25 – 30 %**

SMA Flexible Storage System



Sunny Boy + Sunny Island Sunny Home Manager + RC Socket

- > Example:
Power consumption: 4500 kWh
PV system: 10 kWp
Battery: 6,0 kWh
- > Autarky: **70 – 80 %**
- > Self Consumption: **30 – 40 %**

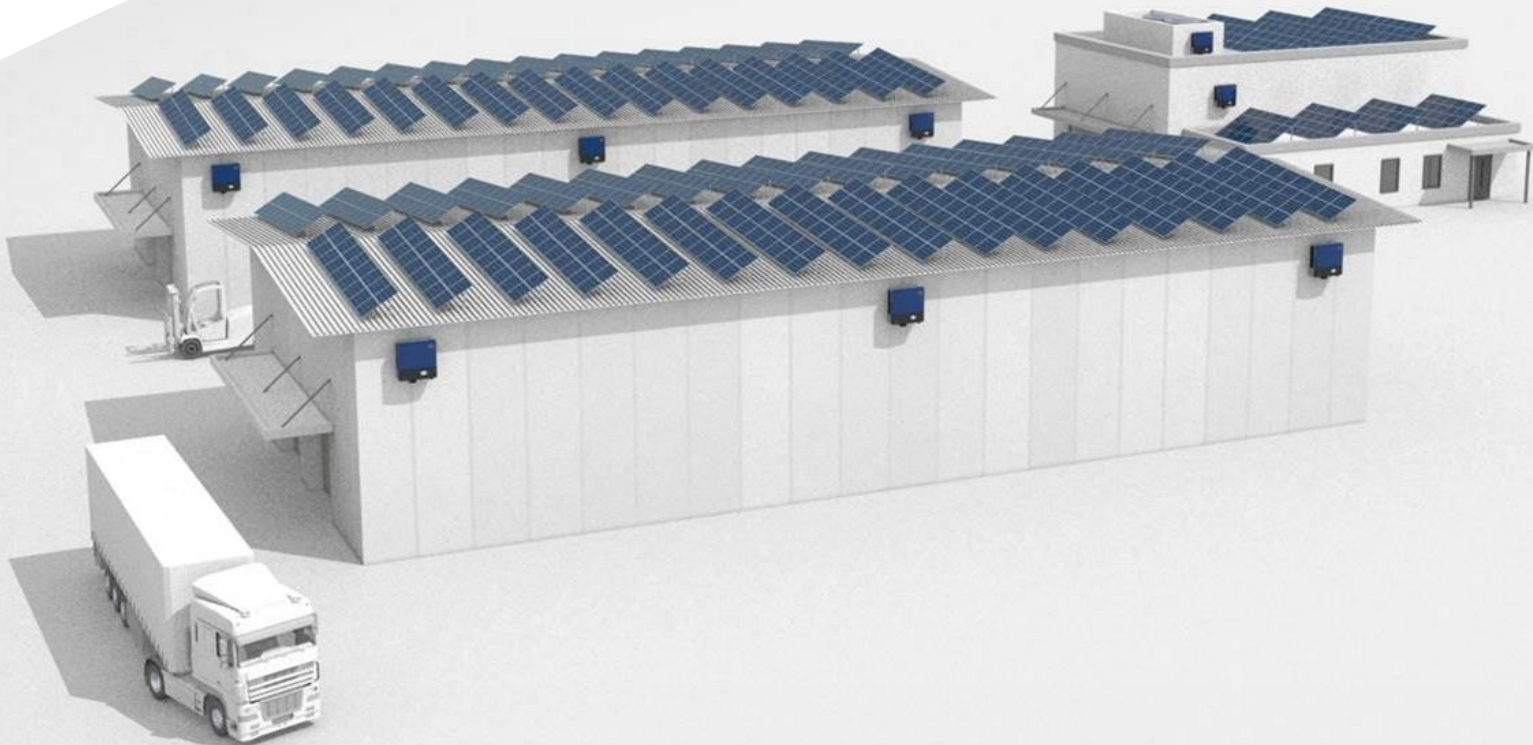
> **Fully integrated or flexible solutions fitting your energy consumption and investment budget, minimizing your energy costs**

SMA SMART HOME ADVANTAGES AT A GLANCE



- > Greater independence from rising electricity prices
 - > Production of own environmentally friendly and inexpensive solar power
 - > Overview of the household power consumption and of saving potential at all times
 - > No loss of comfort and no loss of a reliable energy supply
 - > Benefit from automatic control features that take into account individual needs
 - > Usage of future-proof technology that is ready for varied electricity tariffs and the impending smart grid
-
- > **SMA is the only manufacturer to offer a completely energy management system and solutions for maximizing self-consumption**

COMMERCIAL PV APPLICATIONS A PROMISING MARKET SEGMENT





String Inverters

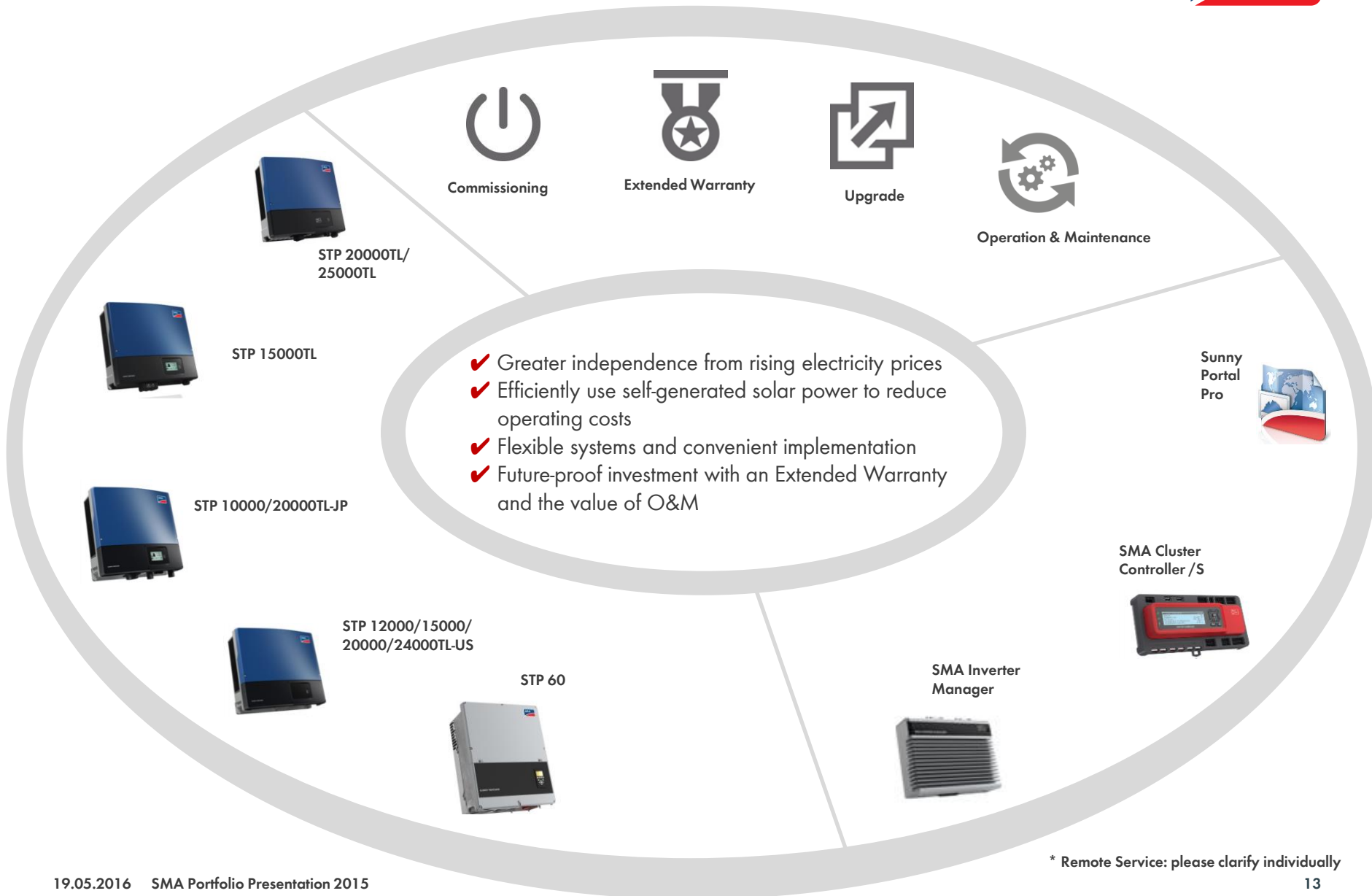


Support & Service



Monitoring & Control

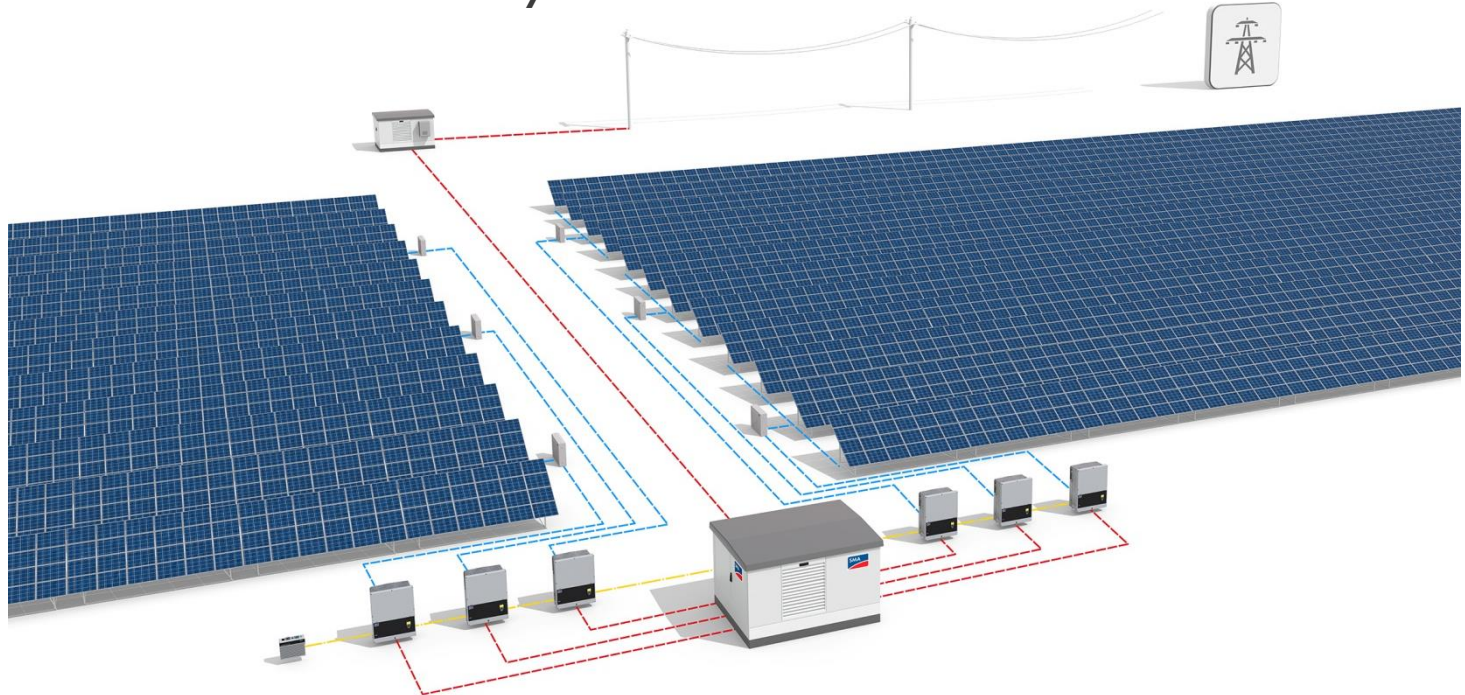
SMA PRODUCT PORTFOLIO COMMERCIAL



SYSTEM WITH SUNNY TRIPOWER 60



Ideal for large commercial and smaller industrial PV systems: flexible system design, simple installation and reduced system costs



String Inverters

Monitoring & Control

Support & Service



Sunny Tripower 60



Inverter Manager



Sunny Portal Pro



Extended Warranty



Commissioning



Operation & Maintenance

SYSTEM WITH SUNNY TRIPOWER 20000/25000TL



The cutting-edge specialist in commercial PV systems
New Grid Management functions, a wider range of input voltage
and our proven multi-string design



String Inverters

Monitoring & Control

Support & Service



STP 20000TL/25000TL



Sunny Portal Pro



SMA Cluster
Controller



Extended Warranty

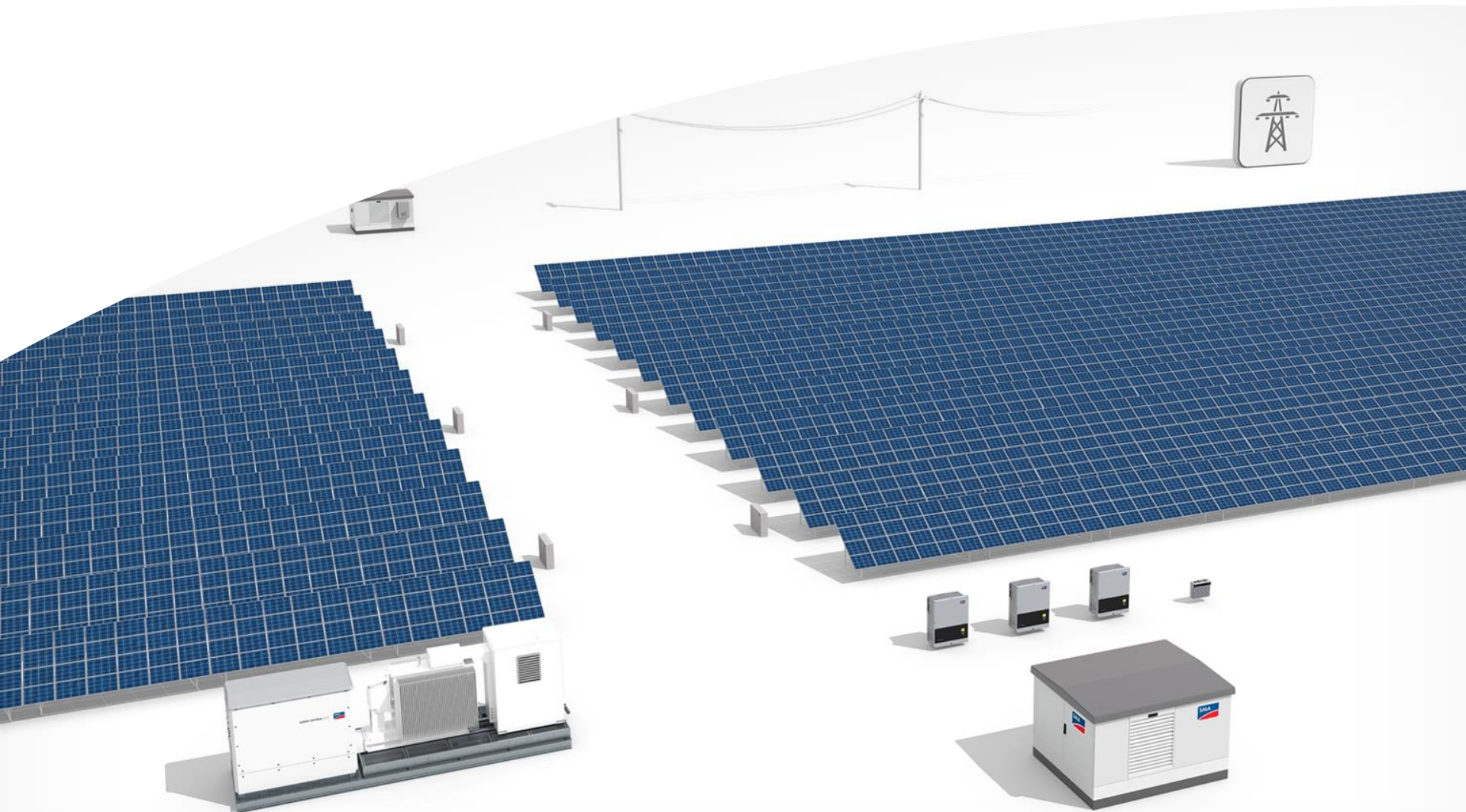


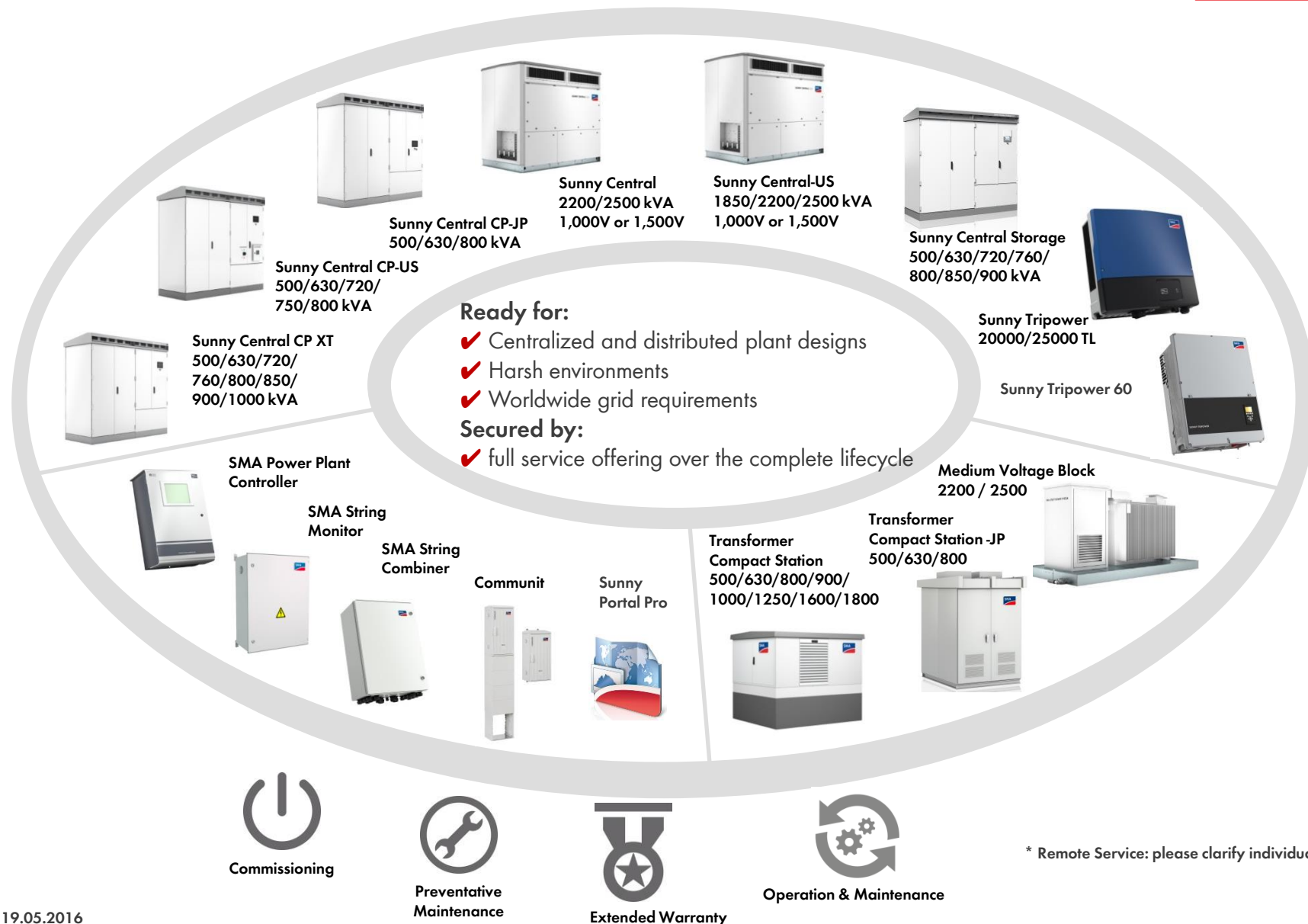
Commissioning



Operation & Maintenance

SMA UTILITY SCALE SOLUTIONS FOR LARGE PV POWER PLANTS





CENTRALIZED SYSTEM SOLUTIONS FOR EVERY PLANT SIZE



SMA Utility Power System (IEC – global markets) – 1,000 and 1,500V

- > Perfectly synchronized components: Sunny Central 2200 / 2500, medium-voltage block, DC technology, corresponding park control and services
- > Designed for ease of use: Easy transportation, installation and commissioning, available as Turnkey Solution or Package



SMA Utility Power System (ANSI – US market) – 1,000 and 1,500V

- > Perfectly synchronized components: Sunny Central 2200 / 2500, medium-voltage block, DC technology, corresponding park control and services
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Medium Voltage Power Station (global markets)

- > Turnkey container solution for Plug & Play
- > Available with one or two Sunny Central CP XT inverters
- > Power class: 500/630/800/900/1000/1250/1600/1800/2000kVA

DISTRIBUTED SYSTEM SOLUTIONS FOR EVERY PLANT SIZE



Sunny Tripower 60 with SMA Inverter Manager

- > Ensures high performance and maximum design flexibility for the entire PV system
- > Numerous advantages for commercial and industrial use: high efficiency, easy installation, simple commissioning and low maintenance costs



Sunny Tripower 20000TL/25000TL

- > The ideal inverter for large-scale commercial and industrial plants guarantees extraordinary high yields, enormous design flexibility and module compatibility
- > Cutting-edge grid management functions such as Integrated Plant Control, which allows the inverter to regulate reactive power at the point of common coupling

ACTIVE MANAGEMENT OF YOUR PV INVESTMENT THROUGHOUT THE PROJECT LIFECYCLE



CONSULTING

1. Advice on planning, design and dimensioning
2. Inventory of all system components

ENGINEERING

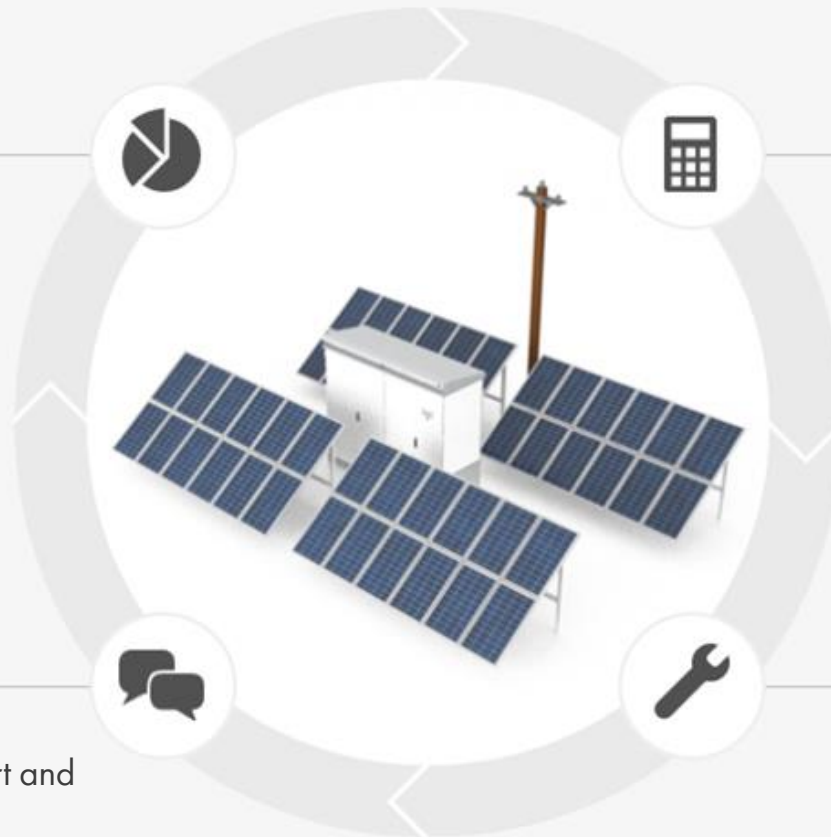
1. Planning of DC wiring and AC grid connection
2. Draft report on what communication devices are necessary

SERVICE

1. Installation support and commissioning
2. Services for the system's entire lifecycle

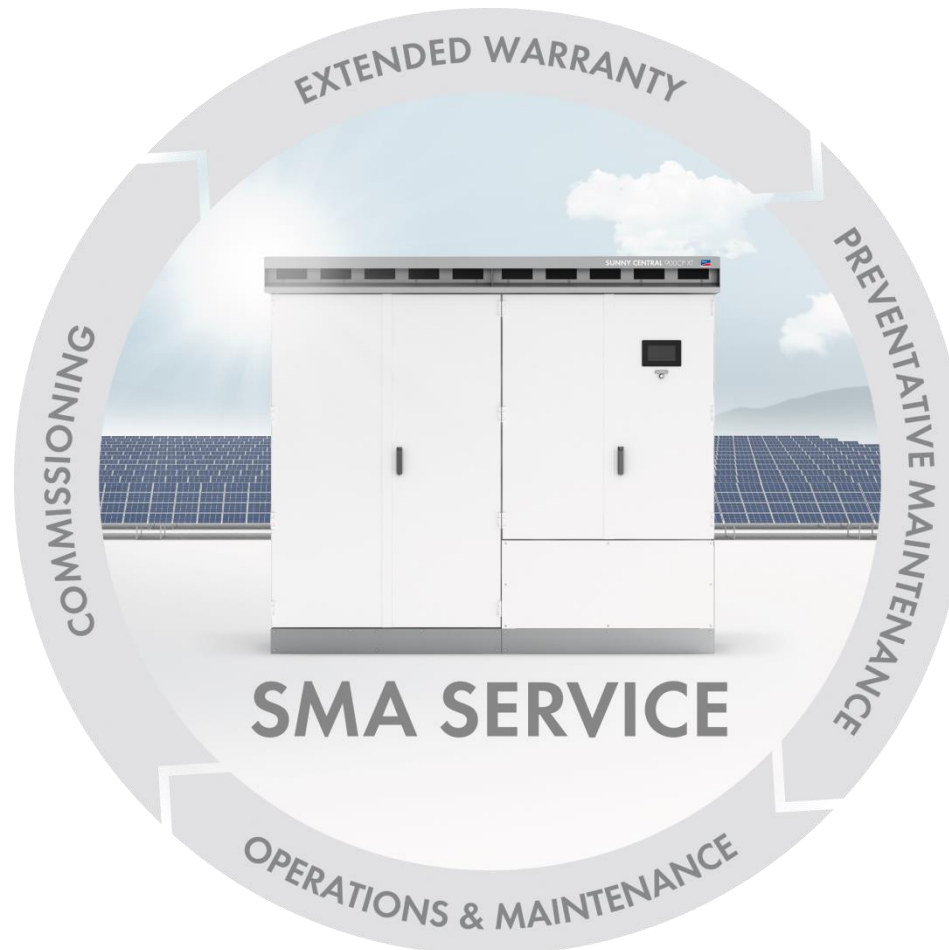
PROJECT SUPPORT

1. Seamless order execution and flexible manufacturing
2. Consultation with a specific contact person during all project phases



> **SMA's project support and service portfolio provides the PV industry's best long-term security to maximize system performance along the lifecycle of your plant**

COMPREHENSIVE SERVICE OFFERING FOR PV POWER PLANTS WITH SUNNY CENTRAL



- > Innovative and comprehensive service offering throughout the entire lifecycle of a PV system backed by our team of highly trained experts.

SMA OPERATIONS & MAINTENANCE FOR COMMERCIAL AND UTILITY PV SYSTEMS



SMA Operations & Maintenance (O&M) offers full, comprehensive service.

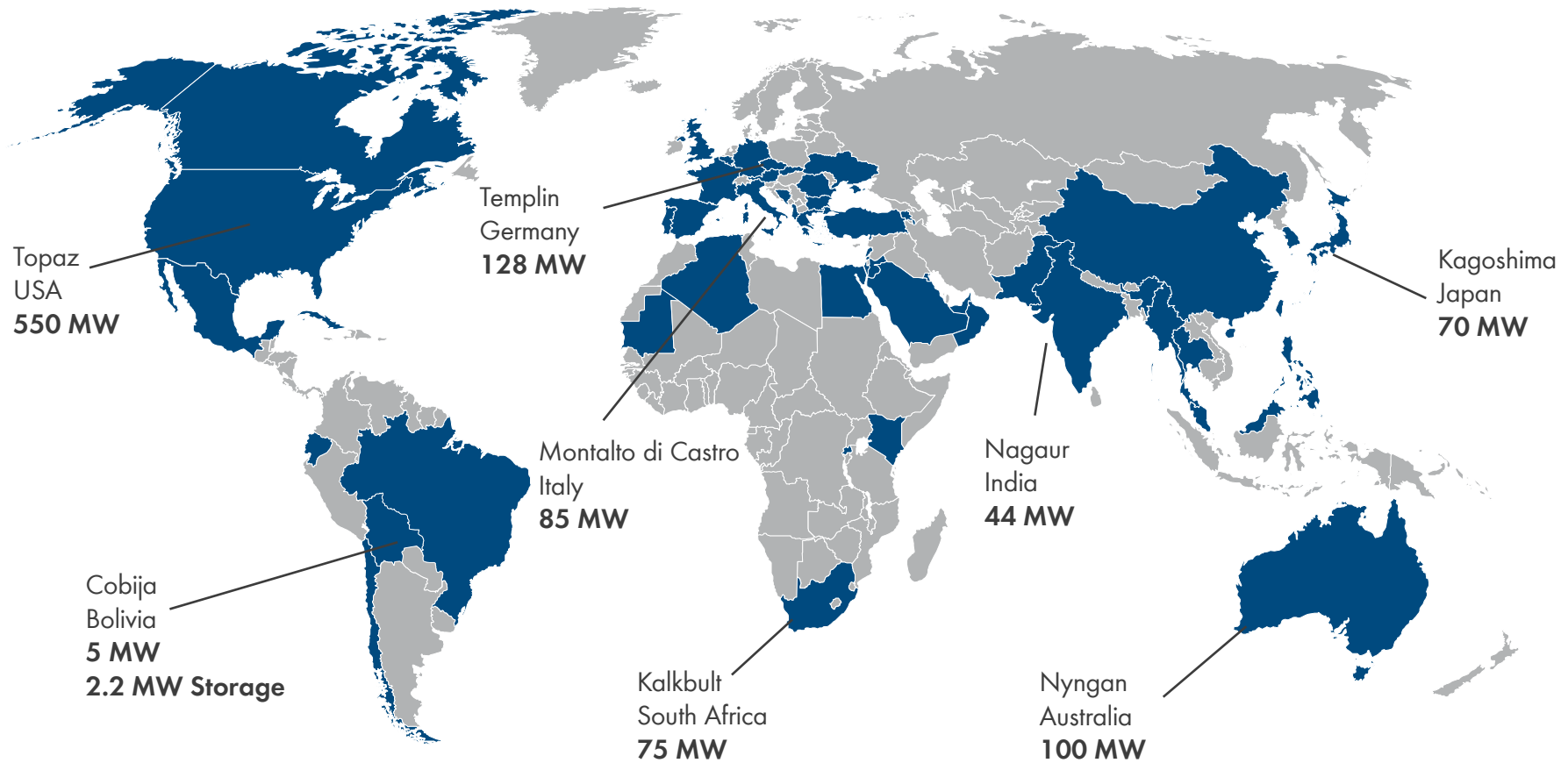
We manage all the technical operations of your PV system including all its components.

Preventative Maintenance, Thermography scans, remote PV system monitoring, Spare Parts Inventory Management, and Warranty Administration are also included.

Your advantages:

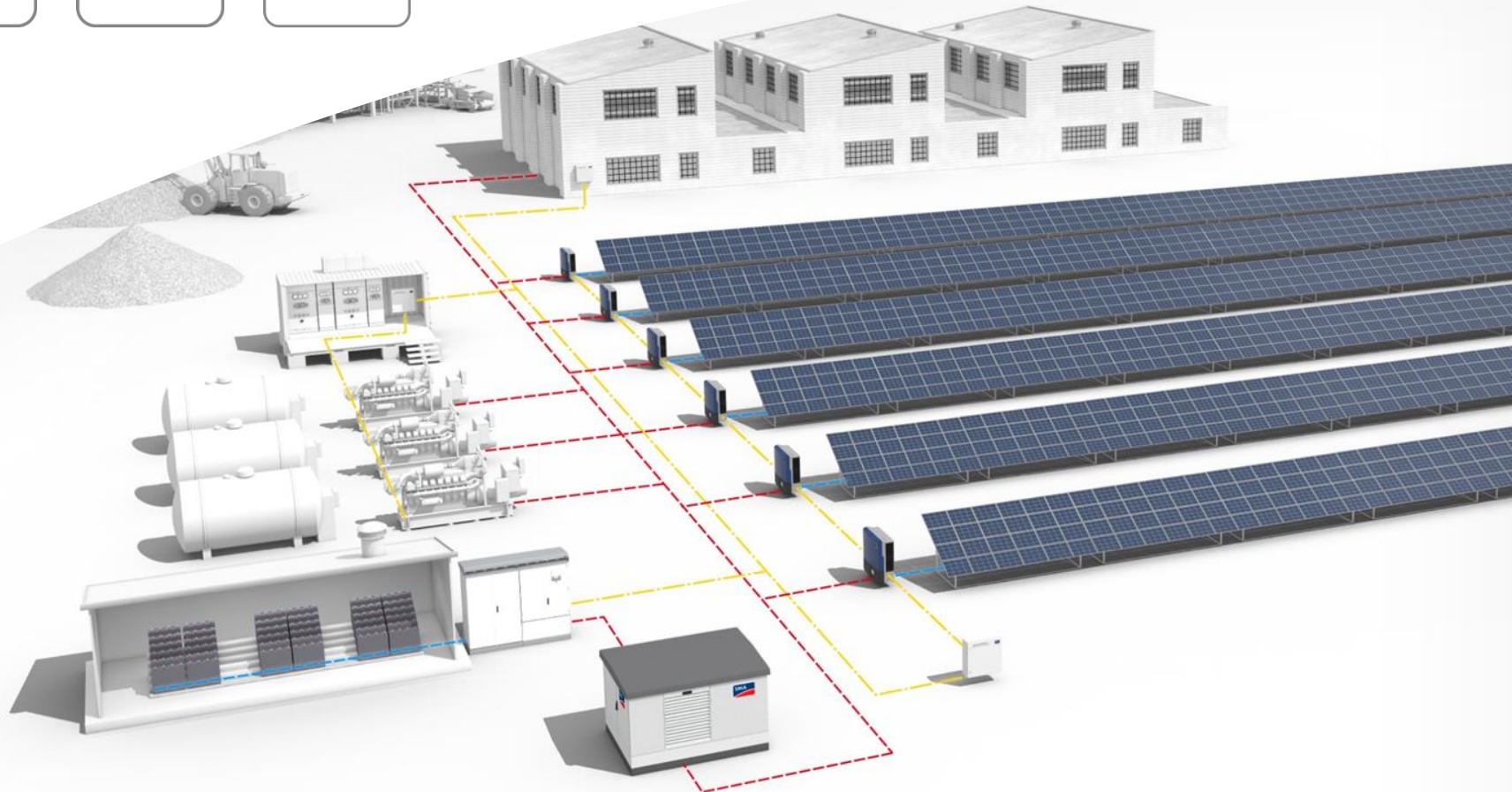
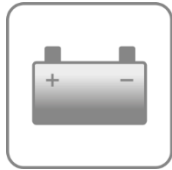
- > Increased performance and maximum yields → A properly serviced system generate up to 30 percent better returns
- > Protection from possible downtimes and yield losses
- > Real-time monitoring and proactive service

THE LARGEST PV POWER PLANTS RELY ON SUNNY CENTRAL TECHNOLOGY



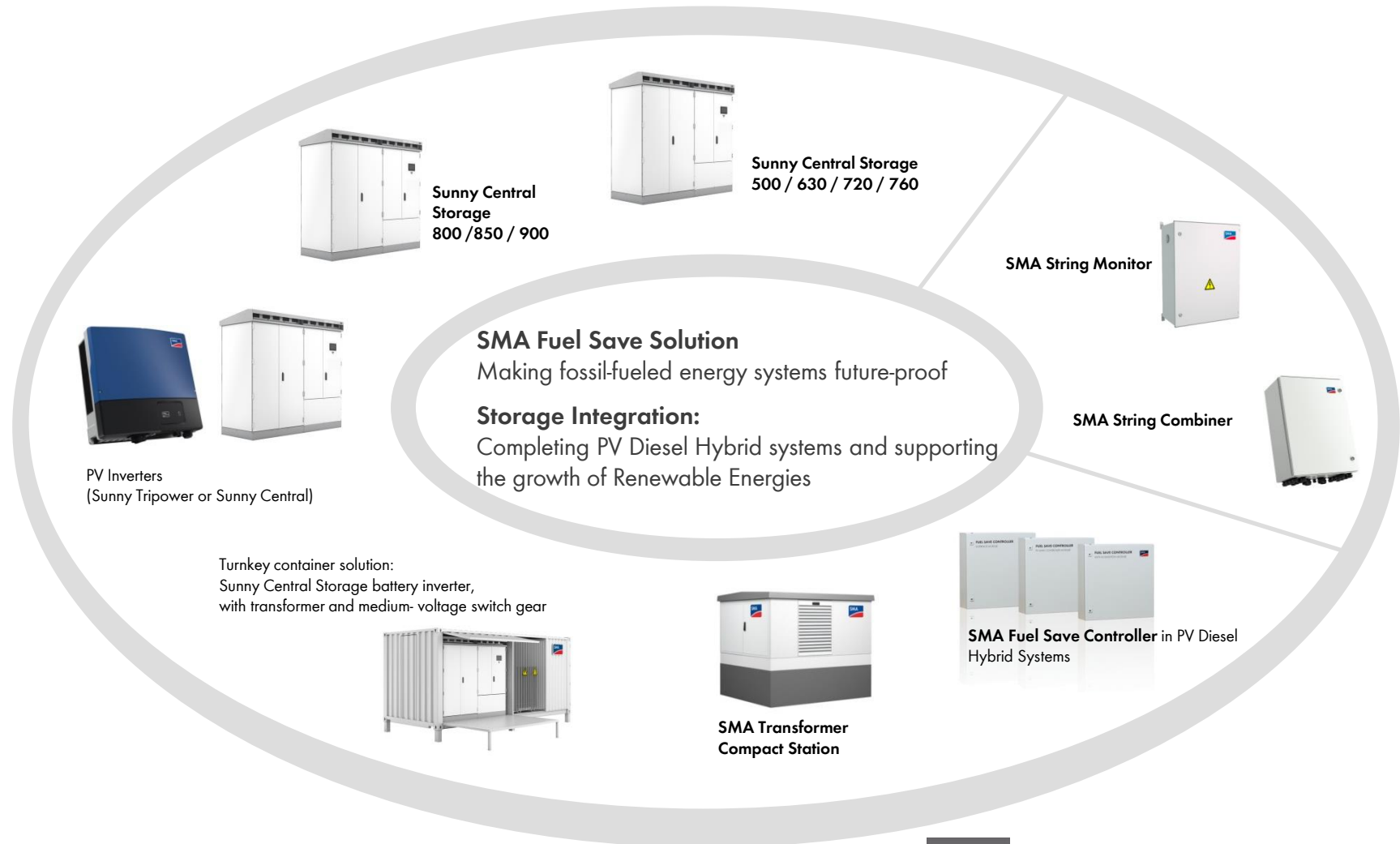
> Nearly 50GW installed worldwide - over 24 GW in thousands of projects with Sunny Central

INDUSTRIAL HYBRID ENERGY SYSTEMS – THE SMA FUEL SAVE SOLUTION & LARGE-SCALE STORAGE INTEGRATION



> Smart integration of solar power into diesel systems

PRODUCT PORTFOLIO FOR HYBRID ENERGY SYSTEMS WITH THE SMA FUEL SAVE SOLUTION + STORAGE



Commissioning

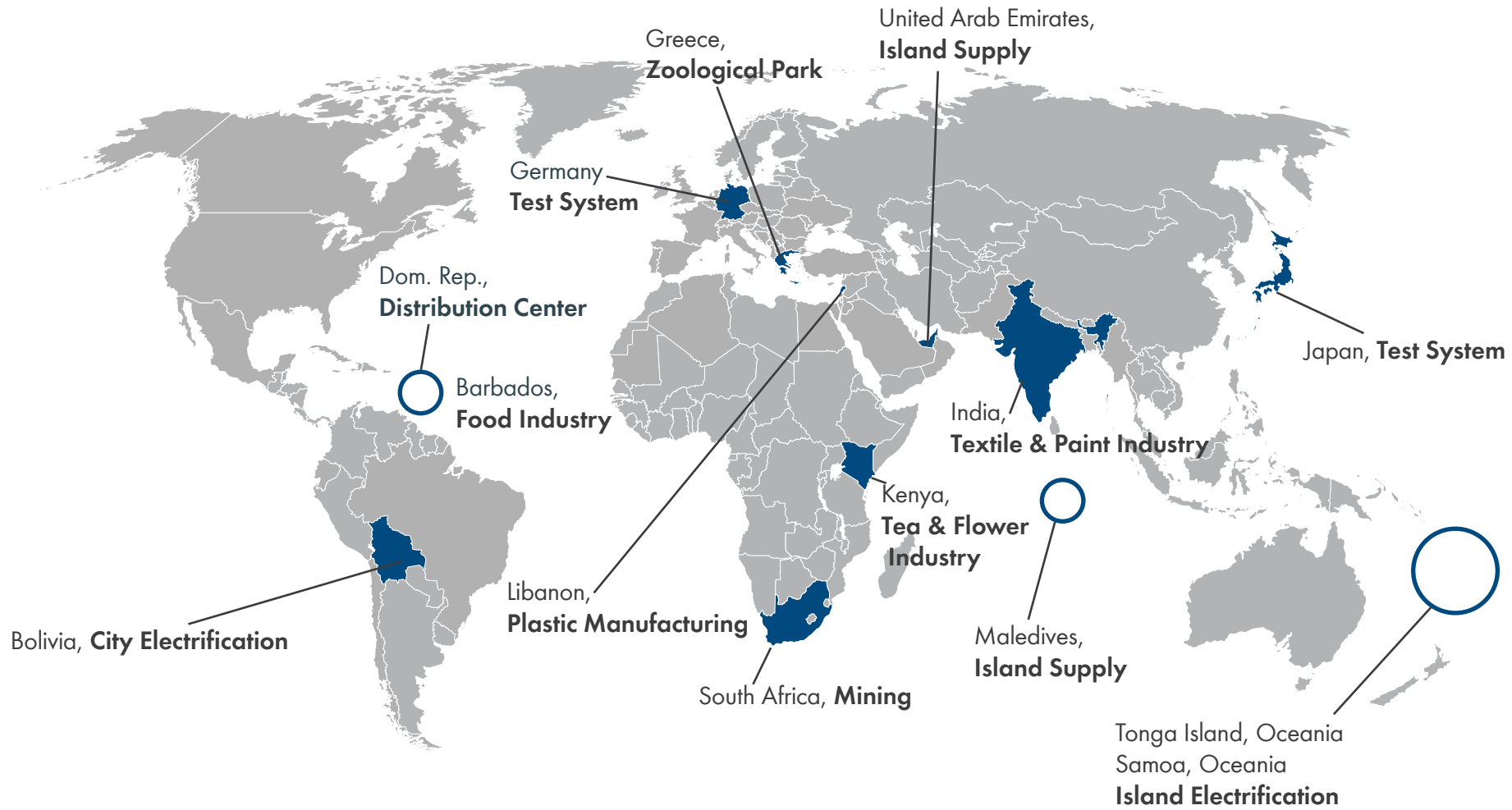


Preventative
Maintenance



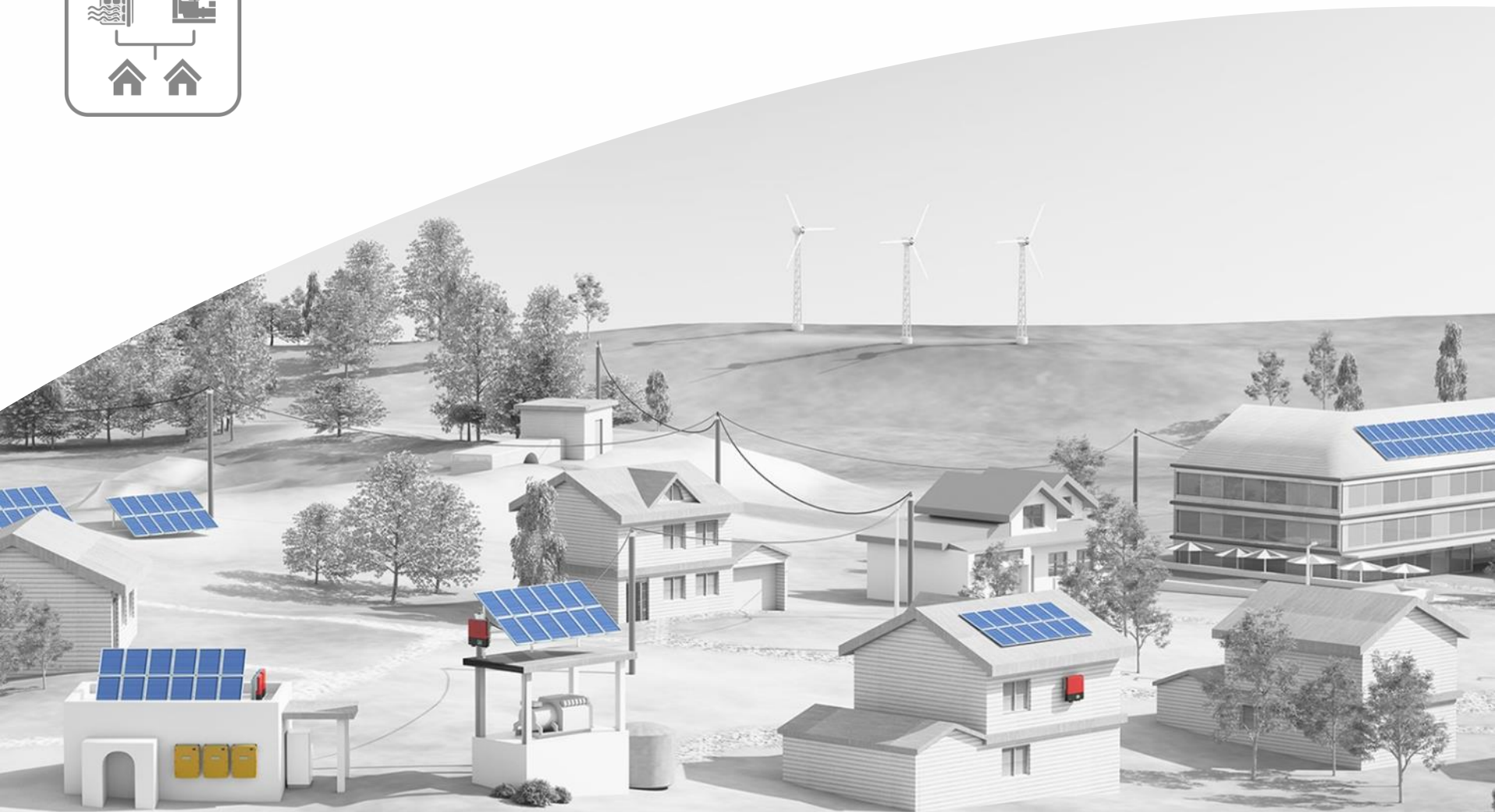
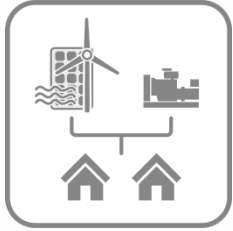
Extended Warranty

HYBRID ENERGY SYSTEMS WITH THE SMA FUEL SAVE SOLUTION – A SELECTION OF RUNNING PROJECTS



> Making fossil-fueled energy supply systems future-proof

HYBRID ENERGY SYSTEMS – FOR SELF-SUFFICIENT POWER SUPPLY (OFF-GRID)



PRODUCT PORTFOLIO **HYBRID ENERGY SYSTEMS** FOR VILLAGE POWER SUPPLY (OFF-GRID)



Clean Energy.
Anywhere.



Commissioning



Extended Warranty



Upgrade

HYBRID ENERGY SYSTEMS (OFF-GRID) – SYSTEM SIZES



3,5 (5 Min) 4,6 (5 Min) 8,4 (1 Min) 6,8 (5 Min) 8,4 (1 Min) 9,1 (5 Min) 55 110 328 kW

Min. AC-Output at 25 °C

3,0 4,4 5,3 6,0 7,0 8,0 48 96 288 kW

30Min.AC-Output at 25 °C

2,3 3,3 4,5 4,6 6,0 6,0 36 72 216 kW

Nominal AC-Output at 25 °C

SMA SERVICE
EFFECTIVE, RELIABLE, PROFITABLE



PARTNER WITH THE SMA SERVICE TEAM



Honored as **BEST SERVICE PROVIDER** in the PV industry
(ISM Research 2012-2014)



Global and comprehensive service network – fast response times,
local contacts

Industry leading technical support by highly qualified technicians to
ensure quality and safety standards are met or exceeded

Superior expertise in communications and monitoring: real-time
monitoring and proactive service with our SMA Solar Monitoring Center
significantly reduces O&M costs

A properly maintained solar system can increase yield by up to 30%,
accelerating investment payback.



Service Line

Technical support and
fault analysis of experts
for each product



Customer Care

Point of contact for
complaints, suggestions
and feedback



Replacement Service

Maximum availability
of top-quality
replacement devices



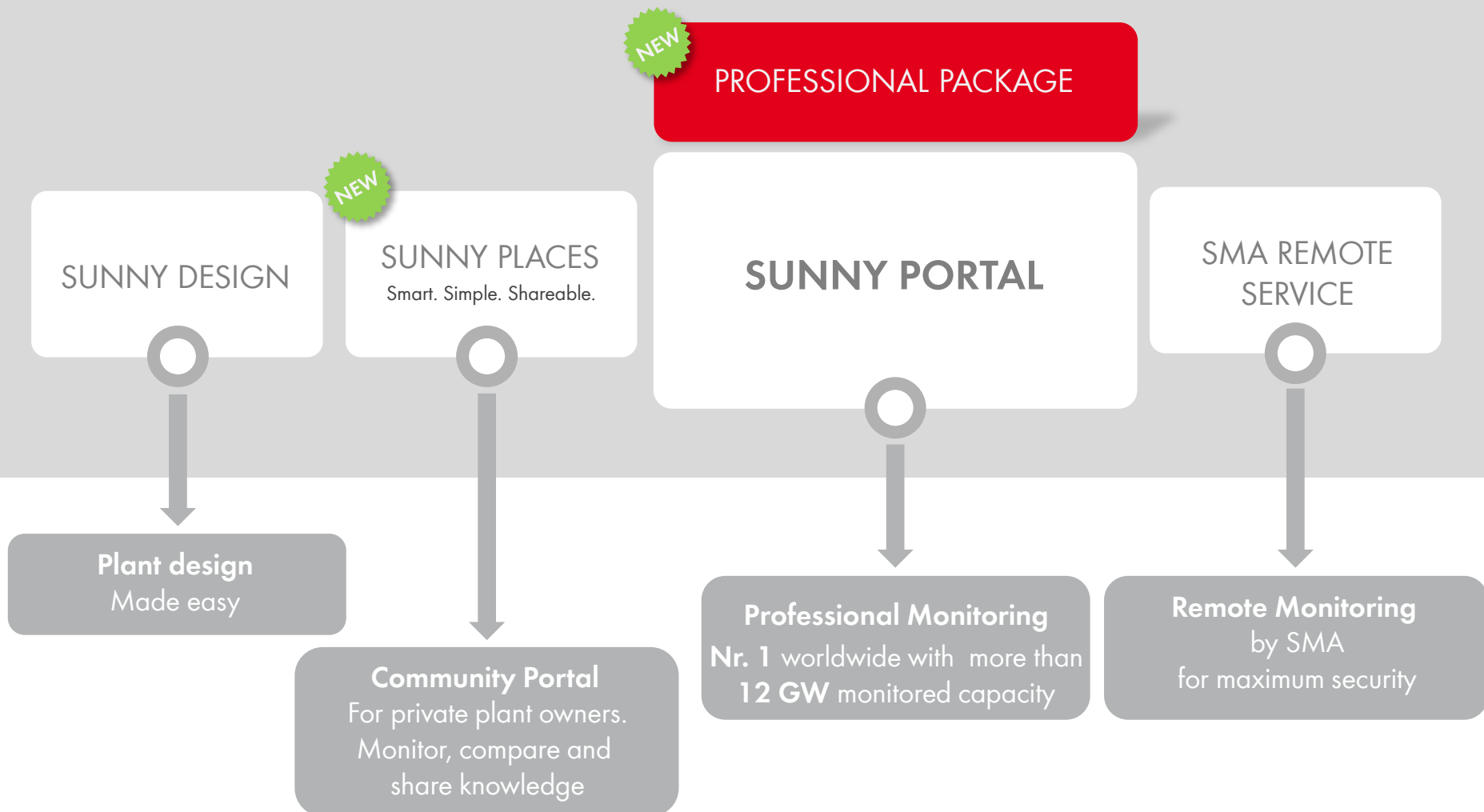
Logistics Management

Shipment of the
replacement device
normally on the same
day



Blog

Helpful
tips & tricks for
installers and plant
operators



> **SMA Online Services accompany the complete lifecycle of your PV system**

SMA IS THE RIGHT CHOICE FOR YOU



- ✓ Complete portfolio of smart system solutions that fit the requirements of all PV applications
- ✓ Over 30 years of experience and nearly 50GW installed base worldwide
- ✓ Proven quality and reliability for unmatched plant availability
- ✓ Best total profitability of ownership through highest system performance + maximum reliability
- ✓ SMA Service Excellence protects your PV investment
- ✓ Comprehensive customer support
- ✓ Global footprint and local sales and service infrastructure in all relevant markets
- ✓ Bankable partner due to high equity ratio and net cash position.

ENERGY
THAT
CHANGES



SOCIAL MEDIA
www.SMA.de/Newsroom

