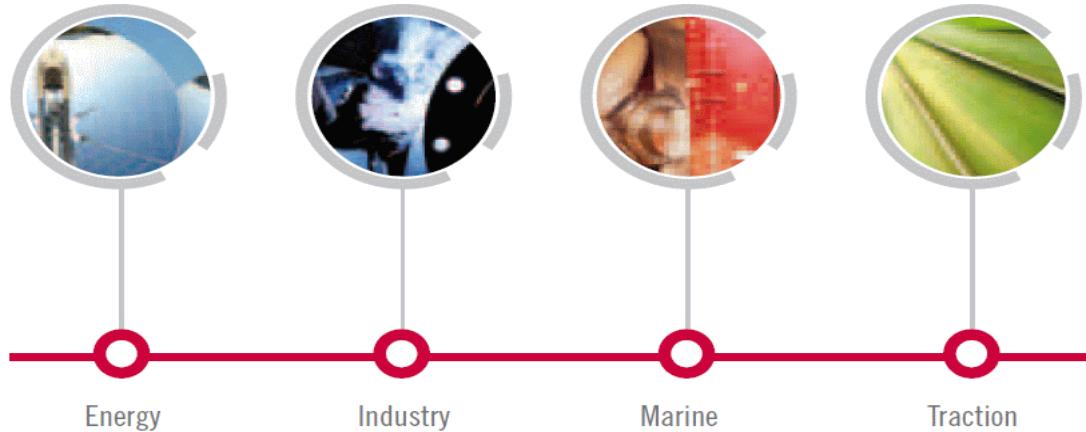


Ingeteam

www.ingeteam.com

INGETEAM STRUCTURE

(DIVISIONS)



Focused on the wind, PV solar, thermal solar, hydropower, biomass, biofuel, combined cycles, and co-generation sectors.

- **Photovoltaic energy**
- **Wind power energy**
- **Power generation plants**
- **Smart Grids**

This division executes mechanical engineering, electrical engineering, and automation projects in the industrial sector, primarily in iron and steel.

- **Mining**
- **Oil & Gas**
- **Steel Plants**
- **Energy & Efficiency**
- **Water & Environment**

This division provides comprehensive, integrated solutions for electricity generation, electric propulsion and control, for all types of vessels.

- **Electric Plants**
- **Marine propulsion**
- **Automation**

This division develops and manufactures holistic electrical traction and control solutions for railway vehicles.

- **Traction System**
- **Energy recovery systems**

Ingeteam

Solar PV

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

Presence in 15 countries



Ingeteam

Solar PV

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

Ingeteam

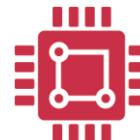
Solar PV

**14**

Years of experience in
the industry sector

**4 GW**

Installed capacity
worldwide

**2.5%**

% Of the PV
Plants worldwide
operate with
Ingeteam
Technology

**21,113**

Three Phase inverters
supplied worldwide

**47,547**

Single Phase inverters
supplied worldwide

**10%**

Annual investment in R&D

**2,873**

Employees worldwide

**15**

International presence

**3**

Manufacturing Facilities

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

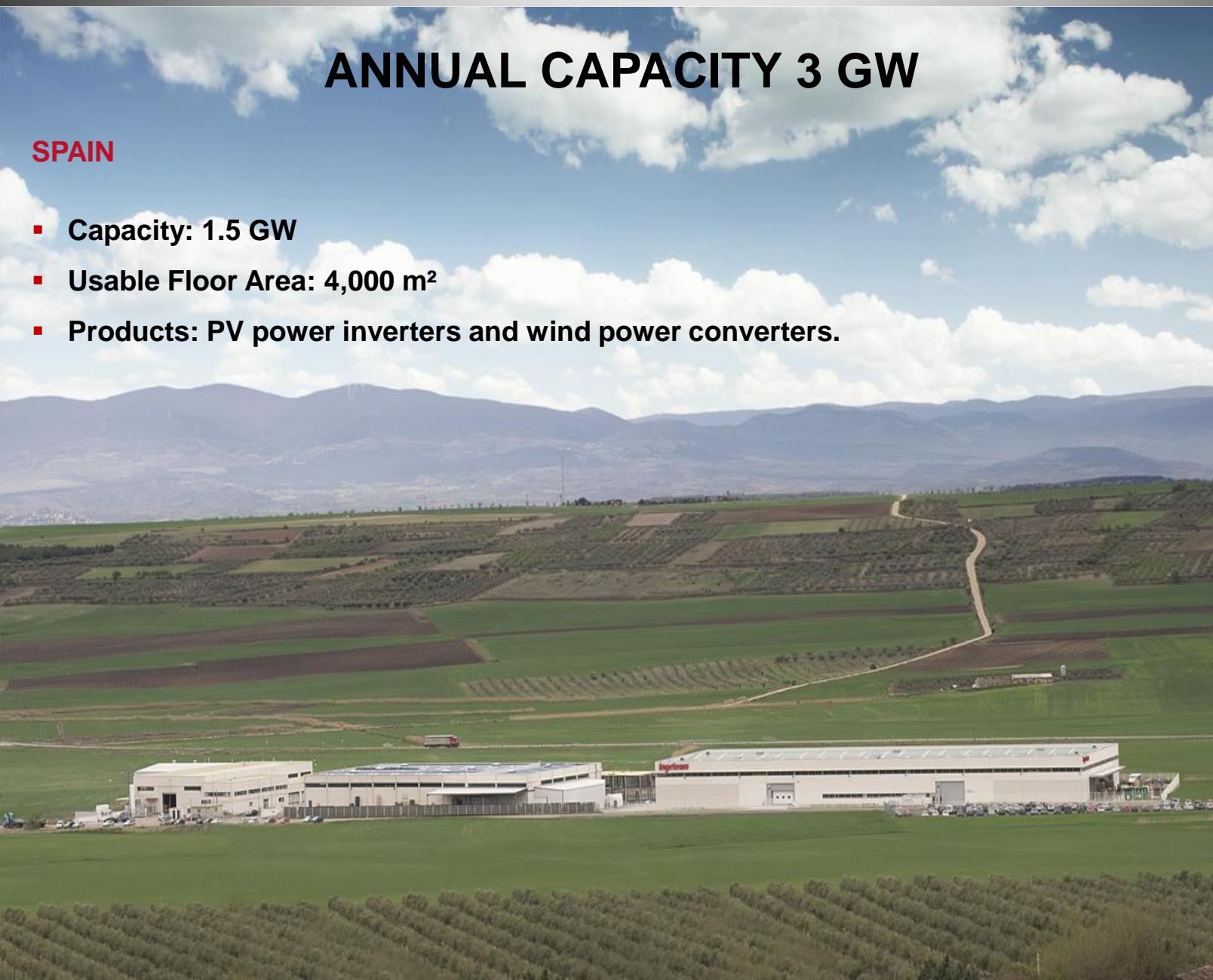
Ingeteam

Solar PV
Manufacturing Facilities

ANNUAL CAPACITY 3 GW

SPAIN

- Capacity: 1.5 GW
- Usable Floor Area: 4,000 m²
- Products: PV power inverters and wind power converters.



Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

USA

- Capacity: 1 GW
- 14,000 m²
- Products: Wind converters, solar inverters and electric generators



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Manufacturing

Products

References

Service

Training

Why
Ingeteam?

BRAZIL

- Capacity: 500 MW
- Products: Power Electronics; Power Converters



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Products

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Training

Why
Ingeteam?

Ingeteam

Products

PRODUCT RANGE

Ingeteam

Solar inverters



SUN IPlay
2.5 - 10 kW



SUN Lite
2.5 - 10 kW



SUN 3Play
10 - 33 kW



SUN Power
50 - 250 kW



SUN PowerMax
275 - 1070 kW



SUN PowerStation SHELTER
275 - 2140 kW



SUN PowerStation CONTAINER
275 - 2140 kW

Battery inverters



HYBRID 1Play
3 - 6 kW



HYBRID Power
60 - 250 kW



HYBRID PowerMax
500 - 1164 kW

Micro-wind inverters



μWIND 1Play
2.5 - 6 kW



μWIND Interface
2.5 - 18 kW

Energy management solution



EMS Manager



EMS Plant Controller



EMS Battery Box

Diesel-PV Solutions



Diesel-PV
Solutions

Accessories



SUN ComBox



SUN WeatherBox



SUN Communication



SUN Manager



iSun Monitor



SUN Planner



EMS Tools



SUN Remote operation
and SCADA



SUN String Control

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Manufacturing

Products

References

Service

Training

Why
Ingeteam?

5 Year standard Warranty

SINGLE PHASE INVERTERS(2.5 – 6 kW)

Ingeteam

INGECON SUN 1Play



- High Frequency Transformer.
- Efficiency 96%.
- IP65.
- UL version available too.



- Inverter without transformer.
- Double MPPT.
- Efficiency 98%.
- IP65.
- UL version available too.

INGECON SUN 3Play

- Transformer Less Inverter.
- Power: 10 – 40 kW
- Wide MPPT Range.
- Available with 1 or 2 MPPT's. UL version too.
- Max. Efficiency 98.5%.
- Indoor or Outdoor Installation (IP65).



Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

INGECON SUN Power

- Galvanic isolation between the DC and AC sides.
- Rated power: 50 - 110 kW
- Efficiency >97%.
- Low voltage ride through capability, active power control and reactive power control.



INGECON SUN Power



- TL inverter
- Rated power: 100 - 250 kW.
- Efficiency up to 98.9%.
- Low voltage ride through capability, active power control and reactive power control.

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?



- Air Cooling System
- Ambient temperature from **-20°C to 65°C** (optionally -30°C to 65°C with the heating kit)
- Output power up to **1165 kVA @30°C / 1070 kVA @50°C**
- Maximum Efficiency up to **99%**
- **Low voltage ride-through capability**, active power control and reactive power control
- Enclosure for indoor and outdoor installation (**IP20/IP54**)

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

CENTRALIZED INVERTERS (275 – 1,070 kVA)

Ingeteam

INGECON SUN PowerMax



DCAC



DC

- Multi-MPPT.
- Air Cooling.
- Power range between 275 to 1.070 kVA.
- Max Efficiency up to 99.1%.
- Low Voltage Ride Through Capacity
- Active and Reactive Power Control.
- New Enclosure for outdoor installation (IP54).



OUTDOOR DCAC

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

CENTRALIZED INVERTERS (275 – 1,070 kVA)

Ingeteam

INGECON SUN PowerMax



DCAC



DC

- Master-Slave Configuration.
- Air Cooling System.
- Power Range from 275 to 1,070 kVA.
- Maximum Efficiency up to 99.1%.
- Low voltage ride-through capability and active and reactive power control.
- New Enclosure for outdoor installation (IP54).
- UL version available too.



OUTDOOR DCAC

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

POWER STATIONS (300 – 2,330 kVA)

Ingeteam

INGECON SUN PowerStation

- Fully equipped turnkey MV solution.
- Power Range between 300 and 2330 kVA.
- Available Worldwide.
- Includes Inverters, LV Board, Auxiliary Services, Switch gear, MV Transformer.
- SHELTER or CONTAINER version (from 22 to 40 feet).



CON 40



SHE 22

Ingeteam

Solar Power

Manufacturing

Products

References

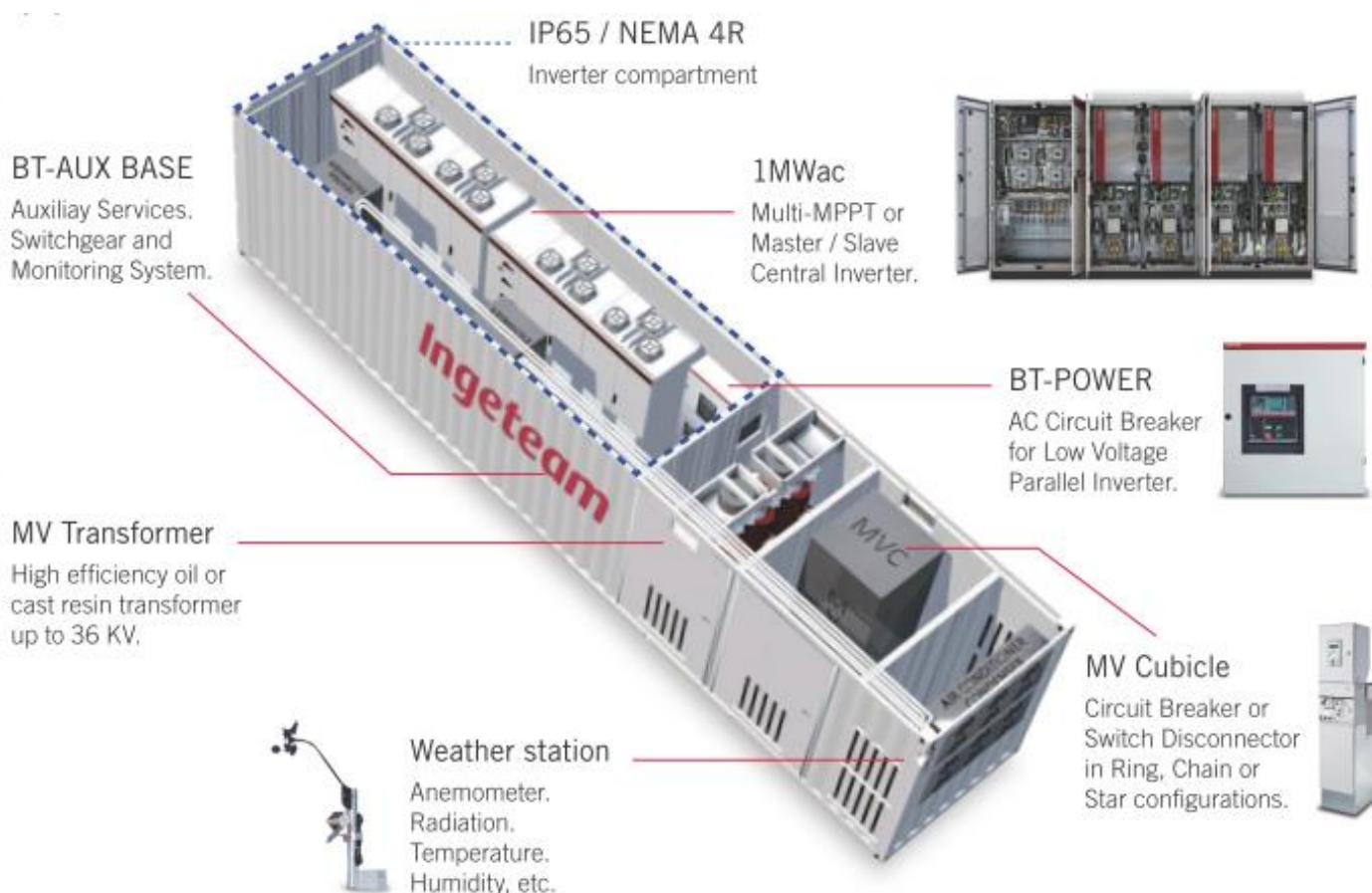
Service

Training

Why
Ingeteam?

POWER STATIONS (300 – 2,330 kVA)

Ingeteam



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Solar Power

Manufacturing

Products

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Service

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Why
Ingeteam?

CON 40



CON40 – AC (Air Conditioned)

- 6.6 to 36 kV
- Nominal Power up to 55°C – IP54

CON40 - FA (Forced Air)

- 6.6 to 36 kV
- Nominal Power up to 45°C – IP54

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Why
Ingeteam?

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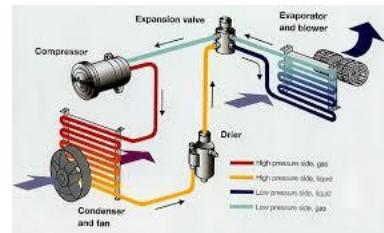
Service

Training

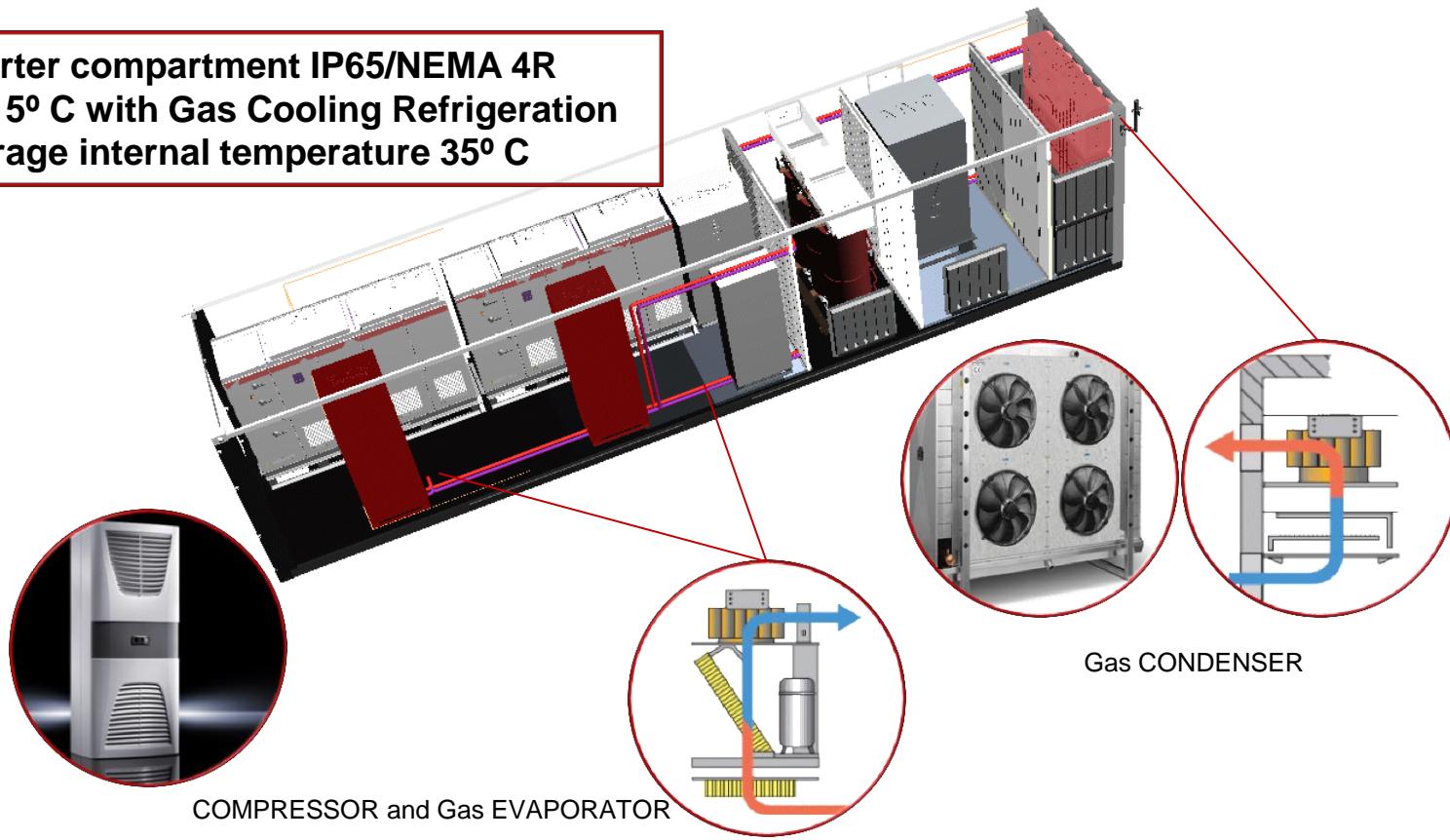
Why
Ingeteam?

Gas Cooling System

- ✓ Separate Gas Condenser
- ✓ High efficiency internal compressor
- ✓ Fan designed for abrasive dust
- ✓ Redundant capacity cooling



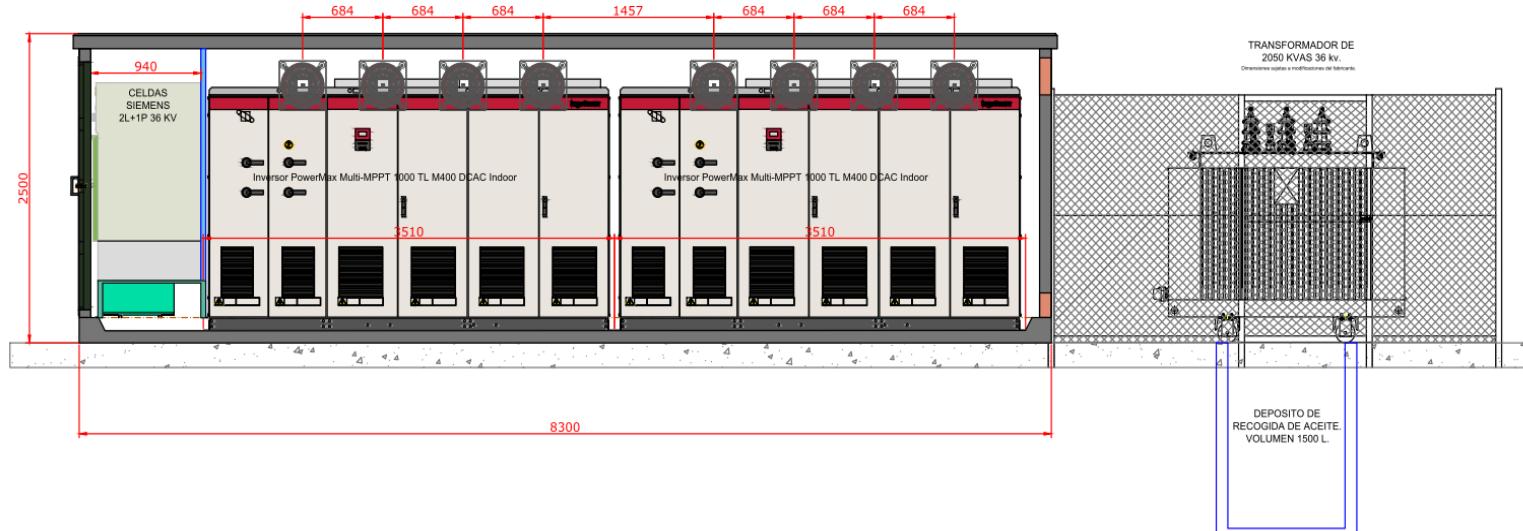
**Inverter compartment IP65/NEMA 4R
 ΔT 15° C with Gas Cooling Refrigeration
Average internal temperature 35° C**



CONCRETE VERSION

Outdoor Transformer

- From 6.6kV to 36kV
- Rated Power up to 45°C – IP54



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Manufacturing

Products

References

Service

Training

Why
Ingeteam?

POWER STATIONS (275 – 2,140 kVA)

INGECON SUN PowerStation

Ingeteam



SKID VERSION (USA)

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Service

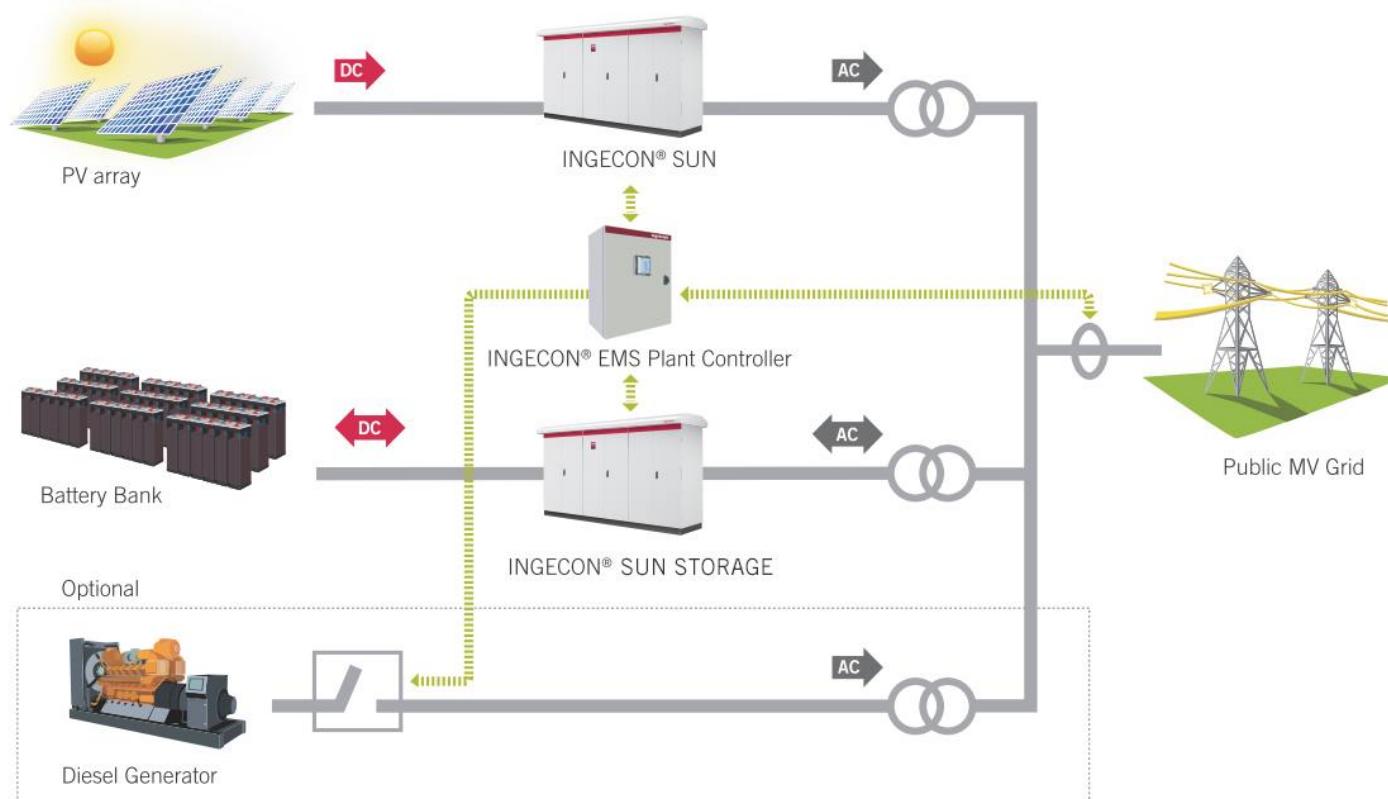
Training

Why
Ingeteam?

INGECON SUN STORAGE

Utility-scale power plants

Ingeteam also offers battery inverters and power plant control solutions at residential-, commercial- and utility-scale.



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Solar Power

Manufacturing

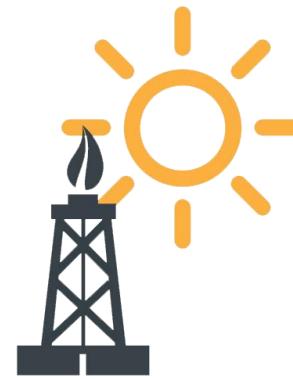
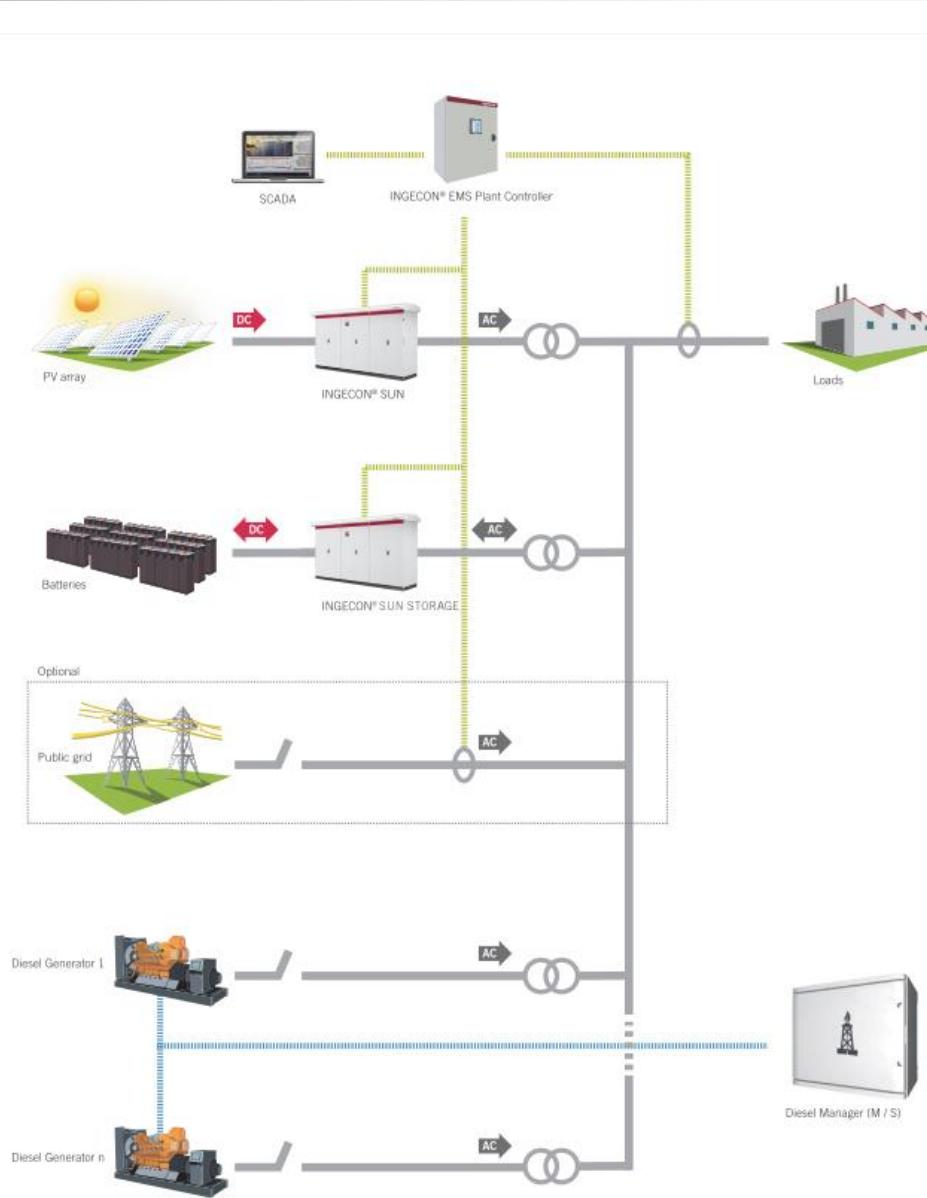
Products

References

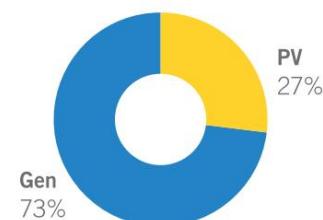
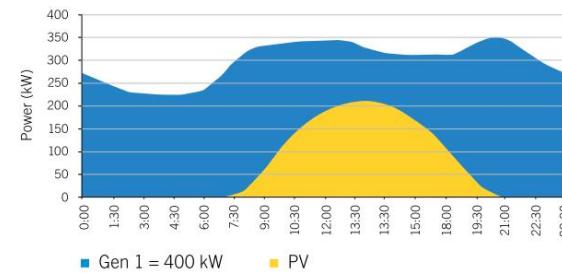
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Why
Ingeteam?



Diesel-PV Solutions



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Solar Power

Manufacturing

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Why
Ingeteam?

Ingeteam

References

REFERENCES



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Why
Ingeteam?

- Customer: **NOBESOL**
- Location: Olmedilla
- Plant type: ground
- Inverter series:
 INGECON® SUN Power
- Rated power: 54 MW
- Connected: 2008



Supplied:
54 MW



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Manufacturing

Products

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Why
Ingeteam?



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Why
Ingeteam?



70 INGECON SUN PowerMax

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Solar Power

Manufacturing

Products

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Why
Ingeteam?

REFERENCES



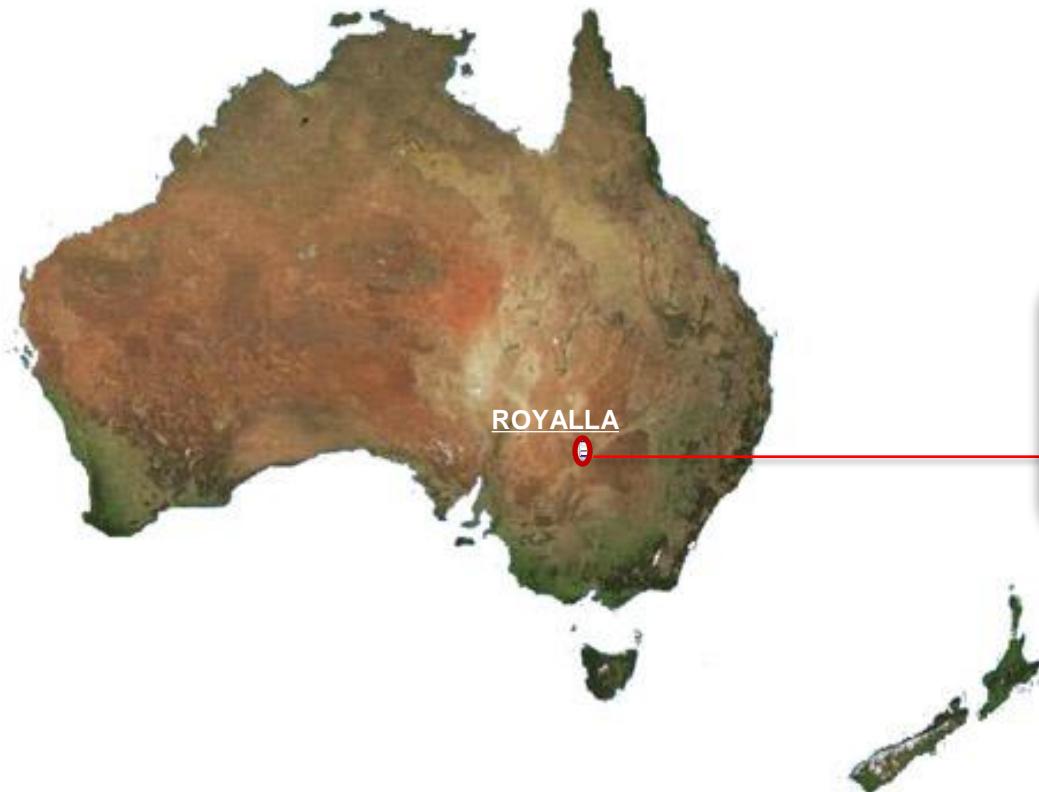
Ingeteam



- Customer: **FRV - ACCIONA**
- Location: Canberra - Australia
- Plant type: ground
- Inverter series:
- 20 INGECON® SUN PowerMax
- 10 INGECON® SUN PowerStation
- Rated power: 20 MW
- Connected: 2014



**Supplied:
20 MW**



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Solar Power

Manufacturing

Products

References

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Training

Why
Ingeteam?



REFERENCES

2014 WORLD CUP STADIUMS



- Customer: **Vinci, Cegelec**
- Maracaná Football Stadium
- Inverters: 20 INGECON SUN Smart TL
- Nominal Power 360 kW
- Operating: 2013

Supplied: 360 kW



- Customer: **Martifer**
- Mineirão Football Stadium
- Inverters: 20 INGECON SUN Smart TL
- Nominal Power: 1.5 MW
- Operating: 2013

Supplied: 1.5 MW



- Customer: **Gehrlicher Solar**
- Arena Pernambuco Football Stadium
- Inverters:
 - 5 INGECON SUN Smart TL
 - 1 INGECON® SUN PowerMax
- Nominal power: 1 MW
- Connection: 2013

Supplied: 1 MW

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Why
Ingeteam?



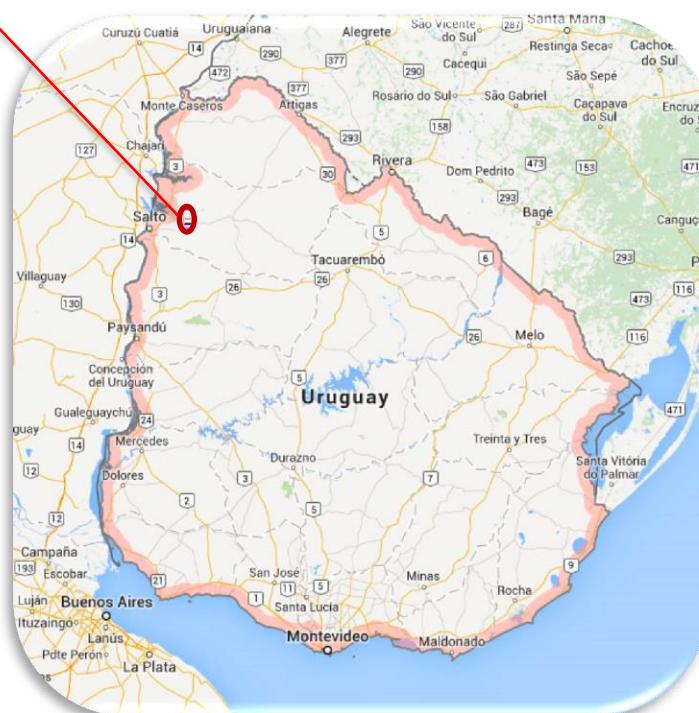
PV plant under construction

- Customer: **FRV**
- Location: Salto - Uruguay
- Plant type: ground
- Inverter series:
- 50 INGECON® SUN PowerMax
- 25 INGECON® SUN PowerStation
- Rated power: 50 MW
- Connected: 2014



FOTOWATIO
RENEWABLE
VENTURES

**Supplied:
50 MW**



Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?



REFERENCES



- Customer: **SUNEDISON**
- La Javiera PV plant - Chile
- Location: Atacama Desert
- Plant type: ground
- Inverter series:
 - 92 INGECON® SUN PowerMax
 - 46 INGECON® SUN PowerStation
- Rated power: 70 MW
- Connected: 2015



**Supplied:
69.5 MW**



- Customer: **EFACEC**
- Location: San Pedro de Atacama - Chile
- Plant type: ground
- Inverter series:
 - 30 INGECON® SUN PowerMax
 - 15 INGECON® SUN PowerStation
- Rated power: 30 MW
- Connected: 2015



**Supplied:
30 MW**

- Customer: **SUNEDISON**
- Location: Llanos de Llampo – Chile
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 100 MW (50 MW with Ingeteam's inverters)
- Connected: 2014



**Supplied:
50 MW**

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Solar Power

Manufacturing

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Why
Ingeteam?

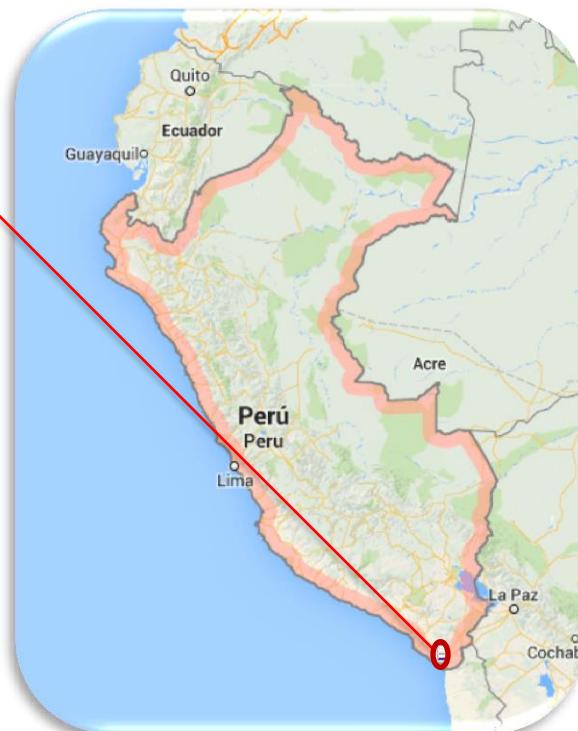
REFERENCES



Ingeteam



- Customer: **SOLARPACK**
- Location: Moquegua - Peru
- Plant type: ground
- Inverter series:
 - 20 INGECON® SUN PowerMax
 - 10 INGECON® SUN PowerStation
- Rated power: 20 MW



**Supplied:
20 MW**

Ingeteam

Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

REFERENCES



Ingeteam

- Customer: **BUILDING ENERGY**
- Location: Ithaca
- State: New York
- Plant type: ground
- Inverter series:
 - 2 INGECON® SUN PowerMax U
- Rated power: 1.76 MW
- Connected: 2014



**Supplied:
1.76 MW**



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Solar Power

Manufacturing

Products

References

Service

Training

Why
Ingeteam?

REFERENCES



Ingeteam



- Customer: **MARTIFER**
- Location: La Paz - Mexico
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 30 MW
- Connected: 2013

MARTIFER
SOLAR

**Supplied:
30 MW**



- Customer: **EOSOL**
- Location: Durango - Mexico
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 16.8 MW
- Connected: 2013

Eosol
ENERGY

**Supplied:
16.8 MW**

Ingeteam

Solar Power

Manufacturing

Products

References

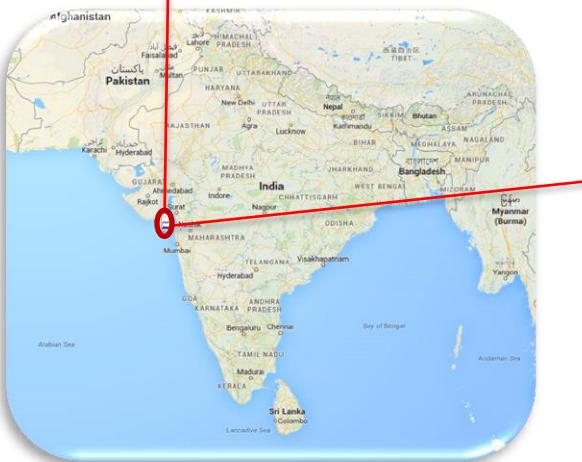
Service

Training

Why
Ingeteam?



REFERENCES



- Customer: **MOSER BAER**
- Location: Gujarat - India
- Plant type: ground
- Inverter series:
 - 7 INGECON® SUN PowerMax
- Rated power: 5 MW
- Connected: 2012



**Supplied:
5 MW**

- Customer: **WIPRO**
- Location: Gujarat - India
- Plant type: ground
- Inverter series:
 - +200 INGECON® SUN StringControl
- Rated power: 11 MW
- Connected: 2012



**Supplied:
11 MW**

[Introduction](#)

[Ingeteam](#)

[Spain](#)

[Solar Power](#)

[France](#)

[Manufacturing](#)

[Italy
Products](#)

[Portugal
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[United Kingdom
Service](#)

[USA
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[Why
Ingeteam?](#)

[Czech Republic](#)

[South Africa](#)

[Australia](#)

[LATAM](#)

[Asia Pacific](#)



REFERENCES



- Customer: **ACCIONA**
- The Sishen Solar Facility
- Location: Dibeng, Northern Cape – South Africa
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 94 MW
- Connected: 2014

 acciona

**Supplied:
94 MW**

- Customer: **IBERDROLA – GROUP FIVE**
- Jasper PV Plant
- Location: near Kimberley, Northern Cape – South Africa
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 96 MW
- Connected: 2014

 IBERDROLA
Ingeniería y Construcción

**Supplied:
96 MW**

- Customer: **TERNI ENERGIA | Enel Green Power**
- Upington Airport
- Location: Northern Cape – South Africa
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
 - INGECON® SUN PowerStation
- Rated power: 10 MW
- Connected: 2014

 Enel

**Supplied:
10 MW**

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Why
Ingeteam?

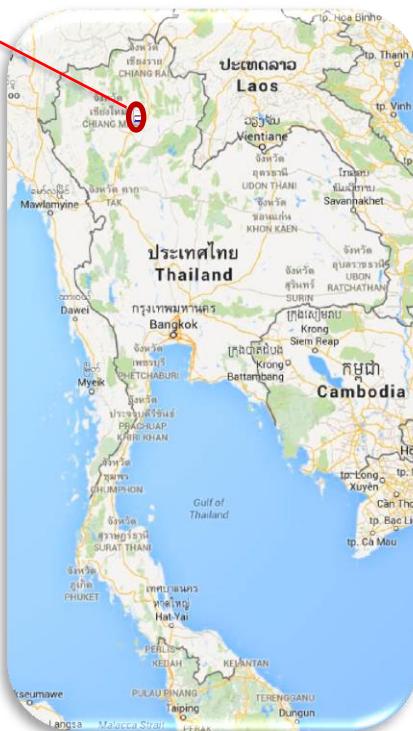
REFERENCES



Ingeteam



- Customer: **ASSYCE**
- Location: Nakhon Ratchasima
- Plant type: ground
- Inverter series:
 - INGECON® SUN PowerMax
- Rated power: 8 MW
- Connected: 2012



Supplied:
8 MW

Ingeteam

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Manufacturing

Products

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Service

Training

Why
Ingeteam?

We have supplied more than 30 GW of Renewable Energy Converters



Accumulated PV Power Installed **4 GW**

Market Share (Wordwide) **2.5 %**



Accumulated Wind Power Installed **26 GW**

Market Share (Wordwide) **8 %**

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References

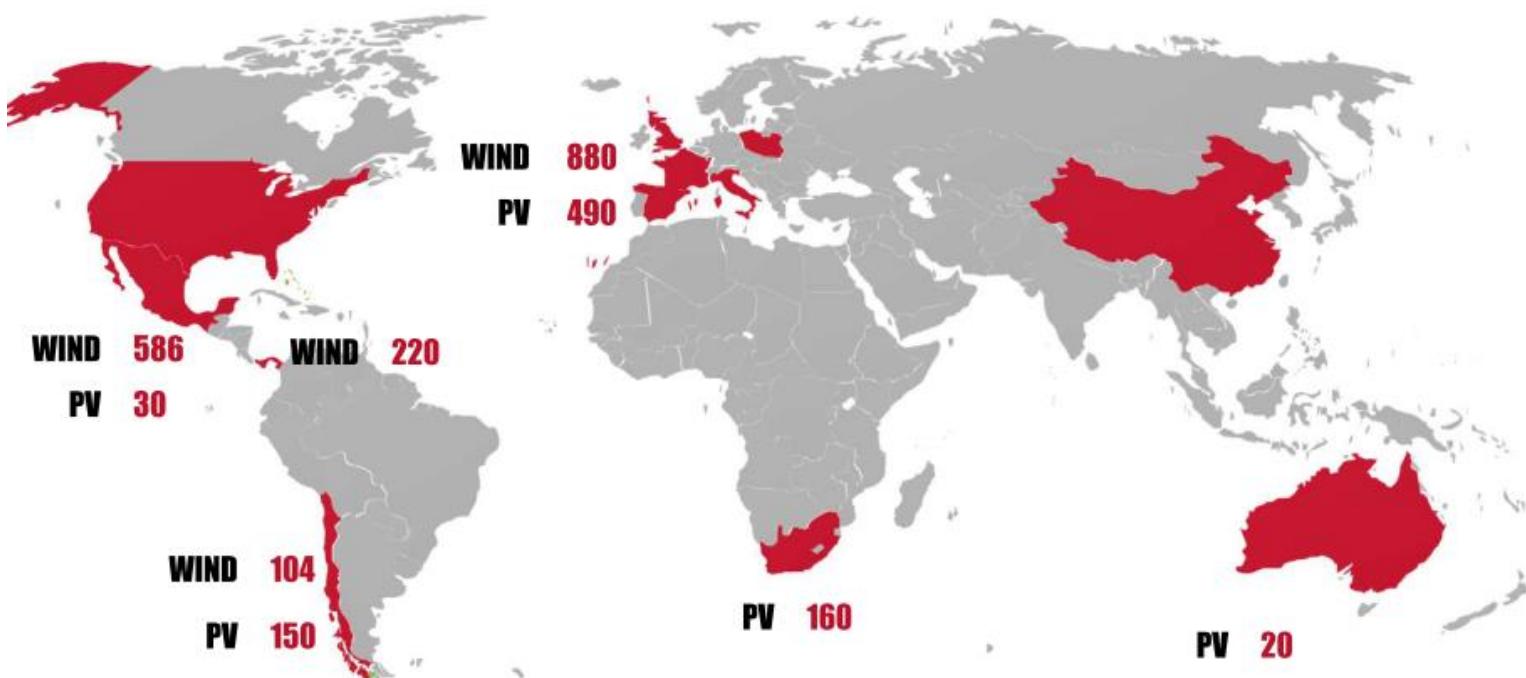
Service

Training

Why
Ingeteam?

Ingeteam
Service

START-UP PROJECTS IN 2014



+ 2,5 GW

Ingeteam

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Why
Ingeteam?



Start up
Services



On line
monitoring



Maintenance



Diagnosis
and repair



Spares
guarantee



Warranty
extension



Availability

SERVICE MODULES



Operation



Maintenance



Spares



Production
guarantee

FULL SERVICE

Ingeteam

Technological knowledge product INGETEAM

Global Presence

+20 years Extended Warranty (product INGETEAM)

Full Service Provider (+550MW O&M)

+15 years Experience

True Adaptability

Our Service, Our Competitive Advantage

International Certification

Customer Loyalty, Our Goal

Ingeteam

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Why
Ingeteam?

Ingeteam

Training



INGECON® SUN Training is a training platform directed at facilitating the work of all those professionals whose job involves handling the Ingeteam PV inverters.

VISITS

**AUDIOVISUAL
MATERIAL**

FAQ

**TECHNICAL
ARTICLES**

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Why
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www.ingeconsuntraining.com



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Why
Ingeteam?

Ingeteam

Why Ingeteam?

WHY INGETEAM ?

Ingeteam

PRODUCT RANGE:

We offer a comprehensive range of solar off-grid inverters from 2.4 up to 120 kW. We also offer on-grid PV inverters from 2.5 up to 1,000 kW.

R&D:

We are committed to innovation and development of full in-house technology.

R&D expenditure accounts for 6% of net sales.

FLEXIBILITY:

Our engineering teams can provide you with flexible solutions tailored to meet your project needs.

GLOBAL PRESENCE:

Manufacturing facilities and service centers strategically located in Europe, Asia, North and South America and Africa to deliver the most efficient support and service to you.

EXPERIENCE:

We have +3 GW of installed solar power capacity worldwide and +10 years of experience in the solar industry.

PARTNERSHIP:

We are partners, providing you active support for each specific project throughout the entire product life cycle.

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Why
Ingeteam?

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READY FOR YOUR CHALLENGES