

Santerno in South Africa, Projects and Development

JANUARY 30, 2014

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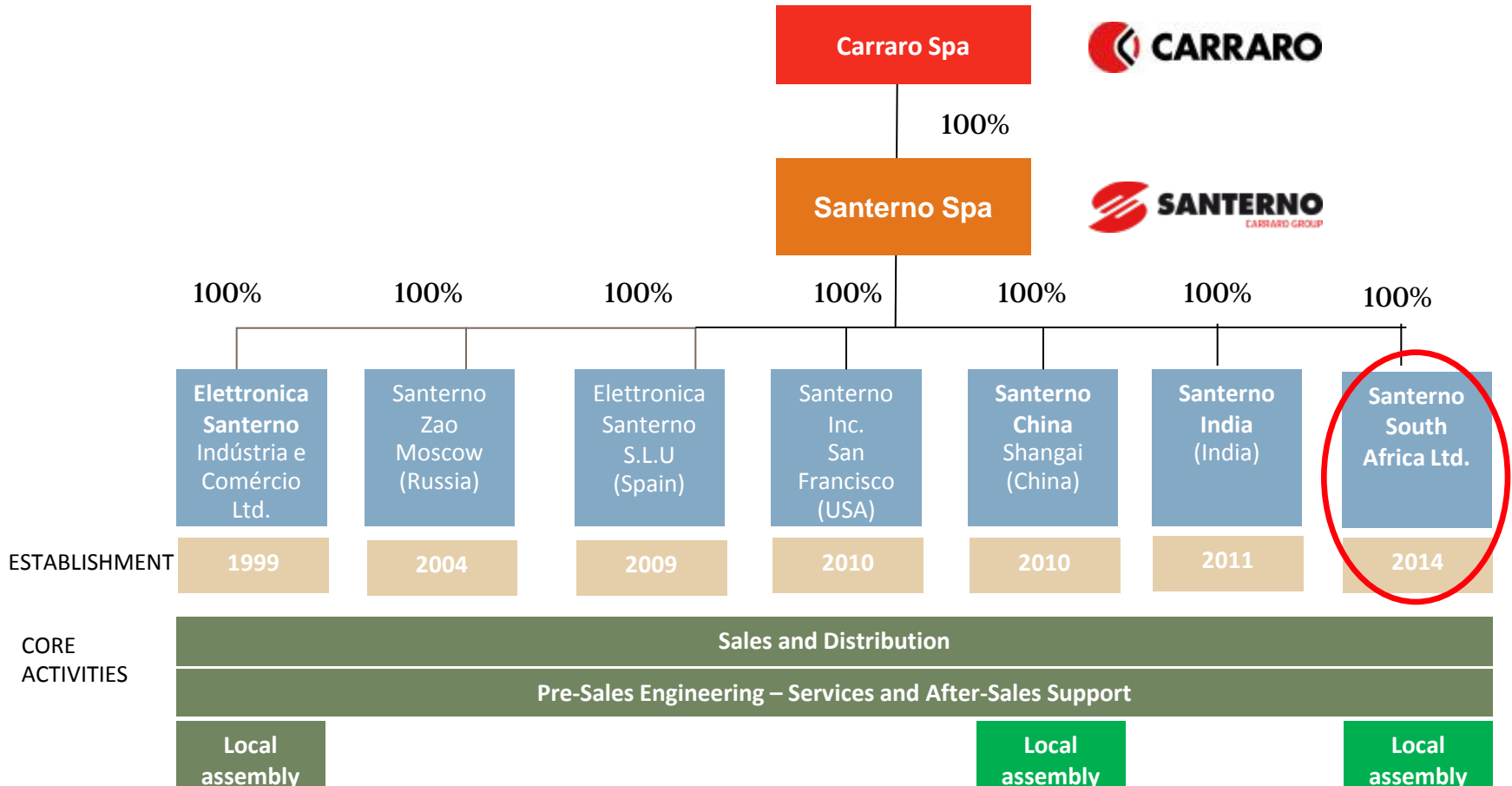




Santerno's Company Structure

Santerno is wholly owned by the Carraro Group with headquarters in Italy and seven subsidiaries all over the world



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Santerno in South America



- **Santerno** branch in Johannesburg
- **Santerno** PV Service Centers:
 - Santerno Service Centre in Johannesburg
 - Kathu Service Center
 - U&S Power Electronics in Duncanville

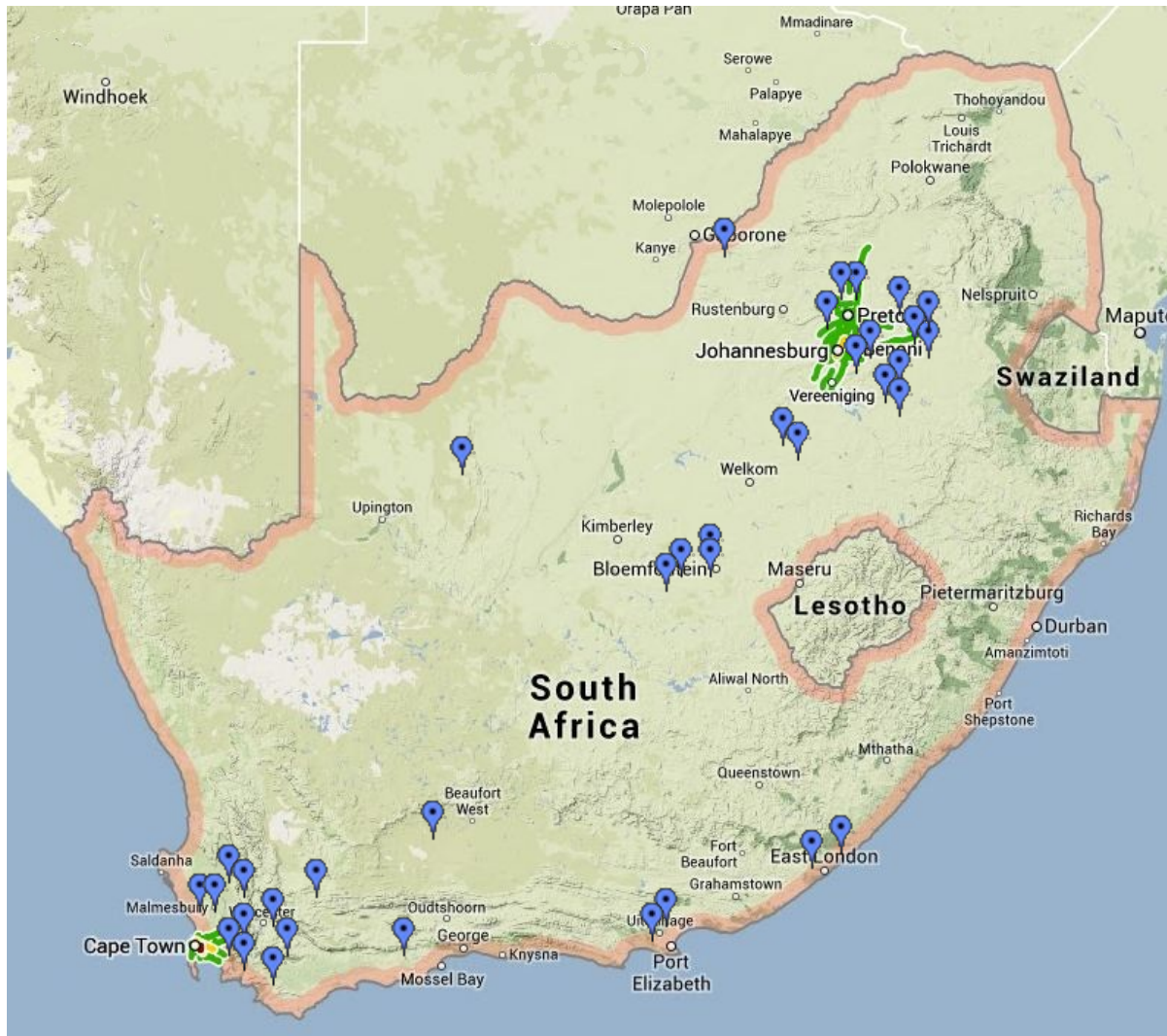
 Branch  Authorized PV Service Centers

U&S Power Electronics



- U&S Power Electronics is Santerno's authorized service centre for Industrial automation and PV in South Africa since 1999
- With its 37 employees is now supporting Santerno staff in Kathu PV plant commissioning.
- U&S has a spare part warehouse for Santerno In South Africa.

Santerno selected installations in South Africa



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Kathu Case History

Project details

PV Nominal Power: 80,652 MW

Commissioning: 27 MW already commissioned, to be finished by April 2014

Customer: Building Energy

Altitude: 1197 mt. above sea level in the Kalahari Desert



Kathu Case History

Project details

- Inverters delivery started in March 2013
- The delivery ended in August 2013
- Santerno has now one plant project manager and 2 resident technicians in South Africa
- Santerno is now negotiating an O&M contract for 5 /10/15 and 20 years



Kathu Case History

Project details



- Inverters:** n. 110 Sunway TG 750 1000V
n. 55 22 kV, 1500 kVA Medium Voltage Trafo
n. 1110 String boxes



Kathu Case History

Project details



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Kathu Case History

Project details

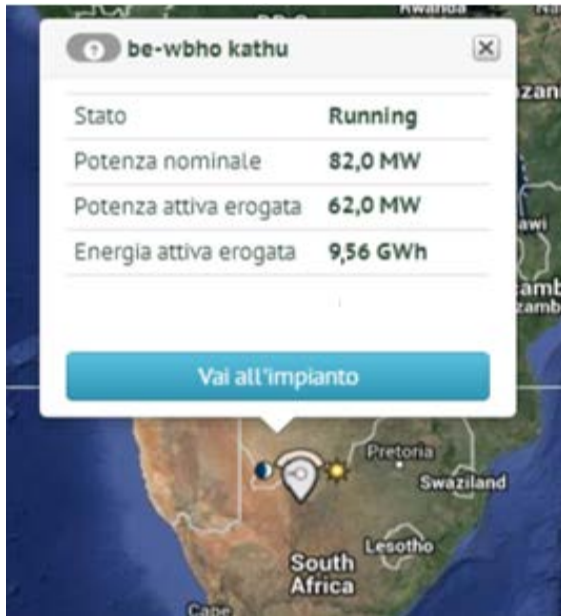


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Kathu Case History

Operation



- More then 9.6 GWh produced from December 2013
- Full supported by Santerno Remote Monitoring



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Coal Mine | Mpumalanga area

Project details

Industrial Sector:	Mining
Application:	Winch
Inverters:	Sinus Penta 280 kW 690 Vac
Type:	Drive + RGN

Key Notes: To lift a full loaded mine car from 600m deep mine shaft to surface or to main shaft and to descend empty mine car inside shaft.



Steel Industry | Pretoria area



Project details

Industrial Sector: Steel Industry

Application: Crane

Inverters: Sinus Penta

Key Notes: The Santerno inverters allow the full control of the crane ensuring safe operation of it. The result is smooth, 'Bump-Less' starts and stops and variable speed make positioning of steel ingots easier for the operator.



Santerno is Member of SAPVIA



As an active actor of South African PV market Santerno is a Sapvia Member.



The Association represents PV industry towards political institutions at Provincial and National level and informs its Members on the latest legislative developments, anticipating legislation having a potential impact on the sector.

<http://www.sapvia.co.za/>

Santerno.com

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