

# Africa PV SEC

Africa Photovoltaic Solar Energy  
Conference and Exhibition 2014

## EVENT GUIDE

**27-29  
March  
2014**

**Durban ICC  
Durban  
South Africa**

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## Conference



## Event



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# Contents

<b>Welcome .....</b>	<b>5</b>
<b>Conference Programme .....</b>	<b>9</b>
<b>Day by Day .....</b>	<b>12</b>
<b>Visual Presentations .....</b>	<b>24</b>
<b>Committees .....</b>	<b>31</b>
<b>Acknowledgement .....</b>	<b>35</b>
<b>Exhibition .....</b>	<b>39</b>
<b>Floorplan .....</b>	<b>41</b>
<b>List of Exhibitors .....</b>	<b>42</b>
<b>General Information .....</b>	<b>65</b>





**Welcome**

## Welcome of the Head of Steering Group



It is a privilege and honor to host the first Africa Photovoltaic Solar Energy Conference and Exhibition in Durban from the 27th until the 29th of March 2014. The hosting of this prestigious event in South Africa underscores the recognition given by the international community for the technical innovations in and the rapid commercial advancements of the solar PV sector in South Africa, especially over the past two to three years.

The conference and exhibition will allow local government officials, scientists and business developers to interact and exchange information with representatives from leading international PV companies and foreign government agencies. This opportunity will without doubt stimulate and strengthen direct and indirect cooperation within the international scientific and business communities, which is a prerequisite for much needed support of the development of a sustainable solar PV industry in South Africa and Africa. With this in mind, the active participation of local academic research groups as well as relevant commercial entities and government departments are required in order to guarantee the success of this auspicious event.

I am confident that the first Africa Photovoltaic Solar Energy Conference and Exhibition will be remembered as the catalyst for sparking future solar PV innovations and strategic business opportunities in the African continent. I look forward to meeting you in Durban and I am eager to join all of you in an effort to make positive contributions to this historical event that will shape the future of solar PV in Africa.

### **Prof. Vivian Alberts**

**Member of the Executive Committee  
Head of the Steering Group**

## Message of the Technical Programme Chairman



Dear Members of the Photovoltaic Solar Community,

From 27 to 29 March 2014, the first Africa Photovoltaic Solar Energy Conference and Exhibition will take place in Durban, South Africa. Solar Photovoltaic Electricity is a key energy source to meet the rapidly growing energy demand in Africa, which can not be met by traditional sources alone.

On behalf of the Scientific Committee it is my honour and pleasure to invite you to submit an abstract with your latest scientific achievements and findings. To guarantee the scientific quality of the programme, each abstract is scored by three independent reviewers from the global PV community before the topic organisers select the presentations.

The first Africa PVSEC is organized in Durban, South Africa, and highlights the fact that there is not only a rapidly growing African scientific community in the area of Solar Photovoltaic Power Generation, but that the installation of solar photovoltaic electricity generation systems is accelerating in many African countries.

Africa PVSEC is aimed as an international platform to present and discuss the latest scientific results as well as to network amongst each other and enhance the visibility towards industrial and policy stakeholders. For this reason the conference programme has three main topics, which cover the wide spectrum of photovoltaics ranging from fundamental material research to business and policy assessments.

I am looking forward to meeting you in Durban to present, follow and discuss the latest trends and developments in photovoltaics.

**Dr. Arnulf Jäger-Waldau**

**European Commission, DG JRC, Ispra, Italy  
AfricaPVSEC Technical Programme Chairman**







# Conference Programme

# Conference Programme Outline

The Conference Sessions will take place in Hall 1A

**Thursday, 27 March**

**Topic 1: PV Technologies, Cells, Modules, Systems**

Materials studies for solar cells and modules, solar cell improvements and characterisation (all types of solar cells), PV modules, BOS components

**Topic 2 : Implementation (Technical) and Standardisation**

PV system reliability and availability, stand-alone systems, mini-grids, grid integration of PV systems, standardization as tool for trade, innovation and cost reduction

**Topic 3 : Enabling Environment (Economical)**

PV business opportunities; Cost of PV systems in Africa, business models for mini-grids, PV in electricity markets, Financing PV in Africa, PV globalization, enabling regulatory frameworks; policy developments.

**I: Detailed Insights into the local private South African PV market**

**C: Company presentations**

09:00 am	<b>Technical Opening</b>	<b>EXHIBITION</b>
10:30 am 11:00 am		
12:30 pm	<b>Political Opening</b>	
01:30 pm	Lunch	
03:00 pm	<b>3AO.1</b> Enabling Environment (Economical) / 1	
03:15 pm	Break	
04:45 pm	<b>3AO.2</b> Enabling Environment (Economical) / 2	
05:00 pm	Break	
06:30 pm	<b>IAO.3</b> Detailed Insights into the local private South African PV market	
	<b>Networking Reception</b>	

**Friday, 28 March**

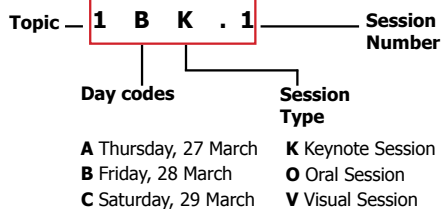
**Saturday, 29 March**

<b>1BK.1</b> Keynote Session	<b>EXHIBITION</b>
Break	
<b>2BK.2</b> Keynote Session	
Lunch	
<b>2BO.1</b> Implementation (Technical) and Standardisation	
Break	
<b>1BO.1</b> PV Technologies, Cells, Modules, Systems	
Break	
<b>CBO.3</b> Company Presentations	
<b>Networking Reception</b>	

<b>3CK.1</b> Keynote Session	<b>EXHIBITION</b>
Break	
<b>Closing</b>	

02:45 pm  
03:00 pm  
  
05:00 pm  
05:15 pm

**Session Code**



<b>1BV.1</b>	PV Technology
<b>2BV.2</b>	Implementation (Technical) and Standardisation
<b>3BV.3</b>	Enabling Environment (Economic)

09:00 am

**Technical Opening**

**Chairperson:**

**Arnulf JÄGER-WALDAU**

European Commission, DG Joint Research Center  
Renewable Energy Unit, Italy

**Keynote presentations:**

**Renewable Energies and PV focus on Africa**

Masaomi KOYAMA

Senior Programme Officer - Innovation and Technology

IRENA - International Renewable Energy Agency

United Arab Emirates

**Competence and Overview of Research Landscapes in Africa**

Irene PINEDO-PASCUA

European Commission, DG Joint Research Center

Renewable Energy Unit, Italy

**RE and PV Research and Implementation in South Africa**

Tobias BISCHOF-NIEMZ

Energy Consultant

f.w. Eskom

South Africa

---

10:15 am

Break

---

10:30 am

**Political Opening**

**Chairperson:**

**Vivian ALBERTS**

University of Johannesburg/ PTiP (Pty)Ltd., South Africa

**Keynote presentations:**

**Mmbonemi MUOFHE**

Deputy Director General, Department of Science and Technology, South Africa

**Giovanni Federigo DE SANTI**

Director Institute for Energy and Transport, European Commission JRC

**Yansong RONG**

Economic & Commercial Counselor The Embassy of the People's Republic of China in South Africa, South Africa

**Rafikh ISMAIL**

IDC, Green Strategic Business Unit, SOUTH AFRICA

**Robert BLAIR**

Vice President Business Development, GCL Solar Energy, USA

**Stefan RINCK**

CEO, Singulus Technologies AG, Representing European PV Industry, Germany

**Innocent SIZIBA**

Portfolio Manager for the Green Fund at the Development Bank of Southern Africa, South Africa

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12:00 am

**Press Conference**

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12:30 am

Lunch

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**Thursday, 27 March 2014**

01:30 pm

**3AO.1  
Enabling Environment (Economic) / 1**

**Chairpersons**

**Gundula TSCHERNIGG**

AIT Austrian Institute of Technology, Sustainable Thermal Energy Systems,  
AUSTRIA

**Izael DA SILVA**

Strathmore University, Energy Research Centre, KENYA

**3AO.1.1**

**Lessons learnt from the AFRETEP for the African PV sector development**

Irene PINEDO-PASCUA

European Commission, DG Joint Research Center  
Renewable Energy Unit, Italy

**3AO.1.2**

**Environmental Benefits of Solar Photovoltaics in South Africa**

Parikhit SINHA

First Solar, Sustainable Development, USA

**3AO.1.3**

**The Energy Centre Model - An Approach to Village Scale Energy Supply**

Charles MUCHUNKU

Camco Clean Energy, KENYA

**3AO.1.4**

**The Morocco Solar Project**

Zakaria NAIM

Electrical grid and power systems department, IRESEN MOROCCO

03:00 pm

Break

**Thursday, 27 March 2014**

03:15 pm

**3AO.2  
Enabling Environment (Economic) / 2**

**Chairpersons:**

**Irene PINEDO-PASCUA**

European Commission, DG Joint Research Center  
Renewable Energy Unit, ITALY

**Anthony O.IGHODARO**

African Renewable Energy Alliance, SOUTH AFRICA

**3AO.2.1**

**Case Study of Strategic PV Project Development with Strengthened Renewable Energy Governance as a Solution to Rural Electrification in East Africa, with country focuses of Tanzania and Uganda**

Candan ERGENEMAN

DEEA Solutions, Renewable Energies, GERMANY

**3AO.2.2**

**Assessment of Training Requirements in the Field of Photovoltaics: an Austrian Approach**

Gundula TSCHERNIGG

AIT Austrian Institute of Technology, Sustainable Thermal Energy Systems, AUSTRIA

**3AO.2.3**

**Measures for diffusion of Solar PV are aligned in technology action plans for 6 countries in the African region.**

Ivan NYGAARD

Technical University of Denmark, UNEP Risoe Centre, DENMARK

**3AO.2.4**

**Mapping the Cost of Electricity from Grid-connected and off-grid PV Systems in Africa**

Arnulf JÄGER-WALDAU

European Commission, DG Joint Research Center  
Renewable Energy Unit, ITALY

**Thursday, 27 March 2014**

3AO.2.5

**Universal Code for PV System Design and Integration**

Sean WHITE

White House Solar and Diablo Valley College, USA

04:45 pm      Break

05:00 pm

**IAO.3**

**Detailed Insights into the Local Private South African PV Market**

**Chairpersons:**

**Arnulf JÄGER-WALDAU**

European Commission, DG Joint Research Center  
Renewable Energy Unit, ITALY

**Mark WALSH**

ARTsolar, SOUTH AFRICA

*IAO.3.1*

**PV in South Africa - the REIPPP program as enabler for the local PV industry**

Ronald LANGE  
ARTsolar, SOUTH AFRICA

*IAO.3.2*

**The Role of the Municipalities in the Development of the Private PV Market**

Susanna GODEHART  
Energy Office, eThekwin Municipality (Durban) SOUTH AFRICA

*IAO.3.3*

**The Strategy of the IDC (Industrial Development Cooperation) to Financially Assist Companies**

Rafikh ISMAIL  
IDC, Green Strategic Business Unit, SOUTH AFRICA

*IAO.3.4*

**Actual Know-How in South Africa. How to come to a Thriving Private PV Sector**

Manja SCHUBERT  
Pro-Eco Consult cc, SOUTH AFRICA



**Thursday, 27 March 2014**

IAO.3.5

**A practical look at the benefits and challenges of grid-tied solar PV for the commercial / industrial sector**

Anja VISAGIE

Sustainable Power Solution (Pty) Ltd, SOUTH AFRICA

Debate

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From  
06:30 pm

NETWORKING RECEPTION

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On behalf of the Organisers you are invited to join the networking receptions taking place on Thursday and Friday after the end of the conference sessions.

**Friday, 28 March 2014**

09:00 am

**1BK.1 Keynote session  
PV Technologies, Cells, Modules, Systems****Chairpersons:****Ahmed ENNAOUI**

Helmholtz-Zentrum Berlin für Materialien und Energie, Heterogeneous Material Systems, GERMANY

**Ana Rosa LAGUNAS ALONSO**

Centro Nacional de Energias Renovables, SPAIN

*1BK.1.1***Commercial Production of CIGSSe Modules with a Hybrid based Selenization and Sulfurization Process using a Full in-line Production Configuration**

Vivian ALBERTS

University of Johannesburg / PTiP (PTY)LTD., SOUTH AFRICA

*1BK.1.2***Silicon Solar Cells - Now and Future Trends**

Martin A. GREEN

University of New South Wales, Centre of Excellence for Advanced Silicon Photovoltaic and Photonics, AUSTRALIA

*1BK.1.3***PV Crystalline Cell Production Including High Efficiency Passivated Emitter and Rear Cells - PERC**

Dirk BEISENHERZ

Singulus Technologies AG, GERMANY

*1BK.1.4***Understanding the sintering of digital inkjet printed (DIP) contacts to achieve low-contact resistance on silicon solar cells**

Abasifreke EBONG

The University of North Carolina at Charlotte, Electrical and Computer Engineering, USA

10:30 am

Break

**Friday, 28 March 2014**

11:00 am

**2BK.2 Keynote Session  
Implementation (Technical) and Standardisation****Chairperson:****Robin GRAB**

Fraunhofer ISE, GERMANY

*2BK.2.1***Perspectives on Solar PV project commissioning procedures:  
International comparisons, improvements and lessons learnt from  
Round One Solar PV plants in South Africa.**

Luca SANTONI

Parsons Brinckerhoff, Renewables, UNITED KINGDOM

*2BK.2.2***Securitization of PV-Power Plant Performance - Experience of 1,5  
GWp field inspections, Failure Analysis, Minimization of Risks**

Wilhelm VAASSEN

TÜV Rheinland Energie und Umwelt GmbH, GERMANY

12:30 am

Lunch

**Friday, 28 March 2014**

01:30 pm

**2BO.1  
Implementation (Technical) and Standardisation**

**Chairperson:**

**Wilhelm VAASSEN**

TÜV Rheinland Energie und Umwelt GmbH, GERMANY

*2BO.1.1*

**Testing PV Central Inverters' Compliance with International Grid Codes**

Robin GRAB

Fraunhofer ISE, GERMANY

*2BO.1.2*

**Meeting Utility Step Voltage Change Requirements by Providing Precise Voltage Control for a PV Plant on a Distribution Feeder**

John DIAZ DE LEON II

AMSC, Network Planning and Application, USA

*2BO.1.3*

**Installing Solar Systems on the face of existing African dams for additional Energy Production.**

Arnulf JÄGER-WALDAU

European Commission, DG Joint Research Center

Renewable Energy Unit, ITALY

*2BO.1.4*

**312 kW Solar PV-Diesel Minigrid in Bambadinca, Guinea-Bissau**

João Paulo BATALHA ARSÉNIO

TESE - Engineers without borders, PORTUGAL

*2BO.1.5*

**Off-grid Rooftop Solar System with Solar-first and Virtual grid features.**

Viresh DUTTA

Indian Institute of Technology, Centre for Energy Studies, INDIA

02:45 pm

Break

**Friday, 28 March 2014**

03:00 pm

**1BO.2  
PV Technologies, Cells, Modules, Systems**

**Chairpersons:**

**Vivian ALBERTS**

Photovoltaic Technology Intellectual Property (PTY)LTD, SOUTH AFRICA

**Abasifreke EBONG**

The University of North Caroline at Charlotte, Electrical and Computer Engineering, USA

*1BO.2.1*

**PECVD Al<sub>2</sub>O<sub>3</sub> for Surface Passivation: A Review of Solar Cell and Thin Layer Characteristics**

Saskia KÜHNHOLD

Fraunhofer ISE, GERMANY

*1BO.2.2*

**Grid-Based Triode RF PECVD: A Pathway to Ultra High Quality Passivation and High Efficiency Silicon Heterojunction Photovoltaics**

Pratish MAHTANI

University of Toronto, Electrical and Computer Engineering, CANADA

*1BO.2.3*

**A promising approach for next generation Cu(In,Ga)Se<sub>2</sub> and Cu<sub>2</sub>ZnSnS<sub>4</sub> Thin film chalcogenide photovoltaics**

Ahmed ENNAOUI

Helmholtz-Zentrum Berlin für Materialien und Energie, Heterogeneous Material Systems, GERMANY

*1BO.2.4*

**Crystallization behavior of Cu<sub>2</sub>ZnSn(S<sub>x</sub>,Se<sub>1-x</sub>)<sub>4</sub> absorbers processed from sputtered Cu<sub>2</sub>ZnSnS<sub>4</sub> precursors under different selenization conditions**

Solange TEMGOUA

IRDEP, FRANCE

**Friday, 28 March 2014**

1BO.2.5

**CIGS: State of the art thin-film PV**

Claus KUHN

Manz AG, VP BU Thin-Film-Solar, GERMANY

1BO.2.6

**Full Value Chain Localized PV Manufacturing**

Reza ZEHTABAN

Gebr. SCHMIDT GmbH, GERMANY

1BO.2.7

**Higher Energy Yield with New Generation Solar Cell and Module Technologies**

Thomas HENGST

Meyer Burger Technology Ltd., Management Board Cell Division, SWITZERLAND

05:00 pm	Break			
05:15 pm	CBO.3 Company presentations	1BV.1 PV Technology	2BV.2 Implementation (Technical) and Standardisation	3BV.3 Enabling Environment (Economical)
From 06:30 pm	NETWORKING RECEPTION			

**Friday, 28 March 2014**

05:00 pm

CBO.3  
Company presentations

**Chairperson:**

**Arnulf JÄGER-WALDAU**

European Commission, DG Joint Research Center  
Renewable Energy Unit, ITALY

*CBO.3.1*

**AMSC Company Presentation**

John DIAZ DE LEON II

AMSC, Network Planning and Application, USA

*CBO.3.2*

**Komax Solar company presentation, High Technology for the  
manufacturing of Solar Panels**

Paulo ROCHA

Komax Solar, USA

*CBO.3.3*

**Application of Solar PV Systems in Developing Countries**

Fangrui LIU

HiSEL Power Corporation, P.R. CHINA

*CBO.3.5*

**JSC "NAC" Kazatomprom Company Presentation**

Azat BETEKBAEV

JSC "NAC" Kazatomprom, REPUBLIC OF KAZAKISTAN

**Friday, 28 March 2014**

05:00 pm

**1BV.1  
PV Technology**

*1BV.1.1*

**Silicon Solar Cell Emitter Profile Tailoring Using the DOSS Diffusion Technique**

Amine MEFOUED  
CRTSE, Solar Cells, ALGERIA

*1BV.1.3*

**ZnO Nanowires Obtained by Electrochemical Method**

Lahcen NKHAILI  
FSSM, physic Dpt., MOROCCO

*1BV.1.9*

**Fabrication and characterization of inversion layer solar cells using n-Si/PEDOT:PSS**

Mmantsae DIALE  
University of Pretoria, Physics Dpt., SOUTH AFRICA

*1BV.1.10*

**Studying of Up-scaling Issues towards the Development of Large Area Mini-Modules (30cmx30cm) for Dye Sensitised Solar Cells, for Building Integration**

Obinna ONUOHA  
Heriot-Watt University Scotland UK, Institute of Mechanical Process and Energy Engineering, UNITED KINGDOM

*1BV.1.13*

**KazPV project: industrial development of a vertically integrated PV production in Kazakhstan based on SoG silicon.**

Dastan KALYQULOV  
JSC "NAC" Kazatomprom, REPUBLIC OF KAZAKISTAN

*1BV.1.14*

**Influence of Deposition Temperature in The Fabrication of CdTe Thin Films using RF Magnetron Sputtering**

Mohammed MANNIR ALIYU  
Kaduna Polytechnic, Department of Electrical and Electronics Engineering, NIGERIA



**Friday, 28 March 2014**

*1BV.1.16*

**High Efficiency CIS / CIGS Module Production - Key Process Steps with results**

Thomas KÜNZL

Singulus Technologies AG, GERMANY

*1BV.1.20*

**Development of Outdoor Research Platforms and Tests on Photovoltaic Modules in the Green Energy Park in Morocco**

Matthias EBERT

Fraunhofer CSP, Module Reliability, GERMANY

*1BV.1.23*

**Innovative power electronics for rural electrification**

Michael EBERLIN

Fraunhofer Institute for Solar Energy Systems ISE, Department Power Electronics, GERMANY

05:00 pm

**2BV.2**

**Implementation (Technical) and Standardisation**

*2BV.2.5*

**Energy Efficiency And Renewables - New Solutions For Rural Areas In Developing Countries**

Andrea VACCA

EURO ESCO, ITALY

*2BV.2.8*

**Grid Inegration of Solar Energy**

Kawtar BENABDELAZIZ

Al Akhawayn University in Ifrane, School of Science and Engineering, MOROCCO

*2BV.2.12*

**Mobile Solar Power Delivery System for Rural Applications**

Samuel LAKEOU

University of the District of Columbia, Electrical and Computer Engineering, USA

**Friday, 28 March 2014**

*2BV.2.13*

**Compound Parabolic Concentrator Design for Equatorial Africa**

Garry Zaman NAMAN

Heriot Watt University, Institute of Mechanical Process and Energy Engineering, UNITED KINGDOM

*2BV.2.16*

**Potential Induced Degradation (PID) - Applied Field Analysis, Regeneration and Prevention in the Field, Standard Test**

Wilhelm VAASSEN

TÜV Rheinland Energie und Umwelt GmbH, GERMANY

04:45 pm

**3BV.3**

**Enabling Environment (Economical)**

*3BV.3.2*

**A Literature Review of Solar PV Market and Industry Development in Uganda, Kenya and Tanzania**

Mathilde Brix PEDERSEN

UNEP Risoe Centre, DENMARK

*3BV.3.6*

**Leasing, a Viable Option to Overcome Financial Barriers in Solar Pv?**

Martin BALTES

GIZ, Support of the Mediterranean Solar Plan, TUNISIA

*3BV.3.7*

**Public-Community' Partnership In Bambadinca Hybrid Pv-Diesel-Batteries Power Plant**

João Paulo BATALHA ARSÉNIO

TESE - Engineers without borders, PORTUGAL

*3BV.3.9*

**Multiobjective Optimization of Photovoltaic Plant Penetration Rate in Power Systems**

Mohammed OUASSAID

Ecole Mohammadia d'Ingénieurs MOROCCO

**Saturday, 29 March 2014**

09:00 am

**3CK.1**  
**Enabling Environment (Economic)**  
**Keynote Session**

**Chairpersons:**

**Peter HELM**

WIP - Renewable Energies, GERMANY

**Ivan NYGAARD**

Technical University of Denmark, UNEP Risoe Centre, DENMARK

*3CK.1.1*

**The Influence of Fuel Subsidies and Taxes on the Potential for  
Decentralised PV Power on the African Continent**

Paul BERTHEAU

Reiner Lemoine Institute, Off-Grid, GERMANY

*3CK.1.2*

**Innovative Energy Access for Remote Areas: The LUAV-Light Up A  
Village project**

Izael DA SILVA

Strathmore University, Energy Research Centre, KENYA

*3CK.1.3*

**RE2nAF: Exploring Scenarios For Off Grid Electricity Production  
Options In Africa**

Irene PINEDO-PASCUA

European Commission, DG Joint Research Center

Renewable Energy Unit, ITALY

*3CK.1.4*

Invited

10:30 am

Break

11:00 am

Closing Session



# SINGULUS TECHNOLOGIES

## **Educational Photovoltaic Seminar March 27, 2014 Durban, South Africa**

### *Special PV Company Seminar*

We also would like to invite you cordially to join our company seminar on the first day of the fair:

Thursday, March 27, 2014  
starting at 2:00 pm at Durban ICC  
Room 21, Level 2

Seminar Topics:  
CIGS Process Technology from South Africa  
CIGS & Crystalline Production Equipment  
PV Projects & more







# Committees

## Executive Committee

Giovanni De Santi  
Director Institute for Energy and Transport, European Commission JRC

Bing Dai  
CTO, GCL-Poly Energy Holdings, China

Vivian Alberts  
University of Johannesburg / PTiP (Pty) Ltd., South Africa

Arnulf Jäger-Waldau  
European Commission, DG JRC, Ispra, Italy

Peter Helm  
EU PVSEC Europe

Angela Grassi  
EU PVSEC Europe

Martin Green  
Australian Centre for Advanced Photovoltaics

Anthony Ighodaro  
AREA, South Africa

Mahama Kappiah  
Executive Director, ECREEE – Ecowas Centre for Renewable Energy and Energy Efficiency, Cape Verde

Yue Mi, SNEC, China

Heinz Ossenbrink  
European Commission, DG JRC, Institute for Energy and Transport

Dinghuan Shi  
Counsellor of the State Council and President of CRES, China

Frank Wouters  
Deputy Director General, IRENA – International Renewable Energy Agency

Gongshan Zhu  
President and CEO, APVIA President and GCL-POLY,



## Scientific Committee

Ebong Abasifreke

University of North Carolina at Charlotte, United States of America

Vivian Alberts

University of Johannesburg / PTiP (Pty) Ltd., South Africa

Ana R. Lagunas Alonso

Director, Photovoltaic Solar Energy Department, CENER

Antonio Berni

ETA-Florence Renewable Energies, Italy

Izael Pereira Da Silva

Strathmore Business School, South Africa

Ahmed Ennaoui

Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, Germany

Li Hailing

Chinese Academy of Science, China

XU Honghua

Institute of Electrical Engineering(IEE), CAS, China

Dirk Knoesen

University of the Western Cape, South Africa

Philippe Malbranche

CEA-INES, France

Sandor Szabo

Renewable Energy Unit - Institute for Energy (IE), European Commission, DG JRC, Italy

Pierre Verlinden

Trina Solar, China

Stanley Van den Heever

Photovoltaic Technology Intellectual Property (PTiP), South Africa

Sicheng Wang

Energy Research Institute, NDRC, China

Ingrid Weiss

WIP - Renewable Energies, Germany





# Acknowledgement

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# Support



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## On site assistance



ACKNOWLEDGEMENT

# Media Partners

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# Exhibition

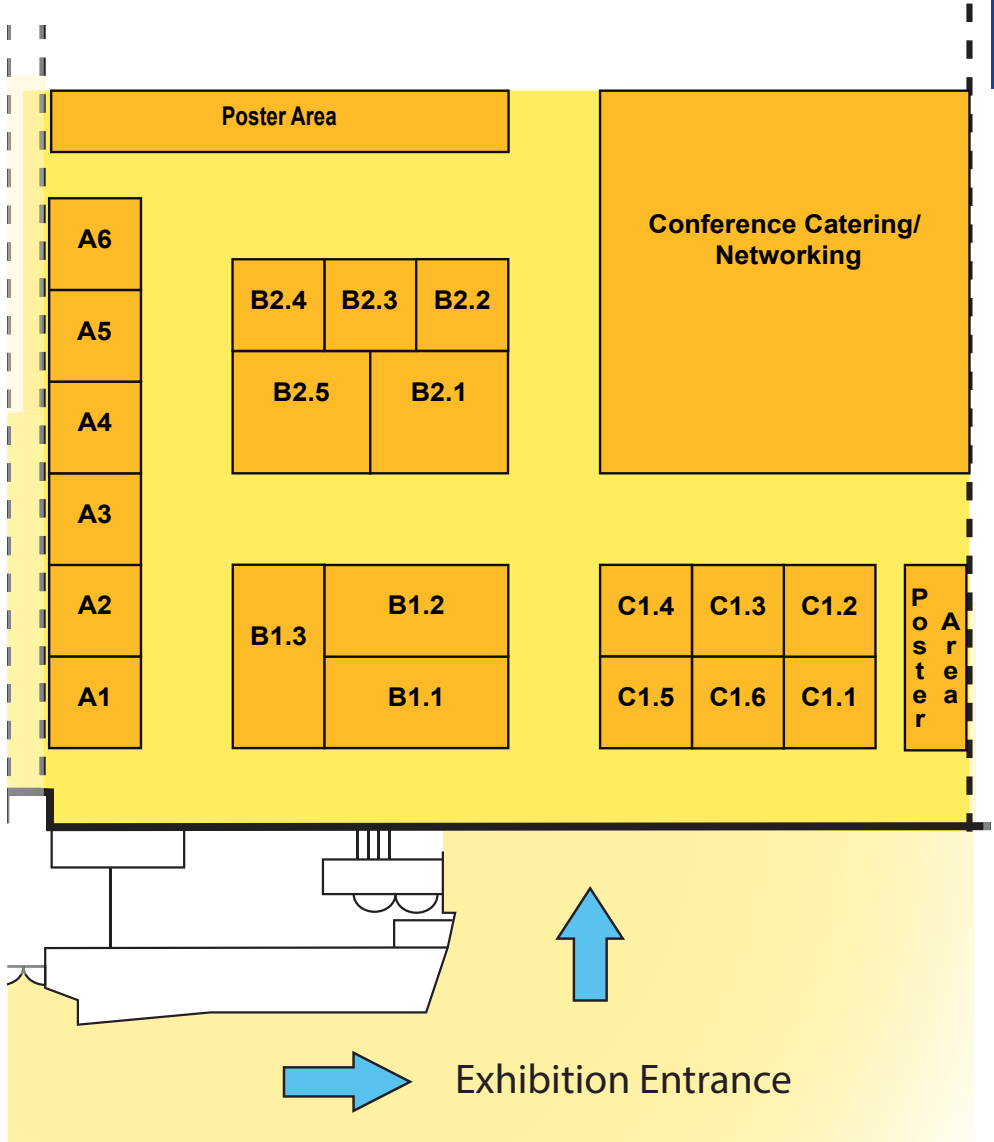
## List of Exhibitors

- A1 - Midsummer AB, Sweden**
- A2 - IRESEN, Maroc**
- A2 - Fraunhofer CSP, Germany**
- A3 - TOP CABLE, South Africa**
- A4 - TOP CABLE, South Africa**
- A5 - AREA - African Renewable Energy Alliance, South Africa**
- A6 - SNEC, China**
- B1.1 - Photovoltaic Technology Intellectual Property (Pty) Ltd.,  
South Africa**
- B1.2 - SINGULUS TECHNOLOGIES AG, Germany**
- B1.3 - GCL - Poly Energy Holdings Limited, China**
- B2.1 - European Commission DG JRC**
- B2.2 - ETA-Florence Renewable Energies, Italy  
WIP / EU PVSEC, Germany**
- B2.3 - Beijing Furunjia Energy New Technology Co., Ltd, China**
- B2.4 - PV magazine, Germany**
- B2.5 - HiSEL Power Corporation, Canada**
- C1.1 - Ming Hwei Energy Co.Ltd., Taiwan**
- C1.2 - JSC „NAC“ Kazatomprom, Republic of Kazakhstan**
- C1.3 - Komax Solar Inc., USA**
- C1.4 - Geonica S.A., Spain**
- C1.5 - SCHMID Group / Gebr. SCHMID GmbH, Germany**
- C1.6 - AMSC, USA**



# Exhibition Layout Plan

## Durban ICC, Hall 2



**AMSC****Booth No C1.6**

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Devens

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Email: [sales@amsc.com](mailto:sales@amsc.com)Web: [www.amsc.com](http://www.amsc.com)

AMSC (NASDAQ: AMSC) generates the ideas, technologies and solutions that meet the world's demand for smarter, cleaner ... better energy. Through its Gridtec Solutions™, AMSC provides the engineering planning services and advanced grid systems that optimize network reliability, efficiency and performance from the point of generation through transmission and distribution. AMSC supplies components, systems and solutions to some of the industry's biggest names. From wind parks to solar power plants and from utilities to large industrial manufacturers, the company is committed to delivering the right solution for each customer.

To address the intermittent nature of renewables, AMSC offers a renewable energy integration solution that will condition the power in order to interconnect with the power grid and not interfere with the grid's overall performance. AMSC's Renewable Interconnectivity Solutions offer complete VAR compensation and voltage control, enabling wind and solar energy generation systems to meet even the strictest grid codes and interconnection requirements. AMSC's STATCOM products provide a renewable energy integration solution that allows power plants to stay online and helps prevent the nuisance tripping of solar inverters and wind turbine generators. In turn, this helps maximize the power plant's output, which leads to increased revenues.

AMSC is connecting more than 5 GW of renewable energy to power grids around the world.

## **AREA - African Renewable Energy Alliance**

**Booth No A5**

13 Second St  
Melville 2109  
Johannesburg  
South Africa

Tel: +27 11 72 61 113  
Email: [anthony@area-net.org](mailto:anthony@area-net.org)  
Web: [www.area-net.org](http://www.area-net.org)



The African Renewable Energy Alliance (AREA) is a global platform for policy makers, business, civil society and academia to exchange information and consult about policies, technologies and financial mechanisms for the accelerated uptake of renewable energies in Africa.

In the quest for sustainable solutions at international, regional and national level, AREA plays a catalytic role in promoting knowledge transfer and international cooperation.

Founded in Ethiopia in October 2009 by the World Future Council and formalised as a Voluntary Association in South Africa in May 2012, this dynamic, member-driven network comprises of about 1.500 members from 90 countries.

AREA members share information, knowledge and experience via an online platform and monthly phone discussions, meet for international AREA conferences and workshops and present their positions at relevant conventions and forums.

The AREA Steering Committee makes decisions on key policy positions and the AREA roadmap. Organisational and strategy development are overseen by the fourteen Steering Committee members who represent the five African geographical regions as well as the three sectors policy, business and civil society/academia.

## Beijing Furunjia Energy New Technology Co., Ltd

Booth No B2.3

Rm C-211, No.120,  
Yanfu Rd, Yanfu Zhen,  
Yanfu District, Fangshan,  
Beijing 100176,  
CHINA

Tel: +86 010 6464 8952  
Fax: +86 010 6464 8525  
Email: [sales@furunjiasolar.com](mailto:sales@furunjiasolar.com)  
Web: [www.furunjasolar.com/](http://www.furunjasolar.com/)



Beijing Furunjia New Energy Technology Co., Ltd (Furunjia) focusing on research and production on cutting-edge photovoltaic products, is one of the earliest founded photovoltaic enterprises which enable large-scale production of high-efficiency thin film solar cell in mainland China. Furunjia provides single cell components, polycrystalline battery components, as well as amorphous, microcrystalline efficient thin film solar cell component for customers. Furunjia owns one of the largest range of product lines among Chinese photovoltaic enterprises.

After years of unremitting efforts, Furunjia has become the industry-leading solar photovoltaic system solutions provider which are able to offer a full set of hardware products and PV system construction services for customers.

## ETA-Florence Renewable Energies **Booth No B2.2**

Via Giacomini 28  
50132 Florence  
Italy

Tel: +39 055 5002174  
Fax: +39 055 573425  
Email: [eta.fi@etaflorence.it](mailto:eta.fi@etaflorence.it)  
Web: [www.etaflorence.it](http://www.etaflorence.it)



ETA Florence provides engineering services for the design and the site management of various sizing rooftop or ground plants.

ETA Florence has designed more than 130 photovoltaic installations, forming a total power exceeding 18 MWp.

For over 15 years ETA-Florence has been synonymous to reliability, experience and specialization.

### **Consulting and technical advising**

- Feasibility studies
- Site Inspections
- Due diligence

### **Engineering and Design**

- System design
- Contracting and Tendering services
- Project management
- Work supervision
- Commissioning
- Testing

### **Post Installation Support**

- Post commissioning tests
- Realignment of distressed assets
- Improvement of operating efficiency

### **Dissemination Activities**

- Dissemination and exploitation plans
- Stakeholders involvement
- Online and print publications
- Project events at prime venues
- Training and capacity building

## EU PVSEC

**Booth No B2.2**

Sylvensteinstr. 2  
81369 München  
Germany

Tel: +49 89 720 12 735

Fax: +49 89 720 12 791

Email: [pv.conference@wip-munich.de](mailto:pv.conference@wip-munich.de)  
[pv.exhibition@wip-munich.de](mailto:pv.exhibition@wip-munich.de)

Web: [www.photovoltic-conference.com](http://www.photovoltic-conference.com)  
[www.photovoltic-exhibition.com](http://www.photovoltic-exhibition.com)



The EU PVSEC is the largest international Conference for Photovoltaic Research and Technologies, Industries and Applications, and at the same time a leading international PV Industry Exhibition. It gathers the global PV community to conduct business, to network and to present and discuss the latest developments and innovations in Photovoltaics.

This global event uniquely combines scientific, technological industrial and market issues from the perspective of research and development, industry, finance and politics. It is considered to be the world's leading science-to-science, business-to-business and science-to-industry platform for the global PV solar sector.

The Technical Programme is coordinated by the European Commission, DG Joint Research Centre.

# European Commission DG JRC

Booth No B2.1

P.O. Box 2  
1755 ZG Petten  
The Netherlands



Tel: +390332789119  
Email: [arnulf.jaeger-waldau@ec.europa.eu](mailto:arnulf.jaeger-waldau@ec.europa.eu)  
Web: [re.jrc.ec.europa.eu/esti](http://re.jrc.ec.europa.eu/esti)

Solar energy is a key global energy technology. The Joint Research Centre is working on renewable resources assessment for Africa, helping to build competence for implementation and application of solar and other renewable energy technologies. The European Commission's European Solar Test Installation provides a unique reference facility for testing emerging technologies and developing the international standards needed to ensure market transparency. ESTI is located at the JRC's Ispra site in Italy.

## Fraunhofer CSP Center for Silicon Photovoltaics

Booth No A2

Otto-Eissfeldt-Str. 12  
06120 Halle (Saale)  
Germany



Tel: +49 345 5589-5555  
Fax: +49 345 5589-5999  
Email: [info@csp.fraunhofer.de](mailto:info@csp.fraunhofer.de)  
Web: [www.csp.fraunhofer.de](http://www.csp.fraunhofer.de)

The Fraunhofer Center for Silicon Photovoltaics (CSP) conducts applied research in the area of crystallization, solar modules and solar wafers. With top competencies, Fraunhofer CSP explores the field of ingot manufacturing and material development. Moreover, the manufacture and assessment of solar cells and modules as well as electrical, optical, and micro-structural materials and component characteristics are carried out as well. Ultra-modern research and analytical equipment is available for these activities.

Hereby, small, medium, and large companies in the industrial and services sector benefit from contract researching. The latest research results are implemented practically. Our service, research, and development projects are matched to the needs of the customers: companies and public institutions.

Research activities at Fraunhofer CSP go far beyond the simple execution of an order. Thanks to the financial support of the Federal Ministry of Education and Research, we are able to conduct independent initial research in technology areas that are considered to be highly promising for the future. All knowledge gained hereby is used by the Fraunhofer CSP in their cooperation with companies, in order to open up new application areas.



## GCL-Poly Energy Holdings Limited

Booth No B1.3

19F, SIFC, Times Square,  
Huachi Street, SIP, Suzhou,  
Jiangsu,  
China



Tel: +86 512 6696 7888  
Fax: +86 512 6696 7800  
Email: [sales@topcable.com](mailto:sales@topcable.com)  
Web: [www.gcl-poly.com.hk](http://www.gcl-poly.com.hk)

Incorporated in October 2006 in Hong Kong, GCL-Poly Energy Holdings Limited (hereinafter referred to as GCL-Poly) was successfully listed in Hong Kong (stock code: 3800.HK) in November 2007. In 2010, it was selected as a constituent stock of the Hang Seng Composite Index („HSCI“) and Hang Seng Mainland 100 Index. In May 2012, it was listed among Forbes Global 2000. Headquartered in Hong Kong, GCL-Poly has administration centers in Suzhou and Nanjing etc., representative offices in Beijing and Taipei, as well as R&D centers in San Francisco of the U.S. and Suzhou Industrial Park and Xuzhou City in China.

Dedicated to “bringing green power to life”, GCL-Poly has always been leading the green energy industry in the manufacturing of PV materials, system integration and development of PV power plants. It is one of the world’s largest producers of polysilicon and the largest wafer manufacturer globally, with an annual polysilicon production capacity of 65,000 tons and wafer production capacity amounted to 10GW at the end of 2013. By participating in the construction of highly integrated PV applications at home and abroad, GCL-Poly aims to create a better life and environment with green energy.

**GEONICA S.A.****Booth No C1.4**

c/Alejandro Rodriguez, 22  
28039 Madrid  
Spain



Tel: +34 91 450 51 18  
Fax: +34 91 459 46 14  
Email: [miguelmateo@geonica.com](mailto:miguelmateo@geonica.com)  
Web: [www.geonica.com](http://www.geonica.com)

Designed for evaluating the location of major thermal and photovoltaic solar plants that, due to the investments worth millions they require, need high quality professional measurement equipment providing reliable data. Mid- to small-sized solar plants require information on solar radiation and other weather parameters such as wind, pluviometry, atmospheric pressure, humidity and ambient temperature, or even the surface temperature of the solar panels themselves, since their performance is affected by all weather conditions. We offer comprehensive systems for assessing the energy resources of the sun, as well as for monitoring photovoltaic (PV) solar Energy, Concentrating Solar Power (CSP), and Concentrated photovoltaic (CPV) plants, since during the operation of a Solar Plant, it is essential to be aware at all times of its performance based on the available energy source ; in this case, global, direct and diffuse solar radiation, depending on the type of technology used.

## Hisel Power Corporation

Booth No B2.5

207 Edgeley Blvd  
Unit 12B  
Vaughan, Ontario  
Canada L4K4V9



**HISEL**  
Power Corporation

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E-mail: [info@hiselpower.com](mailto:info@hiselpower.com)  
Web: [www.hiselpower.com](http://www.hiselpower.com)

HISEL Power Corporation is a Canadian renewable energy company. We have subsidiary operations in China, Pakistan and South Africa with expansion to India, Pakistan and other countries. Through innovative engineering and a diverse supply base, we supply to these international markets with cost-effective, high-quality integrated solar systems including photovoltaic panels, batteries and inverters for hybrid and off-grid applications.

## IRESEN

**Booth No A2**

Quartier Administratif Rabat Instituts 6208

Agdal – Rabat

Maroc



Tel: +212 (0)537 682236 / 688837

Fax: +212 (0)537 688852

Email: [Belrhiti@iresen.org](mailto:Belrhiti@iresen.org)

Web: [www.iresen.org](http://www.iresen.org)

IRESEN was created in 2011 as a foundation within the initiative of the Moroccan ministry of energy, mines, water and environment, and supported by several Moroccan institutions: ADEREE, CNESTEN, MASEN, OCP, ONE, ONHYM and SIE, in order to carry technological and applied R&D at the national level in the area of renewable energies, to define research axis, to coordinate and reinforce research efficiency and to push innovation and development in one of the most promising fields in Morocco.

### **IRESEN : structure dedicated to R&D**

IRESEN was created to bring the R&D in applied sciences nationally, develop innovation and encourage networking, IRESEN also responsible for ensuring the definition of research areas, to achieve, to fund and manage projects of research and development.

IRESEN gradually developing and expanding its field of operations and infrastructure based on demand and need for R&D but ensures a support university research.

### **Strategic axes IRESEN**

Implementation of devices to develop, coordinate and enhance the efficiency of research in the areas of solar energy and new energy.

Translation of the national strategy for R&D projects,

Achievement and participation in financing projects undertaken by research institutions and industry,

Valorization and dissemination of results of research projects.

## JSC “NAC,, Kazatomprom

Booth No C1.2

10 D.Kunaev Street  
010000 Astana  
Republic of Kazakhstan



Tel: +7 /7172/ 55 13 98  
Fax: +7 /7172/ 55 13 99  
Email: [nac@kazatomprom.kz](mailto:nac@kazatomprom.kz)  
Web: [www.kazatomprom.kz](http://www.kazatomprom.kz)

JSC “NAC,, Kazatomprom ,, - the national operator of Republic of Kazakhstan for export of uranium and its compounds, rare metals, nuclear fuel for nuclear power plants, special equipment, technologies and dual-use materials.

The main activities of the company are: geological exploration, uranium production of nuclear fuel cycle products, production of construction materials, energy, science, social welfare and training.

“Kazatomprom,, is an active participant in the program of renewable energy development in the Republic of Kazakhstan. To date, the company employs over 25,000 people. “Kazatomprom,, is among the leading uranium producers in the world.

**Komax Solar Inc.****Booth No C1.3**

20 Innovation Drive  
US – 17402 York, PA  
USA

The logo for Komax Solar features the word "komax" in a lowercase, blue, sans-serif font, followed by "SOLAR" in a larger, uppercase, orange, sans-serif font.

Tel: +1 717 755 6800  
Email: [info.yok@komaxsolar.com](mailto:info.yok@komaxsolar.com)  
Web: [www.komaxsolar.com](http://www.komaxsolar.com)

Komax Solar focuses on process automation systems for the production of solar modules. These include stringers, which solder individual solar cells into what are known as strings; lay-up systems, which form individual strings into a matrix, and laminators, which take care of the final stage of sealing the fragile matrices.

## Midsummer AB

Booth No A1

Elektronikhöjden 6  
SE 175-43, Järfälla  
SWEDEN



Tel: + 46 8 52569010  
Email: rocky.vuong@midsummer.se  
Web: www.midsummer.se

Midsummer is a leading supplier of turnkey equipment for cost effective and scalable manufacturing of flexible CIGS (Copper, Indium, Gallium, and Selenium) cells and modules. The turnkey manufacturing line has a small footprint, is perfectly scalable and allow for small-scale production of solar cells and panels from raw material to a finished product.

Midsummer has an extensive R&D operation. We have developed our own, all sputtering process that is supplied with the tool. As a customer you test, verify performance and accept the equipment at our factory prior to delivery. This is unique to Midsummer and ensures the quality of equipment and process as well as a short start up time. Moreover, Midsummer supports you to set up a factory and provide your team all the know-how and technology in order to create an efficient manufacturing process.

Midsummer tool produces individual cells on punched stainless steel substrates. This allows for making customized flexible lightweight solar panels while keeping cell uniformity and performance at an optimum to reduce manufacturing costs and give a high yield. The flexible solar panels can be attached on any type of surfaces, such as; membrane roofs, portable power plants, marine installations, vehicle usage, landfill covers or other infrastructure projects. New applications combined with fast and easy installation create new and profitable business opportunities for both PV manufacturers and system integrators.

## Ming Hwei Energy Co.Ltd.

Booth No C1.1

No.23, Kejia Rd.  
Douliu City  
Yunlin Country 64057  
Taiwan



MING HWEI ENERGY

Tel: +886 5 5519968  
Fax: +886 5 5519268  
Email: [mhe@mhe.com.tw](mailto:mhe@mhe.com.tw)  
Web: [www.mhe.com.tw](http://www.mhe.com.tw)

Founded in 2010, located at Douliu City, Yunlin County, Taiwan, Ming Hwei Energy is dedicated in the development and production of premium quality solar cells along with high conversion efficiency, on time delivery and competitive prices. To assure the achievement of production efficiency and quality control, Ming Hwei equipped with the best European brands of Wet Bench, Thermal Process, Printing, and Automation, including Rena, Centrotherm, Baccini and Jonas & Redmann.

Since the 2nd quarter of 2013, Ming Hwei Energy has been striving to boost the output and efficiency, and has been able to reach a range of conversion efficiency from 16.8% to 18.0%. Ming Hwei plans to expand its production capacity in the coming years in order to achieve greater economies of scale.

Ming Hwei Energy is continuously working in providing state-of-the-art crystalline solar cells to international module makers, and upgrading product efficiency and service quality. We simply believe that the long term close business relationship must be based on mutual trust and benefit.



## Photovoltaic Technology Intellectual Property (Pty) Ltd.

Booth No B1.1

16 Elektron way  
Technopark  
Stellenbosch, 7600  
South Africa



Tel: +27 21 888 65 99  
Email: [info@ptip.co.za](mailto:info@ptip.co.za)  
Web: [www.ptip.co.za](http://www.ptip.co.za)

PTIP was founded in 2005 to facilitate the worldwide commercialization of the intellectual property and know-how pertaining to the technology through licensing and technology transfer agreements. PTiP has recently entered into a strategic partnership with a German solar equipment manufacturing company, Singulus Technologies AG, in order to support its commercial activities. The two companies offer jointly a variety of technology and engineering services to existing and potential customers in the PV market. PTiP has also established a world-leading CIGS PV manufacturing and demonstration facility at Technopark in Stellenbosch.

## pv magazine

Booth No B2.4

Zinnowitzer Str.1  
10115 Berlin

Tel: +49-30-726296-300  
Fax: +49-30-726296-309  
Email: [info@pv-magazine.com](mailto:info@pv-magazine.com)  
Web: [www.pv-magazine.com](http://www.pv-magazine.com)

Solarpraxis AG's monthly and quarterly trade magazines feature independent, technology-focused reporting that covers the latest trends and market developments in the field of photovoltaics. Readers gain insight and benefit from the knowledge of our editors and partners. We currently publish three b2b magazines: pv magazine Germany, pv magazine global, pv magazine China, pv magazine Latinoamerica and pv magazine Japan.

### pv magazine global

pv magazine global (English language) is a monthly trade publication with an independent and technology-based point of view. The magazine delves into state-of-the-art technological trends and market developments worldwide. pv magazine global provides market reports on significant upstream and downstream business segments and opportunities, tests of specific components done in cooperation with industry, and interesting new developments in cost savings and grid parity. The magazine is designed for key executives and

## pv magazine

PHOTOVOLTAIC MARKETS & TECHNOLOGY

professionals in all segments of the PV manufacturing supply chain, as well as project developers with international business and sourcing activities.

### pv magazine Germany

The website pv magazine Germany (German language) was launched in March 2013. The first print issue was released in June 2013 at Intersolar Europe - accompanied with a tablet version. Furthermore you can catch up on what is going on in PV with a daily newsletter. The new publication addresses the core of the German PV industry in installation, wholesale, manufacturing, energy supply and financing. It presents up-to-date information on all important themes in the German market.

### pv magazine China

During Intersolar Europe 2011, Solarpraxis AG proudly presented the first issue of pv magazine China: Targeting Mandarin-speaking PV industry decision makers the magazine focuses on worldwide market developments and technological trends. In the future, pv magazine will continue to present objective analyses of global players across all supply chains in the Chinese edition. In addition to cell, wafer and module manufacturers, international machine and plant producers will be looked at.

## **SCHMID Group / Gebr. SCHMID GmbH**

**Booth No C1.5**

Robert-Bosch-Str. 32-36  
72250 Freudenstadt  
Germany



Tel: +49 7441 538 0  
Fax: +49 7441 538 121  
Email: [pv@schmid-group.com](mailto:pv@schmid-group.com)  
Web: [www.schmid-group.com](http://www.schmid-group.com)

As one of the leading PV suppliers, SCHMID provides highly efficient equipment and process solutions for the entire solar wafers, cells and modules value chain with nearly 100% of in-house production. The product portfolio comprises single equipment, turnkey production lines and complete factory solutions from polysilicon production to power generation and energy storage.

**SINGULUS TECHNOLOGIES AG****Booth No B1.2**

Hanauer Landstrasse 103  
63796 Kahl am Main  
Germany



Tel: +49 6188 440 0  
Fax: +49 6188440 110  
Email: [sales@singulus.de](mailto:sales@singulus.de)  
Web: [www.singulus.de](http://www.singulus.de)

SINGULUS TECHNOLOGIES is market leader in the business segment Optical Disc. The activities in the division Semiconductor for vacuum deposition machines are extensively strengthened to applications like MRAM, sensors as well as read/write elements. In the Solar division SINGULUS is a recognized supplier for new Photovoltaic machine concepts and production processes for crystalline and thin-film solar cells, which increase the efficiency of solar cells and reduce their production costs. SINGULUS establishes itself as a development partner and machine supplier for Photovoltaic technologies enabling a sustainable energy provision on the basis of renewable solar energies.

**SNEC****Booth No A6**

Room 711  
No.1525 West Zhongshan Rd.  
Shanghai 200235  
China



Tel: +86-21-6427 6991  
Fax: +86-21-6464 2653  
Email: [info@sneec.org.cn](mailto:info@sneec.org.cn)  
Web: [www.sneec.org.cn](http://www.sneec.org.cn)

#### SNEC (2014) PV POWER EXPO

Event dates: Exhibition 20 - 22 May, 2014; Conference 19 – 22 May, 2014.

Venue: Shanghai New International Expo Center.

We estimate some 1,500 exhibitors, 5,000 professionals and 150,000 visitors from the globe will again participate in this biggest PV event in Asia.

In year 2013, more than 150,000 trade professional visitors visited SNEC 2013 PV POWER EXPO during its three day run this year. An exceptional 1,523 exhibitors, 157,300 visitors from 92 countries had participated in this grand event. The exhibiting products covered the whole PV industry chain, including PV production equipments, materials, cells, applications & modules, PV projects and systems.



# SINGULUS TECHNOLOGIES

*Developer, Enabler and Supplier for Reliable Crystalline & Thin-Film Production Equipment*

SINGULUS TECHNOLOGIES is a supplier of manufacturing solutions and production equipment for the markets Optical Disc, Semiconductor and Solar. With new machine concepts and manufacturing processes in the crystalline and thin-film solar technology SINGULUS TECHNOLOGIES establishes itself as development partner and equipment supplier for investments in new high-performance solar cell concepts.



SINGULUS TECHNOLOGIES continues to expand its activities in the Solar segment and cooperates with cell manufacturers worldwide and develop processes, which improve the efficiency of solar cells and at the same time reduce production costs.



In addition, SINGULUS TECHNOLOGIES has set up development partnerships with universities, institutes and leading solar companies to establish a proprietary technology as standard for the development of the new cell concepts.

Evolutionary improvement in cell concepts like PERC (PERL/PERT), n-type material, IBC – back contacted cell or Heterojunction cells will drive the future of crystalline solar cells.



SINGULUS is the market leader for the application of CIS/CIGS processes. New plant concepts expand the value-added chain of the company in the area of thin-film solar technology.

SINGULUS offers modern production systems such as Selenisation furnace for an optimized CIGS absorber formation, Sputtering & Evaporation machines as well as Wet-chemical systems.

## **SINGULUS TECHNOLOGIES AG**

Hanauer Landstrasse 103  
63796 Kahl am Main | Germany  
tel: +49-6188-4400 | mail: sales@singulus.de



## TOP CABLE

Booth No A3, A4

Unit 12 Freight City  
605 Innes Road Jetpark Ext. 38  
Johannesburg  
South Africa



Tel: +27 11 397 3554  
Email: [sales@topcable.com](mailto:sales@topcable.com)  
Web: [www.topcablesolarcables.com](http://www.topcablesolarcables.com)

Top Cable is one of the worldwide leaders in manufacturing photovoltaic cables. We cover almost all cable needs in photovoltaic installations.

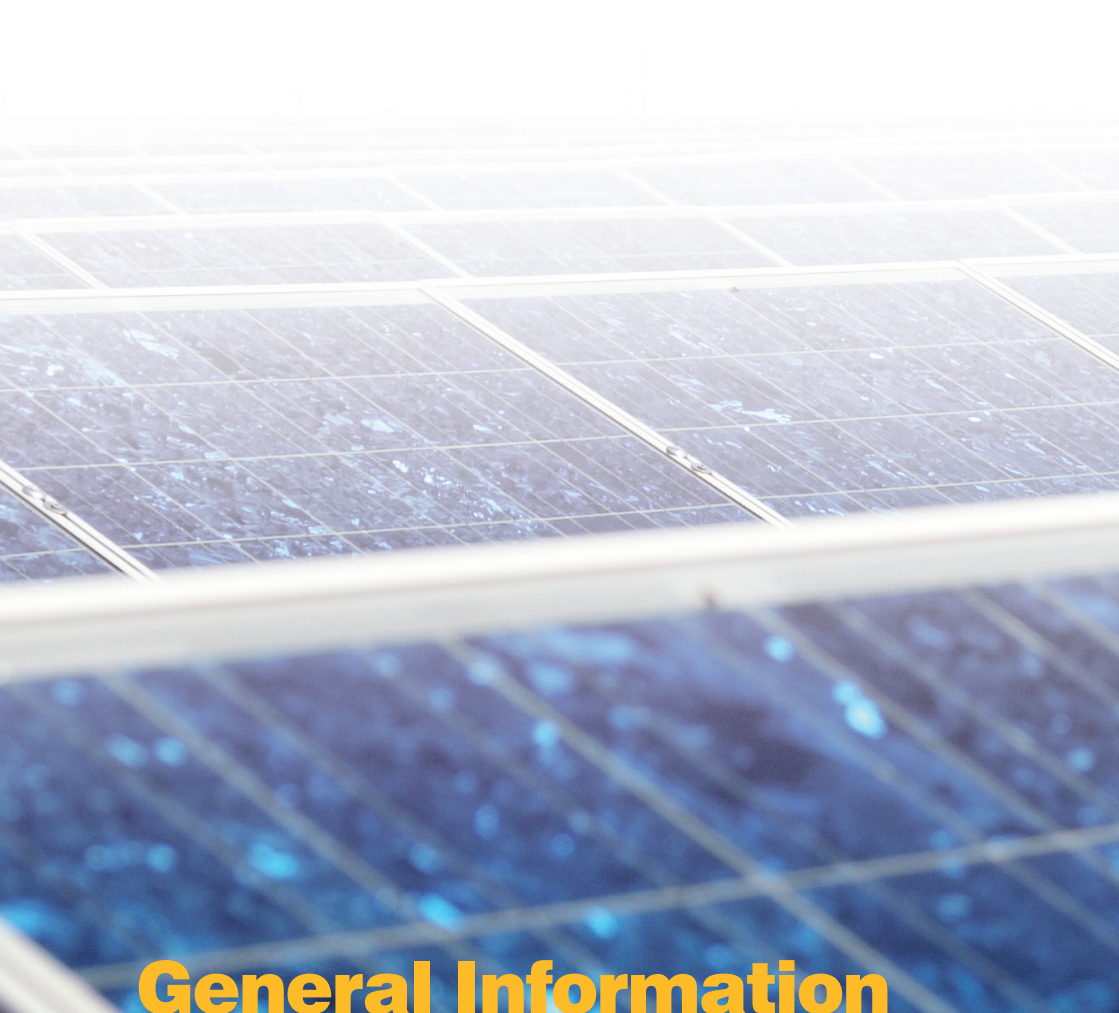
Our photovoltaic cables are designed to create reliable, durable solar systems for the harsh environments of solar energy applications.

Top Cable's solar range is based on TÜV 2Pfg 1169/08.2007, UL PV wire, UL use-2 and IEC 60502.





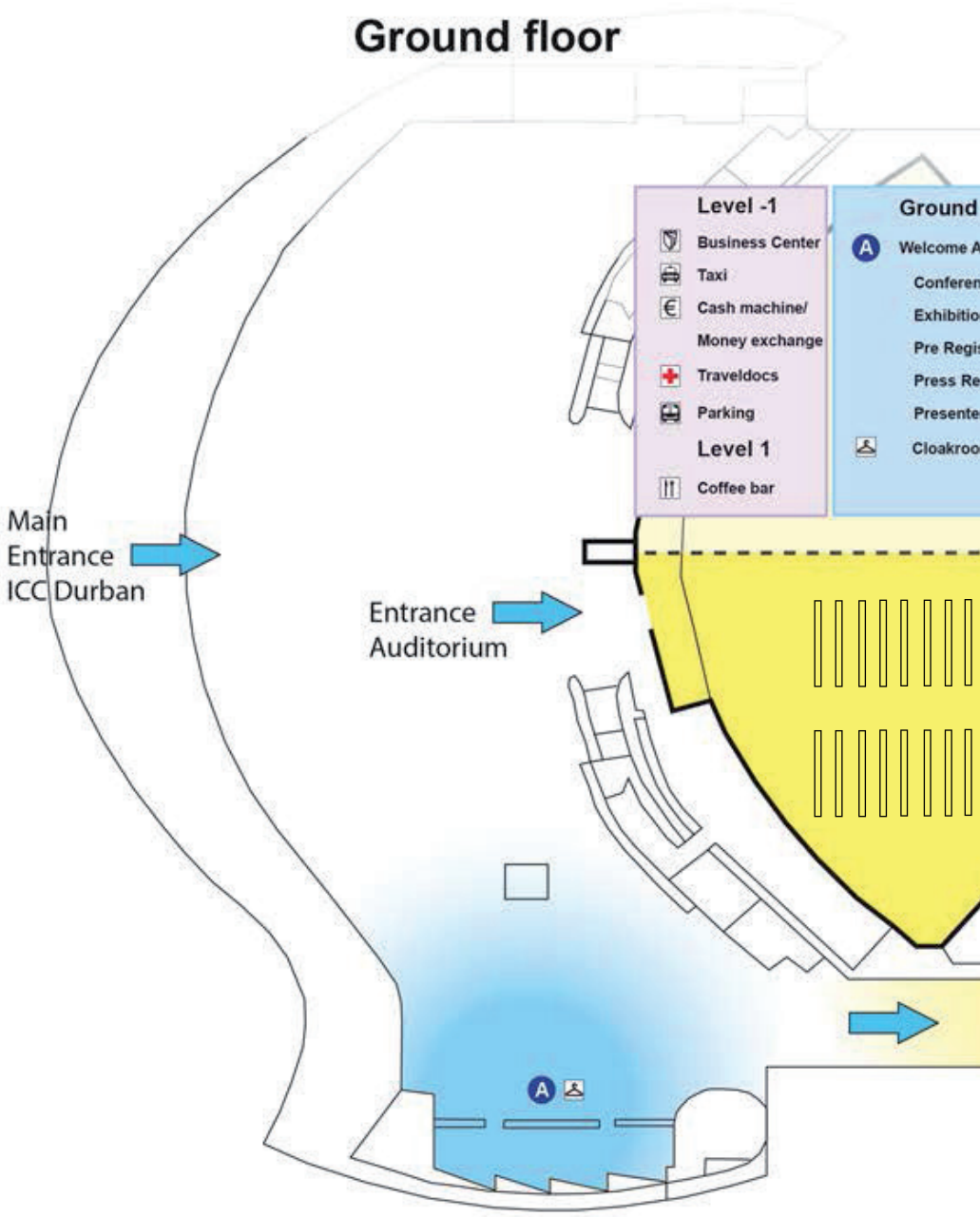


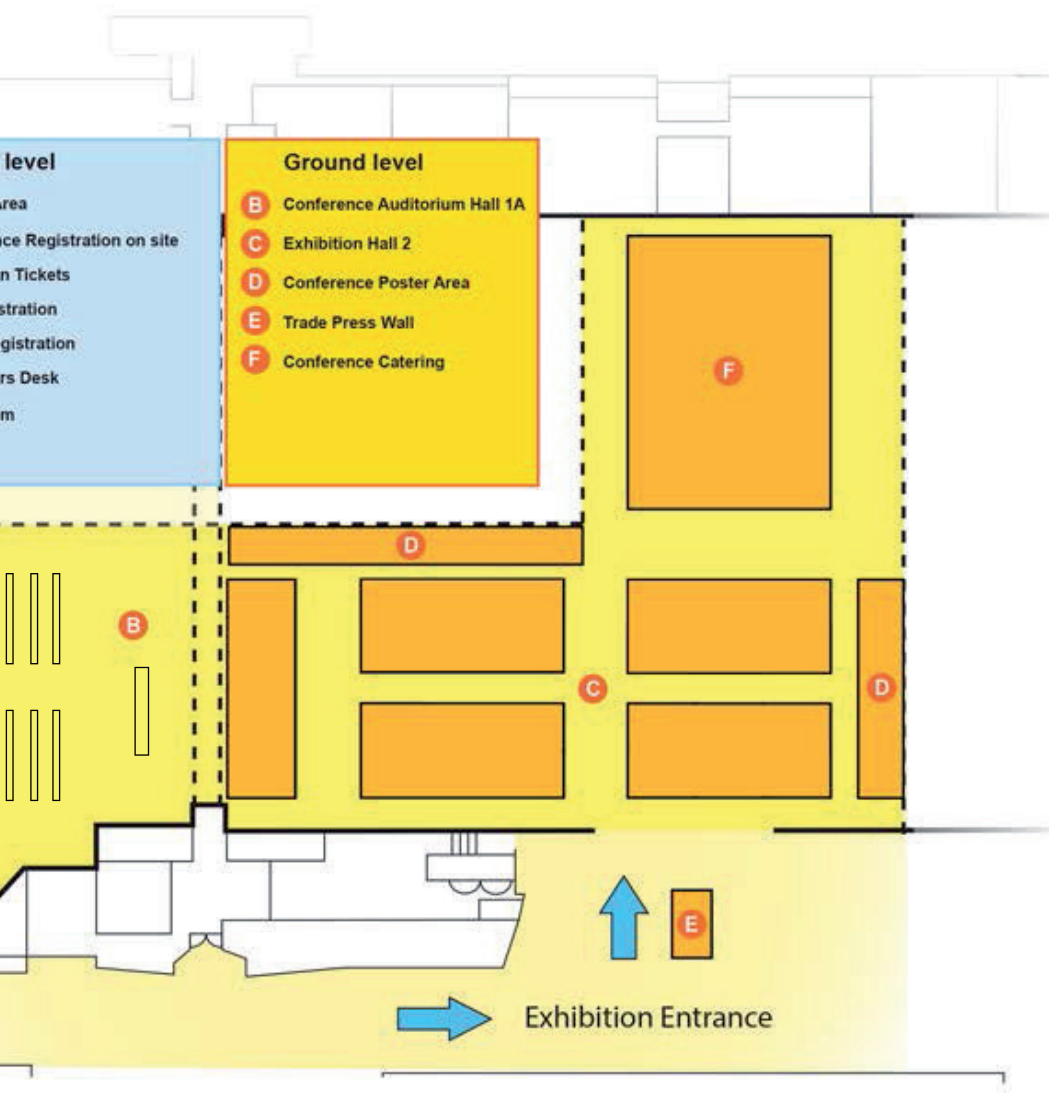


# General Information

# Event Site Overview

## Ground floor





## Admission

### Exhibition

Admission to the exhibition is open for all interested persons and free of charge. Registration is required. The exhibition is open from Thursday and Friday from 8am to 6pm, on Saturday from 8am - 12:30pm.

### Conference

Admission to the conference is required to access the conference areas. The registration on site is open on Wednesday from 2-6pm, on Thursday and Friday from 8am to 6pm, on Saturday from 8am-12:30 pm

### Full Conference Registration

Includes access to all Conference Sessions, the online Conference Proceedings, access to the Exhibition Hall, Coffee breaks and Delegate Lunch on Thursday and Friday, invitation for the networking receptions.

### One Day Conference Registration

Includes access to all Conference sessions on the corresponding day, access to the Exhibition Hall, Delegate Lunch, Networking Reception on corresponding day, and online Conference Proceedings.

All participants are requested to wear their badges throughout the venue. In case of loss, please inform the welcome desk immediately

Pictures and videos will be taken/recorded during the conference sessions and exhibition. This material will be used for advertising and dissemination purposes ( publication on the Conference website, brochures, leaflets, Conference Proceedings, etc.)

## Emergencies

A travel health clinic is allocated on level -1 of the ICC. It is always recommended that in case of emergency guests call the security guard as they would be able to help in directing an ambulance/ fire marshal TO the right entrance.

## Insurance

The organisers do not accept liability for individual medical, travel or personal insurance and participants are strongly advised to make their own arrangements regarding health and travel insurance.

## Lost and Found

Please refer to the welcome desk.

## Public coffee bar

A coffee bar is allocated inside the Durban ICC on level 1.

## Taxi and parking area

A taxi stand and a public parking are allocated in the ICC Durban on level -1. You will also find taxis at the entrance of the Hilton Hotel close to the event venue.

## Telephone

The international access code is 0027. Remove the "0" from the city/ area code when dialing internationally.

We appreciate that the conference delegates put their mobile phones on silent mode during the conference sessions.

## Useful numbers

Police and flying squad	10111
Metro Police	+27 (0) 31 361-0000
Ambulance	10177
Netcare medical response	082911
EMRS medical response	10177
Durban Tourism information ( <a href="http://www.durbanexperience.co.za">www.durbanexperience.co.za</a> )	+27 (0)31 322 4164
KwaZulu-Natal Tourism information office ( <a href="http://www.zulu.org.za">www.zulu.org.za</a> )	+27 (0) 31 366 7500
Ezemvelo KZN Wildlife	+27 (0)33 845 1999
South African Tourism information SAT call centre (open 24/7)	+27 (0) 87 803 4636
SA National Park bookings	+27 (0) 31 322 4179

For all your Travel Vaccinations and Medical Advise

Travel Doctor Durban  
 45 Ordinance Road , ICC, Durban  
 Tel : 27 31 360 11 22  
 Fax : 27 31 360 11 21  
 Opening Hours  
 Mon -Fri : 08h30 - 16h00  
 Saturdays : 08h30 - 11h00  
 email : [traveldoctordurban@yahoo.com](mailto:traveldoctordurban@yahoo.com)

Travel Doctor @ La Lucia  
 11Cranbrook Park  
 Unit 6, La Lucia  
 Tel : 031 566 36 35  
 (By appointment only)

## Internet

Wireless internet access is freely available throughout the venue.

Network Durban ICC WiFi

Password: **iccdwifi**

## Durban ICC

### Services allocated on level -1

- Travel health clinic <http://www.durbantraveldocor.co.za/>
- Money exchange <http://sikhona.co.za/durban>
- Business services
- ATM machine

### General Information

Please refer to the ICC info point in the main foyer to get general information about the ICC and Durban

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F: +27 (31) 360 1005

E: [sales@icc.co.za](mailto:sales@icc.co.za)

Physical Address: 45 Bram Fischer Road, Durban 4001

## Catering in Networking areas

### for conference delegates

	Thursday	Friday	Saturday
8h00 - 9h00	Welcome coffee offered in hall 2		
10h30 - 11h00	Coffee break offered in hall 2		
12h30 - 13h30	Luncheon		
15h00 - 15h15	Coffee break offered in hall 2		

## Disclaimer

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# Presentations and Proceedings

## Presenters' desk

All powerpoint presentations sent previously by email before Friday 21 March will be stored on the presentation notebook in the conference room. In case of urgent modifications, please contact the technician of the presenters' desk at the welcome area.

## Speakers' briefing

Speakers and Chairpersons of Slide Presentations will meet 15 min prior to the start of their session in the auditorium in order to be briefed and to become acquainted with the audiovisual aids.

## Visual presentations

The visual presentations are available for viewing throughout the event in the poster area. During the visual presentation session, authors of the posters are requested to be present at their posters. This will give all Conference delegates the opportunity for questions and discussion.

## Online Proceedings

The Proceedings contain all scientific papers which have been presented during the AfricaPVSEC and submitted for publication. It also includes PowerPoint presentations and poster files (where available) as well as video of selected moments. It constitutes a comprehensive source of state-of-the art information and vital point of reference for researchers, technologists, decision makers, entrepreneurs and all involved in the African PV sector.

A digital identifier (DOI code) has been assigned to each paper to ensure unequivocal and permanent identification and citation capability of the online publication. This identification system is administered by the German National Library of Science and Technology.

The proceedings will be published after the event online for instant download. Delegates will receive the login credentials automatically by mail.

Contact: [publications@etaflorence.it](mailto:publications@etaflorence.it)

## Delivery of Manuscript - DEADLINES AND DELIVERY

The full paper is the most essential part of your contribution to the conference proceedings. We therefore highly suggest that you submit the full paper of your presentation along with your slides of presentation / poster file. These materials should be submitted together with the copyright transfer agreement form, by email to [papers@africapvsec.com](mailto:papers@africapvsec.com) (or by dropbox or other link for download) by 28 March 2014.



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Power Your Life

## Yingli Green Energy kicks off new era of renewable em-powerment in SA & Africa

Yingli Green Energy is a global leader in the field of solar energy. Listed on the New York Stock Exchange ("YGE") since 2007, it has now opened its doors in South Africa. Established in China in 1998, it is one of the world's first and biggest fully vertically integrated photovoltaic (PV) manufacturers and currently distributes its products to over 40 countries and regions worldwide.



"Renewable energy solutions and the provision of power is our business making long term performance efficiency and sustainability absolutely key," says Christopher Steinbach, managing director of Yingli Green Energy Africa. "It's our mission to provide affordable green energy for all."

The company ranks as the world's number one PV module supplier, is one of only three manufacturers worldwide using the more efficient n-type silicone technology and has its own fine silicon and junction box factory. YGE was also the number one shipment volume supplier in 2012 with 2.5GW shipped last year alone. With close to 5GW of Yingli solar PV modules now installed worldwide, it has a host of international certification and accolades.

"Technological and quality excellence underpins everything that we do and YGE product was ranked second in the TÜV Rheinland Energy Yield Test," he continues. "In Photon Labs' long term testing programme conducted during 2012 to test yield measurements and performance ratios, Yingli Green Energy's YL240P29b module was ranked fifth out of the total 151 modules tested."

It is the first Chinese company to have two research and development laboratories in China as well as a key facility in the USA. Via its 13 subsidiary operations located outside China, YGE has a sales and service network that encompasses Japan, Australia, Singapore, key countries in Europe, the North, South and Central Americas and now, South Africa.

"We are one of the few manufacturers to offer full performance and factory warranties with re-insurance through MunichRe, who are backing our product warranty and model performance over the life of the product which makes us and makes our company a highly bankable option for high value projects," explains Steinbach.



On the social responsibility front, YGE has made its mark in Africa through football by sponsoring 20 football centres across the continent with the five centres in South Africa home to its Football for Hope initiative established in 2010 together with FIFA.

"YGE was the first Chinese and renewable energy company to sponsor the 2010 FIFA World Cup™ in South Africa and we will be doing the same in Brazil in 2014. We were also the first Chinese company to join the World Wildlife Fund's Climate Changers Programme," says Steinbach.

Local government and industries-across-the-board in South Africa are showing significant interest in our product offering and technology and I am confident that in time to come, Yingli Green Energy will be a leading light in the field of solar energy solutions in Africa," he concludes.





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