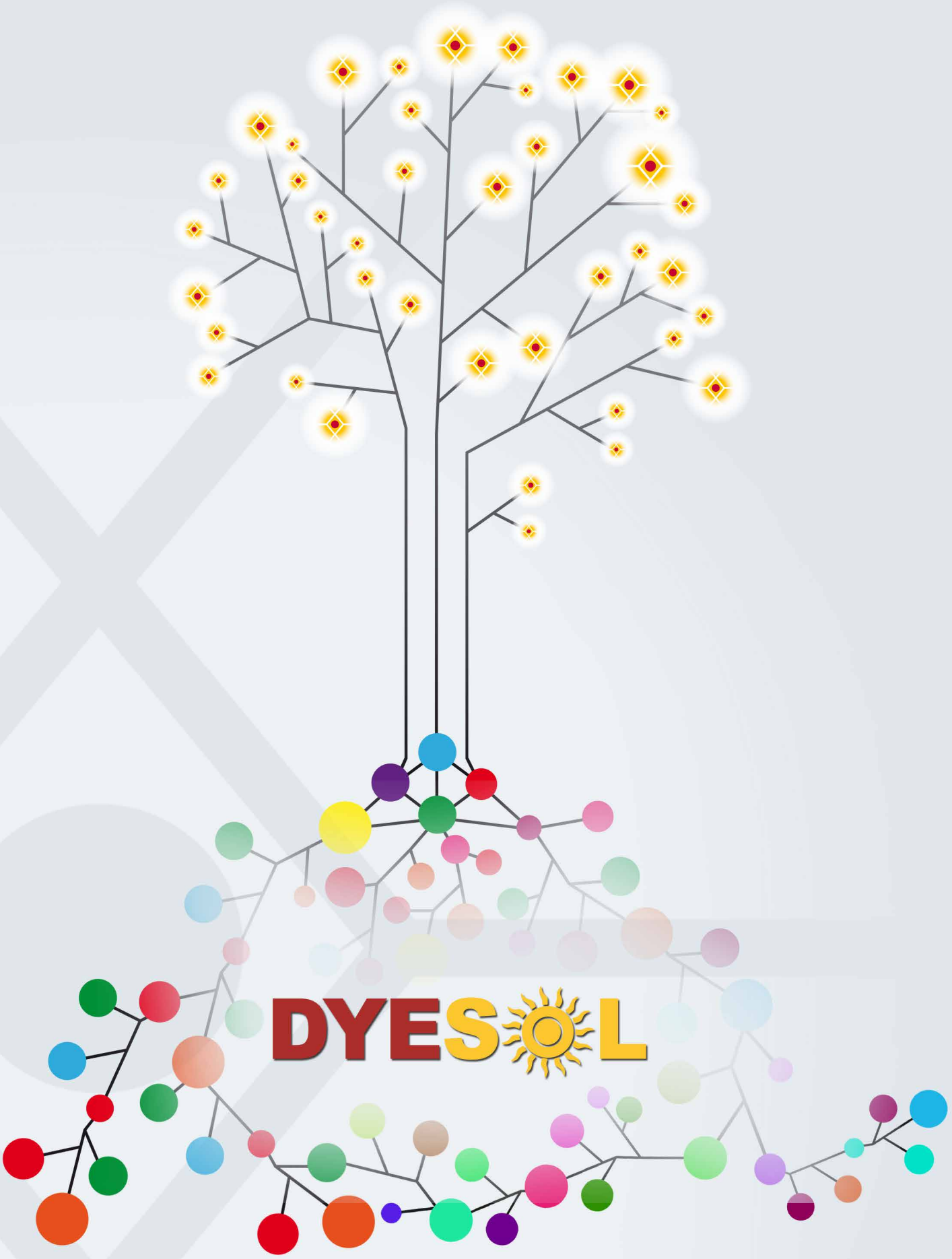
greatcellsolar
Global leaders in hi-tech solar

Formerly
Dyesol
Limited



DYESOL

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Dear Valued Customer,

To reflect the new direction for our company in terms of both technology and business generation we are pleased to announce that the **Dyesol group** has changed its name to **Greatcell Solar**.

Dyesol Limited was formed in 2004 to accelerate the commercial development of Dye Solar Cell technology and build on the DSC work of previous 14 years carried out by Sustainable Technologies International Pty Ltd ("STI"), Greatcell Solar S.A. ("Greatcell"), and Switzerland's École Polytechnique Fédérale de Lausanne (EPFL).

On June the 9th 2017 at a general meeting of Dyesol shareholders a special resolution to change the name of the Company from **Dyesol Limited to Greatcell Solar Limited** was approved.

If you are a customer of the Company, our banking details will remain unchanged except for new account holder name details. We will, of course, continue to deliver the best materials and equipment in this rapidly growing renewable energy sector. We will also continue to sensibly manage the transition, recognising both names in relevant circumstances.

The name change is much more than cosmetic, it is a new direction for the company in terms of both technology and business generation. The new name signifies to us a new chapter of commercial progress and is more appropriate for our 3rd generation solar PV technology.

What will not change is our commitment to provide you with excellent materials and great equipment.

FROM DYESOL TO GREATCELL SOLAR THE SAME COMMITMENT FOR A BRIGHTER FUTURE!

ABOUT GREATCELL SOLAR

Greatcell Solar is a global leader in the development and commercialisation of Perovskite Solar Cell (PSC) technology – 3rd Generation photovoltaic technology that can be applied to glass, metal, polymers or cement.

Greatcell Solar manufactures and supplies high performance materials and is focussed on the successful commercialisation of PSC photovoltaics.

Our team of highly skilled scientists and engineers focus on:

- Developing (and continuously advancing) a suite of thoroughly tested PSC chemicals, components and equipment used in the manufacture of PSC cells, modules and panels to researchers and industrialists;
- Providing turn-key and custom fabrication facilities for research, development and production of PSC photovoltaic devices; and
- Providing specialist training, consulting and engineering solutions for the application of PSC photovoltaic technology.

Greatcell Solar is a publicly listed company: Australian Securities Exchange ASX (GSL) and German Open Market (D5I).

HOW TO ORDER

For more information, custom orders or tailored material and equipment quotes email information@greatcellsolar.com or call Greatcell Solar's Headquarters +61 2 6299 1592.

European Customers

To purchase or enquire email italy@greatcellsolar.com .

Custom Orders

Greatcell Solar welcomes the opportunity to tailor our products or product quantities to suit your needs. If you require a custom formulated order, it is worth discussing your project goals and requirements with Greatcell Solar. Simply send your request by email to purchase@greatcellsolar.com.

Customer Service

Our customer service and sales teams are located in both the northern and southern hemisphere's which means you have access to assistance around the clock.
Email information@greatcellsolar.com if you would like to discuss special order quantities or require product advice.
If you have placed an order, and you have a query regarding its status, keep an eye on your emails for your order confirmation or email purchase@greatcellsolar.com.

Payment

Greatcell Solar will accept payment by cheque or direct deposit. All payments by direct deposit must include the reference number in the bank transfer. If payment is made by direct deposit, please forward the transaction receipt to purchase@greatcellsolar.com .
Payment by cheque or direct deposit is slower to process and wherever possible, Greatcell Solar encourages customers to use Greatcell Solar's online e-commerce website to place orders.
Please speak to Greatcell Solar's Sales Team to arrange for an account or special payment terms as necessary.

Greatcell Solar Head Office

3 Dominion Place, Queanbeyan NSW 2621, Australia
Post: PO Box 6212, Queanbeyan NSW 2621, Australia
Website: www.greatcellsolar.com

Contacts

Sales: purchase@greatcellsolar.com
European customers: italy@greatcellsolar.com
Information: information@greatcellsolar.com
Newsletter: Subscribe here
Phone: +61 6299 1592

HIGHEST QUALITY MATERIALS

Greatcell Solar has more than 800 customers located in 60 countries. Customers include leading universities, manufacturers and scientists. All demand a high quality and consistent product, which Greatcell Solar has become renowned for internationally.

We provide our customers with the industry's highest quality perovskite precursors, sensitising dyes, ligands, dye additives, titania pastes, platinum pastes, electrolytes, conductive glass substrates, sealants and more!
Greatcell Solar is also a pioneer Licensee of the Ecole Polytechnique Federale de Lausanne (EPFL) and many of our products are sold under license from EPFL.
Our operation is scalable, and we are capable of fulfilling small orders for individual projects or large orders for production scale initiatives.

Our products go under the most rigorous quality testing in the market to provide the best performance and highest consistency. We already supply a range of producers with large quantities of several materials at very competitive prices.

PEROVSKITE PRECURSORS – AMMONIUM SALTS

IODIDES

- Acetamidinium iodide
- 5-Azaspiro[4.4]nonan-5-ium iodide
- 1,4-Benzene diammonium iodide
- Benzylammonium iodide
- iso-Butylammonium iodide
- n-Butylammonium iodide
- t-Butylammonium iodide
- Cyclohexylammonium iodide
- Cyclohexylmethylammonium iodide
- 1,4-Diazabicyclo[2,2,2]octane-1,4-diium iodide
- Diethylammonium iodide
- Dimethylammonium iodide
- N,N-Dimethyl-1,2-ethanediammonium iodide
- N,N-Dimethyl-1,3-propanediammonium iodide
- n-Dodecylammonium iodide
- Ethane-1,2-diammonium iodide
- Ethylammonium iodide
- 4-Fluoro-Benzylammonium iodide
- 4-Fluoro-Phenethylammonium iodide
- Formamidinium iodide
- Guanidinium iodide
- n-Hexylammonium iodide
- Imidazolium iodide
- Methylammonium iodide
- n-Octylammonium Iodide
- tert-Octylammonium iodide
- iso-Pentylammonium iodide
- neo-Pentylammonium iodide
- Phenethylammonium iodide
- Phenylammonium iodide
- Piperazine-1,4-diium iodide
- Piperidinium iodide
- Propane-1,3-diammonium iodide
- iso-Propylammonium iodide
- n-Propylammonium iodide
- Pyridinium iodide
- Pyrrolidinium iodide
- Quinuclidin-1-ium iodide

TFSIs

- 5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane) sulfonimide

BROMIDES

- 5-Azaspiro[4.4]nonan-5-ium bromide
- Benzylammonium bromide
- iso-Butylammonium bromide
- n-Butylammonium bromide
- t-Butylammonium bromide
- Cyclohexylammonium bromide
- Cyclohexylmethylammonium bromide
- 1,4-Diazabicyclo[2,2,2]octane-1,4-diium bromide
- Diethylammonium bromide
- Dimethylammonium bromide
- N,N-Dimethyl-1,2-ethanediammonium bromide
- N,N-Dimethyl-1,3-propanediammonium bromide
- n-Dodecylammonium bromide
- Ethane-1,2-diammonium bromide
- Ethylammonium bromide
- 4-Fluoro-Benzylammonium bromide
- 4-Fluoro-Phenethylammonium bromide
- Formamidinium bromide
- Guanidinium bromide
- n-Hexylammonium bromide
- Imidazolium bromide
- Methylammonium bromide
- n-Octylammonium bromide
- tert-Octylammonium bromide
- iso-Pentylammonium bromide
- neo-Pentylammonium bromide
- Phenethylammonium bromide
- Phenylammonium bromide
- Piperazine-1,4-diium bromide
- Piperidinium bromide
- Propane-1,3-diammonium bromide
- iso-Propylammonium bromide
- n-Propylammonium bromide
- Pyrrolidinium bromide
- Quinuclidin-1-ium bromide

HEXAFLUOROPHOSPHATES

- 5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate
- Formamidinium hexafluorophosphate
- Methylammonium hexafluorophosphate

CHLORIDES

- 5-Azaspiro[4.4]nonan-5-ium chloride
- 1,4-Diazabicyclo[2.2.2]octane-1,4-diium chloride
- N,N-Dimethyl-1,3-propanediammonium chloride
- Formamidinium chloride
- n-Octylammonium chloride
- tert-Octylammonium chloride
- iso-Pentylammonium chloride
- neo-Pentylammonium chloride
- Piperazine-1,4-diium chloride
- Piperidinium chloride
- Propane-1,3-diammonium chloride
- Pyrrolidinium chloride
- Quinuclidin-1-ium chloride

PEROVSKITE PRECURSORS – AMMONIUM SALTS

THIOCYANATES

- Benzylammonium thiocyanate
- n-Butylammonium thiocyanate
- Cyclohexylammonium thiocyanate
- n-Dodecylammonium thiocyanate
- Ethylammonium thiocyanate
- Formamidinium thiocyanate
- n-Hexylammonium thiocyanate
- Methylammonium thiocyanate
- n-Octylammonium thiocyanate
- tert-Octylammonium thiocyanate
- iso-Pentylammonium thiocyanate
- neo-Pentylammonium thiocyanate
- Phenethylammonium thiocyanate
- Phenylammonium thiocyanate
- Pyrrolidinium thiocyanate

SPIROs

- 5-Azaspiro[4.4]nonan-5-ium bis(trifluoromethane) sulfonimide
- 5-Azaspiro[4.4]nonan-5-ium bromide
- 5-Azaspiro[4.4]nonan-5-ium chloride
- 5-Azaspiro[4.4]nonan-5-ium hexafluorophosphate
- 5-Azaspiro[4.4]nonan-5-ium iodide
- 5-Azaspiro[4.4]nonan-5-ium tetrafluoroborate

TETRAFLUOROBORATES

- 5-Azaspiro[4.4]nonan-5-ium tetrafluoroborate
- Benzylammonium tetrafluoroborate
- iso-Butylammonium tetrafluoroborate
- n-Butylammonium tetrafluoroborate
- t-Butylammonium tetrafluoroborate
- Cyclohexylammonium tetrafluoroborate
- 1,4-Diazabicyclo[2,2,2]octane-1,4-diium tetrafluoroborate
- N,N-Dimethyl-1,3-propanediammonium tetrafluoroborate
- Diethylammonium tetrafluoroborate
- Dimethylammonium tetrafluoroborate
- Ethane-1,2-diammonium tetrafluoroborate
- Ethylammonium tetrafluoroborate
- Formamidinium tetrafluoroborate
- Guanidinium tetrafluoroborate
- n-Hexylammonium tetrafluoroborate
- Imidazolium tetrafluoroborate
- Methylammonium tetrafluoroborate
- n-Octylammonium tetrafluoroborate
- tert-Octylammonium tetrafluoroborate
- iso-Pentylammonium tetrafluoroborate
- neo-Pentylammonium tetrafluoroborate
- Phenethylammonium tetrafluoroborate
- Phenylammonium tetrafluoroborate
- Piperazine-1,4-diium tetrafluoroborate
- Piperidinium tetrafluoroborate
- Propane-1,3-diammonium tetrafluoroborate
- iso-Propylammonium tetrafluoroborate
- n-Propylammonium tetrafluoroborate
- Pyridinium tetrafluoroborate
- Pyrrolidinium tetrafluoroborate
- Quinuclidin-1-ium tetrafluoroborate

ACETATES

- Methylammonium acetate

CYANATES

- Methylammonium cyanate

HOLE TRANSPORT MATERIAL, DOPANTS & COBALT COMPLEXES

- FK 102 Co(II) PF6 Salt
- FK 102 Co(II) TFSI Salt
- FK 102 Co(III) PF6 Salt
- FK 102 Co(III) TFSI Salt
- FK 209 Co(II) PF6 Salt
- FK 209 Co(II) TFSI Salt
- FK 209 Co(III) PF6 Salt
- FK 209 Co(III) TFSI Salt
- FK 269 Co(II) PF6 Salt
- FK 269 Co(II) TFSI Salt
- FK 269 Co(III) PF6 Salt
- FK 269 Co(III) TFSI Salt
- (1,10-Phen)3Co(II) PF6 Salt
- (1,10-Phen)3Co(III) PF6 Salt

TITANIA & PLATINUM PASTES

- BL-1 Blocking Layer
- MPT-20
- 18NR-AO Active Opaque Titania Paste
- CELS Counter Electrode Solution
- 30 NR-D
- WER2-O Reflector Titania Paste
- PT1 Platinum Paste
- 90-T Transparent Titania Paste (Thin Use)
- 18NR-T Transparent Titania Paste

DYES & SENSITIZERS

- C106 Dye
- K19 Dye
- N3 Foundation Dye
- N719 Industry Standard Dye
- N749 Black Dye
- Z907 Hydrophobic Dye

ELECTROLYTES & COMPONENTS

- Ethyl Isopropyl Sulfone
- EL-HPE High Performance Electrolyte
- EL-HSE High Stability Electrolyte
- EL-HTE High Temperature Electrolyte
- Ultra High Stability Electrolyte

SILVER INK

- DYAG50 Conductive Silver Printing Ink

LIGANDS & INTERMEDIATES

- 4-Bromo-N,N-bis(4-iodophenyl)aniline
- C101 Ligand
- C106 Ligand
- 1-Chloro-2,4-bis(hexyloxy)benzene
- DCBP Anchoring Ligand
- DMBP Building Block Ligand
- DNBP Hydrophobic Ligand
- FK 102 Ligand
- FK 209 Ligand
- FK 269 Ligand
- K19 Ligand
- 4-bromo-N,N-bis(4-methoxyphenyl)aniline
- 4-(tert-butyl)-2-chloropyridine
- 4-(tert-butyl)pyridine-N-oxide

ADDITIVES AND MODIFIERS

- 4-ABAB (4-Ammonium butyric acid bromide)
- 4-ABAI (4-Ammonium butyric acid iodide)
- 3-APAI (4-Ammonium propionic acid iodide)
- 3-APAB (4-Ammonium propionic acid bromide)
- 5-AVAB (5-Ammonium valeric acid bromide)
- 5-AVAC (5-Ammonium valeric acide chloride)
- 5-AVAI (5-Ammonium valeric acide iodide)

GLASS SUBSTRATES

- TEC7 Glass Plates
- TEC8 Glass Plates
- TEC15 Glass Plates
- TiO2 Coated Test Cell Glass Electrodes (Opaque)
- TiO2 Coated Test Cell Glass Electrodes (Transparent)
- Pt Coated Test Cell Counter Electrodes (drilled)

SEALANTS

- Two Part Thermal Cure Epoxy Compound - Clear
- Two Part Thermal Cure Epoxy Compound - Opaque
- Aluminium Thermoplastic Laminate
- High Temperature Thermoplastic Sealant
- Low Temperature Thermoplastic Sealant
- Two Part Hermetic Sealing Compound
- Two Part Interconnect Polymer
- Two Part Neutral Assembly Polymer

SPECIALIST EQUIPMENT

In addition to specialist materials, Greatcell Solar offers a unique, proprietary equipment set, and provides DSC researchers and manufacturers with a range of customisable and all-inclusive equipment, materials and training packages.

Greatcell Solar's lab equipment enables you to develop research capability and master the fundamental processes involved with construction. The Laboratory Solutions allow you to quickly produce high quality, consistent test cells so that you can focus on researching optimum DSC materials and processes.

Packages

Greatcell Solar's Laboratory Solutions can be packaged to suit your needs, consider:

- Project Planning
- Equipment Commissioning
- Equipment Delivery and Installation
- Starter Materials Set
- Facility requirements identified
- Technical training on equipment
- Ongoing technical assistance allowance
- Package tailored to your individual needs

If you are planning to refurbish your laboratory, talk to Greatcell Solar about the lab packages available. Consider Greatcell Solar's state-of-the-art machines, affordable prices, and technical know-how.

To view Greatcell Solar's range of lab equipment visit **www.greatcellsolar.com/shop/equipment**

GLASS PREPARATION

Greatcell Solar sourced glass preparation equipment is used to process raw TEC glass, polymeric and metallic substrates to individual or multiple plate electrodes prior to application of Perovskite and DSC materials.

These pieces of equipment can be used for preparing substrates for both Liquid\Solid State Perovskite and DSC research.

View this section to discover how to scribe your substrates and drill the holes for liquid DSC in the most effective way.

MATERIALS APPLICATION

Greatcell Solar sourced materials application equipment comes from Greatcell Solar's extensive experience in developing Perovskite and DSC materials and ensuring optimised materials application.

These pieces of equipment can be used for the application of materials for both Liquid\Solid State Perovskite and DSC research.

In this section you will find the state of the art screen printing and spin coating equipment.

ELECTRODE PROCESSING

Greatcell Solar sourced electrode processing equipment is used for the processing of Perovskite and DSC substrates for the application of; Dyes at a laboratory level, and for the sintering of Perovskite and DSC counter working electrode and Perovskite layers or other materials at elevated temperatures. These pieces of equipment can be used for the processing of electrodes for both Liquid\Solid State Perovskite and DSC research.

TEST EQUIPMENT

Greatcell Solar developed and sourced test equipment comes from Greatcell Solar's extensive experience in testing of Perovskite and DSC devices.

These pieces of equipment can be used for testing both Liquid and Solid State Perovskite and DSC. Try our innovative Hyperion LED solar simulator, the highest relibility of our reference cells and the best UPTS available.

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1st July 2017

AUTHORIZATION CERTIFICATE

TO WHOM IT MAY CONCERN

We do hereby certify that Yingkou Opvtech New Energy Co. Ltd, Yingkou City is a Greatcell Solar Authorized Representative/Agent. They can participate in any Tender Submission and commercialise Greatcell Solar materials and equipment.

We directly guarantee the technical assistance for the materials and equipment they deal on our behalf. For any kind of clarifications / information please contact them as our Representative or you can contact us directly.

Date of agreement: 1st June 2017
Expiry date: 31st December 2019
Territorial Jurisdiction: China, Taiwan, Japan and Korea

Supplier/Manufacturer

Greatcell Solar PTY LTD.
3 Dominion Place (PO Box 6212)
Queanbeyan, NSW 2620, Australia

Tel: +61 2 6299 1592
Fax: +61 2 6299 1698

Representative/Agent

Yingkou Opvtech New Energy Co. Ltd
East No1, Xinlian St
Yingkou City, Liaoning, 115003
P.R. China
Tel: +86--417-6615300
Fax: +86-417-6615304

Sincerely yours,

The Sales and Marketing Manager

Dr Luca Sorbello

中　国　代　理

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