Swiss Solar Technology Consortium

Executive Workshops

2012 INTERNATIONAL YEAR OF SUSTAINABLE ENERGY FOR ALL

Capturing the Sun: Executive Workshop on PV Technology

A one-week intensive immersion programme in Switzerland for technology enablers, market shakers and global business leaders

Five workshop offerings in 2012

- **20 to 24 February**
- **23 to 27 April**
- **18 to 22 June**
- **17 to 21 September**
- **26 to 30 November**

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Prospectus / January 2012

Swiss Solar Technology Consortium

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Capturing the Sun: Executive Workshop on Solar PV Technology

The Solar Revolution

"An energy technology revolution is under way."
-International Energy Agency, 2010

The global energy landscape is in a phase of rapid transition and upheaval. Energy demands are exploding even as awareness of the insufficiencies and limitations of conventional forms of energy and of climate change are increasing. Policy changes are shifting attention towards renewable energy. Solar PV technology is gaining broad acceptance. Commercial exploitation of the technology is no longer confined to the pioneers of the industry. There is rapid adoption in several regions of the world, while the scale of new projects is exploding, resulting in an industrial growth of geometric proportions. We are on the cusp of a solar revolution!

Swiss Solar Technology Consortium has recognised that the progress in technological solutions, innovative products, financial models and investment needs to be matched with human resources and qualified personnel. Partnerships, networking, apprenticeships, transfer of technology, training and executive workshops constitute the priority concerns and focus activities of the Swiss Solar Technology Consortium.

This Executive Workshop provides a compact and intensive immersion programme for business leaders who are transitioning to the Solar PV industry and will equip them as technology enablers and market shakers in the decades ahead. Towards this, the Consortium draws from the enviable concentration of experts and thought leaders in academia as well as industry – covering technology, financing and consulting – in Switzerland to provide a unique and lasting learning experience.

Target Audience

The participants for this one-week workshop will include:

- Executives and senior managers in decision making roles
- Middle-managers and industry experts transitioning to operational roles
- Entrepreneurs and industrialists seeking to enter the Solar PV industry
- Industry analysts and investment advisors
- Leaders at NGOs, international organisations and government agencies implicated by PV technology

The composition of each workshop will be interdisciplinary between technologists, finance personnel, business strategists and social scientists to ensure a balanced and holistic approach to the issues and perspectives.

Workshop Dates for 2012

Five workshops are planned in 2012, each one-week long. The upcoming workshop date is in February 2012. Alternate workshop dates are in April, June, September or November 2012.

		Application Deadline
▪ February Session:	20 to 24 February 2012	31 January 2012
▪ April Session:	23 to 27 April 2012	29 February 2012
▪ June Session:	18 to 22 June 2012 *	30 April 2012
▪ September Session:	17 to 21 September 2012 *	31 July 2012
▪ November Session:	26 to 30 November 2012	30 September 2012

* The June and September sessions are scheduled such that they immediately follow InterSolar Europe 2012, which is held in Munich, and immediately precede EU PVSEC 2012, which is held in Frankfurt, respectively.

The early bird registration cut-off, which offers a 10% discount on the workshop fee for any of the one-week Executive Workshop sessions announced for 2012, is Saturday, 31 December 2011.

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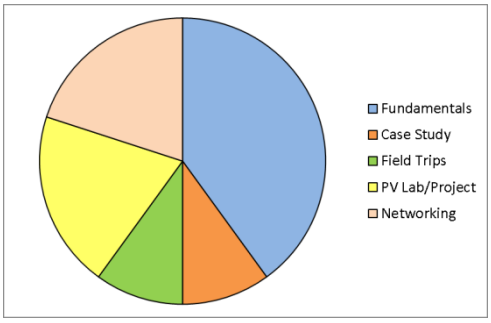
Executive Workshops

Programme Synopsis

The workshop is designed to fit within a week and includes 40 hours of coursework, lab and project work.

	Monday	Tuesday	Wednesday	Thursday	Friday
Morning	Introduction to Renewable Energy	The Economics of Solar PV Technology (Part 1)	The Economics of Solar PV Technology (Part 2)	Solar PV Lab (Part 2): Business Planning of Solar PV System	The Technological Challenges towards Grid-Parity & Beyond
	Fundamentals of Solar PV Technology (Part 1)	Off-Grid Systems	Utility-Scale Solar PV Systems (Part 1)	Case Study 3: Building-Integrated PV Systems	Solar PV Lab (Part 4): Solar PV System Presentations
Afternoon	Fundamentals of Solar PV Technology (Part 2)	Field Trip 1: Visit to a Technology Supplier	Utility-Scale Solar PV Systems (Part 2)	Field Trip 2: Visit to a Commercial-Scale Solar PV Installation	The Solar PV Value Chain, Balance of System (BoS) and the PV Technology Supplier Landscape
	Case Study 1: A Roof-Top PV System		Case Study 2: A Mega-Watt Utility-Scale PV Solar Farm		
Evening	Networking Evening 1	Solar PV Lab (Part 1): Designing a Solar PV System	Networking Evening 2	Solar PV Lab (Part 3): Validating a Solar PV System	Networking Evening 3 and Valedictory Dinner

The Executive Workshop strikes a balance between theory and the fundamentals (40%), case studies (10%), field trips (10%), hands-on experience through the PV lab and the workshop project (20%) and offers opportunity for networking (20%). The fundamental modules cover the underlying principles of Solar PV technology, its economics as well as two generic applications. Three case studies serve to illustrate specific implementations of the technology. The field trips offer a first-hand experience and insight into best-in-class practices. The Solar PV Lab and a workshop project allow for immediate application and transfer of the knowledge and skills acquired in the context of a tangible and personal project.



The interlacing of the distinct components of the Executive Workshop is devised to facilitate the optimum assimilation of underlying theory and industrial practices, thereby enhancing the intuitive applicability of the acquired knowledge and skills to real life scenarios and concrete projects.

Workshop Format and Venue

The workshop is designed to be compatible with an executive's tight agenda and, hence, limited to just a week.

Participants are requested to arrive latest on the preceding Sunday so that the workshop can begin with all participants at 8:30 hrs on Monday. The workshop concludes with a networking dinner and valedictory function on Friday evening. Participants are kindly requested not to plan their departure prior to Saturday.

The workshop is packed with lectures, presentations, field trips and lab work/project activity as well as networking opportunities. Each workshop day is divided into three sessions: morning, afternoon and evening. Time for informal discussion and networking is built-in between the sessions.

The workshop size is limited to 30 to allow for informal discussion and interaction. Lab work is in small groups. A laptop is required.

The workshop venue is Zurich, Switzerland. This also allows participants to treat themselves to a day of relaxed sightseeing in Switzerland following the workshop.

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Programme Overview

The five-day Executive Workshop is divided into modules that cover technology, economics, PV system design, case studies, field trips, solar PV lab and project work. It provides ample networking opportunity.

Technology	An introduction to renewable energy systems, the fundamentals of solar photovoltaic technology, an overview of the different components that constitute a complete system, and a review of current state-of-the-art manufacturing capabilities as well as an outlook into emerging technologies; challenges as the industry approaches grid-parity.
Economics	The economics of solar PV technology includes its cost components, its comparison to other forms of renewable energy as well as conventional energy; ROI (Return on Investment, IRR (Internal Rate of Return), COO (Cost of Ownership) and LCoE (Levelised Cost of Electricity) calculations; the impact of carbon credit; norms and legal aspects.
PV Systems	An overview of off-grid systems, roof-top systems and utility-scale solar farms as well as the critical features that characterise the components of a complete PV system.
Case Study	Three case studies that illustrate the specific and practical implementation of a roof-top PV system, a utility-scale solar farm and building-integrated PV technology.
Field Trips	Field trips that allow a first-hand insight into aspects of the solar PV industry cover technology suppliers as well as state-of-the-art solar PV installations.
PV Laboratory & Project Work	The Solar PV Lab serves two purposes. Firstly it exposes participants to simulation tools that allow the modelling and the characterisation of PV systems. Additionally, it offers a unique and personal success story that each participant takes back as a concrete embodiment of the knowledge and know-how imparted through the workshop.
Networking	Networking among participants and faculty is facilitated over coffee breaks and lunch. Additionally, networking with the Solar PV industry in Switzerland is built into the workshop programme over two networking evenings and the valedictory function.

Workshop Faculty

The workshop faculty for each workshop session draws from a leading pool of experts in the academia and the industry from within the Swiss Solar Technology Consortium. These include:

- Academia: Swiss Federal Institutes of Technology (EPF Lausanne & ETH Zurich) and HEIG-VD (Yverdon)
- Research Institutes: CSEM (Neuchâtel), EMPA (Dübendorf) and Fraunhofer Institute ISE (Germany)
- Industry: 3S Swiss Solar Systems, Oerlikon Solar, SolarMax, Vela Solaris
- Consultants: E4Tech (Lausanne), energiebüro (Zurich), FEE Schweiz (Allschwil), solventure (Wettingen)
- Associations: Alliance for Rural Electrification (Belgium), cleantech switzerland , Swissolar

Confirmed faculty at the time of going to press includes:

- Prof. Christophe Ballif, Director IMT-PV Lab, EPFL Swiss Federal Institute of Technology, Neuchâtel
- Prof. Franz Baumgartner, IEFE Institute of Energy Systems - Photovoltaics, ZHAW SoE, Winterthur
- Christian Meier, CE0, energieburo, Zurich
- Dr. Andreas Witzig, CEO, vela solaris, Winterthur
- Arun Amirtham, Executive Director, swissmango, Altendorf

The complete list of faculty for each session will be announced roughly two months prior to each workshop.

Certification

Workshop participants will be issued a certificate of participation on successful completion of the coursework and related workshop project by the Swiss Solar Technology Consortium in association with member academic institutions in Switzerland.

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Qualification Requirements

The Executive Workshop is crafted for high calibre professionals who bring a sound academic qualification as well as outstanding professional experience and represent a high value for their company's solar PV strategy.

A graduate degree in engineering, sciences, finance or the social sciences is the minimum requirement. A business degree or an equivalent professional experience of typically five years or more would be beneficial.

Spouses' Programme

A parallel programme which explores the cultural secrets and the culinary delicacies of Switzerland is planned in the interest of spouses who may choose to accompany workshop participants.

Switzerland Sight-Seeing Tour

An optional one-day sight-seeing tour of Switzerland is planned on Saturday for workshop participants and their spouses.

Workshop Fee

The Executive Workshop fee consists of a course fee as well as additional charges for optional components. The basic course fee covers the five-day Executive Workshop, including tuition, lab work and field trips as well as lunch and all coffee breaks.

Additional charges are applicable for optional services which consist of the five-star hotel accommodation, the networking evenings and valedictory dinner, the spouses' programme and the Swiss sightseeing tour.

	Swiss Francs (CHF)	Euro (€)	Remark
Executive Workshop Fee	3990	3330	
Hotel Accommodation (5-Star / 6-nights) *	1190	990	Single occupancy w/ breakfast
Networking Evenings / Valedictory Dinner	290	240	Per person
Swiss Sightseeing Tour on Saturday	490	410	Per person
Spouses' Programme (5-days / Mon to Fri)	990	830	On double-occupancy basis

* There is a hotel surcharge of 30% for the June and September sessions due to high-season. (ROE = 1.2CHF/€)

A discount of 10% on the workshop fee is available for each additional participant from the same company. Additionally, an early bird discount of 10% is applicable on the workshop fee until Saturday, 31 December 2011.

Application Procedure

Each session of the executive workshop is strictly limited to thirty participants. Applications will be reviewed and registrations confirmed in the order of arrival. Please make sure you register early enough to secure a seat for your preferred date. All applications will be acknowledged within two weeks of receipt of the application.

Applications on the prescribed form may be sent in by email or by postal mail to reach the Consortium Office, no later than the prescribed application deadline (please see page 2).

Email: workshop@swiss-mango.com

Postal Mail: Swiss Solar Technology Consortium (Ref: Executive Workshops)
C/o swissmango gmbh, Bubental 57, CH-8852 Altendorf, Switzerland

There is no application fee. Please do not send any funds until your registration is confirmed and an invoice to cover the Executive Workshop registration fee has been sent to you with payment instructions.

swissmango gmbh manages the consortium office of the Swiss Solar Technology Consortium.

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Cancellation Policy

Cancellation policy is 10% cancellation fee up to three months prior to the workshop, 50% cancellation fee up to two months prior to the workshop and 90% cancellation fee up to one month prior to the workshop. There will be no refund in case of cancellation within one month of the commencement of a workshop.

Companies are welcome to substitute participants in case a registered participant is unable to attend.

Airline Partner and Hotel Partner

An airline partner is currently under negotiation for this executive programme. Renaissance Zurich Hotel (www.renaissancezurich.ch*)* is the official hotel partner for the Executive Workshops.

Travel Arrangements, Visa and Medical Insurance

Travel arrangements to Zurich, visa application and medical insurance are the participant's responsibility.

Participants are advised to apply for their visas early enough and to ensure they respect all application procedures. The Consortium will issue an invitation letter on demand for the purpose of visa application. Normally, the confirmation of registration and proof of payment of the registration fee is sufficient.

Switzerland is a signatory to the Schengen Pact. No additional visa is required if you hold a valid Schengen visa.

Executive Workshop participants arriving by international flight will be met on arrival at Zurich airport.

In-House Executive Workshops and Other Solar PV Training

Please contact us in case you prefer local or in-house Executive Workshops as well as for your requirements towards other Solar PV training. We will be happy to discuss and propose customised training solutions.

Further Information

The Swiss Solar Technology Consortium is managed by swissmango gmbh. For further information and facilitation with the application procedure or to discuss in-house Executive Workshops and other training needs, please contact the Executive Workshop's Programme Director, Arun Amirtham, at:

Swiss Solar Technology Consortium
Attn. Arun Amirtham
C/o swissmango gmbh
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CH-8852 Altendorf
Switzerland

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This executive programme is organised by the Swiss Solar Technology Consortium in collaboration with the following consortium members:

E4tech Strategic thinking in sustainable energy · energieburo · polysun SIMULATION SOFTWARE · swissmango technology for sustainable development

Note: Information and data provided in this prospectus is of a preliminary nature and is subject to change without notice towards the continual improvement of the product, the workshop content and related services. Workshop dates may be cancelled or postponed in case of a low registration level and/or subject to the availability of qualified resource persons. Participants will be entitled to join the Executive Workshop at alternate dates under such circumstances. Please contact the programme office for further clarifications.

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Executive Workshops

Capturing the Sun: Executive Workshop on Solar PV Technology

APPLICATION FOR REGISTRATION (2012)

A. Participant's Details

Dr/Mr/Mrs/Ms	First Name*	Surname / Family Name*	Date of Birth (DD/MM/YYYY)
Email ID		Mobile Telephone Number	Years of Professional Experience
Highest Academic/Professional Qualification		Additional Relevant Qualification or Experience (if any)	

* Please indicate your first name and surname as you would like it to appear on the workshop certificate!

B. Workshop Session Preferences

Please indicate the Executive Workshop session you choose to attend	

C. Address

	Correspondence Address	**Billing Address (if different)**
Company Name		
Address Line 1		
Address Line 2		
Address Line 3		
City with Postal Code		
Country		
Email / Telephone		

D. Workshop Fee and Optional Charges (Please indicate the selected options with "**X**")

	CHF	**EURO**[2]	
Executive Workshop Fee	3990	3330	**X**
Hotel Accommodation [1]	1190	990	
Networking Evening / Dinner	290	240	
Swiss Sight-Seeing Tour	490	410	
Spouses' Programme	990	830	

Please invoice me in	CHF		€	
Multiple Participant	YES		NO	
Promotion Code [3]				
Spouse's First Name and Surname (if different)				

[1] 30% high-season surcharge in June and September; [2] ROE = 1.2 CHF/€; [3] Early Bird discount of 10% (code: EB10) until **Sat, 31 Dec. 2011**

E. Remarks

Date	Place	Signature

Please sign, scan and email to: workshop@swiss-mango.com or send by postal mail to: Swiss Solar Technology Consortium, Ref: Executive Workshops, c/o swissmango gmbh, Bubental 57, CH-8852 Altendorf, Switzerland.