European Commission

Information Society and Media Directorate – General

Project Progress Report

SmartCoDe

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1 Introduction

Deliverable D-5.2 is a first version of the SmartCoDe Research & Development Map. It is due in M18 (June 2011) and shall support the networking activities of the project.

The goal of the R & R Map is to provide an overview of European companies (SMEs as well as Industry) and institutes active in the area of energy efficiency / renewable energies. The SmartCoDe R & D Map is intended to be used as a kind of *yellow pages* for companies and institutes active in the area of energy efficiency / renewable energy.

Each entry of this set of pages is connected with a short summary of the company / institute together with address, web-page, and contact person (if available). The first version of this map will be provided as a pdf (this document), however the target is to set up the R & D Map as a web-service, i.e. a categorised list of entries that can be searched on the basis of either key-words attached to these entries (categories) of full-text.

Figure 1 shows the input mask already implemented in the SmartCoDe Portal. The tagging feature has been set up to enable a search based on categorization of the company / institute's profile. In addition manual sort orders can be specified. If defined contact persons are already registered within the SmartCoDe portal the person's profile is automatically linked the contact entry.

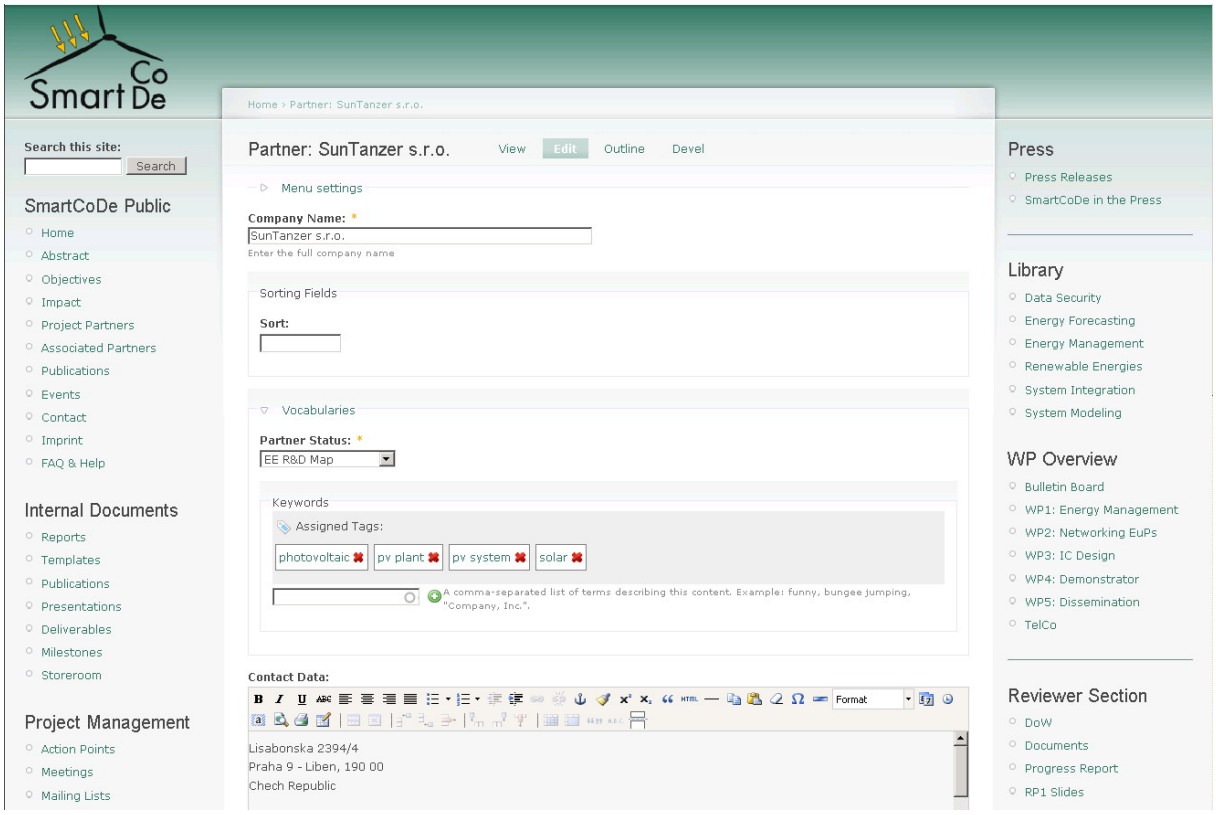

Figure 1: SmartCoDe R&D Map input mask

Figure 2 shows a single partner item as visible within the SmartCoDe web portal (not yet released to the public).

The SmartCoDe R & D Map will be constantly extended and will be made available to the public as a pdf download. Later in 2012 it will also be made available to the public as a searchable web-service.

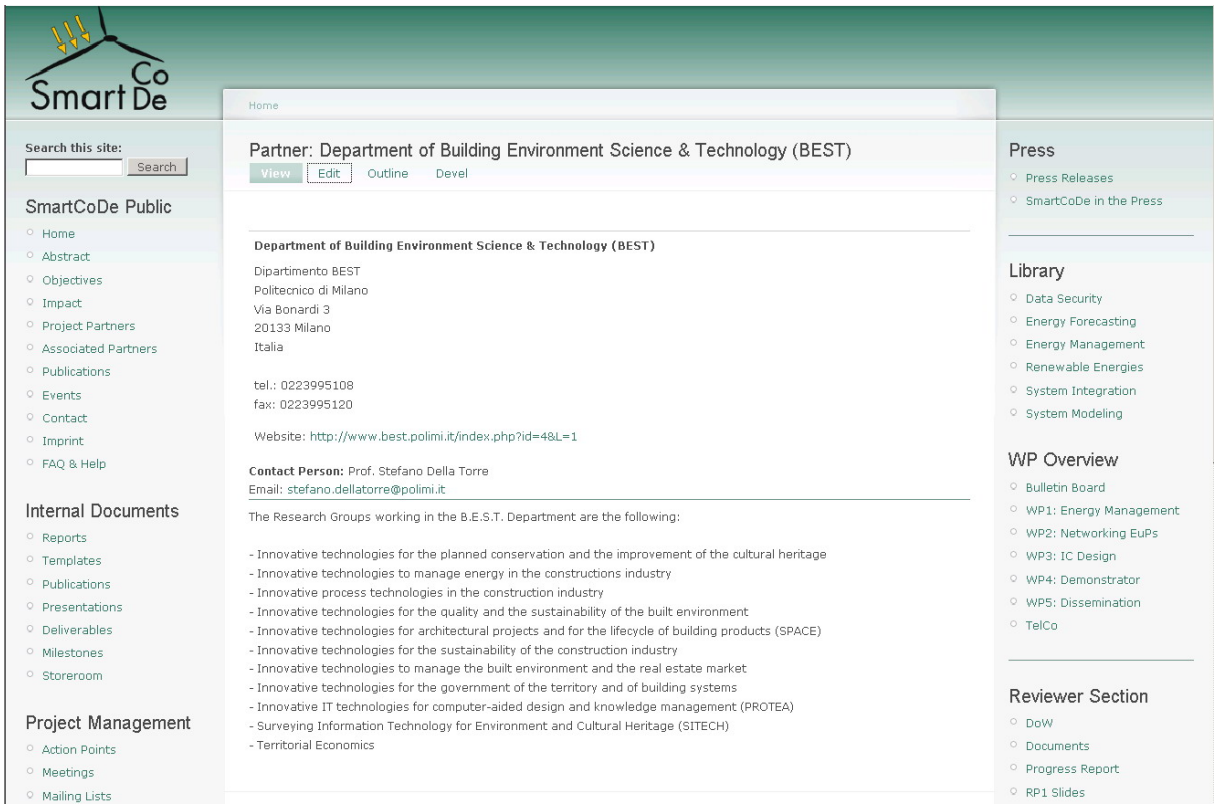

Figure 2: Single partner entry of R&D Map

The following chapter lists all map entries as of June 2011.

Research Map

1.1 3S Swiss Solar Systems AG

Schachenweg 24

CH-3250 Lyss

Tel. +41 (0)32 391 1111

Fax +41 (0)32 391 1112

Website: http://www.3-s.ch/en/products/

3S Swiss Solar Systems AG specialises completely and fully in photovoltaics. We develop, produce and sell worldwide innovative production installations for the manufacture of solar modules.

Our brand 3S Modultec – Module Solutions represents technical progress as well as experience and competence in the development of high-quality laminating lines and modular turnkey production lines for solar module production.

1.2 ABB Forschungszentrum

Wallstadter Str. 59

68526 Ladenburg

Postfach 11 40

68526 Ladenburg

Tel.: +49 (0) 6203 71-6400

Website: http://www.abb.com/ProductGuide/Alphabetical.aspx

Global demand for modernization or new construction of power stations or processing plants is still unbroken. A significant proportion of project business in the core areas of ABB Automation and Electrical Engineering attributable to the engineering.

In the light of rising terms of complexity, functionality and quality, we support the project business with innovative technologies for fast and efficient configuration of automation systems. This is done extensively in the bidding phase through to commissioning and extends from the field level to management level.

Our goal is achieved through new approaches to the planning of the automation technology, optimization of workflows, or the improvement of software tools and interfaces for automation of engineering processes. We use various methods such as user workshops and workflow analysis on site, prototype development, interface specification, or the elaboration of future requirements.

Main topics that will shape our immediate future are to increase the efficiency and level of automation of engineering tools and the improvement of work processes through standards on data exchange.

1.3 Absolicon Solar Concentrator AB

Matrosgatan 5

SE-871 33 Härnösand

Sweden

Phone: +46-611-55 70 00

Fax: +46-611-557210

Website: www.absolicon.com

Absolicon is realising the dream of finding an inexpensive way to generate electricity and thermal heat from sunlight. Our know-how is based on 20 years of Swedish research.

The story of Absolicon starts in 2002. In keeping with the long Swedish tradition of focus on concentrating systems, the company sponsors Logosol, helped to initiate an ambitious research project on concentrators. The project involved around 10 projects at, among others, the Universities in Borlänge, Lund, and Uppsala, as well as at The Royal Institute of Technology (KTH) in Stockholm.

After 2005 the project took a more goal-orientated form in order to produce a commercial product. In 2007 Absolicon Solar Concentrator was established and the first demonstration installations were built in Sweden and Germany.

1.4 AGFW Der Energieeffizienzverband für Wärme, Kälte und KWK e. V.

Stresemannallee 28

D-60596

Frankfurt am Main

Telefon: +49 69 6304-1

Telefax: +49 69 6304-391 oder -455

Website: http://www.agfw.de/forschung-und-innovation/projekte/

Contact Person: Dr. Heiko Huther

Email: h.huther@agfw.de

The AGFW has made it, due to current favorable support of policy development (promotion of cogeneration and the development of district heating pipe networks), the abandonment by a AGFW Community ¬ research project "Energy and cost-effective heat supply", the research and development of district heating to promote programs. For the

financing of projects in the 39th Annual General Meeting on 2 April 2009 approved a research and development fund set up for 4 years. Through needs analysis of AK and WG and feedback from the industry already had identified issues, the urgency in improving the development process was a priority processing.

It is planned to fully finance projects on the one hand by the research fund, if the explosive was found for the industry. On the other hand, planned exploratory analysis necessary funding from the Research Fund is carried out to plan on the basis of preliminary results to initiate research ¬ other promoters.

1.5 AIT - Austrian Institute of Technology

Giefinggasse 2

1210 Vienna

Austria

T: +43 (0) 50 550-6612

F: +43 (0) 50 550-6590

Website: http://www.ait.ac.at/about-us/?L=1

Contact Person: Brigitte Bach

Email: brigitte.bach@aitac.at

- Photovoltaics:
  - Module performance measurements
  - Analysis of PV systems and module components
  - Solar cell development support
  - Environment simulations

- Energy in Buildings:
  - Thermal Dynamic Simulation
  - Computational Fluid Dynamics
  - Scientific Planning Support Buildings
  - Building Monitoring and Simulation
  - Controls Optimization Buildings
  - Scientific Operations Support Buildings

- Solar Thermal Technology:
  - Industrial Research Solar Thermal Technology
  - Performance and functional testing Solarthermal Technology
  - Thermophysical analyses

1.6 Alstom Group

Alstom Group (Headquarters)

3, avenue André Malraux

92309 Levallois-Perret Cedex

France

Tel: + 33 (0)1 41 49 20 00

Website: http://www.alstom.com/germany/

HVDC MaxSine®: the VSC technology of the future

Alstom Grid's new hybrid VSC technology, HVDC MaxSine®, is the newest and smartest link in the energy chain. It efficiently connects variable renewable energy resources, feeds radial systems such as islands and offers the inherent benefits of classical LCC HVDC: it serves as a blackout firewall in both AC and DC grid structures.

Providing the most advanced electrical grid solutions to meet world electricity demand

With an increased demand for energy worldwide, and consumption forecasts predicting energy production increases of around 80% between 2006 and 2030*, Alstom Grid's dedicated teams combine their skills to deliver customer-valued solutions to build smarter, more stable, more efficient and environmentally friendly electricity grids worldwide.

And with over 125 years of experience, we are well-positioned to meet the energy challenges of today and tomorrow.. Alstom Grid, as one of the three global players in electrical transmission, boasts technologies and expertise which have always ensured higher safety, reliability and capacity of power grids around the world.

There are new challenges such as network interconnections, power generation diversity, including the need for increased renewable energy providers, as well as a heightened focus on efficiency, reliability and environment-friendliness.

To help utilities and large electro-intensive industries such as railway, oil & gas and mining & metals to meet these growing energy demands and challenges, our market-oriented R&D teams work hand in hand with our customers to develop pioneering tailored and competitive solutions.

1.7 Apollon Solar

cours Charlemagne 66

69002 Lyon

France

Phone: +33 9 79 27 58 13

Fax: +33 4 78 60 47 63

Website: http://www.apollonsolar.com/en/index.html

Silicon

Silicon is the base and reference material for the Photovoltaic Industry, from its advent in the 80's. Countless R&D efforts have been carried out from that time on to find it an as efficient and available successor, reduced its hold on the market to 85% of the world supply today.

Apollon Solar is still convinced that Silicon will remain for a number of years the reference solar material, and the one which will enable a significant and reliable cost reduction of photovoltaic products.

Modules

The module remains the keystone of PV system's prices. Apollon Solar devoted it its first efforts, with the development of the NICE process, described below. A number of further developments, of which the potential appeared with NICE, are still to be carried out, in order to make from the module a common and profitable product.

System

The evolution of implementation and usage of PV modules will allow us to make from photovoltaic energy a part of everyday life. Its deployment in our countries on building or in mobile usage, but also in developing countries to increase the energy access for local communities and the development of their autonomy.

1.8 Austria Solar Innovation Center

Roseggerstraße 12

4600 Wels

Austria

Website: www.asic.at

The Austria Solar Innovation Centre is a research and development institute organised in the form of a non-profit association which is committed to the distribution of renewable sources of energy in general and more specifically to the intensification of research in the field of solar technology.

The ASiC has been involved in research and development in the area of solar technology in Wels since March 2000. A platform has been created between research, training and commercial enterprise thanks to the financial support of the region of Upper Austria, the city of Wels and the electric power company of Wels. The main tasks of the ASiC include research and development in addition to project management on the subject of solar energy.

We provide the following specific services:

- Measurement of solar thermal collectors and photovoltaic modules
- Functional and revenue monitoring of thermal solar plants and PV systems
- Project management and concept development in the field of renewable energy

- Simulations to support planning activites
- Determination of optical characteristics of materials
- Consultation which is not specific to firms or products
- Lectures
- Training

The ASiC is organised in the form of an association and is supported financially by the region of Upper Austria, the city of Wels, the electric power company of Wels and the firm Fronius.

1.9 Austrian Enviro Technologies

Ribera del Loira, 46

Campo de las Naciones

2804 Madrid

Spain

Tel.: +34 91 503 06 51

Fax: +34 91 503 00 99

Stubenring 18/5A

1010 Wien

Austria

Tel.: +43 1 33 63 336

Fax: +43 1 33 63 336 07

Website: http://www.austrian-enviro.com/home/?L=1

The photovoltaic modules from Austrian Enviro / PVT-Austria, provide premium quality and maximum added-value for our clients. They fulfil all the European standards and have all the required safety and operational certificates. They are manufactured in Europe applying solar crystalline silicon, a material that has been used for over 25 years based on its efficiency and reliability. We offer a wide range of products with mono and polycrystalline modules up to 235Wp/Unit.

We also supply one and two axles sun-trackers and aluminium structure for roof-top installations, all designed and fabricated by our German partners. If you require a complete solution we offer our extensive expertise in the construction of turnkey photovoltaic plants. More than 10 years we have delivered photovoltaic solutions in a wide range of sizes and configurations.

Equipment Supply:

- Monocrystalline, polycrystalline modules
- Thin film - First Solar- photovoltaic modules
- Aluminium Structures for roof installation with stainless steel brackets

- Centralised and decentralised inverters (i.e. Fronius
- Sun-trackers with one and two axis, high quality German products

Turnkey Installations:

- Engineering
- Permit/Authorization Management
- Execution Engineering
- Project Supervision
- Planning
- Installation
- Start up
- Maintenance

1.10 Austrian Wind Power GmbH

Kasernenstraße 9

7000 Eisenstadt

Austria

Telefon: +43 (0) 2682/9000-1082

Fax: +43 (0) 2682/9000-1918

Website: http://www.austrianwindpower.com/index.php?id=2840

Austrian Wind Power - a 100% subsidiary of BEWAG - is Austria's largest green energy producer and a successful example of how wind energy can work in a specific region: in ten wind farms with 138 wind turbines and a capacity of 242 MW of Austrian Wind Power a year more than 507 million kWh of green power.

The company makes a significant contribution to environmental protection: The production of wind energy can in Burgenland year approximately 33.5 million liters of oil can be saved - equivalent to CO2 emissions of around 355 000 tonnes.

Austrian Wind Power also contributes significantly to the current self-sufficiency by the year 2013, 100 percent of Burgenland's electricity needs will be covered by renewable energy.

Austrian Wind Power is a resource: All services, such as project development, wind farms direction, management and monitoring, customers are offered. Many years of experience in these areas ensure optimum yield of the wind farms and are the basis for a powerful development.

An important part of corporate philosophy is to work with all parties involved: ie Planning and implementing the various projects carried out in dialogue with the authorities, conservation organizations, municipalities and their citizens.

Wind turbines in unspoilt nature are so common today for Burgenland landscape like fine wines and unique Neusiedler See.

1.11 Battery Supplies

IZ Snepbeek 5A

Lindestraat 89a

8790 Waregem

Belgium

Tel: +32 (0)56 617 977

Fax: +32 (0)56 617 955

Website: http://www.batterysupplies.be/index.php?taal=ENG&inc=home#

Alessandro Volta, Luigi Galvani, Gaston Planté, Thomas Edison, Henri Tudor… thanks to these people who contributed to the invention of the battery, we've got the chance to make a business of batteries. As our name implies, Battery Supplies supplies everything concerning batteries.

Our gamut contains starting batteries for cars, lorries, batteries for industrial cleaning machines, scissor lifts, aerial devices, fork-lift trucks UPS, electrical tools etc.

Besides, we dispose of a complete gamut of accessories like e.g. battery chargers, filling systems and maintenance systems... The maintenance and repair of batteries and chargers are also one of our trump cards!

Nevertheless, if you don't find something in our large gamut, don't hesitate to contact us, in this way, our specialists can look up if we can offer the product you need.

1.12 Bilfinger Berger Power Services GmbH

Duisburger Straße 375

46049 Oberhausen

Phone: +49 208 4575-9

Fax: +49 208 24561

Website: http://www.bbps.bilfinger.de/default.asp?L=2

Bilfinger Berger Power Services GmbH represents one of three service segments of the Bilfinger Berger SE Multi-Service Group. Numerous companies at home and abroad operated under the umbrella of Power Services with the main companies being: Babcock Borsig Service GmbH, Bilfinger Berger Power Holdings (Pty) Ltd. in South Africa, Deutsche Babcock Middle East FZE, the youngest group member Duro Dakovic Montaza d.d., Steinmüller Instandsetzung Kraftwerke Gesellschaft für Energie- und Umwelttechnik mbH, BHR Hochdruck-Rohrleitungsbau GmbH, Babcock Noell GmbH, MCE Maschinen- und Apparatebau GmbH & Co. KG, MCE Berlin GmbH as well as MCE Industrietechnik Aschersleben GmbH.

A close network of branch establishments links the activities of BBPS in the markets of Germany and Europe as well as in the Middle East and in South Africa.

The core business of the Power Services Group basically concentrates on boiler technology, piping technology, power and environmental engineering and mechanical and apparatus engineering. In these segments it offers maintenance, repair and upkeep and in particular demanding measures for the service life extension, efficiency increase and rehabilitation of power stations. In addition, the company is actively involved in the construction and conversion of power stations and in the supply of components - partly from its own manufacturing facilities. It goes without saying that the company possesses all the required certificates, and its high project management competence and comprehensive engineering know-how make it a competent partner for its customers. This is impressively demonstrated by numerous important reference projects at home and abroad.

1.13 Bioenergy Systems

Aalsterweg 181a

5644 - RA Eindhoven

Netherlands

Tel: +49 (173) / 58 74 771

Website: www.be-sys.com

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bioenergy systems produces bio-energy plants, which produce a very high overall efficiency of heat and electricity. Unlike conventional biogas plants based on a bacterial fermentation process, bioampere ® power plants operate on the basis of an innovative thermo-chemical process.

bioenergy systems builds systems that can be operated with a variety of biomass products. They can be set up by the one-commodity-and location-independent, on the other individually tailored to their specific application.

bioenergy systems have is a publicly traded company whose founders over many years of experience in the field of renewable energies. In its three German sites, the company has research and development, plant and project planning and participates in cooperation with various scientific institutions in the technology development.

1.14 Bittner+Krull Softwaresysteme GmbH

Welfenstraße 31a

81541 München

Deutschland

Telefon: +49 89 458595-0

Telefax: +49 89 458595-86

Website: www.bittner-krull.de

B + K sees itself as a company with its system solutions for mobile workforce management, remote meter reading and smart metering provides a contribution to more energy efficiency. In the network area, where monitoring stations operators and service providers the measurement solutions provide cost savings in the reading and assembly processes. Features such as the staff planning to bring more customer service. And as part of the Smart Metering solution helps a customer portal end users to control their energy consumption better.

1.15 Bosch Solar Energy AG

Wilhelm-Wolff-Straße 23

99099 Erfurt

Tel. +49 (0)361 2195-0

Fax +49 (0)361 2195-1133

Website: http://www.bosch-solarenergy.de/en

The Bosch Solar Energy AG is a leading supplier of photovoltaic products based on silicon with a consistent focus on product quality. From small systems for single family houses to manufacture photovoltaic projects - Bosch Solar Energy provides high quality solar cells and modules for photovoltaic power generation. This Bosch Solar Energy sets with its high-efficiency crystalline and thin-film products deliberately to sustainable and environmentally friendly form of silicon-based solar power generation.

As a strong, globally active company in the photovoltaic industry Bosch Solar Energy makes solar cells and modules with a daily contribution to environmental protection and helps to avoid generating carbon dioxide in energy. In order for filling the PV in the future, a significant share in a renewable and sustainable energy mix and in comparison to conventional forms of energy competitive, generate electricity, improved Bosch Solar Energy constantly working efficiency of its cells and modules in reducing manufacturing costs and developing innovative solar cell and module concepts of the future.

1.16 BP Solar Deutschland GmbH

Max-Born-Straße 2

22761 Hamburg

Tel.: +49 40 6395 3800

Fax: +49 40 6395 3850

Website:
http://www.bp.com/sectiongenericarticle.do?categoryId=9023821&contentId=7044559

BP Solar has set a goal to lead the market with innovative product offerings and to develop the next generation of solar technology to market. To this end, the company continues to invest in international research and development projects.

BP Solar believes that the crystalline technology, which currently accounts for a global market share of around 90 percent lead over the next 10 years, remains the solar market - appropriate development to increase the efficiency and utilization of the potential for cost reduction provided. The research and development activities of BP Solar, therefore,

especially in the optimization of the crystalline technology. However, the company is also working on numerous projects to study promising, non-crystalline cell technologies.

BP Solar has worldwide research facilities at production sites and also works closely with leading institutes and universities - in Germany, for example with the Fraunhofer Institute for Solar Energy Systems (ISE), the Institute for Crystal Growth (TSC) as well as with leading universities. The aim of the research and development activities is to develop the cell technology continues to increase the efficiency and reduce costs throughout the value chain. This is the solar technology as soon as possible independently competitive. Each year, BP Solar invests in Germany alone, up to 400,000 € in research and development of solar technology.

1.17 CENTROSOLAR AG, Hamburg

Stresemannstraße 163

22769 Hamburg

Germany

Tel. +49 40 3910 65-0

Fax +49 40 3910 65-99

Website: www.centrosolar.com

CENTROSOLAR Group AG, Munich, is a listed photovoltaics business focusing on roof-mounted systems. Its core business is plug-and-play integrated systems for private houses – an area in which we are already European market leader. Other products are components such as solar glass and mounting systems, as well as European-wide project planning of solar systems for the roofs of industrial properties.

1.18 Centrosolar Sonnenstromfabrik GmbH

An der Westtangente 1

23966 Wismar

Deutschland

+49 3841 3049-0

+49 3841 3049-399

Website: http://www.centrosolar.de/en/about-us/about-centrosolar-group/

CENTROSOLAR Group AG is a listed photovoltaic company with a focus on roof-top systems. Our core business is in complete plug-and-play installations for roofs on private houses and key components such as mounting systems and solar glass. The CENTROSOLAR Group is one of the industry's leading companies with more than 1,000 employees in Europe and the United States and a sales volume of 309m EUR.

The programme comprises complete PV-systems, modules made of crystalline cells and thin film technology, building-integrated PV-installations, inverters, roof-mounted and roof-integrated mounting systems as well as low-iron solar glass with an anti-reflective

coating. Another area of our expertise lies in project planning for solar installations on commercial buildings.

CENTROSOLAR has its own PV-module production facility in Wismar (Germany) and a solar glass production site in Furth (Germany). Both production facilities have been expanded considerably in recent years. Centrosolar Sonnenstromfabrik in Mecklenburg-Vorpommern is one of the most modern factories in Germany, with a current annual production capacity of 155 MWp. This corresponds to the amount of electricity needed to cover the demand of 70,000 households. Our own research and development department continuously works on product innovations and identifying savings potential.

In addition to subsidiaries in Germany, CENTROSOLAR has branches across Europe and in the United States. We generate 50 percent of our sales abroad. We have subsidiaries in Spain, Italy, France, Greece, Switzerland, the Netherlands and the United States. In America, we have an office in Arizona and a recently opened office in San Francisco.

1.19 Centrotherm Photovoltaics AG

Johannes-Schmid-Straße 8

89143 Blaubeuren

Germany

T: +49 7344 9188-0

F: +49 7344 9188-388

Website: http://www.centrotherm-pv.com/

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centrotherm photovoltaics AG is the world's leading technology and equipment provider for the photovoltaics sector. With more than 30 years of experience and an extensive, proven technology platform on almost all levels of the photovoltaic value chain, the company sees itself as a pioneer in the industry. Our strengths include the development of new technologies and innovations and their implementation in modern production systems and efficient processes.

Our product and services portfolio starts at the early stage of producing silicon as a raw material. It also covers the planning and development of silicon factories, engineering and key production equipment. Furthermore, we equip leading solar companies as well as new market entrants with turnkey production lines and key equipment. We guarantee our customers key performance parameters, such as production capacity and on-time delivery.

We currently employ around 1,300 staff members at our German sites in Blaubeuren, Constance, Dresden, Burghausen and Abensberg and at our international service and sales subsidiaries in Asia, Europe, and the USA.

1.20 Chalmers University of Technology

Energy and Environment

SE-412 96 Göteborg

Telephone (switchboard)

+46 (0)31-772 1000

Telefax (to the secreteriat)

+46 (0)31-772 1152

Website: http://www.chalmers.se/ee/EN/news

Contact Person: Lina Martinsson

Email: lina.martinsson@chalmers.se

- Adapting converters and their components for the environment of a hybrid electrical vehicle
- Reduction of EMI from switched power converters
- Efficiency of building related pump and fan operation – System solutions, motor technology and control
- Autonomous electrical power generating systems
- DC wind park module - design, function and control
- Analysis of Wind Park High-Frequency Electrical Oscillations
- Plug-in hybrids and the energy supply system in Gothenburg
- Use of Power Electronic Controllers for Power Systems Stability Improvements
- Integrated drive and charging system for a hybrid vehicle
- Voltage Stability Analysis and Improvement for the South West Network of Libya
- State of Health prediction of Li-ion Batteries in Hybrid Vehicle Applications
- Energy efficiency of electrical drive systems
- Use of Power Electronic Controllers for Power Systems Stability Improvements
- Power Cluster
- Wind Turbine and Wind Farm Models for Power System Stability Studies
- Maintenance Management of Wind Power Systems by means of Reliability-Centred Maintenance (RCM) and Condition Monitoring Systems (CMS)
- Grid for Vehicle (G4V)

1.21 Clausthaler Umwelttechnik-Institut GmbH -CUTEC-Institut GmbH-

Leibnizstraße 21+23

D-38678 Clausthal-Zellerfeld

Tel.: +49 5323 933-0

Fax: +49 5323 933-100

Website: http://www.cutec.de/en/ueberuns.php

Energy is vital for all processes. In this case, the energy must be used as efficiently as possible to conserve resources and to recognize the finite nature of energy reserves. Another aspect is the conversion of energy supply to renewable energy, extra motivation on the greenhouse effect and climate change mitigation. The topic of energy and energy supply, however, is extremely complex and in addition to the technical conditions also influenced heavily by political and economic conditions.

First, we want to understand the energy issue as a system. With an isolated approach can not forward-looking recommendations for action are developed. An energy system consists of energy-yielding, changing energy and energy-consuming people. The energy requirements may include electricity, heating or cooling, process energy or fuel. For sustainable models for energy suppliers should be installed more renewable energy, in energy conversion processes, optimize and increase efficiency during the energy consumption should be as low as possible while maintaining quality of care.

In collaboration with other partners already a number of projects have been conducted on this topic. The starting point was the establishment of the Energy Park Clausthal with a 100% supply of the Institute building, renewable energy and demonstration of many energy conversion technologies. Another focus is on the micro-cogeneration or distributed generation coupled with innovative technologies. There were micro-CHP, micro gas turbine and Stirling technology, also tested for biogas plants. As part of the research network Lower energy FEN particular issues of local combined heat, cooling and power to edit. These provide CHP surplus heat to an absorption chiller. In general, the emphasis is on actual implementation, ie the concepts are implemented real and true to life, operated and evaluated. There are a number of additional project outcome from these projects.

1.22 Compel Electronics SpA

Via Guido Rossa 18

20872 Cornate d'Adda

Italy

Tel. +39 039 61001

Fax +39 039 6100600

Website: http://www.compel.it/

Compel Electronics SpA, founded in 1972, is one of the leading European designers and manufacturers of interconnection systems as coaxial connectors, fiber optic connectors, metric connectors, cable assemblies and back-planes, serving its customers in markets such as telecommunications, networking and data equipment, defense, energy and transportation.

With a solid and competitive position, achieved over the past decades, Compel has built up a reputation for technical innovation and flexibility, which has led the Company to a great success in anticipating and meeting the evermore complex and demanding requests of international customers.

State of the art technologies, machinery, jigs and tooling, continuous research into improved productivity, cost reduction and better system integration together with

certified compliance to the ISO 9001 system, have helped to maintain and consolidate Compel's leading position in the Telecommunications industry and further penetrate the Industrial, Energy and Transport sectors.

Compel's strategy for the years ahead is to continue to expand, anticipating and managing technological changes, providing solutions and developing innovative technologies, systems and services in order to help their customers remain at the forefront of their industries.

1.23 Danfoss Solar Inverters A/S

Ulsnæs 1

DK-6300 Gråsten

Denmark

Phone: +45 7488 1300

Fax: +45 7488 1301

Website: http://campaign.danfoss.com/Triplelynxpro

TripleLynx Pro represents a new frontier in string inverter technology. Based on our TripleLynx platform, the Pro range takes PV system management and easy installation to a new level. Just a few examples:

- Integrated Web Server – Eliminates need for additional communication devices
- Master Inverter – Saves time by replicating data across the system
- Ethernet – Ensures high-speed data exchange

The result is a string inverter that offers unparalleled engineering simplicity, system flexibility and performance in efficiency.

1.24 Department of Building Environment Science & Technology (BEST)

Dipartimento BEST

Politecnico di Milano

Via Bonardi 3

20133 Milano

Italia

tel.: 0223995108

fax: 0223995120

Website: http://www.best.polimi.it/index.php?id=4&L=1

Contact Person: Prof. Stefano Della Torre

Email: stefano.dellatorre@polimi.it

The Research Groups working in the B.E.S.T. Department are the following:

- Innovative technologies for the planned conservation and the improvement of the cultural heritage
- Innovative technologies to manage energy in the constructions industry
- Innovative process technologies in the construction industry
- Innovative technologies for the quality and the sustainability of the built environment
- Innovative technologies for architectural projects and for the lifecycle of building products (SPACE)
- Innovative technologies for the sustainability of the construction industry
- Innovative technologies to manage the built environment and the real estate market
- Innovative technologies for the government of the territory and of building systems
- Innovative IT technologies for computer-aided design and knowledge management (PROTEA)
- Surveying Information Technology for Environment and Cultural Heritage (SITECH)
- Territorial Economics

1.25 Department of Electrical Engineering - Politecnico di Milano

Dipartimento di Elettrotecnica

Piazza Leonardo da Vinci 32

20133 Milano

Italia

Website: http://www.etec.polimi.it/index.php?id=107&no_cache=1&L=2

The range of electromagnetism research includes:

- classic and special electrical machines,
- design of high-efficiency and high-dynamic electromechanical components,
- development of innovations in the field of electrical drives and industrial automation,
- power system design,
- exploitation of renewable energy to the analysis of distributed generation networks,
- measurement on complex and distributed systems to the analysis of electromagnetic interference problems in electrical plants and equipments.

A great effort has been made in promoting the advancement and the employment of industrial electronics for the energy conversion and the management of power systems.

The department is also exploring research in powertrain systems to develop innovative solutions in the area of terrestrial and naval transportation.

Since the origin of the Istituzione Elettrotecnica Carlo Erba, the issues related to the acquisition of measurement information and the estimation of its uncertainty have been one of the main research centers for the department. During the first decade of the founding of Istituzione Elettrotecnica Carlo Erba, the research was focused primary on conventional industrial methods. As Istituzione Elettrotecnica Carlo Erba moves into the 21st century, the research focus is now fixed on modern techniques which employ virtual instruments, which are based on digital signal processing and implemented by means of computers and expert systems.

Another research topic involving all of the above mentioned subject areas are the issues about electromagnetic compatibility, which represents the main principle in the study of the interaction between systems regarding the proper operation of the equipment

1.26 Department of Energy Technology

Department of Energy Technology

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9220 Aalborg

Denmark

Phone: + 45 9940 9240

Fax: + 45 9815 1411

Website: http://www.et.aau.dk/research+programmes/

- Fuel Cell Systems
- Wind Power Systems
- Photovoltaic Systems and Micro-Grids
- Modern Power Systems
- Automotive & Industrial Drives
- Biomass
- Thermoelectrics
- Efficient and Reliable Power Electronics (Under construction. Information is coming up soon)
- Fluid Power in Wind and Wave Energy (Under construction. Information is coming up soon)
- Emergent Projects (Further information is coming soon)

1.27 Department of Physics

P.zza Leonardo da Vinci 32

20133 Milano

Italia

Tel. +39.02.2399.6100

Fax. +39.02.2399.6126

Website: http://www.fisi.polimi.it/dip-fisica/page7.do

- Ultrashort light pulse generation and application
- Solid state lasers and photonic devices
- Photonics for health, food and cultural heritage
- Magnetic and semiconductor nanostructures
- Spectroscopy of solids and surfaces based on electromagnetic radiation and on electron beams

1.28 Dibalog GmbH

Kleingemünder Str. 1

69118 Heidelberg

Website: http://www.dibalog.de

Contact Person: Tanja Braus

Email: info@dibalog.de

A highly motivated team and state-of-the-art products are decisive for the profile and success of our company. dibalog offers you innovative, customized systems for energy optimization and datalogging, which are special on the market.

Besides the core business dibalog Betriebs- und Energie Management Systeme GmbH attaches a high importance to customized developments and individual solutions next to subsequent service and system optimization after installation.

We take care of development, production, distribution and assembling by our specialist staff.

1.29 Dipartomento di Fisica - Politecnico di Milano

P.zza Leonardo da Vinci 32

20133 Milano

Italy

Tel. +39 0223996100

Fax. +39 0223996126

Website: http://www.fisi.polimi.it/dip-fisica/page7.do

The Low Pressure Sector for calibration of vacuum gauges and barometers has been developed in order to meet the need of the industry world to perform calibrations, made by comparison, of pressure gauges which operate around or below atmospheric pressure.

The laboratory, which originates within a university research context, has been designed and realized thanks to the technical and scientific expertise of the “Surface Group” at the Department of Physics, with its pioneering experience in the field of electron spectroscopies from solid surfaces.

The Laboratory is operated according to the UNI CEI EN 45001 and UNI CEI ISO 9001 standards. In such a way it can be safely guaranteed that its activities offer, besides the high level of technical skill, transparency of information and an adequate front service towards the industry world.

The reference gauges are constituted by two MKS differential capacity gauges and one Leybold spinning rotor gauge.

The Laboratory, which has been operational since late 1998 (with SQP accreditation), has been certified within a SIT scheme in July 1999.

Possible gauges which can be calibrated by the Laboratory are, for example, piezo-, resistive- and capacitive-gauges, Pirani gauges, Penning gauges, thermocouple gauges, Bayard-Alper gauges, convection gauges, Bourdon gauges, and barometers for the atmospheric pressure measurement.

1.30 E. Kuhn Solarhandel GmbH

Nürnberger Straße 63

96114 Hirschaid

Telefon: 09543/443706-0

Fax: 09543/443706-99

Website: http://www.proselect-solar.de/

Today's company named E. Kuhn Solarhandel GmbH was founded as an individual enterprise at Neustadt a. d. Aisch in November 2006. Ever since that time proselect® has been a patented trademark of our corporation. Due to the positive development, it was already necessary in the middle of the year 2008 to obey to the rapid increase. According to that, moving to the new and bigger office premises in Bamberg came up. This urban center provided besides qualified employees of all categories, additionally flexible storage space, efficient logistic partners and a very convenient infrastructure.

Still in 2008, the conversion from an individual enterprise to a GmbH company followed. Referring to the specialisation in the role of a system house of photovoltaics, the company simultaneously grew to a reliable partner for craftspeople. It developed a highly qualified, nationwide and permanently expanding network of specialist partners. This quantity of master craftsmen make the sector of photovoltaics accessible by themselves and therefor rely on a strong, authentic developer, planner and distributor.

To assure the photovoltaic user's satisfaction, one of the most important aims is to extend our sales and distribution network with capable specialist partners. In addition, we constantly look for adequate roof space for rent to install our photovoltaic plants. We

stay ambitioned to anticipate further developments on the market to establish in the leading group of photovoltaic full-service wholesalers. With proselect® you and your costumers are in good hands!

1.31 E.ON Metering GmbH

Carl-von-Linde-Straße 38

85716 Unterschleißheim

Tel.: 0 89-12 54-04

Fax: 0 89-12 54-53 59

Website: http://www.eon-energie.com/pages/eea_en/Innovation/Innovation/E.ON_Metering_GmbH/Overview/index.htm

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The task of bundling experience in Smart Metering within the E.ON Group and further developing energy measurement as a new technology and driving forward standardisation in the technology has been in E.ON Metering's hands since the middle of last year.

As a new technology and business field, intelligent energy measurement is developing increasing dynamism and relevance in Germany, Europe and worldwide. The international experience of the E.ON Group, with around 1.3 million Smart Meters installed, has been bundled in an independent company, E.ON Metering GmbH, for the German market. The young company, which has the structure of a lean SME, covers all aspects of intelligent measurement as a complete provider. The Smart Metering range extends from advice, to making the appliances available and operating them up to additional Smart Meter services. In short: E.ON Metering provides system solutions under one roof. With tailor made service packages, E.ON Metering supports its business partners to secure a good starting point for itself in increasing competition.

1.32 ELESTA GmbH

Building Automation

Gottlieb-Daimler-Str. 1

78467 Konstanz

Tel: +49 (07531) 987-0

Fax: +49 (07531) 987-200

Website: http://www.elesta.de/en/

Building automation systems have a significant influence on the energy and operating cost of a building. The investment into a building automation system amortises frequently in less than 5 years.

Elesta `s freely programmable system ensures the efficient control of the transformation, distribution and supply of all required forms of energy and media in a building. Progressive energy management strategies can be custom-tailored to the needs of the customer. Historical consumption data can be archived and evaluated and allow the introduction and verification of saving measures. On-line data are supervised and direct measures are initiated.

Elesta `s innovative and interoperable building automation system decrease running costs, makes these predictable and secures your investments and that without missing the comfort for optimal working environments and the associated increase in employee satisfaction and efficiency.

1.33 Eliosys SA

Boulevard de Colonster, 4 P56

4000 Liège

Belgium

Tel : +32 4 361 59 98

Fax : +32 4 361 59 59

Website: http://www.eliosys.eu/index.php?l=en

ELIOSYS offers the services of its cutting edge installations to all companies active in the thermal solar or photovoltaic energy business.

Thanks to its climate simulators able to reproduce virtually any type of climatic conditions which can be encountered on earth, ELIOSYS is active both in solar converters testing and certification as well as in the characterization of any material under specific environmental conditions.

In order to achieve the best possible repeatability, combined with reactivity and delivery times impossible to match with outdoor testing, ELIOSYS has designed its own equipment in compliance with the latest international standards.

The accuracy of our work is guaranteed by our team of specialized engineers as well as through our very close collaboration with research centers and universities.

1.34 Eltek Valere AS

Gråterudveien 8

(PB. 2340, Stromso)

3036 Drammen

Norway

Website: http://www.eltekvalere.com/wip4/renewable/c/detail.epl?cat=17839

Eltek Valere develop and market energy systems for the telecom, renewables, industrial, and e-mobility sectors and we are one of the largest suppliers of power conversion electronics worldwide within our market segments. With a core competency in high-efficiency (HE) energy conversion, we offer an extensive range of high power density, flexible and cost-efficient rectifiers, converters and inverters.

Our Renewable Energy Division has transferred our expertise in HE technology into a new area, photovoltaics, which focuses on the field of solar power energy generation. Drawing

on 40 years of experience in power electronics, we are committed to meeting the power conversion needs of the photovoltaic industry. It is the knowledge and experience from our other sectors that enables us to take a competitive stance in the rapidly growing renewables market. Our core competency in power electronics, established logistics chain and our global network of sales and service experts has provided great advantages for us and our partners in this market.

1.35 EME Energie Management Eberlein GmbH

Heinrich-Huppmann-Straße 1

D-97318 Kitzingen

Telefon: +49 (0) 93 21-13 08 81-0

Fax: +49 (0) 93 21-13 08 81-9

Website: http://www.eme-solar.de/index.php?lang=2

The EME Energie Management Eberlein GmbH is led by Herbert Eberlein. Prior to establishing EME in 2008, both the owner Herbert Eberlein and the project manager Olaf Nehm have fulfilled management functions with major suppliers of photovoltaic and solar thermal systems, for more than a decade.

Our customers benefit from our extensive experience in technical planning of photovoltaic plants, sales and expertise regarding modules, inverters, cables and connectors.

1.36 Energie-Forschungszentrum Niedersachsen

Am Stollen 19

38640 Goslar

Germany

Telefon: +49 5321 3816 8000

Telefax: +49 5321 3816 8009

Website: http://www.efzn.de/de/ueber-uns/

In Lower Saxony, is operated at many facilities energy research to reduce dependence on finite fossil fuels in the future and develop new solutions that lead to sustainable use of energy. The questions on energy production and refining, or disposal of waste products of energy production but are more comprehensive and complex. You can only be solved in cooperation of various scientific disciplines. It now lacks a focus, which occupies the entire energy chain in the eye and the interdependencies across disciplines involving in problem analysis and resolution.

This gap is the stable long-term energy research center of Lower Saxony (EFZN) include a research unit of the Technical University of Clausthal in cooperation with the Universities of Braunschweig, Göttingen, Hanover and Oldenburg. It deals with issues relating to the total energy production and energy value chain from raw material source

to final disposal. For this to be brought under one roof researchers from the disciplines of science, engineering, law and social and economic sciences. In this way, a multidisciplinary energy research possible.

In contrast to other research projects in which several universities and institutes are involved in EFZN all the 80 academic staff are research together in one place and interact. This local concentration, the exchange between the various disciplines will be promoted continuously. EFZN is the seat of Goslar.

1.37 Energy Department - Politecnico di Milano

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20158 - Milano

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phone number: +39-02-2399.8563

fax: +39-02-2399.8566

Website: http://www.energia.polimi.it/english/index.php

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The rational use of energy is a subject that has been receiving more and more attention in the years from scientific and academic sectors, industry and public opinion. Different reasons explain this growing interest: the difficulties in supplying low cost fossil fuels, the debate about the way to comply with the increasing energy demand, the reduction of the environmental impact of the energy conversion processes, that play a key role in greenhouse gas and pollutant emissions.

The Energy Department has joined together different skills existing at Politecnico di Milano in var-ious fields of engineering to provide, through a interdisciplinary approach, convenient solutions to the complex problems that currently affect the energy sector.

Our goal is to provide constant initiative in the development of R&D projects, supporting the advanced activities of the main industries and promoting collaboration with other partners operating in the energy field.

Professors and research fellows of the Energy Department have primary teaching responsibilities and perform activities in all the faculties of Politecnico di Milano. They have the lead in organiza-tion and coordination of the course in Energy Engineering.

1.38 Energy research Centre of the Netherlands (ECN), Solar

Westerduinweg 3

1755 ZG Petten

Netherlands

Tel.: +31 224 56 4949

Website: http://www.ecn.nl/units/zon/

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The world of solar energy is undergoing a process of revolutionary change. While time-to-market has become unbelievably short, there is now an unprecedented degree of interlinkage between industry and research. ECN, home to numerous breakthrough technologies, is still riding the top of the wave, both in crystalline silicon and in thin-film solar cells. Our breakthrough technologies include inline cell processing, silicon nitride anti-reflection & passivation layers and Metal Wrap Through (MWT) back-contact cell technology – all technologies that are playing key roles in shaping today's PV industry.

ECN is keen to address tomorrow's problems, by focusing on material fundamentals such as the reduction of materials per Wp and the replacement of scarce or toxic materials, and on radically new manufacturing processes.

Energy research Centre of the Netherlands (ECN), Wind Power

Westerduinweg 3

1755 ZG Petten

Netherlands

Tel.: +31 224 56 4949

Website: http://www.ecn.nl/units/wind/

Electricity from wind energy is the only emission-free bulk option that can be implemented on the short term at relatively low societal costs. As such wind energy clearly is a no-regret option for the energy transition which is taking place in the Netherlands and elsewhere in the world.

Wind energy has entered the phase of technological maturity. The priority of the wind sector is to install and connect large amounts of wind power to the grid quickly, safely and cost effectively, whilst simultaneously addressing concerns about the turbine reliability, availability and accessibility.

1.39 Energy research Centre of the Netherlands (ECN), Biomass, Coal & Environmental Research

Westerduinweg 3

1755 ZG Petten

Netherlands

Tel.: +31 224 56 4949

Website: http://www.ecn.nl/units/bkm/

The unit Biomass, Coal & Environmental Research (BKM) encompasses two fields of study:

- Biomass and Coal contribute to a cleaner, less wasteful and more sustainable use of these two energy resources
- Environment assesses the impact of human activities on air and soil quality and provides policy support.

In addition to successful technological developments and their implementation in practice, such as BO2 fuel pellets, the MILENA gasifier, and OLGA tar removal system, the unit provides policy advice based on instruments like ORCHESTRA in relation to soil quality legislation, and MARGA, a fine particle monitor.

BKM Specialised and broad

BKM is a leading, reliable and innovative partner for industry, government and other research institutions. Research and development activities are diverse and broad, categorized into five research programmes. Our often highly specialised knowledge and experience is sought nationally and internationally, in part because of our unique experimental facilities, which are available for research and advice requests.

1.40 Energy research Centre of the Netherlands (ECN), Sustainable Process & Heat Technology (SPHT)

Westerduinweg 3

1755 ZG Petten

Netherlands

Tel.: +31 224 56 4949

Website: http://www.ecn.nl/units/ei/

Energy brings prosperity and gives us a comfortable life. But our use of energy also has disadvantages – environmental pollution, climate change – which have already assumed serious proportions. What can be done about it? First, we must reduce the energy demand, by using energy as efficiently as possible. Next, we must use more sustainable energy sources such as solar, wind, and biomass. And finally, we must use fossil fuels – for as long as they are indispensable - in the cleanest possible way. This three-step approach to meeting our energy requirements has been called the trias energetica.

Sustainable Process & Heat Technology (SPHT), one of the research programs of ECN, concerns itself with the first component of the trias energetica: efficient use of energy, leading to energy savings, particularly in energy-intensive production processes. By focussed knowledge- and technology-developments, this program contributes to innovative solutions for the reduction of energy use and raw-materials use in industry.

1.41 Energy Resources S.p.A.

Via Ignazio Silone 10

60035 Jesi

Italy

Tel.: +39 0731.616811

Fax.: +39 0731.616891

Website: http://www.energyresources.it/index.php/en/Quotes

The R&D department is a key sector for our company. It deals with:

Patents:

- new architectural integration systems

Smart Grid:

- designing for the creation of new energetic net

Green Mobility:

- sustainable mobility at zero emission

Cogeneration and Biomass:

- Research and designing of solutions for energetic valorization

Water:

- rationalization system for the water's recovery and depuration

Energy Resources has 2 patents on an innovative geothermal probe that is the result of a two years project that the company has developed with all the most famous universities of the region.

Now Energy Resources is developing, thanks to the collaboration with the Pisa University, a new software for the simulation of the spiral geothermal probe's behavior. This software will permits the forecast on size during the phase of designing.

Besides this the R&D dep. is involved in another project for the Energetic efficiency section called "Passive Buildings".

There are two main activities: the fine tuning of a methodology for the valuation of the energetic needs of industrial buildings and the definition of designing strategies for the realization of new industrial building with high level of energetic efficiency.

In the end, a big part of the research is dedicated to the ideation of new technical solution for the installation of the photovoltaic modules.

1.42 enexoma AG

Dalbker Strasse 138

33813 Oerlinghausen

Tel.: +49 52 05 | 87 92 6-30

Fax.: +49 52 05 | 87 92 6-29

Website: http://www.enexoma.de/index.php?id=77&L=1

The enexoma AG is your strategic and independent Partner in the field of smart technologies.

Building on our unique safety system to meet regulatory data security enexomaAG provides as technology leader a holistic, integrative concept for the fields smart metering, smart home and smart grid.

1.43 ENN Group Europe GmbH

Liebigstr. 9

85551 Kirchheim bei Muenchen

Germany

Tel: +49-89-9090-199-0

Fax: +49-89-9090-199-19

4 Grainger Suite,

Dobson House, Regent Center,

Newcastle upon Tyne,

United Kingdom, NE3 3PF

Tel: +44-191-233-6352

Fax: +44-191-233-6353

Website: http://www.ennsolar.com/index.html

ENN Solar Energy is the key component in ENN Group's renewable energy business, and an important support for ENN Group to become a clean energy solution provider.

In 1996, ENN started the solar energy business. Over the years with the continuous innovation in technology,the business has evolved from using solar water heater to the combination of photovoltaic, solar thermal and lighting, from offering a single product to multiple tier system integrations and services. Based on our advanced thin film Si photovoltaic modules, ENN Solar Energy offers various cutting-edge solar products and service, keeps the technology and cost advantages.

ENN Solar Energy is truly a global solar company with a strong international expert team and strategic partners.

1.44 EnviTec Biogas GmbH

Industriering 10a

49393 Lohne

T +49 (0) 44 42 / 80 65 - 0

F +49 (0) 44 42 / 80 65 - 104

Website: http://www.envitec-biogas.com/en/company.html

A partner with global experience

The number of our locations is growing continuously. The reason for this is that the advantages of biogas spread among governments, farmers and investors. But it is also because potential plant operators prefer searching for experienced partners.

From a German market leader to a global market leader

EnviTec Biogas GmbH was founded in 2002 after decades of experience in plant construction, project business, and management of agricultural holdings. Since 2007 the company has been listed on the Frankfurt stock exchange as a stock corporation. EnviTec is represented worldwide with its own subsidiaries, joint ventures, and sales offices.

Plant construction and EnviTec operation

We align our growth to the German market as well as international markets – not only in the area of plant construction but also by operating our own biogas plants. In this way we combine the competent operational management of our cooperation partners locally with our own special expertise and thus achieve a high level of plant efficiency with attractive profit margins.

A leader in future technologies

In addition to its competence and experience, EnviTec attributes its outstanding success to its commitment to innovation and progress. From the very beginning we concentrated on a modular construction concept, and thus early on we were able to handle plant sizes from 370 kWel upwards. We have also been known for our pioneering work in the development of new technologies for some time. For example, this applies to effluent treatment but also to biogas treatment. These processes and other innovative processes are further developed in our research and development department.

1.45 Evonik New Energies GmbH

St. Johanner Str. 101-105

D-66115 Saarbrücken

Germany

Tel.: +49 681 / 94 94 - 00

Fax: +49 681 / 94 94 - 22 11

Dr Katja Lander

Tel.: +49 681 / 94 94 - 24 80

Website: http://www.steag-saarenergie.de/en/index.php

Evonik New Energies is positioned Germany-wide as a specialist in the field of decentralised energy supply and is incorporated into the Energy division of Evonik Industries AG. In line with current climate protection policy, the company specialises in developing tailor-made energy solutions for its customers on the basis of efficient and sustainable concepts.

The energy sources drawn on range from biomass, biogas and mine gas to the utilisation of geothermal energy.

1.46 Faculty of Electrical Engineering and Information Technology

Gußhausstraße 27-29/350

1040 Wien

Austria

Tel: (+43 1) 58801 37310

Website: http://etit.tuwien.ac.at/index.php?id=1

Contact Person: Günther Brauner

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Energy technology is one of the most essential basis for social stability and prosperity in the world. The international economic and social stability will depend, however, on whether we succeed in modern power engineering, the growing energy needs for industry, housing, employment and transport to provide environmentally friendly.

The modern energy technology has achieved in recent decades, a good efficiency of fossil energy. In future, distributed generation will play based on renewable energy and combined heat and power in the total volume of an important role. The future of energy technology solutions will go towards system engineering simulation instead of component-technical design, more interdisciplinary networking instead of subject-specific differentiation and more to economic and social competence in research and training instead of narrow technical specialization.

The following topics are currently being processed in this area:

- Modelling and simulation of complex power engineering systems
- Modelling of energy deals
- Integration of renewable energy sources and combined heat and power
- Simulation and analysis of all economic energy balances
- Development of liberalized energy markets

1.47 First Solar GmbH

Rheinstrasse 4B

55116 Mainz

Germany

Tel: +49 (0)6131 1443-0

Fax: +49 (0)6131 1443-500

Website: http://www.firstsolar.com/en/about.php

First Solar is the largest manufacturer of thin film solar modules, having expanded manufacturing capacity to an annualized run rate of 62.6MW per line in the 4th quarter of 2010. By enabling clean, renewable electricity at lower costs, First Solar is providing a sustainable alternative to conventional energy sources.

This goal has driven First Solar to become one of the fastest growing manufacturers of solar modules in the world. FS Series 3 PV Modules represent the latest advancements in solar module technology, and are rapidly driving down the cost of solar electricity to rates comparable with traditional fossil fuel-based energy sources.

1.48 ForWind – Zentrum für Windenergieforschung

Marie-Curie-Straße 1

26129 Oldenburg

Deutschland

Tel.: +49 441-36116-720

Fax: +49 441-36116-739

Website: http://www.forwind.de/forwind/index.php?article_id=1&clang=0

ForWind is the joint Center for Wind Energy Research of the Universities of Oldenburg, Hannover and Bremen. As a scientific headquarters, ForWind bundles wind energy research activities from the universities into a broad spectrum within the areas of physics and engineering.

ForWind conducts fundamental research in wind energy, providing independent scientific cooperation in industry-oriented projects and organizing the education, and further education, of future experts.

A cornerstone in ForWind's area of research is the usage of offshore wind energy. The center is a partner in the German research programme "Research at Alpha Ventus" (RAVE), comprising projects promoted by the Federal Ministry of the Environment, Nature Conservation and Nuclear Safety (BMU) which centre on the probing of offshore wind energy.

1.49 Frauenhofer CSP

Walter-Hülse-Str.1

06120 Halle (Saale)

Phone +49 (0) 345 5589-0

Fax +49 (0) 345 5589-101

Website: http://www.en.csp.fraunhofer.de/

Contact Person: Jasmine Ait-Djoudi

Email: jasmine.ait-djoudi@iwmh.fraunhofer.de

Efficiency, reliability and cost reduction in production processes are the driving forces for solar cells on future photovoltaic markets. The Group »Diagnostic of Solar Cells« is working on these topics for industrial customers and partners in research and development. With a broad spectrum of material science methodology – ranging from trace elemental analytics, quantum efficiency to atom scale microstructure diagnostics – the researchers are tracking down the conversion from light to electrical energy. The same way an efficient team play of light, electrons and material structure are crucial for the photovoltaic efficiency, the diagnostic competences arise through the interaction of the Teams »Optical Characterization and Photon Management«, »Electrical Characterization«, »Microstructure Diagnostics and Analytics«.

Research activities extend from the characterization of crystalline solar Silicon to microstructure related defect diagnostics for thin film photovoltaic industries. In addition, international cooperations are established to invent novel optical materials, thin film systems and laser structuring of next generation solar cells.

1.50 Fraunhofer-Institut für Solare Energiesysteme ISE

Heidenhofstr. 2

79110 Freiburg

Telefon +49 (0) 761 / 45 88 - 0

Fax +49 (0) 761 / 45 88 - 9000

Website: http://www.ise.fraunhofer.de/welcome-to-the-web-pages-of-the-fraunhofer-institute-for-solar-energy-systems?set_language=en&cl=en

Contact Person: Karin Schneider

Email: info@ise.fraunhofer.de

The Fraunhofer Institute for Solar Energy Systems ISE conducts research on the technology needed to supply energy efficiently and on an environmentally sound basis in industrialised, threshold and developing countries. To this purpose, the Institute develops systems, components, materials and processes in the areas of the thermal use of solar energy, solar building, solar cells, electrical power supplies, chemical energy conversion, energy storage and the rational use of energy.

The Institute's work ranges from fundamental scientific research relating to solar energy applications, through the development of production technology and prototypes, to the construction of demonstration systems. The Institute plans, advises and provides know-how and technical facilities as services.

1.51 Fronius International GmbH & Co. KG

Am Stockgraben 3

D 36119 Neuhof Dorfborn bei Fulda

Deutschland

Tel.: +49 (0) 6655 91694 0

Fax: +49 (0) 6655 91694 10

Website: http://www.fronius.com/cps/rde/xchg/SID-5644E639-D86C6A64/fronius_international/hs.xsl/17_ENG_HTML.htm

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The future is bound to see a revolution in the field of energy supply for our planet: The decades ahead will have to bring about the change from a fossil-nuclear energy management to a lasting, renewable energy supply if we want to stop degrading the environment and borrowing on our grand-children's future. A clear mission for a company engaged in energy to act as a vital player in this growing market of the 21st century.

Fronius has been engaged in solar electronics since 1992, in particular in the development and production of grid-connected photovoltaic inverters and components for professional system monitoring. Meanwhile we have a large number of renowned manufacturers and wholesalers of solar modules amongst our satisfied customers. Thanks to solar electronics Fronius has advanced to the ranks of the worldwide leading manufacturers and continues to develop its position through ongoing product innovations. State-of-the-art technology in high-performance electronics, a higher level of integration through the use of high-capacity processors and the interconnection of stand-alone devices by using modern means of communication are the key to our success. Fronius is optimally prepared in each of these fields.

Our rapidly growing team in solar electronics is well aware of the importance of our involvement in re-designing the energy supply for the future. This job makes sense - which is what we experience day by day in the work environment and the high level of commitment of our staff.

Fronius Solar Electronics stands for quality and high-tech to generate, convert and harness energy in a regenerative way.

1.52 Future Lighting Solutions

European Head Office

London, United Kingdom

Future House

The Glanty

Egham, Surrey

TW20 9AH

Tel: 00-800-44FUTURE / 00-800-44388873

Website: http://www.futurelightingsolutions.com/en/company-information/Pages/AboutFutureLightingSolutions.aspx

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Future Lighting Solutions is a leading provider of LED lighting components and support services for solid-state lighting products and installations, including engineering expertise, concept development, full system solutions and online tools that accelerate quality application development. The company is a division of Future Electronics.

Future Lighting Solutions' innovative approach is built around a team of world class LED lighting experts, along with highly specialized and experienced partners, and an exclusive worldwide relationship with Philips Lumileds Lighting Company. Our mission is to enable leading-edge LUXEON technology by offering:

Solid-State Lighting Expertise

Benefit from the deepest knowledge, most experienced, largest network of specialized Marketing, Sales and Engineers, dedicated to accelerate bringing your products to market. We take an active role in helping you develop and design 'never before possible' solid-state lighting fixtures.

Product Concept Development

Leverage our capabilities, proprietary design automation tools and our supporting infrastructure to assist you from concept to design to implementation.

Complete System Solutions

Rely on us to accelerate your time to market, with technical expertise, proprietary simulation and design tools, as well as the largest portfolio of integrated and optimized system solutions in the world.

Sustainable Supply

When LEDs are manufactured, they are binned in three dimensions: flux, color, and forward voltage. We are the experts in working with these three variables and support luminaire manufacturers with product selections that allow for consistency between luminaires. For the lighting community, this gives you confidence that solutions using LUXEON LEDs specified today, will match solutions you specify tomorrow, and ensures that your application will be visually consistent.

1.53 Garrad Hassan and Partners Limited

St Vincent's Works

Silverthorne Lane

Bristol

BS2 0QD

Great Britain

Tel: +44 (0)117 972 9900

Fax: +44 (0)117 972 9901

Website: http://www.gl-garradhassan.com/en/index.php

GL Garrad Hassan is the world's largest renewable energy consultancy. It offers independent technical and engineering services, products, and training courses to the onshore and offshore wind, wave, tidal and solar sectors. Although the GL Garrad Hassan name is new, the company has a rich heritage. It is borne of the integration of specialist companies that, united under a single brand, form the renewable energy consulting division of the GL Group. GL Garrad Hassan is a consulting company; it has no equity

stake in any device or project. This rule of operation is central to its philosophy, something which sets it apart from many other players and underlines its independence.

With a network of local experts around the world, GL Garrad Hassan's global perspective is informed by local understanding and local resource. The company is uniquely placed to understand the interplay between the technology, geography and environmental conditions, which determine the engineering solutions, and also the policy, economics and regulation, which determine the markets. As a result, its services provide real added-value for clients. When it comes to credentials, GL Garrad Hassan has plenty: it has been the technical authority on wind power for nearly thirty years; its experts are at the forefront of developments in the wave and tidal sector and its achievements in the field of mechanical renewables are now being replicated in solar, its most rapidly growing sector.

1.54 Gehrlicher Solar AG

Austr. 101 b

96465 Neustadt/Coburg

Tel + 49 9568 896609-0

Fax + 49 9568 896609-19

Website: http://www.gehrlicher.com/en/home/

Contact Person: Sarah Wulle

Email: sarah.wulle@gehrlicher.com

Gehrlicher's products and services make a sustainable energy industry possible for the generation of today and of those of the future. Our concern is the further development and a broad availability of regenerative solar energy. We pursue this goal consistently in many energy projects and with over-proportionate investments in research and development.

Corporate interests always take priority over shareholders' interests. We, as a group of companies, accept social responsibility for our regional locations and employees. The increased trust of our customers, investors, and employees placed on us forms the basis of our lasting corporate success. Thus, people in Germany, Spain, Greece, and Italy benefit from our activities both economically and ecologically.

1.55 Gemo-tec

Moosmattstrasse 15

6330 Cham

Swiss

Website: http://www.gemo-tec.com/

Gemo-tec is an international sales company, recognized as the worlds leading in production equipment for the electrical, solar and environmental engineering industries.

Headquartered in Switzerland, Gemo-tec was founded in the beginning of 2008.

Gemo-tec has formed highly selective Global Strategic Partnerships with best-in-class manufacturers & partners.

Since its founding, Gemo-tec's wide range of completed projects has provided a depth of expertise in various methodologies that enable it to meet and exceed customer expectations.

Gemo-tec has won the coveted Intersolar Award 2010.

1.56 GeoModel Solar s.r.o.

Pionierska 15

831 02 Bratislava

Slovakia

tel: +421 2 492 12 491

fax: +421 2 492 12 423

Website: http://geomodelsolar.eu/index.php

Based on our scientific knowledge, dedication, and professional attitude we aim to contribute to the change of the global economic strategies towards sustainable energy production and consumption, and support of environmental technologies.

GeoModel Solar s.r.o. provides customers with fast, easy, and cost-effective access to geographical data and geoinformation services in any location in the world. The company is committed to increase efficiency and reliability of solar energy technology by provision of high quality climate and weather data, and simulation tools.

Integrate state-of-the-art quality assessed data and methods for developing high resolution continental geographic databases with focus to energy-related climate and weather parameters.

Develop simulation, management and control tools, map products, and web services for optimum system planning, intelligent performance check, and management of distributed power generation.

1.57 HaWi Energietechnik AG

Im Gewerbepark 10

84307 Eggenfelden, Deutschland

Telefon: +49 8721 7817-0

Telefax: +49 8721 7817-100

Website: http://en.hawi-energy.com/index.php

HaWi Energietechnik AG is a leading company in the planning and distribution of solar power systems. It also manufactures small wind turbines and block-type thermal power stations using the latest technology.

As a specialist wholesale supplier, HaWi provides its business partners throughout Europe with grid-linked and grid-independent solar power systems, as well as wind turbines and block-type thermal power stations. It advises and supports companies in the planning and development of their projects, and supplies components as well as complete systems, giving it a comprehensive range of services

and products in the field of renewable energy.

Customised technical solutions, stable business partnerships and a strong orientation towards customer needs are just some of the company's particular strengths.

Hans Wimmer, the founder of HaWi, previously ran an electrical master workshop, which by 1995 had already begun to specialise in innovative environmental technology. That company became HaWi Energietechnik GmbH in the year 2001.

In 2005, its premises at Rogglfing near Eggenfelden, in Lower Bavaria, underwent considerable expansion and offices were also established in Spain (2006), Italy (2006), France (2007) and Greece (2007).

In 2008, HaWi Energietechnik GmbH changed into HaWi Energietechnik AG.

1.58 Heizomat GmbH

Maicha 21

D-91710 Gunzenhausen

Tel.: +49 (0) 98 36 / 97 97-0

Fax.: +49 (0) 98 36 / 97 97-97

Website: www.heizomat.de

Founded in 1982 by Robert Bloos and deals to date with the development and manufacture of power systems.

Thanks to our innovative ideas and the resulting patents innumerable companies, farmers and households are now able to meet with renewable resources their energy needs. And this so easy and efficient as with conventional fossil fuels.

Wood chips or biomass heating systems and wood chip-chippers from HEIZOMAT are now used throughout Europe.

Thanks to the motivation of over 180 qualified employees, provides HEIZOMAT produces quality products in the field of renewable energy.

1.59 Helios Systems

Carrer de l´Enginy - Nave 7

08840 - Viladecans

Spain

Phone: +34 - 93 - 633 - 4416

Fax: +34 - 93 - 633 - 4419

Website: http://www.helios-systems.net/

You will find our technology in converters and inverters with highest efficiency, as well as in control and global administration of photovoltaik power stations .

Many years of experiences within after-sales-services and more than 1GW on plants installed speak for itself. R&D is one of our main issues.

However 38% of our employees are highly-qualified engineers.

And last but not least… MADE IN GERMANY ...our products are produced in the north of Germany.

The FeCon GmbH located in Flensburg stands for:

- constant quality control (TÜV, DK5740, material Decreto etc.)
- Concentration on high efficiency inverters (100 KW to 1 MW)
- economical products and solutions
- customized converters of all power-ranges
- direct customer contact - from the first meeting to the after Sales service

1.60 Helmholtz-Zentrum Berlin

Lise-Meitner Campus

Hahn-Meitner-Platz 1 (ehemals Glienicker Str. 100)

14109 Berlin

Germany

Fon: +49 30 8062 - 0

Fax: +49 30 8062 - 42181

Website: http://www.helmholtz-berlin.de/forschung/enma/index_en.html

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The HZB concentrates on targeted basic research and uses this as the foundation for the technological development of prototypes for industrial applications. The work involves on the one hand the development of highly efficient thin-layer solar cells and is oriented towards the currently most advanced semiconductor materials in the world. On the other hand, new material combinations from common and environmentally compatible elements are researched. Generation of fuels in "wet" energy systems is being tested in line with natural models.

1.61 Hochschule für Technik Rapperswil - Institut für Energietechnik

Oberseestrasse 10

CH-8640 Rapperswil

Switzerland

Tel. +41 (0)55 222 49 23

Website: http://iet.hsr.ch

- Analysis and optimization of electric drive systems for land and water vehicles
- Design and engineering of plants using renewable energy (solar, wind, geothermal heat)
- Performance measurement and results of PV systems (PV-Monitoring)
- Analysis and optimization of energy and power in the reference buildings
- Self generation using CHP
- electrochemical energy storage

1.62 Institut für Solarenergieforschung GmbH

Am Ohrberg 1

31860 Emmerthal

Tel. 05151-999-100

Website: http://www.isfh.de/?dm=1&_l=1

The purpose of the Institute for Solar Energy Research Hameln/Emmerthal (ISFH) is the promotion and execution of research and development in the field of solar energy utilization. The activities of the ISFH focus on applied research in photovoltaics and solar thermal energy conversion.

ISFH puts much emphasis on higher education in applied solar energy research. Many students are currently working on their master thesis or their doctoral thesis.

The institute is offering scientific services to the industry and other research institutions in the fields of solar thermal and photovoltaics.

ISFH has the official relationship of an 'associated institute' of the Leibniz University of Hanover. The Institut für Solarenergieforschung Hameln (ISFH) is a non-profit organization funded by the State Government of Lower Saxony.

The Director of the ISFH is Prof. Dr.-Ing. habil. Rolf Brendel. He is managing the institute since October 2004 and at the same time he is also a full professor at the Faculty of Mathematics and Physics of the Leibniz University of Hanover.

1.63 Interuniversity Microelectronics Centre (IMEC)

Kapeldreef 75

B-3001 Leuven

Belgium

Company phone: +32 16 28 12 11

Company fax: +32 16 28 94 00

Website: http://www2.imec.be/be_en/about-imec.html

Contact Person: Philip Pieters

Email: Philip.Pieters@imec.be

Powering a sustainable world

Imec focuses on improving key technologies to make future energy use sustainable

Solar Energy

- Imec improves the state-of-the-art efficiency and manufacturability of silicon solar cells, organic solar cells, high-efficiency III/V solar cells, ...

Switching Energy

- Imec is developing components for power electronic systems (ea. power transistors). The technology choice is GaN-on-Si

Storing Energy

- In the field of energy storage, imec is looking for new solutions for highly efficient supercapacitors and batteries.

Saving Energy

- Imec is developing GaN hogh-brightness LEDs, contributing to increasing lighting efficiency and reducing the use of energy.

1.64 IPS International Power Supply

Postal address BIC IZOT, Building 3, Floor 3

133, Tsarigradsko Shose Blvd

1784 Sofia

Bulgaria

Tel: +359 (2) 971 81 60

+359 (2) 874 91 58

Fax: +359 (2) 874 91 58

Website: http://www.ips-group.net/en

International Power Supply (IPS) is the new vision of the well-established 2-Trifonov & Co. This is a private company incorporated in 1989 by highly qualified radio-electronics specialists.

International Power Supply Ltd is 100% subsidiary of 2-Trifonov & Co GP, which itself is a part of 2C Group.

Principal activity of 2-Trifonov & Co GP is design, development and manufacturing of power supply systems.

Principal activity of International Power Supply Ltd is marketing, advertising and sale of the products of 2-Trifonov & Co GP as well as other support activities.

The Company has an integrated quality management system ISO 9001:2008 and a system certified by the Ministry of Defence of Republic of Bulgaria for compliance with the Allied Publication of NATO about quality assurance requirements for design, development and production – AQAP 2110.

The transformation and incorporation of International Power Supply (IPS) resulted from the western funds attracted and the successfully realized new innovation projects over the last 2 years as well as the need of an appropriate vision and working manner for a successful realisation on the European and the other export markets.

Upon this original “reincarnation” we believe and we are deeply convinced that we will continue successfully our expansive development, a proof of which are the high evaluation we receive from our long-standing Clients as well as the recognition we received from international institutions and organizations, such as NATO and UN.

1.65 Isofoton

C/Severo Ochoa,

5 Parque Tecnológico de Andalucía

29590 Campanillas (Málaga)

Spain

Website: http://www.isofoton.de.com/sonnenenergie/uber-uns/

Isofoton, a European pioneer in the field of solar energy technology, has worked since 1981 in the areas of design, manufacture and sales of solar energy solutions and has thus contribute to sustainable development. The focus is on photovoltaics. In addition, it also provides thermal and concentrated photovoltaics, a technology in which it is Inernational leader.

Isofoton 2008 was the first time, the market leader in Spain, belongs to the top in Europe and is present in more than 60 countries.

2008 30% of production went abroad. It has branches in addition to Italy, the United States, Bolivia, Ecuador, the Dominican Republic, Algeria, Morocco, Senegal and China and a trade delegation in Germany.

Since its founding nearly 30 years ago Isofoton is a pioneer in solar energy research. Experience, quality, innovation and global vision are the conditions for the leadership of the company.

1.66 Isovoltaic AG

Isovoltastraße 1

8403 Lebring

Austria

Tel. +43 / 5 9191-0

Fax +43 / 5 9191 / 9900

Website: http://www.isovoltaic.com/

ISOVOLTAIC is an innovative young company that can already look back on a long and successful history. It is the global market and technology leader in the development and production of backsheets for photovoltaic modules.

Solar energy is one of the most important sources of energy for the future. It has the greatest future potential of all the renewable energies. Solar cells require effective protection against environmental influences so that they can convert sunlight into energy for a long time. ICOSOLAR® backsheets by ISOVOLTAIC meet this requirement. They provide long-term protection for solar cells against mechanical and chemical influences and the effects of the weather and they reliably ensure that sunlight can be efficiently converted into usable energy. They are extremely tough and durable, having already demonstrated their longevity many times in practical use.

ISOVOLTAIC, with its company headquarters in Lebring/Austria, took over the photovoltaics business segment of the Isovolta Group in 2010. The Isovolta Group had already begun work on the development of high-quality composite protective sheets for photovoltaic modules in 1985. Due to this early commitment to the field of photovoltaics, ISOVOLTAIC now has access to a wealth of rich experience, special technical application laboratories, specialised production sites and an established network of suppliers and partners which enable it to continue the expansion of its activities in the growing global market for photovoltaics.

With the ISOSOLAR® backsheets, which have now been established for 25 years, and new pioneering film technologies, ISOVOLTAIC will continue its strategy of market and customer orientation to establish photovoltaics as a competitive alternative to energy production in the future.

1.67 Jülich Forschungszentrum - Institute of Energy Research (IEF)

Wilhelm-Johnen-Straße

52428 Jülich

Tel: +49 (0)2461 61-0

Fax: +49 (0)2461 61-8100

Website: http://www.fz-juelich.de/portal/index.php?index=1120

With a staff of approximately 100 IEF-3 is oriented to the basic topic of electrochemistry and process engineering for fuel cells. In the sense of an integrated approach the four main activities, i.e. direct-methanol fuel cells, high-temperature polymer electrolyte fuel cells, solid oxid fuel cells and fuel processing systems, are accompanied by systematic studies, fundamental modelling and simulation as well as experimental and theoretical system evaluation. The findings obtained in these areas are used for the design of functional systems and their verification. In addition, particular attention is given to the development, setup and application of special methods of measurement for the structural analysis of membrane electrode assemblies, for flow simulation and visualization and for the characterization of stacks.

1.68 Krannich Solar GmbH & Co. KG

Heimsheimer Straße 65/1

D-71263 Weil der Stadt / Hausen

Tel.: +49 (0)7033 3042-0

Fax: +49 (0)7033 3042-222

Website: http://cms.krannich-solar.com/de/english

Cultivating solar energy is a responsible and inno- vative task for Krannich. We have been planning, consulting and producing powerful photovoltaic systems for our commercial and energy supply partners for over ten years.

1.69 Leibniz Institute for Crystal Growth (IKZ)

Max-Born-Str. 2

D-12489 Berlin

Germany

Telefon: +49 30 6392 3001

Fax: +49 30 6392 3003

Website: http://www.ikz-berlin.de/index.php

The work of the Leibniz Institute for Crystal Growth (IKZ) is devoted to the growth of crystalline materials from basic research up to technological realization.

- Foundation in 1992, following a recommendation of the "Wissenschaftsrat" of the Federal Republic of Germany
- Roots go back to the expertise of coworkers from institutes of the former Academy of Sciences of the GDR, especially the "Centre for Construction of Scientific Equipment", the Central Institutes of Optics and Spectroscopy and of Electron

Physics, and from the former Crystallography Department of the Humboldt University of Berlin

- The mission of the Institute is to perform basic and applied research in the fields of growth, characterization and processing of crystalline matter and to fulfil service tasks for partners and customers in industry and science.
- Main tasks of the Institute are
    - growth of crystals with dimensions between decimeters and nanometers
    - and development of growth and processing technologies
    - characterization of crystals and development of methods for characterizing them
    - design and construction of components for growth, processing and characterization facilities

1.70 Lenze SE

Hans-Lenze-Str. 1

D-31855 Aerzen

Telefon ++49 (0)5154 / 82-0

Telefax ++49 (0)5154 / 82-2800

Website: http://www.lenze.com/lenze.com_en_active/Com_lenze.com.jsp

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Lenze is one of the most innovative companies in Germany and employs approximately 3,000 staff throughout the world. Around 300 of these are employed in research and development, working on products, solutions, systems and services for mechanical and electronic drives as well as complete automation systems.

Company profile

Since we are world-wide specialists in drive and automation technology, we understand our customers' needs in solving their problems. We use our know-how to develop the best total solution jointly with our customers. Everything is done to identify and exploit the customer's existing potential for value creation.

During the financial year 2009/2010 (1st May to 30th April), the turnover at Lenze was €417 million. The company's head office is at Hamelin in Germany where the company was founded by Hans Lenze in 1947. Our largest sites are located at Extertal (Germany), Asten (Austria), Shanghai (China) and Uxbridge (USA). By locating our own companies and sales and service partners in more than 60 countries, we are right there - where our customers need us!

Lenze is a public limited company under European law (SE = Societas Europaea). At the same time, the company structure is such that it operates in the spirit of a family business. The mutual esteem among the staff is tangible, as is their high level of commitment.

1.71 Limón GmbH

Große Rosenstraße 21

D-34117 Kassel

Fon +49 (561) 220 704 0

Fax +49 (561) 220 704 99

Website: http://www.limon-gmbh.de/index.php?id=2&L=1

Limón is a spin-off of the department "Umweltgerechte Produkte und Prozesse" (sustainable products and processes) of University Kassel and transforms innovations explored and developed by the University into products and services for companies.

Our close and long-standing cooperation with the department "Umweltgerechte Produkte und Prozesse" has been paving the way for adopting new approaches while putting your plans into practice.

1.72 Masdar PV GmbH

Wolff-Knippenberg-Str. 4

99334 Ichtershausen

Telefon: +49 (0) 3628 58 68 0

Fax: +49 (0) 3628 58 68 150

Website: http://www.masdarpv.com/index.php?id=1&L=1

The sun provides more energy in three hours than the human race currently uses in a whole year – and it does so completely free of charge. We have set ourselves the goal of making this enormous potential available to mankind, and in so doing we will help solve future energy problems.

To achieve this, we'll be developing and manufacturing PV modules able to perform optimally under a variety of environmental conditions and which, in harmony with all the other components of a solar power plant, will be able to convert the sun's energy into electricity as cheaply as possible.

We see ourselves as having a responsibility to make a contribution to the conservation and rational use of our valuable and limited available resources. For it is our generation, which must take the necessary steps to point the way forward and shape the future of our planet. We believe that includes expanding the use of renewable energies, developing sophisticated technologies, increasing the productive efficiency of thin layer-based PV modules and playing a role in the solving of problems related to climate change.

1.73 maxbiogas GmbH

Alte Dorfstraße 14a

D-16348 Marienwerder

phone: +49 (0)30 / 30108873

fax: +49 (0)30 / 30201729

Website: http://www.maxbiogas.com/index_en.html

The efficiency of biogas plants using renewable resources (NAWARO) is severely limited by the lignin contained in the plants. The presence of lignin is the reason why only 40% of the NAWARO fed to a biogas plant is converted to flammable gases. This percentage varies depending on the substrate used. Maxbiogas solves this problem.

The maxbiogas process describes the chemical separation of the contained lignin from the plant substrates by the available waste heat. This enhances the efficiency of biogas plants by up to 100%. Additionally the kinds of substrate usable by the biogas plant can be enhanced with wood and wood-like substrates by the maxbiogas process. All plant residues such as leaves, straw, and forest wood residues can be used.

It is our goal to equip existing and new biogas plants with a self-contained module, the so-called LX-plant (lignin extraction plant). Biogas as a renewable energy resource will then be more profitable than the fossil fuels crude oil or natural gas.

1.74 Mecasolar

Pol. Ind. Santos Justo y Pastor, s/n,

31510 Fustiñana

Navarra

Spain

Phone: (+34) 902 107 049

(+34) 948 840 993

Fax: (+34) 902 108 402

(+34) 948 840 702

Website: http://www.mecasolar.com/_bin/presentacion.php?lengua=ingl&bandera=uk

MECASOLAR is a company devoted to the design, manufacture and distribution of 2-axis trackers, 1-axis azimuth Seasonal trackers, and fixed structures and the MECASCREW universal foundation screw using the latest technology.

Dual-axis solar trackers, enable photovoltaic solar energy production to be increased by more than 35% with respect to fixed installations.

On the other hand, seasonal single-axis azimuth trackers increase production by 5% more than the traditional single-axis trackers, and 28% more than a fixed installation.

MECASOLAR fixed structures are the most robust and flexible on the market.

All trackers designed and manufactured by MECASOLAR offer a 10 guarantee on parts and workmanship. The MECASCREW universal screw has a 25-year GUARANTEE.

Mecasolar is a company with a clear commitment to customer service. Aiming to meet the diverse requirements our customers may pose , we offer a series of complementary services for all tracker sales:

- Turnkey projects and engineering services with the corresponding endorsement by the College of Engineering.
- Support and management for everything related to the construction project execution, with our entire Engineering Department at your disposal.
- Adapting to project management needs as required by the client, We schedule tracker and fixed delivery structures to our customers in a timely fashion and fully manage and coordinate the logistics.
- Adapting to your power needs for photovoltaic panels, and invertors. Additionally, we can install the inverter and the fixed structures at the clients' request.
- Yearly electrochemical corrective and Preventive Maintenance on the trackers and fixed structures on the timeframe and frequency defined by the client.

1.75 Mola Solar Systems GmbH

Stapeltor 8

47051 Duisburg

Deutschland

Tel.: +49(0)203-75 99 98-0

Fax: +49(0)203-75-99-98-11

Website: http://www.mola-solar-systems.com/en/about-us/philosophy.html

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The Mola Solar Systems GmbH in the field of renewable energies. We are present worldwide and cooperate with companies that are domiciled in the respective countries. In this way, we bring together supply and demand quickly and are problem solvers by making up for market shortages.

Our portfolio includes photovoltaics, solar thermal, wind power, biomass, hydropower, environmental technology and services. We offer our customers both the design and construction of complete plants, and the delivery of components.

We are happy to support your entire project, from consulting and planning through to the acceptance of the system. We advise you as required, to financial issues such as obtaining credit.

If you already have a plant, you're welcome to entrust the maintenance, repair or cleaning.

1.76 Moxa Europe GmbH

Einsteinstrasse 7

85716 Unterschleissheim

Germany

Website: http://www.moxa.com/about/Company_Profile.htm

For over twenty years, industrial systems integrators have relied on Moxa products in major device networking installations all over the world. Working with a network of certified distributors, Moxa offers world-class industrial networking products to systems integrators and value-added resellers in over 60 countries. Clients place great trust in Moxa's business and environmental practices, which are backed by ISO 9001:2000 and ISO 14001 certification. Moxa was established in 1987 and has offices in Europe, the United States, China, and Taiwan.

1.77 MWM GmbH

Carl-Benz-Strasse 1

D-68167 Mannheim

Telefon: +49 (0) 621-384-0

Telefax: +49 (0) 621-384-88 00

Website: http://www.mwm.net/modules/unternehmen/index2.php

MWM GmbH is one of the world's leading suppliers of highly efficient and environmentally friendly systems for energy production. The company, based in Mannheim in Germany, can drawn on over 135 years' experience in the development and optimisation of combustion engines for natural gas, special gases and diesel. With its understanding of the added value chain, its engineering expertise and its innovative ideas, MWM is a dependable partner who can develop and manufacture customised solutions for individual requirements.

With over 1,100 employees across 11 subsidiary companies worldwide, the company has focused on ecologically progressive solutions for producing "clean energy".

To this end, cutting-edge, high-performance products, services and technologies are being developed for decentralised energy supply using gas and diesel engines.

MWM is active in four market sectors: in the cogeneration sector, natural gas is used for energy production and MWM is able to provide optimum solutions for individual applications with its gas engine systems. The rapidly growing special gas sector includes biogases and flammable gases emitted during industrial or mining applications or in the extraction of raw materials. The greenhouse segment covers systems for heating and supplying energy for greenhouses as well as the simultaneous fertilisation of the plants using the filtered waste gas. Diesel engines continue to complement the gas engine systems.

We provide worldwide customer service for the installation, servicing and maintenance of systems. We also offer courses in our very own training centre.

1.78 National Renewable Energy Centre (CENER)

Ciudad de la Innovación, nº 7

31621 Sarriguren (Navarra)

Spain

Tel.: + 34 948 25 28 00

Fax: + 34 948 27 07 74

Website: http://www.cener.com/en/index.asp

The National Renewable Energy Centre (CENER) is a technology centre specialised in applied research, and the development and promotion of renewable energies. It is highly rated and has acknowledged national and international prestige.

This is a Foundation that began its activity in 2002 and whose Board of Trustees is comprised of the Ministry of Industry, the Ministry of Science and Innovation, Ciemat (Research Centre for Energy, Environment and Technology), and the Government of Navarra.

It currently provides services and performs research work in 6 areas in the field of renewable energies:

- Wind Energy
- Solar Thermal Energy
- Photovoltaic Solar Energy
- Biomass Energy
- Bioclimatic Architecture
- Renewable Energy Grid Integration

CENER has a cutting-edge technological infrastructure, with the most modern laboratories and facilities in Europe. In the case of the Wind Turbine Test Laboratory, located in Sangüesa (Navarra), it is the only infrastructure of this kind in the world.

It has a staff of almost 200 highly qualified professionals who make this centre a reference both inside and outside our country. It provides professional services to a considerable group of institutions and companies related in one way or another to the energy business, as well as South American, European and Spanish regional governments.

The CENER headquarters are located in the City of Innovation, in Sarriguren (Navarra / Spain), although it has facilities and offices in other locations such as Sangüesa (Navarra) and Madrid.

1.79 NEXT ENERGY EWE-Forschungszentrum für Energietechnologie e. V.

Carl-von-Ossietzky-Straße 15

26129 Oldenburg

Germany

Tel.: +49 441 99906-0

Fax: +49 441 99906-109

Website: http://www.next-energy.de/en/institute/institute_management/index.html

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NEXT ENERGY develops solutions for the energy supply of the future. This involves conducting extensive research in conjunction with industry players which focuses on three technological areas: photovoltaics, fuel cells and energy storage facilities. We do application-oriented and interdisciplinary work ranging from materials research to systems development.

1.80 Norwegian University of Science and Technology Trondheim

O. S. Bragstads plass 2E

7034 Trondheim

Norway

Tel.: +47 73 59 42 10

Fax: +47 73 59 42 79

Website: http://www.ntnu.edu/elkraft/english

NOWITECH

- The objective of NOWITECH is pre-competitive research laying a foundation for industrial value creation and cost-effective offshore wind farms. Emphasis is on “deep-sea” (+30 m) including bottom-fixed and floating wind turbines.

Bølgekraft SEEWEC

- Development of the 2nd generation FO3 wave energy converter through monitoring og the 1:3 scale laboratory rig and the full scale first generation device

Wind Power Laboratory

- The main challenge is to make the new wind turbines compete head to head on a cost of energy basis with conventional energy sources

The EPE- Wind Energy Chapter

- The Wind Energy Chapeter's goal is to promote the electro-technical parts of: Wind turbines, Wind farms and Interconnection with the grid
- Technologies for Reliable Distributed Generation of Electrical Power from Renewable Energy Sources

1.81 OPDE

Pol. Ind. Santos Justo y Pastor, s/n

31510 Fustiñana, Navarra

Spain

Tel : (+34) 902 106 264

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(+34) 948 840 702

Website: www.opde.net

OPDE is a company with a mission focused on the Development of Solar Photovoltaic Plants. To do so OPDE brings together several investors who are interested in investing in the production of solar photovoltaic energy connected to the grid and groups them together into the same Solar Plant. Our functions include capturing and bringing together various investors, development and contracting the engineering and turnkey project, requesting of grants from IDAE, ICO and the Regional Government, registration of the facility with the Dept. of Industry, formalisation of the contract with the electricity company and the start up of the facility. OPDE is responsible for contracting the minimum maintenance required by the Photovoltaic Solar Plant. And formalizing a global insurance policy that covers any damage carried out to the investment. OPDE is also responsible for the physical monitoring and remote surveillance with security cameras.

1.82 Phoenix Solar AG

Hirschbergstr. 8

85254 Sulzemoos

Phone (08135) 938-000

Fax (08135) 938-099

Website: www.phoenixsolar.de

Phoenix Solar AG is a leading international photovoltaic systems integrator. The company plans, builds and operates large photovoltaic plants and is a specialist wholesaler for complete power plants, solar modules and accessories.

1.83 Photon Energy

Uruguayská 17

120 00 Prague 2

Czech Republic

Tel.: +420 277 002 910

Fax: +420 277 002 911

Website: http://www.photonenergy.com/

Contact Person: Jirí Mazánek

Email: jm@photonengineering.eu

PV cell is a junction of p-type and n-type layers made of semiconducting materials (crystalline silicon and amorphous silicon are the most common), so that the p-type layer attracts negative charge and the n-type layer attracts positive charge. Sunlight is composed of photons containing energy that correspond to different wavelengths of light. When the photons strike the layers, their energy is transferred to an electron in the semiconductor material of the cell. With this energy, the electron is able to escape from its atom and become part of a current in the electrical circuit that is built into the cell.

Several types of PV technologies exist and are generally classified as crystalline silicon and thin film. Crystalline silicon is 1st generation PV technology while thin film is considered 2nd generation. Crystalline silicon technologies require relatively large amounts of purified crystallised silicon and are currently more efficient at converting light into electricity but are more complicated to manufacture. Thin film technologies such as amorphous silicon, CIGS or CdTE are currently less efficient but have more scalable manufacturing processes and use less expensive raw materials, plus thin film can be manufactured on continuous flow production lines with low cost mass production.crystalline silicon thin film

A more advanced thin film technology, amorphous silicon micromorphous, has a second junction layer sensitive to the infrared light spectrum which improves performance in diffused light, like on cloudy or hazy days, and makes it particularly applicable to parts of the world like Central Europe.

1.84 ProCom GmbH

Luisenstraße 41

D-52070 Aachen

Tel. +49 241 51804-0

Fax +49 241 51804-30

Website: http://www.procom.de/procom-energierzeugung-energiehandel.html?&L=2

- ProCom is the specialist in planning and optimising energy production and trading.
- ProCom solutions create clarity.
- ProCom customers make the right decisions quickly, confidently and reliably, today and in future.
- ProCom consultants passionately commit to constantly improving their customers processes.
- ProCom solutions are based on BoFiT, the IT platform for integrative processes in energy production and trade.

1.85 ProLeiT AG

Einsteinstr. 8

91074 Herzogenaurach

Deutschland

Tel: +49 9132 777 0

Fax: +49 9132 777 150

Website: http://www.proleit.com/ag/main/home/

When we speak of process control engineering, of plant operations and production processes or even of automating industrial plants, we see far more than just the technical aspects of these tasks. It is our enthusiasm and commitment that carries our work further, the passion with wich we approach each task: - to offer you solutions which are intelligent and future-proof. These optimise your production processes and help you to survive successfully in competition.

We will accompany you, from giving the first consultation until implementing a project, with all our knowledge and years of experience, with own system developments and comprehensive integration services.

But most of all with the frankness and trust needed to develop our cooperation equally for both sides in terms of solidity and profitability.

1.86 PV Crystalox Solar GmbH

Wilhelm-Wolff-Strasse 25

D-99099 Erfurt

Germany

Tel +49 (0)3 61-6 00 85 900

Website: http://www.pvcrystalox.com/ImmensePotential.html

With 25 years in solar technology development, PV Crystalox Solar is a leading manufacturer of multicrystalline silicon ingots and wafers, the key component in solar power systems.

Its customers, the world's leading solar cell producers, combine these wafers into solar modules to harness the clean, silent and renewable power from the sun.

PV Crystalox Solar is playing a central role in making solar cost competitive with conventional hydrocarbon power generation, and as such continues to seek to drive down the cost of production whilst increasing solar cell efficiency. The gap between the cost of solar power production and utility energy is decreasing year on year.

With a long history of production with high growth and profitability, PV Crystalox Solar is well placed to benefit greatly from the rapid growth in the solar energy market.

1.87 PV5 Solarconcept GmbH

Saaläckerstr. 2

63801 Kleinostheim

Tel. 06027 - 40971-0

Fax 06027 - 40971-11

Website: http://www.pv5.de/qcms/seiten/de/a_3-Willkommen-bei-PV5-Solarconcept-.htm

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For over 10 years PV5 a strong partner for trade and commerce.

High-quality systems ensure lasting satisfaction with our Trade customers, as well as with their customers. We call Quality at competitive prices. This approach rely on more than 700 clients in trade and commerce. Both in Germany and at our Sites in Spain and Italy.

1.88 Q-Cells SE

OT Thalheim

Sonnenallee 17 - 21

06766 Bitterfeld-Wolfen

Deutschland

TEL +49 (0)3494 6699-0

FAX +49 (0)3494 6699-199

Website: http://www.q-cells.com/en/home/index.html

Contact Person: Sabine Wolff

Email: info@q-cellsse.com

Since Q-Cells SE was established in 1999, it has grown into one of the largest solar cell manufacturers in the world. And now we are turning it into a photovoltaic company spanning the globe. Alongside our activities in various thin-film technologies, we use our expertise in manufacturing solar cells to make powerful crystalline modules. We are building up our project business with Q-Cells International and supplying industrial customers with green electricity through Q-Cells Clean Sourcing. In a nutshell, we are developing photovoltaics as a sustainable, green technology.

1.89 RefuSol GmbH

Uracher Straße 91

72555 Metzingen

Germany

Tel.: +49 (0)7123–969 0

Fax: +49 (0)7123–969 165

Website: http://www.refusol.net/index.php?id=24&L=1

RefuSol GmbH is a world-leading manufacturer of photovoltaic inverters and is renowned around the world for its technical superiority. With a peak efficiency of 98.2%, REFUSOL

inverters are amongst the most efficient and innovative devices on the market. This has been confirmed year-after-year and recently in a re-testing and ranking by the leading technical journal Photon Magazine where RefuSol again placed in the top two positions.

The high-quality product range comprises string and central inverters with an output range from 4kW to 1.3MW. REFUSOL inverters are deployed in large numbers the world over to provide peak energy yields – from small roof-top installations to large solar power plants. The product range is rounded off by the innovative solar plant monitoring web portal - REFULOG. Here, all important operating parameters of the solar plant are visualized and comprehensive analysis options are available.

RefuSol GmbH is headquartered in the city of Metzingen, in southern Germany and employs 120 people in the area. RefuSol is a global player with subsidiaries in the USA and Korea, as well as partners and offices in all important PV markets around the world.

1.90 Renewable Energy Systems Ltd

Beaufort Court

Egg Farm Lane

Kings Langley

Hertfordshire

WD4 8LR

UK & Ireland

Tel : +44 (0)1923 299 200

Fax : +44 (0)1923 299 299

Website: http://www.res-group.com/

RES has been an established presence at the forefront of the wind energy industry for over two decades. Our core activity is the development, design, construction, financing and operation of wind farm projects worldwide. With a portfolio of more than 5GW constructed and several thousand megawatts under construction and in development, RES continues to play a leading role in what is now the world's fastest growing energy sector.

RES is also an independent power producer. We own and operate a growing portfolio of wind farms around the world, currently totaling over 700MW.

RES offers the installation of solar plants utilising either Photovoltaic power (PV) or Concentrated Solar Power (CSP) in America and the Mediterranean region. We have the know-how, the resources and the project management capabilities needed to develop, construct and operate solar fields for large scale power generation connected to the grid.

RES has recently embarked on its first large-scale biomass power station developments. The 100MW project in Blyth, Northumberland, and 100/150MW Alexandra Dock project in Liverpool will generate green electricity for homes and businesses, provide 'green collar' jobs and contribute to the regeneration of the area.

RES is involved in the offshore wind, wave and tidal sector. RES Offshore offers integrated development, engineering, construction and O&M services for utility-scale renewable energy projects.

1.91 Roth & Rau AG

An der Baumschule 6-8

09337 Hohenstein-Ernstthal

Germany Fon: +49 (0) 37 23 / 66 85-0

Fax: +49 (0) 37 23 / 66 85-100

Website: http://www.roth-rau.de/php_en_n/index.php?haupt=willkommen&db=mysql&statum=

The core competence of Roth & Rau consists in the area of creation and utilization of plasmas for the coating, structuring or modification of surfaces where the systems engineering and the process know-how are continuously further developed in the own technology center as well as in close cooperation with national and international research institutions. The performance extent of Roth & Rau spans from the development of process and systems engineering via design, assembly, method-related software development up to the commissioning of the plants and the comprehensive customer care. The delivery program comprises components and process plants for the plasma technology that are used in various industrial sectors such as photovoltaics, semiconductor industry, optics, medical engineering or automobile supply industry.

1.92 Rübsamen & Herr Elektrobau GmbH

Am Scheid 4

57290 - Neunkirchen, Siegerland

Telefon: +49 2735 / 77 27 - 4

Telefax: +49 2735 / 77 27 - 67

Website: http://www.ruebsamen-und-herr.com/our_company.html

Both divisions Enclosure Air Conditioning and Construction of Electrical Controls offer customer-oriented solutions through planning, production, supply and marketing. Among the customers are the engineering industry, motor and foodstuffs industries, manufacturers of controls and enclosures and the information technology industry in Germany, in most European countries as well as in North America and Australia. Closeness to customers is achieved by presentations at special exhibitions as well as by our sales representatives and distributors who look after our customers needs on the spot.

1.93 RUSOL GmbH & Co. KG

Am Bahnhof 5-7 | 97990 Weikersheim

Tel. +49 (0) 7934 9940-0

Fax. +49 (0) 7934 9940-99

Website: http://www.rusol.com/index.php?id=16&L=1

The Rusol GmbH & Co. KG is a pan-european distributor of high-quality photovoltaic solutions. The company located in Weikersheim / Germany was founded in 2003 and is operating as a sole subsidiary of the Rutronik GmbH (www.rutronik.com). Our product range includes high-end photovoltaic panels, inverters, mounting systems and accessories. We place emphasis on direct distribution agreements with well-known manufacturers of the solar industry and distribute only certified quality products. Consulting services such as technical and commercial guidance complete our business activities.

1.94 RUTRONIK Elektronische Bauelemente GmbH

Justus - von - Liebig - Straße 7

12489 Berlin

Deutschland

Tel. +49 (0) 30 / 8092716-0

Fax +49 (0) 30 / 8092716-16

Website: http://www.rutronik.com/company.html

As we all know, globalization is making the world ever smaller. By contrast, the challenges facing a business operating on the international stage are growing steadily. We have been meeting those ever-changing challenges with great success for over 35 years. Much has changed since our business was founded: Entirely new applications such as LED lighting, renewable energy and Smart Metering play a key role in electronic component distribution.

Rutronik has changed as the market has changed; from a oneman business into the third-largest distributor in Europe, with a workforce of over 1,200 people. And we are continuing to grow. We now offer our customers not only components, but also tailored solutions, logistics concepts and technical support – in Europe and worldwide.

1.95 S-Power

Industriestraße 24 - 27

49716 Meppen

Germany

Phone: +49 (0) 5931 - 88 3 88 0

Fax: +49 (0) 5931 - 88 3 88 991 - 88 3 88 99

Website: http://www.s-power.de/Home.64.0.html?L=1

S-Power is an international trading company in the thermal solar sector that has the aim of making the developed technologies in the field of vacuum tubes accessible to a broad public worldwide. S-Power focuses exclusively on the field of vacuum tube technology.

The guiding principle of our company is to deliver sustainable concepts for energy supply at economically interesting conditions using ultra-modern solar thermal components and system solutions.

What drives us every day is to make a positive contribution to environmental and climate protection with our products and solutions.

S-Power offers solar retail companies qualitatively high value vacuum tube collectors and solar heating systems. S-Power develops the vacuum tube collectors exclusively in Germany.

1.96 SANYO Component Europe GmbH

Solar Division

Stahlgruberring 4

81829 München

Phone:+49 (0)89 46 00 95 - 0

Fax: +49 (0)89 46 00 95 -170

Website: http://www.sanyo-solar.eu/en/photovoltaics/

Sanyo Solar is one of the most important international solar companies. For more than 30 years we have been setting standards for the development of new, innovative und high performance photovoltaic products. Because Sanyo has focused on renewable energies technologies, we are significantly contributing to ensuring that the rising worldwide demand for energy can continue to be met in the future.

1.97 SAT CONTROL d.o.o.

Poženik 10

SI-4207 Cerklje

Slovenia

Tel: +386 (4) 281 62 00

Fax: + 386 (4) 281 62 13

Website: http://www.solar-motors.com/gb/

We have over ten years of experience in the field of satellite-reception technology. During this time we have manufactured more than 700,000 motors for the rotation of satellite dishes, including the electronic components required to direct the dishes at a selected satellite. New products, such as solar motors, small BLDC motors with reducers and printed circuits, are a natural development based on our previous successes.

Our experience in the field of planning, development, maintenance of products and customer support continues to grow. For all the products listed above we can produce the printed circuits and CNC-turned components, which we offer to our customers.

Currently, our products are exported to 60 countries. Development-oriented products under the SAT CONTROL trademark are the basis for our expansion into new markets.

Customer satisfaction is of key importance to us. We endeavour to develop partner relations with our customers in order to provide efficient solutions tailored to their requirements, and to exceed the expected results.

We have been striving to attain ever-better quality, and have begun to introduce the ISO9001 system. We are confident that we will continue to improve in the future.

1.98 Scheuten Solar

Van Heemskerckweg 30

NL-5928 LL Venlo

Netherlands

Telefon: +31 (0)77 3247599

Fax: +31 (0)77 3247598

Website: http://www.scheutensolar.com/

Scheuten Solar specializes in the manufacture of solar panels and building-integrated (BIPV) solutions. In addition, we have all the know-how required for the development and implementation of turnkey PV projects. Our specialists work throughout the world on high-quality total solutions. Our production lines are located in Germany and the Netherlands. Besides these we have sales offices in Europe and the United States.

Scheuten Solar forms part of the Scheuten group, an international firm with in excess of 2,000 employees working on total solutions in glass and solar energy systems. Scheuten stands for energy, sustainability, growth and life. In 2010 the Scheuten group achieved a turnover of more than € 500 million.

1.99 Schiller Automation GmbH & Co. KG

Pfullinger Straße 58

D-72820 Sonnenbühl-Genkingen

Telefon +49 (0)7128-386-0

Telefax +49 (0)7128-386-199

Website: http://www.schiller-automation.info/index.php?id=36&L=1

Our continuously acquired know-how is currently applied to two market segments. Thus, SCHILLER AUTOMATION GmbH & Co. KG is, today, the leading provider of production systems for manufacturing and handling for:

- Microelectronic subassemblies, including automotive applications
- Photovoltaic products, including cell manufacturing, handling of thin-film substrates and module manufacturing

Moreover SCHILLER AUTOMATION has expert know-how in following fields: Semiconductor, Flat panel displays, Data storage products and Smart card modules.

Our particular strength lies in looking the task at hand in its totality: from project planning including the selection of the most suitable processing machines; through the

design, manufacture, and commissioning of the equipment; right up to production consultation for a trouble-free series production startup by the customer. Equipment supplied by SCHILLER AUTOMATION is backed up for decades by our own After Sales Service Department.

We are a family owned and operated company and are therefore not forced to bow to short-term capital market trends.

Thus, customer relationships lasting many years represent the core of our business.

1.100 Schmid GmbH + Co.

Robert-Bosch-Str. 32–34

D-72250 Freudenstadt

Tel.: +49 7441-538-0

Johann-Liesenberger-Str. 7

D-78078 Niedereschach

Tel.: +49 7728-9260-0

Robert-Bosch-Str. 3-5

D-68723 Schwetzingen

Tel.: +49 6202-859470-110

Website: http://www.schmid-group.com/en/home.html

Schmid has made a name for themselves worldwide as the technology leader in the photovoltaic, printed circuit board and flat panel display sectors. We are the only company of this branch to offer not only innovative single solutions, but also the planning, development and realisation of turnkey systems.

1.101 Schneider Electric Germany

Gothaer Strasse 29

D-40880 Ratingen

Germany

Phone: +49 210 240 40

Fax: +49 210 240 49256

Website: http://www.schneider-electric.com/sites/corporate/en/home.page

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Combining leading edge new businesses- building automation and security, installation systems and control, power monitoring and control, critical power and cooling services- to our historical strengths of power and control, we provide you with comprehensive

unique answers for residential, building, energy and infrastructure and data and networks markets.

We have developed a unique worldwide capability to provide these solutions and transform the way people power & control their environment.

Our solutions help customers reduce costs, stay connected at all times and tap into an ultra pure, secure and uninterrupted power supply.

1.102 SCHOTT Solar AG

Carl-Zeiss-Str. 4

63755 Alzenau

Germany

Tel.: +49 (0)6023/91-1712

Fax: +49 (0)6023/91-1700

Website: http://www.schottsolar.com/de/

SCHOTT Solar has 52 years experience in solar technology. The company develops, manufactures and markets highly efficient receiver, one of the key components for solar power plants with parabolic trough technology, as well as innovative and high quality photovoltaic products. With crystalline solar wafers, solar cells, solar modules and a-Si thin-film modules from SCHOTT Solar covers key elements of the value chain of photovoltaic power generation.

SCHOTT Solar sees itself as a market and technology leader for receivers for solar power plants with parabolic trough technology and in the light of their long-standing research and development competencies in the field of crystalline photovoltaic's as well as in the thin-film technology as one of the pioneering, integrated quality supplier of photovoltaic products.

Division Concentrated Solar Power (CSP):

Developed in the business Concentrated Solar Power SCHOTT Solar manufactures and markets highly efficient receiver, the key component in the solar field of solar power plants with parabolic trough technology. The manufacture of the receiver is currently at the sites Mitterteich, Aznalcóllar (Spain) and Albuquerque (NM, U.S.).

Business Photovoltaic's (PVs):

Developed in the Photovoltaic's Division manufactures and markets SCHOTT Solar photovoltaic innovative and high quality products with which the company covers more than crystalline solar wafers, solar cells, solar modules and a-Si thin film solar modules core components of the value chain of photovoltaic power generation. The manufactures of photovoltaic products are currently at the sites Alzenau, Jena, Putzbrunn Valašské Mezirící (Czech Republic) and Albuquerque (NM, USA).

1.103 Semco Engineering

625, rue de la Croix Verte

Parc Euromédecine

34196 Montpellier Cedex 5

France

Tel: +33 (0)4 67 61 09 90

Fax: +33 (0)4 67 52 69 63

Website: http://www.semcoeng.com/index.htm#

Semco Engineering is acting on three levels using Irysolar site

to develop and demonstrate in real production situation

prior to install at Solar Cells Manufacturing:

Increasing Cells Efficiency

- Improve existing processes of gettering and passivation

Increasing Equipment Up-time

- Improve Semco Equipment quality and reliability

Lowering Breakage

- Reducing transfer and handling steps in the production line
- Innovative integration approach of enhanced process solutions to in-line cells production

1.104 Siemens AG (Geothermal)

Freyeslebenstrasse 1

91058 Erlangen

Germany

Phone: +49 (0)180 524 70 00

Fax: +49 (0)180 524 24 71

Website: http://www.energy.siemens.com/hq/en/power-generation/renewables/geothermal-energy.htm

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Geothermal energy is the term given to heat stored beneath the upper part of the earth's crust. This heat is permanently available regardless of weather conditions and the time of day. It is an attractive and economical source of energy since it is classified as regenerative and affords emission-free generation of power. Geothermal power plants use the heat stored in the earth to drive a steam turbine generator set. Compared to coal fired power plants, each installed megawatt of geothermal power station capacities can reduce CO2 emissions by around 6,500 tonnes per year. This is why some countries offer subsidies for their construction or for the electrical power from geothermal plants.

Steam turbines for geothermal plants use different technologies to increase the efficiency. Siemens focuses on the ORC technology (Organic Rankine Cycle), which

enables the use of low potential heat. The technology uses an organic, high molecular mass fluid with boiling-point, occurring at a lower temperature than the water-steam phase change. The fact that the working fluid vaporizes at a much lower temperature than in traditional steam-water systems makes the technology extremely suitable for low-temperature applications and enables considerably higher efficiency rates.

1.105 Siemens AG (Wind Power)

Freyeslebenstrasse 1

91058 Erlangen

Germany

Phone: +49 (0)180 524 70 00

Fax: +49 (0)180 524 24 71

Website: http://www.energy.siemens.com/hq/en/power-generation/renewables/wind-power/

Complete wind power solutions for onshore, offshore and service projects

As demand for clean power generation to meet the world's growing energy need increases, Siemens Wind Power has the answers. With highly efficient, robust and reliable wind turbines, Siemens has a demonstrated history in delivering proven solutions to onshore, coastal and offshore sites. Siemens Wind Power's service team is dedicated to keeping the turbines running optimally throughout their entire lifecycle. Siemens also offers integrated solutions and services that meet the demands of the entire wind energy conversion chain.

1.106 Siemens AG (Solar)

Freyeslebenstrasse 1

91058 Erlangen

Germany

Phone: +49 (0)180 524 70 00

Fax: +49 (0)180 524 24 71

Website: http://www.energy.siemens.com/hq/en/power-generation/renewables/solar-power/

Solar power is becoming a key driver in the market for renewable energy. The rapid development of solar energy technology has made solar power a proven alternative to conventional energy systems in recent years, and the market is quickly growing.

Siemens' unique expertise and experience throughout the entire energy conversion chain helps take advantage of the full potential of these technologies and make the most of an investment in solar power.

Siemens is focusing on the two established technologies for the utilization of solar energy:

- State of the art turnkey solutions for large-scale photovoltaic (PV) plants
- Tailor made products and solutions for concentrating solar power (CSP) plants, including solar fields, power blocks, and critical solar power plant components

Siemens' PV and CSP solutions are designed to match customers' individual requirements and the intensity level of solar radiation at a given location, ensuring a clean, sustainable, and affordable supply of solar power.

As the world's only integrated energy infrastructure company covering the entire energy conversion chain, Siemens also supplies consulting and financial services from the outset of a project and, of course, the entire scope of operational support, maintenance, and servicing that ensures maximum profitability throughout the entire life cycle of the solar power plant.

1.107 Siemens AG (Photovoltaic Inverter)

Schweriner Str. 1

33605 Bielefeld

Germany

Tel +49 521 291 436

Website: http://www.automation.siemens.com/mcms/solar-inverter/en/solar-inverters-sinvert/Pages/Default.aspx

Contact Person: Rudolf Kunath

Email: rudolf.kunath@siemens.com

A solar inverter from our SINVERT grid-infeed system is ideally suited for large to medium-sized photovoltaic systems and solar power plants from 10 KVA to MVA .

They enable the economic infeed of solar energy into conventional power grids. Using master/slave combinations, you can implement any size of PV plant, from 60 KVA to outputs in the MVA range – and you'll reap handsome profits from the cost-effective operation of your grid-tied PV system over its entire life-cycle.

1.108 Siemens AG (Building Management)

Wittelsbacherplatz 2

80333 Munich

Germany

Tel: +49 89 636 - 33246

Fax: +49 89 636 - 35292

Website:
http://www.siemens.com/innovation/en/publikationen/publications_pof/pof_fall_2008/gebaeude/vernetzung.htm

Contact Person: Dr. Ulrich Eberl

Email: ulrich.eberl@siemens.com

Centralized management of building systems such as lighting and climate control results in more efficient operation and reduced energy use. Proof is offered by numerous buildings running on Siemens automation systems. Even greater savings would be realized through the implementation of intelligent sensor networks that would connect the dots from smart homes to smart cities.

Siemens researchers at Corporate Technology (CT) in Munich, Germany are looking further ahead. Their motto is "from smart homes to smart cities." On the seventh floor of Building 53 on the Siemens Campus, researchers are examining how processors, sensors, and network connections embedded in everyday items can take on control functions in building technology.

The extent of this research topic becomes more apparent when the smart home becomes part of a larger entity such as a smart neighborhood or even a smart city. In the future, many buildings could be networked with one another and managed by a multitude of distributed IT systems in an energy-efficient manner—which is the vision of the Pervasive Computing Lab. Several decades from now cities will have countless autonomous, intelligently functioning IT systems that will have perfect knowledge of users' habits and energy consumption, and provide optimum service—for example, by bringing renewable energy online as needed.

In this vision, buildings not only communicate with buildings, or local energy generation units with power grids. Traffic signals know about traffic flow in a city as they exchange data and measured values with electric vehicles and simultaneously with electrical recharging stations, which in turn poll local, decentralized energy generators to see how much power they can supply. The goal of such a city is to optimally regulate and control resources by means of autonomous IT systems.

1.109 Siemens AG, Bielefeld GER I IA&DT NORD

Siemens AG, Bielefeld

GER I IA&DT NORD

Schweriner Str. 1

33605 Bielefeld, Germany

Tel +49 521 291 436

Website: http://www.automation.siemens.com/mcms/solar-inverter/en/solar-inverters-sinvert/software/dimensioning-software-sinvert-select/Pages/home.aspx

Contact Person: Rudolf Kunath

Email: rudolf.kunath@siemens.com

Dimensioning Software SINVERT Select

Optimal configuration of solar power plants and photovoltaic (PV) systems

Do you want to configure and dimension a PV system?

SINVERT Select is a dimensioning program for determining the best possible configuration for a PV system with Siemens SINVERT inverters. The program calculates

all the meaningful combinations for most of the PV modules available on the market together with the SINVERT inverters from Siemens, and it helps to evaluate and optimize the calculated combinations in a simple and comprehensible way.

Dimensioning requires only a few inputs, such as location, type of photovoltaic module and plant size. There are two methods of system dimensioning available to you. A user-friendly automatic method or the manual method with which you can dimension with precisely specified inverters. Manual dimensioning is recommended for users who are already experienced in designing PV systems.

1.110 Slovak University of Technology Faculty of Electrical Engineering and Information Technology

Ilkovicova 3

Bratislava

SK-812 19

Slovak Republic

tel: +421/2/60 29 11 11 (exchange)

tel: +421/2/60 29 15 65 (dean´s secretary)

fax: +421/2/65 42 04 15

Website: http://www.fei.stuba.sk/generate_page.php?page_id=3508

Contact Person: Doc. RNDr. Gabriel Juhás

Email: gabriel.juhas@stuba.sk

Preparation and research of dopped ionic conductor LiNbO3 for electrochrom elements or electrolytes for litium – ionic microbateries

Production of new trasparent conductive oxides for photovoltaic and optoelectronic application.

Development and progressive forms utilisation of renewable energy sources in architectural design in Slovakia

1.111 SoftEnergy GmbH

Platz der Freundschaft 1

D-18059 Rostock

Tel.: +49 381 40587-530

Fax: +49 381 40587-555

Website: http://www.softenergy.de/?action=setlanguage&language=en&view=

Contact Person: Elke Stahl

Email: info@softenergy.de

softEnergy GmbH, based in Rostock, Germany, was founded in 2004 by an innovative young team. Our business is the development, distribution, integration and administration of application software for renewable energy systems.

One of the core products of softEnergy is called WIS – Wind energy Information System, a software solution for monitoring and commercial / technical management of wind turbines and wind farms.

1.112 Solar Construct

125 avenue de la Gare

69560 St Romain en Gal

France

tel: 04 74 85 07 07

fax: 04 74 53 08 31

Website: www.solarconstruct.fr

Founded in 2007, SOLAR CONSTRUCT studies and develops aluminum structures for photovoltaic panels.

SOLAR CONSTRUCT also manufactures its own structures of solar panels.

Our company has equipment and qualified installers, this organization allows us to optimize A to Z track a project without going through different providers.

Through our research, SOLAR CONSTRUCT studying your professional study to installation.

The company's reputation was forged in part through major accomplishments such as installing solar panels on the Geoffrey Guichard stadium and the installation of solar panels on the towers of Minguettes in Lyon.

1.113 Solar Frontier Europe GmbH

Bavariafilmplatz 8

82031 Grünwald bei München

Germany

Telefon: +49-89-92 86 142-0

Fax: +49-89-92 86 142-01

Website: http://www.solar-frontier.com/MainMenu/About-Us/1

Solar Frontier's mission is to create the most economical, ecological solar energy solutions on earth--on the world's largest scale. Our proprietary CIS technology (for key ingredients Copper, Indium, and Selenium) combines compelling economics and energy conversion efficiency today--and greater potential for tomorrow--with superior reliability, stability, sustainability, non-toxicity, design, and lower overall energy consumption in the manufacturing process to yield a faster energy payback time. Our newest plant in Miyazaki, Japan, scheduled to commence operations in 2011, will become the world's largest CIS production facility, at 900MW per year, and bring us to gigawatt class production levels, enabling us to meet worldwide demand for a new standard in affordable solar panel performance.

1.114 Solar-Data

Schülerstieg 4a

37081 Göttingen

Telefon: +49 (0) 551 96667

Telefax: +49 (0) 551 95762

Website: http://www.solar-data.de

Contact Person: Dr. Reinhold Kantus, Dr. Johannes Ahlert

Email: info@solar-data.de

Company Solar-Data was founded in 1986. The founders and current manager had at this time already experience with the concept and programming of standard software in the area of construction physics and technical building equipment, so that the company can fall back on more than 20 years of experience with EDP developments and innovations to the efficient contact with energy resources. All together more than 1000 users use worldwide already far the software developed by Solar-Data. The experience from the contact with standard software came so also of the software for special application problems to good. The elementary concept of the environment-conscious contact with raw materials which already came in all standard programs by many planning support calculation and optimization calculation for carrying developed more and more to the center of the activities, so that now a Point of the new developments lies in the area of the energy data analysis and energy optimization (energy management).

1.115 Solare Datensysteme GmbH

Fuhrmannstr. 9

72351 Geislingen-Binsdorf

Tel. 07428 / 9418-200

Fax 07428 / 9418-280

Website: http://www.solar-log.com/?L=1

Specialist for monitoring

Solare Datensysteme GmbH (SDS) is headquartered in the southern German city of Binsdorf and specialises in the development and sale of monitoring systems for

photovoltaic plants. The company was founded in 2007 by Thomas Preuhs and Jörg Karwath and was created from the company “TOP Solare Datensysteme”. This company had been developing and selling the “SolarLog™” product range since 2005. Our core competence covers innovative products with short development cycles and an excellent cost/performance ratio. Our developments have the outstanding characteristics of high customer value, simple operation and universal application without requiring time-consuming installation of software.

1.116 Solarwatt AG

Maria-Reiche-Straße 2a

01109 Dresden

Tel.: +49 351 8895-0

Fax: +49 351 8895-111

Website: http://www.solarwatt.de/en/home/

The core business of SOLARWATT AG is the manufacture of monocrystalline and polycrystalline solar modules and the construction of turnkey solar power plants.

It all began in 1993 with the manufacture of small modules to supply vending machines and emergency telephone points with electricity. The young two-man company based in Dresden was then able to expand into the photovoltaic sector with shock-resistant, vandal-proof solar modules.

The production capacity at the moment amounts to 300 MWp and more than 480 people are currently employed by the company. All the solar modules are manufactured in Germany.

The company's turnover at the end of 2010 was 300 million Euros. This makes SOLARWATT one of the leading companies in the solar industry in Germany.

In the summer of 2010, SOLARWATT started the production on one of the most modern module manufacturing plants in the world. This will help SOLARWATT to meet the challenges of the coming years.

1.117 SolarWorld AG

Martin-Luther-King-Str. 24

53175 Bonn

Germany

Research & Development:

SolarWord Innovations GmbH

Tel.: +49 (0)3731 301 1600

Website: http://www.solarworld.de/en/home/

With the Sunmodule Plus, SolarWorld AG presents an innovative module concept. The Sunmodule Plus is produced in state-of-the-art, fully automated production facilities, meeting the highest possible quality standards.

Our Sunmodule Plus modules guarantee consistent output and set themselves apart with their outstanding product features. The SolarWorld modules Plus sort system is unique. The performance of every individual module is determined with oversized "flashers". The modules are then sorted in 5-watt steps, making the time-consuming process of sorting the modules on-site unnecessary. Only those modules that have been "flashed" with the specified amount of rated power (or more) are supplied to customers.

We produce all of the intermediate and end products inside the group at our locations in Germany, the USA and South Korea, starting with sand all the way to recycling of old cells and modules.

1.118 SOLAVOLTA Energie- und Umwelttechnik GmbH

Thomas-Alva-Edison-Straße 2

7000 Eisenstadt

Austria

Telefon +43(0)5/9010 4640

Website: http://www.sonnezustrom.at/

Energy prices are rising steadily. But the sun is your power supply for free. If you are thinking of the future, energy will soon be prohibitively expensive. The photovoltaic technology ensures you the edge here simply: never having to think about rising energy prices.

This keeps your quality of life get the best possible way. Invest now in a photovoltaic system, your independence from steadily rising electricity prices.

Photovoltaics is, simply put, nothing other than the direct conversion of solar energy into electricity. The basic form of photovoltaic technology is already used since 1958 in the aerospace and energy supply of satellites.

The cost of photovoltaic systems for private households in Austria are supported by a variety of support programs. We advise you to photovoltaic development in Austria.

From the sun to electricity. We suggest you go the right way in the future.

1.119 Solarzentrum Allgäu GmbH & Co. KG

87640 Altdorf-Biessenhofen

Gewerbepark 13

Tel: +49 (0)8342 / 89 69 - 0

Fax: +49 (0)8342 / 89 69 - 27

Website: http://www.sza-pv.de/Startseite/p-1/Typ-Startseite/currentlanguage-English

The combination module PV-Therm was developed in order to counteract the sharp fall of voltage and the significant loss of power of crystalline PV modules, when faced with high solar cell temperatures. During the summer months the solar cells can heat up to over 80°C and lose, as they are subject to the temperature coefficient of crystalline PV modules, approx. 0.5 % of their performance for each degree that the temperature rises. This is being prevented by the added steel-trough at the back side of the combination module PV-Therm. In this trough there is a heat-transport fluid, which can cool the solar cells effectively. An up to now unique polyurethane frame connects the steel-trough to the photovoltaic laminate and ensures an optimal impermeability and durability.

In conjunction with the cooling process, the combination module PV-Therm is able to use solar energy for hot water generation and heating support respectively. Thus the advantages of the to date seperated parts of a thermal solar collector and a PV module are united and are turned into one single component. If required, the solar thermal water circulation can be used in the winter months for clearing the modules risklessly of snow and for de-icing the surface of the modules. Lethal accidents can thereby be prevented, as it is not necessary anymore to free the modules of the snow load manually.

The different applications for the combination module PV-Therm depend on the respective structural conditions and are being currently tested in our test rig on our premises. The serial production of the combination module PV-Therm will presumably start in October 2008. The production line in Altdorf has to be finished first. However by now we note a keen demand from southern countries.

1.120 Solfin GmbH

Kupferschmiedgasse 12

2201 Hagenbrunn

Austria

Website:
http://www.solfin.at/index.php?option=com_content&view=article&id=47&Itemid=54

Mr. Klaus Puhony, managing director of Solfin, has been working since 2005 to the field of photovoltaics.

Of investment and investment product developed within the next 2 years an affordable alternative to conventional power generation. Statistics and long-term studies now show the effectiveness and efficiency of energy consumption from the sun through the photovoltaic technology.

The company was founded in 2007 in Austria Solfin and deals with the applicability of renewable energies.

At the market, we act as a reliable partner in the energy management field. Photovoltaics are many interested already a household name and means the recycling of solar energy.

The company is Solfin, thanks to excellent partner, as a brand for the management, from planning - Production - Shipping - Logistics - Construction - Installation - submission - to the terminal and the installation of your product.

As an "All In One Packages" other services such as insurance, financing and consulting with the support of our premium partners will be offered.

1.121 Solites Steinbeis Forschungsinstitut für solare und zukunftsfähige thermische Energiesysteme

Meitnerstraße 8

D - 70563 Stuttgart

Tel +49 (0)711 673 2000 - 0

Fax +49 (0)711 673 2000 - 99

Website: http://www.solar-district-heating.eu/AboutSDHTakeoff.aspx

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Solar district heating (SDH) plants are a large-scale solar thermal technology supplying renewable, zero-emission heat from large collector fields via district heating networks to residential and industrial areas. Long-term research programmes in Sweden, Denmark, Germany and Austria led to SDH demonstration plants, operating today at feasible heat cost. Twenty years of operational experience, plant technology and know-how are available from these programmes. Since the mid of this decade there is an increased interest in the commercial operation of SDH, mainly by utilities but also from local authorities and the housing sector. SDH presently makes the step into the market.

SDH plants are usually operated by local district heat suppliers. They are the key actors for SDH. Therefore, five important national district heating associations (or groups) from Austria, Czech Republic, Denmark, Germany, Italy and the European roof association Euroheat & Power joined with acknowledged experts on the field of SDH for the SDHtake-off project. The project actions follow a comprehensive approach for a market introduction of SDH, contributing to a development to its full long term potential, which experts estimate at 5 % of district heat from solar and an annual solar heat production of 100 PJ.

1.122 Solland Solar Cells BV

Bohr 10

NL 6422 RL Heerlen

Netherlands

Tel +31 (0)45 8800 600

Fax +31 (0)45 8800 605

Website: http://www.sollandsolar.com/company

Solland Solar is a worldwide leading technology company in the exciting solar photovoltaic industry. We develop innovative solar technology and bring to market high performance cells and modules.

In a world where fossil energy is becoming scarcer, the people at Solland are proud to play a part in resolving the global energy problem by creating sustainable solar energy solutions.

The company was set up in 2003 and is a 100% subsidiary of DELTA, a Dutch multi-utility company. Our business is located in Heerlen/Aachen on the border between The Netherlands and Germany. This unique location at the centre of Europe offers easy access to renowned research institutes and key European markets.

Solland Solar always strives to lead in innovation. With our ground-breaking patented Sunweb® technology, we are leading the efficiency race and paving the way towards grid parity.

1.123 Sonneninvest AG

EURO PLAZA

Am Euro Platz 2 - Gebäude G

1120 Wien

Austria

Tel.: +43 (1) 71728281

Fax: +43 (1) 71728 - 110

Website: http://www.sonneninvest.com/index.php

Organic electricity from solar energy is the future - clean and safe. With the operation of photovoltaic installations benefit the sun Invest AG and its investors well by the Renewable Energies Act (EEG). It guarantees the amount of the remuneration of the electricity produced for a period of 20 years. More safety!

The sun Invest AG is a company that specializes in the operation of photovoltaic systems on roofs and open spaces leased in Germany and Southern Europe. The sun Invest AG awards the construction of the facilities to leading specialist companies in the industry and operates the power plants it herself

Photovoltaic systems convert sunlight into electricity and thus contribute to ecological environmental and climate protection.

1.124 Sovello AG

OT Thalheim

Sonnenallee 14-30

06766 Bitterfeld-Wolfen

Germany

tel: +49-(0)3494-6664-0

fax: +49-(0)3494-66 64-1011

Website: http://www.sovello.com/en/products/products/

Sovello's goal is to become the most sustainable producer of high-performance solar modules. Our clear customer orientation as well as our increasingly efficient products free up synergies to be used towards innovative energy management as well as for our market success. Through intensive research and development we continually increase our module efficiency and further exploit cost savings potential in order to reach our goal of total grid parity as quickly as possible. To do this we focus on solid company growth that is fully oriented towards sustainability – with ecological and economical balance.

1.125 SPF - Institut für Solartechnik

Oberseestrasse 10

CH-8640 Rapperswil

Schwitzerland

Tel.: +41 55 222 48 21

Website: http://www.solarenergy.ch/Home.44.0.html?&L=6

The following is a selection of currently ongoing research activities at SPF. These projects are in principle open for participation of additional representatives from industry and research.

- Combined solar thermal and heat pumps
- Polymers in solar thermal systems
- Flow studies of the immersed heat exchangers
- Solar thermal cooling
- Performance analysis and optimization of a combined pellet-solar systems for heating and hot water
- Simple: develop a method for the determination of annual efficiencies of small-scale biomass combustion
- Solar thermal water treatment in emerging and developing countries
- Industry audits and solar thermal simulation for process heat

1.126 Spirotech

Churchilllaan 52

5705 BK Helmond

Netherlands

Phone: +31 (0)492 578 989

Fax: +31 (0)492 541 245

Website: http://www.spirotech.com/en/home/

Spirotech offers an extensive range of automatic air vents and deaerators for solar applications. These products are specially designed and developed further for use at higher pressures and temperatures. Just like the rest of our product range, the solar applications of Spirotech are 100% leak-free. They are a reliable and low-maintenance factor in your installation.

Dual effect

In terms of solar applications, too, our products have a dual effect. SpiroTop automatic air vents and SpiroVent deaerators improve the efficiency of your installation and save time and money during their installation, commissioning and maintenance.

Continuous deaeration also available for solar systems

Extremely high temperatures can occur in solar systems, which leads to the formation of steam. Valves are installed to prevent vapour release and overheating. Without valves, solar systems can even boil dry.

Thanks to a patented invention, Spirotech can offer a solar product range with the so-called AutoClose function. These valves only close if it is really necessary.

AutoClose benefits:

- system will not boil dry via the deaerator;
- a permanent air-free, efficient installation;
- solar fluid will not prematurely degenerate;
- no more climbing to the top to deaerate;
- prevents false stagnation;
- suitable for new and existing installations.

1.127 Sputnik Engineering GmbH

Schurwaldstraße 12

D-73765 Neuhausen auf den Fildern

Germany

Tel: +49 / (0) 7158 986 19 0

Fax: +49 / (0) 7158 986 19 11

Website: http://www.solarmax.com/pub/home.php?lng=en&mc=international

Sputnik Engineering AG, a Swiss company, is one of the world's leading manufacturers of grid-connected solar inverters. Under the name SolarMax the company develops, produces and sells inverters for every facility – from photovoltaic systems on single-family homes whose kilowatt output is modest, to the solar power plants whose output is measured in megawatts. The inverter is a key component of the solar plant, transforming the generated direct current into grid-compliant alternating current. Superior efficiency and long service life are the hallmarks of SolarMax products, whose technology is always state of the art, because of their reliable Swiss quality.

1.128 Standardkessel Power Systems Holding GmbH

Baldusstr. 13

Postfach 12 06 51

47126 Duisburg

Tel. +49 (0) 203-452-0

Fax +49 (0) 203-452-211

Website:
http://www.standardkessel.de/index.php?id=3&L=1&tx_ttnews[tt_news]=&tx_ttnews[backPid]=&no_cache=1

Standardkessel and Baumgarte – two success stories backed by 160 years of experience. Today, both companies are international leaders in the boiler technology sector. A success story that is strongly rooted in extensive research and development work, as well as in the planning and realisation of more than 1000 plants across the globe.

1.129 SUN-SYSTEMS GmbH

Brixentalerstrasse 51

A-6300 Wörgl

Tirol / Österreich

T: +43 5332 77442

F: +43 5332 77442 -23

Website: http://www.sun-systems.at/page.php?pid=1

The company SUN-SYSTEMS GmbH is intensely since its founding in 2001 with the development of highly efficient energy systems based on our main energy source - the sun. SUN SYSTEMS developed through continuous R & D activities and the implementation of numerous projects, the position as a leading specialist in integrated solar and heat pump systems. The company's range extends from the solar hot water heating for residential buildings up to the full thermal distribution for large objects.

As a system supplier, we directed our attention - both technical and economic aspects - mainly due to the combination of high quality products with comprehensive services. This ensures on the one hand a smooth project flow from concept to commissioning and on the other hand, a continuous, smooth and efficient operation of the facilities. This is made possible by a part number of collaborations with leading industry manufacturers that guarantee high quality and also has a network of qualified system partners, which ensure the professional installation. With this philosophy we have been able to build in cooperation with our partners, reliable energy systems, which operate much more efficiently - in some cases> 50% - than conventional systems of this kind Our motto is: "Customer satisfaction is achieved through reliability and efficiency"

1.130 sun4energy Photovoltaik

Sonnenweg 9

4551 Ried im Traunkreis

Austria

Tel: +43 (0) 7588/ 20 00 02

Fax: +43 (0) 7588 / 20 00 03

Website: http://www.photovoltaik.at/

Looking for a reliable partner who is a specialist in photovoltaics and has years of experience? You also want high quality products, preferably in Austrian hands at a fair price?

We offer:

- one according to your needs and possibilities
- tailor-made photovoltaic system
- sustainable solutions
- high quality products with a long life
- wide range of products to meet your needs
- Our services ranging from consulting and planning, submission, Förderab development, assembly and commissioning of a turnkey plant

1.131 Sunfilm AG

OT Thalheim

Sonnenallee 7-11

06766 Bitterfeld-Wolfen

Germany

Phone: +49 3494 3848-92100

Fax: +49 3494 3848-92133

Website: http://www.sunfilm.com/en/technology/

Sunfilm AG is one of the world's largest manufacturers of silicon-based thin-film modules with a combined annual capacity of about 145 megawatts peak (MWp) at its two German production sites in Grossroehrsdorf and Bitterfeld-Wolfen.

Thin-film is one of the fastest growing segments of the solar PV industry. Sunfilm's innovative technology for tandem junction thin-film silicon solar modules allows a larger part of the solar spectrum to be harvested as compared to amorphous silicon thin-film solar modules, leading to higher module efficiencies. Additionally, the amount of silicon needed to produce these modules is significantly less than for crystalline silicon modules.

1.132 SunTanzer s.r.o.

Lisabonska 2394/4

Praha 9 - Liben, 190 00

Chech Republic

Phone: +420 277 775 968

Fax: +420 277 775 969

Website: http://www.suntanzer.com/

SunTanzer, s.r.o., supplies the global markets with high-performance PV systems of every magnitude. We have delivered turnkey PV systems from 5kWp to 3500kWp including rooftop and ground-mounted installations.

With a team of over 30 experienced engineers, technicians and specialists, we deliver turnkey innovative solutions covering project design, engineering, procurement & construction of PV power plants (EPC contracting). We also provide complete lifecycle operation & maintenance (O&M contracting) services for the power project (PV plant).

1.133 Sunways AG

Macairestraße 3 - 5

D - 78467 Konstanz

+49 (0)7531 996 77-0

+49 (0)7531 996 77-444

Website: http://www.sunways.eu/en/

Sunways products are full of unusual ideas that make it simpler and easier to operate high-yield photovoltaic systems. We set our own quality standards in order to offer high-quality technology and precision. Performance you can measure. Sunways Solar Cells are known throughout the world for their supreme surface quality, first-class efficiency, powerful 3-busbar technology and maximum output consistency. The right technology for every application. Sunways Solar Inverters with Advanced Technology, New Technology or Performance Technology are technologically superior every time and the obvious choice for any application. Common to them all is our patented HERIC®topology, which ensures maximum efficiency levels are achieved even with partial loads. With their outstanding peak efficiencies Sunways Solar Inverters are a key factor in defining the yield of each and every photovoltaics array. Sunways Solar Modules. “OutputPlus+“ performance optimised photovoltaic components. Sunways Solar Modules are high quality, long-lasting quality products. Their outstanding module output and reliability are due to our seamless quality control procedure with minimum manufacturing tolerances. Our strict classification standard «PerformancePlus+» guarantees that the output of all Sunways Solar Modules exceeds even the nominal output claimed for them. Photovoltaics in architecture and photovoltaic sunroofs thanks to the products and expertise of Sunways. Bringing bespoke photovoltaics projects to fruition – from the design and development phase through implementation including general contractor responsibilities – that's what our company does best. And we will even manufacture Sunways Solar Cells to individual customer specifications.

1.134 Technische Universität Braunschweig, Institut für Mikrotechnik

Langer Kamp 8

38106 Braunschweig

Tel.: +49-531-391-3320

Website: http://www.sfb516.tu-bs.de/index.htm

Contact Person: Prof. Dr. rer. nat. Stephanus Büttgenbach

Email: s.buettgenbach@tu-bs.de

The Collaborative Research Center 516 will bring forth fundamentals for the design and manufacturing of active micro systems with regard to the methods and components used. The applicability of the methods and the production technologies that are being investigated will be verified on the basis of various demonstrators.

Development of a systematic design process for active micro systems based on a modular computer-aided engineering system. Consideration of modular approaches for the component design as well as for the production and process sequences for the development of active micro systems.

Consideration of special aspects that result from the manufacturing of micro components, such as material parameters depending on the layer thickness. These considerations are important in the design of the electromagnetic components as well as the dimensional design of the active component.

Integration of preventative quality assurance methods into the design process which will take into account functional and production related constraints.

Development of fundamental manufacturing skills for the production of active micro systems. Thin-film technology can be used to to produce the traveler part, when fitted with magnetic drives, is referred to as the active component. With respect to the production technologies, coating, etching and lithography techniques are investigated. These methods are used for the manufacturing of the necessary components, guides for the magnetic flux, coil systems, and isolation layers, respectively. Other methods such as drilling, milling and grinding are explored in order to make conventional components such as guides, which are available for the use in active micro systems.

1.135 Technische Universität Dortmund – Energy Efficiency

Emil-Figge-Straße 68

Einfahrt 12-15

44227 Dortmund

Contact Person: Prof.Dr.-Ing. Johanna Myrzik

Efficient use of apparatuses and development of new infrastructures the number of small consumers with achievement-electronic components increase in the private and office-technical area strongly. On the one hand, the used achievement electronics offers possibilities for the energy conservation in the individual device to the other, however, it loads the net by so-called net back effects. Just with a plentiful use of such devices the net back effects and her consequences are to be neglected for the care system no more.

Most devices in the private and office-technical area are used are based on DC technologies. For the tension adaptation switch net parts are mostly used. For the rise of the system efficiency it is to be checked, to what extent DC infrastructures show a possible solution option in buildings, particularly as the integration of e.g. Photovoltaik or battery systems are also based on DC technologies. Research main focuses are here: Development of DC infrastructures and technologies, investigation to the ideal tension form Investigation to net back effects from consumers and decentralized care unities and her consequences for the electric net Test more existing and development of new energy conservation methods for apparatuses, motor applications and lighting.

1.136 Technische Universität Wien - Institut für Energiesysteme und Elektrische Antriebe

Arbeitsgruppe Elektrische Anlagen

Gusshausstraße 25 / E370-1

1040 Wien

Austria

Website: http://www.ea.tuwien.ac.at/

Contact Person: Sabine Gam

Email: sabine.gam@tuwien.ac.at

- End-Use-Efficiency
- Autonomous decentralized renewable energy systems
- Sustainable and efficient energy conversion and storage
- Innovative network structures
- Control algorithms (SSM, DSM, EPM, GridManagement)
- System security and reliability
- EMC and phase effect

1.137 Universität Kassel, FB 16, FG Elektrische Energieversorgungssysteme

Wilhelmshöher Allee 71

D-34121 Kassel

Germany

Tel.: +49-561-804-6344

Fax: +49-561-804-6521

Website: http://www.evs.e-technik.uni-kassel.de/EVSFrameset.html

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Teaching and research in the field focused on systems and systems for electrical power supply and and the development of power electronic devices and components for such systems. They encompass the development of technologies for exploiting renewable energy sources (eg solar, small hydropower, biogas and wind) and power electronic

converters in mobile applications. Particularly close collaboration with the 1988 by the then Head of Department Professor Kleinkauf, founded the Institute for Solar Energy Supply Technology (ISET eV)

With a staff of about 15 people in the field of ECI, a close cooperation with the department of efficient energy conversion and the 100 employees of the ISET has been in the field of energy supply in general developed a powerful focus of research at the University of Kassel. This allows both good research opportunities will be provided as well as broad-based curriculum.

1.138 University Duisburg-Essen

Campus Duisburg

FB IngWi / EAN

Bismarckstr. 81

47057 Duisburg

Offices Building BA, Groundfloor

Telephone +49 (0) 203 379 3437 (Office)

Telefax +49 (0) 203 379 2749

Website: http://www.uni-due.de/ean/index.en.php

- Integration of Large Wind Farms into Weak Power Grids - with emphasis on the Ethiopian ICS
- R&D of safety systems for electrical devices and equipment especially for electric vehicles
- Modern applications of power system control – Smart Grids
- Power efficency and load management in power grids
- Grid Integration of Large Offshore Wind Farms
- Modelling and Control of Wind Converters Equipped with Doubly Fed Induction Generator

1.139 University of Applied Sciences Technikum Wien

Standort ENERGYbase

FH Technikum Wien

Giefinggasse 6, EG

1210 Wien

T: +43 1 333 40 77-564

Website: http://www.technikum-wien.at/en/study_programs/bachelor_s/urban_renewable_energy_technologies/

Contact Person: Susanne Fürnkranz

Email: susanne.fuernkranz@technikum-wien.at

The market for renewable energy technologies is booming – the EU intends to increase the share of energy from renewable sources from the current level of about 10% to 20%

by 2020. The European Renewable Energy Council estimates that this will require investments of € 450 billion. With a current renewable energy share of 28% and rising, Austria is one of the leading European countries in this regard. Accordingly, experts in the field of renewable energy technologies are in high demand.

The Urban Renewable Energy Technologies bachelor's degree program deals with the current issues in the energy sector – from the integrated generation of electricity and heat, via intelligent consumer devices, as far as renovation using renewable energy resources. Students learn how to develop and set up the power supply systems of the future as well as how to dimension these systems and combine them into an integrated system to provide the world with the power it needs. The program provides well-founded scientific knowledge that is extremely relevant for practical application. Energy experts from business, industry and related institutions ensure the continuous transfer of up-to-date knowledge.

The degree program is housed in the ENERGYbase building and the majority of course take place there. Austria's most innovative passive energy office building is already directly making use of renewable energy technologies in an urban setting.

1.140 University of Groningen: the Center for Energy and Environmental Studies (IVEM)

Nijenborgh 4

9747 AG Groningen

Netherlands

Secretariat Tel.: +31 50 3634609

Website: http://www.rug.nl/ees/onderzoek/ivem/index

Environmental issues have become more important over the past decades. Thirty years ago, the most important issues were pollution of soil, atmosphere and water. Nowadays the focus is on environmental issues on a global scale, like climate change, sustainable development, greenhouse effect, ozone depletion, energy issues, etc. The master programme focuses on these current large-scale issues and tries to contribute to the possible solutions to these environmental problems.

The master programme Energy and Environmental Sciences includes two programmes:

- The specialisation 'Energy and Environment'
- The specialisation 'Experimental studies of greenhouse gases and climate history'

Both programmes include a collective part consisting of three compulsory courses and a specialist part consisting of one or two compulsory courses. Besides that the programmes include an optional part and two researches. More information can be found below 'Educational Programme'.

1.141 University of Innsbruck: Institute for Construction and Materials Science

Technikerstr. 13

A-6020 Innsbruck

Austria

phone.: ++43 (0)512 / 507 6561

fax.:++43 (0)512 / 507 2901

Website: http://www.uibk.ac.at/bauphysik/index.html.en

The 20th Century has given us a tempestuous growth of built environment, allowing more people, and also more comfortable live and more prosperity on the planet than ever before.

The rapid industrial use of the easily available and cheap fossil fuels coal, oil and gas made this growth possible. At the same time however, it caused a situation of growing interdependence, increasing cost burden and irreversible damage to the terrestrial ecosystem.

Reluctantly we want to abtain from acquired prosperity - nor is it possible to stay the course refusing the vast majority on this planet from a permanent access to prosperity and comfort.

The good news: We do not have to renounce. Consistent research and development in the field of building physics have shown that it is possible to minimize the energy demand down to a fraction of usually less than one-tenth, but alsoways to less than a half, through intelligent building according to the the well-understood laws of physics.

For good to be true? Practically realized examples where Vorarlberg and Tyrol are world leaders attending, show that good comfort and low energy consumption are not contradicting. A thoughtful application of the findings of the building physics makes this possible, properly applied, both energy consumption as well as the value of the building increases, the comfort is improved and a major contribution to environmental protection is assured.

The unit of building physics at the University of Innsbruck sees its main task in supporting the sustainable renewal process, both through the training of competent engineers and architects, as well as through research and development for the benefit of human health, sustainable development and the protection of the environment.

1.142 Utrecht Solar Energy Laboratory (USEL)

Nanophotonics

Debye Institute for Nanomaterials Science

P.O. Box 80.000

3508 TA Utrecht

the Netherlands

Visiting address:

Princetonplein 5

3584 CC Utrecht

The Netherlands

Fax: +31 30 254 3165

Phone: +31 30 253 3171 (secretary)

Website:
http://www.uu.nl/faculty/science/EN/organisation/depts/physicsandastronomy/research/chairs/nanophotonics/FacilitiesNew/USEL/Pages/default.aspx

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The acquired know how of the Physics of Devices group is concentrated in the Utrecht Solar Energy Laboratory (USEL), a facility that is dedicated to thin film semiconductor research (deposition, interfaces, materials, and devices).

UU reached European record level efficiencies for thin film silicon solar cells of ?ini =11.1 % in 1992. The world's first superstrate p-i-n cells with nanocrystalline p-layer (?ini = 9.6 %) were also made in our group. In 2000, a stabilized efficiency of a-Si/a-Si tandem solar cells of 8.2 % was reached, and recent progress has led to a stabilized efficiency of 8.5 % for this type of tandem.

The Physics of Devices group has successfully conducted and co-ordinated many projects on thin film solar cell research and technology development, national as well as on EU level. Collaboration networks extend between continents to the USA (e.g. NREL, MIT, Caltech) and Japan (e.g. TITECH, JAIST, Asahi Glass).

Using Hot-Wire CVD, 8.9 % at 0.9 nm/s and 8.5 % at 1.6 nm/s has already been achieved, micro-(nano)-crystalline and protocrystalline silicon deposition processes have been developed , high efficiency tandem (9.3%)and triple junction solar cells, p i n (superstrate configuration) as well as n i p (substrate configuration), large area deposition (30 cm x 40 cm), laser patterning, heterojunction cells on multicrystalline wafers (HIT cells), thin film transistors for active matrix panels, textured highly reflecting and highly scattering Ag/ZnO back contacts for n i p cells, as well as ZnO/Ag reflecting contacts for pin cells, and further insulating, dielectric, anti-reflection, and passivating layers.

1.143 Valenia

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Italy

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Website: http://www.valenia.com/webvalenia/site.nsf/webindex?openform&E

In one year the sun irradiates towards the earth four thousand times more energy than what the whole world population can consume. Our target is to make solar energy, that immense and inexhaustible resource, available to everyone.

Valenia's greatest challenge is to make the best possible use of this extraordinary gift of nature using all the technology it has acquired and developing new ideas and new solutions so as to find the perfect balance between maximum use of this resource, absolute safety in its use, respect of the environment and the territory, and identification of processes that give maximum energy performance at the lowest possible cost.

In the world of new energies, Valenia is the leading company in a large Italian industrial system called Valenia Group, which is strong in the mechatronic sector thanks to almost fifty years of experience that translates into a formidable technological, organisational, logistics and business know-how: a precious additional value with which Valenia enriches each of its products and solutions.

From the large wealth of knowledge in the design and production of electronic boards and inverter equipment matured within the Group, Valenia presents Aurus, the grid-connected photovoltaic range of inverters that was designed for residential and business installations, a perfect synthesis of the Valenia philosophy "Value to energy".

Innovative, young, dynamic, projected into a future of which it is already a protagonist, Valenia directs its competence and know-how towards the search for alternative solutions with a high technological content, aimed at optimising consumption and energy efficiency, with the conviction that those same solutions can be applied to save energy and protect the environment.

1.144 Victron Energy B.V.

De Paal 35

1351 JG Almere Haven

Netherlands

Phone: +31 (0)36 5359700

Fax: +31 (0)36 5311666

Website: http://www.victronenergy.com/index.php

Our products include sinewave inverters, sinewave inverters/chargers, battery chargers, DC/DC converters, transfer switches, battery monitors and more. Victron Energy has a strong, unrivalled reputation for technical innovation, reliability, and build quality. Our products are widely considered to be the professional choice for independent electric power.

1.145 Vincent Industrie

236, Rue du Général de Gaulle

69530 BRIGNAIS

France

Tel.: +33 4 72 31 02 02

Website: http://www.vincent-industrie.com/en/who-are-we/organization.html

1979 : Vincent Industrie company creation

- Engineering departments, and assembly lines manufacturing for automotive industry, electro mechanics, health care, intend to manufacturing of - specific lines for French market.

1986 : Vincent Systèmes mécaniques company creation: VSM-France.

- Mechanical assemblies manufacturing company.

1996 :

- VI leaves automotive industry to focus on Worldwide Export.
- Enter in cell phone market.

1999:

- Enter in environment & renewable energies market.

2001: Market opportunities analysis & development phase

- Energy industry constitutes our first standard products development phase

2001, 2002 : New markets integration

- Health care, Packaging, Photovoltaic Energy, Wind Energy…

2003: Electric industry major importance

- Manufacturing company creation in Romania VSM-ROM managed by VSM-France.

2004, 2005, 2006, 2007:

- Orientation continuation on standard products market linked to Energy Industry

2007 / 2008:

- Orientation outcome on Energy Industry, nuclear, hydraulic, renewable energies particularly Photovoltaïcs

2009:

- Vincent Industrie confirms its stand on following markets :
    - Electric Energy(nuclear, hydraulic, wind energy, traction)
    - Solar Energy (Photovoltaic)

1.146 VoltaLink

Via Cavour, 2

Lomazzo

Como

22074

Italia

Tel.: +393351300597

Website: http://www.voltalink.com

VoltaLink develops and commercializes innovative telecontrol solutions for photovoltaic systems

Our solutions have been designed to achieve the highest communication reliability while keeping high system scalability to address either small photovoltaic installations or big photovoltaic farms.

Voltalink products are “plug & play” to assure easy installation procedures and allow our customers to remotely monitor their photovoltaic systems through easy and secure web access.

Voltalink Metering, Automation and Supervision (MAS) solutions main benefits include:solar4

- Photovoltaic panel and farm real time status and production monitoring
- Fact-based maintenance planning and associated costs reduction
- Outages detection and localization
- Efficiency reduction forecast and prevention
- Safety operation even during catastrophic events such as fires
- Antitheft detection and notification

1.147 VOLTEC Solar

Fabricant français de panneaux photovoltaïques – 1

rue des Prés

67190 DINSHEIM SUR BRUCHE

France

Tel : 03 88 49 49 84

Fax : 03 88 49 49 85

Website: http://www.voltec-solar.com/

Based in Alsace, France, VOLTEC Solar is a manufacturer of very high quality solar panels. The use of best-quality components and an ultramodern production line, where our employees' technical expertise can be put to good use, means VOLTEC Solar is able to leverage the many advantages of being located in Alsace: manufacturing excellence, competitive pricing, a position in the heart of Europe.

VOLTEC Solar was founded by a team of shareholders with substantial experience in manufacturing, which they have used to tackle an ambitious new challenge - to make VOLTEC Solar into a European benchmark for the design and manufacture of solar panels.

The company was created in November 2009, and production started on 1 March 2010 in state-of-the-art facilities. With financial backing amounting to tens of millions of euros.

1.148 voltwerk electronics GmbH

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20537 Hamburg

Tel: +49 40 27142 2800

Fax: +49 40 27142 1800

Website: http://www.voltwerk.de/Home.114.0.html?&L=0

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voltwerk electronics GmbH is a world-leading manufacturer of electronic components and software solutions for the operation of photovoltaics systems.

Our product development is geared towards supplying our customers with components as part of a well-balanced system. This increases the efficiency of the overall photovoltaic system while offering the user a maximum in ease of operation and transparency. Our product portfolio is comprised of innovative solutions for installations of any size. In addition to string and central inverters, we supply tracking systems and intelligent plant management systems.

Thanks to patented technology, we are in a position to set ourselves apart from the competition in the key features and characteristics of our products. Voltwerk customers benefit from our 30 years of experience in photovoltaics and can rest assured that their investment in solar power is in safe hands with us. That's because performance is our passion.

1.149 WAF Fassadenelemente GmbH

Gewerbezone 3

A - 6404 Polling in Tirol

Austria

phone: +43 (0) 5238.863 62

fax: +43 (0) 5238.863 65

Website: http://www.waf.at/EN/kickoff.html

The WAF solar facade makes natural energy generation via your external walls possible. Our solar thermal facade collectors offer technical, economical and aesthetic advantages in comparison to ordinary solar thermal systems. The innovative design and surface coating guarantee a cost efficient and a visually appealing integration into the house front, which, in return, leads to intelligent and ecologically sustainable energy generation.

Until now, facade elements were barely used in energy generation, since commercially available solar systems are designed for roof mounting. These standard roof-mounted collectors are often expensive and it is difficult or even impossible to integrate them into the facade..

To this end, the WAF aluminium solar facade offers a high-class and aesthetically pleasing solution which we have developed based on our technical competence, our long-term experience and our proven quality standards. Its individual adaptation to the external walls allows for the best possible integration. The choice of coating and design variations guarantees individual design flexibility. Using aluminium as material ensures an extremely long life cycle and excellent sustainability.

Renewable energy supply and thermal insulation

The WAF solar facade covers the market segment of low-temperature heat transformation systems in particular. It combines solar thermal energy generation with optimal thermal insulation

Advantages of the WAF solar facade

- Combination of facade cladding (insulation) with solar energy generation
- Suitable for use in both new building construction and refurbishment of existing structures
- Adaptable thickness of the thermal insulation thanks to the variable substructure
- Washable and weather resistant thanks to the aluminium
- Architecturally attractive design thanks to the WAF shiplap and panel facades
- Long life cycle thanks to the long-lasting material aluminium

1.150 Wagner & Co. Solarterchnik GmbH

Zimmermannstraße 12

35091 Cölbe

Tel.: 06421 / 8007-0

Fax: 06421 / 8007-22

Website: http://www.wagner-solar.com/wagnerEN/index.php?navid=195&ref=/wagnerEN/WC/index.php

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Founded in 1979 Wagner & Co Solar Technology has become a synonym for 30 years of solid growth and the consistent improvement of effective solar energy systems. That is exactly what more than 400 associates in Germany and the European subsidiaries get involved with.

We offer solutions for solar heating applications with complementary pellet heaters, solar power systems - grid-connected as well as off-grid for private or industrial use.

Our high quality standards and the excellent price-performance ratio came out first in rigorous tests by Stiftung Warentest (German consumer testing agency) and in spring 2009 the solar package COMBI line SH 1440 AR was certified as “best in test” for the third time in a row.

1.151 Watt Sp. z o.o

Watt street 6

41-208 Sosnowiec

Silesia region

POLAND

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tel.: +48 32 736 20 80

tel.: +48 32 245 93 04

fax: +48 32 287 66 84

Website: http://www.watt.pl/en/contact/contact-details.html

Watt is the only Polish manufacturer of two types of solar collectors. Apart from the popular flat-plate collectors, Watt also manufactures U-type vacuum tube collectors with a highly reflective CPC (Compound Parabolic Concentrator) parabolic mirror.

At the same time, Watt conducts its own research concerning the efficiency of solar energy systems. The experience and knowledge bring results. The WATT 4000 S flat-plate collector designed by Watt turned out to be most efficient collector in the world. This achievement was possible, among others, due to the application of a unique and patented method of connecting copper pipes with the absorber through soldering.

1.152 Wind to Power System (W2PS)

Madrid

Avd. Leonardo DaVinci 8. Of. 225

Parque Empresarial la Carpetania

28906 – Getafe (Madrid)

España

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Website: http://www.w2ps.es/indexeng.htm

Wind to Power System (W2PS) is a technology-based company specialised in the renewable energy sector.

W2PS designs and manufactures systems for the integration of renewable energy power generation into the electricity grid, with a commitment to guaranteeing security and quality of supply and an utmost respect and concern for the environment.

1.153 Windpower

Mgr. Ing. Lukasz Rembowski

e-mail: redakcia@windpower.sk

mobil: +421 949 650 860

Website: http://www.windpower.sk/index.php

Contact Person: Mgr. Ing. Lukasz Rembowski

Email: redakcia@windpower.sk

Despite positive developments in the field of energy legislation, which is also evidenced by this year's law on the promotion of renewable energy sources in Slovakia in their use lags behind the developed world and its neighbors, particularly Austria and Czech Republic. Participants noted that the discussion forum, which on energy efficient buildings - Myths and Realities organized today in Manchester online magazine Building fórum.sk.

As stated by Peter Tauš Technical University of Kosice, while in Austria in 2007, installed 281,000 square meters (m2) of solar collectors, for us it was only 10,000 square meters. Although interest in solar energy and installation triggered in this particular government program, according to forum participants is money compared with other countries is low and there are a lot of red tape. Tauš As noted, the system becomes a house of its owner around 2200 euros (66,277 billion), which is in his high amount.

According to Charles Keher of the Slovak Innovation and Energy Agency, to date, take the SR 774 applications for grants for solar collectors with a total amount of grant 623,000 euros (18.77 million SKK). The program will run from April with the fact that in the meantime to increase subsidy of 100 euros (3012 Sk) to 200 euros (6,025 Kc) per 1 m2. Overall, the program allocated 8.4 million euros (253 million).

As reported in the discussion forum of Radovan Körner Energocom of Kosice, in line with global trends in Slovakia is increasing interest in the construction of solar (photovoltaic) power, where prices for electricity supplied to the network subsidizes state as the so-called green energy. First, as already working in the High Tatras. Made so far about 1500 applications for the construction of such plants with an installed capacity of 1 MW. Not all, however, will be implemented according to Körner given the possibility distribution companies.

1.154 Winkler Solar GmbH

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Website: http://www.winklersolar.com/

At Winkler Solar, we are happy to do work still by hand. This gives us a feeling for our product and makes every installation unique. And many people are surprised about just how flexible we are about meeting customer requirements. What normally happens is that there are various standard products, none of which is really quite what you

imagined. So inevitably, you have to compromise. We, however, adapt every installation to meet our customer's needs.

So how do we actually produce the product? We use high-quality machines, and production is computerised. It is also good to know that not only are we the only ones to produce all the relevant components of our installations, we also design and develop them ourselves. As we have for much of our production equipment and many of our machines. You see, as specialists, we are reluctant to rely on others.

Which is why our products have been awarded the European mark of quality, the SOLAR KEYMARK. And this is not just any certification, but a mark of quality from the European Standardisation organisations CEN and CENELEC, awarded under the strictest guidelines and a testament to the outstanding quality of our products.

We do even more for you. We also program the controls for the solar and heating installations ourselves and of course, they are specific to your particular situation. The design of the solar and heating installations is based on simulation calculations. We do that for you as well. We calculate the pipework, pressure drops, heat exchangers and expansion tanks for the boilers for our solar installations, making sure that everything really does go together. Naturally, we also file all the data, as you never know when you might need it.

1.155 wpd think energy GmbH & Co. KG

Kurfürstenallee 23 a

28211 Bremen

Tel.: 0421 16866-10

Fax: 0421 16866-66

Website: http://www.wpd.de/en/company/profile.html

The wpd group was founded in 1996 with the objective of drawing up projects for wind farms in Germany. We are the market leader nowadays and have completed projects with an output of more than two gigawatts. We will be pursuing an important pipeline of 7,000 MW onshore and 10,000 MW offshore during the coming years. Nevertheless, in recent years the focus has increasingly been placed abroad, with the wpd group nowadays planning projects from South America to Asia. More than 500 of our staff are committed to the continuous development of renewable energies.

1.156 Würz Energy GmbH

Bochumer Str. 3

D-57234 Wilnsdorf

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Fax: +49 (0) 2739 / 40 37-149

Website: http://www.wuerz.com/index.html

A dynamic company for a young technology

Those who use renewable energy sources contributes significantly help to reduce the emission of greenhouse gases. Instead of fossil fuels more environmentally friendly combined heat and power use today include vegetable oil. This is exactly where spice Energy, a young member of the Friedhelm Loh Group: We offer a comprehensive service program to block heat and power plants and solar modules around solid solutions. In the field of renewable energies, we are making active contribution to a better future.

Quality, reliability and professionalism are the pillars of our success. The desire and the satisfaction of our customers put to us the measure of all activities and efforts. Experience will help us: Since 2003, we dedicate ourselves in photovoltaics, combined heat and power in the segment, our expertise extends over a period of almost 17 years. Our core competencies are in the global sourcing of photovoltaic products and their international distribution and quality in the design and implementation of cogeneration plants. To help you with your considerations alone can not, we will advise extensively in project planning and implementation, installation and financing of photovoltaic systems and cogeneration plants.

1.157 ZAE Bayern

Am Hubland

97074 Würzburg

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Website: http://www.zae-bayern.de/english/general/energy-storage.html

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Email: info@zae.uni-wuerzburg.de

ZAE Bayern conducts fundamental and applied energy research within the framework of development and demonstration projects, assignments for the German Federation, states and local authorities as well as commissioned work. The R&D focuses of the institute are:

- energy storage
- thermal management
- electricity generation

A further, strategically important field, “system analysis and technology”, is currently being established. The institute has a marked interest in developing new, energy-efficient materials, components and systems as well as highly-sensitive metrological techniques.

Projects are realized by utilizing interdivisional cooperation and benefit from the competences within the close network of research groups within each division.

Education is a further pillar of ZAE Bayern’s activities; around 30 graduands and students completed degree or project work at ZAE Bayern in 2008.

ZAE Bayern is a member of the “Renewable Energy Research Association”, a strategic partnership between German research institutes working in the field of renewable energy.

1.158 Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW)

Baden-Württemberg

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Fax: +49 (0)711 78 70-100

Website: http://www.zsw-bw.de/index.php?id=9&L=1

The ZSW was established in 1988 by the German state of Baden-Württemberg, together with universities, research institutions, and commercial firms. It is a non-profit foundation under the civil code.

Solar energy and hydrogen technologies are currently maturing on an industrial scale and will be major components in the sustainable energy supply of the 21st century. As a result, ZSW pursues the following goals and research topics.

The ZSW's research goals are:

- Research and development of technologies for the sustainable and climate-friendly generation of electricity, heat, and fuel
- Transfer of R&D results to market-relevant products
- Industrial technology transfer
- Consulting political decision-makers and professional associations
- Public relations work about solar energy utilisation and hydrogen technology

Current topics are:

- Photovoltaic materials research and development, especially for PV thin-film technologies
- Systems development for PV applications
- Hydrogen technology
- Electrochemical energy conversion and storage
- Fuel cell development and manufacturing
- Renewable fuels and process engineering
- Modelling and simulation
- Energy economy systems analysis

The ZSW is integrated in numerous research and development networks both in Germany and abroad.

1.159 Zytech Solar

Zueco & Technology S.L.

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Website: http://www.zytech.es/introduction.asp

We feel motivated by the Kyoto Protocol: we want to contribute to making photovoltaics and solar thermal energy sources of the future. In order to achieve this goal, we need to make these technologies even more cost-efficient. By working to continually increase our company's productivity, investing in research at our Research Center in Germany and in the output of our products, we are successfully on the way to achieving this goal.

The Zytech group offers competitive photovoltaic and solar thermal solutions to solve the problems with our sources of energy through a decentralized environmentally friendly energy supply. Tomorrows's modern and fair-minded world will no longer be imaginable without solar power technology. The coming generations will set their sights on special types of energy, they should be clean and safe. Our children will not be satisfied by use of energy from fossil fuels of energy.

In the coming future, the use of solar energy will have become a normal ocurrance. Photovoltaics is one of the energy sources of the future. In this expanding market, we want more than just to grow, we want to increase our market share further.