

**ISOFOTON**

**30 YEARS USING THE SUN FOR THE BENEFIT OF MANKIND**

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## Presentation

Located in Malaga, the Silicon Valley of Europe, ISOFOTON was founded in 1981 as a spin-off of a university project. ISOFOTON is pioneer in the Solar Sector. The company works towards transforming energy from the sun in an efficient energy option, both clean and competitive. ISOFOTON's modules are installed in projects located in all continents. ISOFOTON is present in over 60 countries and is a leader in the development of solutions for the generation and use of solar energy.

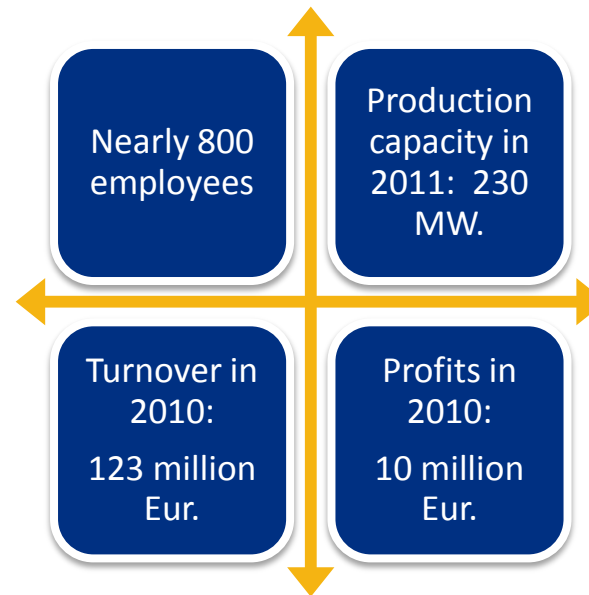
Since July 2010 ISOFOTON is part of the AFFIRMA group, a company with broad experience in developing solar energy projects and a leading manufacturer of solar trackers. The amount of knowledge and expertise of both companies, in photovoltaic solar energy field, strengthens and enhances its leadership and offers customers a range of products and services covering the entire value chain. The presence of the Korean shareholder, TOP TEC, a company specialized in industrial automation, proves the company's international focus and its vocation to maintain a technological forefront.

## Values

ISOFOTON's growth is based on a solid strategy supported by 7 values:

1. Efficiency in manufacturing.
2. Innovation in processes, products and markets.
3. Flexibility to adapt to different markets.
4. Over 30 years of experience acknowledged by our distributors, business partners and end users.
5. Guaranteed quality throughout the production process which results in products covered by the most comprehensive warranty in the market.
6. Personalized service geared to meet customer needs.
7. Commitment to sustainable development.

## ISOFOTON figures



## Our factory

Our factory has more than 28000 m<sup>2</sup> of facilities and is located in the Andalusia Technology Park. In our R&D center, equipped with the most advanced technology, R&D projects take place with 3 clear objectives: to guarantee the continuous improvement of our products, to ensure constant product innovation and to maintain leadership in European scale projects. In 2011 a new automated manufacturing line of conventional PV modules was inaugurated. Based on the most advanced technology on the market, it is expected to duplicate the production capacity of our plant, making ISOFOFOTON more competitive and efficient.

The factory, which was built following the criteria of bioclimatic architecture, is an example of integration of photovoltaic technology. The facades incorporate special ceramic photovoltaic modules architecturally integrated for grid connection. On the factory roof there is an installation of thermal collectors which provide hot water for industrial processes and vacuum tubes for air conditioning. In addition, the skylight is composed by grid connected PV modules. In 2008 our factory received the Eurosolar award by the European Association for Renewable Energies in the category of "Solar Architecture Projects."

## Our business lines

ISOFOTON has 3 business lines that cover the entire value chain span for the use of light and solar radiation:

- **Production of conventional photovoltaic modules and trackers:** Our modules, made of high quality and durable materials, are designed to achieve high performance and increase profitability. Modules are distributed independently or together with single/dual axis trackers, developed by AFFIRMA ENERGY. Module installations with trackers guarantee the maximum use of solar radiation in all weather conditions. Power output increases up to 42% in comparison to modules without trackers.
- **Production of high concentration modules (HCPV):** We are pioneers in investigating high concentration photovoltaic technology and thus, in this field our technology is situated among the best in the world. High concentration modules guarantee an increased power output of almost 50% in locations of high levels of solar irradiation. HCPV modules are sold with the newest trackers engineered by INDRA.
- **Development of photovoltaic projects:** We offer our customers the combined expertise of ISOFOTON as developer of rural electrification facilities in over 60 countries, and of AFFIRMA ENERGY, in setting up solar PV projects of all scales for industrial and residential use.

## Research & Development

In ISO FOTON we have always kept the same innovative ambition, a sign of identity that commits us to solar energy research with the purpose of finding better and more efficient solutions. The R&D Centre of ISO FOTON is amongst the most innovative in the world and has the latest equipment and installations. Our technology reflects our 30 years of experience.

The R&D team is working in different fields and is prepared for rapid industrialization due to scientific achievements. All with one goal: efficiently utilizing the energy from the Sun. Our commitment to research is one of the strategic pillars of growth of ISO FOTON.

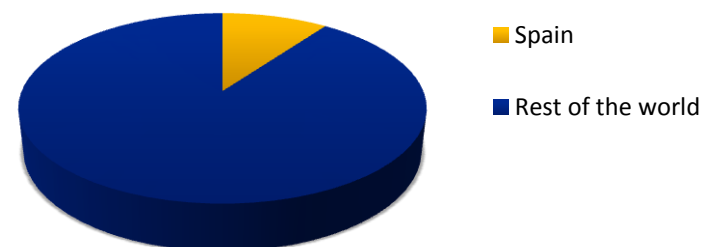
We work in collaboration with the most prestigious universities and research centers from Spain and around the world. Amongst others we have strategic alliances with companies such as INDRA for the development of trackers specifically designed for HCPV modules, or ISFOC.

Many of our research projects have an international dimension. We are currently involved in several projects within the FP7 (Seventh Framework Programme for research and technological development). One of them is related to high concentration photovoltaic technology and three are devoted to silicon technology.

## ISO FOTON worldwide

Since the beginning ISO FOTON has exercised a strong international approach developing projects and opening headquarters and subsidiaries in strategic countries. Today ISO FOTON is a global company which employs highly qualified multinational talent. At the moment ISO FOTON has offices in the main markets: Italy, Germany, France, Morocco, China, U.S.A., South Korea and United Arab Emirates.

ISO FOTON SALES WORLDWIDE



## Emblematic projects

Isofoton has also been a pioneer in the development of solar energy projects in both rural and urban locations. The following projects are considered representative and prove our experience in the solar energy sector:

- **Photovoltaic roof at the offices of Reis Robotics** (Obernburg am Main, Germany)  
Photovoltaic installation located at the Reis Robotics central offices in Obernburg am Main, Germany. The total power output is 1 MW.
- **Photovoltaic pergola at the Forum of Cultures** (Barcelona, Spain)  
The Forum of Cultures of Barcelona was one of the most relevant events in cultural and social life on the international agenda in 2004. The project consists of a photovoltaic system of nearly 4000 m<sup>2</sup> and 2682 I-165 modules built into a giant pergola. This construction has already become a hallmark of the city and make PV energy more understandable to everyone.
- **Photovoltaic generation plant** (Carmona, Spain)  
With 46 hectares, this project is the largest installation that ISO FOTON has in Spain. It consists of 225 dual-axis trackers that generate 6.04 MW.
- **PV Soundless: Sound Barrier on the A2 motorway** (Freising, Germany)  
The PV sound barrier located on the A2 motorway, with a length of 1.2 km, protects Freising from noise while generating electricity that is injected into the network. In this pilot project, funded by the EU, special ceramic modules were used for soundproofing. A total of 6750 ceramic modules and 1080 standard modules were used in this project (500 kW).



- Sardinia Parking: Photovoltaic parking lot** (Ottana, Italy)  
 A photovoltaic parking with a power output of 1.09 MW. The installation consists of 4992 IS-220 modules mounted on a laminated wood pergola. The construction of the parking lot is part of the industrial restructuring plan of Ottana, located in Sardinia.
- Micro-photovoltaic stations** (Morocco)  
 Installation of 1215 photovoltaic micro-plants connected to the grid with a total of 760 kW of installed power distributed throughout small installations that vary from 500 to 1000 kW. This project is part of the ONE initiative (Office National d'Electricite in Morocco) aimed at developing solar systems in urban areas.
- Thermal Solar Energy at Barcelona Airport** (Spain)  
 The new terminal at Barcelona Airport is the site of one of Europe's largest thermal solar energy facilities. ISOFOTON has installed 696 thermal solar panels on a total surface of 1535 m<sup>2</sup>, equivalent to 1072 kWth.
- Photovoltaic Greenhouse** (Recanati, Italy)  
 The PV system of 250 kW located in Recanati, southern Italy, was specially designed to fit the greenhouse dimensions, replacing the original glass covering.





## Quality and product warranties

In ISO FOTON we consider quality an essential tool to achieve the excellence of our products and processes.

We manufacture our solar cells and modules controlling the process from beginning to end, ensuring the highest quality in all our products. Since 1999 we maintain a quality management system certified to the requirements of ISO 9001. We work on continuously improving our production processes with the objective of raising the level of customer satisfaction.

Our products are approved and certified following the IEC 61215, IEC 61730, and UL 1703 standards. Also, all raw materials that are incorporated to the production process are approved by those international standards.

The production processes are audited periodically by the most prestigious international laboratories. ISO FOTON solar simulators are certified annually by TÜV, earning the highest rating (AAA) which ensures precise and accurate measurement of photovoltaic modules.

This allows us to offer one of the fullest warranties in the market:

- 10 year product warranty.
- 25 years of linear power warranty, which improves significantly (over 7, 5 %) the standard warranties in sections.

A customer service, staffed by a team of skilled technicians, completes our clients' commitment.



## Commitment to Sustainable Development

ISO FOTON is committed to sustainable development through the high social value of our products which contribute to global environmental conservation, besides making life easier for people in poor regions where solar energy is the only method of obtaining water and electricity. The following points prove our commitment:

1. Since 2001 we maintain an environmental management system certified by the ISO 14001 norm. In 2008 we reinforced our commitment to the environment by adhering to the EMAS Regulation of the European Union. In 2010 we adapted our environmental commitment to R. 1221/2009 (EMAS III).
2. With the purpose of making the photovoltaic industry an example of true sustainability, in 2007 we promoted the set up of the PV-Cycle Association, which aims to ensure the collection and recycling of photovoltaic modules at the end of its useful life.
3. ISO FOTON strictly meets the environmental legislation, in terms of pollution control, as well as preservation of natural resources.



## Awards and Recognition

Over the years the effort and commitment of ISO FOTON has been awarded with numerous prizes.



## Contact Information

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## **ANNEX: Available images for press use**

To access the files of our image gallery click on the link of interest.

[Logos ISOFOTON](#)

[Logos AFFIRMA](#)

[Logos INDRA](#)

[Sobre la fábrica](#)

[Sobre seguidor APOLO](#)

[Sobre módulos HCPV](#)

[Sobre proyectos](#)

[Sobre módulos convencionales](#)

[Sobre el proceso productivo](#)

[Sobre la línea Reiss \(automatización\)](#)

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