

from the origins of photovoltaics to the present day

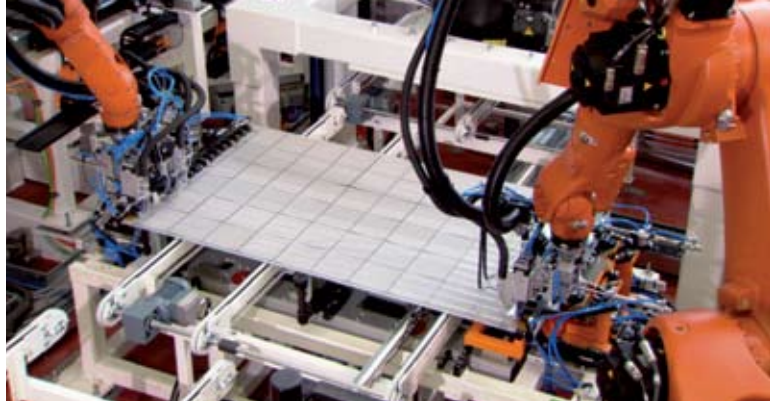
**an entrepreneur's path,
the history of photovoltaics**



pioneers of photovoltaic



A mixture of business inspiration and technological genius: Franco Traverso is one of the most authoritative protagonists of the international green economy.



The story of Franco Traverso mirrors that of Italian-made photovoltaics. His is a business path begun on his own, somewhat against the stream where technological innovation set the beat and aims of the great challenge of renewables. Franco Traverso, currently Chairman and President of Silfab S.p.A., is renowned as the trailblazer of photovoltaics in Italy, initiator of a technology which was unknown until the eighties and relegated to the studies and discussions of a very restricted elite of specialists. His is a challenge which lasts thirty years, tackled right from the beginning with an eye attentive to the opportunities of a sector which he contributed towards building from zero. This same sector is now generating two-figure growth trends. It is a mixture of business inspiration and technological genius that drove Traverso in the course of his long adventure to develop international patents, create industrial processes, sign partnership and joint-venture agreements, and realize technological transfers all over the world. The results make him one of the most authoritative protagonists of the international green economy, a piece of history of European photovoltaics.

The year Helios Technology was founded with its base near Padua and the start of production of monocrystalline silicon cells (beginning with the processing of silicon from electronic production, with regeneration and cleaning by sand-blasting) and modules for the national and foreign markets. The production technology was purchased from a Californian company. Other players in Italy included publicly-owned companies in the State sector, the ENI (petroleum) and IRI (industrial reconstruction) groups. At the time, Helios modules had a power density that touched on the highest values in the world. Helios Technology was the first private Italian company in the photovoltaics sector.

1982



The jewel in the company's crown is the flexible module fitted with light glazing, ideal for the sailing and electric car sectors.



Development of turnkey components and systems, installation of systems and kits in various parts of the world and in developing countries such as Kenya and Burundi (for lighting, pumping water, refrigeration, etc.).



1981

1984

1986



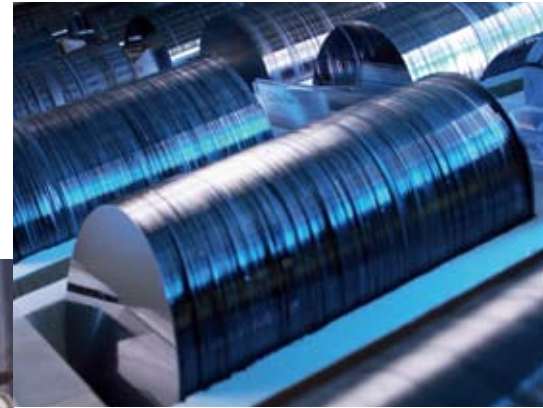
Participation in the experimental Delphos photovoltaic plant in Manfredonia (Enel) with a parcel of 65 kW. At the time the Helios parcel recorded the best efficiencies and 24 years later it is still supplying a power of more than 80% of the initial output.

Production of monocrystalline silicon ingots and wafers through a joint venture with a Russian company for participation in the 3MW ENEL plant at Serre Campano (Salerno). Helios Technology is the only Italian company apart from the state-controlled ENI. Italy's first photovoltaics value chain was born with the production of ingots and wafers. Thanks to their high performance and reliability, in the 1990s Helios modules are increasingly used to realize a wide variety of PV systems in Germany.



1990

1994/95



Introduction of a new chemical system for the regeneration of silicon from electronic products. Transfer of cell/module production technology to India, Sweden and South Africa.

2000

Traverso founds Solaris, a module production company in Croatia. Today Solaris has a production capacity of 90 MW and records revenues of 80 million euro.



Supply of 2500 photovoltaic street lamps to Brindisi. Satellites reveal Brindisi to be the best illuminated zone of Italy during the great electricity blackout in September 2003.

Production begins of a new cell of the monocrystalline type measuring 165x165 mm, which saw the introduction for the first time of 3 aluminium bus bars that provide a considerable increase in mean power output. Many players are introducing them on the market today, 10 years after their first appearance, thanks to the Padua entrepreneur.



1999

2001

2002



Transfer of the module production technology to China. A production plant with an annual output of 1.5 MW rises in Beijing.
Today it is one of the main companies in the sector worldwide.

Automation of the cell production line and increase of the production capacity from 3 to 10 MWp. Helios Technology is able to reduce the production process to just 4 steps compared with the 10-12 used with traditional technologies.



2003

2004



Patent of a machine for the removal of metals and integrated circuits from wafers for regenerating silicon (IPEU). The technology is exported abroad and used by manufacturers of electronic circuits for cleaning confidential industrial traces from reject material.

2007

June 2006. Helios Technology enters the Kerself Group listed on the Milan stock exchange. Traverso continues working in Helios as CEO.



Installation of a new 30 MW mono and polycrystalline silicon cell production line, unique in Europe in terms of efficiency and technology. Start-up of the production of polycrystalline modules (less sensitive to impurities). The modules produced have powers of up to 245 kWp, among the highest available on the market, for plants with increasingly greater performance.

End 2007. Traverso founds Silfab SpA while remaining at the head of Helios. Silfab launches the project for an integrated photovoltaics value chain, starting from the production of solar grade polysilicon. Borgofranco d'Ivrea (Turin) is initially identified as the site for the Silfab project.



2006

2007

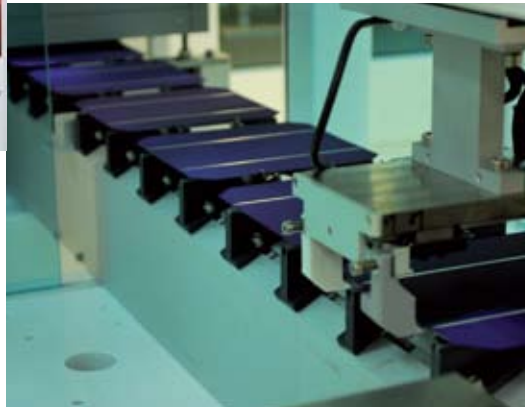
2008



Helios Technology proceeds with the installation of a second cell production line for achievement of a production capacity of 60 MWp. Franco Traverso, along with the Padua company, SAITA, patents a system for the integrated treatment, with zero discharges, of the waste waters (IWT) which permits 98% of the waters to be reused.

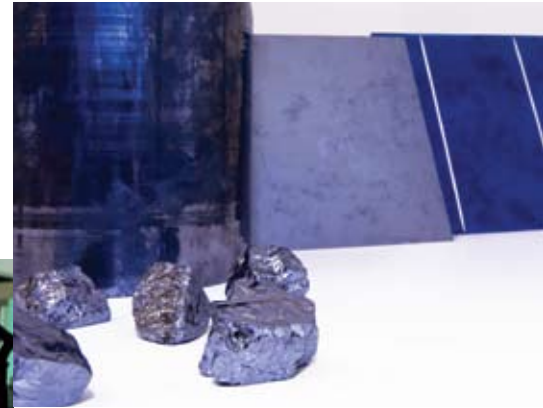
May 2008. Traverso leaves the management of Helios Technology to dedicate himself completely to Silfab.

July/September 2008. Silfab opens to two international shareholders (PAS and SAS) for the realization of a fully integrated supply chain. The former initiated and financed among the most important photovoltaics companies in China. The latter, Taiwanese, has been producing silicon ingots and wafers since 1981 and today is one of the major producers of photovoltaic components in the world.



2008

2009



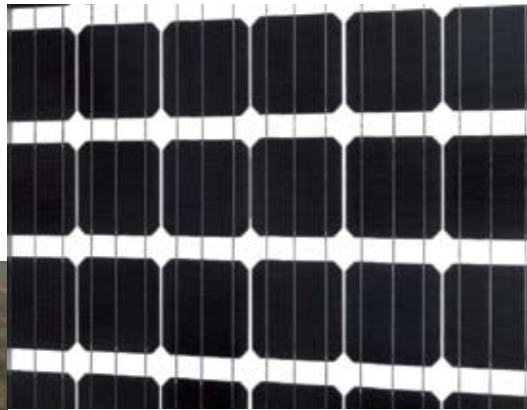
November 2009. The Silfab project extends to the entire value chain, from the polysilicon to the module, and moves from Borgofranco d'Ivrea to North America where the availability of hydroelectric energy makes it possible to launch a "Green to Green" model. What the project actually aims to do is to transform every kWh used into 15 kWh of solar energy produced by the module during its lifespan.

2010

End 2009. Silfab diversifies its activities in the photovoltaic sector with the creation of solar parks with a high energy yield. The first 9 MW are inaugurated in Southern Italy, in the provinces of Bari and Taranto, and record excellent energy yields.



2009



March 2010. Launch on the market of the new high-efficiency modules: SLA, SLG and SILUX series. The last of these make it possible to combine power with transparency and are ideal for use in agricultural greenhouses.

April 2010. Joint-venture agreement with REgeneration Finance LLC., a leading North American company for development in the solar energy sector. The agreement confirms the collaboration between REgeneration and the Padua company, through its North American affiliate, Silfab USA LLC., for the implementation of financial, commercial and production projects.



2010

2010



June 2010. Traverso initiates the procedures for the establishment of Silfab Ontario Inc., 100% controlled by the Silfab International holding company. The location scouting begins for the new production facility which envisages a highly automated line for the production of high-efficiency monocrystalline and polycrystalline silicon photovoltaic modules, with an initial production capacity of 120 MW.

September 2010. The company announces the extension of its business area. The capacity of its photovoltaic module production unit reaches the annual 180 MW mark. The scale of the project is broadened following the OEM partnership program launched by Silfab. Silfab Ontario Inc. leases a 10,000 sq.m facility for its production unit in Mississauga (Ontario). For a total investment in phase one of 11 million Euro, Silfab Ontario will start up the production unit in two stages. It will launch the first 60 MW production capacity in the early months of 2011 before raising it to 180 MW.



2010

2010



October 2010. Silfab takes a 10% share in the structure of Idrofin Srl, a company specialized in the hydroelectric field with activities in the renewable energy sector.

and the story goes on...



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