

## Solar Energy South Africa

# Photovoltaic panel patent technology achievements display



## Overview

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What are the patents on photovoltaic cells?

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of generators for the direct conversion of light energy into electric energy and in the area of solar panels adapted for roof structures.

Why are photovoltaic cell patent registrations important?

Photovoltaic cell patent registrations are a valuable data set in the analysis and diffusion of PV technology and R&D activities. The dynamics of PV R&D activity is considered high, documented in a large increase in PV patent documents .

What is the technological knowledge basis of photovoltaic-thermal system?

The technological knowledge basis of this route is constituted by patents on solar cells with an integrated diode and bypass method, passing through photovoltaic panels with individually articulated concentrating elements and patents on receivers for concentration of photovoltaic-thermal systems. 5.2.4.

Does PV technology have a role in patenting?

The technical review of these patents has shown the global continuous efforts for improving PV technologies and addressing their technical challenges. Taken together, the results show that the PV technological system has been deeply connected with patenting activities since its emergence in the past century.

Where are PV patents filed?

The analysis shows that 95% of the PV patent applications were filed by inventors from seven countries: Japan, Korea, China, USA, Germany, Taiwan, and France. Most patents were filed by companies and related to thin-film and crystalline-silicon cells as well as panel encapsulation and supporting

structures.

How has photovoltaic technology developed over the last 30 years?

Photovoltaic technology has developed rapidly over the last thirty years. The main activities of photovoltaic patents began in the late 1950s and the main photovoltaic patent assignees at that time were involved in the space business , . Patent data has been widely used in technology assessment and forecasting , , , .

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### Analysis of the Evolution of Photovoltaic Industry Technology ...

technology track, photovoltaic industry, technology life cycle . Abstract: Based on the patent data of the photovoltaic industry, this paper uses technology life cycle analysis and main path ...

### Patents help to power the world: tracing developments ...

The development of solar panels and solar technology has continued to progress over the years to modern times. Many thousands of subsequent patents have been filed that incorporate photovoltaic systems, ...



### On Display: Smithsonian Shares the History of Solar

Solar on the Line explores the innovation and technology behind solar power as a renewable energy resource and presents multiple views on the potential benefits and challenges of this technology. This display introduces visitors to the ...

### A green expansion: China's role in the global deployment and ...

Electricity generation from solar energy is achieved with the help of photovoltaic panels. China is the leader in PV panel production [12] [13][14]. Buyukzeren et al., SPP Konya Meram Medical



## Intellectual property and the next generation of solar technology

Solar technology is one of the key drivers of the renewable energy market, with a band of leading innovators helping to shape the sector. Intellectual property and the next generation of solar ...

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