

# MANZ BACKGROUND INFO HISTORY



Development of the first automation system for processing crystalline solar cells in a pilot manufacturing project

Founding of Manz  
Automatisierungstechnik GmbH

## OVERVIEW

1987

1990

## 25 YEARS OF INNOVATION AND PROGRESS

For over 25 years, Dieter Manz has spurred technological advancement. In this time, it has not only been photovoltaics that the company has brought out of the lab and onto the factory floor – turning solar power into a serious alternative within the energy mix in the process. Manz has also developed production lines for flat panel displays for many years and, in doing so, has done its share to make such displays, tablet computers, and smartphones affordable for almost everyone today. In recent years, equipment for the production of lithium-ion batteries has become increasingly important for Manz. Storing renewable energy and electric transportation are two major future topics, and Manz is working actively on their development.

On the twenty-fifth anniversary of the company's founding, we would like to look back at some milestones in Manz's history and the events and technological achievements that moved us back then.



*"When Manz was founded, the first color displays for personal computers were just coming onto the market. I believe both our company and the technologies we have developed have made quantum leaps since then."*

**Dieter Manz, CEO**



*"It goes without saying that we closely followed the topics politicians discussed when it came to solar power. At the time the '1,000 Roofs' program gave us the confidence that, as a company, we could make it with the right products."*

**Uwe Schwaderer,**  
first employee of Manz Automatisierungstechnik GmbH



Dieter Manz with the first industrial robot in a test laboratory.

<p>First automation system for manufacturing flat panel displays ships to Asia</p>	<p>Shipment of the first automation system for a completely automated production line of crystalline solar cells</p>	<p>Manz enters the thin-film solar market with equipment for mechanically structuring CIGS solar modules</p>	<p>Manz goes public: IPO on the Entry Standard segment of the Frankfurt Stock Exchange</p>	<p>Acquisition of Christian Majer Tübingen for the purpose of expanding production capacities</p>
<p>1994</p>	<p>2000</p>	<p>2005</p>	<p>2006</p>	<p>2007</p>
<div data-bbox="219 619 338 767" data-label="Image"> </div> <p data-bbox="347 619 660 794"> <i>"Handling extremely thin glass in clean-room conditions was a significant challenge for us. We have learned a lot since then."</i> </p> <p data-bbox="347 805 571 906"> <b>Gerhard Zucker,</b>  <b>Product Manager for Automation</b> </p> <div data-bbox="219 1054 443 1278" data-label="Image"> </div> <p data-bbox="347 1289 660 1364">             At 40 %, today the FPD division generates the largest share of the company's revenues.         </p>	<div data-bbox="555 922 683 1066" data-label="Image"> </div> <p data-bbox="689 922 1142 1209"> <i>"The solar power subsidy that has been available in Germany since the year 2000 has resulted in the country developing into the largest test market for photovoltaics as well as the technologies developed here being used all over the world – which is further proof of our responsibility when it comes to climate change."</i> </p> <p data-bbox="689 1220 974 1284"> <b>Antonio Schmidt,</b>  <b>Head of Sales for cSi Solar</b> </p> <div data-bbox="1055 695 1182 839" data-label="Image"> </div> <p data-bbox="1189 695 1507 871"> <i>"According to an Emnid survey, 60% of Germans support phasing out nuclear power. The use of renewable energies is being pushed forward."</i> </p> <p data-bbox="1189 882 1388 983"> <b>Dr. Thomas Umschlag,</b>  <b>Head of Sales for Thin Film Solar</b> </p> <div data-bbox="1189 1284 1429 1519" data-label="Image"> </div> <p data-bbox="929 1401 1176 1449">             2005: Manz moves into new headquarters in Reutlingen.         </p>	<div data-bbox="1391 1145 1518 1289" data-label="Image"> </div> <p data-bbox="1525 1145 1977 1321"> <i>"For the first time, more televisions will be sold with LCD displays than with plasma displays because they are becoming increasingly affordable thanks to significant progress in production technology."</i> </p> <p data-bbox="1525 1332 1769 1396"> <b>Eric Chen,</b>  <b>President of Manz Asia</b> </p>	<div data-bbox="1727 619 1854 762" data-label="Image"> </div> <p data-bbox="1861 619 2157 1023"> <i>"The use of smartphones was spreading like wildfire all over the world – thanks to fast Internet connections and excellent apps. Manufacturers needed to build factories for production quantities that were previously unimaginable. This is a development we could also benefit from significantly."</i> </p> <p data-bbox="1861 1034 2105 1129"> <b>Robert Lin,</b>  <b>Vice President of Sales in Asia</b> </p>	

Additional technological expertise and manufacturing capacity gained through the acquisition of Manz Slovakia and Intech Taiwan

Development partnership for the production of lithium-ion batteries

Founding of a development center for vacuum coating technology in Karlstein, Germany. Partnership agreement with Würth Solar regarding the use of CIGS production technology

Manz presents a thin-film solar panel with a world-record efficiency of 14 %

Founding of Manz CIGS Technology GmbH and acquisition of the innovation line from Würth Solar. Opening of a new production facility for 700 employees in Suzhou, China

2008

2009

2010

2011

2012



*"The financial crisis led many people to have doubts about globalization and the associated flows of capital and goods – one of the reasons Manz was able to bounce back quickly was thanks to our successful diversification strategy."*

**Martin Hipp, CFO**



*"Hybrid cars with combustion engines and electric motors were popular. Today we know that cars powered completely by electric batteries will soon also have sufficient range as well."*

**Albrecht Werner,  
General Manager of Manz  
Tübingen GmbH**



*"When the iPad was introduced, many people were skeptical that a tablet computer would take off. Today, no one is questioning that any more. One of the reasons is that touchscreen displays are becoming increasingly more affordable – a development we are actively promoting with our technologies."*

**Simon Hsieh,  
Vice President of  
Flat Panel Displays**



*"At Manz, we view globalization as an opportunity. With our roots in Baden-Württemberg, we bring the renowned art of German engineering to all corners of the earth."*

**Dr. Harald Wanka,  
Head of cSi Solar**



*"The earthquake in Japan and the nuclear disaster in Fukushima that followed once again demonstrated that technology needs to be controllable before it can be used over the long term."*

**Dr. Claus Kuhn,  
Head of Thin Film Solar**



2012:Ulrike Manz, Dieter Manz, and Zhou Weiqiang, the mayor of Suzhou, celebrated the opening of the new production facility in China together with 600 guests.



Lithium-ion batteries have been mass-produced on Manz production lines since early 2011.

In 2011 the One-Step Selective Emitter for crystalline solar cells was honored with the Intersolar Award.

