SMART SOLUTIONS TO DRIVE THE FUTURE

Optical Disc and Solar

SINGULUS TECHNOLOGIES AG

Milestones

- 2011 New order for Selenization Oven for CIS Thin Film Solar
- 2010 Start of expanded Solar Strategy
  Major order for new Thin Film Solar Production System
  First FAT for Front End System
  Market share > 90 % in prerecorded Blu-ray Production Systems (excl. Sony)
- 2009 First shipment of SINGULAR
- 2008 Acquisition of Blu-ray business from Oerlikon
- 2007 Acquisition of STANGL
  Start in the Solar equipment market
  First revenues in Blu-ray replication lines
- 2006 Takeover of majority share in largest competitor HamaTech
- 2004 2nd Mastering acquisition
- 2001/2002 Acquisition of injection molding and 1st Mastering company
- 1997 Introduction of DVD Inline Systems
- 1996 Introduction of CD Inline Systems
- 1995 Start of SINGULUS TECHNOLOGIES

Overview 2010

Optical Disc

- Growth in Blu-ray
- Stable service business
- Remaining Optical Disc slow
- Centralizing Optical Disc in Kahl

Solar

- Shipment of SINGULAR
- Orders partially delayed
- Weak Thin Film market
- Positioning in Crystalline Silicon

Financials

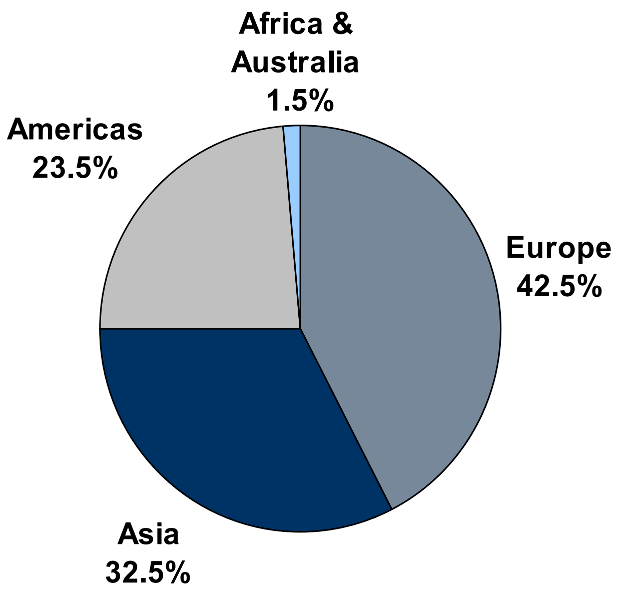
- Achieved lowered forecast figures in revenues (i.e. € 118.5 million)
- Improvement of cost base
- Impairments and depreciations in Q3/2010 of € 67.8 million
- Order intake up by 57 % from 2009
- Expected growth in Optical Disc and Solar for 2011
- Expect to break even in 2011

Preliminary Figures 2010 (unaudited)

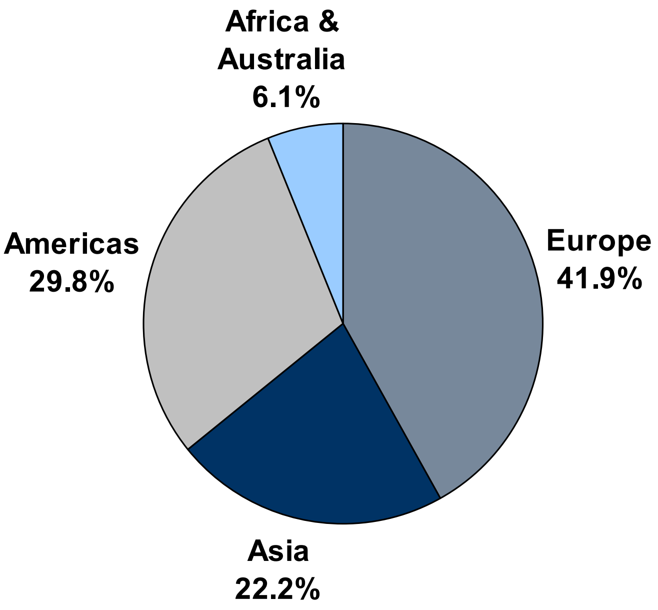
in million €	2009	**2010**
Sales	116.6	118.5
Order Intake	81.1	127.2
Order Backlog	34.7	35.9

Sales Split by Region – 9 Months

Sales split by region 2009

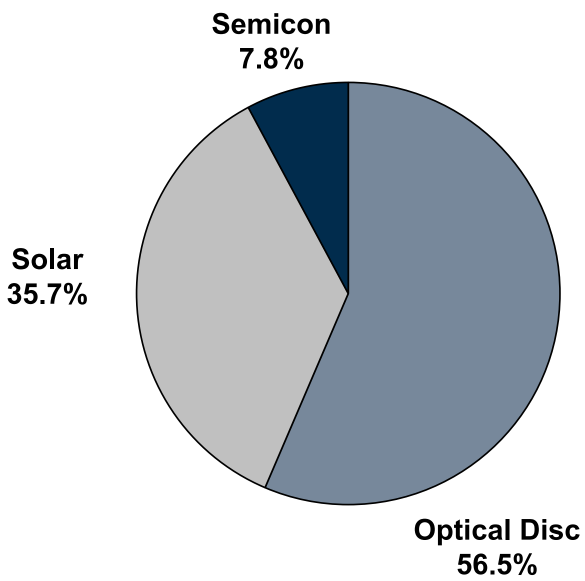


Sales split by region 2010

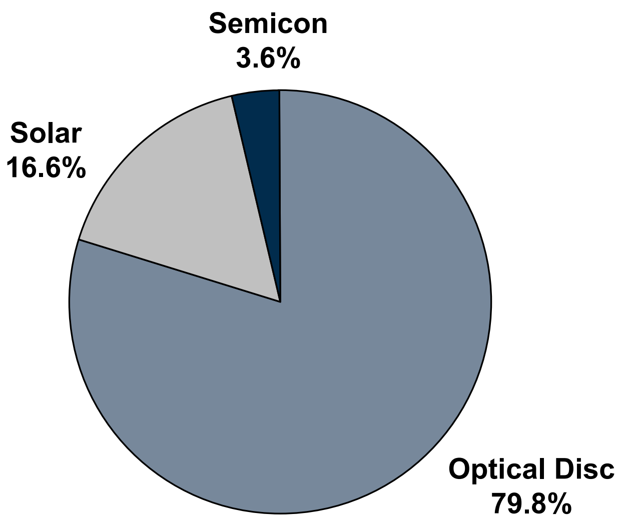


Sales Split by Products 9 Months

Sales split by products 2009



Sales split by products 2010



Employees

	Q3/2008	Q3/2009	Q3/2010
SINGULUS	500	381	324
STANGL	159	175	130
HamaTech	105	77	(sold)
SINGULUS Group	764	633	454
Domestic	497	461	333
Abroad	267	172	121

Our Major Segments

Optical Disc

- Mastering
- Molding
- Replication

Solar

- Coating
- Wet Processing
- Systems Business

SINGULUS Covers the Complete Value Chain

For all disc formats CD – DVD – Blu-ray

Mastering → **Molding** → **Metallizing** → **Bonding Laquering** → **Finishing**

SINGULUS

The Total Solution

OPTICAL DISC

3D Ready: Production Systems for all Blu-ray Formats

Standard Setting BLULINE II

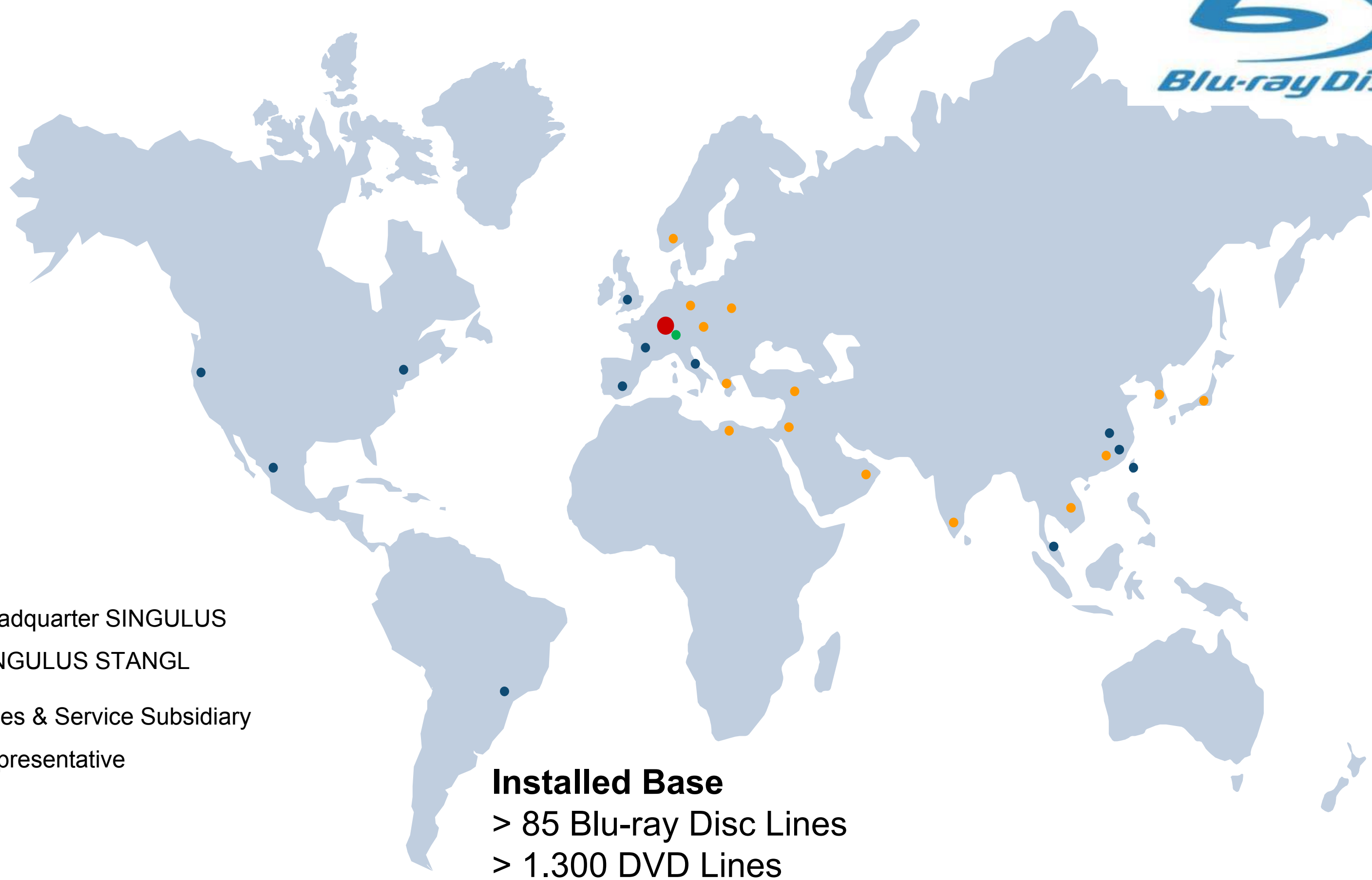
- Best of class
- Market share 90 % (excl. Sony)
- Excellent equipment performance
- > 85 Blu-ray systems installed base
- Platform for BD 75 & BD 100

CRYSTALLINE

- Ready for Dual Layer Blu-ray
- Well-established in the market

OPTICAL DISC

SINGULUS Blu-ray Disc Lines Installed Base Worldwide



- Headquarter SINGULUS
- SINGULUS STANGL
- Sales & Service Subsidiary
- Representative

Installed Base

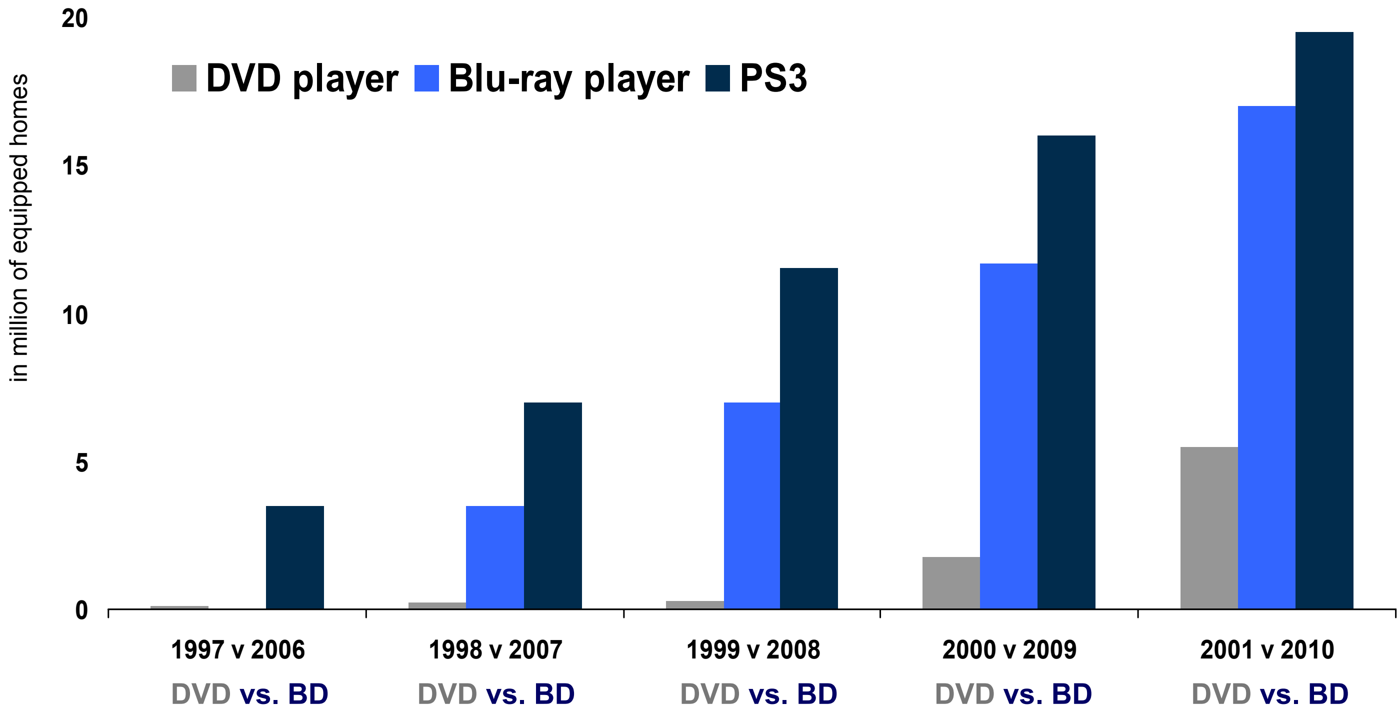
> 85 Blu-ray Disc Lines

> 1.300 DVD Lines

> 1.900 CD Lines

Speed of 5 years for DVD vs. BD Players in Europe

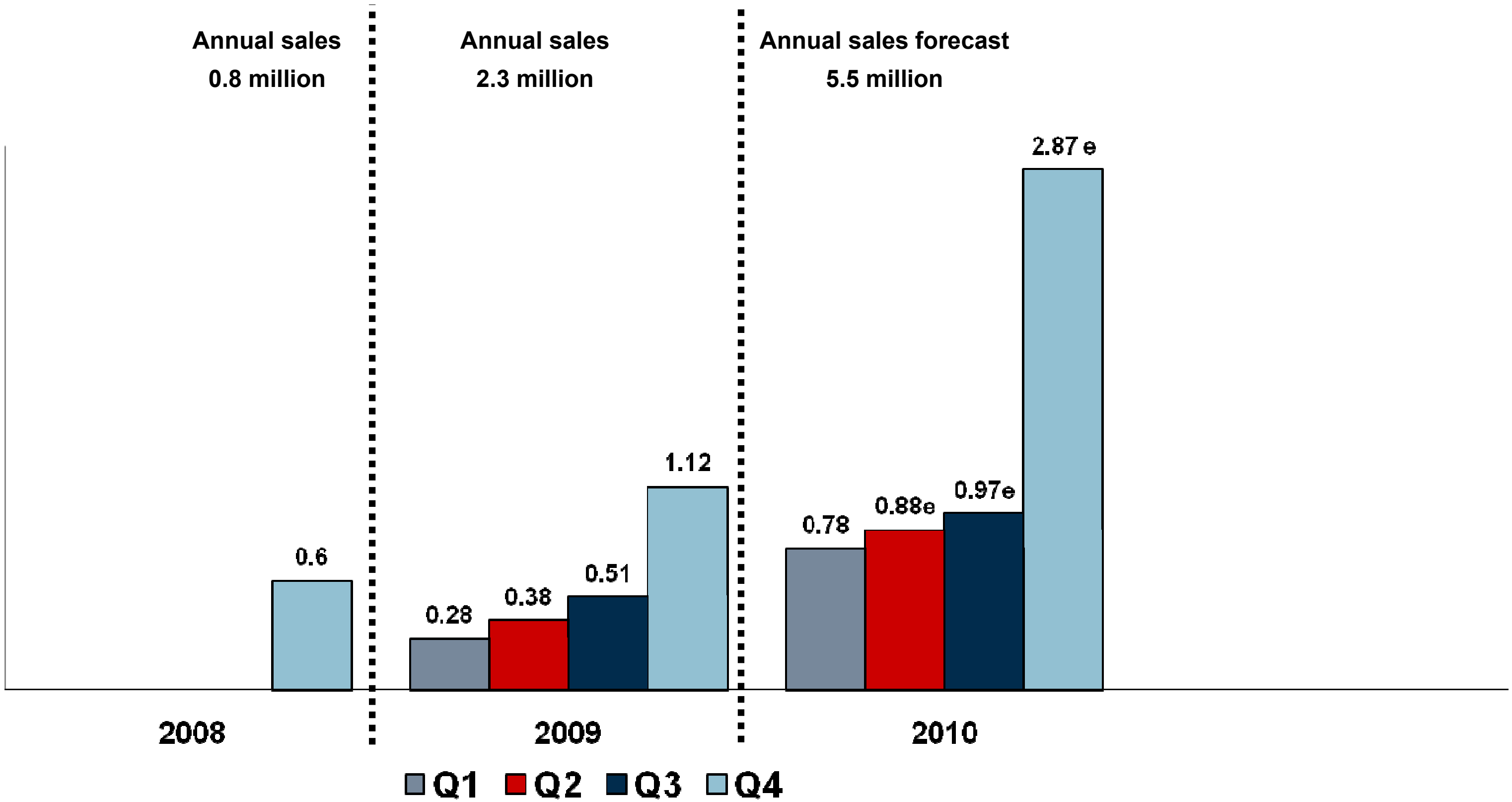
Market penetration of Blu-ray playing devices much higher compared to DVD



Source: Replix Magazine, March/April 2010, Screen Digest

European Blu-ray Player Sales Building Up

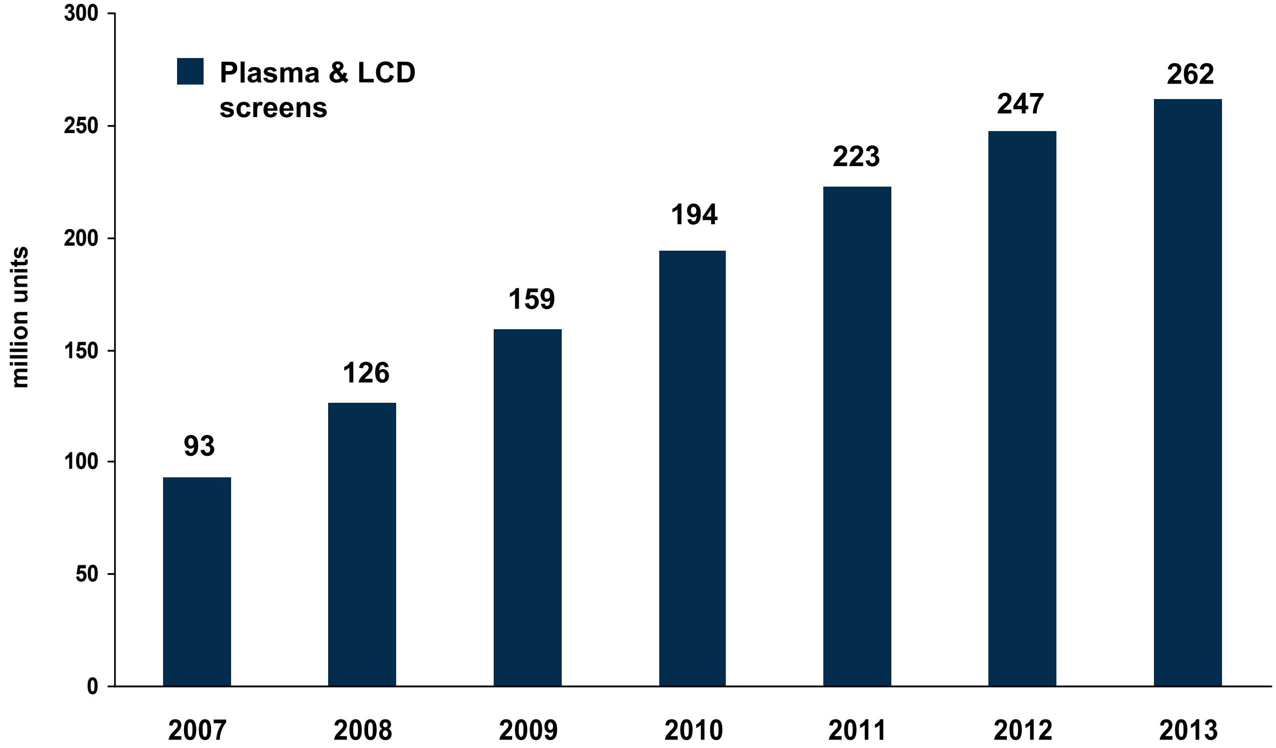
Annual sales* (million)



* Data relates to top 16 European markets.

Source: 2010 Futuresource Consulting Ltd

Flat Panel TV Market Development: Annual Shipments Global



Source: Futuresource Consulting, Dec. 2009

About 1600 Blu-ray Releases in 2010, more than 3000 in total

Source: http://www.bluray-disc.de/

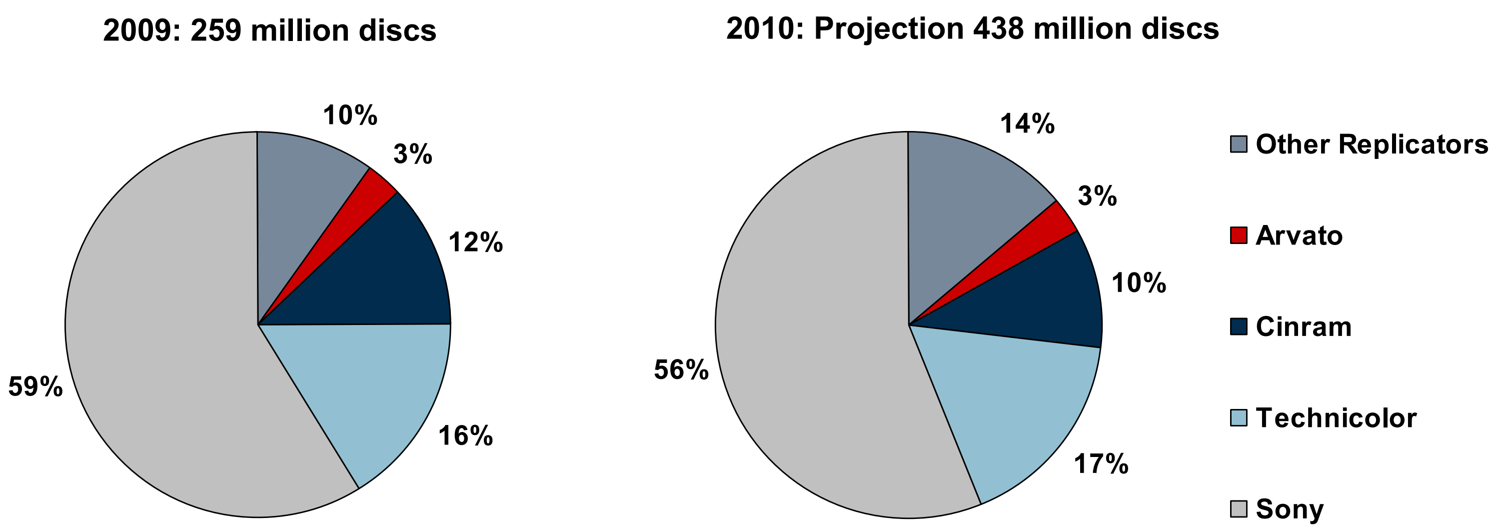
High Resolution 3D Movies

3D Movies are the killer application for Blu-ray

http://www.bluray-3d.de

Tier 1 Replicator Blu-ray Video Market Share Evolution

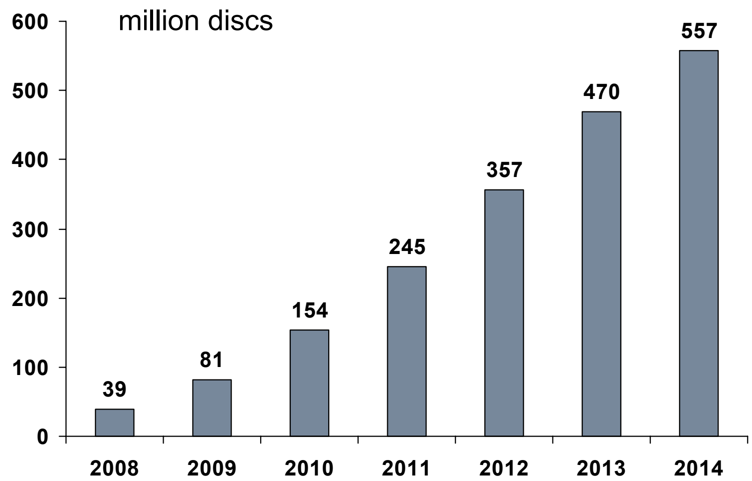
Worldwide Blu-ray Video Production



Source: 2010 Futuresource Consulting Ltd

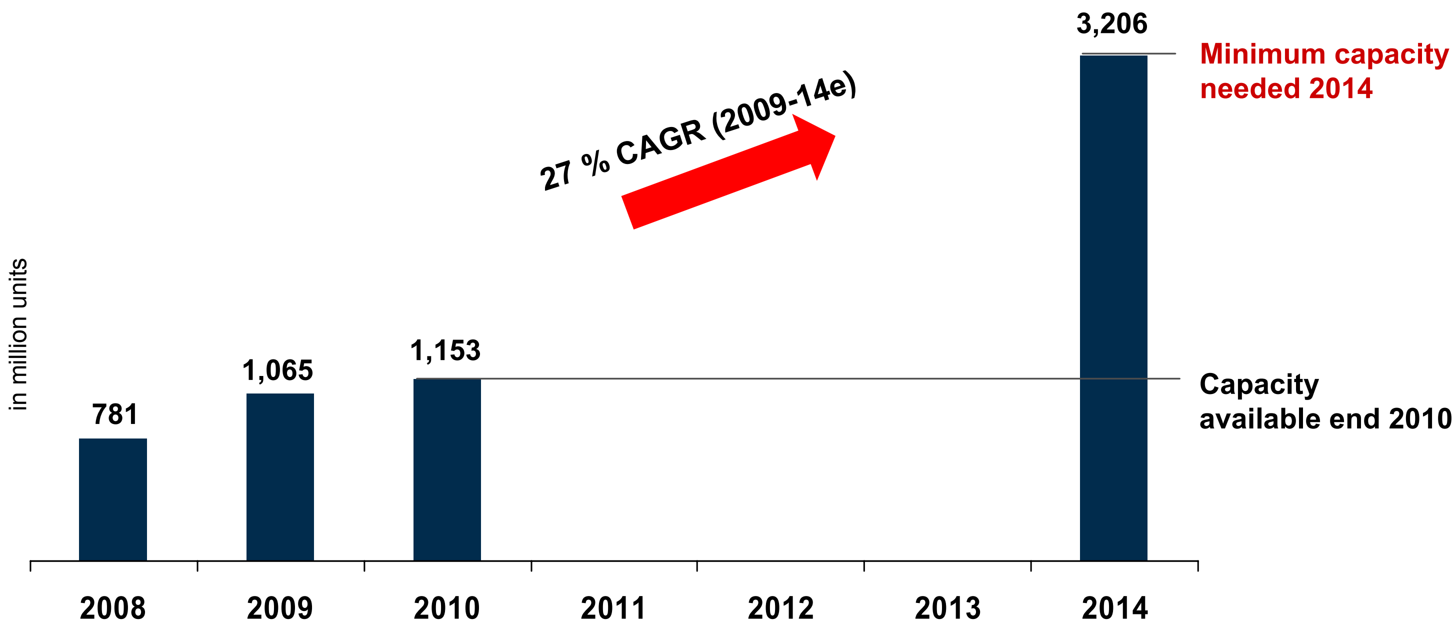
A New Market: BD-R/BD-RE

Projected Global BD-R/RE Disc Production



Minimum Future Prerecorded Blu-ray Pressing Capacity Worldwide

Significant Growth potential is forecasted for the foreseeable future



Source: Futuresource Consulting, April 2010

Packaged Media Remains Major Revenue Stream

Unstoppable Momentum

- +80 % in Blu-ray disc sales in USA *(9 months 2010, (DEG))*
- +104 % BD players sales in USA *(9 months 2010, (DEG))*
- 62 million 3D TVs expected in 2011 *(ABI Research, USA)*
- +67 % in Blu-ray disc sales in Europe *(3. Quarter GFK International)*
- Packaged Media remain the major revenue generator for Studios *(Futuresource Consulting 2010)*

Innovation via Blu-ray

- 3D Movies will boost the Blu-ray market
- Packaged media DVD & Blu-ray generate revenues for Hollywood studios of more than 50 % of total revenues

Source: Blu-Ray Association / SINGULUS/ FutureSource

Our Major Segments

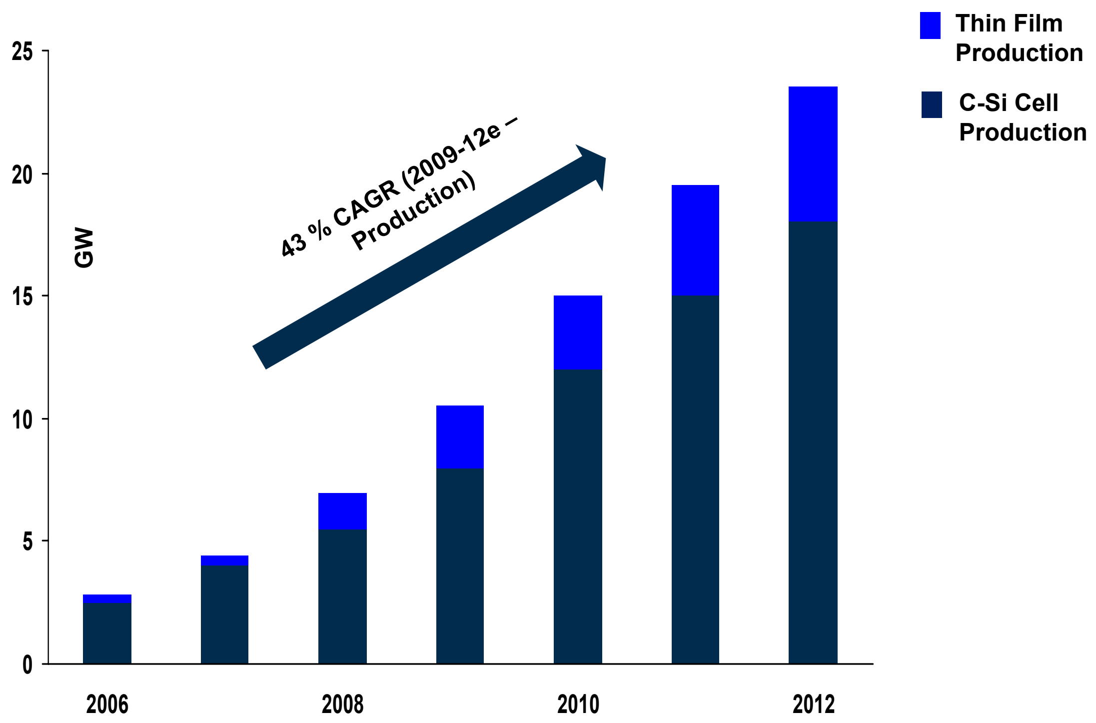
Optical Disc

- Mastering
- Molding
- Replication

Solar

- Coating
- Wet Processing
- Systems Business

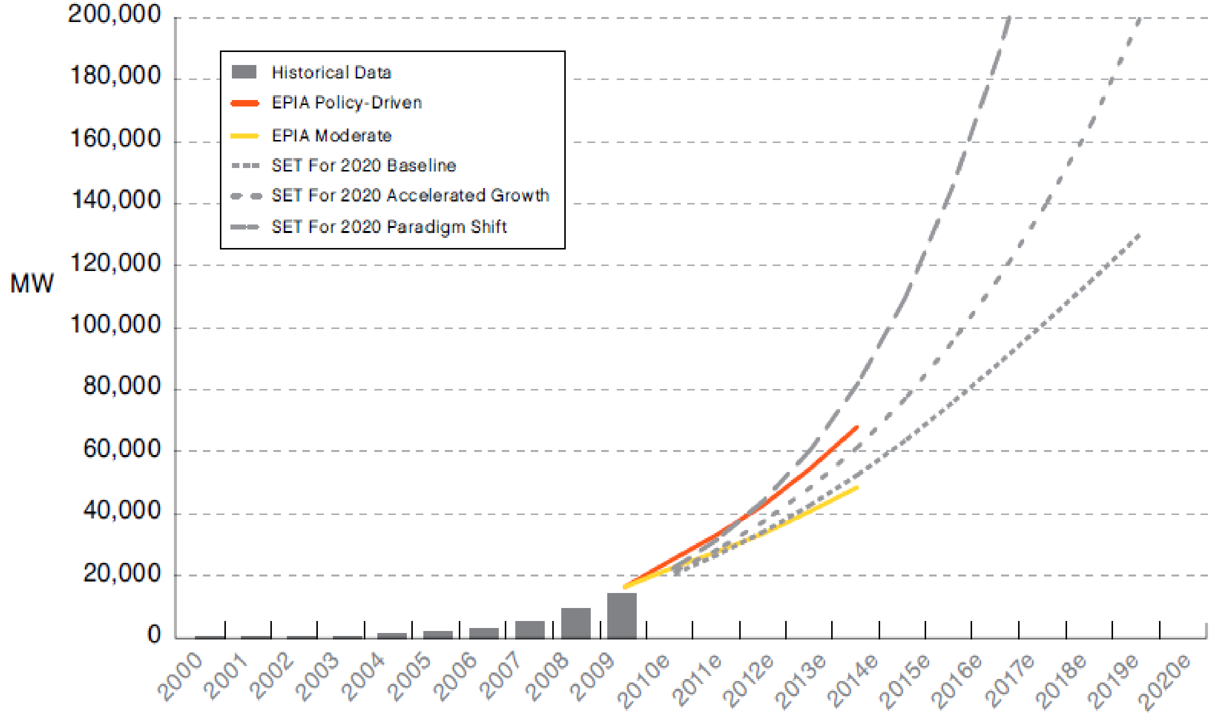
Cell Production Capacity



Source: Bank Sarasin, December 2009

2012-2014 Forecasts and the „SET For 2020“ Targets in EU

Paradigm Shift: Targets up to 12% of the EU electricity consumption from PV by 2020



Source: EPIA, Global Market Outlook for Photovoltaics until 2014, May 2010

Solar – Successful Market Entry & Development

2007

- Takeover of Stangl
- Start of SINGULAR development
- Inline Wet Processing for SI cells

- Cooperation with HZB for ILGAR
- Large Order for flexible CIGS solar cells
- Shipment of 1st SINGULAR

2010

- 1st Order for inline diffusion furnaces
- FAT for 1st front end system
- Complete solutions with partners

2011

- Orders for SINGULAR machines
- Integrated PV production systems
- More orders for inline diffusion furnace
- Stronger thin film market
- Active R & D for new cell design
- Stronger development of the Asian sales network

SOLAR

Roadmap for c-Si Equipment

Today

- Machine in production
- Standard processes developed
- High-efficiency processes in development
- Co operations with several interested institutes and lead customers for new cell concepts in progress
- New orders acquired and further expected
- Sales activities in Asia enhanced

- Systems in production in front-end line integrated

- Integrated c-Si production systems and corresponding standard processes defined
- Marketing of systems has started

Tomorrow

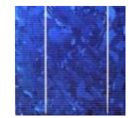
- Application of high efficiency cell processes on existing equipment
- Introduction of new equipment for advanced cell concepts
- Integration of high efficiency processes into system business

SINGULUS

Integrated System Business for Crystalline Solar

Silicon production → Ingots/ wafers → **Cells/ modules** → System integration → Distribution/ installation

Etching → Texturing → Doping → PSG Removal + Edge Isolation → AR Coating + Passivation → Metallizing → Edge Isolation → Firing → Test + Sort



SOLARE System for Inline Production of Si Solar Cells with LINEA
and two SINGULAR & a back-end with double capacity offering approx. 60 MW

2 x LINEA / 1 SINGULAR / 5 x Handling – c-Si Front-End System

Development of Passivation Layers (SINGULAR)

Single SiN:H (front)
(State-of-the-art)

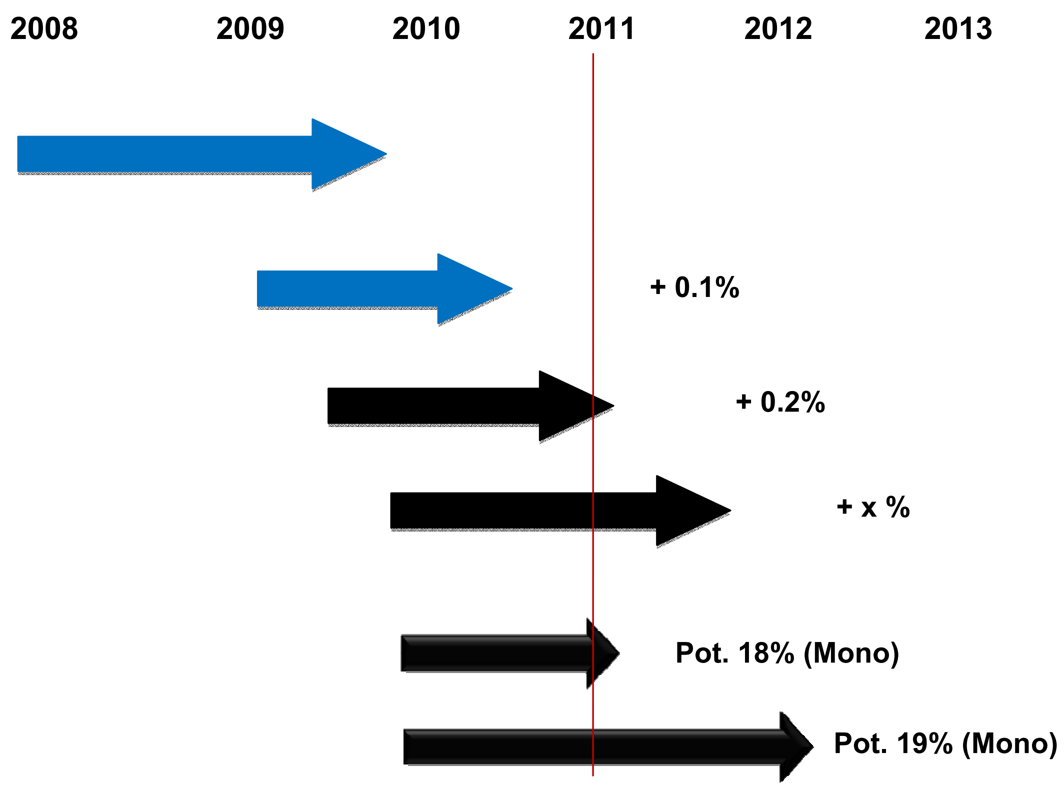
Dual SiN:H (front)

DARC SiN/SiNOx (front)

a-Si / SiN:H (front)

SiN:H (rear)

a-Si / SiN (rear)



All processes in SINGULAR realized
no additional process step

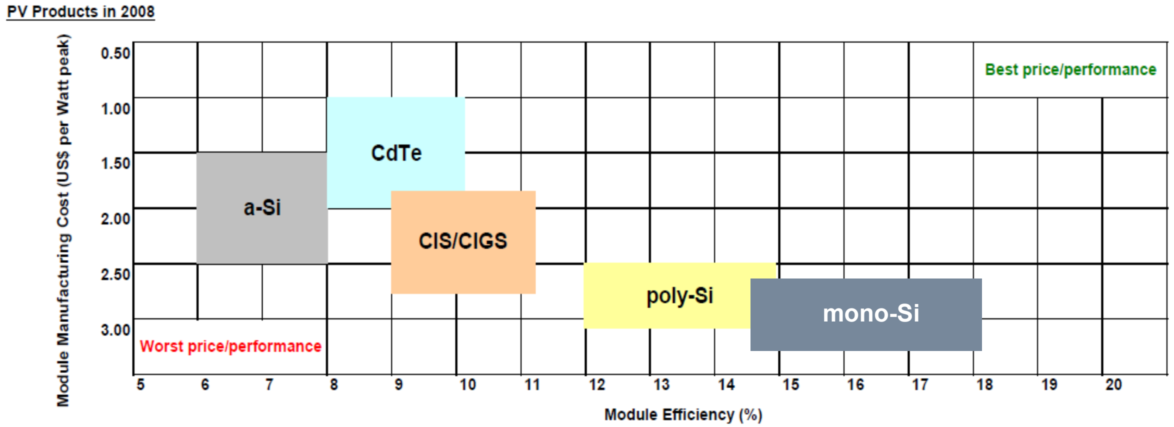
Further Strategy
Crystalline Solar

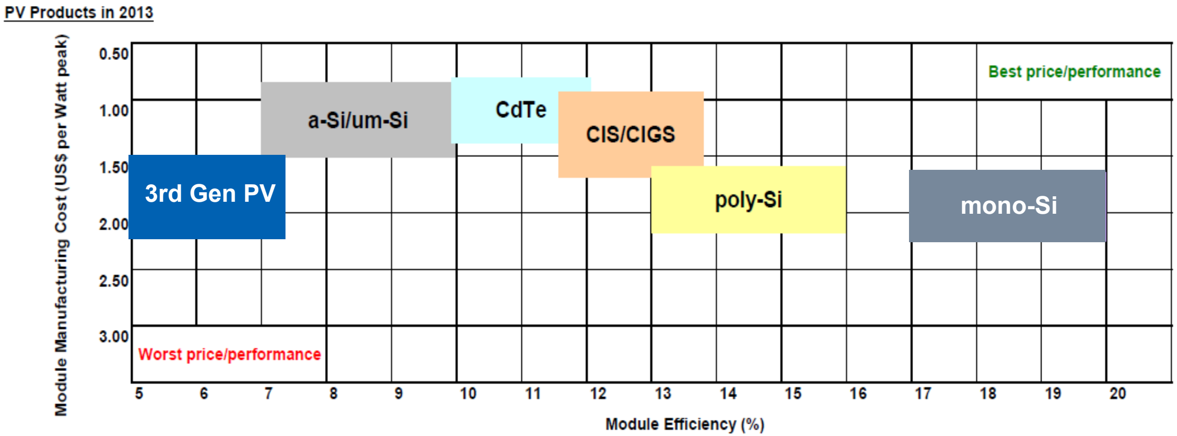
Intensified marketing & further product development

- Transfer of „Optical Disc“ inline concept to PV production
- Integrator of PV production technology
- Set up of manufacturing site in China for wet processing systems
- Active participation in new cell design

SOLAR

SINGULUS Thin Film - Focus on CIS/CIGS

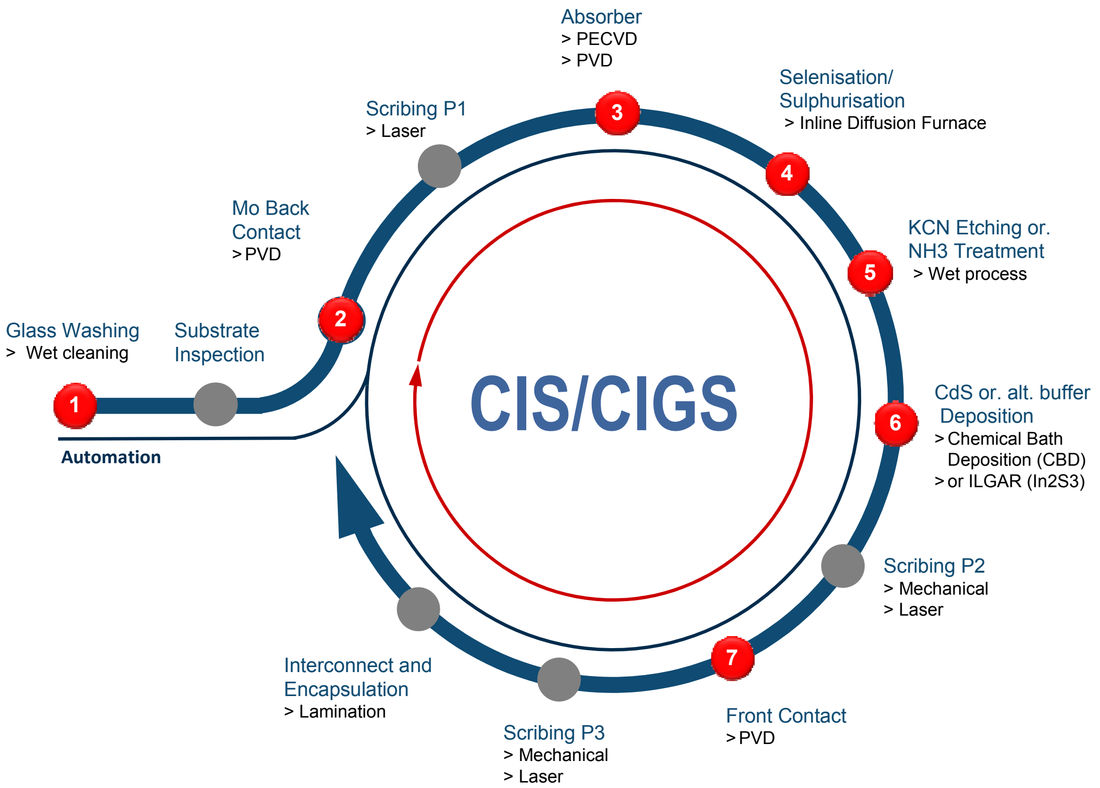




Source: Envision – Solar energy solutions report 2008

Thin Film - CIS/CIGS Manufacturing Process

SOLAR



Singulus Product Portfolio	
1	VITRUM Clean
2	PVD Back Contact
3	PVD Absorber
4	INSE
5	VITRUM KCN
6	TENUIS altn. ILGAR or IMPEDIO
7	PVD TCO

SINGULUS

Cooperation Partner

Singulus Automation

Process Support/ Integration

Wet Process Applications / Cleaning / Washing / Etching Coating

<u>CIS/CIGS/CIGSSe</u>

TENUIS

Single Side

CdS/ZnS Buffer Layer

Glass Substrates

up to 1600x1200 mm

Inline

<u>CIS/CIGS/CIGSSe</u>

IMPEDIO

Single Side

CdS/ZnS Buffer Layer

Flexible Substrates

up to 1000 mm width

Inline

<u>CIS/CIGS/CdTe/a-Si</u>

VITRUM

Cleaning/Etching

(e.g. TCO/KCN/NH3)

Glass Substrates

up to 2600x2200 mm

Inline

2nd Generation for Inline Diffusion Furnace Optimized Cycle Time

SOLAR

Development of Buffer Layer Deposition

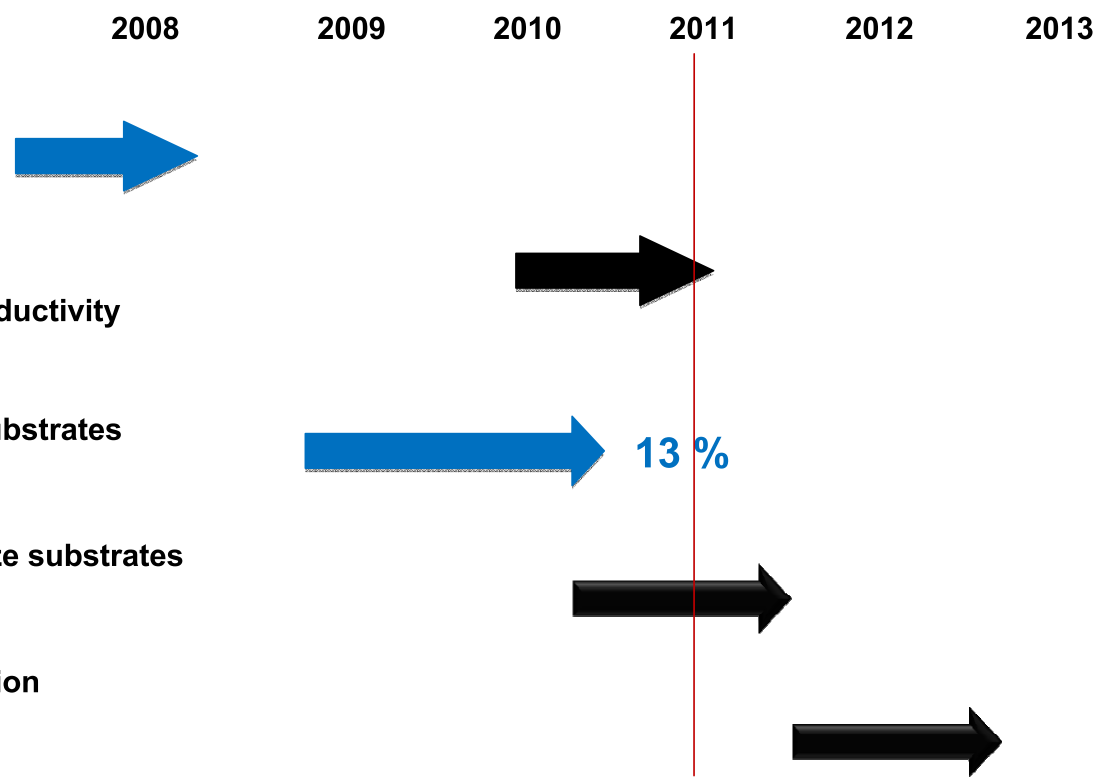
TENUIS
- **CBD - CdS**

TENUIS
- **CBD Cd-free**
- **increased productivity**

ILGAR
- **30 x 30 cm² substrates**

ILGAR
- **production size substrates**

ILGAR
- **mass production**



Further Strategy Thin Film Solar

Innovative products

- Become standard equipment supplier for thin film solar module production
- Business expansion with inline diffusion furnaces
- Focus on highest cell efficiency in CIS/CIGS production
- Cadmium and zinc sulfid buffer layer with TENUIS
- Introduction alternative Cd-free buffer layer – ILGAR

Showing Profits in 2011

Optical Disc

- Only one-stop supplier and No. 1 for Blu-ray equipment globally
- Strong growth for Blu-ray in the next years
- Excellent products
- Strong growth for Blu-ray machines in 2010 achieved and further expected for 2011
- Production know how for the coming market of rewritable/recordable Blu-ray (BD-RE/BD-R)
- Achieving growth and good profitability

Solar

- Well positioned in attractive, sharply growing solar market
- Setup of improved sales network in Asia
- SINGULUS AR coating technology gaining market share
- Realizing complete systems
- Growing market share in Thin Film
- Solar segment expected to break-even in 2011

SINGULUS TECHNOLOGIES AG
Hanauer Landstrasse 103
D-63796 Kahl/Main

Dr.-Ing. Stefan Rinck, President and CEO
Tel . +49-6188-440-109
Stefan.Rinck@singulus.de

Markus Ehret, CFO
Tel . +49-6188-440-204
Markus.Ehret@singulus.de

Maren Schuster, Head of Investor Relations
Tel . +49-6188-440-612
Maren.Schuster@singulus.de

Bernhard Krause, Communications Worldwide
Tel . +49-6181-9828020
Bernhard.Krause@go-metacom.de

Forward-Looking Statements

This presentation contains forward-looking statements based on current expectations, assumptions and forecasts of the executive board and on currently available information. Various known and unknown risks, unpredictable developments, changes in the economic and political environment and other presently not yet identifiable effects could result in the fact that the actual future results, financial situation or the outlook for the company differ from the estimates given here. We are not obligated to update the forward-looking statements made in this presentation unless there is a legal obligation.