



Bundesministerium  
für Bildung  
und Forschung



SPECTARIS



VDMA

**ZVEI:**  
Die Elektroindustrie

KEY DATA

# PHOTONICS

## INDUSTRY REPORT 2013

## IMPRINT

## IN CHARGE OF CONTENT/PUBLISHER

### Workgroup Market Research Photonics

Mike Bähren	SPECTARIS e.V., Berlin
Harald Hartmann	SPECTARIS e.V., Berlin
Gerhard Hein	VDMA Laser und Lasersysteme für die Materialbearbeitung, Forum Photonik, Frankfurt am Main
Annika Löffler	VDMA Forum Photonik, Frankfurt am Main
Katharina Manok	ROFIN-SINAR Technologies Inc., Hamburg
Jürgen Polzin	ZVEI – Zentralverband Elektrotechnik- und Elektronikindustrie e.V., Frankfurt am Main
Ursula Tober	VDI Technologiezentrum GmbH, Düsseldorf

### 01. Management Report

BCC Business Communications Consulting GmbH, Rembrandtstraße 13, 60596 Frankfurt am Main, Germany

### 02. Study Results Photonics 2013

Optech Consulting Dr. Arnold Mayer, Bahnhofstraße 20A, CH-8274 Tägerwilen, Switzerland

Cover Photo: Fotolia

Berlin, Düsseldorf, Frankfurt am Main, Hamburg; May 2013

Photonics is an important global Key Enabling Technology leveraging growth and prosperity along the value chain for other industries and service sectors. To demonstrate this great potential and lever future cross sector opportunities the German Industry Associations SPECTARIS, VDMA, ZVEI supported by the German Ministry for Education and Research jointly publish the ‘Photonics Industry Report 2013’.



**SPECTARIS – Deutscher Industrieverband für optische, medizinische und mechatronische Technologien e.V.**

Werderscher Markt 15, 10117 Berlin, Germany



**Verband Deutscher Maschinen- und Anlagenbau e.V. (VDMA)**

Lyoner Straße 18, 60528 Frankfurt am Main, Germany



**ZVEI – Zentralverband Elektrotechnik- und Elektronikindustrie e.V.**

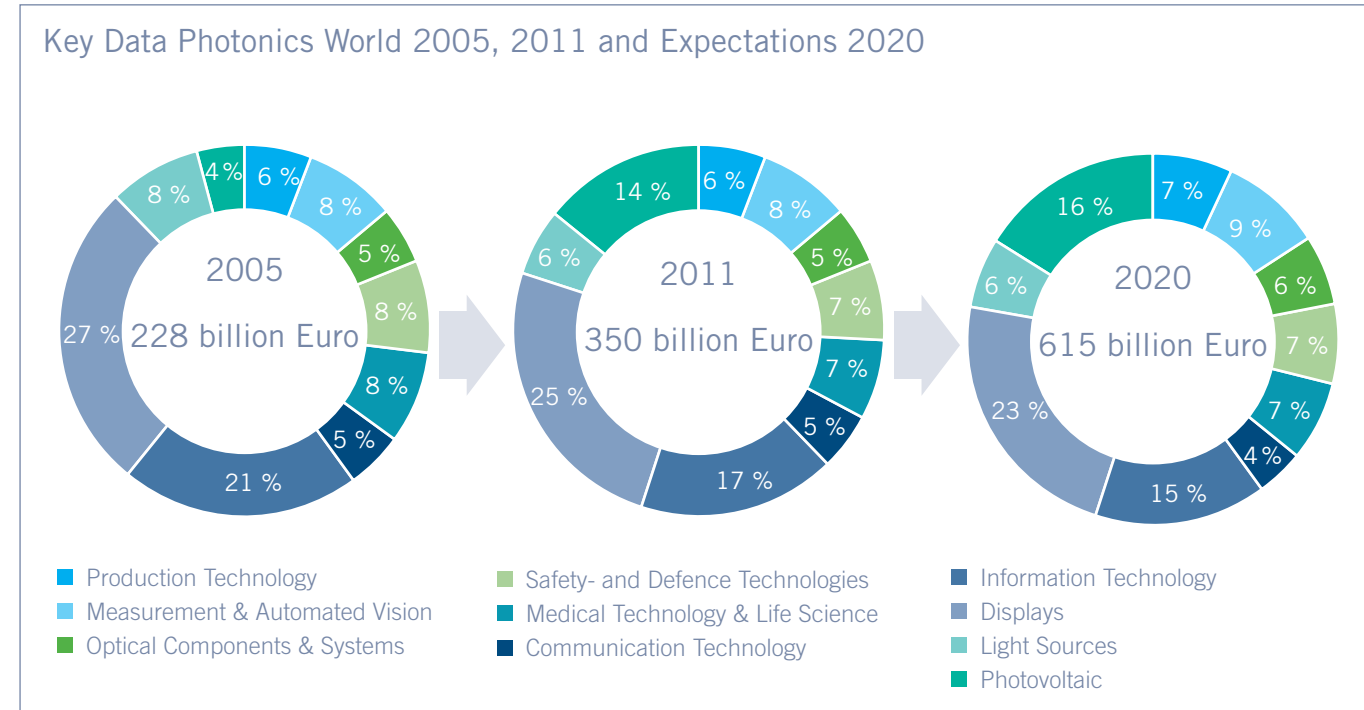
Lyoner Str. 9, 60528 Frankfurt am Main, Germany



**Bundesministerium für Bildung und Forschung (BMBF)**

Referat Photonik, Optische Technologien, 11055 Berlin, Germany

## KEY DATA OF THE GLOBAL PHOTONICS MARKET



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Optech Consulting, Study 'Photonik 2013'/Own calculations

## PHOTONICS – A STRONG INDUSTRY WITH EXCELLENT PROSPECTS

### Photonics World

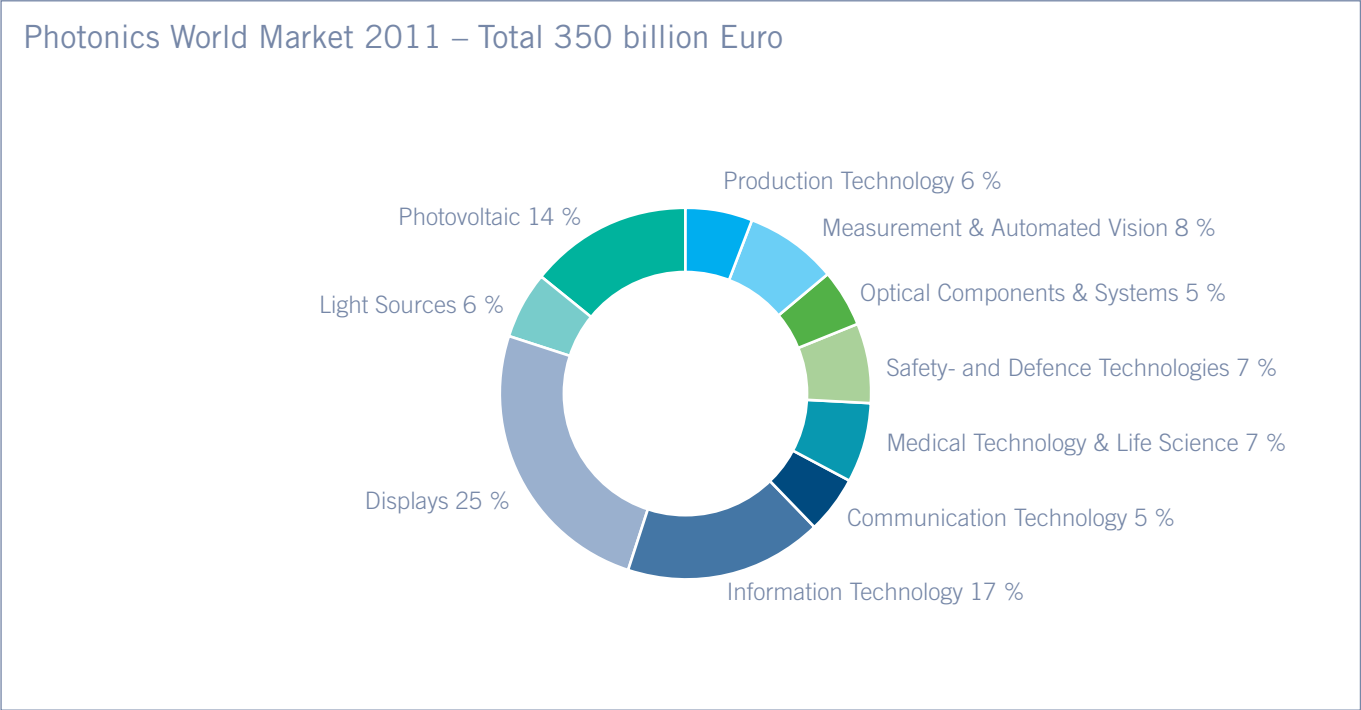
- From 2005–2011 Photonics was able to outgrow global GDP
- Expected market volume in 2020 ~ 650 billion Euro
- Global market share shift towards Asia
- China was able to catch up with global market leader Japan
- Europe was able to stabilize its market share at 18 %
- Market share loss of North America and Japan

### Photonics Germany

- Domestic Photonics production grew faster than global average
- Solid growth prospects in future
- Strong export contributor and job engine
- Four strong core segments with increasing global shares
- High R&D investment rate of 9 % above industry average
- Trend towards intelligent system solutions opens up opportunities

GLOBAL PHOTONICS MARKET 2011

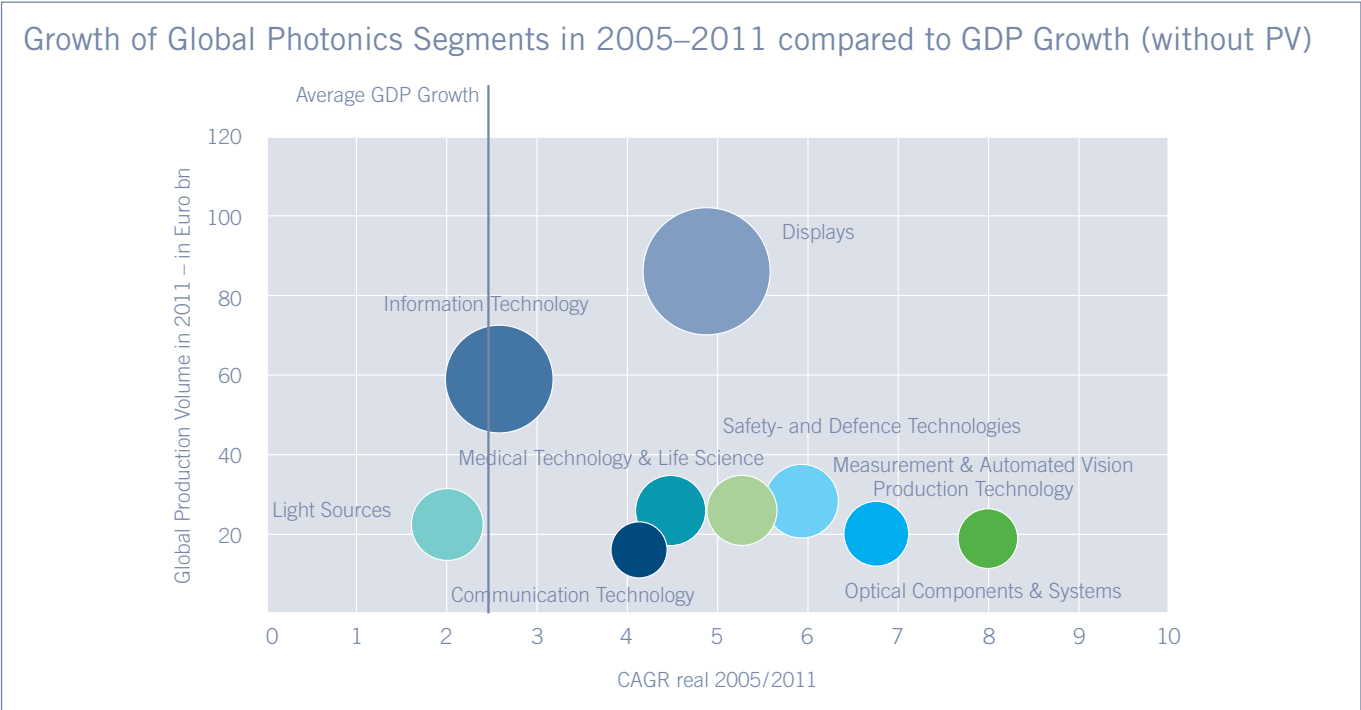
A 350 BILLION EURO MARKET  
WITH SOLID GROWTH



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Part 2: Study Results, Optech Consulting, Studie Photonik 2013

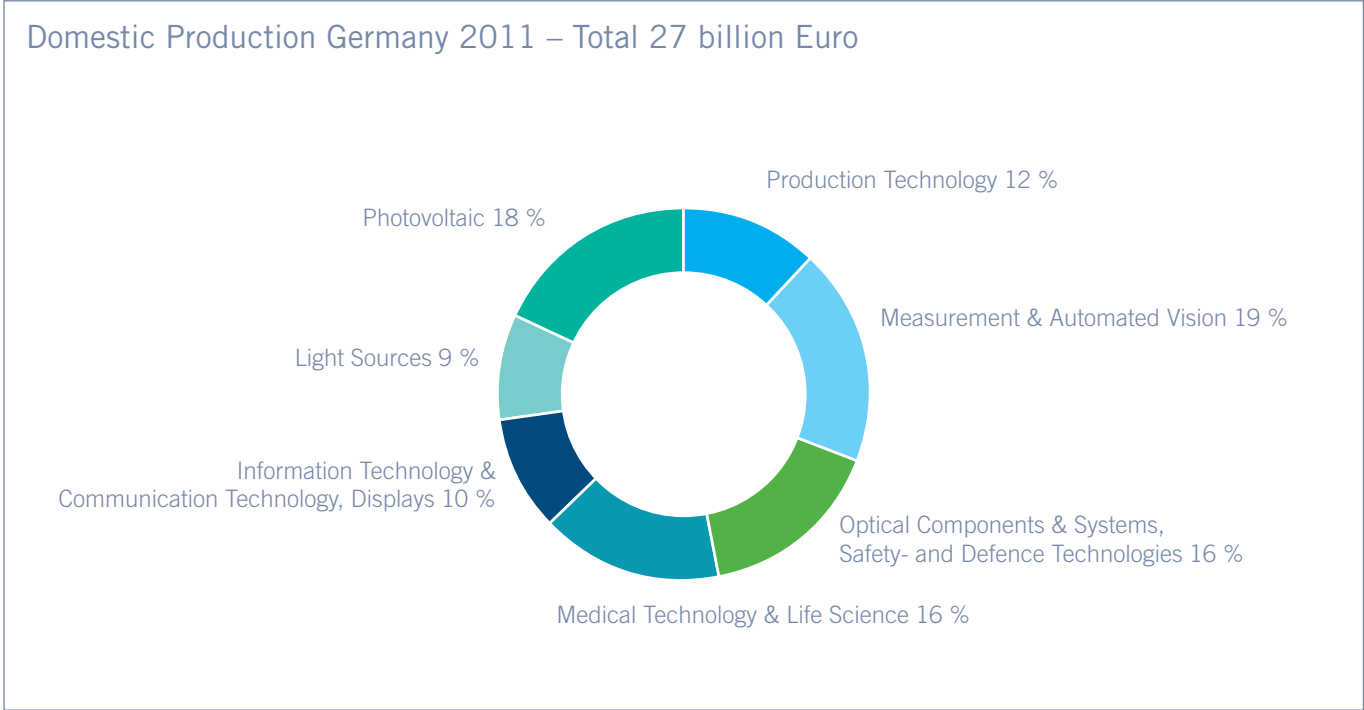
GLOBAL PHOTONICS MARKET 2011

STRONG SEGMENTS WITH GROWTH  
WELL BEYOND GDP



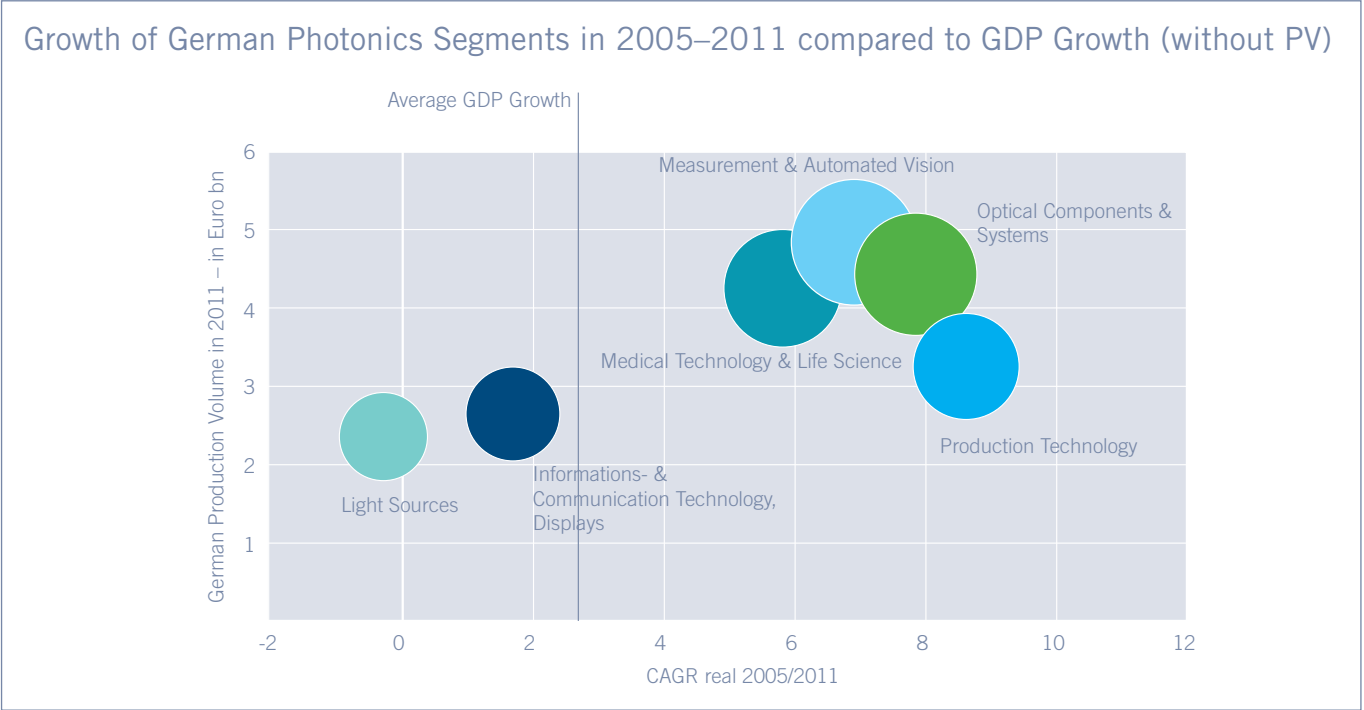
Bubble size indicates worldwide production volume in 2011  
Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Optech Consulting, Study ‘Photonik 2013’/Own calculations

# A 27 BILLION EURO MARKET WITH STRONG EXPORT CONTRIBUTION



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Part 2: Study Results, Optech Consulting, Studie Photonik 2013

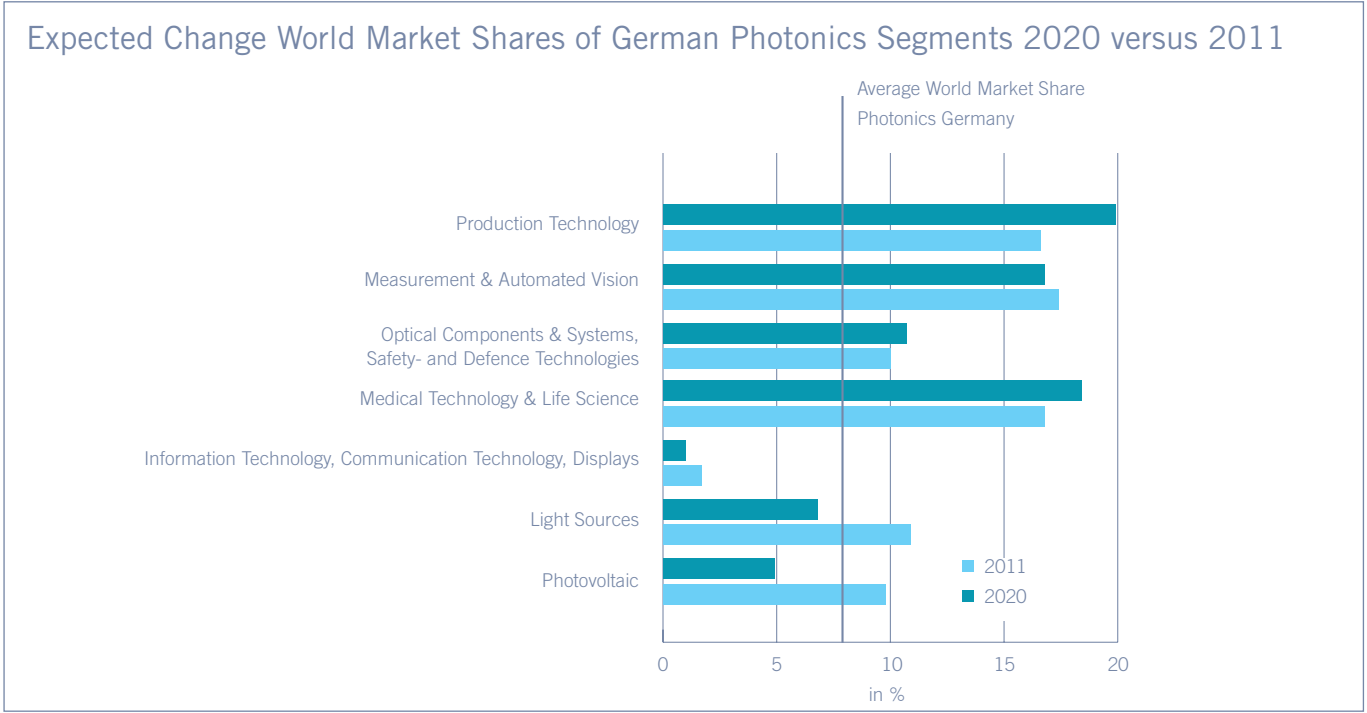
# FOUR STRONG CORE SEGMENTS DRIVING GROWTH AND INNOVATION



Bubble size indicates worldwide production volume in 2011

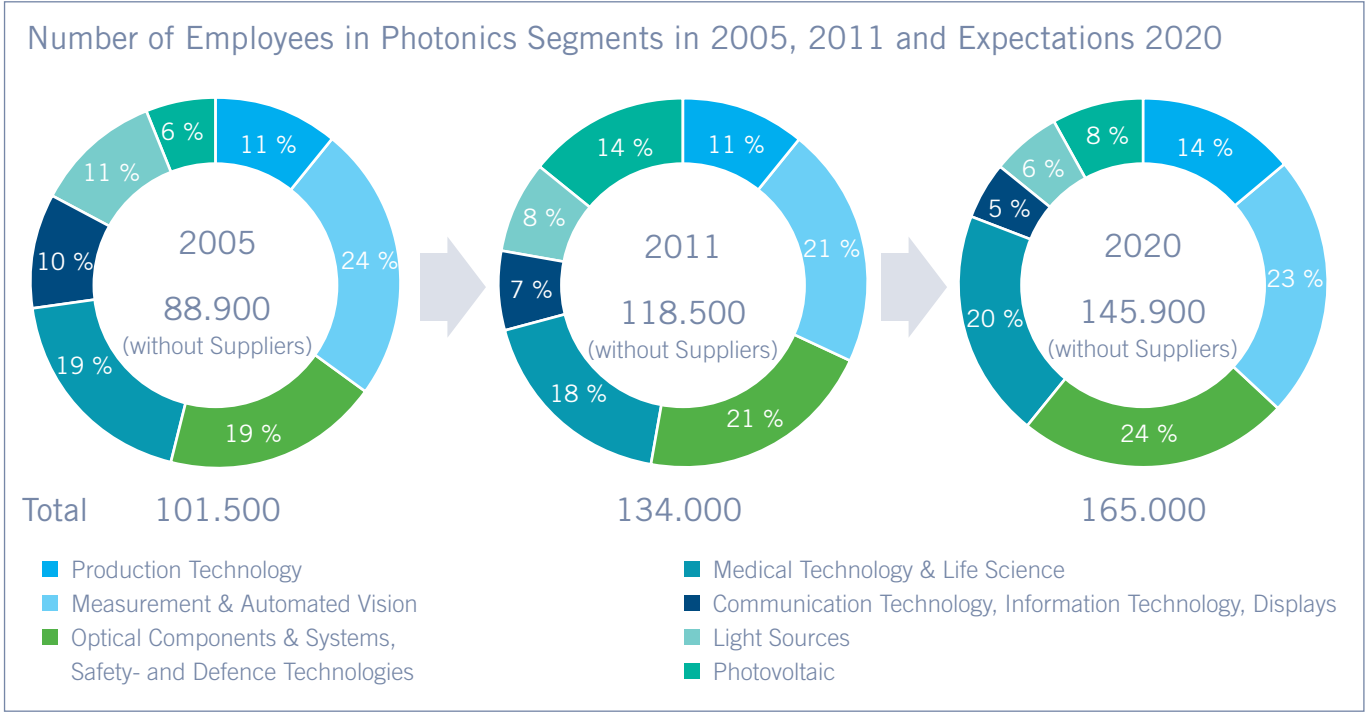
Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Optech Consulting, Study 'Photonik 2013'/Own calculations

EXCELLENT GLOBAL POSITION  
IN CORE SEGMENTS



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Part 2: Study Results, Optech Consulting, Studie Photonik 2013

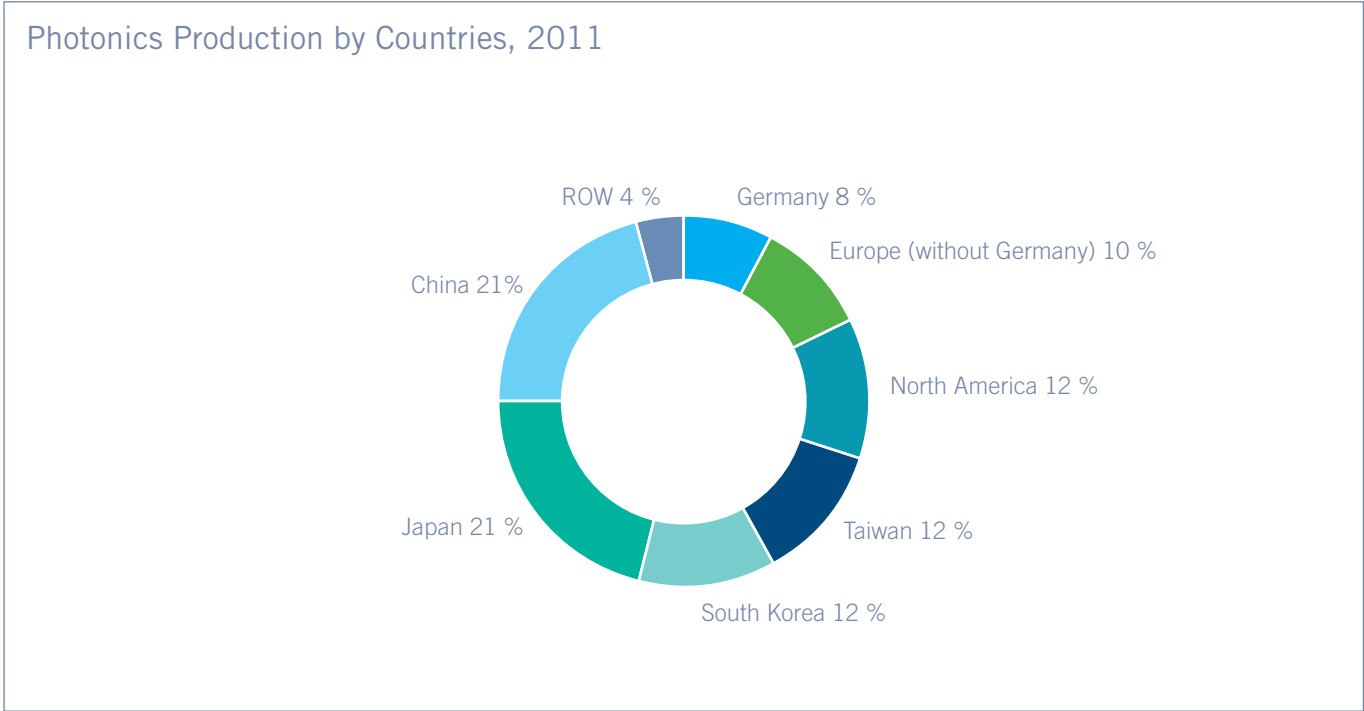
JOB ENGINE –  
ABOUT 30,000 NEW JOBS SINCE 2005



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), 'Branchenreport Photonik 2013', Optech Consulting, Study 'Photonik 2013'/Own calculations

PHOTONICS IN THE REGIONS

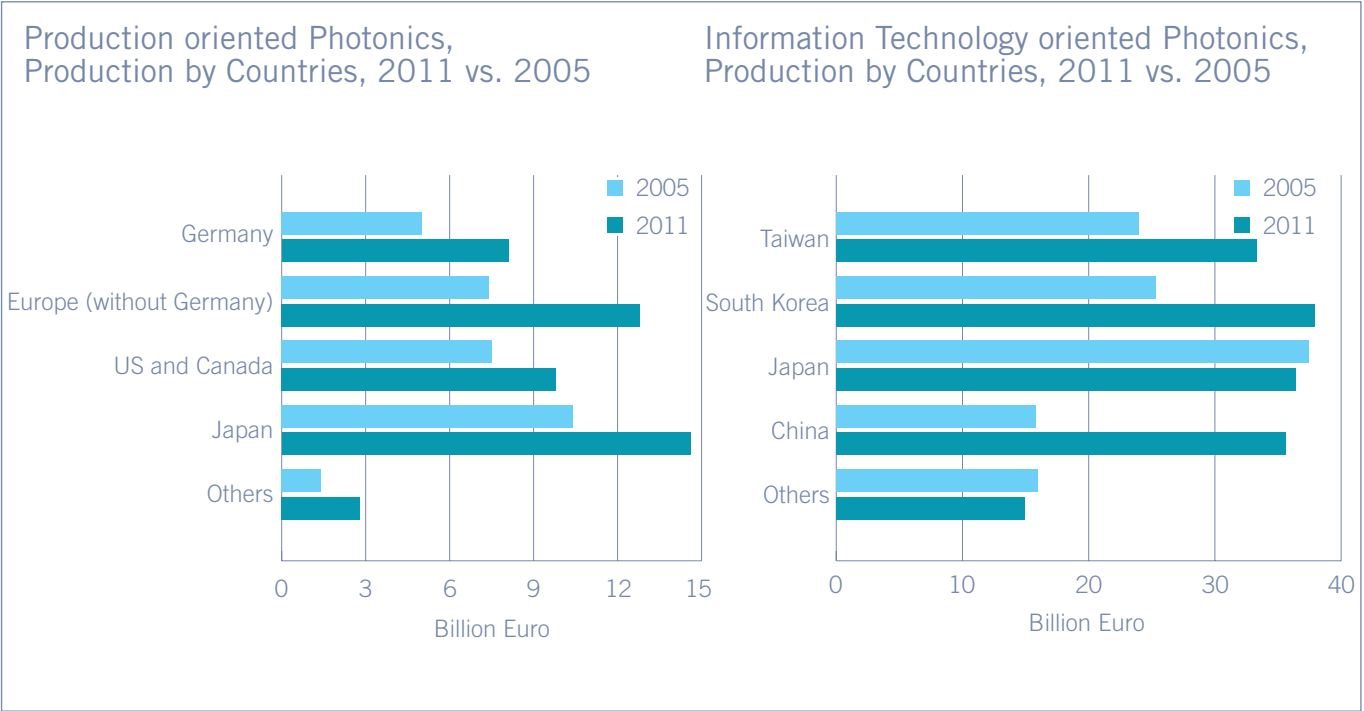
ASIA COUNTS FOR 70 PERCENT  
OF GLOBAL PRODUCTION



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Part 2: Study Results, Optech Consulting, Studie Photonik 2013

PHOTONICS IN THE REGIONS

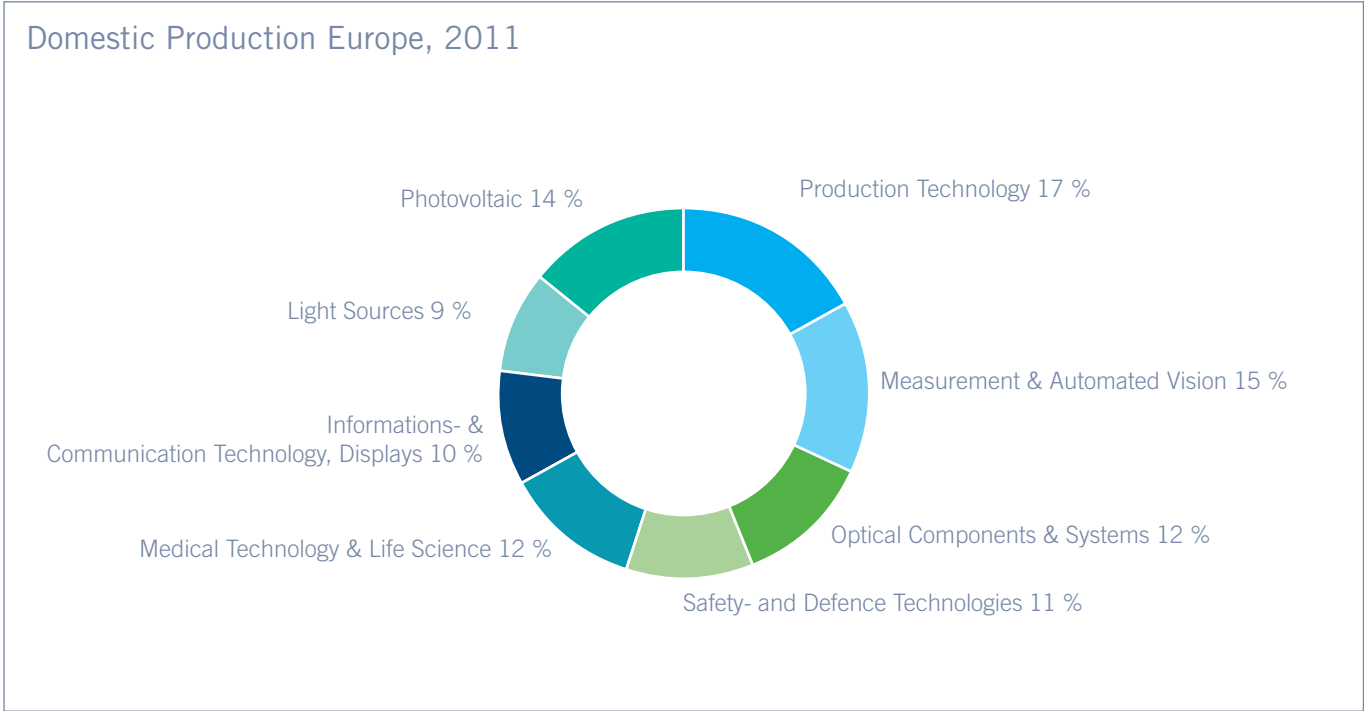
WORLD MARKET SHARES –  
TREND TOWARDS SPECIALISATION



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Part 2: Study Results, Optech Consulting, Studie Photonik 2013

PHOTONICS IN EUROPE 2011

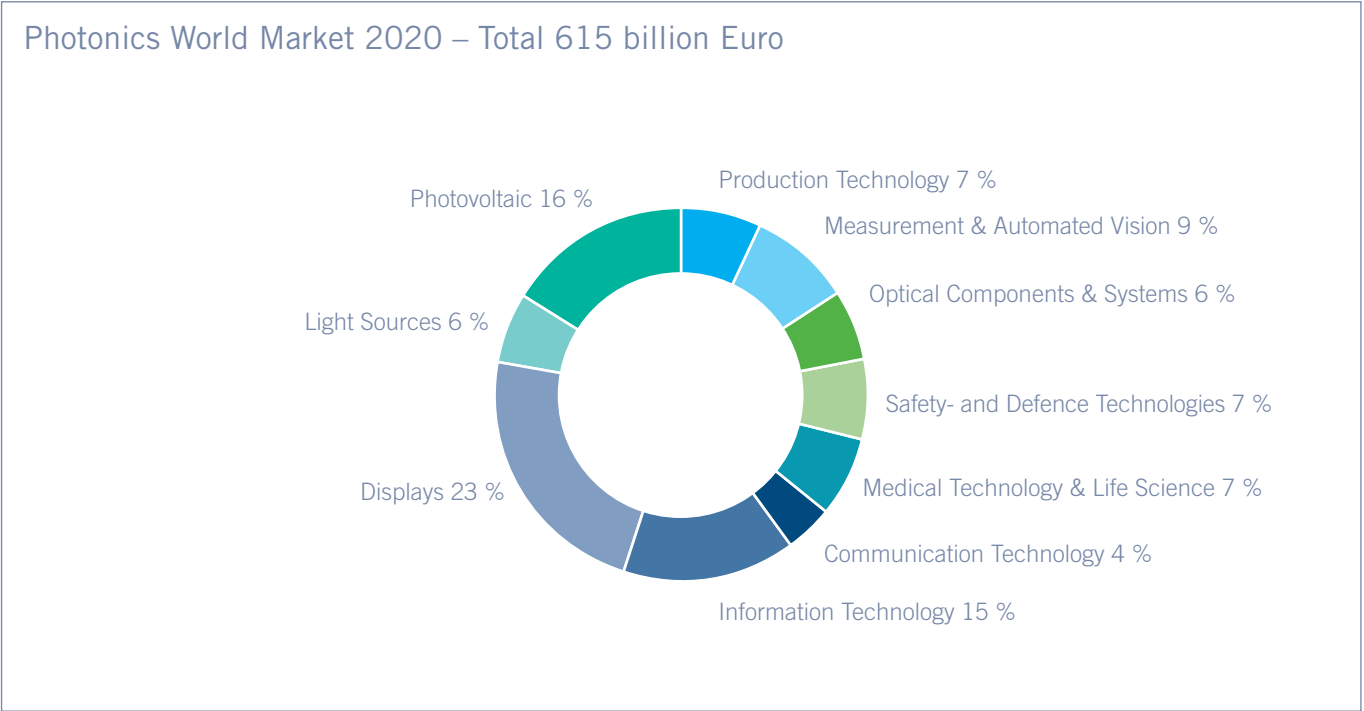
GLOBAL SHARE OF 18 PERCENT –  
STRONG GERMAN CONTRIBUTION



Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Part 2: Study Results, Optech Consulting, Studie Photonik 2013

PHOTONICS WORLD MARKET 2020

SOLID GROWTH PROSPECTS –  
CONTINUED GROWTH BEYOND GDP

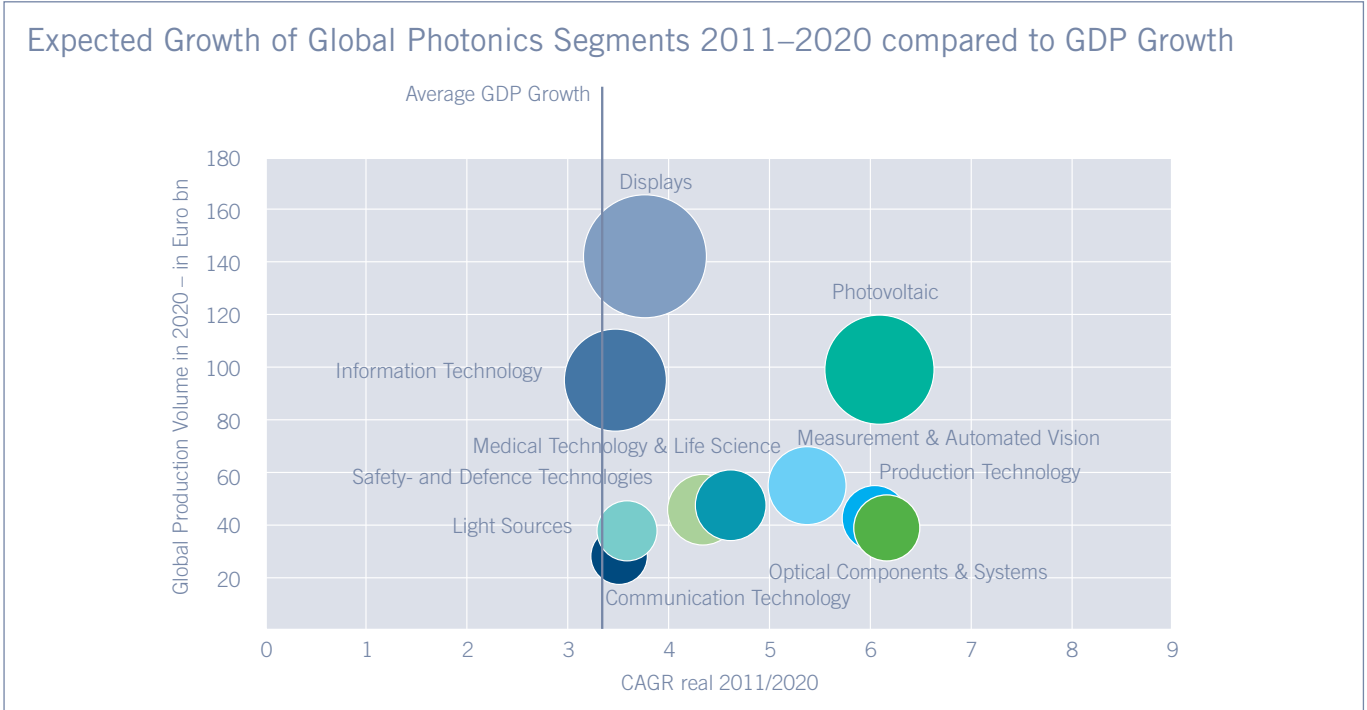


Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Part 2: Study Results, Optech Consulting, Studie Photonik 2013



PHOTONICS WORLD MARKET 2020

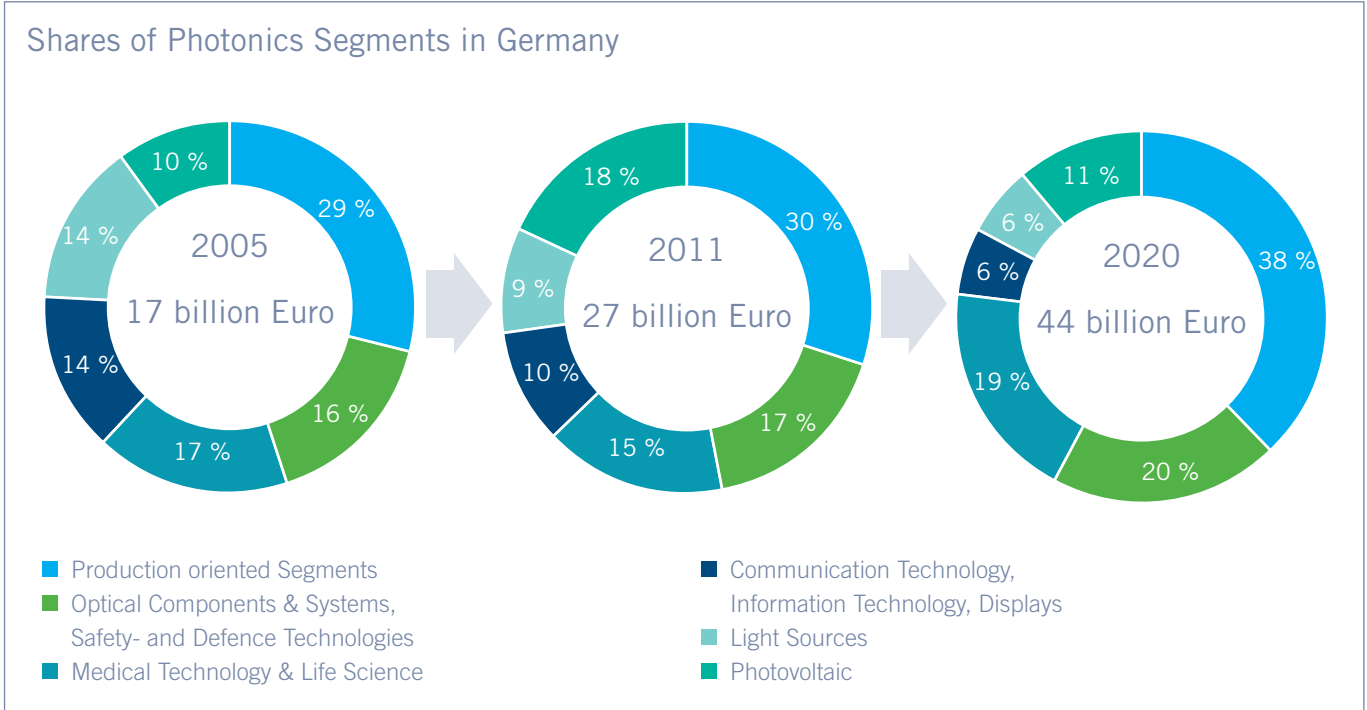
MOST SEGMENTS WILL CONTINUE TO OUTGROW GLOBAL GDP



Bubble size indicates worldwide production volume in 2020  
Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Optech Consulting, Study ‘Photonik 2013’/Own calculations

PHOTONICS IN GERMANY 2020

EXPECTED TO GROW TOWARDS A 44 BILLION EURO MARKET VOLUME

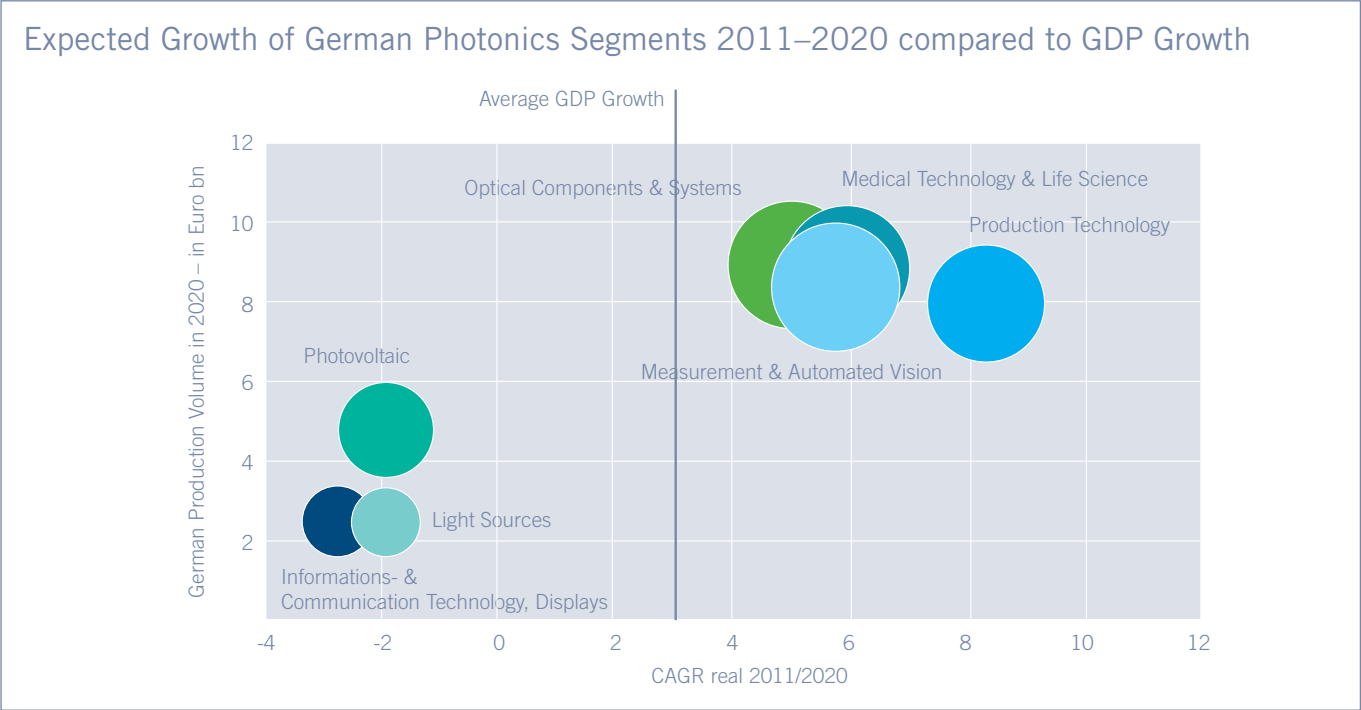


Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Optech Consulting, Study ‘Photonik 2013’/Own calculations

PHOTONICS IN GERMANY 2020

# FOUR STRONG CORE SEGMENTS

## FOSTER FUTURE GROWTH



Bubble size indicates worldwide production volume in 2020  
Source: BMBF, SPECTARIS, VDMA, ZVEI (pub.), ‘Branchenreport Photonik 2013’, Optech Consulting, Study ‘Photonik 2013’/Own calculations

### DISCLAIMER

This market forecast cannot offer any guarantees of a specific future path as many uncertainties underlie the industry's development.

The project partners Optech Consulting, SPECTARIS, ZVEI, VDMA and BMBF reserve the right not to be responsible for the topicality, correctness, completeness or quality of the information provided. Liability claims regarding damage caused by the use of any information provided, including any kind of information which is incomplete or incorrect, will therefore be rejected.

The abstract of the report is not designed for investment decisions. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the sole responsibility of such third party. The project partners Optech Consulting, SPECTARIS, ZVEI, VDMA and BMBF accept no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken based on this report.

The project partners Optech Consulting, SPECTARIS, ZVEI, VDMA and BMBF intended not to use any copyrighted material for the publication or, if not possible, to indicate the copyright of the respective object. The copyright for any material created by the project partners is reserved.

Any duplication of the report (in whole or in part) or the use of objects such as images, diagrams, or texts in other electronic or printed publications is only permitted with the consent of the publishers or the owner of the images usage rights. The publication of results is permitted by quoting the source.