INDUSTRY REPORT PHOTONICS 2013
MARKET DATA OF A KEY ENABLING TECHNOLOGY

GERMAN INDUSTRY ASSOCIATIONS SPECTARIS, VDMA, ZVEI TOGETHER WITH BMBF PRESENT A JOINT INDUSTRY ANALYSIS DEMONSTRATING STRONG GROWTH SINCE 2005 DESPITE THE FINANCIAL CRISIS

Munich, Frankfurt, Berlin, Bonn – May 13, 2013: The recent industry analysis ‘Photonics2013’ analysed the performance of ten different Photonics sectors since 2005 and confirmed strong growth in comparison to world GDP growth over the same period. This analysis also provided a forecast to 2020 for the future growth prospects of a range of optical technologies, collectively grouped under the heading ‘Photonics’. The German Industry Associations SPECTARIS, VDMA, ZVEI, supported by the German Ministry for Education and Research (BMBF), used the Munich trade fair ‘LASER World of Photonics 2013’ to launch their first joint analysis of the Photonics industry.

According to the study, the world Photonics market reached a level of 350 billion Euro in 2011, which, when compared to 228 billion Euro in 2005, corresponds to an average yearly growth rate of 6.5 % in real terms. Therefore Photonics grew twice as fast as World GDP, and by 2010/2011 it had already been restored to its 2008 pre-financial crisis level.

PHOTONICS GERMANY – DRIVING GROWTH AND JOBS

In 2011 the domestic production of the German Photonics industry amounted to approximately 27 billion Euro compared to 17 billion Euro in 2005, corresponding to a growth rate of 7 % in real terms. Due to its strong export position this was slightly higher than the world average and significantly beyond the growth of GDP and industrial production in Germany.

With a total share of 8 % of the global market, the German Photonics industry was able to maintain its strong global market position, held since 2005. This was especially true for the stronger key segments of the Photonics industry, such as Production Technology (laser systems, laser sources and lithography), Measurement & Automated Vision, Optical Components & Systems, and Medical Technology & Life Sciences, for which world market share increased up to 10–16 %, significantly outperforming the industry average. Germany’s Photonics industry also managed to consolidate its leading position in Europe with a market share in excess of 40 %.

With an average export share of 66 %, the German Photonics industry is well above the manufacturing industry average of around 47 %. Similarly, this sector’s 9 % R&D investment level is significantly higher than the industry average. At the same time, the German Photonics industry also proved to be a great generator of jobs. Between 2005 and 2011 approximately 30,000 new jobs were created, reaching a level of 134,000 employees (including direct suppliers). This corresponded to an average annual growth rate of 5 % over the period.
GLOBAL PHOTONICS INDUSTRY – STRONG SPECIALISATION

Looking at the growth of Photonics across the regions and nations, a strong shift in market share towards China is apparent, which caught up with Japan, the market leader, achieving a total share of 21% of the world market. At the same time, a strong tendency towards regional specialisation of the various Photonics segments could be seen. Whilst the Medical Technology & Life Sciences and the more production oriented segments tend to have their focus in more mature industrial regions, such as Germany, North America and Japan, the segments more related to information and communications have their focus in those Asian countries with developing industries, primarily China and South Korea, but also Taiwan and Malaysia.

EUROPEAN PHOTONICS INDUSTRY – LEADING POSITION IN CORE SEGMENTS

Since 2005, North America and Japan have clearly lost world market share. Europe, with its market share of 18%, was able to defend its global position ahead of North America’s 12% share.

Europe has excellent global position in the following core segments:

- In Production Technology Europe has a global share of 55%, demonstrating its lead in the laser systems, lasers and lithography segments
- Europe has a 40% share in Optical Components & Systems, with half of this contributed by Germany
- In Measurement & Automated vision European companies take 35% of the market, with over half of this contributed by Germany
- In Medical Technology & Life Sciences the European market share stands at 30%, again with a high German contribution of 55%

THE IMPORTANT ‘ENABLING’ CHARACTER OF PHOTONICS SECURES FUTURE GROWTH

Photonics offers many solutions to the global challenges modern societies face, such as energy efficiency and energy production, next generation of sustainable production technologies, safety & security, and progress in medical and environmental technologies.

Photonics is an important Key Enabling Technology leveraging growth and prosperity along the value chain for other industries and service sectors. Photonics technologies, components and systems find their way into a broad range of OEM and end-user sectors along the value chain, increasing the level of global competitiveness through more efficient and sustainable production methods, faster and improved processing, and opening up new market opportunities.
PHOTONICS 2020 – CONTINUED GROWTH BEYOND GDP

The study’s long-term outlook for 2020 predicts that Photonics will experience continuing nominal growth of 6.5 %, out-growing the global average annual GDP growth by about 50 %, and resulting in a Photonics market volume of 615 billion Euro by 2020 contributing to wealth and jobs creation.

The study estimates a market volume of about 44 billion Euro in 2020 for the German Photonics industry, corresponding to a 5.6 % nominal growth, and mainly focused in its strong core segments. The study also predicts that the number of jobs will increase to 165,000 (including direct suppliers), an increase of 30,000 jobs.

INTELLIGENT SYSTEMS-SOLUTIONS – OPPORTUNITIES FOR THE GERMAN PHOTONICS INDUSTRY

‘Intelligent System Solutions’ that bridge different technologies and sectors segment will be both a challenge and an opportunity for the European Photonics industry, which faces increased competition from low salary countries. Future trends such as ‘Industry 4.0’ employ several new themes, such as increasingly automated and customised production technologies, new methods of early medical diagnosis and less invasive therapies, and new requirements for environmental analysis, energy efficient buildings, mobility and energy management. These will be strong market drivers for future growth of photonic technologies.

Given their strong position in the areas of integrated production and process solutions, the study draws the conclusion that Germany’s Photonics companies will further increase their share in the core sectors of Production Technology, Measurement & Automated Vision, Optical Components & Systems, and Medical Technology & Life Sciences. In the field of Lighting, future growth prospects will be found more in the area of intelligent lighting solutions rather than the more traditional lamp technologies. German suppliers of Network Components are expected to establish a strong position in advanced high-end solutions, driven by increased Internet usage, ‘Big Data’ management systems, Cloud applications, and the desire for faster and more reliable short and long span data networks.
Photonics is an important Key Enabling Technology leveraging growth and prosperity along the value chain for many 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'.