World's Leading Trade Fair with Congress
for Photonics Components, Systems and Applications

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By 2030, photonics will deliver at least eleven percent of the globally agreed CO_2 savings

- **Study shows the enormous importance of technical light applications in meeting the targets of the Paris Agreement**
- **From today, the world's leading photonics trade fair, LASER World of PHOTONICS in Munich, presents numerous examples**

1.1 billion tons less CO_2 already and three billion tons in 2030: Photonics makes a significant contribution towards reducing greenhouse gas emissions and reaching the targets of the Paris Agreement: through reduced power consumption, CO_2 emissions, and use of fertilizer, by saving material and as a result of new recycling processes and technologies for environmental protection. 2030 is an intermediate stop on the road to carbon neutrality that is to be achieved by 2050 according to the Climate Change Agreement. The goal of the Paris Agreement is to limit global warming to 1.5 degrees. In 2030, eleven percent of the CO_2 savings achieved will be due directly or indirectly to applications in the field of photonics. These were the findings in a new study called "Licht als Schlüssel zur globalen Nachhaltigkeit" [Light as the key to global sustainability] from the German industry association SPECTARIS and Messe München in cooperation with Fraunhofer ILT and the Fraunhofer Group for Light & Surfaces. The study describes the ecological contribution of selected technical light applications and exposes the underlying innovations. It was presented today (June 24) at the press conference in Munich for the opening of the world's leading photonics trade fair "LASER World of PHOTONICS 2019."

"Climate control and environmental protection are the greatest challenges facing humankind. The technical achievements in photonics show that we already have important tools at hand," says SPECTARIS CEO Jörg Mayer. "The things we have already achieved with lasers and light sensors were still regarded as science fiction just a few years ago. Today, these technologies are part of

our everyday lives and reduce climate-damaging emissions considerably – technologies such as photovoltaics, energy-efficient lighting, and optical communication." It is expected that the current contribution to CO_2 reduction will almost triple to approximately three billion tons by 2030. Consequently, in 2030, the photonics industry can claim to contribute at least eleven percent towards achieving the target of limiting temperature increases to 1.5 degrees, or, respectively, 22 percent of the slightly less ambitious 2-degree target of the Paris Agreement.

Professor Reinhart Poprawe, Head of the Fraunhofer Institute for Laser Technology ILT/RWTH Aachen University, emphasizes: "Our society is currently facing the challenges of megatrends such as mobility, energy, communication, climate control, security, and health. Fast, effective solutions are needed. Photonics offers solution approaches for the challenges resulting from these megatrends. In many cases, this benefits the environment." Poprawe continues: "Photonics-based solutions have already been presented with Europe's richest environmental award, the German Environmental Award, three times." And there are now 32 Nobel Prize winners in the field of photonics.

Dr. Reinhard Pfeiffer, Deputy CEO of Messe München, adds: "Our LASER World of PHOTONICS, the world's leading trade fair for optical technologies, showcases the incredible developments that have been made in the fields of lasers and photonics since 1960. We are presenting sustainability in the context of electric mobility – which would be inconceivable without laser technology – from battery production to lightweight construction and cockpit component manufacturing. Many of our exhibitors are companies that pioneered the links between photonics and sustainability."

SPECTARIS CEO Mayer is certain: "The future of photonics has only just begun. Our study should also be seen as a plea to support the high importance of photonics with committed research, research subsidies, and innovation-friendly general conditions."

Background: Technical utilization of light – photonics – enables countless applications in industrial and private areas, which would be inconceivable without this key technology. For example, the Internet is based on data that is transmitted by fiber optics and that circles the planet at the speed of light; displays, cameras, and sensors from smartphones are the interfaces to our human senses; and, thanks to optical systems, physicians can make accurate diagnoses and carry out treatments that are efficient and non-invasive. The German photonics industry is one of the most innovative areas in Germany and in the world and is also experiencing dynamic, long-term growth. Currently, in Germany more than 140,000 people work directly in the photonics industry, generating almost EUR 40 billion each year.

About LASER World of PHOTONICS

The LASER World of PHOTONICS is the world's leading platform for the laser and photonics industry. Europe's largest World of Photonics Congress will be taking place in parallel with the trade fair. The program comprises a variety of scientific conferences of leading global organizations. Supplementing this Messe München GmbH will be offering practical lectures on the applications of photonics ("Application Panels"). In 2017 the trade fair set an exhibitor record with 1,293 exhibitors from 42 countries. More than 32,000 trade visitors from 90 countries entered the Messe München site. The World of Photonics Congress registered around 4,500 participants, with around 3,000 lectures and presentations including poster presentations on offer. The LASER World of PHOTONICS has been organized by Messe München International every two years since 1973; the next event will take place in Munich from June 24–27, 2019, the next World of Photonics Congress will take place in parallel from June 23–27, 2019 in the ICM - International Congress Center Munich.

SPECTARIS is the Berlin-based German industry association for optical, medical, and mechatronic technologies. The association represents 400 mainly medium-sized German high-tech companies. In 2018, the consumer optics, photonics, medical engineering, and analysis, bio, and laboratory equipment industries generated total sales of almost EUR 72 billion and employed around 316,000 people.