



ZF and Cree Advance the Electric Drive

November 5, 2019

- A strategic partnership has been created to advance the Electric Powertrain with Silicon Carbide-Based Inverter
- New Silicon Carbide-Based Inverter solutions help increase drive efficiency and extend the range of electric cars

SCHWEINFURT, Germany & DURHAM, N.C.--(BUSINESS WIRE)--Nov. 5, 2019-- **ZF Friedrichshafen AG and Cree, Inc. (Nasdaq: CREE), a US leader in silicon carbide semiconductors, announce a strategic partnership to create industry-leading, highly efficient electric drivelines.**

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20191105005215/en/>



With this strategic partnership, ZF and Cree are intensifying their existing cooperation. "We're delighted that we're building on our cooperation with Cree using their Wolfspeed silicon carbide technology and are absolutely convinced that combining our strengths will further improve efficiency and competitive edge for our components and systems," says Jörg Grotendorst, Head of the ZF E-Mobility Division.

The future use of silicon carbide-based power semiconductors will increase the range for electric vehicles in contrast to today's standard silicon technology. Due to high battery costs, the efficient electric drive represents an enormous growth potential for the foreseeable future. In particular, silicon carbide technology in conjunction with the 800-volt vehicle electrical system voltage makes a significant contribution to further increasing efficiency.

Jörg Grotendorst, Head of ZF Division E-Mobility and Cengiz Balkas, Senior Vice President and General Manager of Wolfspeed signing the partnership (Photo: ZF)

automotive supplier like ZF for the use of silicon carbide-based power inverters in next generation electric vehicles is indicative of the integral role silicon carbide plays in extending the capabilities of EVs everywhere," said Gregg Lowe, CEO of Cree.

"Partnering with a tier-one leading global

Electrified drivelines are making vast contributions to achieving worldwide emission targets and making mobility more sustainable.

Cree's technology will initially be used to fulfill orders that ZF has already received for silicon carbide based electric drives from several leading global automakers. Through the partnership, ZF expects to make silicon carbide electric drivelines available to the market by 2022.

Since January 2016, ZF has bundled its electromobility activities in the E-Mobility Division headquartered in Schweinfurt, Germany. More than 9,000 employees work in this division, spread across various locations around the world.

Cree is committed to leading the global transition from silicon to silicon carbide and recently announced silicon carbide capacity expansion with a mega materials factory in Durham, N.C. and the world's largest silicon carbide device manufacturing facility in New York. The company offers a comprehensive set of silicon carbide and GaN (Gallium nitride) power and RF (radio frequency) solutions through its Wolfspeed® business unit.

ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology as well as active and passive safety systems. The company has a global workforce of 148,000 with approximately 230 locations in almost 40 countries. In 2018, ZF achieved sales of €36.9 billion. ZF is one of the largest automotive suppliers worldwide.

ZF allows vehicles to see, think and act. The company invests more than six percent of its sales in research and development annually – in particular for the development of efficient and electric drivelines and also in striving for a world without accidents. With its broad portfolio, ZF is advancing mobility and services in the passenger car, commercial vehicle and industrial technology sectors.

For further press information and photos, please visit: www.zf.com.

About Cree, Inc.

Cree is an innovator of Wolfspeed® power and radio frequency (RF) semiconductors and lighting class LEDs. Cree's Wolfspeed product portfolio includes silicon carbide materials, power-switching devices and RF devices targeted for applications such as electric vehicles, fast charging, inverters, power supplies, telecom and military and aerospace. Cree's LED product portfolio includes blue and green LED chips, high-brightness LEDs and

lighting-class power LEDs targeted for indoor and outdoor lighting, video displays, transportation and specialty lighting applications.

For additional product and company information, please refer to www.cree.com.

Forward Looking Statements:

This press release contains forward-looking statements involving risks and uncertainties, both known and unknown, that may cause Cree's actual results to differ materially from those indicated. These actual results may differ materially due to a number of factors, including the ability of the parties to negotiate the definitive agreements for the development and supply of future products; the risk that Cree may be unable to manufacture these products with sufficiently low cost to offer them at competitive prices or with acceptable margins; the risk Cree may encounter delays or other difficulties in ramping up production of its capacity to supply these products; customer acceptance of these new products; the rapid development of new technology and competing products that may impair demand or render Cree's products obsolete; and other factors discussed in Cree's filings with the Securities and Exchange Commission, including its report on Form 10-K for the year ended June 30, 2019, and subsequent filings.

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