

MoWiLife Project: Revolutionizing Power Electronics

December 10, 2024



A groundbreaking project called MoWiLife (Condition Monitoring and Wide Bandgap Power Electronics - Leading Innovations for the European Energy Sector) is set to revolutionize the field of power electronics, particularly in wind and solar energy applications.

Funded by the European Union's Horizon Europe program, MoWiLife aims to develop cutting-edge technologies to improve the efficiency, reliability, and sustainability of renewable energy systems. A key focus of the project is the development of a 2.3 kV SiC MOSFET with advanced temperature sensing and self-protection features. This innovative device, developed by Infineon, will enable significant improvements in power density and energy efficiency.

In addition to the 2.3 kV SiC MOSFET, the project will explore the potential of ultra-high voltage and ultra-wide bandgap semiconductors, including diamond-based devices. These emerging technologies offer the promise of even higher efficiency and power density, further enhancing the performance of renewable energy systems.

The project will also involve the development of two wind energy converter pilots and two university-developed pilots. Vestas, a leading wind energy company, will develop a high-power density SiC converter with advanced condition monitoring capabilities. Meanwhile, the University of Aberdeen will focus on developing a high-voltage DC circuit breaker, a critical component for future power grids.

By combining the expertise of leading industry players and academic institutions, the MoWiLife project aims to accelerate the transition to a clean energy future. Through the development of innovative power electronics solutions, the project will contribute to the reduction of greenhouse gas emissions and the enhancement of energy security.