Penn State and onsemi Sign MOU to Boost Silicon Carbide Research in the United States

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SCOTTSDALE, Ariz. & UNIVERSITY PARK, Pa.--(BUSINESS WIRE)--May 16, 2023-- **onsemi** (Nasdaq: ON), a leader in intelligent power and sensing technologies, and Penn State are pleased to announce the signing of a memorandum of understanding (MOU) towards an $8 million strategic collaboration which includes the establishment of the onsemi Silicon Carbide Crystal Center (SiC3) at Penn State's Materials Research Institute (MRI). onsemi will fund SiC3 with $800k per year over the next 10 years.

This press release features multimedia. View the full release here: https://www.businesswire.com/news/home/20230516005782/en/

Catherine Côté, Vice President and Chief of Staff to the CEO, onsemi and Justin Schwartz, Executive Vice President and Provost, Penn State pose for a picture after the signing of an MOU between the company and the university towards an $8 million strategic collaboration which includes the establishment of the onsemi Silicon Carbide Crystal Center (SiC3) at Penn State. (Photo: Business Wire)

Silicon carbide (SiC) is vital for enabling efficiency in electric vehicles (EVs), EV charging and energy infrastructure and contributes to the decarbonization of the global economy. Academic research in SiC made great advancements in the late 1990s and early 2000s, but has since diminished in the U.S. This agreement will put SiC crystal research in America back on the map.

In addition to conducting SiC research at SiC3, Penn State and onsemi will raise awareness about the increasing demand for tech jobs in the semiconductor industry. This is part of their efforts to enhance the share of U.S. semiconductor manufacturing. They also will partner on workforce development initiatives such as internship and cooperative programs and include SiC and wide bandgap crystal studies in Penn State's curriculum. The relationship with Penn State is part of onsemi's commitment to promoting STEAM (Science, Technology, Engineering, Arts, and Mathematics) education, ranging from helping K-12 students in underserved communities to university collaborations that support the development of the workforce for today and the future.

Lora Weiss, Penn State senior vice president of research, noted that the Penn State-onsemi collaboration is a match that makes perfect sense given each entity's demonstrated strengths.

"onsemi is a proven innovator, delivering a comprehensive portfolio of intelligent power and sensing technologies to enable and accelerate sustainable solutions across multiple markets," Weiss said. "At the same time, as per the National Science Foundation's research expenditure rankings, Penn State is ranked first in materials science and second in materials engineering. We have world-class nanofab and characterization facilities that support research on thin films, silicon carbide and other materials used in semiconductors and other technologies. These complementary capabilities between onsemi and Penn State will have a strong impact on research and development, economic growth, and workforce development."

Penn State's capabilities make them an ideal academic partner for onsemi to advance the state of the art in silicon crystal growth.

"Penn State is uniquely positioned to rapidly establish a silicon carbide crystal growth research program," said Pavel Freundlich, chief technology officer, Power Solutions Group, onsemi. "The university offers a wide breadth of capability based on its current materials research, wafer processing capabilities in its nanofab facility, and a comprehensive, world-class suite of metrology instrumentation."

The relationship developed over a period of due diligence during which it became clear that their cooperative efforts would position Penn State and onsemi as leaders in SiC research.

"Over the next decade, this collaboration will enable Penn State to become the nation's leading resource for semiconductor crystal science and workforce development," said Justin Schwartz, Penn State executive vice president and provost. "And this would not be possible without the relationship-building efforts of Priya Baboo, senior director of corporate and industry engagement, and the technical expertise of Joshua Robinson, professor of materials science and engineering, and their counterparts at onsemi."

Scott Allen, vice president, University Relations, onsemi, added that "Penn State's expansion of its curriculum to offer specialty courses in SiC and

wideband gap technology will play a key role in meeting onsemi's strategic workforce development goals and help to meet American semiconductor workforce goals as outlined in the recently signed CHIPS and Science Act."

About Penn State

Penn State is a multi-campus, land-grant, public research University that educates students from around the world, and supports individuals and communities through integrated programs of teaching, research, and service. We are an R1 university, a classification given by the Carnegie Foundation for the Advancement of Higher Education to the very best research universities in America, reaching a record $1.034 billion in research expenditures during fiscal year 2021-22. Our discovery-oriented, collaborative, and interdisciplinary research and scholarship promote human and economic development, global understanding, and advancement in professional practice through the expansion of knowledge and its applications in the natural and applied sciences, social and behavioral sciences, engineering, technology, arts and humanities, and myriad professions. Our instructional mission includes undergraduate, graduate, professional, continuing, and extension education, offered through both resident instruction and distance learning. Our educational programs are enriched by the talent, knowledge, diversity, creativity, and teaching and research acumen of our faculty, students, and staff. As Pennsylvania's land-grant university, we provide unparalleled access to education and public service to support the citizens of the Commonwealth and beyond. We engage in collaborative activities with private sector, educational, and governmental partners worldwide to generate, integrate, apply, and disseminate knowledge that is valuable to society.

About onsemi

onsemi (Nasdaq: ON) is driving disruptive innovations to help build a better future. With a focus on automotive and industrial end-markets, the company is accelerating change in megatrends such as vehicle electrification and safety, sustainable energy grids, industrial automation, and 5G and cloud infrastructure. **onsemi** offers a highly differentiated and innovative product portfolio, delivering intelligent power and sensing technologies that solve the world's most complex challenges and leads the way to creating a safer, cleaner, and smarter world. **onsemi** is recognized as a Fortune 500® company and included in the S&P 500® index. Learn more about **onsemi** at www.onsemi.com.

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