Department of Commerce Announces Definitive Agreement with I-Pulse for a $250 Million CHIPS R&D Award to Develop Novel Silicon-Carbide Semiconductors

The Department's award will accelerate the development of silicon-carbide semiconductors for next-generation, switches designed to operate at high-temperature, high frequency and high power with applications in multiple critical industries.

June 25, 2026

WASHINGTON, D.C. – The Department of Commerce's CHIPS Research & Development Office today announced the signing of a definitive agreement with I-Pulse for a $250 million award under the CHIPS and Science Act.

The CHIPS R&D award provides funding for R&D to advance U.S. technology leadership and innovation in novel silicon carbide ("SiC") power semiconductors that can operate in extremely harsh operating environments.

I-Pulse will develop next-generation SiC semiconductors for high-temperature, high-current, high voltage solid-state switches in partnership with industry-leading Federal Laboratories, universities and specialized manufacturers.

"With today's announced investment, the Trump Administration is strengthening America's capabilities and enhancing its national and energy security goals," said Secretary of Commerce, Howard Lutnick.

A critical application of I-Pulse's SiC power semiconductors is in pulsed power, the rapid firing of high energy pulses at intervals measured in nanoseconds. By deploying SiC-based power electronics in pulsed-power drills, geothermal and critical minerals mining drilling can be done more efficiently than conventional methodologies, and at lower-costs. In addition to geothermal and mining, this technology can be used in pulsed power systems to enable and innovate multiple other critical dual-use and commercial industries including advanced manufacturing, medical, and fusion power.

"I-Pulse's next-generation silicon carbide-based technology is a game-changer for operations in extreme environments," said Bill Frauenhofer, Executive Director for

Semiconductor Investment and Innovation at the Department of Commerce. "I-Pulse's high-power, high-frequency switches and packaging are engineered to withstand harsh shocks and temperatures, empowering critical industries to push past previous technical limits."

In connection with the award, the Department received a minority, non-controlling equity stake in I-Pulse, which enhances the benefit to the U.S. taxpayer.

The CHIPS Research and Development Office continues to solicit proposals from eligible applicants for research, prototyping and commercial solutions that advance microelectronics technology in the U.S. Eligible applicants should apply under announcement 2025-NIST-CHIPS-CRDO-01 at www.grants.gov.