

Date: September 28, 2022

To: Board of Trustees

cc: Mitchell E. Daniels, President
Jay T. Akridge, Provost and Executive VP for Academic Affairs and Diversity
Christopher A. Ruhl, Treasurer and Chief Financial Officer
Steven R. Schultz, General Counsel
Matt Folk, President and CEO, Purdue For Life Foundation

From: Theresa Mayer, Executive VP for Research and Partnerships

Re: Purdue Institute for National Security

Date: October 6, 2022

Purpose. This memo requests that the Board of Trustees approve of the creation of the Purdue Institute for National Security as a new Purdue University interdisciplinary institute.

Background. The creation of the Purdue Institute for National Security (the “Institute”) aligns our organizational structure and institutional investments to provide a single front door for Purdue’s cross-cutting national security and defense-related research efforts. The new Institute will support Purdue’s academic colleges and departments by assuming responsibility for the basic and use-inspired research programs, partnerships, and administration of the Institute for Global Security and Defense Innovation (i-GSDI), a Discovery Park Institute. The executive director of the new Institute will also lead the National Security and Technology Division of the Purdue Applied Research Institute LLC (PARI), which is responsible for developing and delivering large and complex applied research programs in select areas of highest priority to Purdue. These areas include hypersonics and space systems, energetic materials and systems, and trusted microelectronics. The Institute reduces administrative redundancy, conforms to our recently adopted single Discovery Park District branding, and better aligns our combined research strengths to areas of significant global and national interest as well as to federal, foundation, and industry funding priorities.

As required by Purdue policy C-6 (Centers and Institutes), Board approval is required to establish a new university-level institute of this type.

Discussion. In December 2016, Purdue established i-GSDI to assemble interdisciplinary resources to bring timely, responsive and transformative solutions to the most pressing security and defense challenges facing the nation. Building on this foundation, in April 2021, the Purdue Board of Trustees approved two Next Moves that will invest more than \$110M over five years to launch PARI and to support a major campus-wide national security and technology initiative. This strategic investment has already resulted in record-breaking growth in competitive external funding from national security and defense-related federal agencies – from \$50M in 2017 to \$90M in 2022, with the vast majority (>80%) of the growth in the last two years. This growth is expected to continue with the addition of new applied research contracts delivered in PARI, such as the Hypersonics Advanced Manufacturing Technology Capability (HAMTC), which is funded at \$18.6M over 30 months to directly address the hypersonic weapons development gaps. As our

portfolio grows in scale and complexity, it has become increasingly important to have a formal integrated structure that provides leadership and coordination for national security and defense-related initiatives across Purdue and its affiliates.

As one entity, the Institute will represent and provide strategic access to our full spectrum of national security and defense research capabilities, talent and facilities, enhancing our visibility and streamlining efficiency of engagement with key stakeholders. The Institute builds on the successes of i-GSDI that has helped to shepherd many of the key programs and partnerships that now serve as foundational to Purdue's excellent reputation in national security and defense. These include developing and formalizing the strategic academic alliance between Purdue and Sandia National Lab, the formalization of Purdue in the Space Force's University Partnership Program, and winning contracts such as the Scalable Asymmetric Lifecycle Engagement (SCALE) for national microelectronics workforce development and research program, among many others.

The new Institute will involve the work of more than several hundred faculty from schools and departments across at least five of Purdue's colleges. The Institute will include two arms.

The first will support basic and early-stage use-inspired research by engaging faculty in academic colleges using traditional grant-based mechanisms. It will integrate key programs and relationships that are currently supported by i-GSDI, which will be retired following approval of this new Institute. It is also expected to play a role in large-scale undergraduate and graduate talent and workforce development initiatives, including developing a clearable workforce.

The Institute will include a second arm that will serve as the National Security and Technology (NST) division of PARI LLC and will support later stage applied, translational and classified research funded by mission-driven agencies such as the Department of Defense, Intelligence Community, Department of Energy, and industry. This division of PARI is expected to be self-sustaining as a contract-based research organization at the end of five years, and will accomplish this goal by employing full-time research and professional staff as well as Purdue faculty and students through seconded appointments.

The Institute will be led by an Executive Director (ED) with the two arms supported by senior leaders who will be responsible for ensuring coordinated development and delivery of the basic to applied research portfolio and sponsor relationships. The ED of the new institute will have a solid line report to the PARI ED and a dashed line report to the Executive Vice President for Research and Partnerships (EVPRP). The Institute will be guided by advisory council that represent the engaged academic units and prominent external stakeholders. It will be reviewed annually, with a formal 360 review prior to 2026.

The Institute funding will come from multiple sources. A modest recurring budget from the OEVPRP will support the first arm. The second arm, through PARI's NST division, will operate under a separate financial and operations model, delivering contracts under commercial contracting principles, and managing specialized test facilities and programs. It is expected to be financially independent and sustainable by 2026.

Requested Action. We respectfully request that the Board authorize the creation of the Purdue Institute for National Security pursuant to Purdue policy C-6.