

TESTIMONY PRESENTED TO THE
ECONOMIC MATTERS COMMITTEE

HB 1189
ECONOMIC DEVELOPMENT - CYBERSECURITY - CYBER MARYLAND
PROGRAM

DR. LOYCE PAILEN
SENIOR DIRECTOR, CENTER FOR SECURITY STUDIES
UNIVERSITY OF MARYLAND GLOBAL CAMPUS (UMGC)

MARCH 8, 2023

Chairman Wilson, Vice Chairman Crosby, and members of the committee, good afternoon and thank you for the opportunity to testify in favor of HB 1189. I am Dr. Loyce Pailen, Senior Director of Security Studies at the University of Maryland Global Campus (UMGC).

At the university, I have been deeply involved in the effort to build the State's cybersecurity talent pipeline. I have taught in the university's cybersecurity programs which each year are reported to be the largest within the University System of Maryland. Of course, the talent pipeline starts much earlier. In each of the last two years, my Center has hosted summer camps for public high school cybersecurity and computer science teachers focused on tools that they can use in their courses. This year, as an awareness raising initiative, the Center is organizing a summer camp for teachers in nontechnical fields about how to incorporate cybersecurity—whether as a policy or consumer protection issue, for example—into their courses. These camps are funded through the GenCyber program at the National Security Agency (NSA).

As a professional educator in cybersecurity, I support this bill for two principal reasons.

First, it would result in a strategic view of the workforce need that would be helpful to academic and noncredit program development by the State's postsecondary sector. The field of cybersecurity is vast. The original Cybersecurity Workforce Framework published by the National Institute for Science and Technology (NIST) in 2017 had seven broad job categories and thirty-three specializations. NIST has since abandoned that framework because the field has been changing so rapidly. Schools that have cybersecurity programs typically

use industry advisory boards to keep their programs current and to learn about new workforce needs that they might consider meeting. But any one advisory board has a limited view of workforce needs, and it is not always easy for schools to know how strong the statewide demand is for an identified skill or specialization. The threefold requirements of the bill for 1) a study of cybersecurity workforce needs informed by a broadly representative commission, 2) a strategic plan, and 3) the development of new training and education programs in direct conversation with the employers in need, would help the postsecondary sector know the cybersecurity workforce needs it is not serving, the strength of those needs, and what meeting those needs effectively should look like.

Second, the bill considers the critical importance of the K12 component of cybersecurity talent pipeline building. In 2021, the National Cryptologic Foundation conducted a survey of the 24 school districts across the State. This survey was in collaboration with the Maryland State Department of Education (MSDE), the Maryland Center for Computing Education (MCCE), the University of Maryland Global Campus, and the NSA. The Foundation hoped to gauge how well the career field of cybersecurity is understood by teachers, administrators, and school counselors and what the challenges are in developing high school courses and programs to better prepare students for cybersecurity degrees and careers. There were more than one hundred respondents to the survey.

Key findings included the need for more teacher professional development opportunities in cybersecurity, a greater understanding of cybersecurity among administrators, school counselors, and teachers outside of computer science, and funding to support technical instruction in the field. The fact that the bill would permit grants to K12 schools for programs consistent with the cybersecurity strategic plan—potentially for teacher or school counselor professional development, equipment or software, for example—would support the cybersecurity talent pipeline where it starts.

Maryland truly is the epicenter of cybersecurity in the nation. This bill would help the State meet the workforce needs that have come with that distinction. I urge a favorable consideration of the bill.

Thank you for the opportunity to testify.