Qualcomm®
Thinkabit Lab™

VirginiaTech
1872
Invent the Future®

NATIONAL CAPITAL REGION

Collaborating to expand the Qualcomm® Thinkabit Lab™ program to the East Coast

Qualcomm Incorporated and Virginia Tech began a multi-year collaboration in 2016 with the launch of the Qualcomm Thinkabit Lab at Virginia Tech's Northern Virginia Center in Falls Church, Virginia. The new Thinkabit Lab at Virginia Tech is the first Thinkabit Lab outside of San Diego and opened its doors to students in the National Capital Region, focusing on underserved and underrepresented communities.

The Thinkabit Lab serves as a cornerstone facility for school-to-work activities for elementary, middle and high school students; training for teachers and public school administrators; and programs for other adults (including returning military and senior citizens). All programs leverage Virginia Tech's academic depth in engineering and education to develop educators who may lead further Inspired by Thinkabit Lab science, technology, engineering and math (STEM) experiences in K-12 schools and informal education.

The Qualcomm Thinkabit Lab is the combination of an engineering lab, makerspace and innovative learning space for all backgrounds and age groups.

The Thinkabit Lab experience at Virginia Tech offers both teachers and students an engaging environment—part lab, makerspace and innovative learning spaces—to foster creativity, collaboration and the critical skills necessary for the future technical workforce. A typical visit by school groups (mostly 4th grade through 12th grade) begins in an uncommon, colorful and comfortable space with an interactive exploration of a wide variety of STEM careers and supporting careers, and how to communicate these with parents, teachers, and school guidance counselors. Participants then move next door to an equally uncommon technical learning lab in which they build and program with electronic microcontrollers, working in two-person teams in an engineering design process to build and present unique robotic crafts (RoboCrafts) they designed. Presentations are followed by short reflective writing. Teaching strategies facilitate differentiated learning aimed at 100% engagement.

After-school clubs and other groups participate in a variety of flexible and adaptive programs ranging from creative robotics (solving individual real-world problems) to using sensors and actuators in environmental monitoring or remote operations. Summer camps provide in-depth experiences in similar topics. All activities support enhanced understanding and appreciation of IOT (Internet of Things) connectivity, while emphasizing intellectual property, protection of privacy, and the inspiration to be part of future innovations and solutions. Activities are extended through teacher training and school equipment loan programs to provide ongoing and expanded opportunities at local schools. Multiple school divisions have begun developing Inspired by Thinkabit Lab spaces at their sites with Thinkabit Lab resources, guidance documents, and activities.

The original Thinkabit Lab at Qualcomm's San Diego headquarters served more than 14,000 students and educators in its first three years; and the Virginia Tech Lab served over 2,000 students and educators in its first five months. Both locations provide students with a unique STEM experience and career exposure program.

Virginia Tech is known for the excellence of its programs in engineering education, research and public service.

Virginia Tech, founded in 1872 as a land-grant institution, is currently ranked as a Top 25 Public University by U.S. News & World Report and a Top 25 Public Research University by the National Science Foundation. Through a combination of its three missions of learning, discovery and engagement, Virginia Tech continually strives to accomplish the charge of its motto: Ut Prosim (That I May Serve). As the Commonwealth's most comprehensive university and its leading research institution, Virginia Tech serves a diverse population of 30,000+ students and 8,000+ faculty and staff from over 100 countries, and is engaged in research around the world.

"The work that Qualcomm and Virginia Tech are doing at this new Thinkabit Lab is remarkable. Beyond being a space to inspire the next generation of inventors, it will allow to us to leverage the expertise of both organizations, and through research and practical application, we will bring new advancements to STEM education at all levels."
– Qualcomm CEO Steve Mollenkopf

"We know that STEM skills can enhance every student's future, regardless of their field of study, and we need to prepare both students and teachers to address the complex challenges of tomorrow," said **Virginia Tech President Tim Sands.** "The Thinkabit collaboration with Qualcomm will allow us to join complementary strengths and work synergistically to create opportunities and lower barriers."

For more information or to schedule a school visit or educator tour, visit www.Thinkabit.Tech or contact Thinkabit@vt.edu .