



News Release

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FOR IMMEDIATE RELEASE
Photos Included

ROBOTICS EDUCATION AND TRAINING CENTER OPENS IN
WESTMINSTER, MARYLAND, WITH SUPPORT
FROM KNORR-BREMSE GLOBAL CARE NORTH AMERICA

*\$77,500 Grant Supports the Autonomous Robotics Innovation Center (ARIC),
Established to Help Develop Career Pathways for Students Interested in Robotics*

WESTMINSTER, Md. – May 24, 2023 – They came on a spring evening to celebrate the promise of a new community hub for innovation and education in Westminster, Maryland. The ribbon-cutting for the Autonomous Robotics Innovation Center (ARIC) on April 17 brought close to 200 people to the large, light-filled space, including elected officials, industry partners, sponsors, and volunteers. Sporting colorful T-shirts, local high school robotics teams – Gear Freaks, Robo-Lions, and RoboCavs – demonstrated stacking cones and other robot skills.

ARIC is a training and educational facility serving K-12 students who are enrolled in Carroll County Public Schools (CCPS) and involved in STEM programs and robotics clubs, as well as college students studying computer science. The center is an initiative of the Westminster-based Mid-Atlantic Gigabit Innovation Collaboratory (MAGIC), a nonprofit whose mission is to provide equitable access to technology innovation, education, and incubation in rural main street communities for economic development. MAGIC is an official partner of CCPS.

A key supporter of the project is Knorr-Bremse Global Care North America (KBGCNA), the U.S.-based arm of a philanthropic entity operated by Knorr-Bremse, based in Munich, Germany. The organization contributed \$77,500 in grant support to help fund facility renovation,

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leasing, and startup costs. Knorr-Bremse is the parent company of Knorr Brake Company (KBC), headquartered in Westminster and a large employer in the region.

“We’re excited to join forces with ARIC and MAGIC in helping to promote high-tech education in Westminster and Carroll County,” said Randall Wingate, a KBGCNA steering committee member and director of project quality at KBC. “This inclusive STEM-focused program applying to all students in the area promises to have a lasting impact on the community. We’re proud to offer KBGCNA’s support and look forward to potential future partnership opportunities involving KBC and our employees.”

KBGCNA centers its investments on initiatives that support youth, education, and underprivileged populations in the surrounding communities of Knorr-Bremse’s three largest North American companies, a group that includes KBC along with Bendix Commercial Vehicle Systems LLC, based in Avon, Ohio; and Watertown, New York-based New York Air Brake LLC.

Knorr-Bremse is the global market leader for braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. KBC is a leader in the supply and maintenance of braking systems for U.S. passenger rail cars.

At the Heart of Innovation

The 5,600-square-foot ARIC facility features autonomous technology and robotics projects and hands-on educational opportunities. It will help students develop software, coding, and data analytics skills and experiences that are applicable to a variety of industries, not just robotics engineering.

“We estimate accommodating upward of 5,200 students per year,” said Graham Dodge, executive director of MAGIC. “The facility is walkable for a number of student learning facilities within Westminster. A large part of the center is shared space for all our local competitive student robotics teams, including a maker space where they’ll have access to additive and subtractive manufacturing tools, vinyl plotters, 3D printers, and the like.”

Dodge continued, “ARIC also includes a shared indoor testing facility for local robotics companies. And all of this is just the start because the center and its programs will continually grow and evolve.”

At the heart of ARIC is a comprehensive autonomous curriculum featuring a 20' x 40' Duckietown combined with an interactive train garden using a Lionel model train set. The Duckietown program is an open-source, worldwide initiative developed at Massachusetts Institute of Technology (MIT) to provide state-of-the-art, hands-on, and inclusive AI and robotics

education for all students. Within Duckietown's robotic ecosystem, fleets of autonomous vehicles called Duckiebots interact with each other and with the model urban environment of Duckietown they operate within. The platform was designed to make learning about AI and robotics fun and interactive, lowering the barrier to entry for students of all ages and backgrounds. It also teaches students about coding languages, file systems, and frameworks including Python, Docker, and Linux.

MAGIC, with the help of the Duckietown curriculum and volunteer industry experts, is developing a learning program to introduce students to autonomous robotics concepts beginning in elementary school.

"Duckietown is ARIC's featured program because not only does it teach STEM at the high school and college levels, but it also provides hands-on experience that's relevant to the employers who are hiring in the robotics industry," Dodge said. "It was created by MIT to demonstrate real-world scenarios with smart city technologies interacting with autonomous vehicles. And that's the kind of hands-on experience that not even some graduate students are getting."

Further, Dodge noted, ARIC will be the first organization – including schools and government agencies – to start integrating railroad intersections into the Duckietown platform. Students at ARIC will develop the open-source code and libraries that will contribute to the global library that MIT started.

"ARIC will also feature an upcoming project called Ghost Kart, in partnership with the nonprofit Gear Up Maryland, which has provided two professional-level go-karts that students will convert to be fully autonomous electric vehicles – which the students will then test race on closed streets in Westminster, like a mini grand prix," Dodge said.

In addition, Dodge touted an exchange program with the esteemed Johns Hopkins University Applied Physics Laboratory (APL), in which any student affiliated with ARIC will also have access to APL.

A Legacy of Robotics

Westminster and Carroll County have a history in robotics dating to the 1990s, when the first fully autonomous vehicles were tested in Westminster fields for the Department of Defense, Dodge noted. That legacy continues today with the businesses that sprang out of the companies behind the development of those systems.

According to Dodge, ARIC is the first step in formalizing the collaboration between the schools and the industry sector, whose professionals are eager to teach students and help create a career pathway in robotics.

“MAGIC was founded in 2016 as a result of the City of Westminster investing \$21 million to lay its own high-speed gigabit fiber network,” said Dodge, who joined MAGIC in 2019. “Westminster was at the forefront of how fiber internet should be built out and deployed for residents. MAGIC operates as an economic development agency aiming to promote technology innovation in the city. One of our missions, evident in ARIC, is tied to the larger effort of connecting underserved rural communities to STEM opportunities and the innovation economy of the future – and helping to break the cycle of low income and poverty.”

Further, he sees ARIC as an important step in the development of another MAGIC initiative, the Autonomous Corridor Project, in Westminster. The project, enabled by the city’s broadband infrastructure, is based on autonomous technology – such as an on-demand door-to-door public transit system – being deployed in the city to help connect its 20,000 residents. Among those benefiting will be people now cut off from the downtown and shopping centers due to lack of public transportation options and other socioeconomic factors.

ARIC’s facility was originally the service center of an auto dealership built in the 1930s. Its big, open floor plan makes it ideal for the center’s purposes. Renovating the space included much cleaning and painting, in addition to installing new fixtures and flooring, and upgrading the HVAC and electrical systems. Dodge looks forward to welcoming the public into the center.

“Anytime there’s going to be a Main Street event, we’ll open ARIC and Duckietown, which will be appropriately decorated for the season or occasion,” Dodge said. “We want grandparents, parents, and grandkids – people of all ages – to come in, look around, and see what we’re doing.”

Pathway to Tech Careers

Each KBGCNA grant is overseen by a project champion, who is an employee of KBC, Bendix, or NYAB, responsible for engaging with the grantee to ensure the project remains on point from start to finish and seeking ways for local team member engagement, where possible. Co-champions for the ARIC project are KBC’s David Parks, electronic systems engineer team lead, and Jacob Selmer, product engineering manager.

Another KBC connection is Lindsey Franey, marketing and governmental affairs manager at KBC, who serves on MAGIC’s board.

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“Teaching and fostering youth through this center impacts our entire community and our workforce,” Franey said. “They may come and work at KBC one day. ARIC is providing opportunity.”

Wingate agreed, emphasizing that a key focus of KBGCNA is education and how it reaches the community.

“The educational focus benefits us as a business as well, because if our support can help raise the level of STEM education within the county, then it helps feed the local workforce for the type of careers found at KBC and companies like ours,” he said. “Along with everything else ARIC brings to the community, its ability to help us recruit potential interns and future employees is one more great advantage.”

To view a YouTube video of the ARIC ribbon-cutting, visit https://youtu.be/ckC2pIOH_-A.

PHOTOS AND CAPTION



File names: *KBGCNA ARIC 1 (left), KBGCNA ARIC 2*

Caption: A ribbon-cutting celebration took place on April 17 in Westminister, Maryland, for the Autonomous Robotics Innovation Center (ARIC), a training and educational facility for students interested in robotics. The event featured demonstrations by local high school robotics teams and a look at the Duckietown robotic ecosystem at the heart of the center’s autonomous technology curriculum. ARIC is an initiative of the Westminister-based nonprofit Mid-Atlantic Gigabit Innovation Collaboratory (MAGIC). Among those who supported the effort was Knorr-Bremse Global Care North America, the U.S.-based arm of a philanthropic entity operated by Knorr-Bremse, based in Munich, Germany. The organization contributed \$77,500 in grant support to help fund facility renovation, leasing, and startup costs. Knorr-Bremse is the parent company of Knorr Brake Company (KBC), headquartered in Westminister.

Credit: Robert Schellhammer

About Knorr-Bremse Global Care North America

Knorr-Bremse Global Care North America Inc. (KBGCNA) is an independent organization operating as the North American arm of a global nonprofit organization – Knorr-Bremse Global Care. With an aim to address local social

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challenges more effectively, KBGCNA investments are centered in the surrounding communities of Knorr-Bremse's three largest North American companies: Avon, Ohio-based Bendix Commercial Vehicle Systems LLC; Westminster, Maryland-based Knorr Brake Company; and Watertown, New York-based New York Air Brake LLC. Funding activities are championed and supported by the employees of each of the three local companies. Follow us on LinkedIn at [linkedin.com/company/knorr-bremse-global-care-north-america-inc](https://www.linkedin.com/company/knorr-bremse-global-care-north-america-inc).

About Knorr Brake Company

Since 1973, Knorr Brake Company has been the innovative leader in supplying North American rail market customers, including light rail vehicles, METRO, and high-speed trains. With its headquarters in Westminster, Maryland, the company operates sales and service facilities in Carmel, New York; and Union City, California. KBC's subsidiaries – IFE North America LLC (passenger door systems) and Merak North America LLC (climate-control systems) – are co-located in Westminster. Knorr Brake Company is a member of the Munich, Germany-based Knorr-Bremse, the global market leader in braking systems and a leading supplier of other safety-critical rail and commercial vehicle systems. Contact Knorr Brake Company at [knorrbrakecorp.com](https://www.knorrbrakecorp.com) and follow us on LinkedIn at [linkedin.com/company/knorr-brake-company](https://www.linkedin.com/company/knorr-brake-company). To learn more about career opportunities at KBC, please visit www.kbnajobs.com.

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